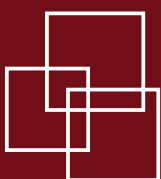


Breaking the mould

Occupational safety hazards faced by children working in brick kilns in AFGHANISTAN



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International
Programme on
the Elimination
of Child Labour
(IPEC)

Fundamental Principles and Rights at Work Branch (FUNDAMENTALS)

International Labour Organization (ILO)

United Nations International Children's Emergency Fund (UNICEF)

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Breaking the mould: Occupational safety hazards faced by children working in brick kilns in Afghanistan / International Labour Office; International Programme on the Elimination of Child Labour; United Nations International Children's Emergency Fund. - Geneva: ILO, 2015.

ISBN: 978-92-2-129626-3 (Print); 978-92-2-129627-0 (Web PDF)

International Labour Office; International Programme on the Elimination of Child Labour; United Nations International Children's Emergency Fund

child labour / child worker / occupational health / occupational safety / hazard / working conditions / brick / earth / Afghanistan - 13.02.2

ILO Cataloguing in Publication Data

Acknowledgements

This publication was elaborated by Samuel Hall Consulting for ILO-IPEC, and coordinated by Susan Gunn, from ILO-IPEC Geneva Office.

The consultant thanks Mrs. Maria-Victoria Zunzunegui, Mrs. Valery Ridde and Mr. François Lemieux, from the School of Public Health, Montreal University without whom this project would not have been possible.

Funding for this ILO publication was provided by the United States Department of Labor (Project GLO/09/56/USA). This publication does not necessarily reflect the views or policies of the United States Department of Labor, nor does mention of trade names, commercial products, or organizations imply endorsement by the United States Government.

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Foreword

I welcome this joint UNICEF-ILO report, entitled *Breaking the mould: Occupational safety hazards faced by children working in brick kilns in Afghanistan*, which presents an in-depth analysis of the hardships and risks faced by children working in the brick kilns of Afghanistan. The report paints a grim picture: children driven by grinding poverty to the dangerous working environment of the brick kiln. Once there, they face a plethora of health risks, frequent injuries and exposure to violence, abuse and exploitation – and even death. For these children, school often remains a distant prospect.

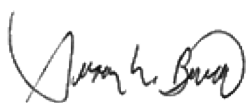
The importance of this report is its key message: we can change this situation!

Breaking the mould is a critical step to fill the evidence gap and enable effective action to eliminate all child labour in the brick kilns of Afghanistan. The report contains concrete and valuable recommendations in the areas of child protection, child education and worker protection. We expect to take up these recommendations in partnership with Government, UN agencies, civil society and other stakeholders in Afghanistan. The study also stresses the importance of partnering with the private sector to promote child labour-free business practices.

The protection of children from child labour, including its worst forms, is a basic human right. The international community has pledged to safeguard this right for all children, as evidenced by the near universal ratification of the Convention on the Rights of the Child and the ILO child labour Conventions. While there has been important progress, however, child labour remains a harsh reality for 168 million children around the world.

Child labour is not an inevitable fact of life. It is preventable through gender-sensitive and integrated approaches that simultaneously address poverty and inequity, improve access to and quality of education and mobilize public support for respecting children's rights and valuing what a good, safe classroom has to offer. Understanding the underlying causes of child labour and addressing the full range of vulnerabilities that children face are key elements of UNICEF's and ILO's work to eliminate child labour forever.

It is my hope that this key publication will help achieve these goals in Afghanistan. UNICEF looks forward to supporting the Government and other stakeholders to make the brick kilns of Afghanistan child labour-free.



Susan L. Bissell
Chief of Child Protection
UNICEF

Preface

In 2011, the ILO Kabul Office published *Buried in bricks: A rapid assessment of bonded labour in brick kilns in Afghanistan*, a ground-breaking study on the extent and nature of one of the most prevalent yet least known forms of hazardous child labour and bonded labour in brick kilns in two provinces in Afghanistan. The report identified the actors involved in exacting forced and child labour in brick kilns in the country and those intervening to combat it, and examined the situation of specific vulnerable population groups and the structure of debt bondage in the sector and beyond.

This follow-up study, *Breaking the mould: Occupational safety hazards faced by children working in brick kilns in Afghanistan*, based on research undertaken in 2013, digs deeper into the evidence on the health of children working in brick kilns in Afghanistan. It examines the specific occupational safety and health hazards they face, taking gender differences into consideration, and examines possible remediation measures. The new study compares the health of children working in brick kilns with their siblings and other children who do not work in the kilns. Guided by the World Health Organisation's conceptual framework on the social determinants of health, it examines mental and social well-being as well as physical health.

Breaking the mould seeks to provide useful information to assist the development of policy and of practical interventions to protect the safety, health and well-being of children above the minimum working age (14 in Afghanistan) in the brick kilns; to facilitate the removal from child labour of children below that age and access to free basic education for all children under the minimum age and for all children removed from worst forms of child labour. The study also assesses the financial impact of health problems on families, studying the amount of debt owed by families to medical service providers and the types of illness which cause such debt.

My hope, as Chief of the ILO's Fundamental Principles and Rights at Work Branch, is that *Breaking the mould* will contribute to a better understanding of the risks inherent in forced labour and child labour in brick kilns in Afghanistan, of the damage done to the health and well-being of those involved, and of how the risks can be reduced and, in time, eliminated. I hope too that the findings of this report will help strengthen, among working families in the brick kiln sector, the realisation of their fundamental rights of freedom from forced labour and child labour, as enshrined in the four ILO Conventions (Conventions Nos. 29, 105, 138 and 182), three of which Afghanistan has ratified.

Finally, I would like to stress the critical and integral role that combating forced labour and child labour today will play in Afghanistan's continuing efforts to combat poverty and to overcome the challenges it faces in its economic, political and social transition. Providing tomorrow's workforce with a quality education and ensuring safe and decent work for today's adults and youth of working age are crucial steps towards securing a just and prosperous future for all in Afghanistan.



Corinne Vargha

Chief

Fundamental Principles and Rights at Work Branch
(FUNDAMENTALS)

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Acronyms

AIHRC	Afghanistan Independent Human Rights Commission
CLM	Child Labour Monitoring
CRC	Convention of the Rights of Children
FGD	Focus Group Discussion
HOC	Hazard observation checklist
HSE	Health and Safety Executive
ILO	International Labour Organization
IPEC	International Programme on the Elimination of Child Labour
KII	Key Informant Interview
OSH	Occupational Safety and Health
UNICEF	United Nations International Children's Emergency Fund
WHO	World Health Organisation

1. INTRODUCTION

1.1 Marking progress against child labour... and hazardous work in Afghanistan?

According to the new estimates presented in the 2013 ILO-IPEC *Marking progress against child labour – Global estimates and trends 2000-2012*, 168 million children worldwide are in child labour, accounting for almost 11 per cent of the child population worldwide. The report conveys two relatively optimistic messages on the reality and dynamics of child labour today:

- **Positive dynamics:** For the 12-year period beginning in 2000, there has been a reduction of almost one-third of child labourers (80 million in absolute terms and 40 per cent for girls only);
- **Hazardous work:** The total number of children in hazardous work, which endangers their health, safety and moral development, declined by over half, while accounting for 51 per cent of child labourers and numbering 85 million in absolute terms.¹

Interestingly, the conclusion of the 2013 Global Report on child labour is that over the 2008-2012 period, policy choices have mattered, in a context of global economic crisis: “Policy choices and accompanying investments that have been made in education and social protection appear particularly relevant to the decline in child labour”.²

In a context of political, economic, and social transition³ and a worsening security environment,⁴ Afghanistan offers a more pessimistic picture, as

¹ ILO-IPEC: *Marking progress against child labour - Global estimates and trends 2000-2012*. Geneva, ILO, 2013. Available at: www.ilo.org/wcmsp5/groups/public/---ed_norm/---ipecl/documents/publication/wcms_221513.pdf.

