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Children Working in the Carpet Industry of India: Prevalence and Conditions

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Children Working in the Carpet Industry of India: Prevalence and Conditions

Abstract

This was a study of the prevalence of working children and child labor in the production process of the export-oriented handmade carpet industry in India in 2009-2011. The study included wool- processing activities (supplying the yarn) as well as carpet production and finishing. This study adhered to international standards by considering all persons younger than 18 years of age to be children. The methodology included preliminary qualitative research, development of a national sampling frame, and a large-scale cross-sectional sample survey of factory-based and household- based production.

The survey estimated that 7,449 factories and 128,268 households were engaged in India's carpet industry, employing a total workforce of 273,866 usual workers, of whom 13,131 (4.8 percent) were children. These estimates of the size of the industry and number and prevalence of working children were much smaller than earlier estimates. Earlier estimates of working children ranged from 32,647 to 356,000, with their prevalence in the industry workforce ranging from 7.1 percent to 58 percent.² The earlier estimates labeled all working children as child labor.

More than half (53.7 percent) of the child carpet workers were girls. Almost all (94.2 percent) the children working in the carpet industry in India were working in households. Almost all (98.8 percent) the children working in households and two-thirds (64.5 percent) of the children working in carpet factories were living with their parents.

The study estimated that all (100 percent) children working in the carpet industry in India showed indications of being engaged in hazardous work (child labor). In addition, three-fourths (74.5 percent) of those children showed indications of working excessive hours. There were indications that a minority of the children and their families might be vulnerable to being in forced/bonded labor, as one-fourth of the households were indebted, and half of the indebted households reported having difficulties repaying their debts. Finally, there were indications that at least some children in the factory-based carpet industry may be in trafficking conditions.

India's labor standards defined children as persons younger than 14 years, defined the carpet industry to be hazardous, set the minimum legal age to work in hazardous work or factories to be 14 years of age, and exclude family-based workplaces from labor law regulation. None of the children working in carpet factories in India were below 14 years of age. One-fourth (26.3 percent) of the children working in the household-based industry were below 14.

Keywords

India, working children, child labor, carpet industry, working conditions

Comments

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Children Working in the Carpet industry of India: Prevalence and Conditions

Research Project on Children Working in the Carpet Industry
in India, Nepal and Pakistan

May 2012 | Final Report

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PREFACE

In 2007, the Bureau of International Labor Affairs, United States Department of Labor (ILAB-USDOL) funded a cooperative agreement with Macro International (ICF)¹ entitled "Research on Children Working in the Carpet Industry of India, Nepal, and Pakistan" (Carpet Project). The Carpet Project's overall objective was to develop reliable and accurate data and information about the prevalence, working conditions, and demand for children's work and child labor in the production process of the handmade-carpet export industry in India, Nepal, and Pakistan. To accomplish its objectives, the Carpet Project designed and conducted six major quantitative research studies as well as semi-structured qualitative research activities. These included the following.

- Three Prevalence and Conditions (PC) Studies for India, Nepal and Pakistan. These were large-scale quantitative studies conducted to produce reliable, statistically sound, and nationally representative estimates of the prevalence of working children and child labor as well as detailed descriptions of children's working conditions in the production process of the national carpet industries.
- The Labor Demand (LD) Survey. This was a longitudinal panel study of establishments producing carpets in all three countries to understand the underlying causes of variation in management's decisions about employing children in the carpet industry.
- The Sending Areas (SA) Study in Nepal. This was a qualitative rapid assessment of child trafficking and bonded labor focused on rural children who migrated to work in the carpet factories in the Kathmandu valley.
- The Schooling Incentives Project Evaluation (SIPE) Study in Nepal. This was a randomized controlled trial to assess the impact of two educational interventions on children's attendance and success in school.
- The Programs and Practices (PP) Review. This was a qualitative meta-analysis of existing and documented programs and practices that targeted child labor in the carpet industry in one or more of the three countries (India, Nepal, and Pakistan).

This Prevalence and Conditions Study report for India was written by Art Hansen and Pablo Diego Rosell on behalf of the ICF research team, which acknowledged the important role played by ACNielsen and Sigma, the companies that collected and processed the survey data in India, and the assistance received from GoodWeave India. The authors received valuable advice from Charita Castro, Angela Peltzer, and Merima Dulic-Lokvancic of USDOL and Don Ellison of ICF International.

¹ The company was Macro International when the Cooperative Agreement was signed with USDOL. The company was ICF International, hereafter referred to as ICF, when this report was written.

ABSTRACT

This was a study of the prevalence of working children and child labor in the production process of the export-oriented handmade carpet industry in India in 2009-2011. The study included wool-processing activities (supplying the yarn) as well as carpet production and finishing. This study adhered to international standards by considering all persons younger than 18 years of age to be children. The methodology included preliminary qualitative research, development of a national sampling frame, and a large-scale cross-sectional sample survey of factory-based and household-based production.

The survey estimated that 7,449 factories and 128,268 households were engaged in India's carpet industry, employing a total workforce of 273,866 usual workers, of whom 13,131 (4.8 percent) were children. These estimates of the size of the industry and number and prevalence of working children were much smaller than earlier estimates. Earlier estimates of working children ranged from 32,647 to 356,000, with their prevalence in the industry workforce ranging from 7.1 percent to 58 percent.² The earlier estimates labeled all working children as child labor.

More than half (53.7 percent) of the child carpet workers were girls. Almost all (94.2 percent) the children working in the carpet industry in India were working in households. Almost all (98.8 percent) the children working in households and two-thirds (64.5 percent) of the children working in carpet factories were living with their parents.

The study estimated that all (100 percent) children working in the carpet industry in India showed indications of being engaged in hazardous work (child labor). In addition, three-fourths (74.5 percent) of those children showed indications of working excessive hours. There were indications that a minority of the children and their families might be vulnerable to being in forced/bonded labor, as one-fourth of the households were indebted, and half of the indebted households reported having difficulties repaying their debts. Finally, there were indications that at least some children in the factory-based carpet industry may be in trafficking conditions.

India's labor standards defined children as persons younger than 14 years, defined the carpet industry to be hazardous, set the minimum legal age to work in hazardous work or factories to be 14 years of age, and exclude family-based workplaces from labor law regulation. None of the children working in carpet factories in India were below 14 years of age. One-fourth (26.3 percent) of the children working in the household-based industry were below 14.

² Estimates from CEPC excluded, as based on different definitions.

ABBREVIATIONS AND ACRONYMS

ACNielsen	ACNielsen ORG-MARG Private Ltd. (Indian research organization)
CEPC	Carpet Export Promotion Council (Government of India)
DHS	Demographic and Health Surveys
HH	Household
ICF	ICF International, Inc.
ILAB	Bureau of International Labor Affairs (USDOL)
ILO	International Labour Organization (United Nations)
IPEC	International Programme on the Elimination of Child Labor (ILO)
J&K	Jammu & Kashmir
MOLE	Ministry of Labor and Employment
NGO	Non-Governmental Organization
OCFT	Office of Child Labor, Forced Labor, and Human Trafficking (ILAB-USDOL)
PC Study	Prevalence and Conditions Study
PSU	Primary Sampling Unit
Sigma	Sigma Research Consulting and Private Limited (Indian research organization)
SIMPOC	Statistical Information and Monitoring Programme on Child Labour (ILO)
SSU	Secondary Sampling Unit
UNICEF	United Nations Children's Fund
UP	Uttar Pradesh state
USD	United States Dollar ³
USDOL	United States Department of Labor
WFCL	Worst Forms of Child Labor

³ During 2010, the rate for exchanging U.S. dollars (USD) with Indian rupees fluctuated between 1:44 and 1:47 (rounded). By the end of 2011, the rate was fluctuating between 1:46 and 1:54. The project decided to fix a standard rate (1:46) to use throughout this report. USD amounts in this report were rounded to the nearest dollar.

INTRODUCTION

Child labor (when working children are exploited) is a global problem. In 2000, the ILO noted that one-fourth of the world's children (5-17 years old) were working, and 246 million children were engaged in child labor. By 2008, 215 million children were still engaged in child labor (ILO, 2010). More than half of the world's child laborers were located in the Asia and Pacific region, and child labor in the carpet industry had received a lot of international attention. A widely-circulated 1996 report noted:

The past few years have seen increasing public awareness...of the high incidence of child servitude in the carpet industry of South Asia. As a consequence, the international public has come to associate "child servitude" with the image of small children chained to carpet looms, slaving away over the thousands of tiny wool knots that will eventually become expensive carpets in the homes of the wealthy (Human Rights Watch, 1996:3).

This Prevalence and Conditions (PC) Study of India addressed the problem of child labor and focused on the children who worked in the production process of the handmade carpet export industry of India. Those children worked in households and factories processing wool for yarn and producing and finishing carpets to be exported. This research was relevant because previous reports about child labor in the carpet industry in India had not provided accurate and reliable national-level estimates of the number and prevalence of working children and child labor in the industry.

This study had three objectives:

- (1) Produce reliable, statistically sound, and nationally representative estimates of the prevalence of working children and child labor in the carpet industry in India.
- (2) Describe children's working conditions in the production process of the carpet industry in India.
- (3) Compare the working and living conditions of children working in the carpet industry and children working in other industries in India.

Five broad research questions guided the design of the research. Some were directly testable, while others addressed broader areas and issues that were critical to the research.

- (1) How many children were working in the carpet industry in India, and what was the prevalence of children in that industry's work force?
- (2) What were the characteristics of the children working in that carpet industry?
- (3) What was the nature of the children's work in the carpet industry, and what were their working conditions?
- (4) What were the indications of the existence of child labor, including the worst forms, in the situation of the children working in the carpet industry in India?

- (5) How did the working (and living) conditions of the child carpet workers compare with the working (and living) conditions of children working in other industries in India?

The primary sources of data for this report were cross-sectional sample surveys of the industry's factory-based and household-based establishments that were conducted in 2009-2011. The surveys were preceded by qualitative research and development of national sampling frames. In each sampled factory, the manager and a sample of workers were interviewed. The household survey sampled rural and urban areas that had households engaged in carpet industry activities. In each sampled area, the survey team randomly sampled equivalent numbers of carpet and non-carpet households. In each sampled household, the head of household and all children aged 5-17 were interviewed. The interviewers completed an observation form for each factory and area.

This research made the following contributions to the knowledge base on the prevalence and nature of children's work and child labor in the carpet industry in India:

- (1) Expanded the definition of the carpet industry to include 16 specific activities that range from carpet-related supply chain processes (carding and spinning wool, producing and applying dyes) through carpet weaving and hand-loomed to the final finishing processes.
- (2) Produced reliable, statistically sound, and nationally representative estimates of:
 - a. The number and prevalence of working children in the carpet industry in India.
 - b. The existence and prevalence of child labor in the carpet industry in India.
- (3) Produced detailed descriptions of children's work and working conditions in the carpet industry in India that included a number of key findings (noted in the Discussion and Summary chapters).
- (4) Produced benchmark data that compared the family background and living and working conditions of children working in the carpet industry and similar children working in other industries.

The first section of this report is an introduction, and the second section notes the international laws and conventions that provided the internationally-accepted definitions and standards for this study. The third section provides background information on child labor and the carpet industry in India, and the fourth section describes in detail the methodology used in this research. The fifth section describes the data that were produced by this study, and the sixth section discusses key issues not covered by the data in the previous section, compares this study's findings with earlier findings, and notes the strengths and limitations of this study. The seventh section summarizes and concludes the report. That is followed by the bibliography and appendices.

RESEARCH FRAMEWORK

1.1. UNITED NATIONS INSTRUMENTS ON CHILD LABOR AND FORCED LABOR

The international legal framework for this study consisted of the United Nations instruments that defined and regulated children's work, child labor, forced/bonded labor, and child trafficking.

- ILO Convention 29 on Forced or Compulsory Labor (1930). India ratified this in 1954.
- ILO Convention 90 on Night Work of Young Persons (Industry) (1948). The Convention specifically established a different age limit for India, and its ages were always one year younger than the international standards. India ratified this in 1950.
- UN Supplementary Convention on the Abolition of Slavery, the Slave Trade, and Institutions and Practices Similar to Slavery (1956).
- ILO Convention 105 on the Abolition of Forced Labor (1957). India ratified this in 2000.
- ILO Convention 138 on Minimum Working Age (1973). India has not ratified this.
- UN International Convention on the Rights of a Child (UNCRC, 1990). India ratified this.
- ILO Convention 182 on the Worst Forms of Child Labor (1999), amended by Recommendation 190 (1999). India has not ratified this.
- UN Trafficking Protocol, also known as the Palermo Protocol (2000), or the Protocol to Prevent, Suppress and Punish Trafficking in Persons, Especially Women and Children, Supplementing the UN Convention Against Transnational Organized Crime.
- Note on the definition of 'child trafficking' (2007). This note resulted from a dialogue among the ILO's program Towards the Elimination of the Worst Forms of Child Labour, the UN Office on Drugs and Crime, and the International Organization for Migration.

1.2. LEGAL PROTECTIONS FOR CHILDREN IN THE INDIAN CARPET INDUSTRY

India was a signatory to three of the ILO Conventions listed above (29 and 105 on forced labor and 90 on night work) and to the UN Convention on the Rights of a Child. While most definitions used in this study were based on international conventions, the Indian national legal framework was used to define aspects not covered by the international framework. The following instruments were in force at the time this research was conducted:

Constitution of India (1950)

- Forbade all forms of forced labor, human trafficking, and employment of children below the age of 14 years in factories, mines, or any other hazardous employment and states that children should not be forced by economic necessity to enter vocations unsuited to their age and strength.

The Factories Act (1948, amended in 1987)

- Children were defined as persons younger than 15, and it was prohibited to employ any child younger than 14 to work in a factory or industry that was scheduled as hazardous.
- A factory was defined as an establishment employing ten or more workers with power or 20 or more without power. Factories were regulated, but not workshops employing fewer employees.
- The maximum number of hours a child could work in a day was 4.5. Night work (12 consecutive hours including 10 p.m. to 6 a.m.) was prohibited for all children, and female children could work only from 8 a.m. to 7 p.m.

The Minimum Wages Act (1948)

- Prescribed minimum wages for employees in establishments and those working at home in some sectors.
- Was used in some states to prosecute employers who were employing children and paying them lower wages⁴.

The Labour Law Apprentice Act (1961)

- A person had to be 14 or older and satisfy standards of education and physical fitness to be engaged as an apprentice.

The Bonded Labour System (Abolition) Act (1976)

- Abolished the bonded labor system and bonded debt.

The Child Labour – Prohibition and Regulation Act (1986).

- Children were defined as persons younger than 14 years old. Persons aged 14-17 years were not defined and protected as children.
- Scheduled occupations and processes were defined as hazardous, and employing children (aged 5-13) in any of those occupations and processes was prohibited. Carpet weaving, hand-loom, and wool processing were scheduled.
- Working conditions for children (aged 5-13) were regulated. Children (aged 5-13) could not work more than three consecutive hours, more than five hours per day, or at night (7.00 p.m. to 8.00 a.m.), and had to have one day off weekly.
- None of the regulations applied to family-run establishments⁵ or training institutes (schools) that were established, assisted, or organized by the Government.

⁴ ILO-IPEC: Child Labour Situation in India. Available at:

<http://www.ilo.org/legacy/english/regions/asro/newdelhi/ipec/responses/india/index.htm>

⁵ The specific wording was "...any workshop wherein such process is carried on by the occupier with the aid of his family..."

The Juvenile Justice (Care and Protection) of Children Act (2000)

- Forbade procuring a child (below 18 years) for hazardous employment, keeping a child in bondage, and withholding or using the child's earnings.

National Charter for Children (2003)

- Committed India to protect children from hazardous work and to provide universal access to primary education.

1.3. DIFFERENCES BETWEEN INTERNATIONAL AND INDIAN STANDARDS

This study relied on international standards, utilized the international definition of a child as any person younger than 18 years of age, and applied the international definitions of child labor to the work and working conditions of all children who were employed in the carpet industry, even when they were working in their own household with their family or in workshops (factories or sheds) of any size.

India's legal protection of children (specifically the 1986 Child Labour regulations) did not extend to persons 14 to 17 years of age, any children who were working with/for their family, and any children working in workshops too small to be considered to be factories. The labor laws regulated factories, which were defined by the Factories Act as having 10 or more workers with power or 20 or more workers without power. The labor law regulations did not cover workshops that employed fewer workers.

LITERATURE REVIEW

2.1. WORKING CHILDREN AND CHILD LABOR IN INDIA

The 2001 census estimated there were 370 million children (under 15 years of age) in India, and they constituted more than one-third (36 percent) of India's population of 1,027 million people.⁶ The number of working children and the prevalence of child labor (when working children were exploited) were disputed. Estimates ranged as high as 115 million, but most estimates did not distinguish between working children and child labor. The 2001 census estimated there were only 12.7 million working children, but the Government's estimates were deflated. They counted only children 5-13 years of age and excluded most of the worksites where children worked.⁷ UNICEF reported that 12 percent of India's children (5-14 years old) suffered from child labor during 1999-2007.⁸

In 2001, five Indian states each held more than one million working children; two of those were major carpet-producing states (Uttar Pradesh and Rajasthan). Uttar Pradesh (UP), the core of the carpet belt, was the most populous state in India and had the most (1.9 million) working children.

Although the size of the problem was disputed, the existence of child labor, including its worst forms, was well documented. UNICEF noted that most working children were in agriculture and were exposed to dangerous chemicals and carrying heavy loads.⁹ Human Rights Watch, which focused on bonded children,¹⁰ and a 1994 summary report from USDOL¹¹ placed hand-knotted carpets, silk, and gemstones among the primary export industries in India that employed children, and noted that many other export and domestic industries in India were also reported to be employing children.¹²

⁶ GOI, 2001a and 2006b.

⁷ Employment in "unorganized sectors" such as agriculture, self-employed workers, and private establishments employing fewer than 10 workers were not included in the official records (GOI, 2006b). Although the Government had estimated there were 17.5 million working children in 1987-88 (cited in USDOL, 1994), the 1991 census estimated there were only 11.3 million child laborers (90 percent rural), and only two million worked in hazardous industries.

⁸ *The State of the World's Children 2009* (UNICEF, 2009) defined child labor on the basis of working excessive hours.

⁹ *The State of the World's Children 2009* (UNICEF, 2009).

¹⁰ *The Small Hands of Slavery* (Human Rights Watch, 1996)

¹¹ *By the Sweat and Toil of Children* (USDOL, 1994) provided a detailed listing of sources and reports on the problems of child labor in India's export industries in the early 1990s.

¹² Human Rights Watch (1996) noted rolling "beedis" and cigars, silver, leather, and agriculture. USDOL (1994) noted articles made from brass and other base metals, glass and glassware, footwear, textiles, fireworks and a long list of other industries that included locks, leather, pottery, granite, mica, slate mining and quarrying, auto parts and accessories, cashew processing, coconut fiber products, iron and steel products, wood and rattan furniture, suitcases and trunks, sports goods, garments, tile, and shrimp and seafood processing.

Child labor continued to be reported during the period of this research. Children were working in dangerous quarries, brick kilns, the streets, domestic service, construction, prostitution, and other industries with unhealthy conditions. Children were in forced and bonded labor in brick making and other industries and were being recruited by armed groups. India was a source of trafficked children, a pass-through in trafficking pipelines, and a destination for children trafficked from Nepal and Bangladesh.¹³

2.2. THE CARPET INDUSTRY IN INDIA

2.2.1. THE VALUE AND IMPORTANCE OF THE CARPET INDUSTRY IN INDIA

In the 1970s, increased international demand from Europe and the U.S. stimulated the industry's rapid growth. During the 1980s and 1990s, the carpet industry in India became an important employer¹⁴ and also became an important sector for generating foreign capital, as almost all the handmade carpets were exported.¹⁵ Indian carpet exports totaled more than 650 million USD by 1995, and almost 2,600 carpet exporters were registered with the Carpet Export Promotion Council (CEPC) when this research began.¹⁶ According to the industry, more than 95 percent of "floor coverings" (a category that included handmade carpets) were exported to European and North American countries, with the U.S. representing half (50 percent) of the total export market for handmade Indian carpets.¹⁷

The value of exported carpets continued to increase as recently as 2007-2008. Then, in 2008, carpet exports declined with the onset of the global recession (see Table 1). After a short-lived decline, the sector recorded an increase in January 2010 due to increasing demand in global markets.¹⁸

¹³ USDOL, 2010.

¹⁴ Reports about the carpet industry focus on weaving carpets, but the industry's full range of activities included production, transportation, wholesale and retail trade, importing wool and silk, exporting carpets, etc. "Apart from weaving, carpet manufacturing provides substantial employment in activities like dyeing, transportation, marketing, trade, etc." (Sharma, et al., 2000:11 footnote).

¹⁵ Gans-Ruedin (1984) and Levison et al. (1996).

¹⁶ Human Rights Watch (1996) and CEPC. The general rule was that an exporter had to be registered with the CEPC in order to be allowed to export carpets, and 2,592 exporters were registered as CEPC members in 2007.

¹⁷ <http://www.dessenceconsulting.com/pdf/Carpet.pdf> The U.S. and Germany were the two largest importers of Indian carpets. Between them, they imported three-fourths (73 percent) of India's carpets. In 1993, India exported more than 170 million USD worth of carpets to the U.S. (USDOL, 1994). Other industrialized countries, such as the U.K., Switzerland, Canada, Japan, Sweden, Australia, France, and Italy also imported a large volume of the carpets (Human Rights Watch, 1996).

¹⁸ The government-affiliated CEPC is the primary official source for information about carpet exports. India exported approximately 413.3 million USD of carpets during April-January 2008-2009 and projected exports of only 406.1 million USD for the same period in 2009-2010, which meant a decline of 1.7 percent in total carpet exports over that year. Then the CEPC recorded an increase of 8.5 percent by January 2010. The industry noted that more time and growth were necessary for carpet exporters to recover their losses and re-attain their pre-crisis growth levels. Available at: <http://www.indiancarpets.com/node/10>.

Table 1. Exports of Handmade Indian Floor Coverings by Category 2006-2009

Products	Value in USD Millions		
	2006-07	2007-08	2008-09
Handmade Woollen Carpets, Rugs, Druggets, Durries etc. including Cotton Carpets excluding Handmade Woollen Tufted Carpets	491.33	515.9	321.5
Handmade Woollen tufted carpets	255.25	287.4	217.81
Handmade Silk Carpets	46.71	55.12	46.65
Handmade Staple/ Synthetic Carpets	14.65	17.29	14.1
Total Value in Millions of USD	807.94	875.71	600.06

Source: Carpet Export Promotion Council. Available at: <http://www.indiancarpets.com/node/10>

2.2.2. CHANGES IN THE CARPET INDUSTRY

Table 2 documents other changes in the Indian carpet industry that impacted child labor. The exported carpets varied in composition and in the production techniques. All exported carpets used to be hand-knotted (a labor-intensive mode of weaving) and made of wool, except for a much smaller number of silk carpets.¹⁹ The industry in India had started a shift in carpet production techniques and a decline in the production of the traditional hand-knotted carpet that had consequences²⁰ for the prevalence of child labor in the industry (Venkateswarlu et al., 2006).

The changes had taken effect before this study started in 2007. Contemporary colors and designs contrasted with traditional, and some carpets were made of wool, silk, synthetic fibers, and combinations of fabrics and other materials.²¹ Different technologies were being used to produce carpets. All the carpets were handmade because they were produced using manual labor (not powered machinery), but they were not all made using traditional hand-knotting, which was the slowest and most labor-intensive technique. Many carpets were being produced on the traditional looms but in the Indo-Nepali or Tibetan style, a faster weaving method that did not include knotting. Many more carpets were being produced using tufting and hand-loomed. Tufting used a frame and a tufting gun instead of a loom. Hand-loomed used a larger loom and a shuttle. Durries, which were woven in a different manner on a different loom, were also being exported.

¹⁹ Floor coverings made of less expensive and less durable material, such as cotton or jute, were for only domestic consumption.

²⁰ Venkateswarlu et al. (2006) pointed out that “the incidence of child labour can be seen more in the production of hand knotted carpets than any other variety” (p. 31). Considering that the production of hand-knotted carpets had been declining since the early 2000s, it was likely that the prevalence of child workers had decreased as well.

²¹ Some carpets combined more than one material, such as wool with silk for highlights and designs, and a synthetic “art silk” (artificial silk), called viscose (or rayon in the U.S.), was being used. Responding to foreign tastes, modern designs sometimes called for combining traditional and synthetic materials and even other materials, such as leather, cloth, etc.

2.2.3. THE SOCIO-ECONOMIC STRUCTURE OF THE CARPET INDUSTRY

In general, carpet production was a small-scale cottage industry; almost all (perhaps 95 percent) carpet production was located in small workshops (sheds) and in households that mostly used family workers. Most sheds were in villages, and most shed owners owned only a few looms and employed very few workers, including children.²² Those shed owners were not wealthy and, often, not even middle class.²³ A smaller number of much larger sheds were owned and operated by manufacturers supplying exporters with carpets and processors supplying exporters with other materials and services. At the top were the major exporters and carpet manufacturers who owned hundreds of looms and relied on a hierarchy of managers and contractors. Some of their carpets were produced in big factories operated directly by the exporters or their managers. For other carpets, the exporters gave orders to contractors, who distributed the orders (and often the looms) among many sheds and households in rural villages and (less common) urban neighborhoods.

The base of the industry's socioeconomic structure consisted of the weavers and lower level employees. They were predominantly male and low ranking in all studies. One study reported that approximately two-thirds of the weavers were from the backward castes and scheduled castes, and approximately one-third were Muslim.²⁴ Another study of lower level employers reported that 80 percent were Hindus belonging low castes, scheduled castes, and scheduled tribes, and only 20 percent were Muslim.²⁵

India's labor laws regulated only factories (enterprises employing 10 or more workers), did not regulate smaller workshops, and explicitly exempted family-based worksites from regulation, which meant that working conditions in small sheds and family-based HHs were unregulated. Even when child labor was discovered at a loom or shed, the legal accountability of exporters and large loom owners was extremely difficult to enforce, as it was nearly impossible to trace the connection between local looms and the responsible manufacturer or exporter.²⁶

The carpet industry in India was concentrated in eastern UP state in traditional core "carpet belt" districts and an extension area. The core area accounted for 70 to 90 percent of the total carpet production in India.²⁷ The long-established carpet industry in Jammu & Kashmir specialized in silk. Newer areas for carpet production included Jaipur (Rajasthan state), Panipat (Haryana state), and Agra (western UP), which were growing in importance due to their accessibility,

²² The 1998 ILO study found that more than half (56 percent) of the sheds had only one loom; 26 percent had only two looms; 11 percent had three looms; three percent had four looms; and five percent had five or more looms (Levison, et al., 1996).

²³ Human Rights Watch, 1996.

²⁴ Sharma et al., 2000.

²⁵ Levison et al., 1996.

²⁶ Human Rights Watch, 1996.

²⁷ Venkateswarlu et al. (2006) and CEPC.

better infrastructure, and proximity to the national capital and main tourist sites.²⁸ There were reports that new carpet production areas were being established in districts of Bihar, Jharkhand, and Madhya Pradesh states by migrants returning from working in the carpet belt.²⁹

2.3. CHILD LABOR IN THE CARPET INDUSTRY IN INDIA

2.3.1. ESTIMATED PREVALENCE OF CHILD LABOR IN THE CARPET INDUSTRY³⁰

During the last two decades, the estimated prevalence of working children and child labor in the industry's workforce have been contested, with the industry and Government producing estimates that were much lower than the estimates that were produced by the UN and NGOs.³¹ One reason for the wide variance in estimates was that they resulted from applying different methods of calculating estimates to different samples. This study differed from earlier studies in several ways. Previous estimates considered children to be only persons under 14. Almost all previous estimates counted only the children weaving carpets.³² All previous studies used the loom as the sampling unit and did not study or even record the type of establishment.³³

In 1992, the U.S. Embassy in New Delhi noted that estimates of children working in the carpet industry ranged from 300,000 to 400,000.³⁴ A 1992 survey by the National Council for Applied Economic Research (NCAER) for the Government estimated that children were eight percent of the industry work force.³⁵ More than half of the children surveyed worked with their families; the other 45 percent were hired migrant workers. A 1993 ILO report estimated that there were 350,000 to 356,000 child carpet workers in two core carpet belt districts.³⁶ Another 1993 study had a similar estimate of the total industry workforce (660,000), but estimated that only one-fifth of the weavers were children (n=130,000).³⁷ That study noted that weaving used to be primarily

²⁸ Venkateswarlu et al., 2006.

²⁹ Sharma et al., 2000.

³⁰ The carpet industry exhibited two of the characteristics of industries that have a high prevalence of child labor; those industries are technologically backward (or simple) and labor intensive (Srivastava, 2005).

³¹ Levison et al., 1996. Most studies of child labor in the carpet industry in India focused on the core carpet belt districts and the extension area, all in eastern UP, but a high prevalence of child labor, much of it debt-bonded, also had been reported in the carpet industry of Jammu & Kashmir (Cross, 1991; Nangia, 1993; Gani and Shah, 1998).

³² Sharma, et al., 2000 described children's other activities.

³³ Without knowing the type of establishment, it is impossible to determine whether the workers and workplace are covered or excluded from India's labor law regulations that explicitly exclude workshops based on family labor.

³⁴ The 300,000 was the South Asian Coalition on Child Servitude's (SACCS) estimate of the number of children working in the industry. That number resurfaced a number of times (cited in USDOL, 1994).

³⁵ The survey covered three core carpet belt districts (Bhadohi, Varanasi, and Mirzapur): 55 percent of the children worked with their families; only 34 percent of those children attended school. The other 45 percent of the children were hired workers: 35 percent had migrated from Bihar, 21 percent intra-state from eastern UP, and 11 percent from Madhya Pradesh (Vijayagopalan, 1993).

³⁶ The estimates from Mirzapur and Bhadohi districts were based on extrapolating from two observed ratios: the ratio of loom to child weaver and the ratio of adult to child worker (Juyal, 1993, as cited in Sharma et al., 2000).

³⁷ Levison et al., 1996.

a Muslim occupation, but only one-fifth of the sampled employers were Muslim. Almost all of the Hindus belonged to a low caste, scheduled caste, or scheduled tribe (see Table 2).

Table 2. Previous Estimates of Child Labor in the Carpet Industry in India (in Chronological Order)

Source	Estimate of Number or Prevalence
Juyal, 1993 (ILO Report)	350,000 to 356,000
Vijayagopalan, 1993 (NCAER Report)	8%*
Levison et al., 1996 (ILO-CORT Report)	(22% of weavers) 130,000 child weavers
CEPC-AICMA, 1998 (quoted in Venkateswarlu et al, 2006)	0.93%*
SACCS, 1994	300,000
Srivastava and Raj, 2000	58%*
Sharma et al., 2000 (also an ILO Report)	19.2%* adult:child worker ratio of 4.2:1
2001 National Census (quoted in Government of India, 2006)	32,647
Venkateswarlu et al, 2006 (ILRF Report)	7.1% of total weavers
CEPC, April 2007 to September 2011	1.4% (hired under 14) or 3.8% (hired and family workers under 14)*
*Percent of carpet industry total workforce or total number of weavers	

Human Rights Watch repeated the SACCS claim of 300,000 child workers in the industry, stated that 270,000 of those children were bonded laborers, and noted that the vast majority of the workers in the carpet belt were low-caste Hindu boys, but the number of girls was increasing as more children were recruited from other districts, such as Jaipur, or brought from Nepal.³⁸

A study of social labeling in 2000 estimated that the industry employed 1.5 million weavers, and one-fifth were children (under 14 years). The extensive survey reported a low prevalence (only 19.2 percent) of hired child workers in the industry, which was many fewer hired children than expected, and three-fourths of those children were residing and working with their family. One-fourth of the hired children were migrants, almost all from Bihar and Orissa.³⁹ Hired migrant children represented only 4.4 percent of the total workforce.⁴⁰ The findings could not produce a national estimate of the prevalence of migrant child labor (trafficking) in the entire industry, but the survey had primarily covered villages in the carpet belt.⁴¹

That study found two main reasons for the reduced prevalence of child labor in the industry (or at least in the core carpet belt). The passage of the 1986 Child Labor Act followed by official surveillance trying to enforce that Act motivated manufacturers to move their operations away

³⁸ Human Rights Watch, 1996.

³⁹ Sharma, et al., 2000.

⁴⁰ Almost all (98.8 percent) of the hired child workers were migrants from other states (Bihar and Orissa).

⁴¹ Sharma, et al., 2000.

from where their hiring practices were easily monitored, and that had precipitated a geographic shift away from the carpet belt to extension and new areas, such as Bihar. That study also learned that migrant workers returning to Bihar wanted to start their own sheds at home instead of having to return to work in the carpet belt.

There were conflicting reports in the mid-2000s whether the prevalence of child labor in general and hired child labor had declined⁴² from the levels in the 1990s or whether the high prevalence remained but had “gone underground.” A 2006 study appeared to confirm a downward trend in child labor, but there were signs that prevalence varied with the visibility.⁴³ That study compared its findings with the 1996 ILO-CORT study (Levison, et al., 1996) because both studies had used comparable methodologies. The comparison noted a significant decline in the prevalence of child workers (from 22 percent to 7.13) and in the proportion of child workers who were hired workers (from 68 percent to 42 percent). Both studies found the prevalence of child labor to be higher in larger (more looms) enterprises, and a higher percentage of the larger enterprises employed child labor. Both studies also found the lowest prevalence of child labor was in the core area, with a higher prevalence in the extension and new areas.

The 2006 study noted the association of declining child and hired child labor, reduced production and export of hand-knotted carpets (the production technique most associated with child workers), and increased surveillance against child labor in the core areas. The surveillance was most intense in the more visible core areas, which was where the prevalence of working children was the lowest. The prevalence in this 2006 study was only 5.9 percent in the core, but 12.5 percent in the extension area. Although higher in the extension area, the prevalence of child workers was much less than what had been recorded earlier.

The CEPC established a loom-inspection program to monitor and combat child labor.⁴⁴ Four annual inspection reports covering April 2007 to September 2011 were summarized.⁴⁵

- Only two-fifths of the looms were working at the time of inspection. Many inactive looms and the increasing rate of inactivity documented the reduced production.
- More than half of the observed weavers were hired workers.

⁴² Sharma, et al. (2000) and Venkateswarlu, et al. (2006).

⁴³ The study covered villages in core districts and in extension and new areas. Researchers were met with reluctance and even hostility, so they relied on observation to estimate the ages and categorize young workers (definitely, probably, and definitely not child) rather than asking young workers their age. The study ended with a sample of 45 children, 136 probably children, and 1,403 adults. After deciding to allocate half of the “probably children” to the child worker category, they had 113 children, and child workers constituted only 7.13 percent of the industry workforce (Venkateswarlu et al., 2006).

⁴⁴ CEPC, 2009.

⁴⁵ In early 2012, the Academy of Management Studies (AMS) in Lucknow (UP) provided copies (unpublished) of four Annual Reports of Random Inspections of Carpet Looms covering the period from April 2007 to September 2011 as well as a copy of Methodology Being Adopted for Random Inspection of Registered Looms.

- 6,281 children (3.8 percent of the workforce) were counted. By international standards, all were engaged in hazardous work and, therefore, were in conditions of child labor.
- Only 2,311 children (1.4 percent of the workforce) were hired workers. By Indian law, only the hired children were working in illegal conditions.
- Only workers younger than 14 were counted as children; by Indian law workers aged 14-17 were not children.

2.3.2. DIFFICULTIES OF SURVEYING CHILDREN WORKING IN THE CARPET INDUSTRY

Several studies emphasized the difficulty of surveying child workers and getting accurate data about children's ages. They "avoided any direct questions about child workers...as we could not expect workers to truthfully report information on age in the presence of their employer."⁴⁶ Two studies did not ask young workers their ages but observe and estimated younger workers' ages (under 14 vs. 14 and older), categorizing each young worker as definitely child (under 14), probably child, or definitely adult. Then each study made a judgment call on how to allocate the probably children.⁴⁷ One study also counted empty seats where weavers were absent from the looms on the assumption that children were told to hide during the survey.

Even though the loom inspections were sponsored by the CEPC, they reinforced what earlier researchers had reported about difficulties and occasional hostility: "...loom inspection is a job of highly sensitive and risky nature. More often than not, the activity irks the loom owners and they become hostile towards the inspectors. This makes it absolutely necessary to send two inspectors together as a team."⁴⁸ The inspectors used visual observation to determine whether young weavers were under 14 years of age and then used indirect methods to determine if the child was hired because they anticipated hearing misleading information if they asked directly.

