

Children's work in Andhra Pradesh:
Trends and determinants

L. Guarcello

M. Manacorda

S. Lyon

F. Rosati

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S. Lyon*

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F. Rosati*

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Understanding Children's Work (UCW) Programme
Villa Aldobrandini
V. Panisperna 28
00184 Rome

Tel: +39 06.4341.2008

Fax: +39 06.6792.197

Email: info@ucw-project.org

As part of broader efforts toward durable solutions to child labour, the International Labour Organization (ILO), the United Nations Children's Fund (UNICEF), and the World Bank initiated the interagency Understanding Children's Work (UCW) Programme in December 2000. The Programme is guided by the Oslo Agenda for Action, which laid out the priorities for the international community in the fight against child labour. Through a variety of data collection, research, and assessment activities, the UCW Programme is broadly directed toward improving understanding of child labour, its causes and effects, how it can be measured, and effective policies for addressing it. For further information, see the Programme website at www.ucw-project.org.

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* UCW-Programme and University of Rome "Tor Vergata"

** Queen Mary University of London

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ABSTRACT

The study assesses trends in children's involvement in employment and schooling in Andhra Pradesh over the eleven-year period from 1994 to 2005. Considerable progress was made in getting children out of employment and into school over this 11-year period: children's involvement in employment declined by more than 50 per cent, by 9 percentage points, while children's school attendance rose by 22 percentage points. The factors contributing to the fall in children's employment and the rise in school attendance differ considerably between the urban and rural contexts. In cities and towns, the changes were driven mainly by changes in living standards and in local labour demand. Improved access to school, by contrast, seems to have been the primary driving force behind the large reduction in children's employment in rural areas. The policy implications of these results are clear. In urban areas support to the living standards of the vulnerable groups is essential. At the same time, through appropriate measures aiming of increasing the returns to education (both actual and perceived), more attention should be paid to preventing children from premature involvement in the labour market in periods of high labour demand. In rural areas, ensuring children's access to quality schools seems to be the highest priority, especially if accompanied by protection measures for the most vulnerable.

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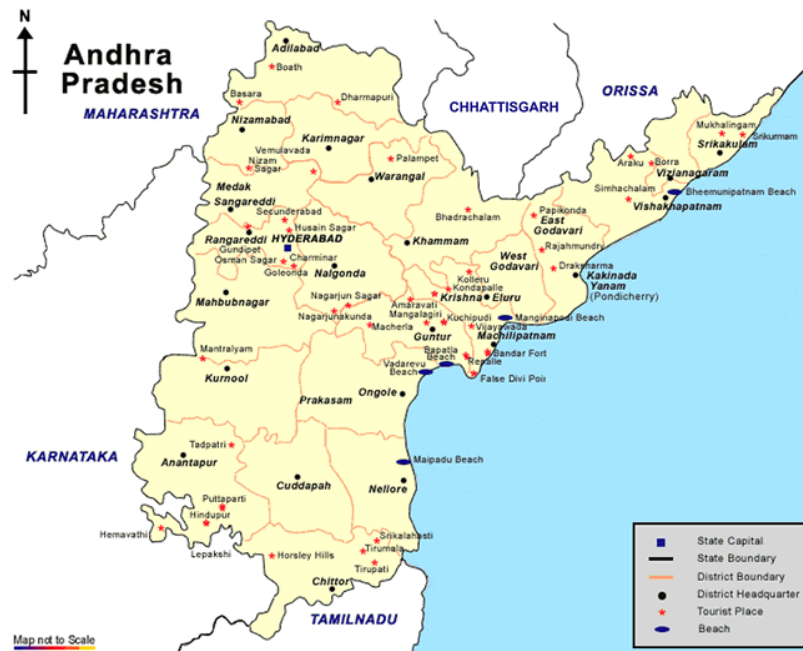
INTRODUCTION

1. Child labour constitutes a key obstacle to achieving universal primary education and other Millennium Development Goals in India. It not only harms the welfare of individual children, but also slows broader national poverty reduction and development efforts. Children forced out of school and into labour to help their families make ends meet are denied the opportunity to acquire the knowledge and skills needed for gainful future employment, thereby perpetuating the cycle of poverty.
2. The need to eliminate child labour as well to provide formal education to all children has been perceived to be crucial for the development of India since its independence in 1947. A number of major initiatives were launched at the national level, and are being implemented in Andhra Pradesh as well.
3. The study assesses trends in children's involvement in employment and schooling in Andhra Pradesh over the eleven-year period from 1994 to 2005. Considerable progress was made in getting children out of employment and into school over this 11-year period: children's involvement in employment declined by more than 50 percent, by nine percentage points, while children's school attendance rose by 22 percentage points.
4. The study also addresses some of the main forces behind the trends. The factors contributing to the fall in children's employment and the rise in school attendance differ considerably in urban and rural contexts. In cities and towns, the changes were driven mainly by changes in living standards and in local labour demand. Improved access to school, by contrast, seems to have been the primary driving force behind the large reduction in children's employment in rural areas. The policy implications of these results are clear. In urban areas support to the living standards of the vulnerable groups is essential. At the same time, through appropriate measures aiming at increasing the returns to education (both actual and perceived), more attention should be paid to preventing children from premature involvement in the labour market in periods of high labour demand. In rural areas, ensuring children's access to quality schools seems to be the highest priority, especially if accompanied by protection measures for the most vulnerable.
5. The remainder of the report is organised as follows. Section 1 briefly reviews the national context, and specifically major socio-economic factors underlying the child labour phenomenon in the state. Section 2 outlines the response to child labour at national and state level, in terms of both legislation and policy. Section 3 presents descriptive data on the extent of child involvement in employment, broken down by age, sex, residence and region and examines key characteristics of children's employment, including the sectors where child workers are concentrated. Section 4 analyses the trends in children's employment and school attendance over 1994-2005 in Andhra Pradesh. Section 5 looks at major determinants of reduction in child labour and increase in school attendance in Andhra Pradesh, aiming at identifying the impact of the strategic interventions developed in the area of child labour. Section 6 concludes.

1. NATIONAL CONTEXT

6. The state of Andhra Pradesh is located in southern India and is bordered by Maharashtra, Chhattisgarh and Orissa in the north, the Bay of Bengal in the East, Tamil Nadu to the south and Karnataka to the west (Figure 1). About half of the total land area of 274,000 hectares is arable; three important rivers, the Godavari, Krisyhna and Tyhungabhadra, flow through the state, providing irrigation. Agriculture is the chief source of income for the state's economy, though the state also ranks second in India for mineral wealth. With a total population of 75.7 million (2001), Andhra Pradesh ranks as the fifth-largest Indian state in terms of population. Hyderabad is the capital and, along with the adjoining twin city Secunderabad, is the largest city in the state with an estimated population of 6.3 million persons (2007).

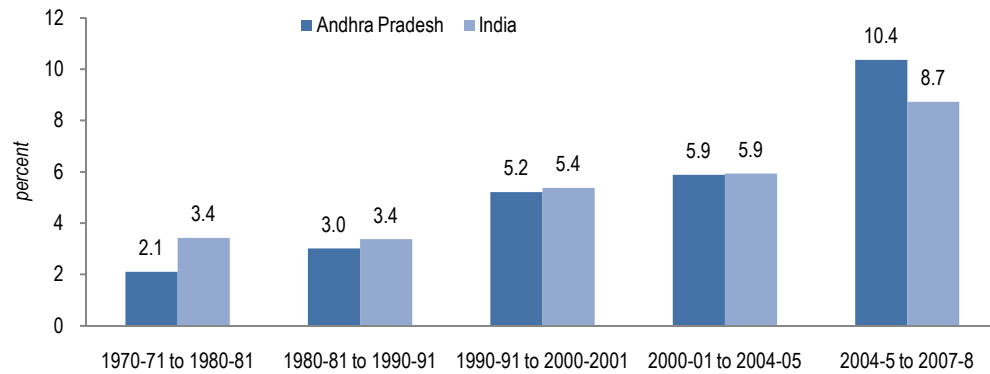
Figure 1. Map of Andhra Pradesh



7. Andhra Pradesh has been vigorously pursuing economic reforms since the mid-1990s. The average annual growth rate of Gross State Domestic Product (GSDP) was 7.5 per cent during 2001-08 and 8.7 percent during 2004¹. Per capita GSDP has followed a similar pattern: though per capita income in the state has historically been lower than the all-India average, the ratio of Andhra Pradesh to all-India per capita net SDP rose from 95.7 in the triennium 1993-96 to 99.3 per cent in 2002-05. The level of per capita GSDP in Andhra Pradesh is now almost equal to the India average.

¹ Andhra Pradesh Human Development Report 2007, Chapter 4.

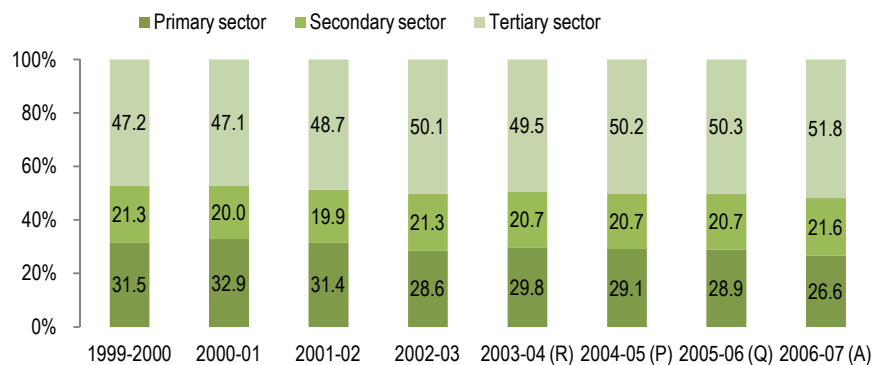
Figure 2. Annual Growth rate of GSDP (%) in Andhra Pradesh and India (1970-2008)



Source: Andhra Pradesh Human Development Report 2007, Chapter 2

8. Rapid growth has been accompanied by changes in the sectoral composition of the state economy. The contribution of the primary sector (i.e, agriculture, forestry, fishing, mining and quarrying) has declined continuously (from 32 percent in 1999-2000 to 27 percent in 2006-2007), while that of the tertiary sector has grown, mirroring the trend in the country as a whole.²

Figure 3. Sectoral contribution to GSDP (as % to total GSDP)



Note: (R): Revised;(P): Provisional;(Q): Quick;(A): Advanced

Source: UCW calculations based on data in the 'Statistical Abstract of Andhra Pradesh 2007', Directorate of economics and statistics government of Andhra Pradesh, Hyderabad

9. Andhra Pradesh has one of the highest labour market participation rates in the country, particularly for females. However, the growth of employment in Andhra Pradesh declined from 2.7 per cent in pre-reform (1983 to 1993-94) to 0.9 percent in post-reform (1993-94 to 2004-05) period. Another worrying factor is that unemployment increased and growth of real wages declined during 1999-2005 as compared to 1993-2000. It is worth noting that about 94 percent of workers in Andhra Pradesh, 38 million of 40 million workers in absolute terms, were in the informal sector in 2004-05, undercoring the size of the challenge of providing social security to in the state.

10. There has been a significant improvement in the human development in Andhra Pradesh.³ The Human Development Index (HDI) value increased from 0.377 in

² Press Note of Ministry of Statistics and Program Implementation, Govt. of India, dated 09-02-2009

³ Centre for Economic and Social Studies, Andhra Pradesh Human Development Report 2007, Chapter 1

early 1990s to 0.416 in early 2000s. Notwithstanding this positive trend, HDI value in Andhra Pradesh is consistently lower than all-India average and other India states, and there are significant variations across districts (the HDI value across districts vary from 0.717 in Hyderabad to 0.397 in Mahaboobnagar in the early 2000s). As shown in Table 1, the less development districts improved by more than the relatively better developed districts in the state, leading to some convergence of districts in terms of HDI.⁴

11. Level of deprivation has also decreased during the 1990s: the Human Poverty Index (HPI) decreased from 0.583 in 1991 to 0.469 in 2001 (Table 1). More important, the rate of decline during 1991-2001 in the level of deprivation was higher in those districts where levels of deprivation were relatively higher in 1991.

Table 1. Human Development Index (HDI), Human Poverty Index (HPI), Gender Development Index (GDI), Gender Empowerment Measure Index (GEMI) and Ranking of Districts

Districts	HDI				HPI						GDI			GEMI
	Index Value		Rank		Index value			Rank			Index value			
	Early 1990s*	Early 2000s*	Early 1990s*	Early 2000s*	1991	2001	% change	1991	2001	% change	1991	2001	% change	
Srikakulam	0.269	0.453	21	21	0.729	0.566	22.4	22	21	5	0.478	0.526	10.0	0.608
Vizianagaram	0.236	0.402	23	22	0.766	0.597	22.0	23	23	6	0.465	0.518	11.4	0.603
Visakhapatnam	0.383	0.553	15	11	0.620	0.504	18.7	15	17	18	0.513	0.643	25.3	0.609
East Godavari	0.411	0.586	11	6	0.587	0.465	20.8	9	9	12	0.569	0.633	11.2	0.655
West Godavari	0.448	0.607	7	4	0.548	0.449	18.2	4	5	19	0.601	0.675	12.3	0.651
Krishna	0.510	0.623	2	2	0.518	0.399	22.9	3	3	4	0.608	0.657	8.1	0.659
Guntur	0.490	0.599	3	5	0.561	0.428	23.7	5	4	2	0.602	0.656	9.0	0.646
Prakasam	0.409	0.532	12	14	0.630	0.494	21.5	17	13	8	0.555	0.623	12.3	0.637
Nellore	0.452	0.565	4	8	0.592	0.466	22.1	10	10	10	0.595	0.633	6.4	0.625
Chittoor	0.451	0.558	6	10	0.570	0.461	19.1	6	8	16	0.577	0.643	11.4	0.648
Kadapa	0.447	0.536	9	13	0.575	0.451	21.6	7	6	7	0.561	0.588	4.8	0.618
Anantapur	0.343	0.458	19	20	0.636	0.515	19.1	18	20	17	0.522	0.559	7.1	0.604
Kumool	0.327	0.473	20	19	0.648	0.494	23.7	19	14	3	0.517	0.540	4.4	0.590
Mahabubnagar	0.249	0.397	22	23	0.712	0.592	16.9	21	22	22	0.427	0.493	15.5	0.546
Ranga Reddy	0.452	0.610	5	3	0.494	0.369	25.3	2	2	1	0.615	0.678	10.2	0.641
Hyderabad	0.591	0.717	1	1	0.233	0.213	8.3	1	1	23	0.606	0.692	14.2	0.606
Medak	0.385	0.550	13	12	0.620	0.498	19.7	16	15	15	0.562	0.648	15.3	0.645
Nizamabad	0.383	0.504	14	16	0.592	0.470	20.6	11	11	13	0.524	0.594	13.4	0.616
Adilabad	0.361	0.488	16	17	0.650	0.514	20.9	20	19	11	0.526	0.563	7.0	0.597
Karimnagar	0.448	0.573	8	7	0.575	0.452	21.4	8	7	9	0.581	0.648	11.5	0.607
Warangal	0.349	0.514	18	15	0.615	0.492	20.0	13	12	14	0.528	0.580	9.8	0.584
Khammam	0.420	0.559	10	9	0.604	0.500	17.2	12	16	20	0.548	0.665	21.4	0.631
Nalgonda	0.360	0.481	17	18	0.619	0.513	17.1	14	18	21	0.523	0.571	9.2	0.585
Andhra Pradesh	0.402	0.537			0.583	0.469	19.5				0.553	0.620	12.1	0.618

* The HDI at district level is constructed for the early 1990s and the early years of this decade. The two periods for education and health indicators relate to 1991 and 2001 respectively, while per capita income at the district levels refer to 1993-94 and 2003-04 respectively (See Andhra Pradesh Human Development report 2007, Technical Note)

Source: Andhra Pradesh Human Development Report 2007, Chapter 2

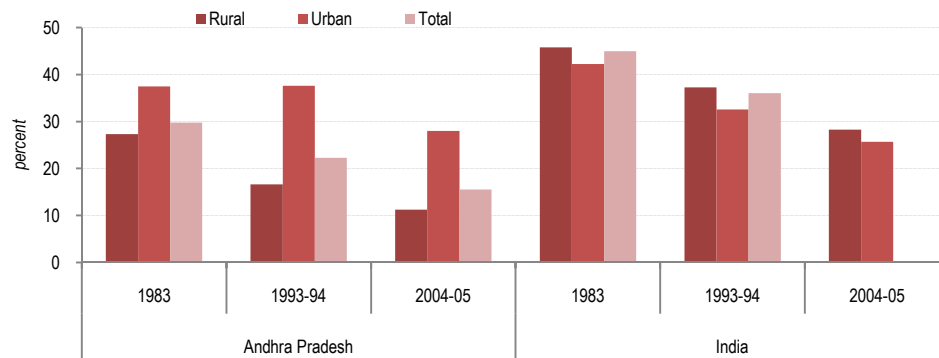
12. Despite its significant achievements, Andhra Pradesh faces some serious development challenges. First, growth across sectors has been uneven. Second, some of the key indicators of health status – infant mortality rate, child malnutrition

⁴ Centre for Economic and Social Studies, Andhra Pradesh Human Development Report 2007, Chapter 2

levels, rate of prevalence of anemia in women – show either stagnation or rates of growth that are slower than needed to achieve the Millennium Development Goals. In the education sector, while enrolment has increased, the quality of learning remains low.