² Idem, p. VII.

³ The International Afghanistan Conference in Bonn, December 5, 2011, *Afghanistan and the International Community: From Transition to the Transformation Decade*. Visit: www.afghanistan-un.org/category/about-afghanistan/bonn-conference.

⁴ See: US Department of Defense: *Report on Progress Toward Security and Stability in Afghanistan*, July 2013, available at: www.defense.gov/news/1230_Report_final.pdf; United Nations: *The situation in Afghanistan and its implications for international peace and security*, General Assembly Security Council, Report of the Secretary-General, 6 September 2013, available at: www.un.org/apps/news/docs.asp?Topic=Afghanistan&Type=Report.

child labour has not been made a priority by policy- and decision-makers. However, our assumption is that, as shown in many other countries over the past decade, it is still possible to make progress in spite of this situation.

This study was undertaken in the hope of re-activating concern about child labour by identifying health-related entry points for addressing child labour at both the policy and practical levels. It builds upon ILO's 2011 research study, *Buried in Brick: A Rapid Assessment of Bonded Labour in Brick Kilns* which had initially helped to stir public debate on this issue.⁵

The objectives of this new study are to examine more closely the health of children who work in the brick kilns of Afghanistan and to identify the specific risks to which they are exposed and any mitigating measures which might be feasible. It compares the health of children who work in the brick kilns to their siblings and other children who do not work in brick kilns. Using the World Health Organisation's social determinants of health conceptual framework as a guide, it looks at psychological and social health as well as physical health. More specifically, the aim of the *Breaking the mould* study is to provide:

1. Information needed to inform policy and practical interventions that will (a) protect the health, safety and well-being of youth of working age and (b) facilitate the removal of younger children (below age 14) from exploitation in the brick kilns.
2. Assess the financial impact of health problems among families working in the brick kilns by collecting information on the amount of debt owed to medical service providers and for what purpose was the debt incurred (e.g. type of sickness).
3. Document the health hazards to which children and youth are exposed working in brick kilns, giving special attention to gender differences.

Since health is both a cause and consequence of larger social and economic forces, it is a potent

⁵ ILO: *Buried in bricks: A rapid assessment of bonded labour in brick kilns in Afghanistan*. Kabul, 2011. Available at: www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/documents/publication/wcms_172671.pdf.

entry point for addressing issues which otherwise stubbornly resist change, such as bonded labour. The results of this study will be used to:

- guide national policy, specifically the hazardous child labour list, with respect to those activities from which persons under 18 years of age must be prohibited;
- aid employers in improving productivity and profit by identifying which processes are associated with an increased rate of injuries and illnesses, particularly of youth, and by indicating how such processes can be improved so as to reduce these rates.

The field research was undertaken by Samuel Hall Consulting, with a team of specialists from the University of Montreal assisting in analysis of the results. It was carried out as part of a four country study, along with Bangladesh, Nepal, and Pakistan, which used a common research protocol and questionnaires developed by ILO. All four country reports were subjected to peer review by an international panel of specialists on health and child development.

1.2 Background

In 2012 and 2013, the Government of Afghanistan in collaboration with its tripartite constituents and the ILO, revised the existing Afghan Labour Law to bring it in line with ILO standards ratified by Afghanistan, including ILO C138 and 182. A list of hazardous sectors for children was also developed as part of this process.

From 2010, UNICEF has been supporting innovative measures to provide schooling to children at the brick kilns. Initial results suggest that this approach is not only positive but feasible for providing education in remote rural areas.

Attention to the issue of brick kilns has been drawn to the fact that it is a wide-spread industry, and growing in response to increasing urbanization especially in Asia (although it is common in the Middle East, Africa and Latin America as well). Unlike many other industries, a high proportion of the workers in brick manufacturing are children, and in certain countries, many of these work under conditions of debt bondage.

To further explore this issue, ILO commissioned a research study in 2011 on bonded labour in brick kilns in Afghanistan. The study focused on kilns in Deh

Sabz (Kabul province) and Surkh Rod (Nangarhar province).⁶ This study *Buried in Bricks* examined both the demand and supply sides of the industry; it confirmed that over half (56 per cent) of the brick makers in kilns in Afghanistan were children. There were other significant findings.⁷

ECONOMIC COST OF CHILD LABOUR (THE SOCIO-ECONOMIC CONTEXT)

The exclusion of adult women from the work force means that children often compensate for the need for labour either to sustain the family or to pay off debts. This leads to greater dependence on child labour in these kilns, of both boys and girls. The majority of these child workers are 14 and under. The study results indicated that, in the short term, child labour may have a positive short-term impact on household productivity. While children may not be as productive as adults, the effect of putting children to work is that the total productivity of the household increases. However, households make an important trade-off by allowing their children to work. Whether this trade-off is made consciously or unconsciously, freely or otherwise, is, for the moment, another matter. The short-term benefit of increased productivity comes at the cost of missed opportunities further down the road, both for children and for society. Working children often miss out on formal education and are trapped in the cycle of labour and debt servitude, depriving the labour market and society of potential professionals.

VULNERABILITIES TO HEALTH RISKS (THE PHYSICAL CONTEXT)

The ILO *Buried in bricks* study indicated that both child and adult workers are exposed to a number of hazards in the brick kilns, e.g. long hours, heavy loads, and unstimulating, repetitive work. For example, much of the moulding process is done from a crouching position, and workers are constantly exposed to the sun's heat (or cold) and blowing dust.

MEDICAL DEBT CYCLES (THE ECONOMIC CONTEXT)

An intriguing finding of the 2011 study was that 67 per cent of the families interviewed report illness and medical expenses as the second main reason

⁶ ILO: *Buried in bricks* (2011), op. cit.

⁷ Idem.

for taking on debt from brick kiln owners. This underscores the importance of health needs and health costs in pushing families to take loans and enter, or continue in, situations of bondage. Given the centrality of health issues in perpetuating this cycle of dependence on bonded labour and of vulnerability, ILO recognized the need to undertake a more in-depth analysis of the health “push” factors, the health impacts of bonded labour, and the health hazards and risks of work in the brick industry.

1.3 Conceptual framework and key definitions

WORKING CONDITIONS AND VULNERABILITY

This study has a very specific remit to assess the work and working conditions for children in brick kilns in Afghanistan and the impact on their health. As such, it intentionally avoids extensive contextual analysis and literature review. However, the wider objective of providing information to influence policy requires a nuanced understanding of some important practical concepts (which are discussed below) and theoretical concepts (which are discussed here).

Children are more vulnerable to occupational risks than adults. Characteristics of young people that differentiate them from older workers and may increase their risk for occupational injuries and illnesses include minimal work experience, factors associated with physical and psychosocial development, and the need to balance the demands of school and work.

The effects that multiple hazards can have on children’s developing bodies and minds has been reviewed in a number of publications.⁸ Children who used hand tools designed for adults are at higher risk of fatigue and injury; personal protection equipment is not designed to fit children; children’s un-fused bones are at a greater risk of being damaged from heavy lifting than adults’; children have higher energy expenditures than adults; children’s sweat glands are not as well developed as adults and are therefore less able to cope with extremes of temperature. In addition:

- **Basic development needs:** Children require more sleep than adults, two and a half times more

⁸ ILO: Forastieri V. *Children at work: Health and safety risks*. Second edition. Geneva, 2002. Available at: www.ilo.org/public/libdoc/ilo/2002/102B09_62_engl.pdf.

water per kilogram of body weight, and three to four times more food per kilogram of body weight. Children are also more likely to dehydrate because they lose more water primarily through their faster breathing and the larger surface area of their skin.