2.3.3. NATURE OF CHILDREN'S WORK IN THE INDIAN CARPET INDUSTRY

The carpet research project studied children's work throughout the production process from the preparation of raw wool (carding, spinning, dyeing, etc.) to produce dyed yarn through the primary production of carpets and the many specific activities (washing, stretching, clipping, binding, etc.) that resulted in finished export-ready carpets. Unfortunately, almost all the reports of children in the carpet industry focused on only one activity -- weaving carpets. That narrow focus missed all of the other activities in which children might have been involved, so there was little baseline information on the nature of children's work in the carpet industry other than carpet-weaving.

⁴⁶ Levison et al., 1996.

⁴⁷ One study decided that 50 percent of the "probably children" were children (Venkateswarlu et al., 2006). Another study decided that 75 percent of the probably children and half of the absentees were children (Levison et al., 1996).

⁴⁸ Ibid.



Dyeing wool



Rolling/balling wool



Hand-tufting carpets

One study noted that children worked in the supply chain (sorting, balling, and dyeing yarn), in carpet production (stringing looms, weaving, knotting, and cutting), and in finishing activities (washing and binding carpets).⁴⁹ Another study pointed out that “Off-loom activities employ a large number of children” who worked fringe-knotting, shorting, lining, embossing, surfacing, cutting, etc., and who were overlooked by those who were monitoring the carpet industry.⁵⁰

2.3.4. REASONS CHILDREN WORKED IN THE INDIAN CARPET INDUSTRY

The industry’s incentives to use child labor included the lower wages paid, the “nimble fingers” argument (greater dexterity), and their willingness to follow orders, or inability to resist⁵¹.

When families were asked for the reasons why their children worked in the carpet industry or did not attend school, the families gave similar reasons. The most common reason was poverty; the family could not afford school and needed the child’s income. The family was often indebted, and there was pressure for the child to work to support the family and repay loans.⁵² A related reason was the poverty of the area. Local wages were low, and there were few alternative occupations or income-generating industries. Also, the parents wanted the child to learn a marketable skill, and the carpet industry was a constant source of income.⁵³ Those reasons were expressed by the parents as “the tradition of putting children to work with a view to providing them sufficient time to learn the skill of carpet weaving.”⁵⁴

The obvious alternative to working for a child was schooling, but the family’s poverty also often meant that it could not afford to pay for schooling. Also, local schools were often unattractive to

⁴⁹ The International Labor Rights Education and Research Fund (ILRERF), 1994.

⁵⁰ Sharma, et al., 2000:75.

⁵¹ Levison, et al., 1996.

⁵² When the project director visited the sending areas, parents and children all told a consistent story about the children themselves deciding it was time for them to work and help their families financially.

⁵³ Levison, et al., 1996.

⁵⁴ Sharma, et al., 2000:64.

parents or children because of the quality of the schools. Teachers were absent or not interested, or teachers behaved badly and beat the children. Sometimes it was simply the distance to school, and there was a widespread perception about the lack of value of education, the belief that schooling would not benefit the children in the future.⁵⁵

2.3.5. OCCUPATIONAL SAFETY AND HEALTH HAZARDS IN THE INDIAN CARPET INDUSTRY

Human Rights Watch reported that all child carpet workers they interviewed had a work-related illness or injury; most of the workers had been physically beaten; and trafficked migrant children reported being forced to work 16 to 18 hours every day.⁵⁶

Most looms were located in sheds, similar to typical family houses, scattered throughout villages. The Government's 1992 NCAER study found that almost all of the children that it sampled were living and sleeping in the sheds where they worked.⁵⁷ The weaving sheds were often poorly ventilated and crowded with looms, workers, and material, and there was constant exposure to wool and cotton dust. Respiratory illnesses were one result, and the children were particularly vulnerable to tuberculosis and other lung diseases that were caused and aggravated by the constant inhalation of tiny wool fibers. Light, ventilation, and toilets were deficient or unavailable in the sheds, which were described by Anti-Slavery International as small, seldom more than twelve feet by nine feet. Trenches were dug three feet deep into the floor because the looms were too high for the sheds. Three to six children and/or adults sat close together, sometimes shoulder to shoulder, on benches to weave the carpets.⁵⁸ Eye damage was common, as were intestinal disorders, and many children suffered from dermatological diseases, such as allergic dermatitis, scabies, and skin ulcers from the dirt, dust, and constant use of dirty water. Work-caused cuts and wounds were endemic and frequently became infected.⁵⁹

Another obvious hazard was the children having to work too many hours a day; many children worked an average of ten to fourteen hours a day, six or seven days a week every week without rest. The long days spent in cramped positions damaged the children's backs and legs and caused backaches, swelling of the legs, and severe joint pain.⁶⁰

⁵⁵ Sharma, et al., 2000.

⁵⁶ Human Rights Watch, 1996.

⁵⁷ That was a sign that many of them were working in their own family homes.

⁵⁸ USDOL, 1994.

⁵⁹ Vijayagopalan (1993) and Human Rights Watch (1996).

⁶⁰ Vijayagopalan, 1993.



Chemicals used for dyeing wool



Preparing loom for weaving



Dust and wool fibers at a carpet loom

2.3.6. FORCED AND BONDED LABOR IN THE INDIAN CARPET INDUSTRY

The first survey of bonded labor in 1978 estimated that there were 2.62 million bonded laborers in India in five categories: child bondage, inter-generational bondage, loyalty bondage, bondage through land allotment, and widow bondage.⁶¹ Human Rights Watch cited several sources to support its claim that a reliable and conservative minimum estimate was that at least 15 million children in India were bonded child laborers. One of those sources was the 1991 Anti-Slavery International report that India had fifteen million bonded child laborers working in agriculture alone, with millions more probably working in non-agricultural occupations.⁶² Other activists and academics claimed that one-fourth (15-29 million children) of all working children in India were bonded laborers.

A Fact Finding Committee commissioned by the Order of the Supreme Court of India confirmed in 1991 that a large number of children worked as bonded laborers in the carpet industry.⁶³ Human Rights Watch noted the increasing public awareness of bonded child labor in the regional carpet industry and reported that: “the international public has come to associate ‘child servitude’ with the image of small children chained to carpet looms, slaving away over the thousands of tiny wool knots that will eventually become expensive carpets in the homes of the wealthy.”⁶⁴

However, Human Right Watch placed the number of bonded child laborers in the carpet industry in perspective by noting that, although the majority (270,000) of the estimated more than 300,000 children working in the carpet industry in India were in bondage, they represented only

⁶¹ Srivastava, 2005.

⁶² Agriculture accounted for more child labor and more bonded child laborers than all other industries and services combined. It accounted for 64 percent of the general working population, 85 percent of the total bonded working population, and 52 to 87 percent of the population of bonded child laborers. The Ministry of Labour noted that 84.98 percent of child labor was in agriculture, and that 85 percent estimate was also used by Anti-Slavery International (Human Rights Watch, 1996).

⁶³ cited in USDOL, 1994.

⁶⁴ Human Rights Watch, 1996:3.

about two percent of the number of bonded child laborers in India. That report put child laborers working in the carpet belt into three categories with the wage-earners and local bonded children not being as exploited as the migrant bonded children.⁶⁵ The migrant children in the carpet belt suffered from the worst conditions and the most severe bondage, and the majority of those children were forced to work several years for their bond-masters.

Many young and recently bonded children earned no wages for several months while they were being trained. Many unaccompanied migrant child workers lived where they worked and received only their meals but no wages. The cash advances that were paid for the child's labor were supposed to gradually be repaid, but the child's low wages essentially guaranteed that the child would never be able to repay the debt, ensuring the child's long-term servitude.⁶⁶ Children sometimes received no wages and were told that their earnings were being applied to repaying the debt. Unequal power relationships and the absence of firm records meant that many children ended up effectively repaying their debts several times over and still were not released.⁶⁷

2.3.7. CHILD TRAFFICKING IN THE INDIAN CARPET INDUSTRY

There appeared to be solid evidence that the prevalence of child trafficking had diminished, even though the 2011 Trafficking in Persons report noted that: "Children are also subjected to forced labor as factory workers, domestic servants, beggars, agricultural workers, and, to a lesser extent, in some areas of rural Uttar Pradesh, as carpet weavers."⁶⁸ Previous studies of the carpet industry noted that the estimated prevalence of hired and bonded child labor was the best indicator of the prevalence of child trafficking, and the prevalence of hired and bonded child labor appeared to have diminished, which indicated that child trafficking also had diminished.

In the mid-1990s, Human Rights Watch estimated that 10 to 20 percent of the 300,000 children working in the carpet industry were trafficked by agents to carpet-producing areas. Most of the children were trafficked from Bihar with some women and children from Nepal. Another study conducted in Mirzapur district in the early 1990s found that 85 percent of all bonded children were brought into bondage through the intervention of agents, while the other 15 percent were sold directly to an employer by a parent or guardian. Some migrant children and their parents had been deceived by promises to the parents that the boys would receive good wages and enjoy a bright future. Others children, estimated to number in the tens of thousands, were kidnapped into bondage through force or trickery.⁶⁹

⁶⁵ The increased vulnerability of migrant workers had been noted (Srivastava, 2005).

⁶⁶ Most bonded child carpet weavers were paid per carpet rather than a daily wage. In practice, they earned between one and ten rupees a day.

⁶⁷ Human Rights Watch, 1996. Those were the same features found in most cases of adult bonded laborers (Srivastava, 2005).

⁶⁸ U. S. Department of State, 2011.

⁶⁹ Human Rights Watch (1996) and USDOL (1994).

2.3.8. EFFORTS TO COMBAT CHILD LABOR IN THE CARPET INDUSTRY

2.3.8.1. Governmental Efforts

The Government of India implemented a number of policies and programs and passed legislation to combat child labor in general. A National Child Labour Policy was adopted in 1987 to support the 1986 Child Labour (Prohibition and Regulation) Act. In 1992, the Ministry of Labor and Employment (MOLE) participated with ILO to start the International Programme for Child Labour (IPEC), and India was the first country to sign a Memorandum of Understanding with ILO-IPEC to “promote conditions that will progressively prohibit, restrict and regulate child labour with a view to its ultimate elimination.” MOLE and the U.S. Department of Labor collaborated to start the INDUS Program in 2003 to eliminate child labor. The Government passed anti-child labor legislation; additional state laws addressed child labor issues; and the judicial system in India also made many important judgements that favored children’s rights and welfare.

In addition, the Government at the national and provincial levels pressured the carpet industry to eliminate child labor by enforcing child labor laws. Those enforcement activities, one of the key elements of the NCLP, were reported at the aggregate level by the Government of India (2006). The impact of enforcement activities on the carpet industry was identified by the ILO evaluation, which indicated that the appearance of new production areas in Bihar was the “outcome of increased surveillance (...) by the labour enforcement officials in the core carpet belt” (ILO, 2000:12).⁷⁰ Another example during the 2007 carpet expo in Varanasi was Union Minister of State for Commerce (Jairam Ramesh) warning carpet manufacturers against using child labor, indicating that it could lead to a ban on exports to the United States and other Western nations.⁷¹

Although not directly aimed at combating child labor, the Government of India also started programs to improve the standard of living of carpet industry workers. In 2007, the Government started Rajiv Gandhi Shilpi Swasthya Bima Yojana, which is a subsidized health care insurance scheme for carpet weavers and other artisans. The Ministry of Textiles issued photo-identity cards to weavers and allied workers and also sponsored a Census of Handloom Weavers that was conducted by the National Council of Applied Economic Research. The purpose of the census was to build a comprehensive dataset of handlooms and textile workers to promote growth in the

⁷⁰ The project staff also encountered evidence of government surveillance and enforcement of child labor laws in the carpet industry. In early 2008, during the exploratory qualitative research phase of the study, the research team visited a village to tour a carpet factory. There was no factory, and the villagers reported that government inspectors had found children there and closed the factory. Also in November 2011, during the latest data collection phase of the project, people in Mirzapur and Bhadohi districts (UP) were hesitant to participate in the research, reportedly due to recent police raids and labor inspections in local carpet factories.

⁷¹ The Hindu, 2007.

handloom sector and to ensure that only genuine weavers received the benefits of various schemes being implemented by the Office of Development Commissioner (Handlooms).

2.3.8.2. International, Industry, and NGO Efforts

Programs specifically targeting child labor in the carpet industry included carpet labeling schemes, education and health projects aimed at children in the carpet industry, rescue and rehabilitation of child laborers, and awareness campaigns (see Table 3). Four major labeling programs involved carpet exporters and manufacturers agreeing to codes of conduct that prohibited child labor. Rugmark, GoodWeave, Kaleen, and STEP also involved manufacturers agreeing to allow monitoring inspections of carpet production sites. GoodWeave, Rugmark and Kaleen provided labels for the manufacturer to affix to the carpets, guaranteeing that the rugs were child-labor free. The STEP and Care & Fair programs certified companies rather than carpets.⁷²

Besides those labeling programs, self-monitoring systems were implemented by CEPC and by some individual carpet exporters, such as Obeetee. The CEPC loom inspections were conducted by an independent agency (the Academy of Management Studies) and monitored annually 15 to 30 percent of all looms registered with the CEPC by CEPC members. The CEPC also managed a Weavers Welfare Fund (WWF) for children in carpet weaving villages.

The Centre for Rural Education and Development Action (CREDA) worked primarily in awareness building among community members for the abolition of child labor, education of children, extracurricular activities, nutrition programs, income generation activities, enhancement of women's rights, and giving communities a voice. Two NGOs, the Project Mala Charitable Trust of the United Kingdom and the Delhi-based Children Emancipation Society, started Project Mala in 1989 in the Mirzapur and Varanasi regions of Uttar Pradesh. Project Mala was one of the first organizations to respond to the problem of child labor in the carpet industry by starting their own schools in the carpet belt. At the time of this report, Project Mala was running six primary schools and two middle schools to serve the needs of children who formerly had been working on carpet looms.

⁷² RugMark was the first labeling program in 1994. The program with the most members is Kaleen, which was started by CEPC in 1995 as the industry's alternative to RugMark. GoodWeave started in India in 2010.

Table 3. Current Interventions to Eliminate Child Labor in the Carpet Industry

Organization	Type of Intervention
Rugmark India	Labeling, education, healthcare, prevention, rescue, and rehabilitation
GoodWeave	Labeling, education, healthcare, prevention, rescue, and rehabilitation
STEP	Labeling, education, healthcare, women’s empowerment, small business promotion, and strengthening of self-help group programs.
Care & Fair	Code of conduct, education, healthcare, and social sensitization.
Carpet Export Promotion Council (CEPC)	Membership code of conduct, sensitization campaigns, labeling (Kaleen), loom inspection program, education, healthcare, vocational training, and welfare programs.
Obeetee	Self-monitoring system.
Centre for Rural Education and Development Action (CREDA)	Community mobilization, education, awareness campaigns, vigilance.
Project Mala	Education, health care, nutrition.
National Child Labor Program - National Human Rights Commission	Census of looms and workers, rescue, rehabilitation, and education of child laborers.

RESEARCH METHODOLOGY

3.1. RESEARCH FOCUS

3.1.1. RESEARCH QUESTIONS

The purpose and objectives were noted earlier. The research was designed to address a set of specific questions that were asked by USDOL. Each question is addressed in the results or discussion sections of this report (specific sub-section in parenthesis).

The purpose and objectives were noted earlier. The research was designed to address a set of specific questions that were asked by USDOL. Each question is addressed in the results or discussion sections of this report (specific sub-section in parenthesis).

- (1) How prevalent is the use of children in the carpet industry in India? (see 4.2)
- (2) What are the demographic characteristics of children and families working in the carpet industry? (see 4.3.1, 4.3.2 and 4.6.2.1)
 - a. What are the individual characteristics of children working in the carpet industry (i.e., age, sex)? (see 4.3.1)
 - b. What is the educational status of children working in the carpet industry, and what is the educational status of their families? (see 4.3.2 and 4.6.2.1)
 - c. What are the household demographics, working status, and socioeconomic status of working children's families? (see 4.6.2.1)
- (3) What is the relationship between a child's working status and educational opportunities? (see 4.4.1, 5.4.1)
 - a. Are there particular educational barriers that make children more vulnerable to working in the carpet industry? (see 4.4.1, 5.4.1)
- (4) To what extent do children and families migrate to work in the carpet industry? (see 4.4.3)
 - a. What role does the family play in children's migration? (see 4.4.3 and 4.7.3)
- (5) To what extent are children who work in the carpet industry working under forced and/or bonded labor conditions? (see 4.7.4)
 - a. To what extent are children trafficked into these situations? (see 4.7.3)
- (6) What particular aspects of the carpet industry encourage or discourage the use of children? (see and 5.4.2) Are there aspects of the carpet industry that lead to greater exploitation of children? (see 5.4.2)

- a. How do children enter into the carpet industry? (see 4.4)
 - b. What percentage of children work for their families vs. work as hired labor? (see 4.7.4)
 - c. Are there wage/payment systems that lead to exploitation of child workers? (see 4.5.5)
 - d. Is more or less child labor anticipated in the carpet industry in each country in the future? (see 5.3)
- (7) What are children's working conditions in the carpet industry? (see 4.5)
- a. In what specific activities are children engaged? (see 4.5.1)
 - b. What are the occupational safety and health hazards to which children are exposed? (see 4.5.4)
 - c. What are the typical hours of work? (see 4.5.3)
 - d. How are children paid (piece rate, by time period, etc.), and how does this relate to their overall conditions of work? (see 4.5.5)
 - e. How does children's work affect their participation in education? (see 4.3.2)
 - f. To what extent are children abused in the workplace, and by whom? And what is the nature of that abuse? (see 4.5.4)
- (8) In what regions is the carpet industry concentrated, and are there concentrated areas where children are most likely to be working? (see 4.2.1)

3.1.2. RESEARCH POPULATIONS OF INTEREST

3.1.2.1. Children Working in the Carpet Industry

The target population was the population of children (persons younger than 18 years of age) who were working in the production process (defined by 16 specific activities) of the handmade carpet industry in India during the period of the research (2008-2010). The project assumed that the type of establishment influenced the characteristics of the work and working conditions and sampled separately two subpopulations of child carpet workers.

- Household-based child carpet workers. The majority of the child carpet worker population in India lived and worked in carpet households (HHs). Almost all of the HH-based child carpet workers were living and working in their own family households.
- Factory-based child carpet workers. A minority of the child carpet worker population in India worked in carpet factories, and almost all factory-based child carpet workers were hired workers.

3.1.2.2. Children Working in Other Industries

The project compared the conditions of child carpet workers with those of children who worked in other industries. To do that, in each area where the study surveyed carpet HHs and HH-based child carpet workers, the project also surveyed an equal number of non-carpet HHs. The study interviewed all the children aged 5-17 within the carpet and non-carpet HHs. The populations of non-carpet HHs and the children in those HHs who were working in other industries were sampled only for the purpose of comparison with carpet HHs and child carpet workers, not for extrapolation to estimate any national populations.

3.1.3. PROTECTION OF HUMAN SUBJECTS

ICF International was in compliance with Department of Health and Human Services regulations for the protection of human research subjects (45 CFR 46) and had established an Institutional Review Board (IRB) to review all research involving human subjects. The IRB was required to submit documentation of its reviews and approvals to the Federal government. The IRB at ICF International⁷³ was responsible for the protection of human subjects in this research, including supervising the training and certification of the project director/principal investigator in the protection of human research participants. The ICF IRB and the client of this research (USDOL) reviewed and approved the design, instruments, and protocols of this study. The application to the IRB seeking its approval for this study included a detailed description of the research design, any possible risks, and steps taken to avoid or mitigate them, as well as copies of all instruments, protocols, and training materials.

The IRB review and approval process ensured that persons participating in this study were protected from any risks of harm associated with participating in the study, that children were presented with research situations appropriate to their ages, that the research did not compromise the children's emotional or physical well-being, and that all IRB-approved study procedures for the protection of human subjects were implemented, even when study procedures were outsourced to another company or vendor. The organizations in India (ACNielsen and Sigma) that were subcontracted to collect and process survey data for the study also agreed to a detailed set of IRB procedures for implementing the study and protecting the human subjects and the data, including oral informed consent from all participants. This consent detailed survey procedures, confidentiality, survey purpose, and benefits of the survey, as well as the right to refuse to participate.

⁷³ The company was named Macro International when the Cooperative Agreement was signed in 2007.

3.2. CONCEPTUAL AND OPERATIONAL DEFINITIONS

The project established explicit definitions for all important factors based on the concepts described in UN and ILO documents and academic articles and also, when needed, created explicit operational definitions that consisted of specific features that researchers were able to directly measure.⁷⁴

3.2.1. THE CARPET INDUSTRY AND ESTABLISHMENTS

This research defined the carpet industry to include 16 specific work activities that started with processing raw wool and ended with export-ready carpets (see Table 3).

Table 4. Sixteen Activities of Manual Labor that Defined the Carpet Industry's Production Process

Carpet-related Activities	
1	Separating wool according to its colors (e.g. in a bale there may be different colors of wool mixed together like black, white, brown, etc.)
2	Cleaning/ washing wool or silk
3	Washing wool or silk
4	Carding wool
5	Spinning wool to make thread
6	Dyeing thread
7	Balling thread
8	Mixing/joining many colored yarns into one (e.g. same as plying, but joining is done usually for blending 3/4 different colors into one, depending upon the type of prints and patterns of the carpet)
9	Plying many yarns (usually silk) into one to make it thick (e.g. 12 plies, 15 plies, 20 plies, etc. depending upon the No of knots of the carpet)
10	Tufting carpets
11	Hand looming carpets
12	Weaving carpets
13	Washing carpets
14	Trimming carpets
15	Stretching carpets
16	Repairing errors/assuring rows are straight

A carpet establishment was any location where one of the 16 carpet industry activities occurred.

- A carpet household (HH) was any establishment using primarily family labor.
- A carpet factory was any establishment using primarily hired labor.
 - A Level 1 factory was owned and operated by a carpet exporter.

⁷⁴ ILO's guidelines for survey research noted that, "Operational definitions of the concepts...are needed to design a survey, which break down the legal definitions into elements that can subsequently be measured" (ILO, 2011).

- A Level 2 factory was owned and operated by a manufacturer or processor who was not an exporter but produced for the export market⁷⁵.

The standard operational definition of a household (HH) was a person or group of persons who lived together in the same house or compound and shared the same cooking arrangements. The HH did not have to be a family and might include employees.

- A carpet HH was a HH in which at least one member worked in the carpet industry.
- A non-carpet HH was a HH in which no member worked in the industry.

The standard two reference periods to measure the work force were:

- Current workers, persons who had worked at least once during the last seven days.
- Usual workers, persons who had worked at least once during the last 12 months.

This study followed standard practice by reporting most measures on the basis of usual workers. The study measured and reported on current workers for detailed specific information about the number of hours worked during the day, time of day for activities, etc. The project asked only about the last few days because children's recollection would be more accurate for that shorter and more recent period.

3.2.2. WORKING CHILDREN

This report clearly separates the description of working children from the description of child labor. Most of the report describes the living and working conditions of children who work in the carpet industry. Afterwards, the study analyzes the nature and conditions of their work to estimate the existence and prevalence of unacceptable work and working conditions (child labor) among those working children.

This study defined all persons below the age of 18 years as children. Studying only the children in the 5 to 17 age range has been adopted by SIMPOC and many other child labor studies (ILO, 2004, p. 20). This range considers children under five years old to be too young to be interviewed, and they also are outside the usual child labor pool.

Working children were defined as those in the economically active population. The economically active population "comprises all persons of either sex who furnish the supply of labor for the production of economic goods and services as defined by the United Nations system of national accounts and balances during a specific time referenced period" (ILO, 2000). This definition included the following: paid employees (paid in cash or in kind), self-employed persons, own-

⁷⁵ Manufacturers that produced carpets for the domestic market were excluded. However some manufacturers did not know whether their products were eventually exported or not. Since the majority of the carpet industry in India was export-oriented, when manufacturers did not know whether their products were eventually exported, it was assumed that they were.

account workers, apprentices who received payment in cash or in kind, and unpaid family workers who produced economic goods or services for their own household consumption. This definition excluded the following: household chores, including fetching wood and/or water,⁷⁶ and activities that were part of schooling (ILO-IPEC, 2004).

One of the goals of this study was to obtain a precise measure of the prevalence of children working in the carpet industry; another was to compare children's work in the carpet industry with children's work in other sectors. For this reason, information about work was collected in the following two ways:

- Carpet work was measured by the question -- "Have you engaged in (*comprehensive list of carpet-related activities*) for at least one hour in the past 12 months?" A person was considered to have worked in the carpet industry if she/he has done any of the listed activities for at least one hour in the last 12 months.
- Non-carpet work was measured using a simple direct question -- "In the past 12 months, did you engage in any income generating or productive work not related to processing wool or silk or producing carpets?"

3.2.3. UNACCEPTABLE WORK (CHILD LABOR)

The project wanted to differentiate between those forms of children's work that were considered acceptable, based on national and international standards, and those forms of children's work that were considered unacceptable (child labor). By unacceptable work, the study meant that the nature of the work and/or the working conditions exploited and/or abused working children. In addition to identifying those exploitative situations, the project wanted to measure them and estimate the prevalence of unacceptable work. By prevalence, the study meant the percentage of children working in the carpet industry who were engaged or trapped in unacceptable work.

This study looked to international conventions for guidance in identifying unacceptable kinds of work and working conditions. In general, international and Indian standards agreed. India had ratified many ILO conventions and the UN Convention on the Rights of a Child (UNCRC), and India had passed legislation that was based on or adapted international standards. Although the international and national standards agreed in general, the two sets of standards differed in some specific details and in the implementation. This study relied on international standards whenever there were differences between the two sets of standards and utilized Indian standards when they defined specific issues that were not defined by international standards.

⁷⁶ SIMPOC-supported surveys have considered fetching wood and water as work activities. The study decided, in the context of India, that including those activities as household chores facilitated understanding the difference between work and chores.

The project developed a set of measures⁷⁷ to indicate and estimate the prevalence of two forms of unacceptable work in the carpet industry in India:

- **Hazardous work.** The study examined the nature of the work (whether it was defined as inherently hazardous), the characteristics of the working conditions and workplace, and the medical histories of the working children.
- **Excessive work.** Another measure calculated the number of hours of total work for each child and compared that with the amount of work that was considered to be appropriate for the child given his or her age.

This study did not collect sufficient information to create measures that indicated and estimated the prevalence of other forms of unacceptable work, such as child trafficking, forced labor, and bonded labor. However, the study identified a number of variables that were critical to understanding those unacceptable forms, and this report provides a descriptive analysis of those variables, including whether there were indications that children were forced/coerced to start working or to continue working, and/or whether there were indications that children could not stop working and leave the workplace due to force, coercion, or outstanding debts.

3.3. RESEARCH DESIGN

The project's approach combined qualitative and quantitative research techniques. The qualitative research helped the project develop a synthesis of the general features of existing systems and conditions and guided the development of instruments and protocols for the subsequent formal survey.

3.3.1. THE PREVALENCE AND CONDITIONS (PC) STUDY

The primary source of information for this report was the Prevalence and Conditions (PC) Study in 2009, which consisted of cross-sectional sample surveys of carpet HHs and carpet factories. The instruments for the surveys were based on standard questionnaires⁷⁸ that were augmented by several modules added specifically for this study, including a battery of carpet-related activities, a literacy/numeracy module, and a psychosocial quality-of-life module (Personal Well Being Scale). ICF designed the master questionnaires.

⁷⁷ The composition of the measures is described in more detail in Appendix C.

⁷⁸ This study adopted many questions from the standardized instruments that were developed by ILO's Statistical Information and Monitoring Programme on Child Labour (SIMPOC) and USAID's Demographic and Health Surveys (DHS).

3.3.1.1. Factory Surveys and Instruments

The study divided carpet factories into two sub-strata: Level 1 factories (owned and operated directly by exporters) and Level 2 factories (owned and operated by non-exporter manufacturers and contractors). The Primary Sampling Unit (PSU) for the survey of Level 1 factories was the individual factory. The PSU for the survey of Level 2 factories was the geographic area that contained Level 2 factories.

The study utilized three structured instruments for the factory surveys: the manager and worker questionnaires and the observation sheet. In each sampled carpet factory, after interviewing the manager and a sample of carpet workers, the team recorded its observations about the factory, the factory workforce, and the conditions of the interviews. The two sub-strata of factories were surveyed using almost identical instruments.

3.3.1.2. Household Survey and Instruments

The Primary Sampling Unit (PSU) for the HH survey was the geographic area that contained carpet HHs. Within each PSU, the team canvassed to identify the number and location of carpet HHs. Then the team selected a random sample of carpet HHs and a random sample of non-carpet HHs and surveyed them. The study utilized three structured instruments for the HH survey: the head of HH and child questionnaires and the observation sheet. In each sampled household (HH), the HH questionnaire was administered to the head of HH or the adult member of the HH most knowledgeable about the HH and its members. Then all children aged 5-17 in each sampled HH were interviewed. After completing the survey in a PSU, the team recorded its observations about the PSU and the conditions of the interviews.

3.3.1.3. Reference Group of Children Working in Other Industries

The children working in the carpet industry were the key targeted population, but this study also established a benchmark for comparing the working and living conditions of HH-based child carpet workers with the conditions of neighboring children who lived in non-carpet HHs and worked in other industries.⁷⁹ The study assessed the influence of household poverty and indebtedness and whether children working in the carpet industry were better or worse-off than neighboring children working in other industries. Both samples were selected in the same PSUs, so many geographical and household variables were relatively similar.

⁷⁹ Other possible comparisons were not pursued in this report because they were not of equivalent priority. The study collected the data to compare: (a) child carpet workers, children working in other industries, and non-working children in carpet HHs; (b) children working in other industries and non-working children in non-carpet HHs; and (c) all working and all non-working children.

3.4. SAMPLING⁸⁰

3.4.1. SAMPLING FRAMES

Nine months (September 2008-May 2009) were spent collecting the data to develop the three comprehensive sampling frames. The work involved mostly primary research involving a nationwide survey of carpet exporters, who were seen as the key node in the export-oriented industry network. The Indian Carpet Export Promotion Council (CEPC) cooperated by providing its list of 2,593 registered members (all exporters) who were spread across 78 districts in 20 states, and the study attempted to contact all the members to learn the locations of all the carpet factories and areas of carpet HH-based activity in India⁸¹.

Slightly fewer than half of the listed exporters responded, but they provided enough information about existing factories and areas of household-based industry that the resulting frames provided a sound footing for drawing representative samples for the surveys.⁸² The CEPC list and the exporters themselves provided precise information about the location of Level 1 factories, and that sampling frame consisted of a list of individual factories. The information about Level 2 factories consisted of contact information for the manufacturers, whose locations were aggregated into a list of areas of Level 2 factory activity. Information about HH-based activity also resulted in a list of areas.

The three final sampling frames consisted of:

- 612 rural and urban areas of household-based activity -- 505 in UP with secondary clusters in Srinagar (Jammu & Kashmir), Panipat (Haryana), and Amritsar (Punjab).
- 1,484 Level 1 factories -- 1,113 in UP with secondary clusters in Panipat (Haryana), Srinagar (Jammu & Kashmir), Jaipur (Rajasthan), and Delhi.
- 499 rural and urban areas of Level 2 factories in UP.

⁸⁰ A detailed description of the sampling frames and the samples is in the appendices.

⁸¹ Other lists were explored, including the list of carpet manufacturers from the All India Carpet Manufacturers Association and the 2005 Fifth Economic Census Data. However both lists included incomplete or insufficient information and were disregarded for the sampling frame building exercise.

⁸² The sampling frames represented an improvement over the list of CEPC members, which had been the best existing list. The sampling frames expanded the list to include Level 2 manufacturers and Household-based areas, for which there were no previous lists even though they represented the majority of the workforce. One-third (32.5 percent, n=842) of the exporters on that list had left the carpet industry or could not be located or contacted. However, the pattern of non-responsiveness and refusals was not evenly distributed and resulted in increasing the predominance of the UP core districts and minimizing the industry in (Jaipur) Rajasthan and Delhi.

3.4.2. THE SAMPLES OF AREAS, HOUSEHOLDS, AND HH-BASED WORKERS

According to earlier research, the great majority of workers in the carpet industry in India were spread-out in HH-based areas. Larger strata with greater variance require larger samples to be estimated with precision⁸³, so the study anticipated producing a sample of 3,000 HHs. The PSU for the HH survey were the geographic areas (612 clusters) from which a sample of 100 clusters were selected. PSUs were stratified according to their setting (rural/urban) and the quality of the available address information (complete vs. incomplete). A sample of 50 rural complete, 25 rural incomplete, and 25 urban complete clusters was selected.⁸⁴ Each of these strata was sub-stratified by density (low, medium, high). PSUs were selected with equal probability within each substratum.

The project anticipated a sample of 15 Carpet HHs and 15 non-carpet HHs in each PSU. If a PSU that was selected had fewer than the minimum number of 15 Carpet HHs, the PSU were replaced from the final sample. The project had to select many replacements to reinforce the anticipated sample of 100 PSUs because several of the selected PSUs did not have that required minimum number of 15 Carpet HHs. The project approached the sample conservatively to make sure that the minimum sample size of 100 clusters and 3,000 HHs was achieved. In total, 151 PSUs were selected and visited, of which 117 had at least the minimum number of Carpet HHs. As a result the final sample of HHs (3,441) was larger than anticipated. More specifically, the final samples from the HH survey were:

- 1,698 Carpet HHs were sampled.
- 3,223 children were interviewed in carpet HHs.
- 1,743 Non-Carpet HHs were sampled.
- 3,232 children were interviewed in non-carpet HHs.

3.4.3. THE SAMPLES OF LEVEL 1 FACTORIES AND FACTORY WORKERS

3.4.3.1. The Sample of Level 1 Factories

For the Level 1 factory survey, the project anticipated to collect a sample of 200 factories from the total of 1,484 in the sampling frame. Factories were selected using a simple random sampling approach. The survey revealed that fewer valid (engaged in one or more of the 16 activities) and active Level 1 carpet factories existed than were listed in the sampling frame. During the survey, a large number of the selected factories were found to be closed or not factories (other industry activities occurred there, but none of the 16 production activities).

⁸³ See Kish, 1965, p. 139.

⁸⁴ The frame held 238 rural complete, 272 rural incomplete, 102 urban complete, and 222 urban incomplete areas. Since the urban areas represented a minority of the industry's HH-based activity, the urban incompletes were not utilized.

Additional replacement samples had to be selected to reach the target of 200 factories. In all, the project had to randomly select a total sample of 464 Level 1 factories from the sampling frame. Of those, 251 (54.1 percent) were found to be valid (active and engaged in one or more of the 16 activities) carpet factories. Of those 251 valid factories, 42 (16.7 percent) could not be surveyed because the owners or managers refused to allow the survey. A total of 209 Level 1 factories were finally interviewed.

3.4.3.2. The Sample of Workers in Level 1 Factories

In the Level 1 factory survey, the PSU was the factory, and the Secondary Sampling Unit (SSU) was the population of factory workers, which contained the target subpopulation of child carpet workers. Originally, the study was going to sample and interview only the child carpet workers in the factories, but qualitative research revealed that focusing only on the child workers would inhibit and potentially deny the team's access to factory workers. The team revised its sampling tactics and sampled all of the workers in each selected factory with a disproportionately larger sample of younger workers. In each factory, the team counted and recorded the total number and gender of workers and listed them in two groups: (a) A Group consisted of those workers who appeared (based on visual observation) to be 20 years old or younger and (b) B Group consisted of those who appeared to be older than 20 years. Both groups were then sampled. By dividing workers at an older age (20-21) and interviewing workers from both groups, the innovative approach served to diffuse the sensitivity and resistance.

The procedure was to interview all workers in Group A up to a limit of eight per factory. If there were more than eight in Group A, then eight were randomly selected. An equivalent number of workers were interviewed from group B. The team interviewed child workers only when they were randomly selected from Group A. The only reason to interview workers in Group B was to draw attention away from the objective of interviewing child carpet workers. If there were no workers in Group A in a factory, then the team was not supposed to interview any workers. The final sample of workers who were interviewed in Level 1 carpet factories consisted of 53 workers in Group A (all of them over 18 years of age) and 370 workers⁸⁵ in Group B (with ages ranging from 25 to 65). No child carpet workers were found in the sampled Level 1 carpet factories.

⁸⁵ Although the worker sampling procedure was designed in a way that the number of workers interviewed in Group A should be equal or greater than the number in Group B, the research agency sometimes selected and interviewed workers in Group B even when none were identified in Group A. This did not have any implications for the workforce estimates, but led to an oversample of workers in Group B.