13. Although Andhra Pradesh is lagging behind on many dimensions of poverty, there has been a major reduction in the level of income poverty (Figure 4). The poverty declined from 30 percent in 1993-94 to 15.5 percent in 2004-2005. Rural poverty levels in the state are particularly low, and less than half of that of the country as a whole. Poverty is higher in urban areas than in rural areas. The rate of decline in urban poverty was slower in the state up to 1993-94 but the pace of decline subsequently increased, especially between 1993-1994 and 2004-05.

Figure 4. Poverty ratio, Andhra Pradesh and India, 1983 to 2004-05

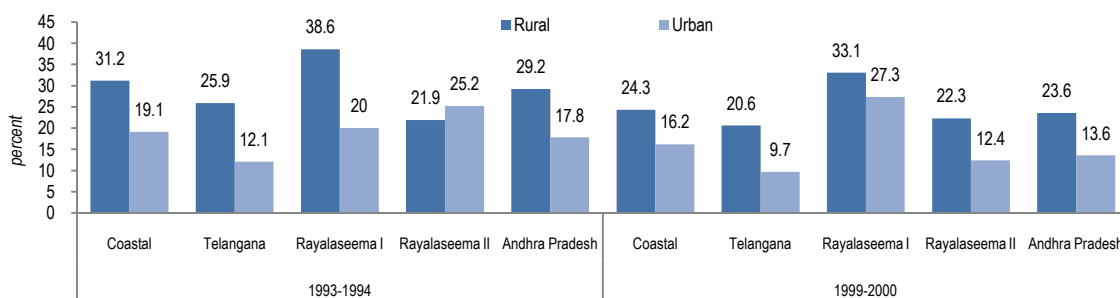


Source: Andhra Pradesh Human Development Report 2007, Chapter 4

14. Using National Sample Survey (NSS) consumption data, the Sachar Committee Report (GOI, 2006) provides poverty ratios across socio-religious categories. Scheduled castes (SCs) and Scheduled tribes (STs) together are the poorest, with a poverty ratio of 16 percent in rural areas and 41 percent in urban areas, while among Muslims the poverty ratio stood at seven percent in rural areas and 35 percent in urban areas, much higher than for the Hindu population. The poverty level among Other Backward Caste (OBC) groups was closer to the general average in rural areas.

15. Available estimates indicate that the poverty ratios vary across regions and that there are also rural-urban differences within each region (Figure 5). Telangana had the lowest incidence of poverty in both rural and urban areas across NSS regions in the state while the level was highest in Rayalaseema I (comprising Anantapur and Kurnool districts) during NSS 55th round (1999-2000).

Figure 5. Poverty ratios by region, 1993-1994 and 1999-2000



Source: Andhra Pradesh Human Development Report 2007, Chapter 4

16. Andhra Pradesh appears likely to achieve a substantial proportion of the Millennium Development Goals (Table 2). Halving the number of people in extreme poverty and hunger is possible by 2015 if the achievements of the 1990s are sustained, and the pace of rural poverty reduction is stepped up; as regards education, while all children in the state are likely to be in primary school by 2015, meeting the targeted completion and retention rates and eliminating the gender gap in education will require targeted interventions. Finally, the state is on track to reduce maternal mortality to three quarters of its 1990 level by 2015. It is also likely to halve the number of people without access to safe drinking water. However, reducing child mortality rates to two thirds the 1990 level will be a challenge given the current rate of progress.⁵

Table 2. Millennium Development Goals in Andhra Pradesh

Millennium Development Goal	Indicator to measure progress	Value of indicator in 1990	Value of indicator in 2000	Year 2015 target
1. Eradicate Extreme Poverty and Hunger	Head Count Index (Deaton and Dreze, 2002)	30.4	21.6	15.2
	Underweight children under 5 years of age	56.0	36.1	28.0
2. Achieve Universal Primary Education	Children 5-9 attending school	58.8	89.1	100
	Pupils starting Grade 1 who reach grade 7		52.6	100
	Literacy Rate of 15 to 24-year olds	51.5	67.7	100
3. Promote Gender Equality and Empower Women	Women in Wage Employment in the non-agricultural sector	11.5	26.3	**
	Ratio of Literate females to males among 15- to 24-year olds	0.59	0.72	1
4. Reduce Child Mortality	Under-five mortality rate (per 1,000 live births)	94.2	84.6	31.4
	Infant Mortality Rate (per 1,000 live births)	72.8	65.1	24.3
5. Improve Maternal Health	Maternal Mortality Ratio (per 100,000 live births)	300	130	75
	Births attended by skilled health personnel	42.9	68.3	90
6. Combat HIV/AIDS, malaria and other diseases	Contraceptive prevalence rate	41.7	62.0	**
	Prevalence rates associated with Tuberculosis per 100,000	337.5	630.1	**
7. Ensure Environmental Sustainability	Population with access to safe water	57.0	81.3	78.5
	Population with access to latrine/toilet facility	22.9	27.8	**

** indicates that the state has not set any quantitative targets. When data are not available for 1990 or 2000, they are extrapolated—assuming a constant rate of growth—from information available for the closest year.

Source:

<http://www.worldbank.org.in/WBSITE/EXTERNAL/COUNTRIES/SOUTHASIAEXT/INDIAEXTN/0..contentMDK:20616009~pagePK:141137~piPK:141127~theSitePK:295584.00.html>

17. The status of women in Andhra Pradesh in comparison to the whole of India shows higher female workforce participation rate, lower female unemployment rate

⁵ <http://www.worldbank.org.in/WBSITE/EXTERNAL/COUNTRIES/SOUTHASIAEXT/INDIAEXTN/0..contentMDK:20616009~pagePK:141137~piPK:141127~theSitePK:295584.00.html>

and higher female share in wage employment in the non-agricultural sector.⁶ The higher participation of women in household decisions and relatively lower incidence of women experiencing domestic violence also indicates that women in Andhra Pradesh are able to exercise greater degree of independence in comparison to all-India. However, Andhra Pradesh occupies the first and the second place in regard to the incidence and rate of total cognizable crimes committed against women among all the states of India

18. An analysis of gender related indices, especially Gender Development Index (GDI), shows that gender adjusted human development improved across districts during 1991-2001 (Table 1). However, the rate of change of GDI varied across districts during the period. In terms of the gender empowerment measure index (GEMI), the district with the best record was Krishna, followed by West and East Godavari, Chittoor and Guntur. Many of these districts are located in South Coastal Andhra region.⁷

19. Raising school enrolment rates remains an important challenge in Andhra Pradesh, particularly beyond the primary level. The primary level gross enrolment rate (GER) in 2005-2006 was 97 percent and in upper primary rate was 74 percent. The net enrolment rate (NER) in the primary cycle was 75 percent and the NER rate in upper primary was 53 percent. No major gender differences are found in the enrolment rate in primary school in the state. The total dropout rate in 2005-2006 in the primary cycle (I-V) was five percent among all children, lower than the all India rate of eight percent. Ninety-one percent percent of children transited from the primary (IV-V) to the upper primary cycle (V/VI) in 2005-2006, with a lower percentage in rural areas where the transition rate was 87 percent percent⁸.

⁶ This paragraph is drawn primarily from *Andhra Pradesh Human Development Report 2007, Chapter 3*

⁷ *Andhra Pradesh Human Development Report 2007, Chapter 2*

⁸ DISE Analytical Report 2006-2007. <http://www.dise.in/ar2005.html>

2. RESPONDING TO CHILD LABOUR: NATIONAL AND STATE-LEVEL POLICIES AND PROGRAMMES

2.1 Legal framework for combating child labour

20. India has made a number of important legal commitments in the area of child labour. The Constitution of India (26 January 1950), through various articles enshrined in the Fundamental Rights and the Directive Principles of State Policy, lays down that:

- No child below the age of 14 years shall be employed to work in any factory or mine or engaged in any other hazardous employment (Article 24).
- The State shall direct its policy towards securing that the health and strength of workers, men and women and the tender age of children are not abused and that they are not forced by economic necessity to enter vocations unsuited to their age and strength (Article 39-e).
- Children shall be given opportunities and facilities to develop in a healthy manner and in conditions of freedom and dignity and that childhood and youth shall be protected against moral and material abandonment (Article 39-f).
- The State shall endeavour to provide within a period of 10 years from the commencement of the Constitution for free and compulsory education for all children until they complete the age of 14 years (Article 45).⁹

21. India is also a signatory to the ILO Forced Labour Convention (No. 29), ILO Abolition of Forced Labour Convention (No. 105) and the UN Convention on the Rights of the Child (CRC). Child labour is a matter on which both the national government and State governments can legislate. A number of legislative initiatives have been undertaken at both levels. The major national legislative developments include the following:

- The Factories Act, 1948: The Act prohibits the employment of children below the age of 14 years. An adolescent aged between 15 and 18 years can be employed in a factory only if he obtains a certificate of fitness from an authorized medical doctor. The Act also prescribes four and a half hours of work per day for children aged between 14 and 18 years and prohibits their working during night hours.¹⁰
- Labour Law Apprentice Act, 1961: A person is qualified to be engaged as an apprentice only if he is not less than 14 years of age, and satisfies such standards of education and physical fitness as may be prescribed.
- The Child Labour (Prohibition and Regulation) Act, 1986: The Act prohibits the employment of children below the age of 14 years in 13 occupations and 57 processes that are hazardous to the children's lives and health. These occupations and processes are listed in the Schedule to the Act.

22. These commitments notwithstanding, important gaps remain in terms of legal protection against child labour. There is no omnibus provision in Indian labour laws prohibiting children below a certain age from doing any work whatsoever. The

⁹ IPEC Sub-regional Information System on Child Labour www.ilo.org/public/english/region/asro/newdelhi/ippec/responses/india/national.htm

¹⁰IPEC Sub-regional Information System on Child Labour, op. cit.

1986 Child Labour Act prohibits child labour in only a limited list of occupations and industrial processes that are viewed as hazardous for children. In effect from October 2006, the Ministry of Labour has also included domestic servants and employment in *dhabas*, tea stalls, and restaurants in the schedule of prohibited occupations under the Act. Children's work is limited to six hours a day in other occupations, but there is no limit to the work a child can do at home, even if this is part of an industrial subcontracting chain.¹¹

23. The legal status of home-based child labourers is gaining in concern in light of the increasing importance of sub-contracting production modalities in the labour market. In Andhra Pradesh, there has been a shift in the perspective on the definition of child labour as all children out of school, but this shift has not taken legal form.

24. The Government of India has not ratified the two ILO conventions of most direct relevance to child labour – Convention No. 138 (Minimum Age) and Convention No. 182 (Worst Forms) – despite pressure from the international community to do so. The Government argues that the fixing of minimum age for admission to employment “needs to be preceded by creation of suitable enforcement machinery and measures as would warrant the children not being compelled by circumstances to seek employment.”¹² India is examining the feasibility of ratifying ILO Convention No. 182 in consultation with the concerned central ministries and State governments, but no target ratification date has yet been set. Ratification is also being discussed in a tripartite forum with the participation of the employers' and workers' representatives.¹³

2.2 Policy and programmatic responses to child labour

25. In India, the efforts targeting child labour take place within the broad framework of the **National Policy on Child Labour (NPCL)**, adopted in 1987 as a follow-up to the 1986 Child labour Act. The NPCL calls for general development programmes to benefit children wherever possible, and for instituting project-based action plans in areas of where there are high concentrations of children engaged in wage/quasi-wage employment. The Ministry of Labour and Employment began implementing the NCLP through the establishment of National Child Labour Projects (NCLPs) for the rehabilitation of child workers in 1988. The strategy for the NCLPs includes the establishment of special schools to provide non-formal education and pre-vocational skills training; promoting additional income and employment generation opportunities; raising public awareness, and conducting surveys and evaluations of child labour.¹⁴ The project was revised in 2003 to ensure more effective operationalisation of the special schools and to focus on convergence of services with other departments, and in particular Sarva Shiksha Abhiyan (SSA) (see below) of Ministry of Human Resource Development.

26. Successive five-year national plans have seen the continued expansion of projects carried out within the NCLP framework. Around 100 NCLPs were launched across the country to rehabilitate children working in hazardous

¹¹ Stop Child Labour, September 2006 (www.indianet.nl/pdf/br060929.pdf).

¹² *India and the ILO*. Ministry of Labour and Employment, Government of India (<http://labour.nic.in/ilas/indiaandilo.htm>).

¹³ *India and the ILO*. Ministry of Labour and Employment, Government of India (<http://labour.nic.in/ilas/indiaandilo.htm>).

¹⁴ IPEC Sub-regional Information System on Child labour, op cit

industries¹⁵ through a central government allocation of Rs 2.5 billion (about US\$57 million) as part of the Ninth Five-Year Plan (1997/02). The central government expanded coverage of the NCLPs to an additional 150 districts and increased the budgetary allocation to over Rs 6 billion (about US\$131 million) as part of the Tenth Five-Year Plan (2003/07).

27. Andhra Pradesh is one of the states with a high child labour population. The Government of Andhra Pradesh in the year 2001 committed itself to an ambitious goal of total elimination of child labour by 2005. Although the goal has not been achieved fully, there has been a substantial decline in the number of child labourers as we have seen. It comes as no surprise that Andhra Pradesh has the widest coverage of NCLPs of all the states in the country, with a total of 23 NCLPs. In the year 2006-07, 1005 child labour rehabilitation schools were established in the State under the NCLP.

28. In fact, in terms of percentage of total districts covered by the National Child Labour Project (NCLP), number of NCLP schools (sanctioned as well as actually started) and the number of children enrolled in these schools, Andhra Pradesh has done significantly more than the other states in India, as the following Table 3 shows. For example, Uttar Pradesh, the largest state in India which also accounts for the largest number of child labour in the country has only 11 NCLP districts. Andhra Pradesh, which stands second in the list, has covered 22 of its 23 districts under NCLP.

Table 3. Districts covered by the NCLP

S. No.	Name of States	No. of districts covered	Sanctioned coverage		Actual coverage	
			No. of schools	No. of children	No. of schools	No. of children
1	Andhra Pradesh	22	1008	51650	965	50921
2	Bihar	3	85	6500	85	6316
3	Chattisgarh	5	139	9900	98	5128
4	Jharkhand	5	114	5700	114	5700
5	Karnataka	5	190	9,500	105	5222
6	Madhya Pradesh	3	88	4600	44	2334
7	Maharashtra	2	74	3700	69	3570
8	Orissa	18	696	39550	628	35002
9	Rajasthan	6	180	9000	154	7700
10	Tamil Nadu	9	425	21900	417	22029
11	Uttar Pradesh	11	514	26500	365	21574
12	West Bengal	8	347	17350	298	14950
13	Punjab	3	107	5350	27	1350
Total		100	3967	211200	3369	181796

29. The IPEC-supported **Andhra Pradesh State Based Project (APSBP) for the Elimination of Child Labour** is another major effort directly targeting child labour in the State. The project was launched in 1999 as a collaborative effort among government of India, the government of Andhra Pradesh, the United Kingdom Department for International Development (DFID), and the ILO.