- **Physical vulnerability:** Child labour can have long term effects; physical strain, for example, especially when combined with repetitive movements, can cause stunting, spinal injury and other life-long deformities and disabilities. Less evident is children’s physical vulnerability. A child’s skin area is 2.5 times greater than an adult’s (per unit body weight), which can result in greater skin absorption of toxics, as the skin structure is only fully developed after puberty. Moreover, children have deeper and more frequent breathing and thus can breathe in more substances that are hazardous to their health.⁹ Likewise, children have increased sensitivity to heat and cold, as their sweat glands and thermo-regulatory systems are not fully developed. Metals are retained in the brain more readily in childhood and exposure to lead and methyl mercury, for example, can cause important neurological damage. Finally, in that the gastro-intestinal and renal functions continue to mature during childhood and adolescence, the elimination of hazardous agents is less efficient.
- **Psychological vulnerability:** Due to their inexperience, children have less capacity to recognize and assess potential safety and health risks at work and make decisions about them. For younger children this ability is particularly weak. The ability to generate options, to look at a situation from a variety of perspectives, to anticipate consequences and to evaluate the credibility of sources increases throughout adolescence. Because children generally have the desire to perform well and to please their employers – children are willing to go the extra mile without taking account of the risks.

⁹ ILO-IPEC: *Looking for answers: Research on hazardous work of children*, pp. 92-97. Geneva, ILO, 2014.

ILO CONVENTION NO. 182 ON THE WORST FORMS OF CHILD LABOUR, ARTICLE 3

“For the purposes of this Convention (Convention No. 182), the term “worst forms of child labour” comprises:

- a. all forms of slavery or practices similar to slavery, such as the sale and trafficking of children, debt bondage and serfdom and forced or compulsory labour, including forced or compulsory recruitment of children for use in armed conflict;
- b. the use, procuring or offering of a child for prostitution, for the production of pornography or for pornographic performances;
- c. the use, procuring or offering of a child for illicit activities, in particular for the production and trafficking of drugs as defined in the relevant international treaties;
- d. work which, by its nature or the circumstances in which it is carried out, is likely to harm the health, safety or morals of children.”

Source: ILO Worst Forms of Child Labour Convention, No. 182.

KEY DEFINITIONS: CHILD LABOUR, CHILD WORK, OCCUPATIONAL SAFETY HAZARDS

Child labour: “Work that deprives children of their childhood, their potential and their dignity, and that is harmful to physical and mental development.”¹⁰

This definition recognizes that there are some activities which are not harmful and, in fact, can reap positive results in terms of skills and self-confidence. Child labour, on the other hand, is work that impedes a child’s education and is dangerous or harmful mentally, physically, socially, or morally.¹¹ Whether or not a specific job qualifies as acceptable work or unacceptable labour depends on the child’s age, the type of work, the hours of work, the conditions under which the work is performed and the laws of the country concerned.

Worst forms of child labour: ILO Convention No.182 is clear that work that is undertaken under slavery-like conditions – which is the case with bonded labour – is a “worst form of child labour” (Art. 3a). To the extent that the families and/or children in the study sites were bonded labourers, i.e. indebted to the kiln owners or other intermediary and committed to repaying this debt through their work, this would be a priori child labour and would be inadmissible for anyone under 18 years of age. To the extent that work in brick kilns is ascertained to be hazardous (the purpose of this study), it would also be considered a worst form of child labour as it is likely to harm the health and safety of children(Art 3d).

¹⁰ ILO-IPEC website section “About child labour,” available at: www.ilo.org/ipec/facts/lang--en/index.htm.

¹¹ ILO: *Buried in bricks* (2011), op. cit.

Occupational safety hazards:¹² The field of occupational safety and health (OSH) covers both research and practice, and cuts across different disciplines such as industrial hygiene, safety, nursing and medicine, epidemiology, toxicology, and engineering. Its ultimate concern is making workplaces safe and healthy for people who work, as well as protecting families of workers and their communities. Although there are many definitions for OSH, a simple way to think about the topic is that it includes anything at work (or resulting from the work) that can hurt someone either physically or mentally. OSH hazards can be divided into five categories:¹³

- **Safety hazards**, which can cause immediate accidents and injuries. Examples are hot surfaces, slippery floors, unguarded machines, broken ladders, and motor vehicles.
- **Chemical hazards**, such as gases, vapours, liquids, or dust that can harm the body or, in some instances, cause reproductive health effects. Examples are cleaning products, pesticides, wood or stone dust, and heavy metals such as lead. Chemicals can enter the body by Inhalation (from breathing), dermal absorption (through skin), and ingestion (by eating or drinking).
- **Biological hazards**, which are living things (e.g. bacteria, viruses, insects, or animals) that can

¹² ILO-IPEC: *A Stepwise Approach to Risk Assessment for Hazardous Child Labour*. Geneva, ILO, 2014. Available at: www.ilo.org/ipec/Informationresources/WCMS_IPEC_PUB_26338/lang-en/index.htm.

¹³ See: ILO Promotional Framework for Occupational Safety and Health (OSH), Convention No. 187, ILO Occupational Safety and Health Convention No. 155, and ILO Safety and Health in Agriculture Convention No. 184. ILO Conventions are available at: www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12000:0::NO:::

cause injuries or diseases such as influenza, AIDS, hepatitis, Lyme Disease, and tuberculosis (TB). In the workplace, people can be exposed to biological hazards through contact with used needles, sick children, animals, etc. The same routes of exposure for chemicals listed above (breathing, through skin, or by eating or drinking) are relevant for biological hazards.

- **Psychosocial hazards**, which include working in isolation, harassment and bullying in various forms, long hours of work, and other situations that cause stress.
- **Other hazards**, which are sometimes less obvious because they may not cause health problems right away. Examples are noisy machines, extensive repetitive movements and other ergonomic problems, and excessive heat or cold.

1.4 Methodology note

A full methodology is contained in the appendices at the end of this report. Table 1 provides an overview of the different methods and tools used in this study.

Qualitative and quantitative findings are presented alongside one another in order to provide a contextualised narrative. Quotations from the focus groups, tripartite focus groups and case studies are used throughout the report.

ANALYSIS

- **Gender.** To provide insights into possible gender effects in brick kiln labour, comparisons are made throughout between male and female respondents.
- **Control group.** In order to measure the actual impact that working in brick kilns had on children, the research team interviewed a control group in both locations. The controls had a similar socio-economic status as those of the brick-kiln children but were not exposed to hazardous occupational environments. Comparisons are therefore made between children who work in brick kilns and children who do not, in order to isolate health impacts due to kiln work from health impacts due to the local environment.