3.4.4. THE SAMPLES OF LEVEL 2 FACTORIES AND FACTORY WORKERS

3.4.4.1. Converting and Restricting the Sampling Frame

The carpet exporters had provided accurate addresses for their own factories (Level 1), but not for the factories (Level 2) that were operated by the manufacturers who supplied exporters with carpets and services. Instead of listing Level 2 factories, the frame identified manufacturers. The frame had enough information about the manufacturers to identify and locate the villages and neighborhoods where the manufacturers and their factories were located. There were references to 1,963 Level 2 manufacturers and contractors; 84.9 percent (n=1,666) of them were in UP.⁸⁶ The study decided to restrict the sample of Level 2 factories to UP because of the predominance of factories there.

The references to 1,666 manufacturers and contractors in UP were aggregated by their locations, which reduced the sampling frame to 499 rural and urban locations (or clusters). Four core districts contained 83.4 percent (n=416) of the locations, and those 416 clusters contained 89.0 percent (n=1,483) of the references to Level 2 manufacturers in UP. The other 83 clusters (with the remaining 183 references) were scattered among other districts across the state.

For logistical reasons, the project decided to restrict the study to those four core districts. Two-thirds of the 416 locations (65.6 percent, n=273) were in Bhadohi district.⁸⁷ One-fourth (23.8 percent, n=99) were in Mirzapur district, and the rest were evenly distributed between Jaunpur (5.5 percent, n=23) and Varanasi (5.0 percent, n=21) districts.

3.4.4.2. Rapid Assessment of Level 2 Carpet Factories in the Core Districts

The project director and research consultant (skilled and experienced social scientists) personally conducted a rapid assessment of the presence of working children in Level 2 factories in the core carpet belt districts in March-April 2011. The main objectives of the rapid assessment were to evaluate the validity of the sampling frame and the feasibility of conducting a formal survey and pilot test sampling approaches. The assessment sampled 20 clusters and tried various approaches to selecting factories to sample within a cluster.⁸⁸ Within factories, the team based its estimation on visual observations and counts while walking through (without interviewing).⁸⁹ Key findings

⁸⁶ After UP, there was a big drop to Haryana (8.7 percent of the references), then another big drop to Jammu & Kashmir and Rajasthan (both with 2.4 percent).

⁸⁷ The correct name for the district was Sant Ravidas Nagar, but it was commonly known as Bhadohi, the name of its largest urban area.

⁸⁸ Approaches tried included canvassing, systematic sampling, and random walk-based sampling.

⁸⁹ Information was recorded on a brief observation roster. Information was collected at (a) the location level – exact location of the village or neighborhood in a town, date, estimated number of Level 2 factories in the town or village, source of estimate, and observer and (b) the factory level -- total number of workers and number of working children by age, gender, and general activity performed (pre-weaving, weaving, or post-weaving finishing).

of the assessment included verifying the validity of the Level 2 factory sampling frame and the difficulty of accessing Level 2 factories.⁹⁰ The team also learned that the likelihood of finding workers was highest in the morning between nine and noon.

3.4.4.3. The Sample of Level 2 Factories

For the Level 2 factory survey, the project anticipated to collect a sample of 200 factories from 40 clusters, surveying five Level 2 factories in each cluster. The sample of clusters was selected proportionally stratified by district, with PSU probability proportional to size (PPS), which yielded 30 clusters in Bhadohi, eight in Mirzapur, and one cluster each in Varanasi and Jaunpur.

There were four steps to select the sample of individual factories within each selected cluster. In each PSU, the first step used key informant interviews to inventory the local Level 2 factories to create a sampling frame for the PSU. The second step was selecting the sample of factories from the edited frame using systematic random sampling. The third step was screening the selected sample to ensure that they were Level 2 carpet factories.⁹¹ Valid Level 2 carpet factories had to carry out one or more of the 16 activities that defined a carpet factory and not be owned and operated by an exporter (Level 1 factory), and the carpets had to be destined for export. The fourth step was replacing establishments that were screened-out or refused to participate. A total of 285 factories were screened, of which 74 were screened-out. Out of the remaining 211 Level 2 carpet factories, five refused to participate. A total of 206 valid and active Level 2 carpet factories were surveyed.

3.4.4.4. The Sample of Level 2 Factory Workers

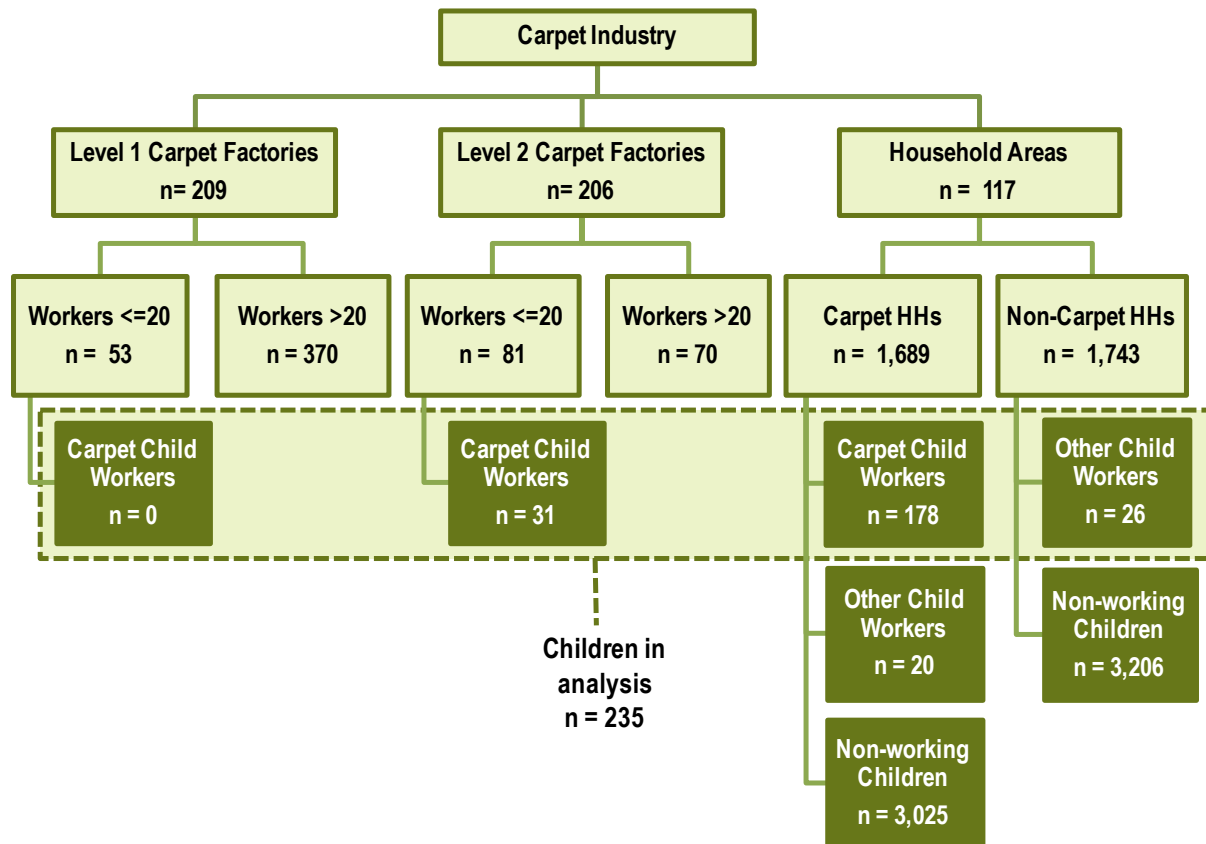
The procedure for selecting a sample of workers within each Level 2 factory was the same as the procedure for Level 1 factories. The research team listed all the workers in Group A or Group B and interviewed child workers when they were randomly selected from Group A. If there were no workers in Group A in a factory, the team was not supposed to interview any workers. The final sample of workers who were interviewed in the Level 2 factories included 70 workers in Group B and 81 workers in Group A, of whom 31 factory workers reported being below 18 years of age.

⁹⁰ The number of manufacturers listed in the sampling frame was a good approximation of the number of production centers found in each location, in spite of the two year lapse between collecting the sampling frame data and the assessment.

⁹¹ The project expected that information from key informant interviews would contain some degree of error. The main concern was that the informants might list carpet establishments that were not Level 2 factories.

Figure 1 summarizes the sampling design for the PC study and the final samples collected. Note that data were collected for six different groups of children, but only three groups of children were used in the analysis presented in this report.

Figure 1. Sampling Design and Final Sample for the Prevalence and Conditions Study in India



Source: India PC household child survey (Nov. 2009-April 2010), India PC Level 1 factory worker survey (Dec. 2009-March 2010), India PC Level 2 factory worker survey (November 2011).

3.5. IMPLEMENTATION OF THE SURVEYS

3.5.1. TRANSLATING, CUSTOMIZING, AND PRETESTING THE INSTRUMENTS

The ICF research team designed the master questionnaires and sent them to the Indian research organizations that implemented the survey. Those organizations customized the language in the instruments (that had been prepared in English and already field-tested in Nepal) to Indian terms and conditions, translated the instruments into Hindi, and sent the back-translated instruments back to ICF for review. The key concepts and questions in the instruments had been cognitively tested already by the child labor research specialist in Nepal. The approved instruments then

went through another round of pretesting in English and Hindi during the pilot interviews that occurred during the training of the interviewers.

3.5.2. RECRUITING AND TRAINING INTERVIEWERS

The Indian research organizations that collected and processed the data from the PC Study were responsible for recruiting and training the interviewers and supervisors. All the states were Hindi-speaking except for Jammu & Kashmir (J&K), so Hindi was used in the other states, and Kashmiri and English were used in J&K. The survey teams received extensive training at Lucknow (UP) for the teams covering the UP, J&K, and Uttaranchal areas or at Delhi for the teams covering the other states (Haryana, Delhi, Punjab, Rajasthan, and Madhya Pradesh). Separate teams were deployed for HH interviews and factory interviews. The importance of gaining informed consent from all respondents and the confidentiality of all acquired information was stressed.

3.5.3. DATA COLLECTION

Because of the added complexity of two factory sampling frames, data collection was split into two phases. During the first phase, the project surveyed the HH areas and the Level 1 factories. After reviewing the results of those surveys, conducting two field quality checks of the Level 1 factory results, and conducting a rapid assessment of Level 2 factories, the project surveyed the Level 2 factories as the second phase.

Five months (November 2009-April 2010) were spent collecting the household and the Level 1 carpet factory data, and one month (November 2011) was spent collecting the Level 2 carpet factory data. Data collection for the Level 2 carpet factory (L2CF) survey was carried out during November 7-24, 2011. An interviewer administered an IRB-approved oral informed consent form to each respondent before proceeding with the interview. The local team leaders were given the responsibility of checking the completeness of interviews, as well as conducting spot checks and back checks.⁹² The completed questionnaires were edited manually at two levels, first by the field supervisors in the field itself and then by the professional data scrutinizers at the office.

⁹² The ICF Research Consultant was present during the training and early data collection for the Level 2 factory survey, and he personally was checking and monitoring the data collection.



Role-playing the questionnaires



Field interviewers listing Level 2 Factories



Office editing and coding interview forms

3.5.4. DATA PROCESSING

The data from the Level 1 factory survey and the HH survey were processed by ACNielsen in Lucknow. Processing started in April and was completed in August 2010. The data from the Level 2 factory survey were processed by Sigma in Delhi. Processing occurred November-December 2011. The ACNielsen and Sigma data processing teams developed their data entry and cleaning programs while data collection was still in progress, and then their programs were reviewed and approved by ICF. Processing entailed checking, cleaning, editing, double entry, and rechecking, including running simple frequencies and cross-tabulations to find erroneous entries, before the data sets were delivered to ICF.

The ICF research team consistently emphasized quality control. Quality assurance controls were established for every stage of the study, starting with planning and developing the sampling frame and samples and continuing through the collection and processing of the data. The team spent many weeks conducting qualitative research to ensure that the PC Study was designed to produce valid descriptions of the existing situation. The project devoted a lot of resources to ensure that the sample surveys were based on samples selected from sampling frames that represented the entire industry. The Indian research organizations had to submit their quality assurance plans for collecting and processing the survey data for ICF's approval before the surveys began.

Data processing procedures included double data entry and in-depth quality checks of the final datasets, including:

- Match of collected samples to the sampling plan;
- Completeness of variables, labels, and codes;
- Correct filters and skip patterns were applied for each question;
- Plausibility of frequency distributions;
- Unique individual and household identification variables to link datasets unequivocally.

After receiving the processed datasets, ICF conducted further quality control measures to check for matches to sample plan, duplicate records, data completeness (variables, labels, missing data), data validity (frequency distribution anomalies, out of range values), and data consistency (e.g., interviewing dates and length by interviewer, correspondence between number of interviews at each level, skip patterns, etc.). The ICF team did not approve receipt of a dataset until all questions were answered and any concerns were satisfied.

Overall, the data were found to be in good shape, although there were some minor problems with missing data. The most significant problem affected sections exploring the working conditions of HH children (sections K, L, and M in the child questionnaire). Those sections were only asked to the children who reported having worked within the last 12 months, either in the carpet industry or other sectors. Applying this filter correctly was highly demanding for interviewers because they needed to return to previous sections to verify the timing of any carpet related and other work. While this filter was applied correctly in most cases, there were 25 negatives (respondents who had worked but were filtered out of those sections) and 12 false positives (respondents who had not worked but were not filtered out of those sections). False positives were filtered out without any complications for analysis, but the proportion of missing responses (negatives) was 10.3 percent, which was more than the maximum ignorable proportion of five percent, so their effect could not be ignored for the analysis of distributions (Tabachnik & Fidell, 1989).

In order to estimate any possible biases in the sections on working conditions, weighted missing cases were compared to responding cases using several critical variables (gender, age, type of household, school attendance, work status, and district). Missing cases were more female (62.6 percent vs. 45.7 percent among those not missing data) and younger (18.4 percent in the 5-8 year old group, vs. 1.9 percent), but the differences did not appear to be sufficiently large to bias any conclusions derived from those sections (see Table 5).

Table 5. Missing Data in Household Interviews by Gender, Age, School Attendance, and Occupational Groups

		Missing Data		Not Missing Data	
		N	%	N	%
Gender	Males	599	37.4%	7,599	54.3%
	Females	1,005	62.6%	6,384	45.7%
Age	5-8	295	18.4%	260	1.9%
	9-13	157	9.8%	3,151	22.5%
	14-17	1,153	71.9%	10,572	75.6%
Attending School?	Yes	519	32.4%	4,718	33.7%
	No	1,085	67.6%	9,266	66.3%
Occupational Group	Carpet Worker	1,489	92.8%	10,885	77.8%
	Other Worker in Carpet HH	69	4.3%	1,237	8.8%
	Other Worker in Reference HH	47	2.9%	1,862	13.3%
Total		1,604	100%	13,983	100%

3.5.5. FIELD QUALITY CONTROL STUDIES

In March-April 2011, the ICF research team conducted two additional studies in India as part of the project's quality assurance program.⁹³

3.5.5.1. The Non-Respondents Study

The Non-Respondents Study focused on the Indian carpet exporters and manufacturers who did not respond when the project was developing the PC Study's factory sampling frame (n=506 exporters) and conducting the factory survey (n=42 factory owners). The primary research question was whether including the non-respondents in the survey would have changed the findings about the number of factories and factory workers, especially working children. The team decided on the basis of efficiency to focus on the districts containing the largest numbers of non-respondents, and a sample of 40 frame-building non-respondents and 10 survey non-respondents was selected to be interviewed. Three clusters -- Jaipur (Rajasthan), Delhi, and three core carpet-belt districts in UP (Bhadohi, Mirzapur, and Varanasi) -- accounted for three-fourths (74 percent) of the frame-building non-respondents, so the final sample of 40 exporters was allocated among those three sub-strata using proportional stratification. Within each sub-stratum, the non-respondents were selected randomly. The same three core carpet-belt districts in UP contained 83 percent of survey non-respondents, so the final sample of 10 factory owners was selected randomly within the cluster of the three districts. The team succeeded in interviewing 96 percent of the sample of non-respondents. The observed prevalence of child workers seemed low even among non-respondents, so the researchers accepted as being valid and relatively accurate the PC Study's estimates of the total population of Level 1 and Level 2 factories and the size of the Level 1 factory workforce.

3.5.5.2. The Carpet Factory Restudy

The Level 1 factory survey had not recorded any children among the factory workers, and the Carpet Factory Restudy addressed the question of whether measurement error during the Level 1 factory survey had resulted in under-counting the number of child carpet workers. The cluster of three adjacent core carpet-belt districts in UP (Bhadohi, Mirzapur, and Varanasi) contained almost three-fourths (71 percent) of the Level 1 factories that were surveyed in the PC Study. For logistical reasons, the project decided to randomly select the sample of 50 already-surveyed factories from those three districts. The restudy did not find a significant number of children in the resurveyed Level 1 factories, which validated the prevalence estimate from the PC Study.

⁹³ A report on the two studies and the rapid assessment of Level 2 factories was delivered to USDOL in September 2011.

3.5.5.3. Conclusions from the Two Quality Control Studies

The conclusions from the two studies were that the PC Study's estimates of the total number of Level 1 carpet factories, the total number of workers in the workforce in Level 1 carpet factories, and the prevalence of children working in Level 1 carpet factories in India were valid and relatively accurate. Neither of the two QC studies found sufficient evidence to dispute the estimated numbers or prevalence.

3.5.6. ANALYSIS

3.5.7. PROCEDURES

Most of the data analyzed in this study were quantitative, but qualitative inputs collected during the exploratory phase were interwoven to enhance the depth of the analysis. The study used a descriptive analytical approach using univariate or bivariate analysis.⁹⁴ The reference period was work in the last 12 months. The composition of the comparison groups was based on their occupational status during the last 12 months, but work in the last seven days or last three days was used to analyze the specific number of days and hours worked. In several sections of the report, data on children were available from both adult household respondents and the children's interviews. Only the children's reports were used except in cases where the comparison of both reports was critical. The analysis did not utilize (a) the interviews in the HH survey that were with non-working children or children in carpet HHs who were working in other industries or (b) the interviews in the factory survey with the workers who were not children.

3.5.8. VARIABLE CONSTRUCTION

Many of the variables that were studied and questions that were in the survey instruments were standardized and drawn from standard child labor surveys such as those implemented under the ILO SIMPOC program, ICF's Demographic and Health Survey (DHS) or widely-used and pre-coded modules studying literacy and numeracy competence (from the Indian/Prather Annual Status of Education Report) or psychosocial quality-of-life (Personal Well Being Scale). For the analysis of the quantitative data, ICF created all computed variables, including simple variable recodes (age, education, etc.), work status variables, and well-being scales, as well as population weights for each dataset. The indicator of the hazardous nature of work had a simple value system, but the other indicators of child labor were composed of multiple variables.

⁹⁴ The analysis was not based on experimental data, precluding causal inferences.

3.5.9. STATISTICAL METHODS

Data in this report were presented in simple tables with the analytic variables presented as rows and the comparison groups as columns. The first rows presented the weighted population estimate (*Weighted N*), rounded to the nearest whole number. The weighted N represented the sample base or denominator used to compute the results shown in each table.

Missing cases. Cases with missing responses for a given variable were omitted from the sample base or denominator when analyzing that given variable. The unweighted and weighted number of missing cases was shown in the table notes for each comparison group.

Rounding errors. Results were shown as percentages, averages, or medians. Percentages were always column percentages, rounded to the first decimal. The *Total* column summed the entire sample. Some totals did not sum to 100 percent. Some column and row totals did not add up because of rounding or because multiple items or multiple-response items were reported in the same table.

Insufficient sample size. Columns with a small sample size (unweighted $n < 30$) were shown in table footnotes as having “insufficient sample” size, and results were omitted (shown as *).

Significance testing. Difference between groups (columns) were tested for statistical significance using the SPSS complex samples module to adjust for the complex sampling design, with standard errors stratified by type of establishment and geographical setting, and clustered by location and establishment. The standard 95 percent confidence interval was used for all statistical tests. Significant results were flagged at the 95 percent confidence level (*) and at the 99 percent confidence level (**). In the case of multiple group comparisons, significant differences between specific pairs of groups were located by examining post-hoc tests. Since reporting post-hoc tests for each pair of groups would make reporting too cumbersome, the specific group differences driving significant results were only mentioned in the body of the report.

Significant differences for percentages are tested using the Pearson chi-square homogeneity test or the adjusted likelihood ratio statistic⁹⁵. In the case of variables with multiple response categories, significant differences between specific cells were located by examining the adjusted standardized residuals (ASRs). Since reporting ASRs for each cell would make tables too cumbersome, significant differences between cells were only mentioned in the analytical text accompanying the tables. In the case of continuous variables (shown in tables with their median or average values), significance was tested using Analysis of Variance (ANOVA). The *p*-value referred in those cases to the *F* statistic.

⁹⁵ The chi-square test is indicated when no more than 20% of the expected counts are less than 5 and none is less than 1. When these conditions are not met, the adjusted likelihood ratio statistic is used.

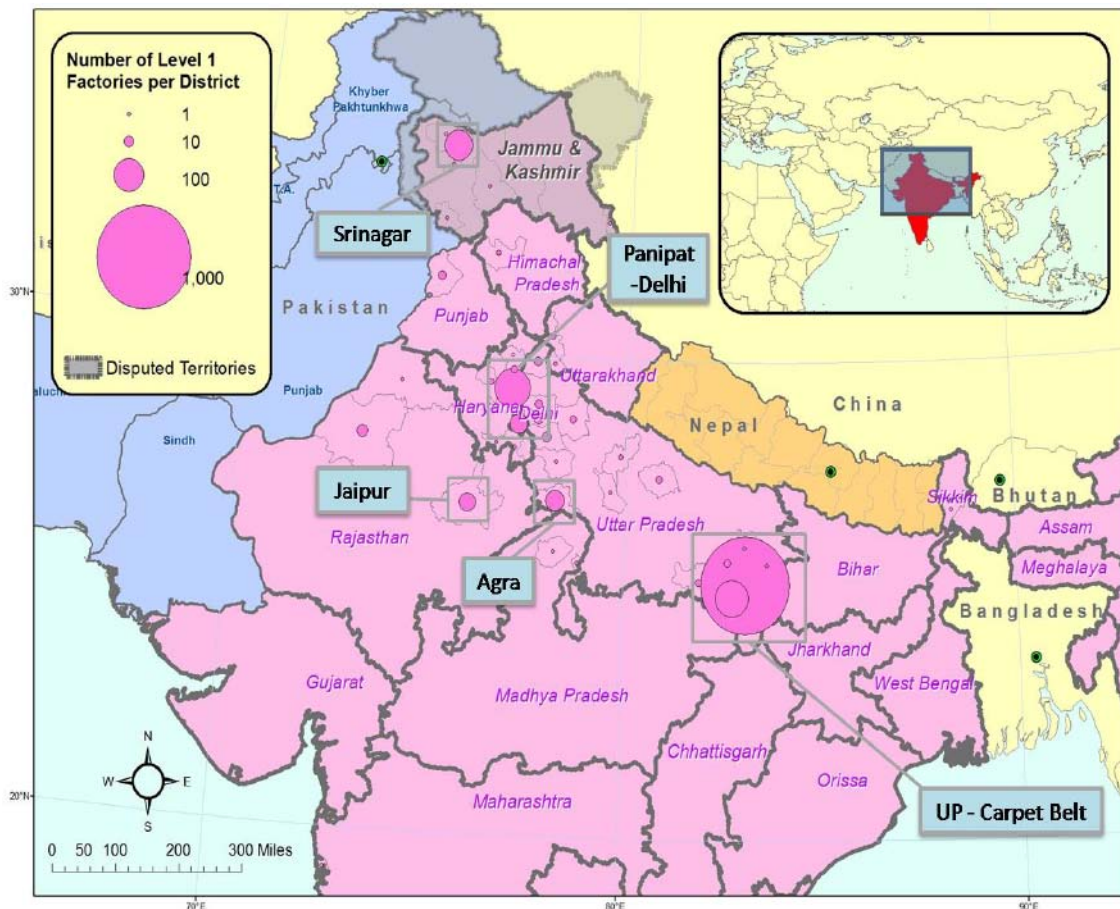
RESULTS

4.1. THE CARPET INDUSTRY OF INDIA

Carpet factories and carpet households (HHs) were found in 16 states, mainly in the northern half of the country (see Figure 2 and Figure 3 for factories and Figure 4 for areas of carpet HHs). The five major clusters were:

- The core carpet belt districts of Sant Ravidas Nagar (Bhadohi), Mirzapur, Varanasi, and Jaunpur in eastern Uttar Pradesh (UP).
- The Agra cluster in western UP.
- The Panipat cluster in Haryana state.
- The Amritsar cluster in Punjab state.
- The Jammu & Kashmir (J&K) cluster with a concentration around Srinagar district.

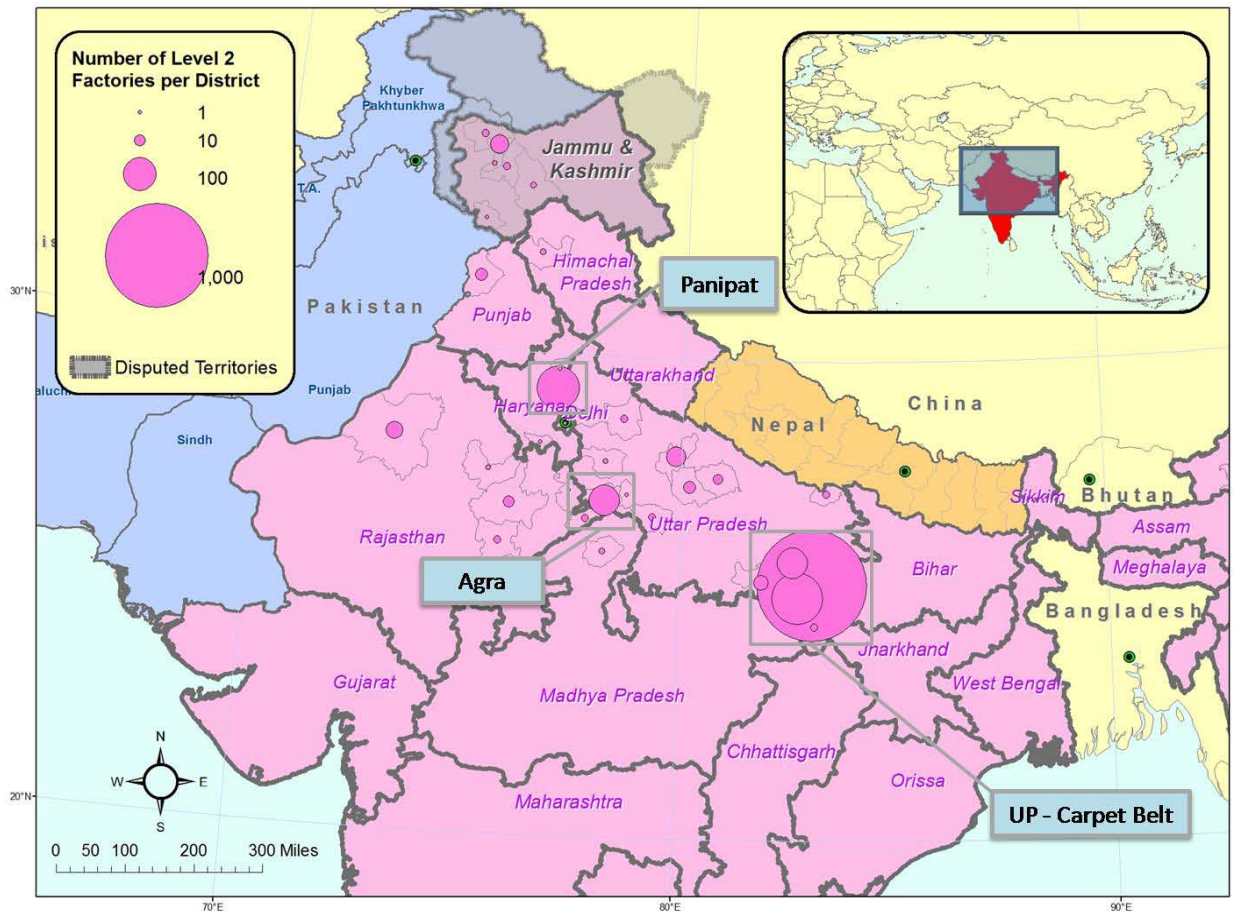
Figure 2. Regional Distribution of Factory-Based Carpet Activities in India (Level 1 Factories)



Source: The sampling frame of Level 1 carpet factories that was developed for the PC study.

Disclaimer: This map did not reflect a position by ILAB or ICF on the legal status of any country or territory or the delimitation of any frontiers.

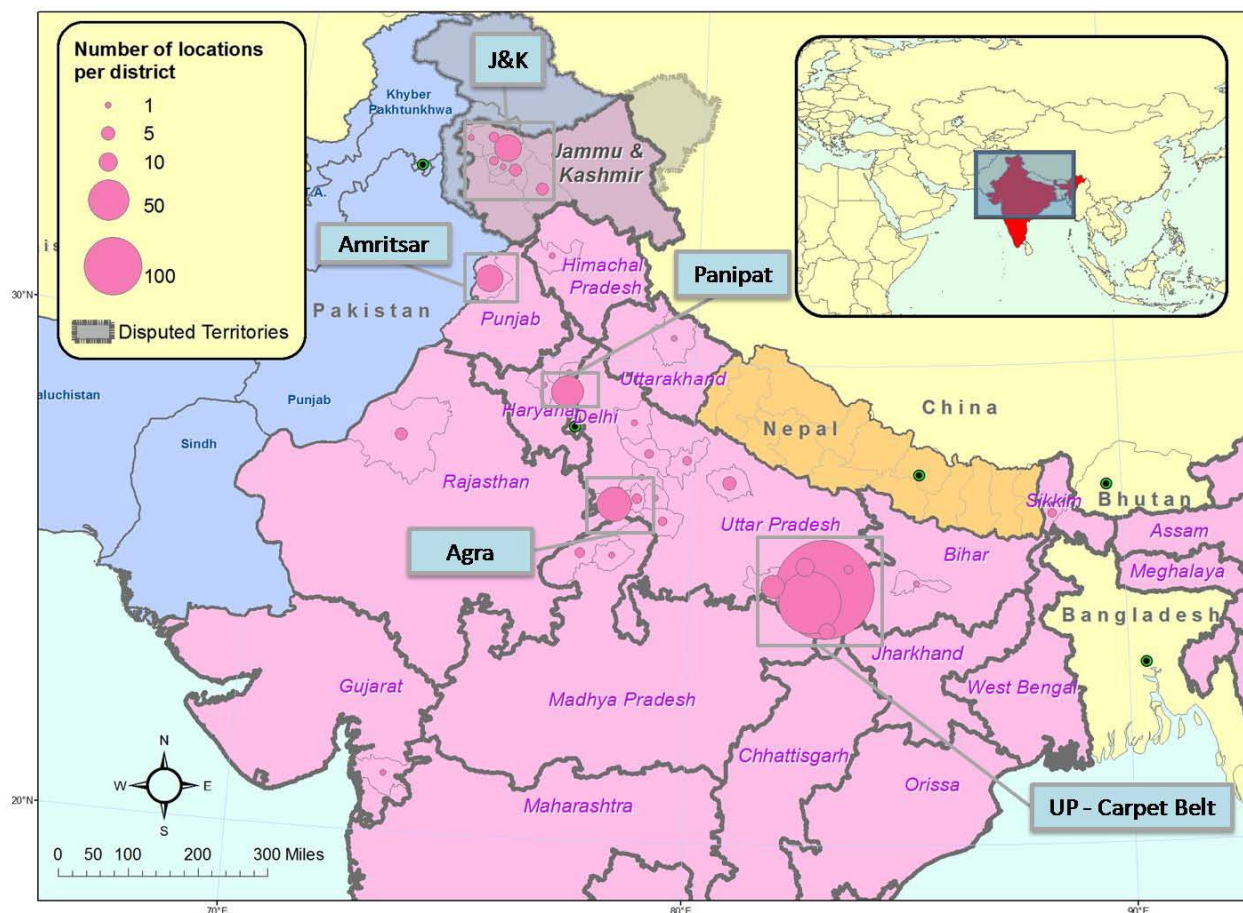
Figure 3. Regional Distribution of Factory-Based Carpet Activities in India (Level 2 Factories)



Source: The sampling frame that was developed for the factory-based PC study.

Disclaimer: This map did not reflect a position by ILAB or ICF on the legal status of any country or territory or the delimitation of any frontiers.

Figure 4. Regional Distribution of Household-Based Carpet Activities in India



Source: The sampling frame that was developed for the household-based PC study.

Disclaimer: This map did not reflect a position by ILAB or ICF on the legal status of any country or territory or the delimitation of any frontiers.

4.2. NUMBER AND PREVALENCE OF CHILD CARPET WORKERS

Based on the surveys⁹⁶ of carpet HHs and factories, the study estimated that:

- 135,717 carpet establishments (HHs and factories) were in India.
 - Almost all (94.5 percent) were HHs.
- 273,866 total usual workers in the carpet industry in India.
 - More than three-fourths (79.8 percent) of all carpet workers were HH-based.
- 13,131 usual child carpet workers in the carpet industry in India, including 12,374 in carpet HHs, 757 in Level 2 carpet factories and none (0) in Level 1 carpet factories.⁹⁷

⁹⁶ All the results in this report express weighted survey data and refer to the situation that existed in 2009-10 during the surveys.

⁹⁷ This report consistently refers to the usual workforce (people who worked in the last 12 months) instead of the current (those who worked in the last 7 days) workforce. The composition of the two carpet industry workforces in India was similar, but the

- Almost all (94.2 percent) child carpet workers were HH-based. Factory-based child carpet workers were found only in Level 2 factories.
- The prevalence⁹⁸ of children in the industry work force was 4.8 percent (see Table 6). Children were less prevalent (1.4 percent) in the factory workforce.

Table 6. Prevalence of Child Carpet Workers in the Carpet Industry in India

	Total	Households	Factories
Total Estimated Number of Establishments	135,717 (100%)	128,268 (94.5%)	7,449 (5.5%)
Total Estimated N of Carpet Workers	273,866 (100%)	218,634 (79.8%)	55,232 (20.2%)
Total Estimated N of child carpet workers	13,131 (100%)	12,374 (94.2%)	757 (5.8%)
Industry Prevalence of Child Workers (%)	4.8%	5.7%	1.4%

4.2.1. DISTRIBUTION OF CHILD CARPET WORKERS

About two-thirds (62.3 percent) of all child carpet workers lived in rural areas. More than three-fourths (79.9 percent) lived and worked in UP (see Table 7). These statistics include inputs from the Level 2 carpet factory survey. Since that survey was conducted only in UP, the geographic distribution of child carpet workers might be slightly more evenly distributed. However, Level 2 carpet factories were concentrated in UP (84.9 percent), and factory-based children represented a small proportion (5.8 percent) of the population of child carpet workers. Including Level 2 carpet factories in other states would have had a minimal impact on the geographic distribution of the total population of child carpet workers.

The absence of children in Level 1 factories was largely explained by substantial differences in activities between the two types of factories. Most factory-based manufacturing activities were carried out in Level 2 factories, which was where children were found. Most (57.4 percent) Level 1 factories employed only five or fewer workers, who were typically engaged in a limited range of activities (mainly finishing, storage, and sale of carpets) that rarely employed children (see Table 45). Only one-fourth (27.9 percent) of the factory-based child carpet workers were found in workshops with enough employees to qualify as factories by Indian legal standards (ten or more employees) and be subject to regulation by Indian labor laws (see Table 8).

usual workforce was consistently larger. The current workforce was 11,209 children and 252,063 total workers; the prevalence of children was 4.4 percent.

⁹⁸ Prevalence and incidence were sometimes considered synonyms, but the two terms had distinct meanings in epidemiology, where prevalence was the number of existing cases (divided by) the population at risk, and incidence was the number of new cases (of some condition) during some period (divided by) the population at risk during that period

Table 7. Estimated Population of Child Carpet Workers by Province, Setting, and Establishment

	Level 2 Factories ¹		Households		Total	
	N	%	N	%	N	%
State						
Jammu & Kashmir	0	0.0%	115	0.9%	115	0.9%
Punjab	0	0.0%	2,392	19.3%	2,392	18.2%
Haryana	0	0.0%	132	1.1%	132	1.0%
Uttar Pradesh ²	757	100.0%	9,735	78.7%	10,492	79.9%
Setting						
Urban	361	47.7%	4,467	36.1%	4,828	36.8%
Rural	396	52.3%	7,906	63.9%	8,303	63.2%
Total	757	100%	12,374	100%	13,131	100%

Source: India PC household child survey (June-December 2009) and India PC Level 2 factory worker survey (November 2011).

¹ Note that Level 1 factories were omitted from this table because no child carpet workers were found there, and this table was designed to show the distribution of child carpet workers.

² Note that the sampling frame for Level 2 carpet factories was truncated to include only UP, and so children working in Level 2 carpet factories are by design limited to UP.