¹⁵ Hazardous industries included glass and bangles, brassware, locks, carpets, slate tiles, matches, fireworks, and gems.

- The first phase of the Project, implemented from November 2000 to March 2004, worked at the macro, meso, and micro levels to create a multi-layered impact on child labour. At the macro level, the project fed in the experiences emerging from various initiatives into enriching government policies, programmes and other efforts. At the meso level, the Project worked with employers' and workers' organizations that were favorably positioned to engage with a multiplicity of stakeholders in combating child labour. Similarly, partners and groups within civil society who could contribute to the formulation of policies and programmes were identified and their understanding of child labour, its consequences, and fall-outs was enhanced. The third level of the strategy was at the field or grass-roots micro level. The Project developed and implemented replicable pilot interventions in four pilot areas in the state. These interventions formed an important experiential input for contributing to government policy development at the macro level and in influencing the influencers at the meso level.
- The second phase of the project, begun in 2005, directed towards institutionalizing the pilot approaches tested in phase I into governance and development strategies for the complete elimination of child labour. Phase II is being implemented in three districts (Mahabubnagar, Kurnool and Hyderabad), which experienced an actual increase in the numbers of child labour during the decade. It involves mainstreaming the strategies tested in phase I through government mechanisms and using convergence models for complete child labour elimination in the Mahabubnagar and Kurnool districts. It also involves development of urban strategies in Hyderabad city to address the issue of child labour in domestic sector, migrant labor, street children, child beggars and rag pickers. Finally, it involves strengthening child labour elimination efforts through providing skills development opportunities and sustaining the environment against child labour through wide range of stakeholder participation like trade unions and civil society.¹⁶

30. UNICEF and UNIFEM also support State efforts against child labour. The UNICEF-supported **Elementary Education Programme**¹⁷ supports the Government's SSA initiative by making efforts to: (1) reduce gender disparities; (2) promote access and quality education for children from disadvantaged groups; (3) enhance learning achievements by improving the quality of education; (4) improve and expand educational data and analysis and (5) deliver and document quality education. The child labour component of the UNICEF-supported **Child Protection Programme**¹⁸ focuses on the informal sector, and on children who were victims of trafficking and of commercial sexual exploitation. UNIFEM supports the **National Plan of Action to Combat Trafficking and Commercial and Sexual Exploitation and the Regional Programme on Trafficking in South Asia**. Field operations, undertaken by partner NGOs, include social mobilization and awareness-building at the community level in the trafficking source districts of

¹⁶ IPEC Sub-regional Information System on Child labour

(www.ilo.org/public/english/region/asro/newdelhi/ipec/responses/india/andhra.htm)

¹⁷ The project districts were East Godavari, West Godavari, Krishna, Chittoor, Kurnool and Hyderabad.

¹⁸ The project districts were East Godavari, Krishna, Guntur, Chittoor, Anantapur, Kurnool and Hyderabad.

Kadapa and Anantapur districts and rehabilitation of trafficked children in Hyderabad.¹⁹

31. Efforts against child labour are closely aligned with those aimed at reaching all children with education. The erstwhile **District Primary Education Programme (DPEP)**²⁰ and **Sarva Shiksha Abhiyan (SSA)** are of particular relevance in this context.

32. DPEP, launched in 1994, was a major initiative to revitalize the primary education system and to achieve the objective of Universalization of Elementary Education (UEE). It was based on the principle of 'additionality' and was structured to fill in the existing gaps by providing inputs over and above the provisions made under Central and State Sector schemes for primary education. The programme adopted a holistic approach to universalise access, retention and improve learning achievement and to reduce disparities among social groups. It emphasised decentralised planning and implementation, with the district as the unit of planning, and community involvement in the process of school management, as means of ensuring sensitivity to local conditions and full local participation.²¹

33. SSA is the government of India's flagship programme for achievement of UEE in a time bound manner, as mandated by the 86th amendment to the Constitution of India making free and compulsory education to the children of 6-14 years age group a fundamental right. The programme seeks to open new schools in those locations that do not have schooling facilities, and to strengthen existing school infrastructure through provision of additional class rooms, toilets, drinking water, maintenance grants and school improvement grants. Existing schools with inadequate numbers of teachers are provided with additional teachers, while the capacity of existing teachers is strengthened by extensive training, grants for developing teaching-learning materials and strengthening of the academic support structure at a cluster, block and district level.²² In Andhra Pradesh, SSA has emerged as an overarching programme directed towards ensuring that all children are in school. The Government of Andhra Pradesh is implementing its universal elementary education programme under the SSA framework, including specialised measures targeting working children. Particularly important in the context of working children is the opening of Residential Bridge Courses (RBCs) and Non-Residential Bridge Courses (NRBCs) to cover the dropped out and never enrolled children. These courses provide transitional education before the identified children can be mainstreamed into formal system. They are based on the premise that working children are often difficult to induct back into the formal education system because of their age, different life experiences and lack of familiarity with the school environment. These courses are therefore critical to ensuring that these children, once in school, remain there, and are able to learn effectively. In the year 2006-07, 861 RBCs and 215 NRBCs were established in the State.

¹⁹ IPEC Sub-regional Information System on Child labour (www.ilo.org/public/english/region/asro/newdelhi/ipcc/responses/india/andhra.htm).

²⁰ DPEP (Phase II) ended in the year 2000. From then onwards, the task of universalization of elementary education was taken over by the SSA program.

²¹ Introduction to DPEP (http://india.gov.in/sectors/education/district_primary.php).

²² Ministry of Human Resource Development, Department of School Education and Literacy, Government of India, *SSA Mission Statement*. (<http://164.100.51.121/national-mission/sarva-shiksha-abhiyan-mission-statement>).

34. **Other State strategies and interventions** to help bring more child labourers and other vulnerable children into school are summarised in the Andhra Pradesh Human Development Report.²³

35. The State began special enrolment drives aimed at enrolling the dropouts and out of school children in the late 1990s in the name of 'chaduvulapanduga' (later renamed as 'badi bata'). In these drives, the State carries out awareness campaigns among parents and employers through community mobilization, establishment of more **Education Guarantee Scheme (EGS)** and **Alternative and Innovative Education (AIE)** centers and the opening of RBCs and NRBCs for drop-outs and child labourers, every year during June-July. As a part of the programme, volunteers undertake house-to-house surveys to identify dropouts. The consolidated list is discussed by the Gram Sabha and the final list is sent to the district SSA office. Assistant Project Coordinators start the process of bringing back the identified dropouts by admitting them to RBCs. Rallies and processions are also taken out as part of this programme to create awareness. People having child labour in their houses are identified and targeted activities are also undertaken to sensitize them. Children freed from these places are sent to RBCs (if they had no formal education in the past) or mainstreamed directly (children with some formal education in the past). As regards the AIE centers, the state government has set up a large number of these centers, including madarsas, boat schools, door-step schools, RBCs and NRBCs, and Seasonal Hostels for Migrant Children. Together, these AIE centers help cover Out-Of-School children of all varieties²⁴. The total number of such centers is more than 6,100. The doorstep schools cater to the children of construction site labor, whereas the seasonal hostels operate for 3-6 months in a year and enable the children to continue their studies under the custody of the camp-in-charge, without any break in the absence of parents migrating in search of work. NGOs are also mobilized for mainstreaming the out-of-school children. The SSA reviewers have acknowledged that the NGOs, along with the community leaders and political representatives, have captured significant information on out of school children including never enrolled, drop out children and children with disabilities, which can effectively aid the government's efforts. Apart from the civil society organizations, the private sector has also been roped in. In 2001, the state government signed a MoU to join the 'Global Movement for Children' in partnership with the Confederation of Indian Industry (CII) and the UNICEF. As part of the Movement, the state government commits itself to implementation of the Convention on the Rights of the Child and use of the law to protect the best interests of children. The government has also promised to "use its budget to ensure children access to basic social services"²⁵.

36. Efforts have been made to develop special interventions for children in very difficult circumstances requiring awareness, counselling and learning opportunities. **The Boat School** in East Godavari district is one example in this context. Children from the fishing community, who live closer to ponds, lakes or rivers, had no access to formal schools. Schools established on boats with a regular teacher and equipped with blackboard have been introduced in these areas to reach the community and the children are now getting formal education on regular basis. The concept of a

²³ Government of AP. Human Development Report 2007: AP. Hyderabad, May 2008 (http://www.portal.ap.gov.in/APReport2007/APHDR_2007_Chapter8.pdf).

²⁴ Interventions for bringing Child labourers in Schooling System in AP during 2006-07, document posted on <http://ssa.ap.nic.in>, the website of SSA, AP

²⁵ News Item, Business Line, Monday, July 30, 2001

boat school was highly appreciated by the 3rd Joint Review Mission which reviewed SSA in 2006²⁶.

37. For other groups of children in difficult circumstances, such as the tribal children, children living in slums having no schools, the **Janashala Programme**²⁷, launched in the state in 1999, came in as an effective intervention. This Govt of India programme was UNDP-supported and was limited to three districts: Hyderabad, East Godavari and Krishna. The programme ran parallel to DPEP. The highlight of the programme was its convergence approach. Various departments like health, social welfare, tribal welfare, and ICDS have been involved in Janashala. In all the project blocks, fortnightly meetings are held at the divisional level with officials of all other departments, under the chairmanship of the District Collector. This helped NCLP identify and book a large number of child labour cases. The other strategies of the programme that helped promote the schooling of out-of-school children and eradicate child labour by improving access to schools are: (a) setting up of Early Childhood Care and Education (ECCE) centers in order to prevent older girls from dropping out for the sake of sibling care, (b) organizing *Deepti* residential camps in tribal habitats to bring the out-of-school children into the formal schooling system, (c) RBCs for older out-of-school girls who were engaged in labor, as part of *Balajyothi* camps, (d) strengthening of government schools by providing materials, teacher training, motivating parents, and introducing appropriate teaching methodologies, (e) setting up of alternative schools in slums, where there were no government schools within a radius of 1 km, under the supervision of local youth and mothers' committees, and Girijan Vidya Vikas Kendras (GVVKs) in tribal habitations not having schools, and (f) *sandhanshalas* for dropouts and over-aged children.

38. Also, community has been mobilized to convince the parents of dropout children about the merits of schooling out-of-school children/ child labourers. In fact, the State Government enacted the Andhra Pradesh School Education Community Participation Act 1998 to reform school education by ensuring people's participation in the administration of schools through empowerment of parents.

39. **Other initiatives under the SSA umbrella** include special RBCs for children with special needs and HIV-affected children; mobile schools and seasonal hostels for migrant children and children living at labor addas; doorstep schools for urban migrant children especially those of construction and brick kiln laborers; and radio lessons for formal primary and upper primary children (Vindam Nerchukundam) and out of school children, parents and community (Vindam Chaduvukundam).

40. The **other schemes of the department** are summarized in the following paragraphs.

41. *Adoption Scheme*. In the absence of proper care and family protection, an abandoned, destitute or neglected child may end up as a working child. Thus, this scheme of the department has a direct bearing on the incidence of child labour.

42. *Balika Mandals*. Under this scheme, since the year 2000, a "Balika Mandal" is formed in a village with 25-30 Adolescent Girls in the age group of 11-18 years both with school dropouts and school-going girls. Skill Development Training in Home-based activities is provided. Over 11,340 Balika Mandals have been formed with 3.40 Lakh Adolescent Girls, so far. Thus, by promoting the socialization of dropouts with school-going children as well as by providing training, the scheme is working to prevent children from getting into work at an early age.

²⁶ Page 3, Joint Review Mission Report

²⁷ Towards Empowered Community Schools, an official document on Janashala Program

43. *Girl Child Protection Scheme.* The scheme comes with an insurance cover and works on a conditional cash transfer model, which means that the claimant household would benefit from it only if it ensures that the girl child is enrolled in school. The benefit is given preferably to the mother of the child. The main objectives of this scheme are:

- To encourage enrolment of the girl child in school and to ensure her education at least up to the Intermediate level;
- To eliminate discrimination against girls in education and provide skill development and training, and;
- To encourage girls to get married only after the age of 18 years (the statutory limit), so that the cases of school dropouts among the girls can be brought down.

44. *Children's Homes.* Children Homes are meant for children who are in need of care and protection i.e., for Orphans; Semi-orphans; Children of Disabled parents and ex-servicemen. Children in the age group of 6-10 years and in special cases up to 12 years are eligible to get admitted in the home. The children are entitled stay in the home till 18 years or completion of 10th class whichever is earlier. The children admitted in the home are provided free shelter, food, education and medical facilities. They are supplied required textbooks note books for their academic purpose. Special coaching is given to the 7th & 10th class students. This support in the form of coaching and free books helps prevent dropouts, which are otherwise caused by the parents' lack of resources. At present, 81 Children Homes are working all over the state.

45. *Mid-Day Meals Programme.* In Andhra Pradesh, the mid-day meals scheme was introduced in January 2003. By August 2004, 100% of all children attending govt. primary schools were covered by the scheme.²⁸ The total budget provided for the scheme for the five-year period (2003-08) was Rs.17.02 billion. In Andhra Pradesh, a total of 69168 primary schools and 5295 EGS (Educational Guarantee Scheme) centers accounting for 63.62 lakh enrolled students are part of the scheme.²⁹ The twin objectives of the scheme are to improve the attendance rate in schools as well as to improve the nutritional status of the children. The impact of mid-day meal scheme in the state has been studied by various agencies. A report published by Young Lives Project (an international project in which Andhra Pradesh is one of the study areas)³⁰ states that the study found over 86% of the younger children to be attending a pre-school and 44% already enrolled in primary school, despite being under the official starting age. Almost 50% of children from the poorest households were already in school, while 40% of children are sent well below the formal starting age, probably as a result of the meals being served under the MDM scheme. However, the performance audit conducted by the Comptroller & Auditor General (CAG) of India³¹ offered mixed findings. Andhra Pradesh was among the 8 states/union territories that registered a consistent annual decline in the enrolment from 2002-03 to 2006-07 in spite of the MDM scheme being in operation (though this analysis is subject to inconsistencies in the enrolment data).³² On the positive side,

²⁸ Source: Website of Prime Minister's Office (<http://pmindia.nic.in>)

²⁹ 2005-06 Data; Source: www.education.nic.in/mdm, a Govt. of India website

³⁰ Source: Young Lives in India: An International Study of Childhood Poverty, September 2008 (link: www.younglives.org.uk)

³¹ Report no. PA 13 of 2008, performance audit on national program for nutritional support to primary education (mid day meal scheme)

³² In Andhra Pradesh, the figures of enrolment for MDM were more than those reported in the SSA which again is indicative of inaccurate data reporting since SSA covers unaided schools as well and therefore, should have a larger child population within its ambit than the MDM scheme.

the dropout rate in the state was lower in 2006-07 than what it was in 2002-03.³³ At the same time, improvement in the learning levels was also noticed. The observations of the CAG regarding the dropout rates are in agreement with the data of the Department of School Education (Andhra Pradesh), according to which, at primary school level, the drop-out rate was 70.65 percent in 1971-72 which had gradually declined to 24.73 percent in 2005-06.