Table 1: Methods and tools used in the study

Module	Description	Tools
Module 1	Hazard observation	Hazard observation checklist (HOC) comprising a list of tasks done by children during the day in the kilns and in the evening at home
Module 2	Child interviews including Control group	Survey questionnaire comprising questions on work history, health history and psychological functioning
Module 3	Adult interviews	Survey questionnaire
Module 4	Youth interviews	Survey questionnaire
Module 5	Adult Focus group discussions	Focus group guidelines
Module 6	Kiln owner interviews	Case study guidelines
Module 7	Clinical and environmental tests	Clinical and environmental checklist
Module 8	Tripartite focus group discussion	Focus group discussion guidelines

ANALYTICAL TOOLS

Data was analysed with the software SPSS and the figures and tables were done with Microsoft Office. Only the “valid cases” are used in the data analysis, - i.e. cases where respondents gave an answer to a question. “Missing cases” are excluded – i.e. where there was no answer or where the cases were codified as an “interviewer mistake”. Descriptive statistics are used and expressed in percentages. The chi-square test is used to calculate the statistical significance of differences between groups.

The report structure follows a simple outline. First, it details the demographic distribution of the sample, the general socioeconomic characteristics of children working in brick kilns and some features of their social environment. Next it describes working conditions at the kilns and the hazards which the work entails. It then presents the physical and mental outcomes associated with brick-kiln labour. Finally, the report offers actionable recommendations for practical interventions.

2. CONTEXT

This section gives an overview of the geography where this study was undertaken, the structure and functioning of the brick kilns, and the study population in terms of age, gender and levels of education. It also provides an overview of social factors such as migration and community integration. These factors provide important background information on the respondents and may help to explain some of the comparatively intangible mental and psychological health issues. Another important contextual factor that affects psychological health is the political and economic environment: (1) the worsening security context (especially in Nangarhar) has a direct impact on communities' and households' stress, perceptions and expectations; and (2) the deteriorating economic context, with the withdrawal of the international community, has already had a negative impact on the construction sector and the demand for bricks in the country, which has put more economic pressure on kiln owners and workers.

"There is no demand anymore. I lose money and I was a fool to buy this kiln. And the families who work here with their children, they have to produce more but they get less money in the end. But what can I do? What can they do?"

Brick kiln owner, Kabul.

2.1 Geographical context: The brick kilns

DEH SABZ DISTRICT, KABUL

Deh Sabz district is located 30 km northeast from the centre of the Afghan capital, Kabul, in Kabul province. The population of Deh Sabz district is 100,000. Unofficial estimates, based on interviews with kiln owners, indicate that there are approximately 800 kilns in the district. Agriculture is the area's main economic activity.

SURKH ROD DISTRICT, NANGARHAR

Surkh Rod district is located 10 km West of Jalalabad City in Nangarhar province. The population of Surkh

Rod district is 92,000. According to the sub governor of the district, Surkh Rod is home to approximately 160 of greater Jalalabad's 300 brick kilns. Agriculture is the area's main economic activity.

DESIGN AND LAYOUT OF THE KILNS

The kilns in both Kabul and Jalalabad (Nangarhar) were similar in their design and layout. The work sites are divided into rectangular work areas delineated by 50-75 cm high mounds of clay on two or three sides. Water is brought to the work areas by small channels cut in the earth, and is retained in a small pool made from the dry clay. The clay is mixed in these small pools, ready to be kneaded and rolled into the brick moulds. The rest of the area is used for drying the bricks in the sun. The kilns themselves are designed like bullrings, with workers on top of them constantly feeding the fire beneath with coal through 10-15 cm wide holes. This area is managed by older working children (16-17 years old) or adults. Younger children are not allowed on top of the kilns. A tall chimney bellows out black smoke when the kiln is in operation. This smoke, along with airborne dust due to wind or trucks passing by, makes the air difficult to

Figure 1: Kabul and Deh Sabz



Figure 2: Jalalabad and Surkh Rod



Table 2: Distribution by province

	Work in kilns	Siblings	Control	Total
Nangarhar	176 43.9%	50 33.6%	177 43.9%	403 42.3%
Kabul	225 56.1%	99 66.4%	226 56.1%	550 57.7%

(p=0.063).

Table 3: Distribution by age

Hazardous work*			Work in kilns		Siblings		Control		Total	
Global			Kab/Jal	Total	Kab/Jal	Total	Kab/Ja	Total	Kab/Jal	Total
5-11 years	21,7%	18,499,000	43/28	71	27/13	40	28/26	54	98/67	165
			19%-16%	17.8%	27%-26%	26.8%	12%-15%	13.5%	18%-17%	17.4%
12-14 years	22,7%	19,342,000	94/78	172	44/27	71	106/89	195	244/194	438
			42%-45%	43%	44%-54%	47.7%	47%-51%	48.9%	44%-49%	46.2%
15-17 years	55,6%	47,503,000	88/69	157	28/10	38	91/59	150	207/138	345
			39%/39%	39.2%	28%-20%	25.5%	40%/34%	37.6%	38%-34%	36.4%
Total	100%	85,344,000	225/175	400	99/50	149	225/174	399	549/399	948
				100%	-	100%	-	100%	-	100%

(p<0.001).

Kab/Jal = Kabul/Jalalabad.

Source: ILO-IPEC: *Marking progress against child labour - Global estimates and trends 2000-2012*, table 5. Geneva, ILO, 2013.

breathe at times. The different areas of the brick kiln are connected via roads wide enough to allow trucks to pass. Wheelbarrows, horse- and donkey-drawn carts and trucks are the three methods by which bricks are carried around the site.

LIVING CONDITIONS IN THE KILNS

Living conditions are basic. Workers' accommodation is located in a compound surrounded by high mud walls, right next to the kilns themselves. The huts vary in size and number of rooms: the smallest ones house a family of 6 and the largest ones, with 3 or 4 rooms, can house up to 25 people. Workers relieve themselves in one of two makeshift toilets – essentially a small, roofless brick hut with a hole in the ground. They wash themselves using water from the same source where they get their drinking water: one of two wells with a hand-pump. Children of 4-9 years old are often seen fetching water from these pumps in 15-litre barrels, and carrying them around in wheelbarrows for workers to drink.

2.2 General demographics

In terms of sampling, this survey was conducted amongst the following population groups:

- **Group 1** – Children who had been working in brick kilns for at least 2 years.
- **Group 2** – Younger siblings – working outside the kilns – of those children who were interviewed as Group 1 (see the exact definition in Appendix 1).
- **Group 3** – Children who exhibited similar socio-economic characteristics as Group 1 but were not exposed to brick kilns to serve as controls.

SAMPLE DISTRIBUTION BY PROVINCE

Table 2 shows the distribution of survey respondents by province according to sample sub-groups – working children, siblings and control group. Kabul children constituted 57.7 per cent of the sample and Nangarhar children, 42.3 per cent.

Table 4: Gender distribution

	Kiln girls	Kiln boys	Control girls	Control boys	Total
Frequency	74	327	114	289	804
%	9.2	40.7	14.2	35.9	100

Table 5: Distribution by gender and age (percentage)

Age group	Work in kilns	Siblings	Control	Total
5-11 years	27.8	35.0	29.3	29.2
12-14 years	29.1	36.6	27.2	29.5
15-17 years	2.6	36.8	29.3	18.0

($p < 0.001$).

DISTRIBUTION BY AGE

The age distribution of workers, siblings and control children was significantly different ($p < 0.001$) with respect to the fact that siblings were younger than the two other groups. The hypothesis that was being tested here was whether siblings are likely to be in better health than the working children partly because they are younger and have had fewer years of exposure to the brick kilns. The age distribution between the child workers and the control group are broadly comparable.

DISTRIBUTION BY GENDER

There were also marked gender differences. There were fewer than 20 per cent of girls among those working at the kilns, while girls composed 28.3 per cent of the control group and 36.2 per cent of the siblings. This is the result of an intentional selection procedure that was developed to reflect the fact that boys are notably more likely to work in kilns than girls – a feature identified through a 2-day preliminary observational census conducted before the survey began in each location. Overall, 9 per cent of the sample comprises girls who work in the kilns and 14 per cent comprises girls who do not work in the kilns. In spite of these small proportions, the sample sizes are sufficient to analyse the data in terms of gender.