Data from carpet HHs and Level 1 and Level 2 carpet factories were used in this section to estimate the size of the factory-based industry (number of establishments and of total workers). However, since no child carpet workers were found in Level 1 carpet factories, the rest of the results use data only from carpet HHs⁹⁹ and Level 2 carpet factories when describing the work and working conditions of child carpet workers in India.¹⁰⁰

Table 8. Estimated Population of Child Workers in Carpet Factories by Factory Size

Factory Size (Number of Employees)	Carpet Factories in India						Child Carpet Workers in India					
	Level 1		Level 2		Total		Level 1		Level 2		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Small (5 or fewer workers)	461	57.4%	3,277	49.3%	3,738	50.2%	0	0.0%	135	17.9%	135	17.9%
Medium (6 to 10 employees)	196	24.4%	2,775	41.7%	2,971	39.9%	0	0.0%	410	54.2%	410	54.2%
Large (11 or more employees)	146	18.2%	595	9.0%	741	9.9%	0	0.0%	211	27.9%	211	27.9%
Total	803	100%	6,646	100%	7,449	100%	0	100%	757	100%	757	100%

Source: India PC Level 1 factory worker survey (Dec. 2009-March 2010), India PC Level 2 factory worker survey (November 2011).

⁹⁹ The household surveys questioned both adult informants and children about the children's work. This study preferred and used the data from children reporting their personal work patterns and conditions. Adult reports of children's work in the HH-based carpet industry were slightly higher, estimating a total of 11,160 current child workers and 13,838 usual workers. Adult reports of the relative proportions of child carpet workers by gender and age were similar to children's reports.

¹⁰⁰ Note that Table 7 presented only Level 2 factories in UP.

4.3. CHARACTERISTICS OF CHILDREN WORKING IN THE CARPET INDUSTRY OF INDIA

4.3.1. SOCIO-DEMOGRAPHIC CHARACTERISTICS OF CHILD CARPET WORKERS

Girls were a slight majority (53.7 percent) of child carpet workers, but were almost totally absent (3.4 percent) from carpet factories (see Table 9). Almost three-fourths (73.7 percent) of all child workers were 14 years old or older, too old to be considered children by Indian standards and no longer legally prohibited from working in hazardous industries. All children working in carpet factories reported being 14 or older, so there was a significant difference in median age between children working in HHs vs. those working in factories. Only 4.5 percent of the HH-based child workers were under nine years old.

Table 9. Demographic Features of Child Carpet Workers in India

	Total	Children Working in Households	Children Working in Factories	p-value
Weighted N =	13,131	12,374	757	
Gender of Child Carpet Workers (%)				
Male	46.3%	43.2%	96.6%	<.01**
Female	53.7%	56.8%	3.4%	
Age of Child Carpet Workers (%)				
5–8 years	4.2%	4.5%	0.0%	.08
9–13 years	22.1%	23.4%	0.0%	
14–17 years	73.7%	72.1%	100.0%	
Median Age	15.0	15.0	16.0	<.01**

Base: Children who worked in the carpet industry in the past 12 months.

Source: India PC household child survey (Nov. 2009–April 2010), India PC Level 2 factory worker survey (November 2011).

4.3.2. EDUCATIONAL CHARACTERISTICS OF CHILD CARPET WORKERS

One indication of child labor is when children do not attend or are not allowed to attend school. One-third (32.1 percent) of the child carpet workers (only 27.1 percent of the factory-based) were attending school at the time of the survey. Almost half (46.3 percent) of the factory-based children had attended school in the past, but one-fourth (26.6 percent) had never attended.¹⁰¹

Another indication of the impact of working on schooling was the extent to which children were behind the grade that corresponded to their age. Children in India were expected to enter primary school when they became six years old and graduate from 12th grade at the age of 17. Using those parameters with the child carpet workers who were attending school, the study found that

¹⁰¹ Information on past attendance was not collected from HH-based children.

only 9.9 percent of them were in the grade that corresponded with their age. The median age-grade delay was two years for HH-based child carpet workers.

Table 10. School Attendance Status among Child Carpet Workers

	Total	Children Working in Households	Children Working in Factories	p-value
Weighted N =	13,131	12,374	757	
School Attendance Status				
Currently attending	32.1%	32.4%	27.1%	.71
Not attending but attended in the past	-	-	46.3%	-
Never attended	-	-	26.6%	-

Base: Children who worked in the carpet industry in the past 12 months.

Source: India PC household child survey (Nov. 2009-April 2010), India PC Level 2 factory worker survey (November 2011).

Note: Information on past attendance was not collected from HH-based child workers.

The most objective measure of educational achievement was actual literacy and numeracy, and child carpet workers were administered standardized numeracy and literacy tests.¹⁰² In the literacy test, children were asked to read letters of the alphabet, words, sentences, and texts of progressive difficulty (see Table 41). As many as 17.4 percent of the HH-based child carpet workers could not even recognize letters, and almost half (44.9 percent) could not read a simple sentence. On the other hand, 39.8 percent could read at the highest level (able to read the harder text with comprehension). In the numeracy test, children were asked to recognize numbers and then solve simple problems of addition and subtraction. One-fifth (19.0 percent) of the HH-based child carpet workers could not perform either simple addition or subtraction, and only slightly more than one-fourth (27.1 percent) could do both simple addition and subtraction.

One-third (35.2 percent) of the child carpet workers who were attending school reported that work interfered with their studies, and more than one-fifth (22.1 percent) reported missing school for work once a week or more. Of the students who reported interference with their studies, 71.6 percent reported not having sufficient time left for school or homework, and half (49.3 percent) noted that they got lower school marks because of work (see). Household chores were another task that added to children's workload, and half (49.7 percent) of the children attending school reported that HH chores interfered with their studies (see Table 62).

More than half (57.5 percent) of the child carpet workers not currently attending school reported that the main reason for not attending was that they or their families could not afford schooling

¹⁰² The tests, developed for the Annual Status of Education Report (ASER) in India, had been translated into most languages in India and had been used in annual national surveys since 2005. More information on: <http://asercentre.org/asersurvey.php>
Literacy and numeracy data were not collected from factory-based child carpet workers.

(see Table 11). Other commonly reported reasons included helping with HH chores (23.7 percent), in order to work (21.5 percent), and to help in family business (13.0 percent).

Table 11. Reasons for Not Attending School for Child Carpet Workers Who Were Not Currently Attending School

	Total	Children Working in Households	Children Working in Factories	p-value
Weighted N =	8,917	8,365	551	
"Why are you not currently attending school?"				
Cannot afford schooling	57.5%	55.9%	X	-
Helping at home with other household chores	23.7%	24.9%	X	-
In order to work	21.5%	18.2%	X	-
Help in family business	13.0%	13.9%	X	-
Not interested in school	9.5%	9.7%	X	-
Need to learn work	4.8%	5.1%	X	-
Like earning for family	4.7%	5.0%	X	-
Family-related, Health related or other problems	4.3%	4.0%	X	-
Death in Family	2.9%	2.5%	X	-
School not safe	2.4%	2.6%	X	-
School not available in community	2.3%	2.5%	X	-
School too far	2.1%	2.3%	X	-
Taking care of sick household members	1.8%	1.9%	X	-
Taking care of children in the HHS	0.9%	1.0%	X	-
Poor performance in school	0.9%	0.4%	X	-
Attendance not regular	0.4%	0.4%	X	-
No time for school	0.3%	0.1%	X	-
Too young for school	0.1%	0.1%	X	-
Marriage	0.0%	0.0%	X	-

Base: Children who worked in the carpet industry in the past 12 months and were not currently attending school. Insufficient sample base (n<30) for factory-based child carpet workers.

Note: Multiple response items, totals may add to more than 100 percent.

Source: India PC household child survey (Nov. 2009-April 2010), India PC Level 2 factory worker survey (November 2011).

4.3.3. HEALTH CHARACTERISTICS OF CHILD CARPET WORKERS

An important indication that children are engaged in hazardous work is when the children are disproportionately ill or injured, especially if they note that the illnesses or injuries were work-related. More than half (56.2 percent) of the child carpet workers reported being sick at least once in the last 12 months. That was the case for a significantly greater proportion (82.6 percent vs. 54.5 percent) of the factory-based children (see Table 42). During the past 12 months, the most common illness by far was fever (generic), which was reported by a significantly greater proportion (76.2 percent vs. 41.4) of factory-based children. One-fifth (19.2 percent) of the HH-

based children reported severe headaches. Previous studies reported carpet workers suffering respiratory and eye problems associated with dust and lint, but only a very small proportion of child carpet workers in this study reported having those problems. The severe headaches might be related to the continuous visual strain associated with weaving.

Only 4.8 percent of the child carpet workers reported being injured in the past 12 months (see Table 43). The concern for child labor was whether the injuries were work-related, and children were asked to recall what they were doing when they suffered their most recent injury in order to estimate the prevalence of work-related injuries. The work-related injuries reported by the children were minimal, but the types of injuries reported were consistent with earlier reports, including injuries to the eyes, hands, feet, and legs.

A majority (86.3 percent) of the child carpet workers who had suffered injuries or sickness in the last 12 months were taken to a medical clinic, health post, or hospital (see Table 57). The child carpet workers who received some treatment were typically treated in an outpatient department (46.5 percent) or in a first-aid/preliminary examination room (30.2 percent) and were treated by a doctor (85.0 percent). In most cases, the treatment administered was prescription drugs (85.9 percent, see Table 58 and Table 59).

4.3.4. PSYCHOSOCIAL WELL-BEING OF CHILD CARPET WORKERS

The subjective sense of personal well-being (PWI) of the HH-based child carpet workers was measured using a standardized test that contained two summary measures: an overall satisfaction with life (happiness) and a composite index (PWI) score.¹⁰³ A general normative range for the PWI score for non-western populations was 60-70 (Lau, Cummins & McPherson, 2004). The average PWI score for the HH-based child carpet workers was 66.3 for their level of personal well-being, which was within the benchmark range (see Table 44).¹⁰⁴ The specific domain driving down overall scores was Standard of Living, as the children provided lower scores on average when asked about their satisfaction with the things they had, such as the money and things they owned. The Future Security domain also received lower scores on average than other domains.

¹⁰³ The Personal Well-Being Index (PWI) was originally developed in Australia, validated in several countries and languages, and used in the child labor study of the cocoa industry in Ghana and Cote d'Ivoire (see Cummins & Lau, 2005). The test contained items corresponding to seven quality of life domains: standard of living, health, life achievement, personal relationships, personal safety, community-connectedness, and future security. The test also provided a measuring indicator (the Personal Well-being Index) from aggregating and averaging each domain score. For scoring and interpreting guidelines, the full PWI-SC manual was available from the Australian Centre on Quality of Life, Deakin University, on: <http://acqol.deakin.edu.au/instruments/PWI/PWI-school.pdf>

¹⁰⁴ The PWI was not administered to factory-based child carpet workers.

Table 12. Work Interfering with Education for Child Carpet Workers

	Total	Children Working in Households	Children Working in Factories	p-value
Weighted N =	4,214	4,008	205	
Work Interference in Education¹				
Does your work interfere with your studies? (%"yes")	35.2%	33.9%	X	-
"How does your work interfere with your studies?"²				
Insufficient time available for school/homework	71.6%	X	X	-
Low school marks	49.3%	X	X	
Miss classes	24.4%	X	X	
Feel tired in classroom	19.7%	X	X	
Arrive late to school	17.1%	X	X	
Feel tired at the end of the day	10.7%	X	X	
"How often do you miss school for work?"³				
Very often (Once a week or more)	22.1%	20.1%	X	-
Seldom (1-2 times per month)	34.0%	35.1%	X	
Very seldom (1-2 times a year)	25.0%	26.5%	X	
Never	17.1%	18.1%	X	
DK/NR	1.7%	0.0%	X	

¹ Base: Children who worked in the carpet industry in the past 12 months and were currently attending school. Insufficient sample base (n<30) for factory-based child carpet workers.

² Base: Children who worked in the carpet industry in the past 12 months, were currently attending school, and reported that their work interfered with their studies. Insufficient sample base (n<30) for factory-based and for HH-based child carpet workers. Note: Multiple response items, so totals may exceed 100 percent.

³ Base: Children who worked in the carpet industry in the past 12 months and were currently attending school. Insufficient sample base (n<30) for factory-based child carpet workers.

Source: India PC household child survey (Nov. 2009-April 2010), India PC Level 2 factory worker survey (November 2011).

4.4. CHARACTERISTICS OF CHILDREN'S ENTRY INTO THE CARPET INDUSTRY

4.4.1. REASONS WHY CHILDREN WORK

There were no significant differences between HH-based and factory-based child carpet workers concerning the main reasons why they were working; 82.3 percent of the HH-based and 63.1 percent of the factory-based reported that their main reason was to supplement family income (see Table 13). The other reasons selected by factory-based child carpet workers were helping with the family enterprise (12.0 percent), cannot afford school fees (9.6 percent), and to learn a new skill (8.9 percent). The secondary reason for HH-based children was for personal expenses, food, and clothing (6.9 percent). An indication of possible bonded labor would be if children reported that their main reason to work was to repay outstanding family debt, but almost no one (0.2 percent) reported that they were working to repay an outstanding family debt.

Table 13. Reason to Work among Child Carpet Workers

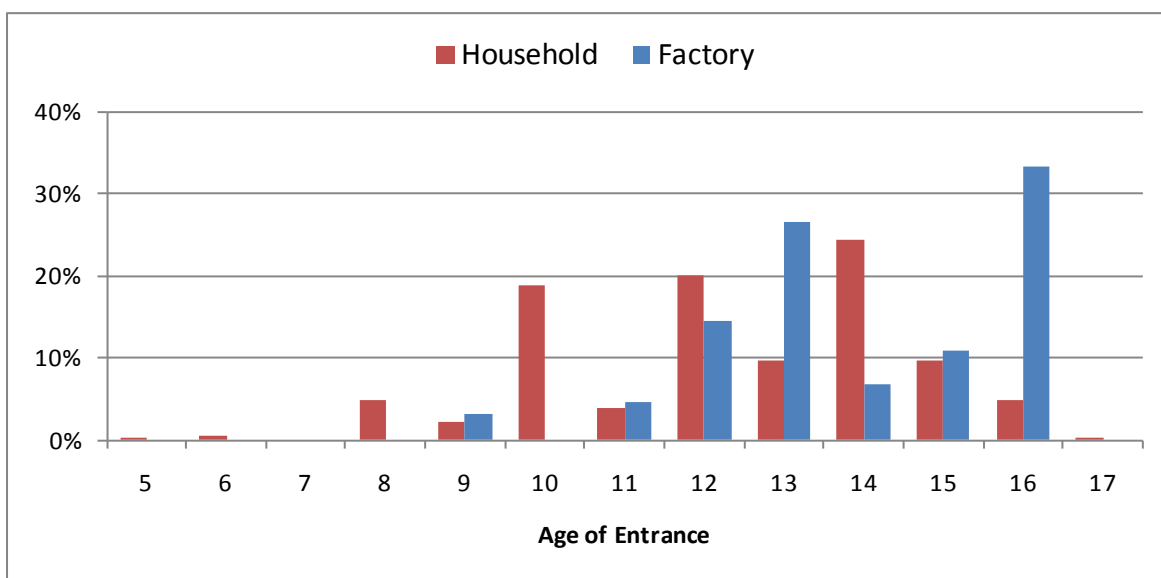
	Total	Children Working in Households	Children Working in Factories	p-value
Weighted N =	11,642	10,885	757	
"What is the main reason you work?"				
To supplement family income	81.0%	82.3%	63.1%	.18
To pay outstanding family debt	0.2%	0.2%	0.0%	
To help in household enterprise	4.5%	4.0%	12.0%	
To learn new skill	1.0%	0.5%	8.9%	
Cannot afford school fees	1.1%	0.6%	9.6%	
For personal expenses, food, clothing	6.8%	6.9%	6.3%	
No interest in studies	0.8%	0.8%	0.0%	
DK/NR	4.5%	4.8%	0.0%	

Base: Children who worked in the carpet industry in the past 12 months. Information missing for 20 HH-based child carpet workers (Weighted N = 1,489).
Source: India PC household child survey (Nov. 2009-April 2010), India PC Level 2 factory worker survey (November 2011).

4.4.2. AGE WHEN CHILDREN BEGAN WORKING

Child labor is indicated when the child starts working before he or she is legally permitted to work and when the child starts working at a very young age (see Figure 5). A majority of the child carpet workers in India began working in industry-related activities by the time they were 12 years old, but the age to start working was lower for HH-based children (median age of 12 years) than for the factory-based (median age of 14 years). The difference was probably related to the HH-based children beginning to weave in their own homes, whereas two-fifths (41.6 percent) of the factory-based child carpet workers were migrants who probably came from non-weaving HHs and did not begin to work in the industry until they had migrated to the factory (see 6.5.5 for the qualitative research in West Bengal).

Figure 5. Age When Child Carpet Workers Began Engaging in Carpet Activities



Base: Children (5-17) interviewed in the PC study who had worked in the carpet industry in the last 12 months and provided a valid response
 Source: India PC household child survey (Nov. 2009-April 2010), India PC Level 2 factory worker survey (November 2011).

4.4.3. VOLUNTARY AND FORCED MIGRATION WHEN ENTERING THE WORKFORCE

There was a significant difference in migration status between the HH-based and factory-based child carpet workers. Almost all (98.6 percent) of the HH-based child carpet workers were born in the same place where they were surveyed. The majority (58.4 percent) of the factory-based child carpet workers were also local residents, but 41.6 percent had migrated (see Table 14).

More than one-third (35.5 percent) of the factory-based child carpet workers were not living with their parents or spouse, showing that most of the migrants had not been accompanied by their parents on the move (see Table 14). Very few (1.2 percent) of the HH-based child carpet workers were not living with their parents or spouse, and only 8.3 percent were working for someone other than their parents.¹⁰⁵

¹⁰⁵ The sample size was insufficient to calculate the percentage of factory-based children who were not working for their parents.

Table 14. Migration and Parental Status of Child Carpet Workers

	Total	Children Working in Households	Children Working in Factories	p-value
Weighted N =	13,131	12,374	757	
"Were you born here or somewhere else?" (%) ¹				
Born here	96.3%	98.6%	58.4%	<.01**
Somewhere else	3.7%	1.4%	41.6%	
Relationship with Parents (%)				
Child not working for parents	-	8.3%	-	-
Child was not living with parents or spouse	3.1%	1.2%	35.5%	<.01**
Country/District of Origin ²				
	X	X	X	

¹Base: Children who worked in the carpet industry in the past 12 months. Information on working for parents missing for 20 HH-based child carpet workers (Weighted N = 1,489).

²Base: Children who worked in the carpet industry in the past 12 months and were born elsewhere. Insufficient sample base (n<30) for factory-based child carpet workers and HH-based child carpet workers.

Source: India PC household child survey (Nov. 2009-April 2010), India PC Level 2 factory worker survey (November 2011).

The overall prevalence of migrant children was low, representing an estimated total of only 488 children (315 factory-based and 173 HH-based). The sample bases were too small to produce a statistically valid quantitative description, so the analysis of migration patterns in this section was done qualitatively. The 173 HH-based migrant child carpet workers had migrated with their families, mostly from other areas within UP. A very small proportion (0.3 percent of HH-based child carpet workers) had a job waiting for them, and a contractor was not involved in finding those children a job.

The 315 migrant factory-based child carpet workers had moved to the carpet belt in UP from Bihar or West Bengal. A majority of the migrants had come to the carpet belt for work. Most had come voluntarily, but the decision for most of them had been made by a parent or other relative. Before moving to UP, most of the migrants were aware of working conditions, such as salary, working hours, and days off, which indicated that the migrants were following in the footsteps of previous migrants from their home areas (see 6.5.5 for qualitative information about chain migration from West Bengal). Most of the children were living with friends or relatives at the time they were interviewed. Labor contractors were reported to be involved in only a few cases, and there were no reports of any exchange of money, payment of debt, or anything else in exchange for the child's move.

4.5. CHARACTERISTICS OF CHILDREN’S WORK IN THE CARPET INDUSTRY

Another important time to look for indications of child labor is while the child is working. The characteristics of the child’s work, workplace, and working conditions may reveal that the child is being exploited.

4.5.1. CHILDREN’S SPECIFIC WORK-RELATED ACTIVITIES IN THE CARPET INDUSTRY

Child carpet workers in India were involved in many industry-related activities. The children’s primary work was in carpet producing activities (44.4 percent involved in hand-knotting carpets, 12.0 percent in hand-tufting carpets, and 10.3 percent in hand-loomed carpets), but many (44.6 percent) were also involved in wool processing activities, such as balling, joining, and plying thread (see Table 15). The factory-based child carpet workers were much more focused on carpet production (hand-tufting, hand-knotting, and hand-loomed). There were significant differences between the factory-based, who were more involved in hand-tufting carpets (55.1 percent vs. 9.4 percent) and the HH-based, who were more involved in balling, joining, and plying thread (46.4 percent vs. 15.2 percent) and in other carpet finishing activities (8.1 percent vs. 0.3 percent).



Washing carpets



Latexing tufted carpets



Shearing carpets

There were also some differences by age and gender among HH-based child carpet workers.¹⁰⁶ Younger children and girls tended to be more involved in balling, joining, and plying thread, whereas older children and boys were more involved in carpet weaving and wool dyeing activities (see Table 45).

¹⁰⁶ There was little demographic variation to be analyzed in carpet factories, given the demographic homogeneity. All the factory-based children were older, and almost all were male.

Table 15. Carpet-Related Activities Performed in the Last 12 months

	Industry Total	Households	Factories	p-value
Weighted N =	13,131	12,374	757	
"When was the last time that you engaged in _____ (for at least for an hour)?"				
Cleaning, washing or carding wool or silk	0.9%	0.9%	0.0%	.71
Spinning wool to make thread	3.4%	3.6%	0.0%	.41
Dyeing thread	3.6%	3.9%	0.0%	.58
Balling, joining, or plying thread	44.6%	46.4%	15.2%	<.05*
Hand-tufting carpets	12.0%	9.4%	55.1%	<.01**
Hand-loomng carpets	10.3%	9.7%	19.8%	.39
Hand-knotting carpets	44.4%	45.6%	24.8%	.20
Washing carpets	3.0%	3.2%	0.0%	.51
Other finishing activities	7.6%	8.1%	0.3%	<.01**

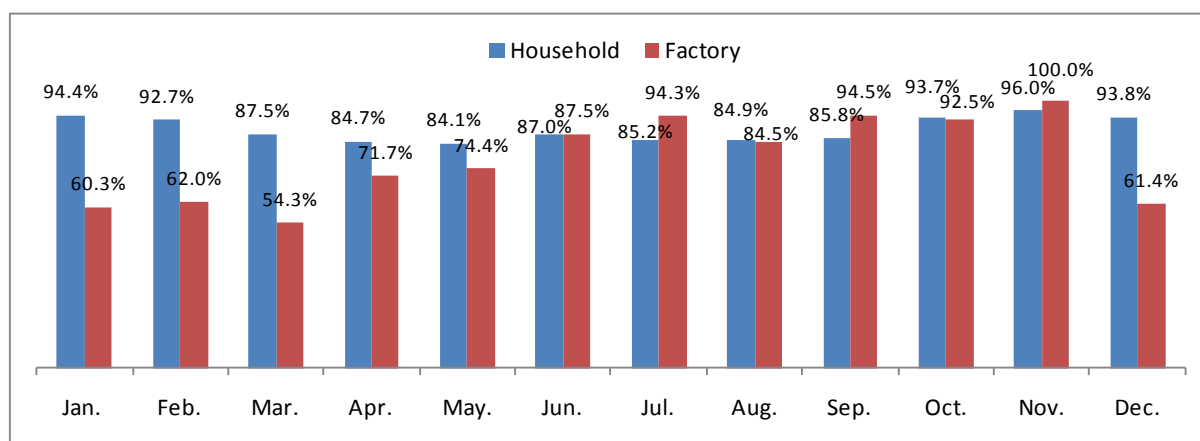
Base: Children who worked in the carpet industry in the past 12 months.

Source: India PC household child survey (Nov. 2009-April 2010), India PC Level 2 factory worker survey (November 2011).

4.5.2. SEASONAL VARIATION IN CHILDREN’S WORK IN THE CARPET INDUSTRY

Work in the carpet industry did not display a clear seasonal pattern (see Figure 6). The great majority of HH-based children worked 12 months a year and reported that the work continued with little seasonal variation. Fewer of the factory-based child carpet workers reported working during the winter (December-April), which appeared to be seasonal variation. However, the variation may have reflected the timing of the research more than actual work patterns. Perhaps the “winter decline” expressed the fact that some of the factory-based children interviewed in November 2009 had not been working in that (or any) factory eight to 12 months earlier during the December 2008-April 2009 period.

Figure 6. Work Seasonality: Percent of Child Workers Who Mentioned Having Worked Each Month by Setting



Base: Children interviewed for the PC study who worked in the last 12 months.

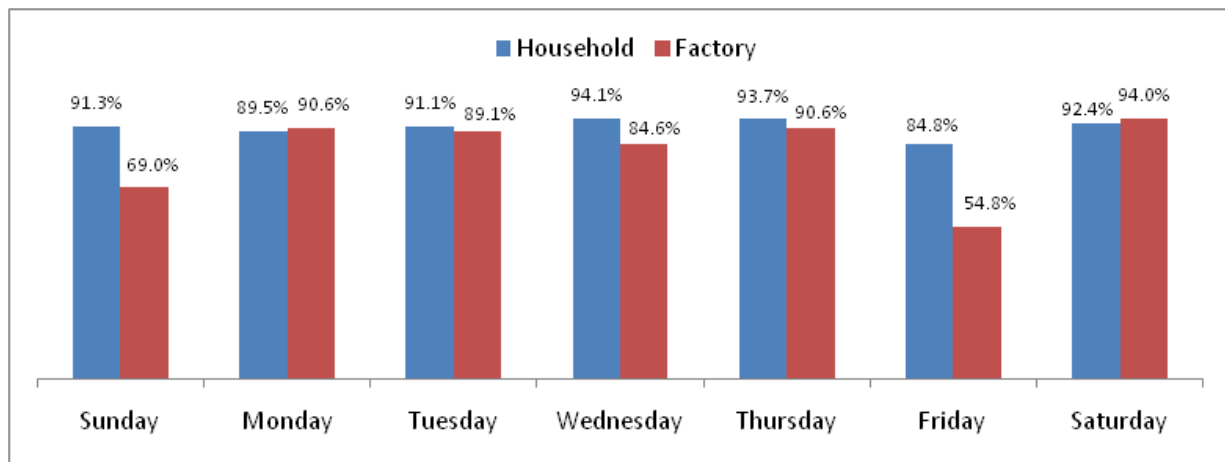
Source: India PC household child survey (Nov. 2009-April 2010), India PC Level 2 factory worker survey (November 2011).

4.5.3. WEEKLY AND DAILY HOURS OF WORK BY CHILD CARPET WORKERS

Indications that children are exploited at work include their working too many hours, not having enough break time, or working at inappropriate hours. The 1986 Child Labor Prohibition and Regulation Act specified that children (under 14 years of age) could not work more than three consecutive hours, more than five hours per day, or at night (7.00 p.m. to 8.00 a.m.), and had to have one day off weekly.

There were significant differences between HH-based and factory-based child carpet workers in the number of days worked per week and the number of hours worked per day. The median number of days worked a week was seven for HH-based and six for factory-based child carpet workers. Three-fourths (77.3 percent) of HH-based child carpet workers (vs. 39.9 percent of factory-based children) had no day off and worked all seven days a week (see Table 16 and Figure 7).¹⁰⁷ Friday, the Muslim day of worship, was the main day when children took a break, particularly those working in the carpet factories.

Figure 7. Days Worked: Percent of Child Carpet Workers Who Worked Each Day



Base: Children who worked in the carpet industry in the last seven days.

Source: India PC household child survey (Nov. 2009-April 2010), India PC Level 2 factory worker survey (November 2011).

Factory-based child carpet workers may have had one day off a week, but they worked many more hours (median of ten hours) per working day than the HH-based (median of four hours). Almost all (93.7 percent) factory-based child carpet workers worked more than five hours a day (the legal maximum) vs. only 30.9 percent of the HH-based children. Among HH-based child

¹⁰⁷ Questions regarding the number of days worked during the week were answered only by the current workers, who had worked during the last week. The project focused only on the current workers and the past seven days when the children's recollections would be more accurate and precise. Questions regarding the specific hours worked during the work day were asked only about the last three days to ensure more precise and accurate information.

carpet workers, there were slight differences (four hours vs. two) between the older (14-17) and younger (5-13) HH-based in the median number of hours worked per day. Girls and boys worked a similar amount of hours per day. Children who were currently attending school worked fewer hours per day, with a median of 2 hours.

Table 16. Days and Hours Worked Per Day by Child Carpet Workers

	Total	Children Working in Households	Children Working in Factories	p-value
Weighted N =	11,170	10,414	757	
Days Worked ¹				
Total who worked seven days per week	74.8%	77.3%	39.9%	<.01**
Median days worked	7.0	7.0	6.0	.15
Hours worked (All child carpet workers) ²				
Weighted N =	10,799	10,046	753	
Total who worked five hours or less	64.8%	69.1%	6.3%	<.01**
Total who worked more than five hours	35.2%	30.9%	93.7%	
Median hours worked	4 hours	4 hours	10 hours	<.01**
Hours worked (Child carpet workers who were currently attending school) ³				
Weighted N =	3,296	3,094	202	
Total who worked five hours or less	77.5%	82.5%	X	-
Total who worked more than five hours	22.5%	17.5%	X	
Median hours worked	2 hours	2 hours	X	-

¹ Base: Children who worked in the carpet industry in the last seven days. Information missing for 7 HH-based child carpet workers (Weighted N = 39)

² Base: Children who worked in the last three days. Work hours included carpet and non-carpet work.

³ Base: Children who worked in the last three days and were currently attending school. Work hours included carpet and non-carpet work.

Source: India PC household child survey (Nov. 2009-April 2010), India PC Level 2 factory worker survey (November 2011).

The 1986 legislation also regulated working at night, and three-fourths (74.7 percent) of the HH-based vs. only 52.4 percent of the factory-based) did not work during those prohibited hours. (or during daylight hours) by specifying that no child should be permitted or required to work during the period from 1900 hours to 0800 hours (7:00 p.m. to 8:00 a.m.). A majority of children were not working at night (73.2 percent), although the proportion working at night was higher among factory-based child carpet workers (47.6 percent). Most children who were classified as working during night hours were starting to work before 8:00 a.m.

Table 17. Work at Night among Children Who Worked in the Carpet Industry in the Last 3 Days

	Total	Children Working in Households	Children Working in Factories	p-value
Weighted N =	10,799	10,046	753	
Work at Night				
Not working at night	73.2%	74.7%	52.4%	.14
Finished working after 19:00 at least once in the last three days	1.0%	0.5%	7.2%	
Started working before 08:00 at least once in the last three days	25.8%	24.8%	40.4%	

Base: Children who worked in the last 3 days. Work included carpet and non-carpet work.

Note: According to the 1986 Child Labor Prohibition Act, night hours included any time before 0800 and after 1900 hours.

Source: India PC household child survey (Nov. 2009-April 2010), India PC Level 2 factory worker survey (November 2011).

In addition to working fewer hours, child carpet workers in household settings also enjoyed a greater amount of free time than child carpet workers in carpet factories, with a median of nine hours per day as compared to only two hours for children in carpet factories.

Table 18. Break Time among Child Carpet Workers

	Total	Children Working in Households	Children Working in Factories	p-value
Weighted N =	13,131	12,374	757	
Combining all breaks during a day, how many hours are spent on breaks and not working?"				
1 hour or less	3.4%	1.0%	43.2%	<.01**
2-3 hours	9.5%	7.8%	37.5%	
4-5 hours	14.8%	14.5%	19.3%	
6 hours or more	66.7%	70.7%	0.0%	
DK/NR	5.6%	5.9%	0.0%	
Median Number of Hours	8.0 hours	9.0 hours	2.0 hours	<.01**

Base: Children who worked in the carpet industry in the last 12 months.

Source: India PC household child survey (Nov. 2009-April 2010), India PC Level 2 factory worker survey (November 2011).

4.5.4. CHILDREN'S WORKING ENVIRONMENT: CONDITIONS AND HAZARDS

Hazardous work by international standards is work that is “likely to harm the health, safety or morals of children” (see ILO C182 in 1.1). One condition of hazardous working conditions is when children are exposed to dangerous agents or risky processes at work. Quantifying health and safety hazards is one of the main challenges in child labor research. Those hazards were measured in this study using worker self-reports. Those measures were able to identify potentially hazardous elements or situations but could not determine if the elements or situations existed at levels that were sufficient to represent actual health and safety hazards.

There were common complaints. One-third (35.9 percent) of HH-based and one-fourth (26.3 percent) of factory-based child carpet workers complained about dust. When asked for their subjective opinions about whether their work was physically difficult, one-third (33.5 percent) of child carpet workers reported that their work was physically difficult with only slight differences between the proportion of factory-based (43.5 percent) and HH-based (32.8 percent) children.



Tools used for Indo-Tibetan weaving



Blade used for Persian weaving



Scissors used to trim tufted carpets

In general, the factory working environment was more hazardous since a significantly greater proportion of factory-based child carpet workers cited working with hazards. Hazards included working with sharp (dangerous) tools such as knives, cutters or scissors, exposure to viral and fungal agents, inadequate lighting and ventilation, loud noises, and chemicals (see Table 19). A significantly greater proportion of factory-based child carpet workers (68.9 percent vs. 31.7 percent) reported that they sometimes or usually had to carry heavy loads.

Table 19. Workplace Conditions and Tools Used by Child Carpet Workers

Workplace Hazards	Total	Children Working in Households	Children Working in Factories	p-value
Weighted N =	11,642	10,885	757	
Chemical Agents				
Smoke/dust/flames	35.3%	35.9%	26.3%	.49
Insecticides/paints/fumes/odor	0.5%	0.5%	0.5%	.98
Chemical solvents/petrol/diesel/kerosene	0.0%	0.0%	0.5%	<.05*
Ammonia, oxygen or other gases	0.0%	0.0%	0.0%	-
Physical Agents				
Loud noise	3.6%	2.7%	16.6%	<.01**
Extreme temperature	6.8%	6.4%	12.4%	.36
Dark or in rooms with Inadequate lighting	2.6%	0.8%	29.4%	<.01**
Heights	1.1%	1.0%	1.9%	.67
Underground or in tunnels	0.0%	0.0%	0.0%	-

Workplace Hazards	Total	Children Working in Households	Children Working in Factories	p-value
Insufficient ventilation	0.6%	0.1%	8.4%	<.01**
Slip,trip,or falling hazards	0.1%	0.0%	1.7%	<.05*
Ultraviolet or x-rays	0.0%	0.0%	0.0%	-
Dangerous tools	3.9%	4.1%	0.5%	<.05*
Biological Agents				
Viral	4.3%	1.9%	39.5%	<.01**
Bacterial	2.1%	1.9%	5.5%	.25
Fungal	0.1%	0.0%	1.7%	<.05*
Parasitical	0.2%	0.1%	1.4%	.19
Work with Heavy Loads				
Usually	6.5%	6.8%	2.1%	<.05*
Sometimes	27.6%	24.9%	66.8%	
No	62.9%	65.1%	31.0%	
DK/NR	3.0%	3.2%	0.0%	
Work with Dangerous Tools				
Knife, cutter/scissors	19.2%	16.9%	51.3%	<.01**
Needle	7.0%	7.1%	5.5%	.79
Tufting tool	10.3%	8.6%	35.6%	<.01**
Comb	1.8%	1.0%	13.9%	<.07
Nail	0.5%	0.0%	8.3%	<.01**
Screw Driver	0.4%	0.0%	6.9%	<.05*

Base: Children who worked in the carpet industry in the past 12 months. All information missing for 21 HH-based child carpet workers (Weighted N = 1,504). Information on tools used missing for one factory-based child carpet worker.

Source: India PC household child survey (Nov. 2009-April 2010), India PC Level 2 factory worker survey (November 2011).

Work is less hazardous if children receive training and are adequately supervised. A significant difference between HH-based and factory-based child carpet workers was that almost half (42.4 percent) of the HH-based but only 7.6 percent of factory-based were not supervised by an adult at work. About half of the HH-based (49.0 percent) and two-thirds of factory-based (68.9 percent) child carpet workers had received training in how to use their tools (see Table 49).

Indications of child labor include the child being punished, especially if the punishment is severe, and being sexually abused. Only 4.7 percent of child carpet workers reported being reprimanded or punished at work, and no child reported being touched inappropriately at work, which would have suggested sexual abuse (see Table 20). A significant difference was that more than one-third (36.2 percent) of factory-based children reported being punished or reprimanded at work; none of them reported being punished to the extent of being physically injured. The sample base of children who were punished was too small to provide reliable quantitative estimates, but most of the children were reprimanded by their employers or supervisors.