46. Social Welfare Hostels. The Department of Social Welfare provides hostels facilities and pre/ post-matriculation scholarships to Scheduled Caste (SC) students of poor households in the state, offers admissions to bright SC students in the Public Schools of Hyderabad, and ensures back-to-school enrolment of dropout children. There are altogether 2210 Social Welfare Hostels functioning in the state out of which 1640 hostels for boys and 530 hostels for girls. There are also 14 child orphanages with a total capacity of 700 inmates in Andhra Pradesh. Similarly, the Department of Tribal Welfare runs the Ashram Schools for tribal children, which provide school and hostel facilities under one roof. Almost 440 tribal welfare hostels are in operation. The Department of Backward Classes Welfare reimburses tuition fees for students of Backward Classes, provides coaching facilities to eligible Backward Classes students, awards residential & non-residential Post matriculation Scholarships and provides boarding and lodging facilities to children of Backward Classes, through a network of 1429 hostels, of which 1104 are for BC Boys and 325 are for BC Girls. There are 30 Residential Schools for Backward Classes. Scholarships, residential schools and hostels work as 'social defense' mechanisms to prevent children from being forced to work.

47. Economic Development Schemes for SC/ ST/ BC Communities. Andhra Pradesh has nearly 10.6 million persons belonging to the various SCs (as per 1991 census). This forms 16% of the total population of the state. The SCs have recorded a slower progress on various socio-economic indicators as against the overall state average. Similarly, Andhra Pradesh has over 50 lakh tribal people. The literacy rate among the Scheduled Tribes (STs) is only 37.04% as against 61% among general population in Andhra Pradesh and over 47% among STs all over India. Among the females, it is as low as 26%. In Andhra Pradesh, backward classes constitute a little over 37 percent of the total population of 746 lakhs (projected to 1998). Eleven percent of the population (as per the 1991 Census) belongs to the Minorities³⁴. Thus, together these sections constitute a sizeable proportion (more than 2/3rd) of the state's population. The state government has set up three Cooperative Finance Corporations (CFCs), one each for the educational and economic uplift of SCs, STs and Backward Classes households of Andhra Pradesh living below the poverty line.

48. The Andhra Pradesh SC CFC runs major schemes in the areas of: land purchase and development, Minor Irrigation, Horticulture, Self-employment, Animal Husbandry, training and awareness promotion, Infrastructure Development and assistance to people in traditional occupations, besides acting as the nodal agency for the schemes of National Scheduled Castes Finance & Development Corporation.

³³ Interestingly, the Andhra Pradesh human development report 2007, after the implementation of mid-day meals scheme, school enrolment has greatly increased as every child whose name is registered is eligible for benefits from the scheme. But, many children are not regular in attending school, nor do teachers bother to ensure attendance. There is a quid pro quo in this arrangement. Teachers please the parents by distributing rice irrespective of their children's attendance at school; in return, the teachers are left alone and their regular attendance in school is not insisted upon. This is the background for the exaggeration in enrolment figures and drop-out rates rise in the state.

³⁴ Source: State Economic Survey, 2000-01 (www.budget.ap.nic.in)

49. ***Kasturba Gandhi Balika Vidyalayas (KGBV)***³⁵. KGBVs are an important and integral part of the overall strategy for out-of-school children in the state since 2005. Named after Kasturba Gandhi, the wife of Mahatma Gandhi, the KGBVs are girls' schools opened all over the country, as part of SSA. These schools are opened in low literacy mandals (sub-district administrative units). In Andhra Pradesh, the KGBVs are self contained units where academic as well as residential facilities are provided. Andhra Pradesh has also decided to take all KGBVs to Std. X. At the state level, there is a strong thrust to enroll girls in KGBV only from the residential bridge courses. In Andhra Pradesh, majority of the girls are from SC/ ST families.

50. ***Linking of Poverty Reduction Projects with Child Labour Elimination***³⁶. Andhra Pradesh government has adopted the approach of attempting to break the generational cycle of poverty by motivating communities through the SHGs to put all working girls between the ages of 9 and 14 years into residential schools to catch up on lost school years. As part of this effort, 88 residential schools have been set up across Andhra Pradesh with the help of the two World Bank-funded poverty reduction projects in the state. These schools provide free food, lodging and teaching to 41,000 girls, especially those from the downtrodden dalit (SCs), adivasi (STs), and backward classes communities in the remote regions where the incidence of child labour and trafficking of girls is high. The Poverty Alleviation Programme managed by SERP, a state government society, in 6 districts of Andhra Pradesh has included elimination of child labour through universal elementary education (UEE) as an important component of its strategy to alleviate poverty. Initially, the focus of this programme was on withdrawing girl children from work as they were seen as the most deprived in the society in every respect. Therefore, the SERP programme had built in a component of a residential school for such children through the social welfare department. It was found that bringing girl children to school would be more effective under an expanded programme of elimination of child labour, which includes social mobilization in building up of a norm that no child must work. Keeping this in view, SERP has taken up an experiment based on MV Foundation's model in 30 mandals (administrative units) of the five districts on a pilot basis covering 1,230 villages and 163,024 children in school and out of school³⁷. Thus, one sees that the state government has followed an integrated approach towards addressing the twin problems of non-enrollment and poor retention of children in schools, in its quest towards attaining the goal of universal elementary education, and subsequently, keeping children away from work. While the interventions such as setting up residential schools and welfare hostels for disadvantaged groups has helped answer the problem of providing accommodation and security to students away from home, the mid-day meals programme has helped increase the attendance rate and retention of children from poorer households while contributing to better nutrition.

51. The ***National Rural Employment Guarantee Scheme (NREGS)*** for Andhra Pradesh is playing an important role in addressing the underlying economic factors forcing households to rely on their children's labor. The NREG Act 2005 provides at least 100 days of guaranteed wage employment in every financial year to every household whose adult members volunteer to do unskilled manual work. Panchayats at districts, intermediate and village levels are the principal authorities for planning

³⁵ Based on State KGBV Evaluation Report, 2007 by National Evaluation Team of Rukmini Banerji and Subhashini Paliwal

³⁶ A new beginning for girl child labourers in AP, India (insert on World Bank website)

³⁷ p.237, child labour eradication programs in AP, M. Venkatarangaiya Foundation

and implementation of the scheme.³⁸ Implementation figures for the financial year 2008-2009 highlight the scale of the scheme in the State: a total of 5,440,602 households were provided employment through the scheme in the 22 targeted Andhra Pradesh districts.³⁹ As for its impact on the child labour, there is some qualitative evidence of how stability in occupation ensured by NREGS jobs has prevented the rural households from migrating to cities and thus, secured children's education in rural schools. A number of cases documented by Watershed Support Services and Activities Network (WASSAN) Secunderabad have demonstrated that there is a positive correlation between the employment received by the household under NREGS and the continued schooling of children⁴⁰.

³⁸ Department of Rural Development, Government of AP (http://nrega.ap.gov.in/Nregs/Home_eng.jsp).

³⁹ Government of India, Ministry of Rural Development
(http://nrega.nic.in/states/dist_nregampr.asp?state_code=02&fin=2008-2009)

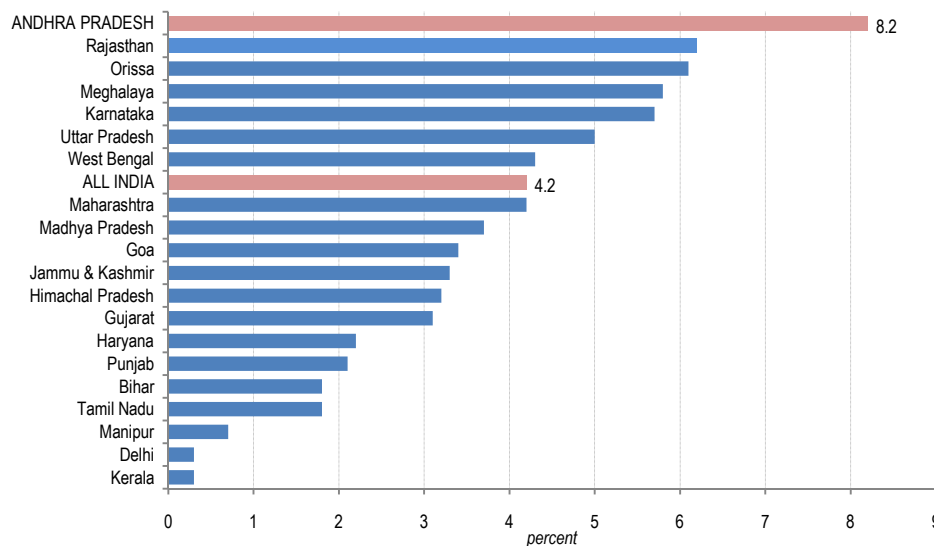
⁴⁰ Source: Solution Exchange for Decentralization Community, Consolidated Reply, 5 November 2008

3. CHILDREN'S INVOLVEMENT IN EMPLOYMENT AND SCHOOLING IN INDIA AND ANDHRA PRADESH

52. This section looks at children's time use patterns in India and in the state of Andhra Pradesh, focusing in particular on the extent of children's involvement in employment and schooling. It is based on data from the 2004-2005 India National Sample Survey (NSS), part of a multi-year survey programme designed to study a variety of socio-economic characteristics.⁴¹ The survey contains a rich array of information on children's work activities and schooling, together with information on a number of individual and household characteristics. The data include information on involvement in employment in the week preceding the survey, where employment refers to both paid and unpaid work but excludes household chores.⁴²

53. Children's involvement in employment is not uncommon in India. Over four percent of children aged 7-14 years were in employment in 2005 (Figure 6). At the same time, 85 percent of children from the 7-14 years age group attended school in the same reference year (Figure 7). Sub-national data from the NSS 2004-2005 point to large regional differences in children's employment, underscoring the need

Figure 6. Children's involvement in employment, by state, 7-14 year-olds, 2005 reference period



Source: UCW calculations based on NSSO 2004-05

for the geographic targeting of child labour elimination efforts. Andhra Pradesh has the highest incidence of children's employment among the Indian states (Figure 6).

⁴¹National Sample Survey Organisation (NSSO) has been conducting multi-subject integrated sample surveys all over the country in the form of successive rounds relating to various aspects of social, economic, demographic, industrial and agricultural statistics. In order to strike a balance between the urgent need for the data on wide variety of topics and the constraint of the limited resources, both financial and others, the NSS from its very inception has been following a multi-subject integrated survey system. In this system several subjects of enquiry, not necessarily closely related, are simultaneously taken up in a single survey operation to optimise the use of resources, to effect economy and operational convenience and also to achieve better analysis of the survey results. Each survey extends over a period of a few months or a year which is termed a round. http://mospi.gov.in/nssso_4aug2008/web/nssso/se_nssso.htm

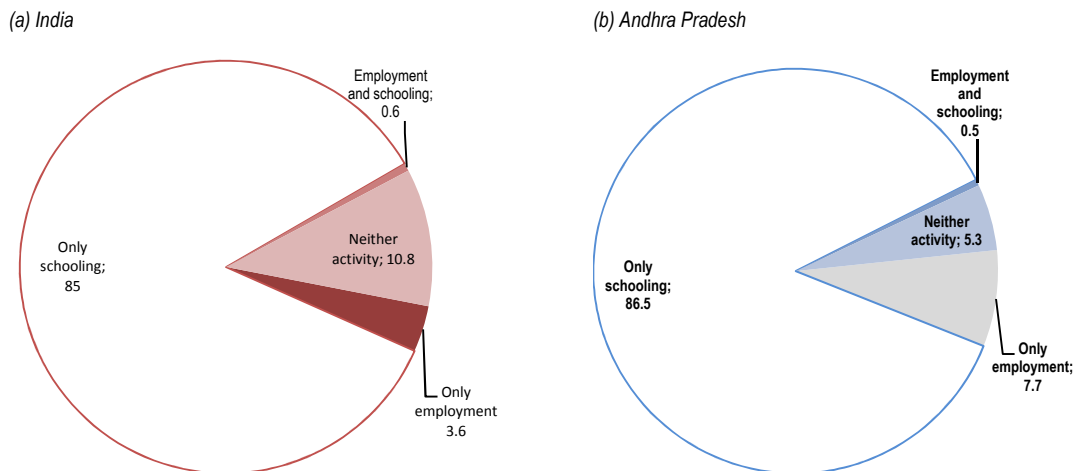
⁴² Children in employment is a broad concept covering all market production and certain types of non-market production (principally the production of goods for own use). It includes forms of work in both the formal and informal sectors, as well as forms of work both inside and outside family settings.

The rate of children's involvement in employment in Andhra Pradesh exceeds eight percent, almost twice that of the all-India average.

54. A comparison with previous household survey data points to a downward trend in children's employment in Andhra Pradesh: the rate of children's employment declined by more than half between 1994 and 2005 (from 18 percent to eight percent). This decline was mirrored by a large increase in the proportion of children attending school over the same period (from 65 to 87 percent). The decline in children's employment in Andhra Pradesh was consistent with the trend in the country as a whole. Children's employment and schooling trends are discussed in more detail in the next section of this report.

55. Figure 7 and Table 8 disaggregate the child population into four non-overlapping activity groups – children only in employment, children only attending school, children combining school and employment and children doing neither. This disaggregation indicates the schooling and employment rarely overlap in Andhra Pradesh⁴³. Some 87 percent of all 7-14 year-olds children in the state attend school exclusively, eight percent are in in employment exclusively, but less than one percent work and attend school at the same time. A further five percent of all children aged 7-14 are "inactive", i.e., not involved in employment nor in schooling. Activity patterns differ somewhat for 7-14 year-olds in India as a whole: a smaller share (four percent) are in employment exclusively and a greater share are inactive (11 percent).

Figure 7. Distribution of children by activity category, 7-14 years age group, India and Andhra Pradesh, 2005



Source: UCW calculations based on NSSO, 2004-05

⁴³ Some caution should be exercised in reading these figures, as National Sample Survey instrument used in India may not adequately capture the group of children that combines school and work

Table 8. Child activity status, 7-14 years age group, Andhra Pradesh, 2004/05, by sex

Activity status	Andhra Pradesh	
	no.	%
Only employment	998,052	7.7
Only schooling	11,211,882	86.5
Employment and schooling	64,809	0.5
Neither activity	686,971	5.3
Total employment^(a)	1,062,861	8.2
Total school^(b)	11,276,691	87

Notes: (a) Refers to all children in employment, regardless of school status; (b) Refers to all children attending school, regardless of employment status.

Source: UCW calculations based on NSSO 1993-94, 1999-00, 2004-05.

56. Aggregate estimates of children's activities mask some differences by residence, age and sex (Table 9 and Figure 8):

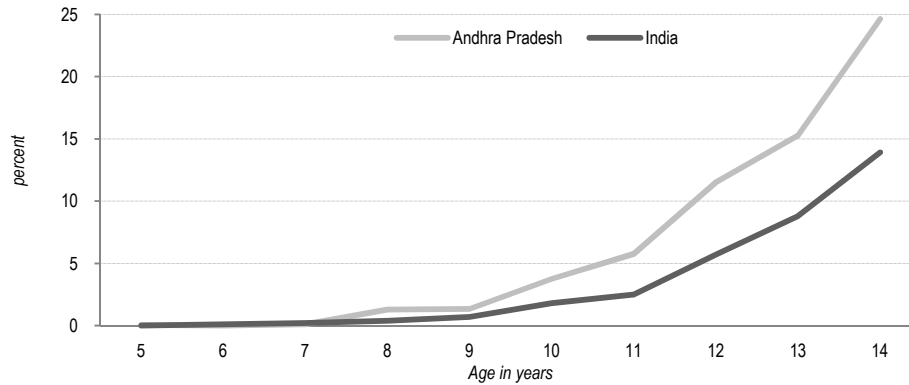
- **Gender.** Gender considerations do not appear to play an important role in decisions regarding children's involvement in employment. In India as a whole, girls and boys are in employment in roughly equal proportion, while in Andhra Pradesh, girls' involvement in employment (seven percent) is only slightly higher than for boys (six percent). It should be recalled, however, that these figures do not consider household chores, a form of work in which girls typically predominate.
- **Age.** In both Andhra Pradesh and the country as a whole, children's employment rises with age, not surprising in light of the fact that children's productivity also increases with age and with it the opportunity cost of keeping children in the classroom instead of the workplace (Figure 8). It is worth underscoring that the percentage of young children in employment in Andhra Pradesh is nonetheless far from negligible. Around four percent of 10 year-olds and over 11 percent of 12 year-olds are already in employment. These young child workers constitute a source of particular policy concern, as they are most vulnerable to workplace abuses, and most at risk of work-related ill-health or injury.
- **Residence.** Children living in rural areas are more likely to be in employment than their urban counterparts in Andhra Pradesh and in the country as a whole. At the national level, rate of children's employment in rural areas (four percent) is twice that of urban areas. The rural-urban difference in employment is even larger in Andhra Pradesh, where eight percent of rural 5-14 year-olds are in employment against only three percent of similarly aged urban children.