The groups' samples were similarly divided between the two provinces of the survey in a proportion of around 55 per cent for Nangarhar and 45 per cent for Kabul, except for girls in kilns where the proportion of girls in the Nangarhar sample was higher than the corresponding proportion in the Kabul sample

(64.9 per cent and 35.1 per cent respectively).

There was also a significant difference in the age distribution of the four groups. The girls working in brick kilns were much younger than the other groups, more than two-thirds being aged of 11 or 12 years. By contrast, the boys working in kilns were slightly older than the others as they were composed of a greater amount of children in the 15-17 years old range. This tallies closely with broader observations from the fieldwork, which found that young girls often stop working at a younger age than their male contemporaries – usually when they hit puberty – and are required to undertake housework until they are married. Indeed, according to the AIHRC,¹⁴ 57 per cent of girls get married below the age of 16.

2.3 Education: A luxury good

The 2011 ILO report found that both education and leisure were rare in brick kilns in Afghanistan.¹⁵ This finding was corroborated in the field for this study as well. In order to assess the impact of working in brick kilns on the levels of education that working children had, both the control group and the working children were asked questions about their reading and writing skills, levels of education and the reasons for not being in school if such was the case. The education section was meant to test the hypothesis that: (a) working children would have less opportunity to attend school due to the hours that they worked in the brick kilns; and (b) socio-economic factors meant that if some children in a household were working,

¹⁴ AIHRC: *Fifth Report. Situation of Economic and Social Rights in Afghanistan*, 2011, p. 53.

¹⁵ ILO: *Buried in bricks* (2011), op. cit.

Table 6: Years at school

	Work in kilns	Siblings	Control	Total
Mean	1.1515	2.1678	4.3747	2.6814
Frequency	396	149	403	948
Standard deviation	2.280	2.916	3.255	3.199

Table 7: School attendance

	Work in kilns	Siblings	Control
Nangarhar	41 23%	25 50%	131 74%
Kabul	12 5%	30 30%	143 63%
Total	53 13.2%	55 36.9%	274 68.0%

(p<0.001).

Graph 1: Literacy by gender

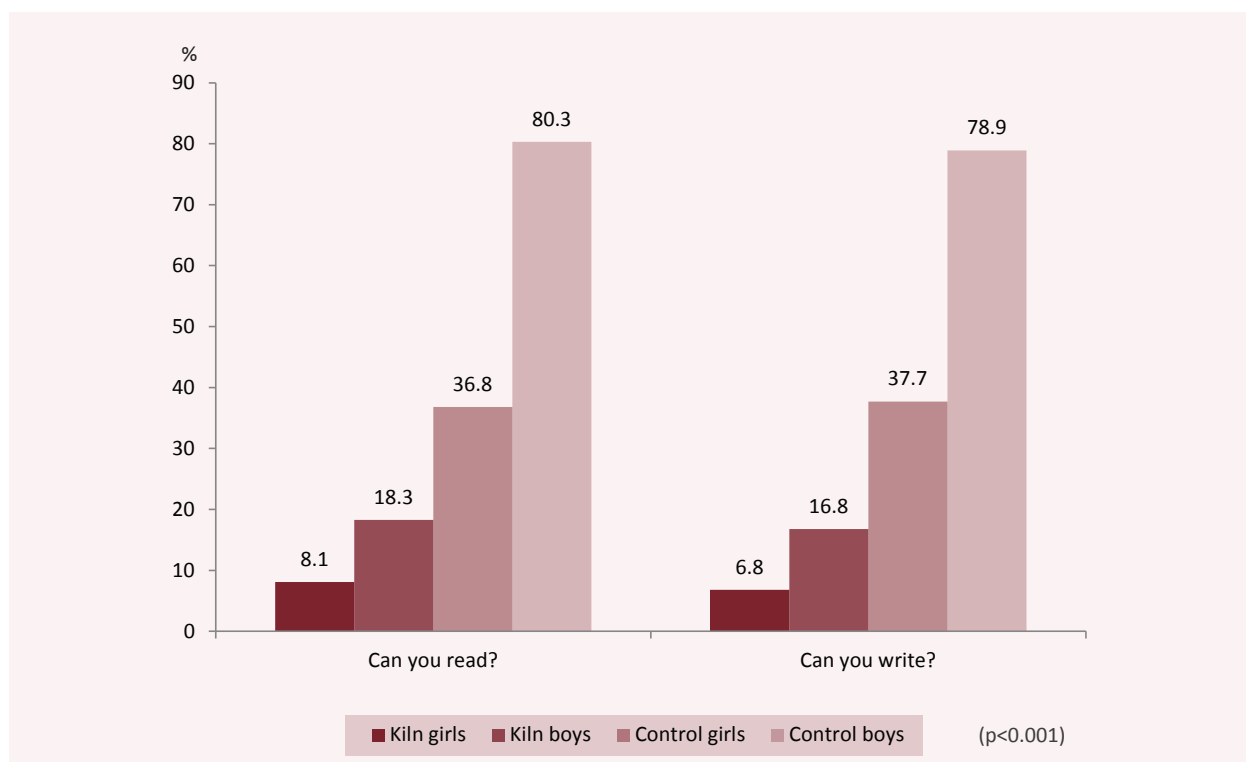


Table 8: Reasons for not attending school

	Work in kilns	Siblings	Control	Total
I want to work to raise money for my family	179 51.7%	9 9.7%	25 19.7%	213 37.6%
I have to work to raise money for my family	284 82.1%	11 11.8%	38 29.9%	333 58.8%
I did not want to go to school	8 2.3%	25 26.9%	19 15.0%	52 9.2%
There is no school nearby, all the schools are very far	29 8.4%	56 60.2%	55 43.3%	140 24.7%
It is too insecure	0 0.0%	26 1.1%	1 20.5%	27 4.8%

($p < 0.001$).

others would have the option of going to school. The level of education might also be related to increased options for moving away from the brick kilns to find employment in other sectors. However, this aspect was outside the scope of this present study.

YEARS AT SCHOOL

Findings from the survey indicated that children who work in brick kilns are less likely to have received an education than children who do not work in kilns. The trend is pronounced - brick kiln workers at the bottom, the control group at the top and the siblings somewhere in the middle. This indicates that siblings have a better chance of being in school and getting an education than their older brothers and sisters who work in the kilns. The mean number of years of schooling was 1.2 years for workers in kilns, 2.7 for the siblings and 4.4 for the control groups. Only 13.2 per cent of brick kiln workers were currently going to school while 68 per cent of the control group were attending school.

REASONS FOR NOT ATTENDING SCHOOL

Those who do not attend school were asked to explain why. Most of the children working in brick kilns answered that they did not go to school because **they had to work to raise money (82.1 per cent) or that they wanted to raise money for their family (51.7 per cent)** indicating an economic motivation behind their decision. Meanwhile, the siblings (43.3 per cent) and the control group (60.2 per cent) gave as a first reason not to go to school that there was no school nearby. Similar results were found concerning those

able to read and write. What this implies is that for working children in kilns, economic necessity played an important role in preventing them from getting an education. However, even if they wanted to go to school, they would not have access to schooling, as was the case with their siblings who were not bound by the same economic necessity.