Table 20. Punishment and Potential Abuse for Child Carpet Workers

Exposure to Punishment/Abuse	Total	Children Working in Households	Children Working in Factories	p-value
Weighted N =	11,642	10,885	757	
Punishment and Potential Abuse				
“Are you reprimanded or punished at work?” (“Yes”)	4.7%	2.5%	36.2%	<.01**
“Have you been punished to the extent that you were physically injured?” (“Yes”)	0.0%	0.0%	0.0%	-
“Have you ever been touched in an inappropriate manner while you were working?” (“Yes”)	0.0%	0.0%	0.0%	-

Base: Children who worked in the carpet industry in the past 12 months. Information missing for 20 HH-based child carpet workers (Weighted N = 1,489).

Source: India PC household child survey (Nov. 2009-April 2010), India PC Level 2 factory worker survey (November 2011).

Work that harms the morals of children is also considered hazardous, and another aspect of the workplace environment is the potential for permitting or enabling the child carpet workers to observe and engage in behaviors that are considered socially and culturally immoral or unhealthy (see Table 46). The most prevalent of those factors for HH-based child carpet workers were observing children and youths smoking and drinking.

4.5.5. WHAT CHILDREN EARNED BY WORKING IN THE CARPET INDUSTRY

Indications that children are exploited at work include their not being paid, having difficulties collecting their payments, being paid less than other workers, or not earning enough to support themselves. There were significant differences between the HH-based and factory-based child carpet workers in their compensation for working, but, when interpreting the differences, note that most (91.7 percent) of the HH-based children were working directly for their parents (see Table 14). Asking those HH-based children whether they received cash was really asking about an intra-family distribution, i.e., whether the parents had kept all or part of the children’s earnings.

All (100 percent) the factory-based but fewer than half (47.4 percent) of HH-based child carpet workers reported receiving cash (see Table 47). The HH-based children’s responses were later confirmed when the children answered another question; more than one-fourth (28.8 percent) of the HH-based child carpet workers (vs. none of the factory-based) reported that they did not receive any cash income from working (see Table 22). Factory-based workers received a median payment of 500 rupees (11 USD) per week compared with 300 rupees (7 USD) earned by HH-based children.¹⁰⁸

¹⁰⁸ The difference in median incomes also expresses the absence of cash income for many of the HH-based children.

A significantly greater proportion of HH-based children (19.1 percent) noted receiving education as payment; almost none (0.3 percent) of the factory-based noted that. Half (50.9 percent) of the HH-based vs. only 19.3 percent of the factory-based noted receiving shelter, food, and clothing, and 18.0 percent of the HH-based noted receiving medical assistance, which were not reported by any factory-based children.

There were also significant differences in the basis for compensation (see Table 47). More than half (55.8 percent) of the factory-based children were paid on the basis of the time worked (monthly or biweekly) compared to only 7.6 percent of HH-based. No factory-based children reported this, but almost one-fourth of the HH-based reported being paid on the basis of the weight of the wool/yarn (20.5 percent) or on completing a task (23.2 percent).¹⁰⁹

The presence or absence of medical benefits is another indicator of child labor; it notes whether working children receive medical treatment when they are ill or injured because of working conditions and hazards. Three-quarters (75.1 percent) of child carpet workers reported that their employers would not pay for medical expenses (see Table 48). There was almost no difference in responses between HH-based and factory-based children.¹¹⁰

4.5.6. TRANSFERS, REMITTANCES, AND EXPENSES

The study asked the child carpet workers whether they or someone else had given part or all of the children's earnings to the parents/guardians. The great majority (90.5 percent) of child carpet workers reported that the parents got all the children's earnings, and another 3.8 percent said the parents got some. Only 1.6 percent reported that their parents did not receive any of the earnings, while 4.2 percent either did not know whether that happened or refused to answer.¹¹¹

There were significant differences between HH-based and factory-based child carpet workers in terms of transferring the children's earnings to the parents. Nearly all (92.9 percent) HH-based child carpet workers (vs. only 57.0 percent of factory-based) reported that parents received all of the children's earnings. However, the "employers" of 91.7 percent of the HH-based child carpet workers were the parents. Asking those HH-based children whether their employers had given the children's earnings to their parents was really asking about an intra-family distribution, i.e., whether the parents had kept all or part of the children's earnings. The apparently important role of the employer in giving all the earning to the parents (for 77.6 percent of HH-based and 13.2

¹⁰⁹ The report focuses on the differences, but more than half of both groups reported also being paid on a piecework basis.

¹¹⁰ In response to an earlier question, one-fifth (18.0 percent) of the HH-based (vs. none of the factory-based) noted receiving medical assistance as part of their compensation for working.

¹¹¹ In addition to being asked about direct transfers of their earnings, migrant children were also asked about remittances to the parents or family during the past 12 months. However, the sample base of migrant children was too small to produce a reliable quantitative description.

percent of factory-based children) masked the fact that those employers were actually the parents.

More than half (57.0 percent) of the factory-based children reported that their parents received all the children’s earnings, but the factory-based children reported having more control over their earnings. Instead of the employer allocating the earnings, 86.6 percent of the factory-based children reported that they made the transfer to their parents. Children not working for or living with their parents were being asked about an actual transfer of their earnings from the employer to the parents, and 35.5 percent of the factory-based children were not living with their parents.

Table 21. Recipient of Payment for Child Carpet Workers

	Total	Children Working in Households	Children Working in Factories	p-value
Weighted N =	11,642	10,885	757	
“Do you or your employer give part or all earning/benefits to parents/guardian?”¹				
Yes, all given directly through the employer	73.4%	77.6%	13.2%	<.01**
Yes, I give all by myself	17.1%	15.3%	43.8%	
Yes, part given through the employer	0.1%	0.1%	0.0%	
Yes, I give part by myself	3.7%	1.0%	42.8%	
No, none is given to parents or relatives	1.6%	1.6%	0.3%	
DK/NR	4.2%	4.5%	0.0%	
Remittances ²				
“In the past 12 months, did you send any money to your parents/family?” (“Yes”)	X	X	X	-
“Did someone else send any money to your parents/family in past 12 months?” (“Yes”)	X	X	X	-

¹Base: Children who worked in the carpet industry in the past 12 months and received something in exchange for work. Information missing for 20 HH-based child carpet workers (Weighted N = 1,489).

²Base: Children who worked in the carpet industry in the past 12 months and were born elsewhere. Insufficient sample size (n<30)

Source: India PC household child survey (Nov. 2009-April 2010), India PC Level 2 factory worker survey (November 2011).

Only some children kept some of their earnings, but there were significant differences between HH-based and factory-based child carpet workers in how they spent any money that they kept. Buying food or clothes was reported by most children among both groups. However, fewer HH-based children received cash, with more than one-fourth (28.8 percent) reporting no income in cash. All factory-based children reported receiving cash, which allowed them to spend money in more things than HH-based children, including savings (57.9 percent), amusements (51.6 percent), and school materials (25.4 percent, see Table 22).

Table 22. Use of Money Earned among Child Carpet Workers

	Total	Children Working in Households	Children Working in Factories	p-value
Weighted N =	11,642	10,885	757	
"What do you do with any money you earn?"				
Buy school material/books	4.3%	2.8%	25.4%	<.01**
Buy food/clothing	55.5%	52.5%	98.1%	<.01**
Buy more goods to sell	0.0%	0.0%	0.5%	<.05*
Expend in amusements	3.7%	0.3%	51.6%	<.01**
Save	4.8%	1.1%	57.9%	<.01**
Don't get cash Income	26.9%	28.8%	0.0%	<.01**
Pay rent	0.1%	0.0%	2.0%	<.05*
Other	10.3%	9.7%	18.5%	.28
DK/NR	4.4%	4.7%	0.0%	.37

Base: Children who worked in the carpet industry in the past 12 months and received something in exchange for work. Information missing for 20 HH-based child carpet workers (Weighted N = 1,489).

Note: Multiple response items, so totals may exceed 100 percent.

Source: India PC household child survey (Nov. 2009-April 2010), India PC Level 2 factory worker survey (November 2011).

4.5.7. CHILDREN'S ABILITY TO LEAVE WORK IN THE CARPET INDUSTRY

No child carpet worker reported that he or she was unable to leave the job if he or she wanted to leave (see Table 32).

4.6. COMPARATIVE PERSPECTIVE OF CHILD CARPET WORKERS

The target population of this study -- child carpet workers – has been described. Now it is important to place those children in perspective. The environment where the HH-based carpet industry was located in India was the relevant environment for almost all of the children working in the carpet industry in India because 94.2 percent of child carpet workers in India were based in carpet HHs.¹¹² Areas with HH-based carpet activities included both carpet and non-carpet HHs. How did the carpet HHs compare with their neighbors, and how did the living and working conditions of the child carpet workers in those carpet HHs compare with the conditions of other working children in the same areas?

The study achieved that perspective by sampling reference (non-carpet) HHs in the same local areas (two-thirds of which were rural) where the study sampled carpet HHs. The sampled carpet HHs were representative of all carpet HHs in India, but the sampled non-carpet HHs represented only the areas where carpet HHs were located. These households were compared on key variables, including their reported assets, debt and financial situation and their socio-demographic characteristics. Working conditions of child carpet workers and other working children within those households were compared, including their reasons to work, the time each group devoted to work, their workplaces and working conditions, their physical health and psychosocial well-being, their earnings and their ability to leave work.

4.6.1. HOUSEHOLD POVERTY AND INDEBTEDNESS

4.6.1.1. Household Poverty

Family poverty was the main reason cited by child carpet workers for not attending school.¹¹³ The study compared the wealth (or poverty) of carpet HHs with the reference non-carpet HHs in the same areas (see Table 23). The carpet and non-carpet HHs had similar overall economic features. In general terms, both types of HHs were not destitute; two-thirds of both had enough money to buy food and clothes and to save. However, only a minority owned agricultural land, and only about half owned livestock. Being landless and not owning livestock were important economic measures for rural residents. The majority of the landless HHs (63.4 percent of carpet and 58.3 percent of non-carpet HHs) were rural, so their landlessness was an important measure of both their poverty (lack of wealth) and their low social standing. More than one-fourth of both carpet and non-carpet HHs had acquired some debt.

¹¹² In the HH survey, an adult informant (the head of HH or the most knowledgeable member) in each HH and all children (5-17 years old) were questioned about the children's work. The reports from the adults and children were similar. This study preferred and reports the data from the children reporting their own personal work patterns and conditions.

¹¹³ That was the main reason cited by more than half (57.5 percent) of the child carpet workers who were not attending school.

Even though there were general overall similarities, carpet HHs were significantly poorer than non-carpet HHs (see Table 23). Only 18.0 percent of carpet HHs (vs. 33.0 percent of non-carpet) owned the key asset of agricultural land. A greater proportion of carpet HHs ranked lower than non-carpet in the economic status scale of not having enough money for food, difficulty buying clothes, or not being able to buy expensive goods. Only 5.5 percent of carpet HHs (vs. 13.1 percent of non-carpet) could afford to buy expensive goods, and significantly fewer carpet HHs owned such signals of wealth as a motorbike (7.2 percent vs. 15.1 percent) or a mobile phone (47.6 percent vs. 60.6 percent).

Table 23. Socio-Economic Status of Carpet and Non-Carpet Households

HH Socio-economic Indicators	Carpet Households	Non-Carpet Households	p-value
Weighted N =	128,268	128,268	
Self-reported economic status			
We don't have enough money for food	3.4%	3.0%	<.01**
We have enough money for food, but buying clothes is difficult	27.2%	18.8%	
We have enough money for food/clothes & can save, but not to buy expensive goods	63.7%	64.5%	
We can afford to buy certain expensive goods such as a TV set/refrigerator	5.5%	13.1%	
We can afford to buy whatever we want	0.1%	0.6%	
HH assets (% of HH that own each asset)			
Agricultural land	18.0%	33.0%	<.01**
Livestock or cattle	45.0%	52.6%	.15
Motorbike	7.2%	15.1%	<.01**
Television	28.5%	36.8%	.13
Refrigerator	2.4%	4.8%	.08
Mobile Telephone	47.6%	60.6%	<.01**
Loom for carpets	17.0%	1.1%	<.01**

Source: India PC household child survey (Nov. 2009-April 2010).

Base: Households interviewed for the PC HH survey.

4.6.1.2. Household Indebtedness

This study explored the possible relationship of HH debt with working children and bonded labor. Similar proportions of HH-based child carpet workers (28.1 percent) and children working in other industries (31.4 percent) live in HHs that had acquired debt (see Table 50).¹¹⁴ It was difficult to compare the amount of debt acquired due to the small sample base of indebted non-carpet households with working children. Median HH debt for HH-based child carpet workers

¹¹⁴ For some comparisons, the base of non-carpet HHs was reduced to only those containing working children.

was relatively high at 20,000 rupees (435 USD) (see Table 50). The main reason for the carpet HHs to acquire debt was to celebrate festivals, weddings, or funerals (51.3 percent); the second most commonly reported reason (13.6 percent) was to expand the family business (see Table 55).

Of the indebted carpet HHs, more than one-fourth (28.5 percent) reported that the last lender from whom the HH borrowed money was a local money lender, and almost one-fourth (22.6 percent) reported that it was a contractor (see Table 50). The contractors from whom the carpet HHs borrowed were probably the same contractors who distributed carpet orders to the HHs. The contractors might have advanced loans to the carpet HHs in exchange for them pledging their carpet-related labor as collateral for the loan, a condition associated with bonded labor.

4.6.1.3. Repayment of Household Debts and Child Labor

A majority (53.8 percent) of the indebted carpet HHs reported having difficulty repaying their debt in the last 12 months (see Table 51). The main reasons that made it difficult for the carpet HHs to pay off debt were unexpected expenses (67.0 percent) and lower than expected income from enterprises (58.2 percent). The HH enterprises in question might have been carpet-related, suggesting a link between carpet HH indebtedness and pressure to employ children's labor.

Table 24. Consequences for Not Repaying Debt by Carpet Households

	Carpet child workers (Carpet HH)	Other child workers (Comparison HH)	p-value
Weighted N =	1,871	128	
Consequences for not repaying debt			
Higher interest rate	40.4%	*	-
Accumulate fees/debt	37.5%	*	-
Threats from creditor	35.6%	*	-
Loss of personal assets	26.0%	*	-
Loss of business assets/money	18.1%	*	-
Loss of land	12.6%	*	-
Loss of house	7.7%	*	-
Provide labor to creditor	7.1%	*	-
Provide goods to creditor	0.0%	*	-
Other	0.9%	*	-

Base: Households of child carpet workers and other child workers that have acquired any debt and had difficulty paying off debt. Insufficient sample size for households of other child workers.

Source: India PC household child survey (Nov. 2009-April 2010).

The indebted carpet HHs that reported having difficulty repaying their loans reported possible consequences if a HH was unable to repay its debt. The most commonly reported consequences

included higher interest rates (40.4 percent), accumulating fees/debt (37.5 percent), threats from creditors (35.6 percent) and loss of personal assets (26.0 percent), followed by loss of business assets, land, and house. Increased debt and fees and loss of resources -- those all indicated the increased probability that an indebted HH would become even more indebted and be forced to repay some of its debt by providing the only resource it had available – bonded labor.

Providing labor to the creditor was mentioned as a consequence by 7.1 percent of the indebted carpet HHs that reported having difficulty repaying their loans (see Table 24). Household informants were also asked if any HH member was currently providing labor to repay any debt. A very small proportion (0.2 percent) of the respondents reported having provided labor to repay outstanding debts. Although a majority of those workers were the heads of HH, there were a few cases where the HH member providing labor was a child. In the case of child carpet workers, up to 3.2 percent (an estimated total of 436 children) were identified as having provided labor in exchange for debt in the last 12 months. The sample base was too small for statistical analysis (n = 4), but all those children were 14-17 years old, and most were male.¹¹⁵

4.6.2. SOCIO-DEMOGRAPHIC CHARACTERISTICS

4.6.2.1. Socio-Demographic Characteristics of Households

The carpet and non-carpet HHs shared many socio-demographic characteristics. Two-thirds were rural. They were the same median size (six members, including two children). Almost all were headed by married men about 40 years old. The majority of the heads were Hindu, and the great majority were born locally (had not migrated). About two-thirds of the other adults in the HHs were women. About half of all adults (including the heads) never attended school (see Table 25).

There were some significant socio-demographic differences. The proportion of heads of HH that were male and Muslim was greater in Carpet HHs. The other adults in the carpet HHs were younger, and a greater proportion of the adults in carpet HHs had worked during the past 12 months. A slightly higher proportion of the heads of carpet HHs were married, due primarily to the higher proportion of widowed heads (and women) of non-carpet HHs.

Table 25. Socio-Demographic Characteristics of Carpet and Non-Carpet Households

HH Socio-demographic Indicators	Carpet Households	Non-Carpet Households	p-value
Weighted N =	128,268	128,268	

¹¹⁵ The unweighted sample base was n=4.

HH Socio-demographic Indicators	Carpet Households	Non-Carpet Households	p-value
HH demographics¹			
Setting (% rural)	66.2%	66.2%	.99
Number of HH members (median)	6.0	6.0	.40
Number of HH members below 18 (median)	2.0	2.0	.82
HoHH demographics²			
Sex (% Male)	95.7%	92.1%	<.05*
Median Age	40.0	42.0	.14
Religion (% Hindu)	67.8%	80.6%	<.01**
Religion (% Muslim)	28.9%	16.8%	<.01**
Marital Status (% Married)	89.4%	83.8%	.08
Education level (% never attended school)	45.5%	46.7%	.84
Migration status (% born elsewhere)	8.0%	10.6%	.17
Work Status (% worked in last 12 months)	94.7%	86.5%	<.01**
Demographics of Other Adult HH members²			
Sex (% Male)	30.7%	32.2%	.60
Median Age	27.0	30.0	<.01**
Education level (% never attended school)	51.8%	46.8%	.21
Work Status (% worked in last 12 months)	52.6%	38.8%	<.01**
Child HH member demographics³			
Sex (% Male)	51.3%	48.3%	.23
Median Age	10.0	10.0	.93
Education level (% never attended school)	13.2%	6.8%	<.05*
Work Status (% worked in last 12 months)	6.2%	2.5%	<.05*

Source: India PC household child survey (Nov. 2009-April 2010).

¹Base: Households interviewed for the PC HH survey.

²Base: Adult household members (18 years or older, excluding heads of HH) in households interviewed for the PC HH survey.

³Base: Child household members (5 to 17 years of age) in households interviewed for the PC HH survey.

4.6.2.2. Socio-Demographic Characteristics of Working Children

Carpet and non-carpet HHs were similar in that about half of the children were boys; the median age was 10 years; and very few children had worked during the past 12 months. There were significant differences in that more children in carpet HHs had worked during the past 12 months (6.2 percent vs. 2.5 percent) and had never attended school (13.2 percent vs. 6.8 percent).¹¹⁶

¹¹⁶ The HH-level socio-demographic information in Table 25 came from the adult respondents. The adult respondents in carpet HHs reported that 6.2 percent of the children in their HHs worked, and the adult respondents in the non-carpet HHs reported that 2.5 percent of the children in their HHs worked. When the children were questioned, they gave lower rates. The children in carpet HHs reported that only 5.4 percent of them worked, and the children in non-carpet HHs reported that only 0.7 percent of them worked. The survey used the children's self-reported working to identify the samples of working children.

The great majority (90.1 percent) of working children in carpet HHs worked in the carpet industry (see Table 26). This study focused on only two groups of working children:

- 12,374 child carpet workers in carpet HHs.
- 1,908 other child workers in non-carpet HHs.

Table 26. Demographic Characteristics of Children in Carpet and Non-Carpet Households

HH Socio-economic Indicators	Carpet Households			Non-Carpet Households		p-value
	Child Carpet Workers	Other Child Workers	Non-working Children	Other Child Workers	Non-working Children	
Weighted N =	12,374	1,306	238,948	1,908	254,214	
Sex						
Male	43.2%	93.2%	52.0%	85.6%	48.0%	<.05*
Female	56.8%	6.8%	48.0%	14.4%	52.0%	
Age						
5-8	4.5%	0.0%	36.8%	0.0%	34.1%	<.01**
9-13	23.4%	24.6%	41.3%	4.6%	42.1%	
14-17	72.1%	75.4%	21.9%	95.4%	23.8%	
Median Age	15.0	16.0	10.0	15.0	10.0	<.01**
Education status						
Currently attending school	32.4%	37.5%	84.1%	38.7%	88.3%	<.01**
Health status						
Ill in the past 12 months	54.5%	46.6%	43.5%	24.5%	36.5%	<.05**
Injured in the past 12 months	4.9%	1.3%	2.4%	3.1%	1.3%	<.05**

Source: India PC household child survey (Nov. 2009-April 2010).

Base: Children interviewed for the PC HH survey.

The clearest significant socio-demographic difference between the two groups of working children was gender. There were slightly more boys than girls in carpet HHs, but fewer than half of the child carpet workers were boys. The contrary was true in non-carpet HHs, where there were slightly fewer boys than girls, but more than 85 percent of the other child workers were boys (see Table 26).¹¹⁷ There were other differences as well. The child carpet workers and the other child workers had the same median age, but the child carpet workers included a broader range of ages. One-fourth of the child carpet workers were 9-13 years old, and almost five

¹¹⁷ All working children in both types of HHs shared two characteristics when compared to the non-working children. Working children were older (most were 14-17) and had much lower school attendance rates than the non-working children. This report does not analyze the working children in carpet HHs who worked in other industries, but their socio-demographic characteristics were very similar to the working children in non-carpet HHs. They were primarily the older boys.

percent were younger than nine years old. A slightly smaller proportion of the child carpet workers were attending school.

Besides work in the carpet industry, few HH-based child carpet workers were involved in other jobs for income in the last 12 months (see Table 27). Other child workers were mostly working as unskilled workers in agriculture (32.3 percent), various informal occupations (38.1 percent), and retail trade (20.8 percent).

Table 27. Types of Jobs of HH-Based Child Carpet Workers and Other Child Workers

	Child Carpet Workers (Carpet HHs)	Other Child Workers (Reference HHs)	p-value
Weighted N =	12,374	1,908	
Types of job for income in last 12 months			
Carpet-related work	100%	0.0%	<.01**
Elementary occupations	2.0%	38.1%	<.01**
Agricultural, forestry and fishery laborers	0.1%	32.3%	
Sales Workers	0.0%	20.8%	
Metal, machinery and related trades workers	0.0%	4.0%	
Craft and related trades workers	0.1%	2.6%	
Other	0.2%	2.3%	
Industry classification			
Carpet industry	100%	0.0%	<.01**
Other community, social, and personal service activities	2.0%	41.2%	<.01**
Agriculture, hunting, and forestry	0.1%	32.3%	
Wholesale and retail trade; plus repairing motor vehicles, motorcycles and personal and household goods	0.1%	20.8%	
Construction	0.0%	4.0%	
Other	0.2%	1.7%	

Base: Children who worked in the last 12 months.

Source: India PC household child survey (Nov. 2009-April 2010).

4.6.3. CHARACTERISTICS OF THE CHILDREN'S WORK

4.6.3.1. Reasons for Working

The two groups of working children agreed on their reasons to work. Three-fourths or more of the working children in both sets of HHs reported that their main reason to work was to supplement family income. Labor migration did not play an important role for either group, as very few had migrated. Repaying outstanding family debt, a possible indication of bonded labor conditions, was rare among both groups.

4.6.3.2. Time Devoted to Work and Chores

There were significant differences between HH-based child carpet workers and the other child workers in terms of the time devoted to work during the year (see Table 28). The other child workers worked fewer months a year, fewer days a week, and fewer hours a day than the child carpet workers. Only one-fourth of the other child workers worked 12 months per year, and the median number of months worked per year was only seven. The sample base for other child workers working in the last seven days was too small for reliable quantitative estimation, but a qualitative assessment indicated that the majority of the other child workers worked only six or fewer days per week and fewer than 2.5 hours per day, compared to a median of seven days per week and four hours per day for child carpet workers.

Table 28. Months, Days, and Hours Worked by Working Children in Household-Based Carpet Producing Areas

	Child Carpet Workers (Carpet HHs)	Other Child Workers (Reference HHs)	p-value
Weighted N =	12,374	1,908	
Months Worked¹			
Median months worked per year	12.0	7.0	<.01**
Proportion working 12 months per year	67.1%	24.9%	<.01**
Days Worked²			
Median days worked per week	7.0	*	-
Proportion working 7 days per week	77.3%	*	-
Hours Worked³			
Median hours per day	4 hours	*	-
Working more than 5 hours per day	30.9%	*	-
Working at night	25.3%	*	-

¹Base: Children who worked in the last 12 months.

²Base: Children who worked in the last 7 days. Insufficient sample size for HH-based other child workers.

³Base: Children who worked in the last 3 days. Insufficient sample size for HH-based other child workers.

Source: India PC household child survey (Nov. 2009-April 2010).

In addition to their economic work, HH-based child carpet workers spent a median of 15 hours on household chores per week (see Table 52). There were significant differences between girls and boys with girls spending a median of 21 hours per week on chores, compared to 14 hours for boys (see Table 53)

Food preparation (preparing, cooking, and serving food and washing dishes) was the chore that took the most time for the girls. Those hours represented a significant burden and appeared to add significantly to the children's (particularly the girls') workload.

4.6.3.3. The Workplaces

A general assumption with child labor is that children are more likely to be exploited at work when they are away from the social protection of their home and family. More than three-fourths of child carpet workers were working in their own family households. Another one-seventh worked at their employer's house, and a small percentage reported working in a factory.¹¹⁸ In contrast, other child workers showed a greater diversity of work locations, e.g., at a shop, market or kiosk, or moving from place to place, although the sample base was too small to provide reliable quantitative estimates.

4.6.3.4. Working Conditions

A greater proportion of the other child workers reported being exposed to environmental hazards, particularly dust, loud noise, chemical hazards, ultraviolet or x-rays, and working underground and at heights. More of the HH-based child carpet workers reported working with heavy loads usually or sometimes. A higher proportion of child carpet workers reported being unsupervised by an adult at work. The two groups appeared to suffer similar low levels of psychological and physical abuse, but a greater proportion of other child workers (2.1 vs. 0.0 percent) reported being touched inappropriately, an indication of sexual abuse.

4.6.3.5. Physical Health and Psychosocial Well-Being

Child carpet workers were less healthy than other child workers by most measures. There was a significant difference in the rate of illness. The majority of the child carpet workers had been ill during the past 12 months, which was more than double the rate of illness of the other child workers, and there was a greater prevalence of most specific illnesses among the child carpet workers. A slightly higher proportion of the child carpet workers were injured in the past 12 months, but work-related injuries were overall extremely rare in both groups. Child carpet workers also showed slightly lower levels of subjective well-being than other child workers.¹¹⁹ However, among the children who were injured or sick, child carpet workers were taken to a medical clinic, health post, or hospital slightly more often than other child workers.

4.6.3.6. Earnings from Work

¹¹⁸ There were some cases (4.1 percent of all responses) of HH-based child carpet workers who reported performing their carpet-related work in a carpet factory at some point during the last seven days. Although those children could have been potentially double-counted by the household and factory surveys, it was decided to ignore that effect given the small number of cases.

¹¹⁹ The child carpet workers had a Personal Well-Being Index (PWI) score of 66.3, compared with the 68.6 score for the other child workers.

There were important differences between the two groups of working children in the mode of payment and the amount of their earnings from work. The differences were understandable since three-fourths of the child carpet workers worked in their family homes and for their parents, while the other working children primarily worked outside the home as hired workers. Three-fourths of the other child workers received cash compensation, and two-thirds of the other child workers were paid for work on a daily basis. Only a small proportion of the other child workers reported that all their earnings were given to their parents directly through the employer, and only one-third of the other child workers reported problems with payments being irregular, delayed, or withheld. On the other hand, the other child workers earned less than child carpet workers with median weekly earnings of 200 rupees (4 USD) and 300 rupees (7 USD), respectively. That difference was explained by the difference in the number of hours worked per day and the number of days worked per week (see 4.6.3.2).

4.6.3.7. Ability to Leave Work

All working children in both groups reported that they were able to leave their jobs if they wanted to leave.

4.6.4. SUMMARIZING THE COMPARISON

The sampled areas were representative of all areas in India where carpet HHs were located. Three-fourths of the areas were characterized by rural poverty, the great majority of all HHs being landless and three-fourths not owning any livestock. Carpet HHs were relatively poorer than other local HHs. Some child carpet workers lived in carpet HHs that appeared to have high debt levels and difficulties repaying those debts. There was a proven link between debt in a small percentage of carpet HHs and the use of child labor to repay those debts. Carpet HHs were similar to non-carpet HHs in terms of their size, education background and migration status. The majority of heads of HHs were Hindu. However, a greater proportion of carpet HHs had heads of HH who were Muslim as compared to non-carpet HHs. Adults in carpet HHs were younger and more likely to have worked during the past 12 months.

Children in carpet HHs were less likely to have attended school and more likely to have worked in the last 12 months than children in non-carpet HHs. 6.2 percent of the children in carpet HHs worked, almost all of them (90.1 percent) in the carpet industry. Child carpet workers were more likely to be girls than other working children. The majority worked at home. Only 2.5 percent of the children in non-carpet HHs worked; they were primarily older boys, and most worked outside the home in construction, retail trade and other informal occupations. Almost all the working children from both sets of HHs reported that they worked to supplement their families' income. Child carpet workers appeared to work more often than other working children,

although the sample of other working children was only sufficient to compare the number of months worked (12 months a year vs. 7 months among other working children).

4.7. MEASURING UNACCEPTABLE WORK (CHILD LABOR)

This section addresses another objective -- Produce reliable, statistically sound, and nationally representative estimates of the number and prevalence of working children who were engaged in unacceptable work (child labor). By unacceptable work, the study meant that the nature of the work and/or the working conditions exploited and/or abused working children. The prevalence meant the percentage of child carpet workers who were engaged in that unacceptable work (see 3.2.3). This section presents the resulting estimates. A more detailed description of the methodology used to develop these measures and the crosswalks used to compute them is in Appendix C.

This study looked to international conventions for guidance in identifying unacceptable kinds of work and working conditions. In general, international and Indian standards agreed. India had ratified many ILO conventions and the UN Convention on the Rights of a Child (UNCRC), and India had passed legislation that was based on or adapted international standards. However, the international and Indian standards differed in terms of the minimum age to work (15 vs. 14 years), the age of a child and the minimum age to be engaged in hazardous work (under 18 vs. under 14 years), and the establishments that were regulated.

This study relied on international standards whenever there were differences between the two sets of standards and utilized Indian standards when they defined specific issues that were not defined by international standards, such as listing specific occupations as hazardous and setting the acceptable number of hours to work, etc.

4.7.1. INDICATIONS OF HAZARDOUS WORK

The study examined the nature of the work (whether it was defined as inherently hazardous), the characteristics of the working conditions and workplace, and the medical histories of the working children. The international conventions did not identify specific industries as being hazardous, but India's labor laws did identify specific industries.

India's 1986 Child Labour – Prohibition and Regulation Act prohibited children from working in certain occupations and processes because they were hazardous; the Act specifically identified and listed carpet weaving, hand-loomed, and wool processing as prohibited. Based on the nature of the work being identified as hazardous, all of the children working in the carpet industry in India were in a situation of child labor.

4.7.1.1. Hazardous Work (International Definition)

By international standards, the category of child carpet worker encompasses all persons under 18 years of age who were working in the carpet industry. This study was based on international standards. Therefore, this study estimates that:

- 13,131 children were working in the carpet industry when the survey was conducted, and all of those child carpet workers were in child labor conditions due to hazardous work.

4.7.1.2. Hazardous Work (Indian Definition)

By Indian standards, only persons under 14 were prohibited from being employed in hazardous work, and family-based workplaces were exempted from regulation. Although one-fourth (26.3 percent) of child carpet workers in India were under 14, all of them were working in carpet HHs, which were exempted from regulations. None of the children working in the carpet factories reported being younger than 14 years old. Therefore, by Indian standards:

- None of the children working in the regulated carpet industry were in hazardous work.

4.7.1.3. Indications of Hazardous Work (Working Conditions)

ILO Recommendation 190 (amending ILO Convention 182) described many specific hazards. The study prepared a list of specific hazards derived from Recommendation 190 and asked the working children to report whether their working environments contained those hazards. One-third (35.3 percent) of child carpet workers complained about dust, and one-third (33.5 percent) of child carpet workers reported that their work was physically difficult. Other hazards included working with sharp (dangerous) tools such as knives, cutters or scissors, exposure to viral and fungal agents, inadequate lighting and ventilation, loud noises, and chemicals (see Table 19).

In general, the indications were that working conditions for factory-based children were more hazardous than working conditions for HH-based children, based on the proportion of children reporting different hazards. A significantly greater proportion of factory-based child carpet workers reported that they sometimes or usually had to carry heavy loads (68.9 percent vs. 31.7 percent), were exposed to work in dark rooms with inadequate lighting (29.4 vs. 0.8 percent), viral agents (39.5 vs. 1.9 percent) or work with several dangerous tools such as knives, cutters or scissors (51.3 percent vs. 16.9 percent). More than one-third of factory-based child carpet workers reported being reprimanded or punished at work, compared 2.5 percent of household-based child carpet workers.

Even though hazards were more frequent in factory environments, this study estimates that all child carpet workers showed indications of being in hazardous working conditions once all

hazards were aggregated into a measure of indications of hazardous working conditions (see Table 65 for operational definition).

4.7.2. INDICATIONS OF EXCESSIVE WORK

The project analyzed the burden that carpet work represented for child carpet workers by looking at the number of hours they dedicated to carpet-related activities per week. Table 29 shows the proportion of children working a few hours (1-13 hours per week), a moderate number of hours (14-42 hours per week) and a large number of hours (43 hours per week or more) for different age groups (See Appendix C for rationale for these working hours breakdowns).

Most child carpet workers worked fewer than 43 hours per week on carpet related activities, with a median of 28 hours per week. However factory-based child carpet workers spent a significantly greater number of hours, with a median of 63 hours, compared to less than 26 hours among HH-based child carpet workers. Nearly four-fifths (78.3 percent) of factory-based child carpet workers worked 43 hours or more per week.

While the sample size is too small to produce estimates for the lower age groups, most (60.0 percent) child carpet workers in the 14 to 15 year group worked between 13 and 42 hours, with a median of 28 hours per week. About one-fourth (23.5 percent) of these children worked 43 hours or more per week. This proportion was higher for the older children (16 to 17 years), with 36.8 percent working 43 hours or more per week, and a group median of 31:45 hours per week.

Table 29. Weekly Working Hours in Carpet-related Activities among Child Carpet Workers in India

	Total	Children Working in Households	Children Working in Factories	p-value
Children 14-15 years				
Weighted N=	3,808	3,633	175	
1 -13 hours	16.5%	17.3%	X	-
14 - 42 hours	60.0%	62.9%	X	
43 hours or more	23.5%	19.8%	X	
Median	28:00 Hours	28:00 Hours	X	-
Children 16-17 years				
Weighted N=	4,663	4,081	581	
1 -13 hours	13.9%	14.7%	X	-
14 - 42 hours	49.3%	53.5%	X	
43 hours or more	36.8%	31.8%	X	
Median	31:45 Hours	31:45 Hours	X	-
Total (Children 5-17 years)				

	Total	Children Working in Households	Children Working in Factories	p-value
Weighted N=	11,209	10,453	757	
1 -13 hours	18.9%	19.8%	6.4%	<.01**
14 - 42 hours	55.1%	58.0%	15.3%	
43 hours or more	26.0%	22.2%	78.3%	
Median	28:00 Hours	25:40 Hours	63:00 Hours	<.01**

Base: Children who had worked in carpet-related activities in the last seven days in factories and households.

Source: India PC household child survey (Nov. 2009-April 2010), India PC Tier 2 factory worker survey (November 2011).

Note: Subcategories for children 5-11 and 12-13 are omitted from the table due to insufficient sample size (n<30). Those children are however included in the Total (Children 5-17).

The hours dedicated to carpet activities only provided a partial picture of each child's total workload, which may include other economic work and a significant amount of unpaid household chores. The amount of work that was permissible for different age groups also varied. In order to address these issues, the project developed a measure that indicated the existence and prevalence of child labor based on equating each child's total work load with the child's age and the standards for an appropriate workload. The total work load combined the time that HH-based children spent performing unpaid household services with the economic work that children may have performed. Child labor existed when the child worked an excessive number of hours (see Table 30 for the operational definition).