Table 9. Children's employment, 5-14 years age group, Andhra Pradesh and India, by sex and place of residence, 2005

Background characteristics		Andhra Pradesh	India
Sex	Male	6.1	3.3
	Female	7.1	3.3
Residence	Urban	3.1	2.3
	Rural	7.8	3.6
Total		6.6	3.3

Source: UCW calculations based on NSSO 2004-05

Figure 8. Children's involvement in employment, by age, Andhra Pradesh and India, 2005

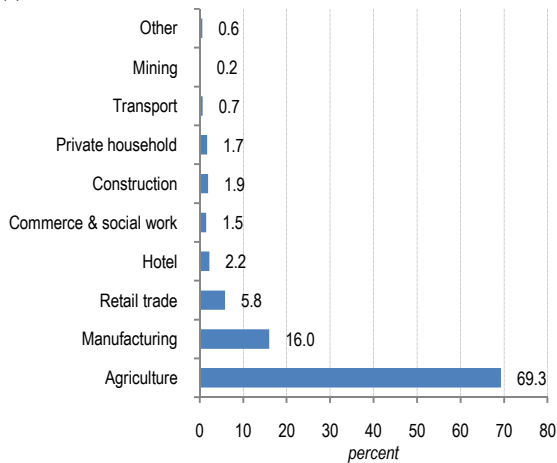


Source: UCW calculations based on NSSO 2004-05

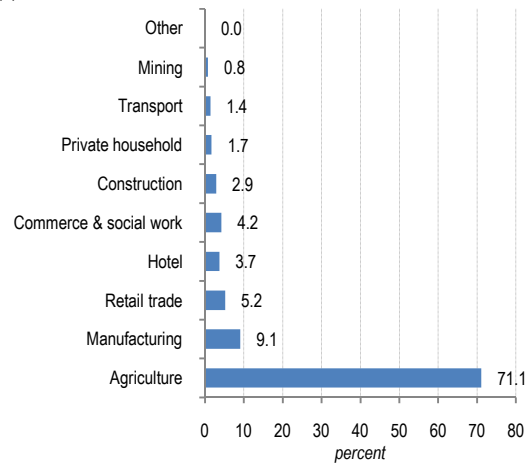
57. Children's employment is mainly concentrated in the agriculture sector in both Andhra Pradesh and in the country as a whole. In India, agriculture accounts of 69 percent of children's employment. The manufacturing and trade sectors are second and third in terms of importance for working children, accounting for 16 percent and six percent, respectively, of children in employment (Figure 9). Agriculture accounts for 71 percent of working children in Andhra Pradesh, but children in employment in the state tend to work less in manufacturing (less than 10 percent) and more in commerce and social work (four percent) compared to national averages.

Figure 9. Children's employment in India and in Andhra Pradesh, by sector, 5-14 years age group, percent, 2005 reference period

(a) India



(b) Andhra Pradesh



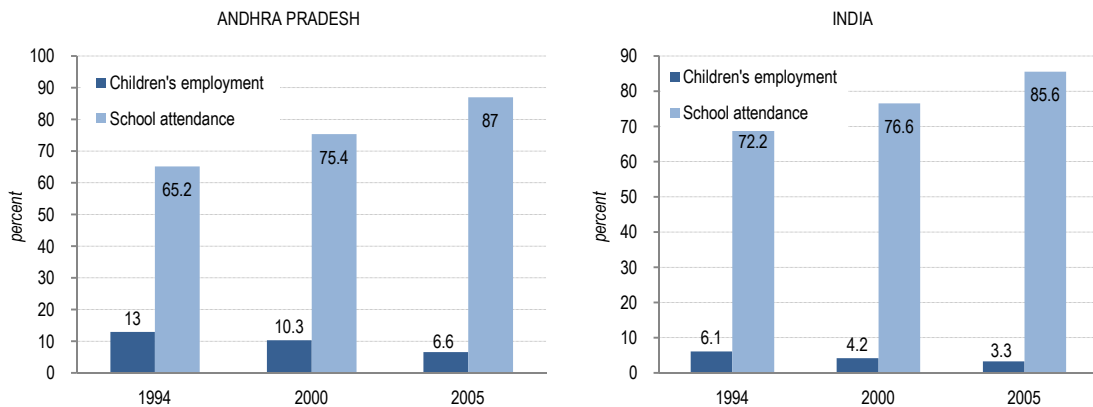
Source: UCW calculations based on NSSO 2004-05

4. TRENDS IN CHILDREN'S INVOLVEMENT IN WORK IN ANDHRA PRADESH

58. This section illustrates the changes in the level and composition (i.e., age, sex and residence) of the child population in employment in the whole of India and Andhra Pradesh in the 11 years from 1994 to 2005. It draws on microdata from NSS surveys conducted in the 1993-94, 1999-00 and 2004-05 reference periods.

59. Andhra Pradesh made considerable progress between 1994 and 2005 in getting children out of work and into school. A comparison of the results of the NSS surveys from 1994 to 2005 indicates an overall decline in children's employment in Andhra Pradesh among 7-14 year olds of almost 10 percentage points, from 18 percent to eight percent. During the same period and for the same age group, school attendance rose from 65 percent to 87 percent. Progress in Andhra Pradesh in extending schooling exceeded that of the country as whole, and attendance rates in the state were higher than the national average in 2005. While achieving universal enrolment at the basic level and eliminating child labour among the remaining core of hard-to-reach children constitute important challenges, survey results suggest that Andhra Pradesh is moving in the direction of achieving towards both of these goals.

Figure 10. Trends in children's employment and school attendance, 7-14 years age group, Andhra Pradesh and India



Source: UCW calculations based on NSSO 1993-94, 1999-00, 2004-05

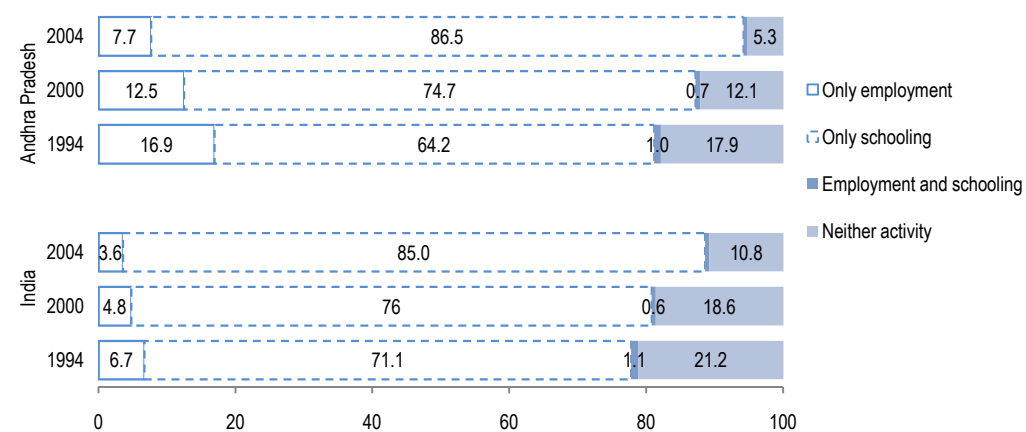
60. Figure 11 and Table 10 provide a more detailed look at changes over the 11-year period. As school and employment are largely mutually exclusive activities in Andhra Pradesh (few children perform both, even in 1994 when the first of the surveys took place), children have therefore largely moved from being involved exclusively in employment to exclusive involvement in schooling. The share of children in employment without also attending school, decreased over the 1994-2005 period from 17 percent to eight percent. But the fall in children's involvement in employment only accounts for part of the *rise* in school attendance. There was a large movement of children from "inactivity" to school over the 11-year period. Similar patterns prevailed for the country as whole.

Table 10. Children's activity status, 7-14 years age group, Andhra Pradesh and India, by survey year

Activity status	ANDHRA PRADESH			INDIA		
	1994	2000	2005	1994	2000	2005
Only employment	16.9	12.5	7.7	6.7	4.8	3.6
Only schooling	64.2	74.7	86.5	71.1	76	85.0
Employment and schooling	1.0	0.7	0.5	1.1	0.6	0.6
Neither activity	17.9	12.1	5.3	21.2	18.6	10.8
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: UCW calculations based on NSS 1993-94, 1999-00, 2004-05.

Figure 11. Children's activity status, 7-14 years age group, Andhra Pradesh and India, by survey year



Source: UCW calculations based on NSS 1993-94, 1999-00, 2004-05

61. Progress over the 11-year period in terms of both increasing schooling and reducing children's employment in Andhra Pradesh was broad based (Table 11). Progress extended to both male and female children and to children living in both rural and urban settings. But while gender and rural-urban disparities in school attendance were reduced over this period, they were not entirely eliminated. The increase in school attendance in Andhra Pradesh was greater for girls than boys, but female children were still less likely than their male counterparts to attend school in 2005. Similarly, rural children remained much more likely to be involved in employment in 2005, despite a greater proportionate decline in rural children's employment over the 11 year period. Again, for all categories of children, the rise in school attendance involved not only children leaving (or not entering) employment to go to school, but also the group of children previously "inactive", whose share in the population falls with time.

Table 11. Changes in child activity status, 7-14 years age group, by sex and residence, Andhra Pradesh, 1994-2005

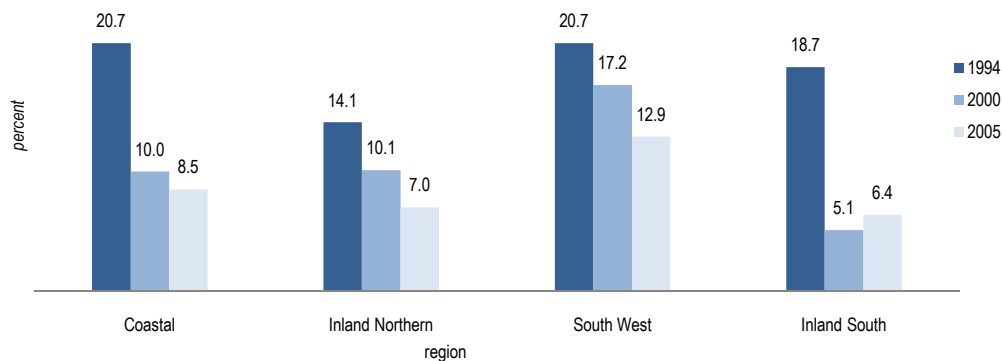
Activity status	Sex						Residence						Total		
	Male			Female			Urban			Rural			1994	2000	2005
	1994	2000	2005	1994	2000	2005	1994	2000	2005	1994	2000	2005			
Only employment	16.5	11.4	6.7	17.4	13.7	8.8	7.13	4.7	3.6	20.5	15.9	9.0	16.9	12.5	7.7
Only schooling	72.1	79.9	89.7	56.4	69.1	82.9	81.9	83.9	91.4	57.9	70.6	84.9	64.2	74.7	86.5
Employment and schooling	1.5	0.8	0.8	0.5	0.7	0.2	0.7	0.2	0.1	1.1	1.0	0.7	1.0	0.7	0.5
Neither activity	9.9	8	2.8	25.8	16.6	8.1	10.2	11.2	4.8	20.6	12.5	5.4	17.9	12.1	5.3
Total in employment^(a)	18.0	12.2	7.5	17.9	14.4	9.0	7.8	4.9	3.7	21.5	16.9	9.7	17.9	13.2	8.2
Total in school^(b)	73.6	80.7	90.5	56.9	69.8	83.1	82.6	84.1	91.6	59	71.6	85.5	65.2	75.4	87.0

Notes: (a) Refers to all children in employment, regardless of school status; (b) Refers to all children attending school, regardless of employment status.

Source: UCW calculations based on NSSO 1993-94, 1999-00, 2004-05.

62. Andhra Pradesh was characterized by regional differences at the beginning of the period considered, with Coastal and South-West showing higher employment rates of children with respect to the rest of the state (Figure 12). While a non-negligible convergence across regions is apparent in terms of children's involvement in employment, differences across states persist; the South-West, where 13 percent of children were in employment in 2005, stands out as a challenges. The reduction in children's employment did not happen over the same period across the different regions. In the Coastal and the Inland South regions, the largest part of the reduction took place in the 1990s, and the latter region actually saw a slight reversal of previous progress from 2000 to 2005.

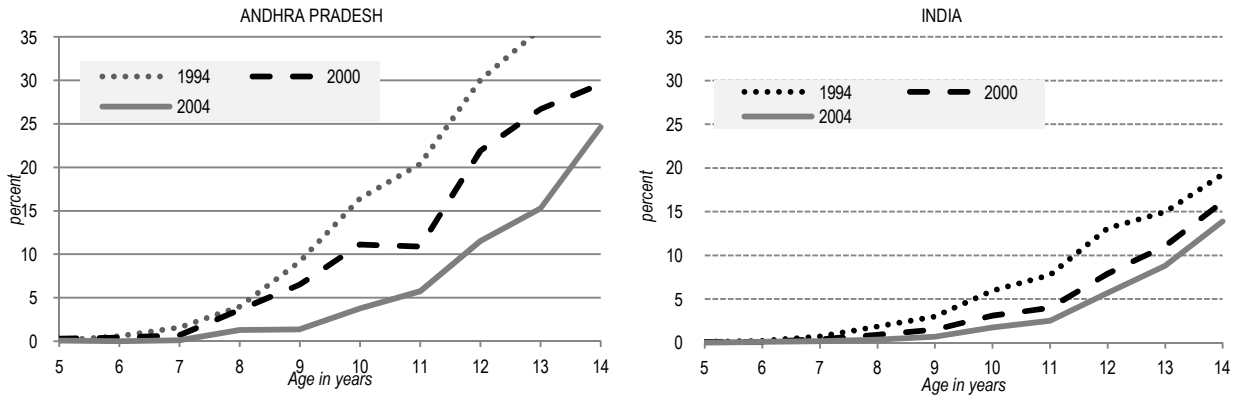
Figure 12. Children's employment in Andhra Pradesh, 7-14 year-old age group, by region and survey year,



Source: UCW calculations based on NSSO 1993-94, 1999-00, 2004-05

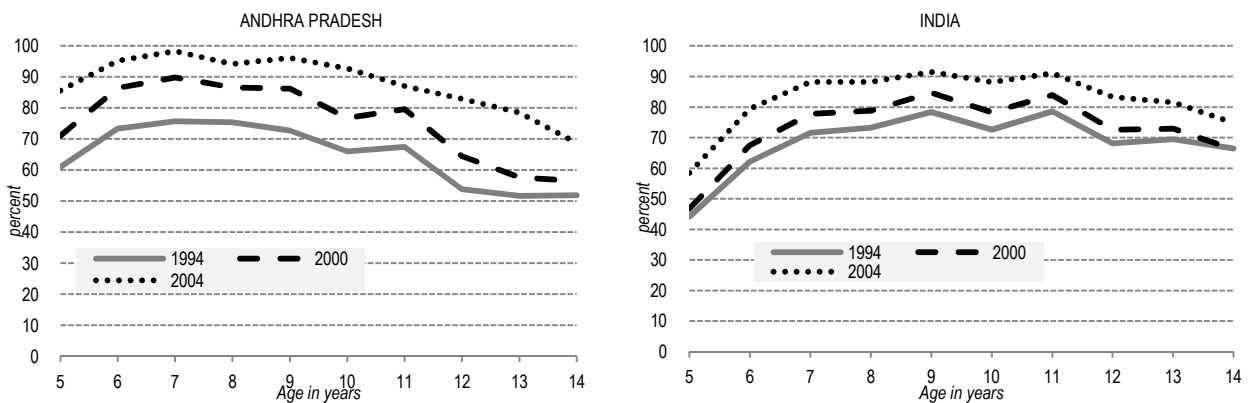
63. The age distribution of children involved in employment changed across the period considered in Andhra Pradesh and in the country as a whole (Figure 13). Not only did the level of involvement in employment decline substantially, but the minimum age of entry in the labour market increased by almost two years. In 1994, participation rates were positive for children aged eight years or more, while in 2005, the involvement of children in employment remained essentially negligible until the age of 11 years, and started to increase thereafter. A similar pattern can be observed for school attendance rates. As Figure 14 illustrates, not only did the level of school attendance increase over the 11 years, but children in 2005 entered earlier and left school later than in 1994.