On all aspects of education examined by the survey, we observed a strong trend that children working in brick kilns are at a disadvantage. Of these children, girls showed even less education than boys. While higher than children working in kilns, the girls in the control group also demonstrated lower level of education than boys in the control group. The reason for this has a lot to do with the social context in Afghanistan, especially with regards to women. In more conservative Jalalabad. There, fewer girls had been to school in both study and control groups than in Kabul.

By looking at the mean number of years of schooling, this trend can easily be seen as the girls in kilns were at the bottom (0.47 years of school), followed by the boys in kilns (1.31), the control girls (2.03) and finally the control boys (5.30).

Although approximately 80 per cent of the boys in the control group could read and write, according to the literacy and numeracy tests, this proportion falls to around 37 per cent for the girls in the control group. This amount decreases even more for children in kilns. While 18.3 per cent and 16.8 per cent of kiln boys were able to read and write, only 8.1 per cent of kiln girls could read and 6.8 per cent could write. This is in line with the observations made above about education.

Table 9: Number of moves in last 2 years

	Work in kilns	Siblings	Control	Total
Zero	123	46	379	548
	30.7%	30.9%	94.0%	57.5%
1	144	50	19	213
	35.9%	33.6%	4.7%	22.4%
2	82	36	3	121
	20.4%	24.2%	0.7%	12.7%
More than 3	52	17	2	71
	13.0%	11.4%	0.5%	7.5%

(p<0.001).

2.4 Mobility and stability

The ILO 2011 report found that the families' migratory background and current patterns of life were linked to their status as bonded workers and contributed to their inability to access services such as education. Some of the families were in exile in Pakistan and others followed a seasonal migratory pattern. These workers often leave the kilns in search of other jobs when the rains start or when winter sets in since the kilns are often either closed or running on low capacity between the months of December and March.

This survey found that the total moves over the last two years was high among the respondents and it reflected the characteristics of a seasonal migratory profile which is dependent on the weather. This was a significant difference between the control group and the families of brick kiln workers (p<0.001). While 94 per cent of the control group had never moved in the last two years, only around 30 per cent of kilns workers and siblings were in the same situation. Over a third of the kiln families moved at least one time (35.9 per cent); another 20 per cent had moved two times and 13 per cent had moved three times or more. When examining the reasons for moving, almost all the kiln workers and their siblings said that they relocated to find work, while this was true for only about half (54.2 per cent) of the controls.

The seasonal migratory profile of the working children in brick kilns, has three key implications for this study: (a) it affected their access to school and education as well as access to these services for their siblings; (b) it created a general environment of instability for the children; and (c) it makes it more difficult to attribute health impacts to the brick kiln work only, because being away from the kilns for a certain amount of time

could have had either a positive or negative impact on the health of these children depending on the nature of their activities during that time.¹⁶

2.5 Community support

A cumulative index of community support was constructed from questions on perceptions of acceptance of families around them and presence of good friends. While more than one third of children in the control group said that they enjoy a high level of support from the community, workers in kilns and their siblings showed very little community support. Only 1.8 per cent of kiln workers said that they enjoyed high support from the community and often emphasize the social stigma that impacts them.

"We are not welcome here. We are not welcome anywhere. People don't know us and we do not have exchanges with them."

Male head of household, Nangarhar.

This may be related to the seasonal migratory nature of brick-kiln work which may be associated with a more insular community outlook.

A cumulative index was also calculated on the issue of social integration, which included questions related to friendships, playing games, being free from perceptions of people's rejection and not feeling different from other children. While kiln children and their siblings reported negative scores of social integration, control children had positive levels of social integration.

.....

¹⁶ An in-depth study of lives during their migration away from the kiln was outside the scope of this study.

2.6 Conclusions on the environmental and social context

Life for children in brick kilns can be tough. The seasonal nature of brick kiln work requires families to move from one location to another over the course of a year. The lack of geographical stability, combined with the necessity to work, impacts levels of education, literacy, health and social integration. Children who work in brick kilns are less likely to be in education than children from the same socio-economic background who do not work in brick kilns. The mean number of years of schooling was 0.44 years for child workers in kilns, compared to 4.12 for the control groups. Among those not attending school, the main reason was that children felt that they had to support their families financially.

Table 10: Perception of community support

Community support*	Work in kilns	Siblings	Control	Total
Low	105	44	22	171
	26.3%	29.5%	5.5%	18.0%
Fair	288	94	223	605
	72.0%	63.1%	55.3%	63.6%
High	7	11	158	176
	1.8%	7.4%	39.2%	18.5%

($p < 0.001$).

* Community support = Accepted by families around + Good friends.

3. HEALTH HAZARDS IN BRICK KILNS

This section of the report focuses on hazard and risk identification for children working in brick kilns. Many of the risks identified in this section also apply to adults. The section begins with a description of each step in the production process, before examining which of these stages are the most dangerous for children. Qualitative discussions with brick makers and kiln owners, a Hazard Observation Checklist, as well as general observations, helped to identify which of these tasks are considered to be the most dangerous for children. Next, these activities are further assessed using a standard guide for risk assessment.

3.1 Stages in brick production

In general the work activities at the brick kilns can be divided into five principle stages:¹⁷

1. procuring the raw materials (water and soil);
2. preparing bricks;
3. transporting bricks to the kilns;
4. firing the bricks; and
5. selling the bricks.

“Those who make bricks, particularly children, are not assigned to put bricks in kilns and take them out – this is only the responsibility of the kiln man.”

Brick maker, Nangarhar.

3.2 Tasks performed by children

Generally, children tend to be involved in the first stage of the process, although exceptions occur. Children are often kept away from the kilns themselves due to higher levels of perceived risk associated with kiln-operations. According to brick makers in Surkh Rod, Nangarhar, children don't work near kilns.

“CHILDREN DON'T WORK NEAR KILNS...”

Focus group participants from brick kilns in Deh Sabz, Kabul, corroborate this statement: *“Hauling fuel, making fire in the kilns and taking bricks out of the kiln are not the responsibilities of brick makers...”*

Table 11 lists the tasks usually performed by children in the kilns. The exact process varies in each kiln, but there are a number of common features.



¹⁷ Each stage of the brick-production process is listed below. For additional information and an overview of these processes, see ILO: *Buried in bricks* (2011), op. cit.

BRICK MAKING PROCESS IN AFGHAN KILNS

Step one: Prep the clay

Brick makers head to the brick field adjacent to their homes as early as 4 or 5 am in the morning. There, adult and child workers perform one of the hardest tasks in brick making turning and mixing the clay that was prepared the night before with shovels. They do this to make clay smooth and pliable enough to be moulded into bricks.

Step two: Mould the clay into balls

Squatting on the ground near a pile of prepared clay, young children often perform this task of moulding the clay into oblong balls, which they then roll along the ground to their elder household members.

Step three: Press the ball of clay into the brick mould

Children and adults alike press the balls of clay into one of two brick moulds: a 1 brick Sancha mould or a 4 brick Ghalebi mould. The 4 brick mould is harder to lift. It also creates a slightly inferior brick, which fetches a lower price. Those who use the mould feel they can compensate for the lower wage with a higher quantity of bricks. Workers pat an extra dusting of dirt/sand on the exposed side of the brick, as a baker flours a loaf, to prevent the brick from sticking to the ground. Workers perform this repetitive task while crouched on the ground for many hours at a time.

Step four: Remove the brick from the mould

Workers flip the mould over onto the packed dirt ground. Sliding off the mould, they leave behind one or four mud bricks stamped with the kiln's logo.