Table 30. Measuring Excessive Work

	Economic Work		Combination of Work	
	Work	Child Labor	Work	Child Labor
Children under-12 (5-11 years)	<1 hour	1 or more	<28 hours	28 or more
Children under-14 (12-13 years)	<14 hours	14 or more	<35	35 or more
Children under-18 (14-17 years)	<43	43 hours or more	<43	43 hours or more

Note: The criteria for measuring excessive work were developed by the Research on Children Working in the Carpet Industry in India, Nepal, and Pakistan project, 2007-2012.

The measure revealed that:

- Three-fourths (74.5 percent) of child carpet workers in India showed indications of enduring an excessive workload.
- The proportion of child carpet workers with indications of an excessive workload was similar in households and factories.

Table 31. Excessive Work among Child Carpet Workers in India

	Total No. of Child Carpet Workers in India	Children Working in Households	Children Working in Factories	p-value
Weighted N=	11,209	10,453	757	

	Total No. of Child Carpet Workers in India	Children Working in Households	Children Working in Factories	p-value
Proportion Working Excessive Hours by Age				
Children under-12 (5-11 years)	100.0%	100.0%	-	-
Children under-14 (12-13 years)	76.6%	76.6%	-	-
Children under-16 (14-15 years)	68.2%	66.7%	X	-
Children under-18 (16-17 years)	73.8%	74.1%	X	-
Total child carpet workers	74.5%	74.2%	78.3%	.77

Base: Children who had worked in carpet-related activities in the last seven days in factories and households.

Source: India PC household child survey (Nov. 2009-April 2010), India PC Tier 2 factory worker survey (November 2011).

4.7.3. INDICATIONS OF CHILD TRAFFICKING

The study developed a set of variables that indicated the existence of child trafficking in the carpet industry in India (See Appendix C). The set of indicators addressed another specific question that the study was designed to answer: To what extent were children trafficked into these situations?

One key factor was the amount of movement of children for work purposes. Child trafficking required work-related movement from one place to another location. The study did not find much of that movement. The study estimated that fewer than 500 migrant children were working in the carpet industry.¹²⁰ All of the HH-based children had moved for non-work related purposes and so did not qualify as labor migrants. However, among factory-based children, one third (35.5 percent) did not live with their parents and one-third (35.7 percent) had moved for work-related purposes. Among these children, there was one case that reported that a contractor was involved in the move, and that a relative and the contractor had made the decision that the child would move. In summary, the study found few indications of large-scale child trafficking into the carpet industry in India, but the existence of trafficking could not be ruled-out.

4.7.4. INDICATIONS OF FORCED OR BONDED LABOR

The project developed a set of variables that indicated the existence of forced or bonded labor by examining three stages: when the child entered the workforce, when the child was working, and when the child left the workforce (ILO, 2011). This addresses another specific question that the study was designed to answer: To what extent were children working in the carpet industry working under forced and/or bonded labor conditions?

¹²⁰ If child trafficking were considered to be simply a socioeconomic transfer to an exploited status, then a child could be trafficked without moving. In that case, the hazardous nature of the carpet industry would indicate that all the children working in the carpet industry in India had been trafficked.

When the child started working, one important factor was the child’s age (see 4.4.2 and Figure 5). The median age of HH-based child carpet workers was 12 years, and the majority entered the workforce by the time they were 12. The median age of factory-based children was 14 years, and only a minority started working before they were 14.

- Their age when they started working indicated that the majority of HH-based child carpet workers had been too young to independently make the decision to start working.

When they were interviewed, three-fourths of the HH-based and all factory-based child carpet workers reported that they were 14 or older. Each child was asked if he or she was able to leave the work if the child so desired. All responded that they were able to leave their jobs, which was a clear and direct indication of voluntariness and lack of coercion (see Table 32).

- Their decision to continue to work might well be their independent choice.

Table 32. Indicators of Ability to Leave Job among Child Carpet Workers

	Total	Children Working in Households	Children Working in Factories	p-value
Weighted N =	13,131	12,374	757	
Indicators of Vulnerable Working and Living Conditions				
Child not working for parents	-	8.3%	-	-
Child was not living with parents or spouse	3.1%	1.2%	35.5%	<.01**
Child was born elsewhere	3.7%	1.4%	41.6%	<.01**
Indicators of Involuntariness				
Child was unable to leave job if he/she wanted	0.0%	0.0%	0.0%	-
Indicators of Coercion				
“Why are you unable to leave this job?”				
Still paying off a debt	0.0%	0.0%	0.0%	-
Boss threatened harm if try to leave	0.0%	0.0%	0.0%	-
Parents would punish	0.0%	0.0%	0.0%	-
No other work available	0.0%	0.0%	0.0%	-
Not enough money to leave	0.0%	0.0%	0.0%	-
Wouldn't know where to go	0.0%	0.0%	0.0%	-
Other	0.0%	0.0%	0.0%	-
Refused	0.0%	0.0%	0.0%	-

Base: Children who were engaged in income generating or productive work in the past 12 months. Information on work for parents missing for 20 HH-based child carpet workers (Weighted N = 1,489).

Source: India PC household child survey (Nov. 2009-April 2010), India PC Level 2 factory worker survey (November 2011).

The study found a small number of child carpet workers in factories; two-fifths of them were born locally; and two-thirds lived with their parents. Almost all HH-based child carpet workers

were born locally and lived with their parents, and only 8.3 percent did not work for their parents. The study estimated that fewer than 500 migrant children were working in the carpet industry.¹²¹ All migrant factory-based child carpet workers came from Bihar or West Bengal; most wanted to migrate and had come for work-related purposes. About half came with their families; most were living with friends or other relatives at the time of the survey.

- Contractors were involved in a few cases, an indication of possible bonded labor.¹²²

Carpet HHs were generally poorer than the neighboring non-carpet HHs. The great majority of HH-based and three-fourths of factory-based child carpet workers reported that their decision to work was based on the family's financial needs; the children's earnings supplemented the family's income or helped its enterprise. Essentially none of the child carpet workers reported working to repay outstanding family debts, but more than one-fourth of the carpet HHs reported that they were in debt, and a majority of the indebted carpet HHs reported having difficulties repaying their debts (see Table 13).

- A very small percentage of carpet HHs reported that they had supplied labor to repay outstanding debts. In a few cases a child had worked to repay a debt.

The indications were that forced or bonded labor among children working in the carpet industry in India was more likely to be found with children living and working with their families rather than with migrant children unaccompanied by their families.

¹²¹ The description of migrant child carpet workers in this report had to be qualitative in nature, as the sample base was too small to produce a statistically valid quantitative description.

¹²² The migrant HH-based child carpet workers had come with their families.

DISCUSSION

5.1. CONTRIBUTIONS

A primary contribution of this study was the production of reliable, statistically sound, nationally representative, and current estimates of the number and prevalence of children working in the carpet industry.

Another contribution of this study was expanding the definition and scope of the carpet industry. Earlier work had focused on carpet weaving, and earlier reports of child labor had looked at children working in factories. This study examined the workforce involved in a range of 16 activities that included supply chain processing of the wool as well as producing and finishing the carpets (see Table 4). Based on that expanded definition, the study developed a sampling frame and then conducted surveys that encompassed factories and households that were engaged in the carpet industry in India.

Another primary contribution of this study was identifying and measuring the existence and extent of forms of unacceptable work (child labor). That work is discussed extensively in section 4.7 and in Appendix C.

The study also contributed significantly to the knowledge base and understanding of the children working in the carpet industry and their families by placing them in perspective and comparing them with other households in their same areas. This also established benchmark data to assist any future research and action programs with those families or in those areas.

5.2. THE SIZE OF THE CARPET INDUSTRY IN INDIA IN 2009-2011

5.2.1. COMPARING STUDY FINDINGS WITH PREVIOUS RESEARCH

The estimates that emerged from this study revealed that the carpet industry in India and the number and prevalence of children working in the industry during the period of research (2009-2011) were much smaller than earlier estimates. Previous estimates varied widely, but all of them except for the CEPC's estimate were greater than the estimates produced by this study (see Table 2). The estimates from the 1990s of 300,000 to 356,000 child carpet workers were more than double the 1996 ILO-CORT estimate of 130,000 child carpet workers. In turn, the ILO-CORT estimate was almost ten times greater than the estimate from this study. Other studies estimated the prevalence of child carpet workers in the samples that they studied. Except for the CEPC's estimates, those earlier estimates ranged from a low of 7.1 percent to a high of 58 percent.

The most recent estimates of prevalence were much more similar to the estimates produced by this study. The 2006 ILRF study estimated the prevalence of child carpet workers to be 7.1, and CEPC's report for 2007-2011 estimated a prevalence of 3.8 for children.

5.2.2. POSSIBLE REASONS FOR THE DIFFERENCES IN ESTIMATES

This study was designed to estimate the status of the carpet industry in India at the time of the research and was not designed to test possible historic or economic reasons for the significant differences that emerged. However, a number of factors appeared to be relevant.

The research team emphasized that the PC Study's estimate was conservative. The industry had strong reasons to minimize the number of working children that would be found by this research, and there were many ways for the industry to influence the survey results. One-fifth (n=503) of the registered exporters refused to participate when the project was developing the sampling frame, and the owners/managers of 17 percent of the factories selected to be sampled in the survey refused to be surveyed. Survey teams observed indications that children misrepresented their ages so as not to be counted as children, and the ICF researchers observed other ways that factory managers were trying to minimize the number of working children recorded by the survey. The issue is considered at more length in the section on limitations.

The researchers believed that the low number and prevalence of children working in the industry expressed the reality that the industry had declined since 2007, and its total workforce, including child carpet workers, had diminished (see Table 1). There may have been many reasons for the industry's decline. Many manufacturers and exporters reported that one important factor was the reduced price being offered by foreign buyers; manufacturers had reduced production because they could not make a profit selling carpets at the prices being offered.

Other factors affecting estimates were differences in definitions of terms and the scope of the industry. Earlier estimates rarely discriminated between working children and child labor. This study clearly separated the two. Almost all the other estimates were for children only under 14 and did not consider children 14-17. With rare exceptions, earlier estimates considered only weavers and did not include children working in wool-processing or in carpet-finishing activities. All earlier studies based on field research used the loom as the sampled unit and the basis for their estimates, while this study was establishment-based.

The Government's (Union and States) surveillance and enforcement of labor regulations appeared to have influenced the prevalence of child workers. Intense competition in the international market from other countries with cheaper labor may have influenced the size of the Indian industry. Within India, the exporters and manufacturers complained about another factor, the scarcity of skilled weavers, which appeared to be a result of stagnant and relatively

unattractive wages paid in the industry when compared to other higher-paying occupations. The government's rural employment program (MGNREGA) and programs to increase primary education and vocational training also may have affected the workforce.

Finally, government, industry, and NGO efforts to increase awareness of child labor in the carpet industry and change the industry's attitude about employing children may have helped reduce the prevalence of children in the carpet industry.

5.3. TRENDS IN THE INDUSTRY

A question about whether more or less child labor should be anticipated in the carpet industry in India in the future involved speculation about future economic trends. The question would have been much easier if the industry had shown a consistent trend in production or employment. Unfortunately, the research (2009-2011) was carried out at a time when the global economy and the Indian national industry were in a slump. A large number of carpet factories were found to have closed, and a number of listed CEPC members had left the industry. However, the project was able to collect information about trends in production technology and the use of labor that might predict future trends in child labor in the carpet industry.

5.3.1. CHANGES IN CONSUMERS' TASTES

Many carpet exporters complained about a factor that had affected their sales and was affecting the technology of producing carpets. Carpet exporters believed that many western consumers were no longer looking for a permanent carpet that had historic and craft value and was very durable. The exporters stated that western consumers were looking for disposable carpets that fit a current color and decorating scheme. When the consumer decided to switch color schemes in a room, everything that did not match that color (including handmade carpets) would be discarded. For that reason, the consumers were looking for cheaper carpets and did not care that they were also less durable.

5.3.2. CHANGES IN PRODUCTION TECHNOLOGY AND CHILDREN'S WORK

The traditional technology for producing handmade carpets is weaving on a hand loom. The most durable technique is called hand-knotting because it involves the weaver tying knots in the thread after every pass. Weaving carpets, especially hand-knotting, is a slow process due to the labor that was involved. Children are utilized in many activities during the production of carpets from the wool processing through to the final finishing, but children are most commonly used to weave (or hand-knot) carpets.

Household-based carpet production is well-suited for hand-knotted carpets. The HH receives an order for a carpet and, over weeks or months, produces the carpet. The members of the HH fit the weaving in with other HH tasks, and children, for example, may go to school and still put in some hours weaving during non-school hours. As long as carpets are being produced by weaving or hand-knotting, there will be a ready use for child labor in the HH.

Exporters in India have shifted much of their production to other techniques such as tufting and hand-loomed, which produce less durable carpets much quicker. These technologies fit better with factory-based production in which the workers work full workdays. The shift away from hand-knotting also entails shifting away from household-based production and a consequent drop in the use of child labor in households to produce carpets.

5.3.3. SHIFTING FROM HOUSEHOLD-BASED TO SHED-BASED PRODUCTION

There was an apparent shift of carpet production away from carpet HHs to Level 2 carpet factories. The shift appeared to be driven by exporters, who had reasons for preferring factory-based carpet production to HH-based production. Factory-based production is faster, and quality control is easier in a factory setting.

One primary reason was the speed of production. Sheds were better for faster production. Carpet HHs did not focus solely on producing carpets. Weaving was intermingled with other HH activities, and HH members weaved carpets when not occupied with other tasks. The factories had a single focus, and factory workers worked long hours every day. Even if the factories produced hand-knotted carpets, the carpets were produced much faster than if they had been sent to carpet HHs.

A related reason was the shift in production techniques. Many of the new sheds concentrated on tufting and hand-loomed. Hand-loomed were large and expensive, and no one was going to install one in a HH. In the core areas, all the hand-loomed that the project staff observed were in newly constructed Level 2 sheds that had been built specifically to house the hand-loomed. Tufting was done on a simple inexpensive frame that could fit anywhere, but one of the advantages of tufting was the speed, which would be diminished if consigned to a HH.

Another reason was the modern emphasis on new designs and colors. Manufacturer exporters had their own design staffs. Since there was competition, there was real concern about keeping their original designs and colors secret. Distributing the orders to contractors who distributed them to scattered carpet HHs meant that the exporters had no control over the security. Sheds allowed manufacturers to safeguard their designs. That secrecy and security was a reason given by exporters as to why they would not allow the research team to enter their factories.

Closely related was the issue of supervising and controlling the quality of the carpet. Sheds allowed manufacturers to produce higher quality (quality control) because they were able to supervise and monitor production day by day. When orders went out to the carpet HHs, there was little if any monitoring or supervision. The exporter or manufacturer did not learn whether there were problems until the carpets were completed and delivered. At that stage, the carpets were sometimes rejected and other times had to be repaired. In the factory, the exporter or manufacturer could monitor production more closely and correct any errors quickly.

The trend back to factory production had implications for the number and prevalence of working children, migrant children, and child labor. The great majority of children working in the carpet industry were living and working with their families in carpet HHs. If the trend diminished the demand for HH-based carpets, the children in those carpet HHs might work less. A contrary thought is that such a drop in demand would affect the income of some carpet HHs and might trigger some of those families to send their children to work in carpet factories. An upsurge in factory-based production would attract migrant workers, including children.

5.4. REMAINING QUESTIONS

The study produced results that answered almost all of the research questions (see 4.1.2.1). Three questions remained for which the survey data had not provided specific or definitive answers.

5.4.1. WERE THERE PARTICULAR EDUCATIONAL BARRIERS THAT MADE CHILDREN MORE VULNERABLE TO WORKING IN THE CARPET INDUSTRY?

The study did not collect any evidence or reporting of any particular educational barriers that were specifically related to the carpet industry. The cost of schooling was the most commonly reported reason why children were not attending school (see Table 11). In India, the family usually had to pay tuition fees and buy a school uniform, books, and other learning materials, even for primary education in public schools. To place that cost in perspective, one-third of the carpet households had difficulties buying the necessary food and clothing (see Table 23).

More than half (57.5 percent) of child carpet workers cited the cost of schooling as the reason for not attending. The other reasons reported often were: helping with household chores, in order to work, to help in family business (see Table 11).

5.4.2. WHAT PARTICULAR ASPECTS OF THE CARPET INDUSTRY ENCOURAGED OR DISCOURAGED THE USE OF CHILDREN? WERE THERE ASPECTS OF THE CARPET INDUSTRY THAT LED TO GREATER EXPLOITATION OF CHILDREN?

Given that the industry was hazardous and, thus, all children working in the industry were exploited, the two questions call for the same answer. The aspects that encourage employing children are the household basis of the industry and the wages paid to child workers.

The particular aspect of the carpet industry in India that primarily encouraged the use of children and, thus, increased the extent of child labor was that the industry was predominantly household-based, which also meant family-based. Dispersing the production of thread and carpets among rural and urban households permitted or encouraged more families to put their children to work. The Child Labor Act explicitly excluded family-run enterprises and did not cover workshops that employed too few workers to qualify as factories. That eliminated the influence of Governmental labor laws and regulation and encouraged the use of children.

The household-based carpet-weaving (and wool-processing) enterprise was well-suited for very poor households that did not own physical assets, such as land or livestock. The carpet industry did not require that the household had any physical assets or start-up capital other than some inexpensive common tools and did not require that the members of the household go elsewhere to work. Most of the looms in households were not owned by the households but were on loan from the contractor or exporter, and the exporter or contractor brought everything that was needed (appropriate amounts of correctly dyed thread and the design) to the household. Other common home-based income-generating activities for children, such as herding livestock or farming, required that the household owned land or livestock or had its children work for other households.

The only input needed from the household was work, which meant that the children would be encouraged to work to contribute economically to the household. The household base in India allowed rural and urban families the opportunity to employ their children at home.

The industry did not require investments in expensive machinery, which allowed the industry to respond to increased market demand by simply putting more workers (or more households) to work. When the industry expanded, all it really required was more labor, and that simple need led to greater exploitation of children.

The other aspect was the low wage paid to child carpet workers. This was documented by another study (the Labor Demand Study) that was conducted in India by the carpet research project. The conclusion from the Labor Demand Study was that “carpet establishments behave like perfectly-competitive profit-maximizing businesses.” Child wages in the carpet industry

were lower than adult wages, and lower child wages in a competitive labor market explained the use of children in the carpet industry: "...an additional dollar in adult wages increases the number of workers who appear to be below-18 by 0.3".

5.5. STRENGTHS OF STUDY

The primary strength of this study was that it achieved its purpose and increased the knowledge base about working children and child labor in the carpet industry in India. This report presents reliable, statistically sound, and nationally representative estimates of the prevalence of working children and child labor in the industry and documents the scientific process by which those estimates were achieved. This report also provides valid and insightful descriptions of children's working conditions in the production process of the carpet industry in India.

Another strength of this study was the substantial qualitative field research conducted by the ICF research team at the onset of the project, which made a major contribution to meeting the project's objectives. The 12 person-weeks of in-country exploratory research helped provide the context to interpret the findings of the quantitative surveys and, most importantly, helped to identify the challenges inherent to this type of research. Aided by the qualitative insights, the project designed a comprehensive methodological framework to minimize the impact of those challenges. A summary of the main research challenges and the corresponding methodological responses were presented in Table 33.

Those approaches were generally successful. In terms of coverage, the first research challenge, the research was able to build a comprehensive sampling frame covering all three levels of the carpet industry, including Level 1 and Level 2 carpet factories and carpet HHs. However, non-responses during the sampling frame survey meant that the sampling frames were not all-inclusive. That problem, which was particularly relevant for Level 1 units, did not seem in any case to introduce coverage biases for the Level 1 factory-based population. Follow-up research indicated that Level 1 units excluded due to non-response did not differ significantly from the units included in the sampling frame.

Coverage biases also did not seem to be a major concern for Level 2 and carpet HH units. Even if some exporters refused to provide information about Level 2 or carpet HH areas, there was a great degree of overlap among the reports of responding exporters, indicating that non-response may have led only to limited undercoverage. Indeed, the sampling frame identified a wide range of areas, including many with very few units. All units in those sampled areas were listed and given a probability of selection, even if they had not been identified by the exporters, which further reduced the potential for coverage bias. However, it was possible that some Level 2 or

carpet HH areas, particularly those outside the core carpet areas, may have been excluded from the sampling frame.

Table 33. Research Challenges and Corresponding Methodological Approaches in India

Research Challenge	Methodological Approach
1. Covering the entire population of carpet workers in India	<ul style="list-style-type: none"> • Conducted frame building census of exporters • Listed all Level 2 and carpet HH units in selected areas • Follow-up research to assess non-response bias
2. Gaining access to child workers	<ul style="list-style-type: none"> • Emphasis on confidentiality of results • Focus on general employment rather than child labor • Stratified random sampling based on apparent age of worker (Group A vs. Group B) • Redesigned instruments to avoid focus on age and child labor • Follow-up by senior staff to minimize factory level refusals
3. Obtaining accurate information about child workers	<ul style="list-style-type: none"> • Emphasis on privacy during interviews with child carpet workers • Combination of observational and interview approaches

Regarding the second challenge, gaining access to child workers, the project did not encounter problems accessing child workers in the household-based industry. Accessing Level 1 factories was more challenging, with a refusal rate of 16.7 percent. However, that segment of the industry did not appear to employ children. Follow-up research indicated that refusals from Level 1 factories did not appear to be attempts to conceal child workers, and the refusals did not introduce a significant bias. The careful design and supervision implemented with the survey of child carpet workers in Level 2 factories, the most sensitive segment of the industry, allowed the project to minimize access problems. The Level 2 factory survey had very few refusals at the factory level, with a final refusal rate of two percent¹²³.

Regarding the third challenge, obtaining accurate information about child workers, the project did detect attempts to distort information about child workers (described earlier in this report), which would have led to an under-estimation of the population of child carpet workers in Level 2 factories based on self-reports from interviews. Observation-based estimates, on the other hand, may have overestimated the population of child carpet workers in Level 2 factories (noted earlier). The project capped measurement error by using both methodologies to provide an upper and lower limit for the population estimates of child carpet workers in Level 2 factories.

Besides achieving the research objectives, the design of the study made it possible to establish benchmarks and compare different work-related cohorts of children (see Table 34). The children working in the carpet industry (child carpet workers) were the key targeted population for this

¹²³ Refusal rates for establishment surveys in India were typically in the 10-25 percent range, according to local data collection agencies.

research. Within the carpet industry, the study was able to compare the working and living conditions of carpet factory-based and carpet HH-based child carpet workers.

In the household survey, within every local area (PSU) containing the sample of HH-based child carpet workers the teams sampled and surveyed an equivalent number of carpet and non-carpet households. Within each surveyed HH, all of the children aged 5-17 were interviewed. That made it possible for this study to evaluate differences between child carpet workers and children in other occupational situations (including non-working children) while holding constant many geographical and household type variables.

The focal comparison for this study was the working and living conditions of HH-based child carpet workers with the conditions of children living in non-carpet HHs who worked in other (non-carpet) industries (other child workers). That comparison was important in order to assess whether children working in the carpet industry were better or worse-off than neighboring children in other occupational situations. That comparison addressed the question about the impact on the welfare of the child who worked in the carpet industry.

Other studies of child carpet workers were unable to establish benchmarks for comparisons because those studies interviewed only children working in the carpet sector. Lacking a comparison population of children made it impossible to use the collected data to infer about the factors that influenced children’s involvement in the carpet sector versus other sectors or to discuss the impact on the welfare of the child of working in the carpet sector versus other alternatives.

Table 34. Comparison Groups of Children in India

Occupational groups	Setting	Key insight
Carpet workers	Factory child worker	Was factory-based carpet work better than household-based carpet work?
	HH child carpet worker	Was household-based carpet work better than factory-based carpet work?
	Total children working in the carpet industry	Description of the total population of children working in the carpet industry of India.
Workers in other industries	Other child worker (carpet household)	Are children in carpet households better off if they work in the carpet sector or in other sector?
	Other child worker (non-carpet HH)	Is household-based carpet work better than work in other sectors in non-carpet households?
Non-workers	Non-worker (carpet household)	Are children in carpet households better off if they work in the carpet sector or if they don't work at all?
	Non-worker (non-carpet HH)	Are non-working children in reference households better off than children working in the household-based carpet sector?

Other comparisons were possible with the data collected in this study, but were not pursued in this report because they were not of equivalent priority. The study collected the data to compare, within carpet HHs, children working in the carpet industry, children working in other industries, and non-working children. Within non-carpet HHs, the children working in other (non-carpet) industries (other child workers) might be compared to the children who did not work.

An additional strength of this study was the use of standardized scales to assess critical child-level outcomes, including literacy, numeracy, and psycho-social well-being. Those scales provided field tested and validated instruments that were used to obtain objective scores and, in some cases, also normative data to assess the relative standing of those scores.

5.6. LIMITATIONS OF STUDY

This study had some limitations resulting from design and data collection challenges that must be considered. Three limitations in particular merited comment.

The first limitation resulted from the complex and sensitive nature of some of the constructs and populations being measured. Additionally, those topics were illegal and hidden. Concepts such as trafficking and forced or bonded labor, which were relevant to this study, were multi-faceted and capable of appearing in different forms and contexts. As an example, the ILO's current guidelines to estimate forced labor of children demanded a complex measurement framework, including multiple indicators of unfree recruitment, work and life under duress, and impossibility to leave (ILO, 2011). Since this study intended to cover a wide variety of topics related to the work of children in a geographically wide and diverse area, all of those topics could not be covered as exhaustively as possible.

The second limitation resulted from the lagged timing of the different surveys. The Level 2 carpet factory survey was completed nearly 18 months after the Level 1 and carpet HH surveys were completed. That introduced two complications. The first one resulted from the misalignment of the total estimates, which were computed based on the aggregation of data from different points in time. Although the project did not expect that short lag to introduce dramatic shifts in employment trends, the carpet industry had been subject to changes over the last few years, both in its size and structure. Qualitative inputs collected in March-April 2011 identified two main trends that suggested that the timing of data collection might have affected the population estimates of child carpet workers. First, exporters and contractors indicated that the industry workforce as a whole had shrunk recently, in line with the lower volume of exports. Second, exporters and contractors indicated that production may have receded toward core production areas and larger factories, as opposed to the previous model of flow towards areas outside the traditional core and a dispersed network of subcontracting arrangements of small contractors and households. Although that did

not necessarily affect the estimates of the total workforce, it may have affected the population estimates of the child workforce. Previous research and the current data indicated that areas outside the traditional core had a greater prevalence of child labor. If production receded from those outer areas, prevalence of child workers may have decreased accordingly. Also, children appeared to be more prevalent farther down in the subcontracting supply chain, with carpet HHs being the farthest and also showing the highest prevalence. As production moved upward toward more formal settings, the industry prevalence of children may have decreased as well. In summary, the population estimates of child carpet workers may have been higher if all surveys had been conducted simultaneously between 2009 and 2010.

Finally, the population estimates derived from this study relied on the accuracy and completeness of the sampling frames from which the final samples were selected. The project did not have access to an official census of carpet establishments in India, which was why the three sampling frames used in this study were developed expressly for the purposes of this research. Although the sampling frames were developed carefully, using a wide array of inputs and involving a diverse pool of experts and stakeholders, they could not be expected to contain the entire population of carpet establishments with absolute certainty. More specifically, non-response during the survey of exporters likely led to an underrepresentation in the sampling frame of Level 1 establishments, particularly in Rajasthan state. It was also likely that Level 2 carpet factories and carpet households were underrepresented as well, although the overlapping nature of exporter-provided information for these two levels may have limited the number of areas that were excluded from the sampling frame. Additionally, listing procedures often relied on the validity of data provided by key informants, which might contain some degree of error.

The project was only able to speculate about the impact of that potential undercoverage on the research findings. The numbers may have been more affected than the prevalences. Regarding their impact on population estimates, the sampling frames probably represented a slightly smaller population than the true population for the Indian carpet industry, i.e., in absolute terms, this project's estimate of 135,717 carpet establishments, 273,866 workers, and 13,131 child workers was probably conservative. In relative terms, however, the project's finding that children represented 4.8 percent of the total workforce in the carpet industry seemed robust. There were three arguments that supported the validity of those prevalence estimates:

- a) Although non-response likely led to an underestimation of the absolute population sizes, follow-up research with non-respondents during the frame and PC surveys indicated that non-respondents were similar enough to respondents that their inclusion would not have changed significantly the estimated prevalence of working children.
- b) Non-response during the frame survey also suggested that new or extension areas such as those in Rajasthan were underrepresented in the sampling frames. According to Levison et al. (1996) and Venkateswarlu et al. (2006), extension and new areas showed a greater

prevalence of child workers than traditional core areas. The underrepresentation or exclusion of those extension and new areas alone, particularly those containing Level 2 carpet factories and carpet HHs, would have led to an underestimation of the prevalence of child workers. However, the underrepresentation or exclusion of those areas would likely be matched by an even larger exclusion of Level 1 carpet factories. Since Level 1 carpet factories, even those belonging to non-respondents, showed little or no indications of containing child workers, the differential rates of exclusion at the different levels probably cancelled each other out.

- c) The research encountered some resistance in the Level 2 carpet factory segment, suggesting that unit-level non-response or active concealment might have led to a significant underestimation of the prevalence of child workers. In anticipation, the project decided to complement interview-based estimations with observation-based estimations in that segment. The difference found between interview-based vs. observation-based estimates, while noticeable for the Level 2 carpet factory segment, was small enough at the aggregate level to make only a small difference in the overall prevalence estimates.

In summary, the research team was confident that the sampling frames represented a good approximation to the true population. Based on quality control and follow-up activities, the research team was also confident that the data that were collected accurately reflected the prevalence and conditions in the areas covered by the sampling frame.

SUMMARY AND CONCLUSIONS

This is the final report of the Prevalence and Conditions (PC) Study of India, which was one of the studies conducted by the USDOL-funded “Research on Children Working in the Carpet Industry of India, Nepal, and Pakistan” project that was administered by ICF. The study had three objectives.

The first objective was to produce reliable, statistically sound, and nationally representative estimates of the prevalence of working children and child labor in the carpet industry in India. Based on its survey findings, the study estimated that:

- There were 13,131 children working in the carpet industry in India.
- Children constituted 4.8 percent of the carpet industry workforce in India.
- The project investigated further to determine the proportion of children in exploitative working conditions using other measures:
 - Based on the work being defined as hazardous, all (100%) child carpet workers in India were considered to be in hazardous working conditions.
 - Based on hours of total work per week, 74.5 percent of child carpet workers showed indications of working excessive hours.
 - There also were indications of the existence of forced or bonded child labor that was related to family indebtedness.
 - Finally, there were indications that at least some children in the factory-based carpet industry might be in trafficking conditions.

The second objective was to describe children’s working conditions in the production process of the carpet industry in India.

- Almost all (94.2 percent) of the child carpet workers were in the household-based industry, and their main activity was hand-knotting carpets and balling, joining, or plying thread. Their median age was 15 years; a slight majority were girls; and they mostly worked in their own households.
- The areas of carpet households were characterized by rural poverty and indebtedness, and a small percentage of carpet households that could not repay their debts admitted that they used their children’s labor to repay those debts.
- A majority (67.9 percent) of child carpet workers were not currently attending school. As many as 17.4 percent of the HH-based child carpet workers could not even recognize letters, and almost half (44.9 percent) could not read a simple sentence. Only one-fourth of the HH-based child carpet workers (27.1 percent) could do both simple addition and subtraction.
- Very few child carpet workers reported work-related injuries, including eye injuries (0.5 percent), injury or swelling of hands (0.2 percent) and feet or leg injuries (0.1 percent).

- Most child carpet workers (84.5 percent) reported that they worked to supplement their families' income and worked four hours a day, seven days a week, 12 months a year.
- Child carpet workers earned a median of 300 rupees per week. Most or all of their earnings were transferred to or kept by their parents.
- Most children were exposed to some hazardous agent or process in the workplace, including dust (35.3 percent), work with heavy loads (34.1 percent) and work with dangerous tools such as knives, cutters or scissors (19.1 percent). Working conditions were significantly more hazardous for factory-based children than for household-based children.

The third objective was to compare the working and living conditions of children working in the carpet industry and children working in other industries in India.

- Carpet households were relatively poorer than other local households.
- Adults and children in carpet households were less schooled.
- A higher proportion of the adults and children in carpet households had worked during the past 12 months.
- The children in non-carpet households who worked in other industries were older than the child carpet workers and were primarily boys who worked outside the home as laborers in agriculture, retail or other informal occupations.
- Almost all the working children from both sets of households reported that they worked to supplement their families' income.
- Child carpet workers worked more months a year, more days a week, and more hours a day than the other child workers
- Fewer child carpet workers were paid for their work. Those child carpet workers that were paid earned slightly more than other child carpet workers.
- Child carpet workers reported fewer hazardous agents at their workplace. Other child workers reported a greater degree of exposure to environmental hazards, particularly dust, loud noise, chemical hazards, ultraviolet or x-rays, and working underground and at heights.

Conclusions

The study estimated that 13,131 children were working in the carpet industry in India at the time of the study in 2009-2011. All of those working children were in hazardous work, which is one of the worst forms of child labor. Three-fourths of the child carpet workers also showed indications of working excessive hours, and there were indications of possible forced and bonded labor conditions.

The industry was found to be much smaller than previous estimates. Many factories had closed; many households had stopped producing carpets; and many factories and households were

producing far below their capacity. The shrinking of the industry had similarly affected the number and prevalence of children working in the industry workforce. To some extent, the decrease in production and workforce (including child carpet workers) might have been due to lower global demand for Indian carpets since 2007. Another economic factor was the low prices being offered by foreign buyers, as many Indian exporters stated that it did not pay them to produce at the price point being offered, especially because the cost of raw materials had increased. While the global recession and prices obviously affected lower effective demand, other factors may have included bad publicity (child labor), intense competition in the international market, and a scarcity of skilled weavers in India. Finally, government and NGO programs to reduce child labor and increase primary education and vocational training may have affected the size of the industry's workforce.

Although the estimates were lower than those produced in earlier studies, this study documented the existence of a significant amount of child workers in the carpet industry. Further, those aggregated findings masked widely divergent realities among different sub-groups of children. Even though all child carpet workers would be considered to be in child labor because the industry was hazardous, some cohorts of children appeared to be exposed to significantly poorer working and living conditions.

Children working in carpet households and children working in carpet factories, in particular, experienced radically different situations. HH-based child carpet workers represented a large majority of child carpet workers, yet their working conditions seemed relatively benign compared to children in carpet factories. Most HH-based child carpet workers worked in their own homes, where they were less exposed to environmental hazards and other risks such as psychological abuse from supervisors or coworkers. HH-based child carpet workers also worked significantly fewer hours per day, were more likely to be attending school, and were less likely to be sick. Carpet factory-based child carpet workers, on the other hand, represented a small proportion of the child workforce, yet they were exposed to a host of environmental and psychosocial hazards at work. Although they earned slightly more, that was at the expense of much longer hours. Finally, some showed indications of being in child trafficking conditions.

In conclusion, it appeared that the estimates presented in this study, while conservative, clearly indicated that child labor in the carpet industry was a smaller problem than had been previously suggested. However, there were some segments of the industry, particularly the Level 2 carpet factories, where a significant number of children could be found to be working in deplorable conditions.

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APPENDIX A – THE RESEARCH TEAM

The PC study (including developing the sampling frames) was conducted between September 2008 and December 2011 by ICF International, which administered all contracts, monitored and secured the flow of all necessary funds, and obtained all necessary permissions and authorizations including human subjects' approval. ICF International also supported the principal researcher with methodological design, questionnaire development, tabulation of data, and professional editing of the report. ICF International had final reporting responsibilities to USDOL.

ICF International executed its projects through a team structure placing the project director at the center of the project with authority to make all necessary decisions while providing an integrated team of qualified staff to plan and implement projects.

Dr. Art Hansen was the Principal Investigator/Project Director (PI/PD) for the project. He was a research social scientist who had led project teams over the last 20 years with a special focus on child labor and child welfare. He had conducted research and assessment projects for a range of USG agencies including USDOL-ILAB as well as international donor agencies such as the UN.

Pablo Diego was the Research Consultant for the project. He was a skilled social scientist who had eight years of experience conducting research studies and had worked in child labor data collection projects in many developing countries (Nigeria, Peru, Afghanistan, Haiti, Uganda, and Paraguay).

Wendy Blanpied was the Child Labor Research Specialist for the project. She had lived in India and worked with anti-child labor organizations and had extensive qualitative research experience with child labor and child trafficking.

Two research organizations, ORG Centre for Social Research (a division of ACNielsen ORG-MARG) and Sigma Research Consulting, were the implementing institutions in India. They were in charge of sampling frame development, data collection, fieldwork quality control, data processing, and data cleaning. One non-governmental organization, GoodWeave India, assisted the ICF team during part of the field research.