Figure 13. Children's employment, Andhra Pradesh and India, by age and survey year



Source: UCW calculations based on NSSO 1993-94, 1999-00, 2004-05

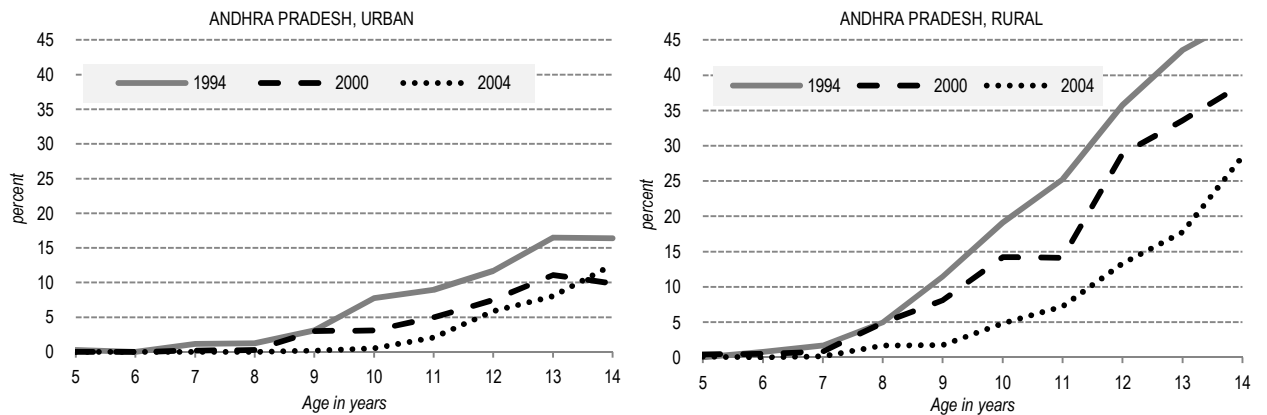
Figure 14. Children's school attendance, Andhra Pradesh and India, by age and survey year



Source: UCW calculations based on NSSO 1993-94, 1999-00, 2004-05.

64. Changes over the 11 year period left few urban children in Andhra Pradesh in employment below the age of nine years; their involvement in employment only begins to rise appreciably beyond the age of 11 years. In rural areas of Andhra Pradesh, involvement in employment starts at an earlier age (from the age of seven years) and begins to rise rapidly beyond the age of nine years.

Figure 15. Children's involvement in economic activity, Andhra Pradesh, by residence, age and survey year



Source: UCW calculations based on NSSO 1993-94, 1999-00, 2004-05 microdata

65. The reduction in the level of child labour was associated with a change in the sectoral composition of children's employment in Andhra Pradesh (Table 12).

There was a shift away from agriculture to a mix of services and industry, particularly after 1999, although agriculture remained by far the most important sector for children's work in 2005. Agricultural work as a proportion of total children's economic activity fell from 78 percent in 1994 to 71 percent in 2005, while the proportion of working children in manufacturing rose from 10 to 16 percent, and the proportion of working children in the retail sector rose from four to five percent, over the same period. A similar pattern can be observed in India as a whole.

Table 12. Sector of children's employment, 5-14 years age group, Andhra Pradesh and India, by sex, residence and survey year

Industry	ANDHRA PRADESH			INDIA		
	1994	2000	2005	1994	2000	2005
Agriculture	78.2	77.4	71.1	76.5	72.2	69.3
Mining	0.3	1.3	0.8	0.7	0.4	0.2
Manufacturing	9.8	7.2	9.1	11.6	13.7	16.0
Construction	1.2	3.2	2.9	1.2	2.2	1.9
Retail trade	3.9	4.7	5.2	3.4	5.9	5.8
Hotel	1.5	1.8	3.7	1.6	1.3	2.2
Transport	0.4	0.3	1.4	0.4	0.6	0.7
Commerce and social work	3.3	3.2	4.2	2.6	2.3	1.5
Private household	1.4	1.0	1.7	1.4	1.3	1.7
Other	0.1	0.0	0.0	0.7	0.1	0.6
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: UCW calculations based on NSSO 1993-94, 1999-00, 2004-05

66. The descriptive analysis conducted so far shows that children employment fell and school attendance rose during the 1994-2005 reference period. The following section will aim at quantifying the impact of different variables on the evolution of child work and schooling.

5. WHY CHILDREN'S WORK HAS DECLINED: ECONOMETRIC EVIDENCE

67. The previous section has illustrated the recent trend in children's employment and schooling in Andhra Pradesh. We have seen how children's employment has fallen and schooling has risen in Andhra Pradesh since the mid-1990s. During the period covered by this study, several strategic interventions in the area of child labour have been implemented at both the national and state level, while at the same time large programmes aimed at increasing school attendance have been put in place (See Section 2).

68. Data limitations do not allow us here to assess the impact of these programmes as such, but we try to gather indirectly their impact by looking at the changes in school availability and school quality. Finally, we will also try to identify the impact of child labour focused project like the APSBP. Again data limitation, especially in terms of time coverage, limits the extent of our conclusion.

69. In order to include in the analysis the elements just described, we complement data from NSS surveys with information from the Indian District Information System for Education (DISE) that provide data on school supply, enrollment and various measures of school quality by district. Because no DISE data are available for the 1990s, we only use the 55th (1999-2000) and 61st (2004-2005) rounds of the NSS and match to these the DISE data at district level. Below we briefly describe the main variables used in the analysis and we then illustrate the methodological approach that we follow in more detail.

70. In order to explain the change in children's employment and schooling between 2000 and 2005, we concentrate on the role of household and child characteristics, policy variables and macro-economic conditions. The NSS provides a rich set of information on child and household characteristics that are potentially correlated with children's time use. These include: household expenditure, parental education, household size, residential location, social group (scheduled caste, schedule tribe, "other backward classes" and a residual category), child's age, gender and household structure, household type and land ownership.

71. Table 13 tabulates the sample means of a number of such characteristics in 2000 and 2005 for children aged 5-14 years and the household to which they belong. The pooled sample contains information on 19,176 children in 23 districts. All data are weighted by sampling weights.

72. Consistent with the evidence in the previous sections, Table 13 shows that school enrolment grew by about 12 percentage points (from 76 percent to 88 percent) in only five years, while children's employment almost halved, going from 10 percent in 2000 to 7 percent in 2005. As children's employment fell, the industrial composition of child employment also changed considerably, with a decreasing share of employed children involved in agriculture (from 79 percent to 72 percent) and an increasing share involved in manufacturing (from 10 percent to 12 percent) and services (from 11 percent to 16 percent). The probability of combining employment with school is low in Andhra Pradesh (going from 0.6 percentage points in 2000 to 0.4 in 2005), while the proportion of "idle" children (i.e. those reporting neither work nor school) is relatively high (14 percentage points in 2000) and declined to 6 percentage points in 2005.

73. There are no appreciable differences across years in the proportion of girls in the population, while the population in the later period appears slightly older (average age increases from 9.3 to 9.6 years) and less urban (from 0.30 to 0.25), potentially

reflecting higher population growth in rural areas with respect to urban areas. Following a well established trend, household size falls (from 5.5 to 5.1).

74. The level of education of the head of household has been increasing over the period considered: with a lower proportion of households headed by individuals with no education (by and large the largest group, whose share falls from 68 percent to 64 percent), and a higher proportion headed by individuals with completed secondary (from 5 percent to 9 percent). One can also observe a fall in the proportion of those with just completed middle school (from 11 percent to 6 percent).

75. As characteristics that are typically associated with children's employment become less frequent in the population as time goes on, one would expect children's work to fall. For example, if children of more educated parents are less likely to be involved in employment, a secular increase in parental education should - everything else being equal - predict a fall in children's employment. In the next section we provide a formal procedure to assess the contribution - if any - of such observable characteristics to the fall in children's employment.

76. Other than potentially due to varying composition of the sample, observed changes in children's time use in Andhra Pradesh can be due directly to policy interventions and to macroeconomic trends. Living standards have increased in Andhra Pradesh, as in the rest of India: real per capita expenditure, the only proxy available in the data to measure living standard, increased by about seven percent over the five years of analysis. Also, the share of population living under the poverty line has decreased in the period under consideration, from 25 percent in 2000 to 18 percent in 2005. A measure of relative poverty is also considered, built as the share of population living above the poverty line and under twice the poverty line.

Table 13. Children's Time Use⁽¹⁾ and Characteristics: Andhra Pradesh, 2000 and 2005

	2000	2005
School attendance	0.761	0.876
Children's Employment	0.103	0.066
percent Agriculture and Mining	0.786	0.718
percent Manufacturing and Construction	0.107	0.121
percent Services	0.107	0.161
School and employment	0.006	0.004
Idleness	0.142	0.064
Age	9.251	9.554
Female	0.483	0.482
HH size	5.504	5.137
Urban	0.295	0.246
Poor (below the poverty line)	0.250	0.182
Relative Poor (above the poverty line and under twice the PL)	0.609	0.577
Non Poor	0.141	0.243
Per capita Expenditure (2000 Rp.)	452.999	485.046
Household head education =		
No education	0.679	0.643
Less than primary	0.098	0.115
Completed primary	0.064	0.087
Completed middle school	0.113	0.060
Completed secondary school	0.046	0.094
Social group		
Scheduled tribe	0.076	0.089
Scheduled caste	0.213	0.185
Other backward classes	0.446	0.468
Others	0.265	0.259
Observations	12,147	7,029
Government schools ('000 children)	6.525	7.521
Pupil teacher ration (government schools)	35.692	23.911
Employment to population ratio	0.767	0.788

Note: (1) age group 5-14

Source: UCW calculations based on NSSO 1999-00, 2003-04 and DISE data

Table 14. Children's Time Use⁽¹⁾ and Characteristics: Andhra Pradesh, 2000 and 2005. By area of residence

	Urban		Rural	
	2000	2005	2000	2005
School attendance	0.839	0.911	0.728	0.865
Children's Employment	0.039	0.031	0.13	0.078
percent Agriculture and Mining	0.064	0.12	0.879	0.795
percent Manufacturing and Construction	0.441	0.424	0.064	0.082
percent Services	0.496	0.456	0.057	0.123
School and employment	0.001	0.001	0.008	0.006
Idleness	0.122	0.059	0.15	0.063
Age	9.491	9.606	9.151	9.537
Female	0.475	0.493	0.486	0.478
HH size	5.588	5.409	5.469	5.048
Poor (below the poverty line)	0.407	0.320	0.184	0.138
Relative Poor (above the poverty line and under twice the PL)	0.444	0.455	0.678	0.617
Non Poor	0.149	0.225	0.138	0.245
P.c. Expenditure (2000 Rp.)	612.997	662.697	386.51	427.152
Household head education =				
No education	0.438	0.403	0.78	0.722
Less than primary	0.111	0.117	0.092	0.115
Completed primary	0.084	0.114	0.055	0.079
Completed middle school	0.243	0.12	0.058	0.041
Completed secondary school	0.123	0.247	0.014	0.044
Social group				
Scheduled tribe	0.028	0.047	0.097	0.102
Scheduled caste	0.156	0.121	0.238	0.206
Other backward classes	0.409	0.422	0.461	0.482
Others	0.407	0.411	0.205	0.21
Observations	5,146	2,450	7,001	4,579
Government schools ('000 children)	6.038	6.995	6.686	7.821
Pupil teacher ration (government schools)	0.35	0.243	0.335	0.238
Employment to population ratio	0.633	0.656	0.856	0.856

Note: (1) age group 5-14

Source: UCW calculations based on NSSO 1999-00, 2003-04 and DISE data.

77. As mentioned, improvements in the quantity and quality of schooling (also linked to the implementation of DPEP II and SSA) are likely to increase the incentives for school enrolment and possibly decrease the incentives for children's work. In addition, the government of Andhra Pradesh actively pursued policies aimed at increasing school attendance and reducing children's work. The phase I of Andhra Pradesh State Based Project (APSBP) for the Elimination of Children's Work was implemented starting in 2000 and it covered 12 mandals (out of 240) of 5 districts (Karimnagar, Kurnool, Nellore, Vizianagaram and Warangal). After this initial pilot phase, the programme was implemented in two rural districts (Kurnool and Mahbubnagar) and Hyderabad starting in 2005.

78. The remaining rows of the table provide information on these aggregate variables. Data reported are fixed-population weighted averages across the 23 districts of the State. Data on schooling come from DISE and refer respectively to the school years 2000/2001 and 2005/2006.⁴⁴ Data refer to primary government schools, as these are the most likely to influence household decisions for the children in the age group we consider. The data show a strong increase in the supply of primary schools (rising from 6.5 to 7.5 schools per 1,000 school age children) and a large reduction in the pupil teacher ratio that falls by 36 percent (from 36 to 24 children per teacher).

79. The last row finally presents information on the adult (ages 25-54) employment to population ratio as derived from the NSS. We take this as a measure of local labour demand. We do not observe marked trends in adult employment over time.

80. We have followed two complementary approaches to assess the impact of the different variables considered. Household characteristics, as defined above, change slowly over time and are less likely to be influenced by direct policy action. Nonetheless these changes are potentially important in explaining the trend in children's work and other dimensions of children's activities.

81. As such structural changes could potentially confound the effects of policy variables, in order to assess the extent of the possible impact of household characteristics, we have employed a reweighting approach that allows us to build a counterfactual intensity of children's work in 2000 under the 2005 distribution of household characteristics (Section 5.1).

82. To estimate the impact of changes in living standards and of other policy variables, especially education sector expansion and special programmes, we have used a double difference approach that exploits variation over time and across districts to identify their impact on children's work and school attendance (Section 5.2).

5.1 The role of changes in household characteristics.

83. In this section we start by illustrating the role of changing household characteristics in explaining trends in children's time use over the five years of observation.

84. Ex-ante, it is difficult to predict the role of changing household and children's characteristics in explaining the trends in children's employment and schooling. On the one hand, improvements in parental education should imply a fall in children's employment. Children of more educated parents are typically less likely to be in

⁴⁴ For those few districts (Hyderabad, East Godavari, West Godavari, Krishna, and Anantapur) for which DISE data for 2000/01 are missing we have used data for 2002/03. We have no information on Cuddapah in either 2000/01 or 2002/03.

employment: just by virtue of parents becoming more educated as time goes on, children's employment should decline. These changes are potentially particularly relevant in India where the process of development accelerated in the last decade. On the other hand, the modest increase in children's age and the small drop in the proportion of urban households might have acted to counteract these effects: if older and rural children are more likely to be involved in employment and less likely to attend school, everything else being equal, this should have led to an increase in children's work.

85. To ascertain the role of these opposing changes, we use a slightly modified version of the approach proposed by DiNardo et al. (1996). This is in turn a simple semi-parametric variation of the Oaxaca decomposition.⁴⁵ We present the methodology in the technical appendix. As mentioned, following this approach we try to assess what the incidence of children's employment would have been in 2000 if the distribution of characteristics had been the one observed in 2005. The difference between the actual distribution of children's employment and this "counterfactual" distribution provides an estimate of the differences in children's employment between 2000 and 2005 that can be attributed to compositional changes. The residual variation, i.e. the difference between children's employment incidence in 2005 and this counterfactual distribution provides an estimate of the variation in children's employment that is due to both unobserved compositional changes and to the varying intensity of children's work for the groups defined based on observables. In words, if the fall in children's employment is due – say – to increased awareness among parents of its danger (something for which we have no information in our data) or simply to the fact that parents with any given level of education are less likely to send their children to employment because of reduced labor demand or supply, this variation will be attributed to the residual term.