Step five: Dry the bricks in the sun and stack

The bricks must dry for at least two days, depending on the heat (bricks dry faster in hot weather). The bricks must be flipped, in order to dry evenly. The bricks are then stacked where they continue drying until the transporters come to collect the bricks. At this point, the brick makers' tasks are complete, and the cycle begins again with the preparation of clay for the following day, digging clay and mixing it with water. All tasks are done in the open with no shade or shelter from elements.

Step six: Transport bricks to kiln

Transporters with carts drawn by donkeys or horses deliver the unbaked bricks to the kiln, where they are stacked and coated with a mixture of clay and the dust of baked bricks.

Step seven: Fire the bricks

The bricks are fired in the kiln for a period of one month. Performing one of the most dangerous tasks in brick kilns, the kiln operators keep the kiln fires operating day and night. The firing process is shifted down the rows of bricks so that the firing process never stops; the bricks are added to one end and removed from the other. Once baked, the bricks are transported to a nearby place where they will be stored until they are sold (usually outdoor storage).

Source: Based on field observations conducted for this study and from ILO: Buried in bricks: A rapid assessment of bonded labour in brick kilns in Afghanistan. Kabul, 2011.

Work is allocated to both boys and girls at each of the early stages of brick production. The study sample permits the identification of patterns in task allocation (see Appendix 1, Module 1) and clearly suggests that boys are notably more likely to be involved in all stages of production than girls.

The youngest children (approximately aged 4-7 years) mostly take care of the preliminary phases of the brick-making process. In Surkh Rod, Nangarhar, these activities included directing water through small channels to the area where the dirt is turned into wet clay. Typically, 80-100m-deep wells provide water to the kilns using electric pumps. The water is brought to the surface and stored in a small pool,

from where it is directed to the different work areas through narrow channels. Once the water has been delivered to the work area, younger children must then roll the clay into oblong balls before pressing the clay into a brick mould. The moulded bricks are then placed to dry in the sun. Older children (7-11 years) tend to be involved in more physically demanding activities such as loading the bricks onto carts and wheelbarrows.

From this point on, 'technical' workers take over the process. Transporters, who often own their own carts, donkeys and horses, load the dried bricks onto their vehicles and take them to the kilns. At the kilns, experienced workers arrange the bricks inside

Table 11: Description of activities

Stage	Description	
1	Preparing clay for mixing	Shovels are used to prepare a mound of dry clay for mixing
2	Hauling water to mix clay	Water is brought to the clay with buckets or by channels cut in the ground
3	Mixing clay with water	Shovels are used to mix the clay
4	Kneading the clay	Hands and feet are used to knead the clay into a homogeneous consistency
5	Rolling the clay into balls to fit the moulds	The pliable clay is rolled into oblong balls, ready to be pressed into a mould
6	Packing clay into moulds	The balls of clay are pressed into the moulds. Sand is sprinkled on top to prevent them from sticking to the dirt floor when turned
7	Emptying brick from mould	The formed clay is removed from the mould to the dirt floor
8	Arranging bricks to dry	The bricks are arranged in serried lines to dry in the sun for approximately 2 days
9	Turning bricks to dry	Throughout this period, the bricks have to be flipped regularly in order to dry evenly
10	Lifting bricks onto cart for transport to kilns	Bricks are lifted from the floor to a cart bed. This task is often performed by the transporters rather than children

the kilns so that they are fired evenly. This requires knowledge and experience, so children do not perform this task. The fire is then set and managed by another experienced worker who is responsible for ensuring that an appropriate temperature is maintained throughout the firing process. Children are often explicitly told to stay away from burning kilns. Once the bricks have been fired, they are often sold straight out of the kiln, rather than transported to a storage area.

The kiln workers have little protective clothing or equipment – whether children or adults. During the fieldwork, it was observed that most of the children wore some kind of protection on their feet, usually plastic sandals. However, the level of protection

afforded by this footwear is basic, and many children had small cuts and scratches on their feet. When asked if they often got injured - using the Dari word “zakhm” which can mean both an important injury or a small scratch – children would either answer no, or show a small wound on their hand, arm, or scratches on their legs. These usually came as result of falling over while running around, or from moulding the clay.

As the final stages are rarely conducted by young children, the occupational risk assessment was conducted on the initial stages of brick production only. This is described in the following section.



3.3 Occupational hazards

HAZARD OBSERVATION CHECKLISTS

A hazard observation checklist (HOC)¹⁸ was developed for the brick kiln industry by the ILO and utilised during the fieldwork. The information captured through the HOCs provides a systematic overview of the activities and risks at the brick kilns to which children are exposed.

Working children in six categories (male/female, age group <10 years, 11-14 years, 15-17 years) were identified and observed from 'dawn to dark'. This was a simplified time-motion study in which all tasks in which the children are engaged or present were described, the way in which the tasks were undertaken were described (quantitatively where necessary), as well as the conditions in which these tasks are taking place were described. The whole sequence of brick kiln work and the tasks in which only adults are engaged were not described.

The primary objective of the HOC was to identify exposures as a first step towards the risk assessment. It aimed to capture all of the work hazards to which child workers appear to be exposed at the brick kilns and in home-based tasks. It was designed to test the following hypothesis:

- 1. Children working in brick kilns are exposed to work-specific risk factors:**
 - * determined by identifying tasks and analysing the occupational risks to which children are exposed when working in the brick kilns and in their non-work environment.
- 2. Children working in brick kilns experience risk factors not specific to work** (which could contribute to reduced physical and psychological health and increased likelihood of injury):
 - * determined by observing/questions on hours of rest, sleep, and leisure of children working in brick kilns compared with non-working children.

FOCUS GROUP DISCUSSIONS

In addition, Focus group discussions (FGDs)¹⁹ allowed researchers to gather more detailed information

¹⁸ The hazard observation checklist (HOC) used for this assessment is provided in Appendix 1.

¹⁹ The Focus group discussions (FGDs) guidelines used for this assessment are provided in Appendix 1.

KEY DEFINITIONS

Hazard – Anything that may cause harm, such as chemicals, electricity, working from ladders, an open drawer, etc.

Risk – The chance, high or low, that somebody could be harmed by these and other hazards, together with an indication of how serious the harm could be.

Source: Health and Safety Executive: Five steps to risk assessment. C5000 INDG163 (rev 1) first published 5/99, July 2003. Available at: www.aberdeenshire.gov.uk/online/licenses/market_risk_assess_guide.pdf

about the hazards and risks involved for children working in each of the identified activities and the level of awareness parents had about these risks. They explored with a group of people from the brick kiln communities some of the issues and dilemmas they are faced with in protecting children from harm, and to help add context to the data coming from the interviews and observations.

Three types of information were sought during the course of this group discussion:

- a. the likelihood of an adverse health event occurring to the working children;
- b. the seriousness of the health outcome should this event take place;
- c. an understanding of the community's perceptions of risk.

Another especially critical issue from the standpoint of bias, concerns the healthy worker effect, i.e. exploring whether the family is opting to send its strongest children to work, and to feed them better than others, hence making the deleterious health effects less evident.

The hypothesis being tested by the FGDs were:

- 1. If parents and policy-makers understand the danger they are more likely to take action:**
 - * adults (workers, foremen, owners, parents) may not fully appreciate the dangers of brick kiln work and environment to children – particularly those that are long term and invisible;
 - * adults may not fully realize that dangers (hazards and risks) can be reduced;
 - * parents may be having difficulty visualizing a different future for their children or how best to prepare them for it.