APPENDIX B – ADDITIONAL DATA

Table 35: Household Sampling Frame

State	Household Frame (Number of PSUs)			
	Rural Set#1	Rural Set#2	Urban	Total
Uttar Pradesh	216	228	61	505
Jammu & Kashmir	4	28	4	36
Haryana	1	5	27	33
Punjab	15	7	0	22
Madhya Pradesh	1	1	2	4
Rajasthan	0	0	4	4
West Bengal	0	0	2	2
Karnataka	0	2	0	2
Gujarat	0	0	1	1
Andhra Pradesh	1	0	0	1
Himachal Pradesh	0	0	1	1
Bihar	0	1	0	1
Total	238	272	102	612

Table 36: Missing Cases among Household-based Children by Gender, Age, School Attendance and Occupational Groups

		Missing		Not Missing	
		N	%	N	%
Gender	Males	599	37.4%	7,599	54.3%
	Females	1,005	62.6%	6,384	45.7%
Age	5-8	295	18.4%	260	1.9%
	9-13	157	9.8%	3,151	22.5%
	14-17	1,153	71.9%	10,572	75.6%
Attending School?	Yes	519	32.4%	4,718	33.7%
	No	1,085	67.6%	9,266	66.3%
Occupational Group	Carpet Worker	1,489	92.8%	10,885	77.8%
	Other Worker in Carpet HH	69	4.3%	1,237	8.8%
	Other Worker in Reference HH	47	2.9%	1,862	13.3%
Total		1,604	100%	13,983	100%

Table 37: Factory Sampling Frame

State	Factory Frame	
	Level 1 (Number of Factories)	Level 2 (Number of Contractors)
Uttar Pradesh	1113	1,666
Jammu & Kashmir	101	48
Haryana	162	170
Punjab	7	13
Madhya Pradesh	2	23
Rajasthan	44	48
Karnataka	2	0
Delhi	37	1
Uttarakhand	4	0
Kerala	4	0
Himachal Pradesh	2	3
Other	6	3
Total	1,484	1,963

Table 38: Factory Sample Summary

State	Level 1		Level 2		Total	
	Selected	Completed	Selected	Completed	Selected	Completed
Uttar Pradesh	340	156	285	206	625	362
Haryana	51	22	0	0	51	22
Jammu and Kashmir	34	13	0	0	34	13
Rajasthan	15	12	0	0	15	12
Delhi	10	3	0	0	10	3
Punjab	2	2	0	0	2	2
Madhya Pradesh	2	1	0	0	2	1
Other	6	0	0	0	6	0
Total	460	209	285	206	745	415

Table 39: Weighted and Unweighted Gender and Age Distribution of Household-based Children Samples

	Unweighted				Weighted			
	Carpet Households		Non-Carpet Households		Carpet Households		Non-Carpet Households	
	N	%	N	%	N	%	N	%
Age								
5-8	1,046	32.5%	1,112	34.4%	88,539	35.0%	86,589	33.8%
9-13	1,266	39.3%	1,255	38.8%	101,889	40.3%	107,203	41.9%
14-17	911	28.3%	865	26.8%	62,200	24.6%	62,331	24.3%
Total	3,223	100%	3,232	100%	252,627	100%	256,123	100%
Gender								
Male	1,687	52.3%	1,707	52.8%	130,764	51.8%	123,694	48.3%
Female	1,536	47.7%	1,525	47.2%	121,864	48.2%	132,429	51.7%
Total	3,223	100%	3,232	100%	252,627	100%	256,123	100%

Table 40: Weighted and Unweighted Gender and Age Distribution of Level 2 Children Samples

		Un-weighted		Weighted	
		N	%	n	%
Age	5-8	0	0.0%	0	0.0%
	9-13	0	0.0%	0	0.0%
	14-17	31	100%	757	100%
Gender	Female	2	6.5%	26	3.4%
	Male	29	93.5%	731	96.6%
Total workers in sample		31	100%	757	100%

Table 41. Literacy and Numeracy among Child Carpet Workers

	Total	Children Working in Households	Children Working in Factories	p-value
Weighted N =	13,131	12,374	757	
Maximum reading ability level				
Nothing	-	17.4%	-	-
Letters	-	11.3%	-	
Words	-	16.2%	-	
Level I Text as a set of words	-	0.4%	-	
Level I Text with comprehension	-	1.1%	-	
Level II Text as a set of words	-	13.7%	-	
Level II Text with comprehension	-	39.8%	-	
Numeracy level				
Cannot do addition or subtraction	-	19.0%	-	-
Can only do addition problem	-	1.3%	-	
Can only do subtraction problem	-	52.6%	-	

	Total	Children Working in Households	Children Working in Factories	p-value
Can do both addition & subtraction	-	27.1%	-	

Base: Children who worked in the carpet industry in the past 12 months. Literacy and numeracy data not collected for children in carpet factories.

Source: India PC household child survey (Nov. 2009-April 2010).

Table 42. Illnesses among Child Carpet Workers

	Total	Children Working in Households	Children Working in Factories	p-value
Weighted N =	13,131	12,374	757	
“When was the last time you were sick?”				
In the past 7 days	10.5%	10.4%	12.0%	.88
In the past 1 month (cumulative)	28.7%	27.7%	44.2%	.23
In the past 12 months (cumulative)	56.2%	54.5%	82.6%	<.05*
Longer ago	40.7%	42.3%	15.5%	
DK/NR	3.1%	3.2%	2.0%	
“What illnesses have you had in the past 12 months?”				
Diarrhea	10.1%	10.6%	2.1%	<.05*
Vomiting	9.5%	10.1%	0.0%	.18
Other stomach problems	5.4%	5.6%	1.9%	.20
Fever	43.4%	41.4%	76.2%	<.01**
Malaria	3.1%	3.2%	0.0%	.64
Typhoid fever	1.8%	1.9%	0.5%	.14
Anemia	1.0%	0.7%	6.0%	.17
Cholera	1.2%	1.2%	0.0%	.65
Eye problems	2.4%	2.5%	0.0%	.57
Breathing problems	2.7%	2.9%	0.0%	.68
Severe headaches	18.4%	19.2%	6.0%	.16
Tooth aches	0.8%	0.8%	0.0%	.72
Muscle aches	0.2%	0.0%	3.1%	<.05*
Ear aches	2.7%	2.8%	0.0%	.46
Jaundice	0.5%	0.6%	0.0%	.64
Skin problems	0.0%	0.0%	0.0%	-
Other illness	1.2%	0.9%	6.1%	.19

Children who worked in the carpet industry in the past 12 months.

Note: Multiple response items, totals may add to more than 100 percent.

Source: India PC household child survey (Nov. 2009-April 2010), India PC Level 2 factory worker survey (November 2011).

Table 43. Injuries among Child Carpet Workers

	Total	Children Working in Households	Children Working in Factories	p-value
Weighted N =	13,131	12,374	757	
"When was the last time you were injured?"				
In the past 7 days	3.0%	3.2%	0.0%	.64
In the past 1 month (cumulative)	3.0%	3.2%	0.0%	.64
In the past 12 months (cumulative)	4.8%	4.9%	3.1%	.07
Longer ago	2.9%	1.8%	19.8%	
Never	89.7%	90.5%	77.1%	
DK/NR	2.6%	2.8%	0.0%	
Work-related injuries in the past 12 months (most recent injury) ¹				
Head injuries	0.0%	0.0%	0.0%	-
Injury to ears or deafness in ears	0.0%	0.0%	0.0%	-
Eye injuries	0.5%	0.5%	0.0%	.73
Shoulder injuries	0.0%	0.0%	0.0%	-
Injuries or swelling in hands	0.2%	0.2%	0.0%	.74
Smoke or chemical damage to lungs	0.0%	0.0%	0.0%	-
Injuries to abdomen	0.0%	0.0%	0.0%	-
Back strain/pain in back work	0.0%	0.0%	0.0%	-
Knee or leg injuries	0.0%	0.0%	0.0%	-
Twisted ankle or legs	0.0%	0.0%	0.0%	-
Feet or leg injuries	0.1%	0.1%	0.0%	.74
Heat stroke	0.0%	0.0%	0.0%	-
Burn from fire	0.0%	0.0%	0.0%	-
Chemical burn	0.0%	0.0%	0.0%	-
Cuts/wounds	0.0%	0.0%	0.0%	-
Other injuries	0.0%	0.0%	0.0%	-

Base: Children who worked in the carpet industry in the past 12 months.

¹ Information missing for 7 HH-based child carpet workers (Weighted N = 608) and 1 factory-based child carpet worker (Weighted N = 24).

Source: India PC household child survey (Nov. 2009-April 2010), India PC Level 2 factory worker survey (November 2011).

Table 44. Personal Well-Being Among Household-Based Child Carpet Workers

	Total	Children Working in Households	Children Working in Factories	p-value
Weighted N =	-	9,761	-	
"How happy are you about..." (Average)				
Standard of living ("The things you have like the money & things you own?")	-	59.5	-	-
Health ("How healthy you are?")	-	67.4	-	-
Achievement ("The things you make or the things you learn?")	-	65.2	-	-
Personal relationships ("Getting on with the people you know?")	-	71.9	-	-
Personal safety ("How safe you feel?")	-	68.8	-	-
Feeling part of the community ("Doing things outside your home?")	-	68.0	-	-
Future security ("How things will be later on in your life?")	-	62.9	-	-
Summary Scores (Average)				
How happy are you about your life as a whole?	-	66.7	-	-
Personal Well-Being Index Score	-	66.3	-	-

Base: Children who worked in the carpet industry in the past 12 months. Subjective well-being information missing for 44 HH-based child carpet workers who could not understand the scale (Weighted N = 2,563). Data not collected from factory-based child carpet workers. Source: India PC household child survey (Nov. 2009-April 2010), India PC Level 2 factory worker survey (November 2011).

Table 45: Carpet-related Activities Performed in the last 12 Months by Setting and Age

“When was the last time that you engaged in _____ (for at least for an hour)?”	Factories				Households				Total			
	5-8	9-13	14-17	p-value	5-8	9-13	14-17	p-value	5-8	9-13	14-17	p-value
Weighted N =	0	0	757		555	2,899	8,920		555	2,899	9,677	
Cleaning, washing or carding wool or silk	Insufficient Sample Size	Insufficient Sample Size	0.0%	-	Insufficient Sample Size	0.2%	1.2%	.12	Insufficient Sample Size	0.2%	1.1%	.15
Spinning wool to make thread			0.0%	-		1.9%	4.5%	.29		1.9%	4.1%	.34
Dyeing thread			0.0%	-		0.2%	5.3%	<.00**		0.2%	4.9%	<.00**
Balling, joining, or plying thread			15.2%	-		67.7%	38.8%	<.05*		67.7%	37.0%	<.05*
Tufting carpets			55.1%	-		0.6%	12.5%	<.00**		0.6%	15.8%	<.00**
Hand looming carpets			19.8%	-		2.0%	11.2%	<.00**		2.0%	11.8%	<.00**
Hand-knotting carpets			24.8%	-		38.5%	47.7%	.52		38.5%	45.9%	.60
Washing carpets			0.0%	-		0.2%	4.3%	<.00**		0.2%	4.0%	<.00**
Other finishing activities			0.3%	-		4.9%	8.9%	.51		4.9%	8.2%	.57

Base: Children interviewed for the PC study who performed at least one carpet-related activity in the last 12 months. Insufficient sample base (n<30) for the 5-8 age group in factories and households.

Note: Multiple response items, totals may not add up to 100%.

Source: India PC household child survey (Nov. 2009-April 2010), India PC Level 2 factory worker survey (November 2011).

Table 46. Corruption in the Social Environment of Household-Based Child Carpet Workers

Exposure to Corruption	Children Working in Households
Weighted N =	10,885
(“How frequently do you see the following activities in your community or at your place of work?”)	
Children & youths abusing drugs	
Always or often	2.8%
Sometimes	3.3%
Rarely or never	69.6%
Children & youths stealing/fighting	
Always or often	10.3%
Sometimes	20.3%
Rarely or never	48.9%
People selling drugs	
Always or often	3.5%
Sometimes	3.8%
Rarely or never	67.4%
Prostitution	
Always or often	1.9%
Sometimes	0.0%
Rarely or never	47.7%
Children & youths drinking	
Always or often	19.8%
Sometimes	12.4%
Rarely or never	45.3%
Children & youths smoking	
Always or often	29.3%
Sometimes	17.2%
Rarely or never	34.9%

Base: Children who worked in the carpet industry in the past 12 months. Information missing for 20 HH-based child carpet workers (Weighted N = 1,489).

Source: India PC household child survey (Nov. 2009-April 2010).

Table 47. Mode of Payment for Child Carpet Workers

	Total	Children Working in Households	Children Working in Factories	p-value
Weighted N =	11,642	10,885	757	
“What do you get in exchange for your work?”¹				
Cash	50.8%	47.4%	100.0%	<.01**
New skill (Apprenticeship)	5.5%	5.3%	8.6%	.66
Education	17.9%	19.1%	0.3%	<.01**
Shelter, food, clothing	48.9%	50.9%	19.3%	.07
Medical assistance	16.8%	18.0%	0.0%	.07
Other	0.0%	0.0%	0.0%	-
DK/NR	0.1%	0.1%	0.0%	.73
“How are your pay/benefits determined?”²				
Days worked	9.7%	10.2%	2.9%	.16
Weeks worked	1.2%	0.9%	4.6%	.17
Every two weeks worked	0.3%	0.0%	5.2%	<.01**
Every month worked	10.4%	7.6%	50.6%	<.01**
Piecework	52.8%	52.0%	64.0%	.38
Per weight of the wool/yarn	19.2%	20.5%	0.0%	<.05*
Upon completion of a task	21.7%	23.2%	0.0%	<.05*
Other	0.0%	0.0%	0.0%	-
DK/NR	3.0%	3.2%	0.0%	.53
Weekly Earnings²				
Median Weekly Earnings (Indian Rupees)	300	300	500	<.01**

¹ Base: Children who worked in the carpet industry in the past 12 months. Information missing for 20 HH-based child carpet workers (Weighted N = 1,489).

² Base: Children who worked in the carpet industry in the past 12 months and received something in exchange for work. Information missing for 20 HH-based child carpet workers (Weighted N = 1,489).

Source: India PC household child survey (Nov. 2009-April 2010), India PC Level 2 factory worker survey (November 2011).

Table 48. Medical Benefits for Child Carpet Workers

	Total	Children Working in Households	Children Working in Factories	p-value
Weighted N =	11,641	10,884	757	
“If you become ill/injured during work, how much expenses your employer bear?”				
All expenses	3.7%	2.9%	14.6%	.17
Some expenses	3.6%	3.2%	9.5%	
None	75.1%	75.0%	75.9%	
N/A (usually work in family business)	8.6%	9.2%	0.0%	
DK/NR	9.1%	9.7%	0.0%	

Base: Children who worked in the carpet industry in the past 12 months. Information missing for 20 HH-based child carpet workers (Weighted N = 1,489).

Source: India PC household child survey (Nov. 2009-April 2010), India PC Level 2 factory worker survey (November 2011).

Table 49. Protective Measures for Child Carpet Workers

	Total	Children Working in Households	Children Working in Factories	p-value
Weighted N =	11,642	10,885	757	
"Is there an adult present at the time of work for supervision?"¹				
Yes, always	18.2%	15.9%	51.8%	<.05*
Yes, sometimes	40.6%	40.6%	40.5%	
No	40.1%	42.4%	7.6%	
DK/NR	1.1%	1.1%	0.0%	
"Have you received any training that prepared you to use these tools?"²				
Yes	53.0%	49.0%	68.9%	.31
No	47.0%	51.0%	31.1%	

¹Base: Children who worked in the carpet industry in the past 12 months. Information missing for 20 HH-based child carpet workers (Weighted N = 1,489).

²Base: Children who worked in the carpet industry in the past 12 months and used any tools for work. Information missing for 20 HH-based child carpet workers (Weighted N = 1,489).

Source: India PC household child survey (Nov. 2009-April 2010), India PC Level 2 factory worker survey (November 2011).

Table 50. Household Debt of Carpet and Non-Carpet Households

	Child Carpet workers (Carpet HHs)	Other Child Workers (Reference HHs)	p-value
Weighted N =	12,374	1,908	
Household Debt Levels			
% with some HH member that has acquired any debt ¹	28.1%	31.4%	.86
Median HH debt (rupees) ²	20,000	*	-
"Who loaned money (last borrowed money) to anyone in the HH?"²			
Agent that purchases products produced in household business	22.6%	*	-
Employer	9.3%	*	-
Family member	11.0%	*	-
Local money lender	28.5%	*	-
Bank/Finance company	5.8%	*	-
Store from which purchase was made	2.4%	*	-
Individual from which purchase was made	0.0%	*	-
Cooperatives/Community organizations/Saving and credit groups	16.2%	*	-
Other (Specify)	12.0%	*	-

Source: India PC household child survey (Nov. 2009-April 2010).

¹Base: Households of child carpet workers and other child workers.

²Base: Households of child carpet workers and other child workers that have acquired any debt. Insufficient sample size for households of other child workers.

Table 51. Distressed Debt among Carpet and Non-Carpet Households

	Child Carpet Workers (Carpet HHs)	Other Child Workers (Reference HHs)	p-value
Weighted N =	3,477	600	
Difficulty paying off debt¹			
"In the past 12 months has your household had any difficulty paying off debt?" (% 'yes') ¹	53.8%	*	-
"What made it difficult to pay off debt?"²			
Unexpected expenses	67.0%	*	-
Lower than expected income from enterprise	58.2%	*	-
Lost job/Left job	28.9%	*	-
Household member was injured or sick and couldn't work	7.9%	*	-
Agricultural production lower than expected	4.9%	*	-
Death in Family	1.5%	*	-
Other	0.0%	*	-

Source: India PC household child survey (Nov. 2009-April 2010).

¹Base: Households of child carpet workers and other child workers that have acquired any debt.

²Base: Households of child carpet workers and other child workers that have acquired any debt and had difficulty paying off debt.

Table 52. Hours Spent on Household Chores among Working Children in Household-Based Carpet Producing Areas

	Child Carpet Workers (Carpet HHs)	Other Child Workers (Reference HHs)	p-value
Weighted N =	10,453	1,096	
Household chores done in the last 7 days			
Cook for family members, prepare & serve food, wash dishes	51.2%	*	-
Clean the house or wash clothes etc.	80.0%	*	-
Shop for Household goods	36.5%	*	-
Make minor repairs to Household items	16.4%	*	-
Take care of old or sick family members	8.9%	*	-
Take care of younger children	32.5%	*	-
Collect wood or dung for cooking or heating	31.0%	*	-
Collect fodder for livestock	21.4%	*	-
Collect water for Household use	81.9%	*	-
Total doing any chores in last 7 days	95.3%	*	-
Median Hours per Week			
Total (All chores)	15.0	*	-

Base: Children who worked in the last seven days. Insufficient sample size for HH-based other child workers.

Source: India PC household child survey (Nov. 2009-April 2010).

Table 53: Median Number of Hours per Week Spent on Household Chores by Type of Work and Gender (HH children)

	Carpet HH child worker			p-value	Non-Carpet HH Child Worker			p-value
	Male	Female	Total		Male	Female	Total	
N =	4,543	5,910	10,453		822	275	1,096	
Cook for family members, prepare & serve food, wash dishes	0.0	8.0	2.0	<.01**	Insufficient Sample Size			-
Clean the house or wash clothes etc.	2.0	5.0	3.0	<.01**				-
Shop for HH goods	2.0	0.0	0.0	<.01**				-
Make minor repairs to HH items	0.0	0.0	0.0	.05				-
Take care of old or sick family members	0.0	0.0	0.0	.47				-
Take care of younger children	0.0	0.0	0.0	.06				-
Collect wood or dung for cooking or heating	0.0	0.0	0.0	.10				-
Collect fodder for livestock	0.0	0.0	0.0	<.05*				-
Collect water for HH use	2.0	2.0	2.0	.33				-
Total (All chores)	14.0	21.0	15.0	<.01**				-

Base: Working children interviewed for the Household Child Survey (excludes children who do chores but did not provide the time spent per week).
Source: India PC household child survey (Nov. 2009-April 2010).

Table 54. Whom Abused Children

	Factory Child Worker	HH Carpet child worker	Total	p-value
Weighted N =	274	269	543	
"Who reprimands or punishes you?"¹				
Employer/Work Supervisor	Insufficient Sample Size			-
Coworkers				-
Parents				-
Other				-
DK/Refused				-
"Who made you feel uncomfortable?"²				
	Insufficient Sample Size			-

¹ Base: Children who were engaged in income generating or productive work in the past 12 months and were reprimanded at work.
² Base: Children who were engaged in income generating or productive work in the past 12 months and were touched inappropriately at work at work.
Source: India PC household child survey (Nov. 2009-April 2010), India PC Level 2 factory worker survey (November 2011).

Table 55: Reason for Acquiring Debt by Child Work Status

	Carpet HH child worker (carpet)	Reference HH child worker	p-value
Weighted N =	3,477	600	
“Why has anybody in this household borrowed that money (last debt)”			
Purchase house or to expand or improve existing house	3.9%	Insufficient Sample Size	-
Purchase of land	0.3%		-
To expand family business	13.6%		-
To celebrate festival, wedding or funeral of family member	51.3%		-
To purchase appliance for domestic use	7.1%		-
To purchase a vehicle (car or motorcycle)	0.0%		-
To pay off another debt	5.8%		-
To go abroad (foreign employment)	0.0%		-
Others:	18.0%		-
Base: Children interviewed for the IPC study whose households have acquired any debt. Source: India PC household child survey (Nov. 2009-April 2010)			

Table 56: Suggestions to Improve Working Conditions by Setting and Type of Work

	Factory Child Worker	HH Carpet child worker	Total	p-value
Weighted N =	464	1,693	2,157	
“Which of the following conditions should be improved?”				
Pay/wages	Insufficient Sample Size	98.5%	95.8%	-
Working hours		27.0%	35.9%	-
Days of work		22.8%	26.1%	-
Time for breaks		12.4%	19.0%	-
Workspace		12.5%	18.5%	-
Ventilation at place of work		11.9%	15.7%	-
Drinking water to workers		13.7%	15.1%	-
Illumination at place of work		11.9%	14.1%	-
Toilet space		13.7%	10.7%	-
Foul odor or unsanitary surroundings		2.1%	7.5%	-
Noise from people and/or machines		0.0%	7.0%	-
Heat/Temperature at place of work		4.9%	6.7%	-
Physical abuse to workers		8.0%	6.3%	-
Verbal abuse to worker		3.1%	5.6%	-
Chemical exposure		0.0%	0.2%	-
Other		0.0%	0.0%	-
Base: Children who were engaged in income generating or productive work in the past 12 months and had any suggestions for improvement. Note: Multiple response items, totals may not add up to 100%. Source: India PC household child survey (Nov. 2009-April 2010), India PC Level 2 factory worker survey (November 2011).				

Table 57: Medical Assistance and Reasons for Not Receiving Medical Assistance by Setting and Type of Work

	Factory Child Worker	HH Carpet child worker	Total	p-value
Weighted N =	625	6,806	6,281	
Were you taken to a medical clinic/HP/hospital for any injuries or sickness? (% "Yes")¹	72.1%	87.6%	86.3%	.26
"What was the reason you were not taken to a health facility?"²				
Lack of money	Insufficient Sample Size			-
Too far away				-
Not necessary/Injury or illness was not severe & needed no treatment				-
Took care of injury in Village /Home				-
Went to local healer				-
Local treatment at home				-
Self-treatment by buying medicine				-
DK/NR				-
¹ Base: Children interviewed in the PC study who were sick or injured in the last 12 months ² Base: Children interviewed in the PC study who were sick or injured in the last 12 months and did not receive medical treatment. Note: Multiple response items, totals may not add up to 100%. Source: India PC household child survey (Nov. 2009-April 2010), India PC Level 2 factory worker survey (November 2011).				

Table 58: Treatment administered by Setting and Type of Work

	Factory Child Worker	HH Carpet child worker	Total	p-value
Weighted N =	451	5,960	6,411	
Place in the health facility where treated				
In first-aid/preliminary examination room	Insufficient Sample Size	32.2%	30.2%	-
In out-patient department		48.0%	46.5%	
Confinement to medical clinic or hospital		19.8%	23.3%	
Emergency room		0.0%	0.0%	
Other		0.0%	0.0%	
Person who administered the treatment				
Doctor	Insufficient Sample Size	84.9%	85.0%	-
Other health practitioner		11.4%	11.5%	
Self		0.0%	0.0%	
Parents/Relatives		2.9%	2.7%	
Employer		0.3%	0.2%	
Local healers		0.6%	0.5%	
DK/NR		0.0%	0.0%	
Base: Children interviewed in the PC study who were sick or injured in the last 12 months and received medical treatment. Source: India PC household child survey (Nov. 2009-April 2010), India PC Level 2 factory worker survey (November 2011).				

Table 59: Treatment administered by Setting and Type of Work

“What type of treatment were you administered?”	Factory Child Worker	HH Carpet child worker	Total	p-value
Weighted N =	451	5,960	6,411	
Place in the health facility where treated				
Antiseptic & bandage	Insufficient Sample Size	4.4%	4.8%	-
Local herbs/medicine		8.2%	7.7%	-
Prescription drugs		84.9%	85.9%	-
Brought drugs without prescription		2.9%	3.0%	-
Stitches		0.3%	0.2%	-
Surgery		0.0%	0.0%	-
Refused		0.0%	0.0%	-
Base: Children interviewed in the PC study who were sick or injured in the last 12 months and received medical treatment. Source: India PC household child survey (Nov. 2009-April 2010), India PC Level 2 factory worker survey (November 2011).				

Table 60: School Attendance by Sex, Setting and Type of Work

	Factory Child Worker	HH Carpet child worker	Total	p-value
Weighted N =	757	12,374	13,131	
“Are you currently attending school?” (%“Yes”)				
Male	27.8%	39.3%	37.9%	.47
Female	*	27.2%	27.1%	-
Total	27.1%	32.4%	32.1%	.71
Base: Children interviewed in the PC study. Source: India PC household child survey (Nov. 2009-April 2010), India PC Level 2 factory worker survey (November 2011).				

Table 61: School Attendance by Age, Setting and Type of Work

	Factory Child Worker	HH Carpet child worker	Total	p-value
Weighted N =	757	12,374	13,131	
“Are you currently attending school?” (%“Yes”)				
5-8	*	*	*	-
9-13	*	62.3%	62.3%	-
14-17	27.1%	23.4%	23.7%	.77
Total	27.1%	32.4%	32.1%	.71
Base: Children interviewed in the PC study. Source: India PC household child survey (Nov. 2009-April 2010), India PC Level 2 factory worker survey (November 2011).				

Table 62: Chores Interference in Education by Type of Work (HH children)

	Carpet HH child worker	Non-Carpet HH child worker	p-value
Weighted N =	3,272	529	
Do your chores interfere with your studies? (% "yes")¹	49.1%	*	-
How do your chores interfere with your studies? ²			
Feel tired in classroom	Insufficient Sample Base		-
Have to leave school sometimes			-
Not enough time to study			-
Too tired to study at home			-
Arrive late at school			-
Other			-
DK/NR			
¹ Base: HH Children who were currently attending school and perform household chores ² Base: HH Children who were currently attending school, perform household chores and report that chores affect their studies. Source: India PC household child survey (Nov. 2009-April 2010), India PC Level 2 factory worker survey (November 2011).			

APPENDIX C – MEASURES TO INDICATE CHILD LABOR

One of the study's objectives was to produce reliable, statistically sound, and nationally representative estimates of the number and prevalence of working children who were engaged in unacceptable work (child labor). By unacceptable work, the study meant that the nature of the work and/or the working conditions exploited and/or abused working children. The prevalence meant the percentage of child carpet workers who were engaged in that unacceptable work. In order to accomplish that objective, the study needed to identify and measure the kinds of work and working conditions that were unacceptable. The exploitation and abuse of working children take many forms and are often hidden from view.

C.1. Common International and National Standards

This study relied on international standards and looked to international conventions for guidance in identifying unacceptable kinds of work and working conditions. In general, international and Indian standards agreed. India had ratified many ILO conventions and the UN Convention on the Rights of a Child (UNCRC), and India had passed legislation that was based on or adapted international standards. Both sets of standards agreed on the following:

- **Minimum working age.** Children should not be employed until they reach a certain age. This was the basis for ILO Convention 138 and was noted in the UNCRC and several Indian Acts, most recently in the 2000 Juvenile Justice (Care and Protection) of Children Act.
- **Hazardous work.** Children should not be engaged in work that was likely to jeopardize their health, safety, or morals. This was noted in many Conventions, especially in the UNCRC and ILO Conventions 90 and 182. This was specifically noted in India's Child Labour – Prohibition and Regulation Act (1986) and the 1950 Constitution.
- **Excessive work.** Children should not work an excessive number of hours or at night and needed rest (breaks) from continuous work. This was noted in the UNCRC and ILO Convention 138 (Recommendation 146). Several Indian Acts, most recently the 1986 Child Labour Act, specifically limited the number of hours that a child could work and prohibited their working at night.
- **Forced and bonded labor.** Children should not be forced/coerced to work. This was the basis for ILO Conventions 29 and 105, and these forms of labor were specifically noted in the 1976 Bonded Labour System (Abolition) Act, and the 1950 Constitution.

- **Child trafficking.** Children should not be trafficked into work. This was the basis for the Palermo Protocol and was noted in India's (1950) Constitution.

C.2. Differences between International and National Standards

Although the international and national standards agreed in general about the kinds of work and working conditions that were unacceptable for children, the two sets of standards differed in some specific details and in the implementation. The differences included the following:

- **The age of a child (14 vs. 18).** International standards defined a child as a person under 18 years of age, but India's 1986 Child Labour Act defined a child as a person under 14 years of age. For that reason, India's legal protection of children differed from international standards by not protecting children 14-17 years of age.
- **The minimum age to work (15 vs. 14).** International standards set the minimum age to work at no less than 15 years, although countries were permitted to initially specify 14 years. India's 1986 Child Labour Act set the minimum age at 14 years.
- **The minimum age to be engaged in hazardous work (14 vs. 18).** International standards set the minimum age to be engaged in any work that was likely to jeopardize the health, safety, or morals of young people at no less than 18 years, although countries were permitted to set that at 16 years with the condition that the workers' health, safety, and morals were fully protected and the workers received adequate training. India's 1986 Child Labour Act set the minimum age to be engaged in hazardous work at 14 years.
- **The establishments that are regulated.** International standards did not exclude any workplaces or establishments from regulation. India's 1986 Child Labour Act excluded family work and only regulated establishments, defined as "a shop, commercial establishment, work-shop, farm, residential hotel, restaurant, eating-house, theatre or other place of public amusement or entertainment."

C.3. Standards and Measures for this Study

C.3.1. Standards for this study

This study relied on international standards whenever there were differences between the two sets of standards. This study based its analysis on the following:

- A child was any person younger than 18 years of age.
- The minimum age to be engaged in hazardous work was 18 years of age.
- The measures of unacceptable work and working conditions were applied to all children (persons under 18) who were employed in the carpet industry, even when they were

working in their own household with their family or in workshops (factories or sheds) of any size.

This study utilized Indian standards when they defined specific issues that were not defined by international standards. Examples included:

- Listing specific occupations that were hazardous.
- Limiting the specific number of hours that a child could work in a day (or hours or days in a week) and the hours of work before a child needed to rest (break time).
- Setting the specific nighttime hours when a child could not work.

This report presents estimates of the existence and prevalence of unacceptable work using both international and Indian standards to facilitate the comparison.

C.3.2. Measures and Indicators Developed by This Study

This study developed a set of measures to indicate the existence of two unacceptable forms of child work:

- Hazardous work
- Excessive work

The study also estimated the prevalence of that unacceptable work, which was the number of children engaged in that form of unacceptable work divided by the number of children working in the carpet industry in India.

C.3.2.1. Measuring Hazardous Work

The study developed three measures that indicated the existence and prevalence of hazardous work. Two measures identified whether the work was defined as inherently hazardous by international and national standards. The third measure examined the characteristics of the working conditions and workplace and the medical histories of the working children.

- **Work Defined as Hazardous**

ILO convention 182 specifies that hazardous types of work “shall be determined by national laws or regulations or by the competent authority” (Article 4). To decide whether the work was defined as inherently hazardous, the study looked at Indian standards. India had defined on its 1986 Child Labour Act specific occupations as hazardous (including carpet weaving, hand-loomed, and wool processing) and prohibited employing children to work in those occupations. If the occupation or industry was listed, it was hazardous work and, therefore, unacceptable work for children.

For each of the sampled children working in the carpet industry the following variables were examined:

- i. National standards that defined occupations, processes, or industries as hazardous.
- ii. Each child's age.
- iii. Each child's working status. A child had to be working to be counted. This variable was included because non-working children had been interviewed in the household survey.

Although both Indian and international standards agree that no children should be working in hazardous work, they disagree on who qualifies and is protected as a child. By international standards, children are all persons younger than 18 years of age, and the category of child carpet worker encompasses all persons under 18 years of age who are working in the carpet industry. The variable definition used to compute hazardous work according to international standards is presented in Table 63.

Table 63. Hazardous Work (International Standards): Variable Definition and Data Crosswalk

Indicator	Variable		Qualifying Codes	
Child is a usual child carpet worker	WOR	Child worked in carpet-related activities in the last 12 months	1	Yes
Child's Age in Completed Years	AGE	Current age	1	5-11
			2	12-13
			3	14-15
			4	16-17
Child is in Hazardous Work (International Standards) if WOR = 1 & (AGE = 1 or AGE = 2 or AGE = 3 or AGE = 4)				

However, by Indian standards, as expressed by the 1986 Child Labour Act, children are all persons younger than 14 years of age, and only those children (under 14) were prohibited from working in processes that were listed as hazardous. Persons 14-17 years old were not considered to be children and were not covered and protected by the Child Labour Act. The variable definition and data crosswalk used to compute hazardous work according to Indian standards is presented in Table 64.

Table 64. Hazardous Work (Indian Standards): Variable Definition and Data Crosswalk

Indicator	Variable		Qualifying Codes	
Child is a usual child carpet worker	WOR	Child worked in carpet-related activities the last 12 months	1	Yes
Child's Age in Completed Years	AGE	Current age	1	5-11
			2	12-13
Child is in Hazardous Work (Indian Standards) if WOR = 1 & (AGE = 1 or AGE = 2)				

- **Working Conditions Reported as Hazardous**

In addition to specifying that hazardous types of work “shall be determined by national laws or regulations or by the competent authority” (Article 4), Recommendation No. 190 (ILO, 1999) specifies that particular consideration should be given to specific types of work. The third measure to indicate if work was hazardous involved (a) reviewing international conventions to learn which specific conditions were listed as being unacceptable, (b) developing a list of those conditions, and (c) interviewing working children to learn whether those conditions were present in their workplaces. The 1999 ILO Recommendation 190 supplemented Convention 182 and identified a number of specific hazardous characteristics of work (Part II), including:

- Work that exposes children to physical, psychological, or sexual abuse;
- Work underground, under water, at dangerous heights, and in confined spaces;
- Work with dangerous machinery, equipment, and tools, or which involves the manual handling or transport of heavy loads;
- Work in an unhealthy environment, which may, for example, expose children to hazardous substances, agents or processes, or to temperatures, noise levels, or vibrations damaging to their health; and
- Work under particularly difficult conditions such as work for long hours or during the night, or work where the child is unreasonably confined to the premises of the employer.

The physical environmental conditions of the children’s work and workplaces were described in the results section, as well as whether the working children received any training or adult supervision. One of the main challenges that confronted any quantifiable research into hazardous child labor was how, or whether, to quantify the level or intensity of the health and safety threat posed by hazards. For many of those factors, the potential for causing harm varied depending on the level or quantity. Until they reached critical thresholds, many substances and conditions would not cause injuries or illnesses. This study did not collect information on the critical thresholds for hazardous substances and conditions. To decide whether the characteristics of the working conditions or workplace were hazardous, the study examined children’s self-reports of the presence in their workplace of substances or conditions that were considered to be unacceptable by international standards. To decide whether the hazards had affected the children’s health and safety, the study also examined children’s reported history of injuries. More specifically, for each of the sampled children working in the carpet industry the following variables were examined:

- i. Each child’s age.
- ii. Each child’s working status. A child had to be working to be counted. This variable was included because the household survey had interviewed non-working children.

- iii. International standards that legally defined which characteristics of working conditions or workplaces were hazardous for children of different ages.
- iv. The characteristics of each working child’s working conditions and workplace.
- v. Evidence from each child’s self-reported medical history to determine whether the child appeared to have suffered injury from working.