86. Table 15 reports the actual and counterfactual level of children's employment across the four regions that compose Andhra Pradesh and the State as a whole. Table A4 in the appendix provides separate information by district. We present separate counterfactuals keeping in turn fixed different individual attributes. Column 2 assumes fixed child characteristics, column 3 assumes fixed household characteristics, while column 4 assumes fixed residential location. Finally we compute a counterfactual distribution assuming all these characteristics are simultaneously fixed at their 2005 level (column 5).

87. Column 1 of Table 15 shows the actual level of children's employment in 2000: this illustrates substantial heterogeneity in the incidence of children's employment across the different areas of Andhra Pradesh in 2000. Table 4 in the appendix shows in particular an incidence of children's employment in 2000 that varies from as low as one per cent in Hyderabad city to 18 percent and 20 percent respectively in Kurnool and Mahbubnagar, the two districts that were (together with the capital city) part of phase II of APSBP. Column 6 of Table 15 reports the incidence of children's employment in 2005. This – as said - is on average 6 percent. One can observe a generalized fall in children's employment across all regions.

88. Column 2 of Table 15 reports the counterfactual distribution of children's employment in 2000 assuming that the demographic characteristics of children were the ones observed in 2005. In practice we control for children's age, age squared and gender. Column 2 shows that if the age and gender distribution in 2000 had been the one that prevailed in 2005, children's employment would have been slightly higher (11 percent as opposed to 10 percent). This should be no surprise

⁴⁵ Results based on a linear Oaxaca decomposition (not reported here) lead to similar conclusions

since, the average age of children in the population grew modestly, implying that, everything else being equal, children's employment would have risen. Differences between the actual and counterfactual distribution are small though, implying little role for these compositional effects.

89. Column 3 controls for the following variables: household size, dummies for head of household education, and dummies for the household social group. Interestingly, we find no noticeable effect of changes in household characteristics on the incidence of children's work. In practice, despite the apparent increase in parental education among children in Andhra Pradesh, it again appears that such improvements had little effect on the incidence of children's work.

90. Column 4 reports changes in the distribution of children's employment between 2000 and 2005 that can be attributed to changes in the residential location of households. Here we include a separate indicator for each district and an indicator variable for rural location. Again, compositional effects are negligible. Not surprising, in column 5, where we control simultaneously for all the covariates in columns 2 to 4, we find that the counterfactual distribution of children's employment is very similar to the actual distribution. This means that compositional effects, such as the varying socio-demographic characteristics of children and movements between rural and urban areas are essentially unable to explain the observed decline in children's employment between 2000 and 2005.

91. Table 16 reproduces the same exercise for school attendance, and Table A5 in the appendix provides separate information by district: again we find no substantial effects of such compositional changes on school attendance. Compositional changes are unable to account for the 11 percentage point increase in enrollment observed over these 5 years.

92. In sum, despite the characteristics of the population in Andhra Pradesh – as in the rest of India – have been changing relatively rapidly since the beginning of the current decade, we find little evidence that these contribute to explaining the fall in children's employment and the rise in schooling.

Table 15. Decomposing changes in children's employment between 2000 and 2005

District	(1)	(2)	(3)	(4)	(5)	(6)
	Actual	Children's characteristics in 2005	Households characteristics in 2005	Residential location in 2005	All characteristics in 2005	Actual
			2000			2005
Coastal	0.101	0.113	0.095	0.104	0.109	0.063
Inland North	0.098	0.109	0.096	0.104	0.110	0.049
South West	0.172	0.188	0.164	0.177	0.182	0.096
Inland South	0.052	0.059	0.056	0.051	0.063	0.048
Total	0.103	0.115	0.099	0.108	0.114	0.060

Table 16. Decomposing changes in school enrolment between 2000 and 2005

District	(1)	(2)	(3)	(4)	(5)	(6)
	2000					2005
	Actual	Children's characteristics in 2005	Households characteristics in 2005	Residential location in 2005	All characteristics in 2005	Actual
Coastal	0.766	0.752	0.774	0.762	0.761	0.864
Inland North	0.767	0.759	0.769	0.753	0.752	0.898
South West	0.696	0.677	0.709	0.683	0.679	0.830
Inland South	0.793	0.779	0.792	0.797	0.785	0.894
Total	0.761	0.749	0.767	0.753	0.751	0.876

The table provides estimates of the role of compositional changes in explaining the change in school enrollment between 2000 and 2005. See text for details.

5.2 Impact of macroeconomic conditions and (selected) policies: a double difference analysis

93. In this section we turn to the effect of specific policies aimed at improving the supply of schooling and eradicating children's employment and of varying macroeconomic conditions (especially improvements in living standards) on the trends in children's time use. The set of policies we are able to consider here is limited by the set of information currently available, and hence cannot be considered as an exhaustive analysis of all the actions that might have had a bearing on children's employment and schooling.

94. In order to capture the effect of the variables of interest on children's employment we carry out a double difference regression analysis. Let y_{idt} be the outcome of variable (children's employment or schooling) for child i in district d at time t , let $POV1_{dt}$ be a dummy variable identifying a child belonging to a household living below the poverty line, $POV2_{dt}$ be a dummy variable identifying a child belonging to a household living above the poverty line and under twice the poverty line, E_{dt} be the adult employment to population ratio, $Schools_{dt}$ the number of primary government schools per 1,000 children and PTR_{dt} the pupil teacher ratio ($\times 100$, i.e. the number of 100 students per teacher). Our regression model is:

$$(5) \quad y_{idt} = \beta_0 + \beta_1 Schools_{dt} + \beta_2 PTR_{dt} + \beta_3 E_{dt} + \beta_4 POV1_{dt} + \beta_5 POV2_{dt} + X_{idt}'\gamma + f_t + f_d + u_{itd}$$

where u is an error term. Model (5) includes time fixed effects (f_t) and district fixed effects (f_d). District fixed effects capture permanent differences in the incidence of children's work and school enrollment across the 23 districts of Andhra Pradesh, while time fixed effects capture generalized trends in school attendance and children's work that are common across districts.

95. Model (5) identifies the effect of living standards (POV1 and POV2), the supply of schooling (*Schools*), the pupil-teacher ratio (*PTR*) and aggregate demand (*E*) based on a diff-in-diff estimator: in practice we estimate how much of the differential time-variation across districts in children's work intensity (net of a common trend) can be attributed to these policy variables.

96. In all specifications we also include individual specific control variables (X_{idt}). Since we have shown that these variables are essentially unable to explain the trends in children's work and school enrollment, we would expect their inclusion to make little difference to the estimated coefficients. Finally, because it is unlikely that any other district provides a valid counterfactual for the capital city, in all specifications we include a dummy for Hyderabad in 2005.

97. To account for the different level of aggregation of the right hand-side and left hand-side variables standard errors are clustered by district and time. Regressions are weighted by sampling weights.

98. Finally, given the large structural difference across urban and rural areas, the estimates have been carried out separately by area of residence. We have also experimented with disaggregation by gender, but the results did not change in any substantial way from those presented here and, hence, to favour simplicity of exposition we present only the pooled estimates across gender groups.

99. Results for children's activity are reported in Table 17 and Table 18 respectively for urban and rural areas. We report estimates for three different dependent variables: fraction of children involved in employment, fraction attending school and fraction neither working nor attending school ("Idle"). Given the very small number of children working and attending school identified by the NSS this division exhausts, for any practical purpose, the list of children's activities.

Table 17. Determinants of Children's time use, Urban area

	Employment	School attendance	Idle
	(1)	(2)	(3)
<i>Number of primary government schools per 1,000 children_{at} (Schools_{at})</i>	0.006 (0.005)	-0.009 (0.008)	0.001 (0.006)
<i>Pupil Teacher ratio_{at} x 100 (PTR_{at})</i>	-0.068 (0.044)	0.144 (0.14)	-0.065 (0.144)
<i>Adult employment to population ratio_{at} (E_{at})</i>	0.262* (0.151)	-0.597** (0.237)	0.294* (0.168)
<i>Time effect=2005</i>	-0.028** (0.01)	0.108*** (0.022)	-0.077*** (0.018)
<i>Extreme poor (POV1_{at})</i>	0.057*** (0.011)	-0.173*** (0.027)	0.120*** (0.022)
<i>Relative poor(POV2_{at})</i>	0.014* (0.007)	-0.044** (0.017)	0.032** (0.015)
Controls	yes	yes	Yes
Observations	7482	7472	7482

Note: Control variables include age, age squared, sex, household size, and district fixed effects
Robust standard errors in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

Table 18. Determinants of Children's time use, Rural area

	Children's work	Schooling	Idle
	(1)	(2)	(3)
<i>Number of primary government schools per 1,000 children_{dt}</i>	-0.020*** (0.006)	0.034*** (0.006)	-0.017** (0.007)
<i>Pupil Teacher ratio_{dt} x 100</i>	0.043 (0.035)	-0.001 (0.048)	-0.001 (0.041)
<i>Adult employment to population ratio_{dt}</i>	0.132 (0.172)	0.059 (0.167)	-0.082 (0.144)
<i>Time effect=2005</i>	-0.036*** (0.011)	0.103*** (0.011)	-0.062*** (0.011)
<i>Extreme poor</i>	0.046** (0.021)	-0.134*** (0.023)	0.086*** (0.016)
<i>Relative poor</i>	0.034** (0.014)	-0.061*** (0.02)	0.029** (0.012)
Controls	yes	yes	Yes
Observations	11345	11343	11345

Note: Control variables include age, age squared, sex, household size, and district fixed effects.

Robust standard errors in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

100. Column 1, 2, and 3 present the results of regressions that include two measures of poverty (extreme poor and relative poor, being non poor the reference group), supply of schooling, pupil teacher ratio, local adult employment, a time effect and individual controls (plus district fixed effects). The same specifications without the addition of individual controls generate results that are virtually unchanged, in line with the findings of a modest role for observables.

5.2.1 Urban areas

101. Children's employment in urban areas was already low at the beginning at the period considered, 3.9 percent, and declined further to 3.1 percent. School attendance rose more substantially from 84 percent to 91 percent. For urban areas, the supply and quality of schooling do not appear to be important determinants of the declining trend big children's employment and the increase in school attendance. In fact the coefficients of the relevant variables are not statistically different from zero.

102. On the other hand, poverty, as proxied by population living below the poverty line, is significant in influencing children's activities in urban areas and appears to have a relevant effect. Children living under the poverty line are more likely to be in employment and less likely to attend school. The observed reduction of the share of population living under the poverty line of about 9 percentage point accounts for about 50 percent of the reduction of child labour. The impact is smaller on school attendance, where it accounts for about 20 percent of the observed changes.

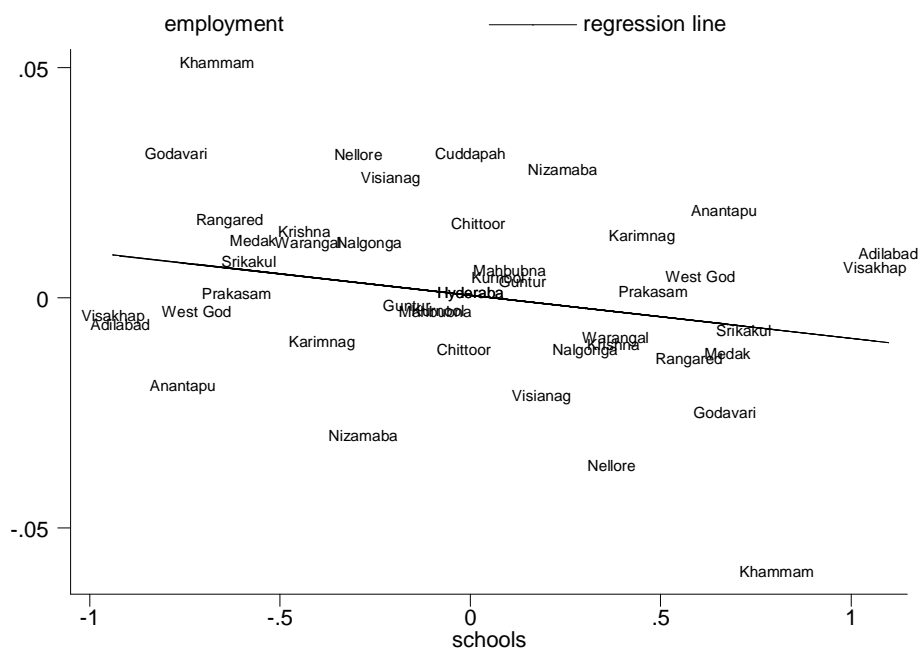
103. In fact, children's employment would have been lower and school attendance would have been higher than those actually observed in 2005, if the effects of the demand for labour would not have counterbalanced the impact of higher income and of the declined poverty. Our proxy for local labour demand, the adult employment to population ratio, is significant and indicates that higher demand for labour tends to increase children's employment and reduce school attendance. The strong demand for labour in urban area contributed to increase children's employment by almost half a percentage point and to decrease school attendance by over one percentage point. Interestingly enough the increase in local labour demand also led to an increase in the number of children neither working nor attending school of just under one percentage point. This could be due to the fact that as adult employment increases, children substitute for adult time in performing domestic chores.

104. Summing up, changes in leaving standard and demand for labour appears to be the main identifiable determinants of the observed trends in child labour. However, the analysis has also indicated that other relevant, but yet unobservable, factors have been at play. Better information and larger data sets might in future help to identify at least some of these factors.

5.2.2 Rural areas

105. We reach quite different conclusion for rural areas, where, during the period considered, children's work decreased by just over 5 percentage points and school attendance rose by about 14 points. The first row of table 13 shows a significant and precisely estimated effect of school supply on children's work: one extra school per 1,000 children reduces children's work by 2 percentage points, implying 10 less children in work out of 1,000.

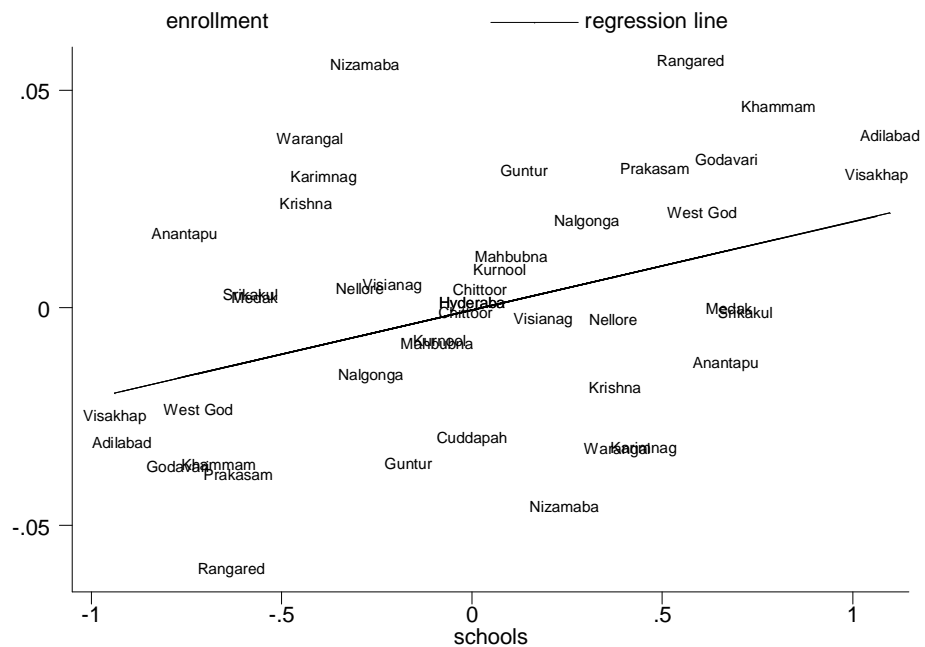
Figure 16. Changes in School Supply and Children's employment by district: Andhra Pradesh: 2000–2005.