Each of these variables included multiple categories and values. The specific variable definition and data crosswalk used to compute the measure that indicated hazardous work based on the working conditions reported by children is presented in Table 65.

Table 65. Indications of Hazardous Work (Working Conditions): Variable Definition and Data Crosswalk

Indicator	Variable		Qualifying Codes	
Child's Age in Completed Years	AGE	Current age	1	5-11
			2	12-13
			3	14-15
			4	16-17
Child is a usual child carpet worker	WOR	Child worked in carpet-related activities the last 12 months	1	Yes
Work that exposes children to psychological abuse	PSY	Are you reprimanded or punished at work?	1	Yes
Work that exposes children to physical abuse	PHY	Have you ever been reprimanded, punished, or abused at work to the extent that you were physically injured?	1	Yes
Work that exposes children to sexual abuse	SEX	Have you ever been touched in an inappropriate manner or in a way that made you feel uncomfortable at work?	1	Yes
Work underground	UND	In the past 12 months, did you have to work in an environment with any...?	1	Work underground or in tunnels
Work at dangerous heights	HEI	In the past 12 months, did you have to work in an environment with any...?	2	Work at heights
Work with dangerous machinery, equipment, and tools	TOO	What are the tools or machinery that you use for your work?	1	Scissor
			3	Cutter
			4	Needle
			5	Knife
Work which involves the manual handling or transport of heavy loads	HEA	Do you have to carry heavy loads when you work?	1	Yes
Work in an unhealthy environment which may, for example, expose children to hazardous substances, agents or	SMO	In the past 12 months, did you have to work in an environment with any...?	3	Smoke or dust
	INS		4	Insecticides, paints, or fumes/odour from them
	CHE		5	Chemical solvents, petrol, diesel, kerosene, and mercury, or in areas with exposures from them

Indicator	Variable		Qualifying Codes	
processes, or to temperatures, noise levels, or vibrations damaging to their health	AMM		6	Ammonia, oxygen, or other gases
	NOI		7	Loud noise
	TEM		8	Extreme temperatures
	DAR		9	Dark or in rooms with inadequate lighting
	TO2		10	Dangerous tools
	VEN		11	Insufficient ventilation
	SLI		12	Slip, trip, or falling hazards
	XRA		13	Ultraviolet or x-rays
	VIR		14	Virus
	BAC		15	Bacteria
	FUN		16	Fungus
	PAR		17	Parasites
Work for long hours	HOU	Does child work for long hours?	1	Yes
Work during the night	NIG	Does child work at night?	1	Yes
Child suffered a work-related injury in the last 12 months	INJ	Child suffered a work-related injury in the last 12 months	1	Yes
Child is in Hazardous Work (Working Conditions) if WOR = 1 & (AGE = 1 or AGE = 2 or AGE = 3 or AGE = 4) & (PHY=1 or PSY=1 or SEX=1 or UND=1 or HEI=2 or TOO=1 or TOO=3 or TOO=4 or TOO=5 or HEA=1 or SMO=3 or INS=4 or CHE=5 or AMM=6 or NOI=7 or TEM=8 or DAR=9 or TO2=10 or VEN=11 or SLI=12 or XRA=13 or VIR=14 or BAC=15 or FUN=16 or PAR = 17 or HOU=1 or NIG=1 or INJ = 1)				

C.3.2.2. Measuring Excessive Work

This measure analyzed whether each child’s work load was appropriate or excessive for that child’s age. This measure included the issue of the minimum age to work and international standards about acceptable work and unacceptable work.

ILO Convention 182 alluded to excessive work when cautioning against hazardous work. Recommendation 190 that supplemented Convention 182 was specific in citing “work under particularly difficult conditions such as work for long hours.” The UN Convention on the Rights of the Child specifically cited the right of a child to rest, leisure, play, and recreational activities and generally restated the need to protect the child against economic exploitation and hazardous work and establish a minimum age for employment and regulation of the hours of employment. ILO Convention 32 noted that children 13-15 years of age should be doing only light work that would not harm their health or development and would not interfere with their attending school and then mentioned in general terms that the hours of work should be limited.

To measure each child’s workload, the study collected data on the total hours of work during the last three days from all of the currently working child carpet workers (those who had worked during the past seven days). Then, each child’s total hours of work per week were matched with

the child's age and compared with the standards that defined whether the work load was age-appropriate. The hours of work were for the total work load, which included for household-based child carpet workers the hours the child spent performing unpaid household services. The following standards were used to define what was excessive work for children of different ages.

- Children 5-11:** Economic activities were excessive work if a child under-12 worked for 1 or more hours per week (7 days). Economic work for 1 hour during 7 days defined a child as economically active, and SIMPOC set the standard of 12 as the minimum age to be economically active. None of the countries specified children under-12 as the minimum age to work. Any combination of economic work and unpaid household services were excessive work if a child under-12 worked for 28 or more hours per week. This new standard was equivalent to an average maximum workload of 4 hours per day.
- Children 12-13:** Economic activities were excessive work if a child under-14 worked for 14 or more hours per week, which was equivalent to an average maximum workload of 2 hours per day. This amount of economic work was the category of permissible light work permitted for children 12-14 in developing countries (and 13-15 elsewhere). The SIMPOC standard used under-15, but the project used under-14 because that is what the three countries used for light work. Any combination of economic activities and unpaid household services was excessive work if a child under-14 worked for 35 or more hours per week, which was equivalent to an average maximum workload of 5 hours per day. This standard was based on the thresholds shown in UCW studies and Edmonds' review (Edmonds, 2008; ILO-IPEC, 2004, 2007).
- Children 14-17.** These are the oldest children based on the international standard age. Economic activities were excessive work if a child under-18 worked for 43 or more hours per week. Work for 43 hours exceeded the equivalent of an average maximum workload of 7 hours per day for a 6-day workweek or 6 hours per day for a 7-day workweek. Any combination of economic activities and unpaid household services was excessive work if a child under-18 worked for 43 or more hours per week.

The criteria used for the different age groups are summarized in Table 66.

Table 66. Measuring Excessive Work

	Economic Work		Combination of Work	
	Work	Child Labor	Work	Child Labor
Children under-12 (5-11 years)	<1 hour	1 or more	<28 hours	28 or more
Children under-14 (12-13 years)	<14 hours	14 or more	<35	35 or more
Children under-18 (14-17 years)	<43	43 hours or more	<43	43 hours or more

Note: The criteria for measuring excessive work were developed by the Research on Children Working in the Carpet Industry in India, Nepal, and Pakistan project, 2007-2012.

In order to create the measure that indicated excessive work, the following variables were examined for each of the sampled children working in the carpet industry:

- i. Each child’s age.
- ii. Each child’s working status. A child had to be working to be counted. This variable was included because the household survey had interviewed non-working children.
- iii. Total number of hours that each child worked per week. For this, the project studied only the current workers (children who had worked at least once during the last seven days) to ensure that the children’s recollection would be more accurate. The total hours of work included economic activities (children in employment) and, for household-based child carpet workers, unpaid household services (children in other productive activities).
- iv. International standards that defined the minimum age to be employed and distinguished between acceptable versus excessive hours of work.

Each of these variables included multiple categories and values. The specific variable definition and data crosswalk used to compute the measure that indicated excessive work is presented in Table 67.

Table 67. Indications of Excessive Work: Variable Definition and Data Crosswalk

Indicator	Variable		Qualifying Codes	
Child is a current child carpet worker	WOR2	Child worked in carpet-related activities the last 7 days (<i>computed variable</i>)	1	Yes
Child's Age in Completed Years	AGE	Current age (<i>computed variable</i>)	1	5-11
			2	12-13
			3	14-15
			4	16-17
Number of hours spent on Market Work	MAR	Number of hours spent on Market Work	Continuous Variable	
Number of hours spent on the combination of HH chores and Market Work	COM	Number of hours spent on the combination of HH chores and Market Work	Continuous Variable	
Child is in Excessive Work if WOR2 = 1 & ((AGE = 1 & (MAR >= 1 hour or COM >=1 hours) or (AGE = 2 & (MAR >= 14 hours or COM >=35 hours) or ((AGE = 3 or Age = 4) & (MAR >= 43 hours or COM >=43 hours)))				

C.3.2.3. Measuring Child Trafficking

Trafficking was different than the other forms of unacceptable work because trafficking, which was the organized movement of children for the purpose of exploitation, preceded unacceptable work. The study developed a set of variables that indicated whether children had been trafficked to work in the carpet industry. Trafficking involved the movement (organized by a third party, neither the parents nor the child) of a child for the purpose of exploitation. The existence of trafficking depended on (a) whether the child moved from one place to another for the purpose of

work, (b) whether the movement was organized by a third party (neither the child nor the parents), (c) whether the child resulted in unacceptable work, and whether (d) the process of engaging the child into that work had been purposive with the intent to exploit the child.

Measuring trafficking was difficult. Trafficking consisted of the actors, transactions, and process of a person entering work and involved multiple locations (the child's origin, possible interim locations, and the workplace destination), multiple actors (the child, the child's parents or guardians, labor contractors, and possibly the employer), and often multiple transactions. In addition, the purpose of each transaction and the motivation of the actors were often unclear. The study analyzed multiple variables that were indicators of trafficking, including:

- i. Each child's working status. A child had to be working to be counted. This variable was included because the household survey had interviewed non-working children.
- ii. Each child's residential status (whether accompanied by parents or, if married, spouse). The study included this as a measure of vulnerability to exploitation and social isolation, or the lack of social (family) support.
- iii. Each child's migration status (born locally or immigrated). Trafficking required that the child had moved from one place to another. Children who had immigrated might have been trafficked to the workplace and were more vulnerable to being trafficked because they were no longer enveloped in the social support at home.
- iv. Involvement of another party (not the child or the parents, or the child's spouse) in the decision to migrate. That indicated that the child had not made an independent decision to migrate, though the child and parents might have agreed with the decision that was made by someone else.
- v. Involvement of labor contractor in actual movement/migration. Someone else (a labor contractor) had organized the move/migration to work.
- vi. Exploitive nature (child labor) of child's work or workplace. This variable was measured using the other measures of hazardous and excessive work.

C.3.3.3 Indications of Other Unacceptable Forms of Child Work

This study did not collect sufficient information to create measures that indicated the existence of other forms of unacceptable work, including forced labor and bonded labor. However, the study identified variables that were critical to understand these two unacceptable forms and presented a descriptive analysis of these variables.

This study analyzed whether each working child had been forced/coerced in the past to start working and/or was being forced to continue work at the time of the research. One important factor was the age of the child carpet worker when he or she started working. At that time, was the child too young to be considered capable of making an independent voluntary decision?

The study asked each child carpet worker directly whether the child thought that he or she was able to leave their work if they so desired. Those who reported that they could not leave were asked the main reasons why they were unable to leave work. The most direct indications of forced or bonded labor were when child carpet workers reported that they could not leave because they were still repaying a debt and when they reported that their employer had threatened to harm them (a clear menace of punishment).

In most studies of forced labor, poverty and indebtedness were viewed as causing the child to leave home, often as forced or bonded labor, after which the child would be exploited and confined or restrained in a distant workplace. The research team started the study assuming that any children exhibiting three characteristics (having immigrated, living unaccompanied by parents, and working in a factory) had increased vulnerability to coercion and exploitation by labor contractors and employers because those children would lack the protection and social support that would have been provided in their natal localities by the presence of parents and family. Therefore, the study assumed that those three characteristics could be used as filters that would identify the children most at risk of forced/bonded labor and child trafficking.

The study also focused on another factor – the family’s poverty and indebtedness. Indications of the increased potential for forced or bonded labor included families being in debt and having difficulty repaying their debts. The study interviewed adult respondents in the carpet households for information about family poverty and indebtedness and how that might have affected children’s participation in the industry workforce, including whether that might have played a part in coercing the children to work. Some carpet households reported that they had supplied labor to the lender to repay the outstanding debts, and sometimes the member of the household who had provided the labor was a child. When children working in the carpet industry were asked their reasons for working, did they report that they were working to repay outstanding family debts? Because of the close link between debt and the possibility of forced/bonded labor, the study analyzed whether the children who were working to repay family debt were the same children who reported being unable to leave their job, especially those who could not leave because they were repaying a debt.

More specifically, the following variables were analyzed when discussing forced and bonded labor:

- i. Each child’s age.
- ii. Each child’s residential status (whether accompanied by parents or, if married, spouse).
- iii. Each child’s migration status (born locally or immigrated).
- iv. Financial status and indebtedness of the parents and family.
- v. Cash advances paid to the parents or family.
- vi. Family history of repaying debts by offering family labor.

- vii. Involvement of another party (not the child or the parents) in the decision for the child to enter the workforce.
- viii. Each child's self-reported ability to leave the work.
- ix. If unable to leave the work, each child's reason for not being able to leave.

APPENDIX D – WEIGHTING

Level 1 Carpet Factory survey

There were two levels of selection for the Level 1 carpet factory (L1CF) surveys:

- a) L1CF Factories, including factory observations and factory manager surveys
- b) Workers, including those apparently above 20 and those apparently below 20

Due to the hierarchical sampling approach, separate weights are required at the factory level (i.e. factory observations and manager interviews) and worker level (worker interviews).

L1CF Factories were sampled using a simple random sampling design, with equal probability of selection for each factory. Although this is a self-weighting design, many L1CFs were found to be closed, some were duplicated entries and some were out of the target population, and so the total population of L1CFs was re-estimated based on the rate of non-valid factory listings found. Out of the total 464 L1CFs that were sampled from the original frame, only 251 turned out to be valid, of which 42 refused to be interviewed. Using the ratio of valid to sampled L1CFs ($251/464=0.54$), the total number of L1CFs in the population was re-estimated, as $1484*0.54 = 803$. The final sample of L1CFs was weighted to reflect their probability of selection based on this new estimate of the total population ($803/251= 3.2$), with a further adjustment for factory level non-response ($251/209= 1.2$), yielding a final factory weight of 3.8421.

At the worker level, all workers in Group A in the L1CF were included up to the limit of 8. An equivalent number of workers were to be sampled randomly from Group B. This sampling approach assigns different probabilities of selection to individual respondents depending on the size of each group. However, given that no children below 18 were identified in the sample of workers, and that no adult workers were interviewed in some of the L1CFs in the sample, no sampling weights were developed for the L1CF workers interviewed. Population estimates of L1CF workers were done at the aggregate level, by applying the overall L1CF weight to the total listings of workers in all L1CFs visited.

Level 2 Carpet Factory survey

There were three levels of selection for the Level 1 carpet factory (L1CF) surveys:

- a) Geographic clusters, including areas in the carpet belt districts of Bhadohi, Mirzapur, Varanasi and Jaunpur in Uttar Pradesh
- b) L2CF Factories, including factory observations and factory manager surveys
- c) Workers, including those apparently above 20 and those apparently below 20

Due to the hierarchical sampling approach, separate weights were required at the L2CF level (factory manager interviews and observations) and worker level (worker interviews).

The L2CF level weights were computed using the inverse probability of selection of each L2CF, which was determined by the product of the geographic cluster and the factory probabilities of selection. The computation for each of these probabilities of selection is presented below.

- Geographic clusters were selected using probability proportional to the size (PPS) of the cluster, with the measure of size (MoS₁) for each cluster given by the cluster level sum of Level 2 manufacturers and contractors that were referenced by the exporters on the frame building survey. Let C_i be the total number of *clusters* selected, M_c the MoS indicating the total number of manufacturers and contractors referenced in the c^{th} cluster, and $\sum M_c$ the total population of manufacturers and contractors. The probability of selecting the c^{th} cluster was calculated as follows:

$$P_{ic} = \frac{c_i M_c}{\sum M_c}$$

- L2CFs were selected using a simple random sample within each cluster. The real probability of selection of factory f in cluster c depended on the total number of L2CFs found in the cluster (MoS₂), rather than the number of manufacturers and contractors referenced in the sampling frame (MoS₁). MoS₂, which was initially unknown, was determined during the listing and screening process in each cluster.

The initial number of L2CFs provided by key informants (KIs) was adjusted down to account for fact that some of the factories that had been listed by KIs did not meet the inclusion criteria during the screening process.¹²⁴ Let f_{ic} be the total number of factories screened in cluster c , $L2f_{ic}$ be the number of L2CFs that met the inclusion criteria in cluster

¹²⁴ This factory screening process represents a two-phase sampling methodology typically used in epidemiological studies (Kalton, 2009), where we contact a larger sample N , which includes a final sample n , selected for its specific attributes of interest—in this case, the inclusion criteria for L2CFs.

c , and $\sum f_{ic}$ the total number of factories f listed in cluster c . The probability of selecting the i^{th} L2CF was calculated as follows:

$$P_{L2fic} = \frac{L2f_{ic}}{(L2f_{ic}/f_{ic})\sum f_{ic}}$$

The final L2CF factory weight, W_{L2ic} , was computed as the inverse overall probability of selection, which is given by the product of the probabilities of selection at each stage:

$$W_{L2fic} = \frac{1}{P_{L2fic} * P_{ic}}$$

The worker level weights, W_w , were simply the inverse probability of selection of workers within each group in the factory, with the final weight, W , consisting of the product of the factory and worker level weights:

$$W = W_w * W_{L2ic}$$

Using this weighting approach, normalized weights¹²⁵ for children appeared to be balanced, with some outliers (see Table 68), mostly due to the relative under-sampling of workers in large factories (for the large weights) and the relative over-sampling of workers in small factories (for the small weights). In all, out of 31 cases, only one case (or 3.2 percent) had a sampling weight greater than three times the standard deviation, and can therefore be considered an outlier. When weighted, these cases would represent 91 children out of a population of 757 (or 12.0 percent); and so there may be some clustering effects on final statistics.

Table 68. Distribution of Normalized Weights (Children in L2CFs)

Min	Percentiles					Max	Mean
	5	25	50	75	95		
0.0854	0.0854	0.5123	0.9134	1.3304	2.9275	3.73	1,000

¹²⁵ Normalized weights are obtained by dividing each weight by the overall average weight, so that the mean weight is 1. Normalized weights are useful to assess the presence of extreme weights. Extremes weights are the result of inefficient sampling allocations, resulting in excessive clustering of the sample. Extreme weights and excessive clustering are undesirable because they amplify the standard error from specific clusters, incrementing sampling variance above and beyond what would be found in a simple random sample.

Household survey

The household sample followed a probabilistic design with unequal probabilities of selection. The unequal probabilities of selection were implemented in two stages: In the first stage, the sample was disproportionately stratified at the PSU level. In the second stage, a fixed number of carpet and reference households were selected within each PSU, irrespective of the number of carpet households in the PSU. Weights were therefore developed to compensate for the unequal probabilities of selection.

First a household level weight was required to adjust for the unequal probabilities within each PSU. This initial weight was the inverse of the probability of selection of each carpet household at the PSU level, given by the final sample of Carpet HHs over the estimated total carpet households in the PSU. The stratum weight was the inverse of the probability of selection of a given PSU within its corresponding stratum, given by the number of PSUs sampled over the total number of PSUs in the stratum. This stratum weight was finally slightly adjusted upwards to compensate for non-represented PSUs (sampled PSUs with less than 15 carpet households, which were excluded when found). The household and stratum level weights were multiplied to obtain the final weights. The final weighted samples give an estimate of 128,268 carpet households in India.

Table 69. Household Weights

Strata	Number of PSUs in Frame	Number of valid PSUs in sample ¹	Number of completed PSUs in sample ²	Number of Carpet HHs sampled in completed PSUs ²	Estimated Carpet HHs in completed PSUs	Total Estimated Carpet HHs	HH weight	Stratum weight	Final Weight
Rural Set#1									
I: High-density	117	47	41	602	9,532	23,847	15.834	2.502	39.616
II: Medium-density	97	25	19	261	4,878	19,148	18.690	3.925	73.357
III: Low-density	24	6	6	89	1,431	5,724	16.079	4.000	64.315
Rural Set#2									
I: High-density	102	15	9	128	1,010	7,191	7.891	7.120	56.181
II: Medium-density	126	15	15	219	5,207	43,739	23.776	8.400	199.721
III: Low-density	44	3	3	45	540	7,920	12.000	14.667	176.004
Urban									
I: High-density	65	28	17	255	5,586	13,100	21.906	2.345	51.369
II: Medium-density	32	10	6	84	1,980	6,366	23.571	3.215	75.782
III: Low-density	5	3	1	15	740	1,233	49.333	1.667	82.239
Grand Total	612	151	117	1,698	30,904	128,268	N/A	N/A	N/A
¹ PSUs that were found and visited									
² PSUs that were found, visited and had at least 15 Carpet HHs									

Since reference HHs were only chosen as a benchmark for carpet HHs, the project was not interested in estimating their weight relative to the population of non-carpet HHs. In order to maintain a ceteris paribus comparison with carpet HHs, each carpet HH in the sample should be

compared to the same number of non-carpet HHs within its community. The same weights were therefore applied to reference and carpet HHs. Note however that once they were weighted this way, reference households were not representative of any particular population. They served rather as a matched reference allowing to compare carpet households to non-carpet households, all geographical factors being equal.

Finally, in the household surveys all children in a household were selected and so their probability of selection was equal to that of the household, except that 167 children identified in the HHs sampled could not be interviewed, even after three revisits. This child non-response appeared to be randomly distributed across clusters and types of HHs (carpet or reference), representing less than 20% of eligible respondents in any given cluster, so children interviews were given a final weight adjustment by cluster and type of household to compensate for non-response.

Using this weighting approach, normalized weights were balanced, with some extreme outliers (see Table 70), mostly due to the under-sampling of households in very large clusters (for the large weights) and the oversampling in small clusters (for the small weights). In all, out of 6,544 cases, 59 cases (or 0.9 percent) had a sampling weight greater than three times the standard deviation, and can therefore be considered outliers. When weighted, these cases would represent 90,844 children out of a population of 508,750 (or 17.9 percent); and so there may be some clustering effects on final statistics.

Table 70. Distribution of Normalized Weights (Household Children)

Min	Percentiles					Max	Mean
	5	25	50	75	95		
0.0300	0.0694	0.2091	0.4845	1.0539	3.2672	61.900	1,0000

APPENDIX E – COMPLEMENTARY QUALITATIVE AND OBSERVATIONAL RESULTS

The major sources of data for this report were the PC Study's household and factory surveys. The research team also collected complementary data on the carpet industry in India from qualitative research. Data were collected from a rapid assessment the project director and research consultant conducted in March-April 2011, qualitative research by the project director in Rajasthan, Bihar, Jharkhand, and West Bengal in April 2011, and observations made by the survey teams during the Level 2 factory survey in November 2011.

E.1. RAPID ASSESSMENT OF LEVEL 2 CARPET FACTORIES

The project director and research consultant personally conducted a rapid assessment of Level 2 factories in the carpet belt in March-April 2011. The main objectives of the assessment were noted earlier (see 3.4.4.2). The assessment also tested a different methodology for estimating the total workforce and the presence¹²⁶ of child carpet workers in Level 2 carpet factories.¹²⁷ Within factories, the team based its estimation of the numbers of child workers on visual observations and counts while walking through (without interviewing), a similar methodology to what was described in two previous ILO studies (see 2.3.2).¹²⁸ The team visited 110 Level 2 factories, briefly interviewed 87 owners/managers and some workers, and observed 1,432 total workers, including 133 (9.3 percent) who were estimated to be children (below 18). Most of the children observed were older males (14-17 years old). Children were observed more often in factories producing carpets.

Key findings of the assessment included verifying that children were working in Level 2 factories and the difficulty of accessing those factories. Many factory owners/managers were reluctant, and a number of owners/managers refused to allow access to their factories. Owners/managers noted the importance of the migrant labor supply, and many adult migrant workers were observed, most coming from other districts in UP, others from Orissa, Jharkhand, Bihar, and West Bengal. Examples of encountering children working in the factories were:

¹²⁶ Presence was defined here as the involvement of a child in carpet-related activities at the time of observation. That was different than prevalence (as defined in the PC Study), which used longer reference time periods to determine the child's involvement in carpet-related activities.

¹²⁷ The assessment sampled 20 clusters and tried various approaches (canvassing, systematic sampling, and random walk-based sampling) to selecting factories to sample within a cluster.

¹²⁸ Information was recorded on a brief observation roster. Information was collected at (a) the location level – exact location of the village or neighborhood in a town, date, estimated number of Level 2 factories in the town or village, source of estimate, and observer and (b) the factory level -- total number of workers and number of working children by age, gender, and general activity performed (pre-weaving, weaving, or post-weaving finishing). See Levison, et al. (1996) and Venkateswarlu, et al.(2006).

- The team entered a factory and counted 15 boys (10 younger than 14 years) among the 30 workers before the team was told to leave. All the young workers went out and clustered outside, presumably because they were told not to be seen working in the factory.
- The team entered another shed where children were seen weaving and counted 15 boys (12 were younger than 14) among 29 workers.¹²⁹ When they were interviewed, the boys reported migrating from Bihar. Their families were poor and sent the boys here to work. Every month, all their earnings were sent back to their families.

The owners/managers agreed that there had been a rapid increase in the number of Level 2 factories; 50 of the sampled factories were established in the last 10 years. Almost all the new factories produced carpets. Hand-tufting was the main activity for almost half of the factories, and 25 new tufting factories were started during the 2000-2007 period. Only 11 factories still produced hand-knotted carpets, which clearly demonstrated the shift away from hand-knotting and also away from HH-based carpet production.

Another shed owner employed 50 adult migrants to weave Indo-Nepali carpets. The shortage of skilled labor and low wages were the reasons he shifted from producing hand-knotted carpets. Many skilled weavers who knew hand-knotting went to cities to work, and no one wanted to learn hand-knotted. A weaver of hand-knotted carpets would earn only 80 rupees (2 USD) a day. Someone working eight hours a day weaving Indo-Nepali carpets would earn more than 200 rupees; if he worked more than 12 hours a day, he might make 300-400 rupees. Many employers also complained about the effects of the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA).¹³⁰ MGNREGA paid 120 (or 125) rupees for four hours work, while a weaver of hand-knotted carpets would earn only 80 rupees a day. The employers complained that, “Everyone used to weave; they learned weaving from childhood.”

E.2. CHILD LABOR IN LEVEL 2 CARPET FACTORIES IN RAJASTHAN

The project director went to Jaipur (Rajasthan) in April 2011 to survey exporters who had not participated in developing the sampling frame for the PC Study as part of the Non-Respondents Study (see 3.5.5.1). All of the sampled exporters were also manufacturers and produced hand-knotted carpets. The most common descriptions were that most carpet production was done on HH-based looms in rural villages or by a mixture of HH-based looms and Level 2 sheds (factories). Exporters gave orders to contractors, who distributed the orders. Exporters said that they knew, in general terms, only the number of looms reached by a contractor.

¹²⁹ The owner was not present.

¹³⁰ MGNREGA guaranteed one hundred days of wage-employment per year to rural households whose adult members volunteered to do unskilled manual work.

- In general, hand-knotting was suited for HH-based production where weavers integrated weaving with farming and other activities. Sheds made sense for other techniques that were faster. Sheds also made sense when an exporter wanted to keep his designs a secret.

While in Rajasthan, the project director wanted to observe some Level 2 factories, so he asked exporters to provide names of places where there were sheds.¹³¹ The director never asked to see villages where children were working, only where there were carpet sheds.

- In the first village, contractors refused entry. When the exporter was reached by mobile phone, he said his designs were secret and refused entry to the factory.
- The second small village had only two small sheds with 14 weavers; 13 were girls (under 18), three younger than 14. The first contractor said he taught girls 10-12 years old to weave; they would weave for five years, then get married and move away. He started teaching girls eight or nine years ago because the boys and men were taking better paying work. Most looms had CEPC identification numbers, some identifying an exporter in Jaipur. All carpets produced in the village were hand-knotted.
- Two contractors lived in the third village: 12 of the 16 weavers were girls (under 18), four younger than 14. The first contractor employed 10 females (seven children) and had started using girls eight months ago because he could not find male weavers. The girls had been polishing semi-precious stones for jewelry. Two young men standing nearby said that they used to be weavers but had quit for better-paying work; they had earned 100-120 rupees per day as weavers and now earned 200-250 rupees per day at construction and other jobs. Some looms had CEPC identification numbers, some identifying an exporter in Jaipur. All carpets produced in the village were hand-knotted.
- The second contractor was teaching five young girls (two younger than 14) to weave. He was a “school teacher of weaving.” He said women started weaving there 15 years ago; all girls could learn to weave, and girls started weaving when they were 10 years old.

A constant theme during the interviews with the exporters in Jaipur was that there was no child labor in the carpet industry in Rajasthan. The project did not want to extrapolate too much from one day’s experiences, but the obvious conclusions were that many girls under 18 (including many younger than 14) were being trained to weave and were weaving in sheds as well as HHs.

¹³¹ There was no comprehensive factory sampling frame for Rajasthan because so many exporters had refused to respond during the development of the PC Study’s sampling frames.

E.3. MIGRATION AND BONDED LABOR FROM SENDING AREAS

The project director visited Jharkhand, Bihar, and West Bengal in late April 2011. Those states were known as sending areas (sources of migrant labor) for the carpet belt. In Garhwa district (Jharkhand), the director observed two Level 2 factories producing only hand-knotted carpets.

- One contractor remarked that all the weavers in Garhwa had learned to weave in the carpet belt, but the younger generation did not want to weave. He said that, if there were no child labor laws, maybe the younger generation would have learned to weave.
- The other contractor said that carpet weaving started in the district 30 years ago when people who had learned to weave while migrant workers in the carpet belt returned and started weaving in their HHs. He used to distribute carpet orders to weavers in 100 carpet HHs, but started the shed six years ago for faster production and to be able to directly supervise production (quality control).

Three villages in Garhwa were visited where almost everyone was illiterate and migrated for work to different industries. Only a few mentioned the carpet industry.

- The entire family migrated; if the child was old enough to work, the child also worked. The children attended school only when they were back in their home villages.
- Most of the migrant workers used a labor contractor, who gave the family an advance. When asked what would happen if a worker left before working off the advance, the people reported that: (a) the worker would be forced to work; (b) the contractor or someone hired by him would come and threaten the family; and (c) the family would have to repay the advance or the contractor would take the family's land or property. If they borrowed money from someone, that money-lender would not want them to work to repay the debt because money-lenders all wanted to take the family's land or property.

The story of being forced to work to repay the advance conflicted with the consistent story told on the carpet belt that the employer had little if any power to prevent workers leaving before repaying advances. The people who were interviewed perceived that they were powerless against the demands of the contractor. They complied with the labor contracts because they feared the contractor's power and authority would take their land or their property. That may be only their perception, but it meant that, once they accepted an advance, they were bonded labor because they did not believe they had the power to leave their employment, even if it were exploitative.

- In another village, many women said their sons had migrated to work without telling their parents that they were leaving. Men in the group said that the boys made those decisions on their own. They decided that they were old enough to work and earn money.

Teachers at a rural school near Aurangabad (Bihar) reported how difficult it was to determine children's ages. Students who graduated from 8th grade were assumed to be 14 years old, which

was when more students thought they needed to start working.¹³² The supposed relationship between age and grade was based on a child being six years old when enrolling in the first grade. There were financial incentives for parents to enrol their children before they were six years old.¹³³ What happened most of the time was that the school had to accept the parents' statement of the child's age.

Near Bhawanipur (West Bengal), a group of local men noted that there was no work locally, so many men migrated to work, most of them going to the carpet belt (Bhadohi). The area was totally Muslim, so only males migrated to work. They did not need a contractor because so many local people already worked there. The men thought that boys after 6th to 8th grade thought that they should start working to help the family. One young man said he independently made the decision after he had completed the 8th grade. He thought he should earn money because his parents were miserable and needed his economic help.

The trip reinforced the belief that large-scale labor migration continued, much of it to other industries and places, but the migratory path to the core carpet belt was well-established and easy for later migrants to follow. Another established pattern was children dropping out of school (before or after 8th grade) and migrating to work.

E.4. OBSERVATIONS DURING THE LEVEL 2 CARPET FACTORY SURVEY

The project included an observation-based estimation exercise when surveying the Level 2 carpet factories in November 2011.¹³⁴ The project expected problems regarding children's ages and working status, and, during the survey, the project identified attempts to conceal the presence of children in carpet factories.¹³⁵

- In some cases, children rushed out of the factory as soon as the research team was noticed. In other cases, supervisors would refuse to allow the research team to interview workers. On at least one occasion, the research team witnessed a supervisor coaching a child to report his age as over 18.

¹³² Turning 14 meant the person was no longer considered to be a child by Indian law and was legally able to work.

¹³³ School children received free uniforms, tuition, books, and a mid-day meal. Dalit students also got a scholarship of 360 rupees in cash per year. If the child had been born in a hospital, there would be a birth record. If born at home, the Panchayat records should show the child's birth date, but the teachers said that only five percent of the parents had the Panchayat certificate when they brought their child to be enrolled.

¹³⁴ The methodology was similar to what the project used during the rapid assessment of Level 2 factories (see) and to the methods used by Levison, et al. (1996) and Venkateswarlu, et al. (2006).

¹³⁵ This was not of much concern with Level 1 carpet factories since they did not appear to employ many children, and households were less sensitive about child labor because Indian law made an exception for family-based enterprises.

The observation exercise was based on the interviewers doing a visual tally of child workers found in each carpet factory; the tally was done immediately upon reaching the factory and included the child's estimated age, gender, and activity. Based on this methodology, the project estimated a total of:

- 1,878 children working in Level 2 factories, most of them males between 14 and 17 years of age working in production activities (see Table 71).

Table 71. Worksite Observations of Children in Level 2 Factories, by Age, Gender, and Activity

	Gender	Age Group	Processing	Production	Finishing	Total
Children	Male ¹	5-13	0	0	0	0
		14-17	2	1,807	2	1,821
		Total	2	1,807	2	1,821
	Female	5-13	0	0	0	0
		14-17	0	55	2	57
		Total	0	55	2	57
	Total	5-13	0	0	0	0
		14-17	0	0	0	0
		Total	2	1,862	6	1,878
Total (including adults and children)						48,183

Base: Children observed to be performing carpet-related activities in Level 2 carpet factories.

Source: India PC Level 2 factory worker observations (November 2011).

¹Row values for males 14-17 summed to 1,811, whereas the total counts showed 1,821. That was because one child (equivalent to 10 children when weighted) was not classified in any activity due to interviewer error. That child was on the other hand identified in the total counts.

The observation-based estimate of 1,878 children was higher than the interview-based estimate of 757 (see Table 8). If the observation-based estimate were used as the basis for calculating the estimates for the industry, then the total estimated number of workers in Level 2 factories would also increase slightly from 44,546 to 48,183. Prevalence of child workers in Level 2 factories would increase from an interview-based estimate of 1.7 percent to an observation-based estimate of 3.9 percent. Total factory prevalence (including Level 1 and Level 2 carpet factories) would increase from 1.4 percent to 3.2 percent. Total industry prevalence of child workers in the usual workforce would increase from the interview-based estimate of 4.8 percent to an observation-adjusted estimate of 5.1 percent (see Table 72).

Table 72. Observation-Adjusted Estimates of Carpet Industry Workforce

	Factories		Households		Total	
	Worked in Past 7 Days	Worked in Past 12 Months	Worked in Past 7 Days	Worked in Past 12 Months	Worked in Past 7 Days	Worked in Past 12 Months
Total Estimated Number of Establishments	7,449		128,268		135,717	
Total Estimated N of Carpet Workers	58,816	58,869	196,884	218,665	255,700	277,534
Total Estimated N of Child Carpet Workers	1,878	1,878	10,453	12,374	12,331	14,252
Industry Prevalence of Child Workers (%)	3.2%	3.2%	5.3%	5.7%	4.8%	5.1%

The reasons to believe that the observation-based estimates may have been more reliable were already presented, but the project was uncertain whether the observation-based estimates were superior to the interview-based estimates. Observers recognized that, due to stunted growth, factory-based child carpet workers often looked younger than they actually were, which meant that the observers may have overestimated the number of child carpet workers.

Therefore, the project considered the interview and observation-based estimates to be the lower and upper limits in a range of estimates that took into account the possibility of measurement error. Interview-based figures provided a safe conservative estimate of 1.4 percent prevalence in carpet factories and 4.8 percent prevalence for the industry as a whole. Observation-based figures provided higher estimates of 3.2 percent prevalence in carpet factories and 5.1 percent prevalence for the industry as a whole.

SUMMARIZING THE IMPLICATIONS

The research team was confident that its estimates of the number and prevalence of working children and child labor in the carpet industry in India accurately reflected the survey data that were collected in the PC Study and that those estimates were conservative. The additional qualitative research and observational data confirmed the team’s belief that its accurate estimates were also conservative and that any bias that existed would be one-way. By one-way bias, the research team meant that any measurement error would be on the side of the study underestimating the existence of working children and child labor in the industry.