106. Figure 16 plots the correlation between schools per capita and children's work across districts. The figure controls for permanent differences in the incidence of children's work and the supply of schooling across districts, hence only exploiting the within district variation: the negative correlation between the growth in school supply and the fall in children's work is extremely clear.

107. It appears that school construction had a particularly sizeable effect on children's work in Andhra Pradesh. The supply of schooling in the State increased on average by 1.2 schools per 1,000 children over the five years of analysis (from 6.6 to 7.8). On the basis of our estimates such an increase in supply is likely to have generated a reduction in children's work of around 2.4 percentage points. Since overall children's work fell by 5.2 percentage points, improved access to school explains about half (46 percent) of the observed reduction in children's work.

Figure 17. Changes in School Supply and Schooling by district: Andhra Pradesh: 2000–2005



108. School attendance in rural areas has also been strongly influenced by the increased supply of schools: about one third of the increase in school attendance can in fact be explained by school expansion. Figure 17, analogously to Figure 16, plots the correlation between changes in schools per capita and children's school attendance across districts: the positive relationship emerges very clearly.

109. We find no significant effect of school quality - as proxied by the pupil teacher ratio - on children's work and on school attendance. Albeit positive, the coefficient is small and not significant at conventional levels. This does not imply necessarily that school quality is not relevant for household decisions about children's activity, but possibly that our information on school quality are limited to only one dimension (pupil teacher ratio) and this might not be the most relevant in the Andhra Pradesh context.

110. The third row shows that the effect of local work demand – as proxied by adult employment – on children's work is not significant in a rural context. This contrasts with the strong impact of labour demand in urban areas that we discussed above.

111. The impact of poverty is significant for all children's activity. Poverty negatively affect the probability of attending school and positively affect the probability of working or doing neither. However, the impact of both poverty measures considered is not very large. The observed 4.6 percentage point reduction of poverty accounts for about 5 percent of the reduction of child labour. The impact on school attendance is similar; indeed, the reduction of poverty accounts for about 5 percent of the observed changes.

112. The reduction of poverty in rural areas, especially of extreme poverty, has been much smaller (about half) with respect to urban areas. This explain in part the smaller role that it had in reducing child labour and increasing school attendance. Moreover, if children's work leads to higher household consumption, this will lead to estimates on the consumption coefficient that is upward biased: this might be especially relevant in urban areas. In any case, the increase in consumption observed in the data explains very little of the actual change in children's work in rural areas.

6. CONCLUSION

113. The study has illustrated the considerable progress made in Andhra Pradesh in getting children out of work and into school. Data presented showed an overall decline in children's involvement in employment of more than 50 percent, by 9 percentage points, and an accompanying rise in children's school attendance of 22 percentage points, in the eleven-year period from 1994 to 2005.

114. The study also addressed some of the main reasons behind the pronounced fall in children's employment and increase in school attendance, and their implications for policy. Although the analysis still lacks information on several policy variables of potential interest (e.g., indicators of school quality, measures of policies targeted to support the living of the poor, etc.), it identifies some of the main factors contributing to the fall in children's employment and the rise in school attendance.

115. First of all, it clearly emerges that urban and rural realities are very different in terms of relevance of interventions and impact of macroeconomic variables and this has important policy implications.

116. In urban areas, the changes in children's employment and school attendance have been driven mainly by changes in living standards and in local labour demand. The reduction of the share of poor has a large role in explaining the observed improvement in the situation of children. On the other hand, households, especially if poor, seem to be influenced by local labour demand in deciding about the time allocation of their children. The positive impact of increased living standard on children's employment in urban areas was counterbalanced by the impact of increased labour demand, limiting the progress towards a reduction in children's employment.

117. A rather different picture emerges in rural areas, where improved access to school seems to have been the driving force behind the large reduction in children's employment. Improvement in living standard has played a role as well, but it appears less relevant than in urban areas. This last conclusion should be, however, taken with care because of measurement error in reported consumption is more likely to be a more relevant phenomenon in rural rather than in urban areas.

118. The policy implications from the recent positive experiences in the Indian State of Andhra Pradesh in reducing child labour are clear cut. In urban areas support to the living standard of the vulnerable groups is essential. At the same time, through appropriate measures aiming at increasing the returns to education (both actual and perceived), more attention should be paid to preventing children from premature involvement in the labour market in periods of high labour demand.

119. In rural areas, ensuring children's access to quality schools seems to be the highest priority, especially if accompanied by protection measures for the most vulnerable. Beside these general policies, the role of child labour targeted policies is also very relevant and should, possibly, be integrated in the more general strategies aimed at promoting school attendance and school retention.

ANNEX I: TECHNICAL APPENDIX. THE REWEIGHTING PROCEDURE

Suppose one wants to decompose the changes in children's work between time $t=0$ and $t=1$ into a component due to changes in observable characteristics (Z) and a component due to changes in the returns to these characteristics (plus changes in unobservable). Following DiNardo et al. (1996), let the incidence of children's work (CL) at time $t=0$ be:

$$(A1) \quad P(CL|t_{CL}=0) \equiv P(CL|t_{CL/Z}=0, t_Z=0) = \int P(CL/Z, t_{CL/Z}=0) f(Z|t_Z=0) dZ$$

where t_x denotes the time at which X is measured. By definition the incidence of children's work at time $t=0$ can be thought of as the incidence of children's work that prevailed given that both the distribution of observables (t_Z) and the mapping between observables and children's work ($t_{CL/Z}$) were the ones observed at $t=1$. This is weighted average of the conditional probability of children's work, with weights given by the distribution of Z at time $t=0$. Changes in children's work between the $t=0$ and $t=1$ are then:

$$(A2) \quad P(CL|t_{CL}=1) - P(CL|t_{CL}=0) = \\ = [P(CL|t_Z=1, t_{CL/Z}=1) - P(CL|t_Z=1, t_{CL/Z}=0)] + [P(CL|t_Z=1, t_{CL/Z}=0) - P(CL|t_Z=0, t_{CL/Z}=0)]$$

where the first term in square brackets picks up changes in "returns to observables" and the second term picks up changes in observable characteristics between the time 0 and time 1.

One can derive the counterfactual incidence of children's work that would have prevailed at time $t=0$ had the distribution of Z been the one observed at time $t=1$ (but the returns to Z been the ones observed at time $t=0$) as follows:⁴⁶

$$(A3) \quad P(CL|t_Z=1, t_{CL/Z}=0) \\ = \int P(CL/Z, t_{CL/Z}=0) f(Z|t_Z=1) dZ = \int P(CL/Z, t_{CL/Z}=0) G(t_Z, Z) f(Z|t_Z=0) dZ$$

⁴⁶ We have assumed that $P(CL/Z, t_Z=1, t_{CL/Z}=0) = P(CL/Z, t_{CL/Z}=0)$, i.e. the mapping between Z and CL does not depend on the overall distribution of Z (no general equilibrium effects).

where:

$$(A4) \quad G(t_Z, Z) = \frac{P(Z|t_Z=1)/P(Z|t_Z=0)}{P(t_Z=1/Z)/[1-P(t_Z=1/Z)]} \times \{P(t_Z=0)/P(t_Z=1)\}$$

In practice equation (A3) suggest to compute this counterfactual distribution of children's work by simply reweighing observations at time $t=0$ by $G(t_Z, Z)$. These weights only rescale observations at time $t=0$ by their distribution at time $t=1$. Based on the last term in equation (A4) that comes from applying Bayes' rule, one can compute these weights by simply regressing (for example via a probit model) a dummy for being observed at time $t=1$ on the covariates of interact (Z). This allows us to recover $P(t_Z=1/Z)$ and hence the first term in curly brackets in (A4). The second term in curly brackets can simply be recovered by estimating the unconditional probability of being in the sample at time $t=1$. If – as in our case – data are weighted, one needs to use sampling weights to compute these relative probabilities.

ANNEX II: STATISTICAL TABLES

Table A1. Changes in children's involvement in employment, Andhra Pradesh and India, 1994, 2000 and 2005, by age and sex

Age in years	ANDHRA PRADESH						INDIA					
	1993-94		1999-00		2004-05		1993-94		1999-00		2004-05	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
5	0.1	0.0	0.3	0.3	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0
6	1.2	0.0	0.6	0.2	0.0	0.0	0.2	0.1	0.2	0.2	0.1	0.2
7	2.4	0.8	0.4	1	0.2	0.0	0.7	0.7	0.7	0.8	0.2	0.2
8	4.4	3.5	3.2	4	0.8	1.8	1.5	1.8	1.7	2.0	0.3	0.4
9	10.3	8.2	8.4	4.4	2.1	0.5	2.5	3.2	2.6	3.4	0.8	0.6
10	17.2	15.5	12.2	9.9	2.6	5.2	5.3	5.5	5.9	6.0	1.6	1.9
11	20.3	20.5	6.4	16	4.3	7.5	6.8	6.7	7.9	7.6	2.0	3.1
12	27.1	33.0	16.4	27.9	9.9	13.2	11.9	11.4	13.4	12.9	6.0	5.4
13	32.9	39.2	28.9	24.7	14.0	16.7	13.4	12.2	15.3	14.6	8.8	8.8
14	37.8	38.5	29.8	29.5	23.9	25.4	18.8	14.3	20.9	17.3	14.3	13.4

Source: UCW calculations based on NSSO 1993-94, 1999-00, 2004-05 micro data

Table A2. Children ages 5-14 by industry and sex. India

industry	1993-94			1999-00			2004-05		
	male	female	Total	male	female	Total	Male	Female	Total
agriculture	74.7	78.68	76.51	69.7	75	72.2	66.0	73.0	69.3
mining	0.67	0.62	0.65	0.2	0.6	0.4	0.2	0.2	0.2
manufacturing	9.83	13.74	11.6	11	16.8	13.7	13.4	18.9	16.0
electricity	0.05	0	0.03	0	0	0	0.0	0.0	0.0
construction	1.69	0.63	1.21	3.2	1	2.2	2.7	1.1	1.9
retail	5.2	1.18	3.38	9.6	1.8	5.9	9.5	1.6	5.8
hotel	2.52	0.52	1.61	2.2	0.3	1.3	3.8	0.4	2.2
transport	0.54	0.19	0.38	1.2	0	0.6	1.2	0.1	0.7
Other comm and	3.6	1.4	2.6	2.1	2.5	2.3	1.6	1.5	1.5
private hh	0.59	2.31	1.37	0.7	1.9	1.3	0.5	3.0	1.7
other	0.61	0.73	0.66	0.1	0	0	1.1	0.1	0.6
Total	100	100	100	100	100	100	100	100	100

Source: UCW calculations based on NSSO 1993-94, 1999-00, 2004-05 micro data

Table A3. Children ages 5-14 by industry and sex. Andhra Pradesh

industry	1993-94			1999-00			2004-05		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Agriculture	84.79	27.8	78.17	72.61	81.78	77.3	64.7	76.9	71.1
Mining	0.09	1.8	0.29	0.79	1.71	1.27	0.0	1.5	0.8
Manufacturing	7.99	23.38	9.78	7.43	6.97	7.19	7.8	10.3	9.1
Construction	0.88	3.84	1.22	4.53	2.02	3.23	4.7	1.3	2.9
Retail trade	2.83	12.34	3.94	7.94	1.64	4.67	9.9	0.8	5.2
Hotels	0.69	7.8	1.51	2.65	0.96	1.77	6.4	1.1	3.7
Transport	0.31	0.86	0.38	0.66	--	0.32	2.8	0.0	1.4
And social work	1.84	14.3	3.29	3.07	3.22	3.15	3.7	4.7	4.2
Private	0.57	7.34	1.36	0.28	1.69	1.02	0.0	3.3	1.7
other	0	0.54	0.06	0.04		0.02			
Total	100	100	100	100	100	100	100	100	100

Source: UCW calculations based on NSSO 1993-94, 1999-00, 2004-05 micro data

Table A4. Decomposing changes in children's work between 2000 and 2005

	(1)	(2)	(3)	(4)	(5)	(6)
	2000					2005
District	Actual	Children's characteristics in 2005	Households characteristics in 2005	Residential location in 2005	All characteristics in 2005	Actual
Adilabad	0.104	0.113	0.109	0.112	0.123	0.077
Nizamabad	0.115	0.128	0.112	0.117	0.128	0.019
Karimnagar	0.050	0.058	0.056	0.052	0.070	0.040
Medak	0.115	0.133	0.115	0.116	0.130	0.052
Hyderabad	0.013	0.013	0.009	0.013	0.010	0.007
Rangareddi	0.048	0.056	0.049	0.055	0.068	0.040
Mahbubnagar	0.196	0.210	0.191	0.198	0.201	0.122
Nalgonda	0.093	0.105	0.088	0.096	0.096	0.031
Warangal	0.088	0.100	0.093	0.091	0.105	0.041
Khammam	0.188	0.196	0.179	0.190	0.174	0.040
Srikakulam	0.109	0.121	0.106	0.113	0.116	0.050
Visianagaram	0.104	0.114	0.100	0.106	0.113	0.106
Visakhapatnam	0.079	0.088	0.076	0.084	0.092	0.031
Godavari	0.055	0.062	0.052	0.056	0.057	0.070
West Godavari	0.124	0.129	0.123	0.126	0.131	0.069
Krishna	0.099	0.111	0.100	0.103	0.117	0.083
Guntur	0.137	0.154	0.127	0.141	0.150	0.093
Prakasam	0.097	0.108	0.089	0.102	0.102	0.052
Nellore	0.120	0.125	0.108	0.121	0.113	0.011
Cuddapah	0.029	0.035	0.032	0.030	0.041	0.039
Kurnool	0.177	0.193	0.171	0.181	0.193	0.105
Anantapur	0.167	0.173	0.166	0.171	0.170	0.084
Chittoor	0.066	0.077	0.069	0.067	0.080	0.055
total	0.103	0.113	0.101	0.108	0.114	0.060

See notes to Table 10.

Table A.5 Decomposing changes in school enrollment between 2000 and 2005

District	(1)	(2)	(3)	(4)	(5)	(6)
	2000					2005
	Actual	Children's characteristics in 2005	Households characteristics in 2005	Residential location in 2005	All characteristics in 2005	Actual
Adilabad	0.697	0.695	0.697	0.687	0.696	0.888
Nizamabad	0.734	0.728	0.734	0.741	0.731	0.956
Karimnagar	0.860	0.850	0.855	0.856	0.844	0.899
Medak	0.726	0.713	0.718	0.724	0.711	0.844
Hyderabad	0.865	0.862	0.879	0.865	0.869	0.949
Rangareddi	0.858	0.850	0.851	0.846	0.834	0.862
Mahbubnagar	0.615	0.605	0.623	0.612	0.621	0.806
Nalgonda	0.785	0.783	0.791	0.782	0.800	0.933
Warangal	0.766	0.758	0.760	0.761	0.759	0.939
Khammam	0.698	0.686	0.687	0.695	0.684	0.901
Srikakulam	0.811	0.799	0.811	0.806	0.804	0.927
Visianagaram	0.644	0.632	0.644	0.642	0.636	0.753
Visakhapatnam	0.726	0.726	0.745	0.710	0.727	0.901
Godavari	0.789	0.775	0.793	0.788	0.787	0.838
West Godavari	0.751	0.747	0.749	0.752	0.742	0.827
Krishna	0.731	0.728	0.728	0.725	0.708	0.894
Guntur	0.779	0.766	0.789	0.776	0.768	0.832
Prakasam	0.841	0.829	0.842	0.837	0.834	0.892
Nellore	0.794	0.790	0.799	0.796	0.807	0.889
Cuddapah	0.838	0.838	0.834	0.836	0.824	0.900
Kurnool	0.645	0.627	0.656	0.637	0.629	0.780
Anantapur	0.740	0.733	0.741	0.739	0.740	0.891
Chittoor	0.763	0.750	0.756	0.765	0.754	0.888
Total	0.761	0.754	0.763	0.753	0.751	0.876

See notes to Table 11.