2. Parents select their most robust children to work in the kilns.

RISK IDENTIFICATION MATRIX

Based on this combined information, a risk identification matrix is used to ascertain the potential hazards, likelihood of accidents, and severity of possible injury. Based on these observations, each activity is given a score from 1 to 4, where:

1 = operation should be shut down until appropriate control measures are in place.

2 = this hazard has potential to cause harm and requires a control measure within one week.

3 = this hazard requires a control measure within one month.

4 = this hazard may not need immediate attention.

In addition to these hazards, there are other ambient risks that are present throughout the brick making process.

As the tables show, there are inherent risks associated at every step of the brick making process. For instance, the review team measured particulate and dust fall rate in the direct vicinity of brick kilns and in the workplace itself using the “Dust Tracker” device. It confirms that children and adults are at higher risk of inhaling fine dust from the clay and noxious gases from the coal burning kilns – as shown in Table 15 and as confirmed in our empirical observations and focus group discussions:

“The nose is full of red dust, it is like blood. And sometimes it is black, when we work next to the chimney. But I am too old for these tasks.”

Kiln worker, 14 years old.

Table 12: Guideline for risk identification

How severely could it hurt someone or how ill could it make someone	How likely is it to be that bad?		
	Very likely ++	Likely +	Unlikely -
Kill or cause permanent disability or ill health	1	1	2
Long term illness or serious injury!!!	1	2	3
Medical attention and several days off work!!	2	3	4
First aid needed!	3	4	4

Source: Work Cover New South Wales: Hazpak worksheet, Gosford, Australia. Available at: www.eng.newcastle.edu.au/eecs/fyweb/4thyearprojects/HazpakWorksheet.pdf.

Table 13: Health risks in brick kilns

Stage	Hazard	Likelihood	Severity	Priority
1	Hitting unprotected feet with pick or shovel	+	!!	3
2	Falling while carrying heavy loads by hand	+	!!	3
3	Hitting unprotected feet with pick or shovel	+	!!	3
4	Debris and glass in the mixture can cut unprotected hands and feet	+	!!	3
5	Debris and glass in the mixture can cut unprotected hands and feet	+	!!	3
6	Damage to lower back from working with a bent back. Debris in the clay could harm hands when excess clay is wiped off	+	!!!	2
7	Damage to lower back from working with a bent back. Debris in the clay could harm hands when excess clay is wiped off	+	!!!	2
8	Damage to lower back from working with a bent back	++	!!!	2
9	Damage to lower back from working with a bent back. Cuts on hands from hard sharp edges on the bricks. Bricks falling on feet	++	!!!	2
10	Repeated lifting of bricks from the floor to a raised cart bed - Strain on lower back and knees. Bricks could be dropped on feet	+	!!!	2

Table 14: Ambient health risks

Ambient risk	Hazard	Livelihood	Severity	Priority	Intervention
Sun	Sunstroke and heatstroke Dehydration suburn	++	!!	2	Erect sunscreens where possible. Provide protective headwear and access to cool drinking water and sun cream
Dust	The location of the brick kilns in highly arid areas, combined with continued activity on the mine site creates considerable dust, which could lead to respiratory problems	++	!!	2	Frequent dampening of the earth with sprinklers

Table 15: Dust tracker readings

Area	Deh Sabz (Kabul)			Surkh Rod (Jalalabad)		
	Minimum	Maximum	Average	Minimum	Maximum	Average
Brick moulding	1,00	1,21	1,09	1,18	1,45	1,33
Land excavation (diesel truck)	1,11	4,75	2,56	1,07	3,02	2,17
Chimney (coal, smoke)	3,08	38,30	11,10	2,67	27,29	9,83

More generally, stages 1-5 (Table 13) are most likely to incur comparatively minor injuries such as cuts from glass in the clay mixture, while stages 6-10 tend to incur more serious long-term injuries, such as musculo-skeletal problems and spinal injuries. Focus group discussions with brick makers highlighted a number of recurring risks for children in three main areas: hauling water, rolling the clay and turning the bricks.

Parents are acutely aware of many of the risks associated with kiln work, and often try to keep children away from the most hazardous areas of work – particularly the kiln itself. Brick kiln workers are also aware of the long-term impacts on health that accrue from working in brick kilns. The following quotes illustrate the level of hazard awareness among brick kiln workers.

“Children are more prone to risks because they are not very careful when working.”

Brick maker, Kabul.

HAULING WATER

“Hauling water is also dangerous for children under 14 because there are possibilities for them to fall and displace or break their feet.”

Brick maker, Nangarhar.

“Bringing water and kneading the mud are both risky for our children because while bringing water they have to lift heavy weights and they might hurt their hands or feet while kneading the clay, which can cause permanent disability or tetanus.”

Maajabin, housewife, Nangarhar.

“Bringing water is not a problem for elders, but for children it is difficult and risky because they carry the water in buckets, which is obviously heavy, so sometimes they fall down and hurt their feet and hands.”

Brick maker, Kabul.

ROLLING CLAY

“There are different risks associated with rolling clay. Sometimes there are pieces of glass or sharp stones that can tear children’s hands. It is also harmful to their feet, waist and shoulders.”

Brick maker, Kabul.

“Rolling and moulding bricks are very difficult tasks, which can cause severe feet pain and waist problems.”

Maajabin, housewife, Nangarhar.

TURNING BRICKS TO DRY

“Children under 14 are particularly prone to the risks associated with these tasks [brick turning] because sometimes bricks fall on their feet and other times they fall on the bricks.”

Brick maker, Kabul.

“Turning the bricks to dry is also a risky task because bricks are always covered in sand and they have sharp edges which always tear children’s hands.”

Brick maker, Kabul.

“Turning and collecting bricks are also risky tasks because workers do this task with a bent waist that causes lots of problems to their waists.”

Brick maker, Kabul.

3.4 Exposure to violence and abuse at home and work

Violence can be an occupational hazard and, whether occurring in the workplace or at home, affects a child’s overall well-being. Exposure to violence was very frequent. A cumulative index was constructed from the answers to questions on existence of conflict in the family, getting scolded, criticized or made feel small or stupid, getting beaten at home, and severely punished at work. Almost half of the children working in kilns, one third of their siblings and more than one fourth of the children in the control group experienced violence daily or most of the time.

The quantitative survey found that these children are highly exposed to different forms of violence and girls, particularly those working in brick kilns. A cumulative index was constructed from positive answers to questions on existence of conflict in the family, getting scolded, criticized or made to feel small or stupid, getting beaten at home, and severely punished at work. Three-fourths of the kiln girls were intensely exposed to those violent events. By comparison, 40 per cent of kiln boys and control girls and 25 per cent of control boys were in that situation. Furthermore, more boys in both groups declared that they had not suffered any violence (50 per cent of the control boys and 33 per cent of the kiln boys) while only 12 per cent of control girls and 8 per cent of kiln girls reported to have not been exposed to violence.

To illustrate further this gender difference in exposure to violence, the team examined one of the indicators constituting the violence index: being beaten at home or at work. A third of the kiln girls acknowledged being frequently beaten at home or at work compared with 19 per cent of the kiln boys. At the other end of the spectrum, 63 per cent of control boys and almost 50 per cent of the kiln boys reported not to be ever beaten at home or at work compared with 25 per cent of the control girls and 15 per cent of the kiln girls.

On the frequency of punishment for mistakes at work, around a third of girls in both groups said it happened a lot or quite a bit in comparison to about 13 per cent of kiln boys and 10 per cent of control boys ($p < 0.001$). This is an interesting observation and perhaps indicative of the inferior position that women hold to men in general. However, there may be other factors at play as well.

Children in brick kilns were more exposed to psychological violence than control children,

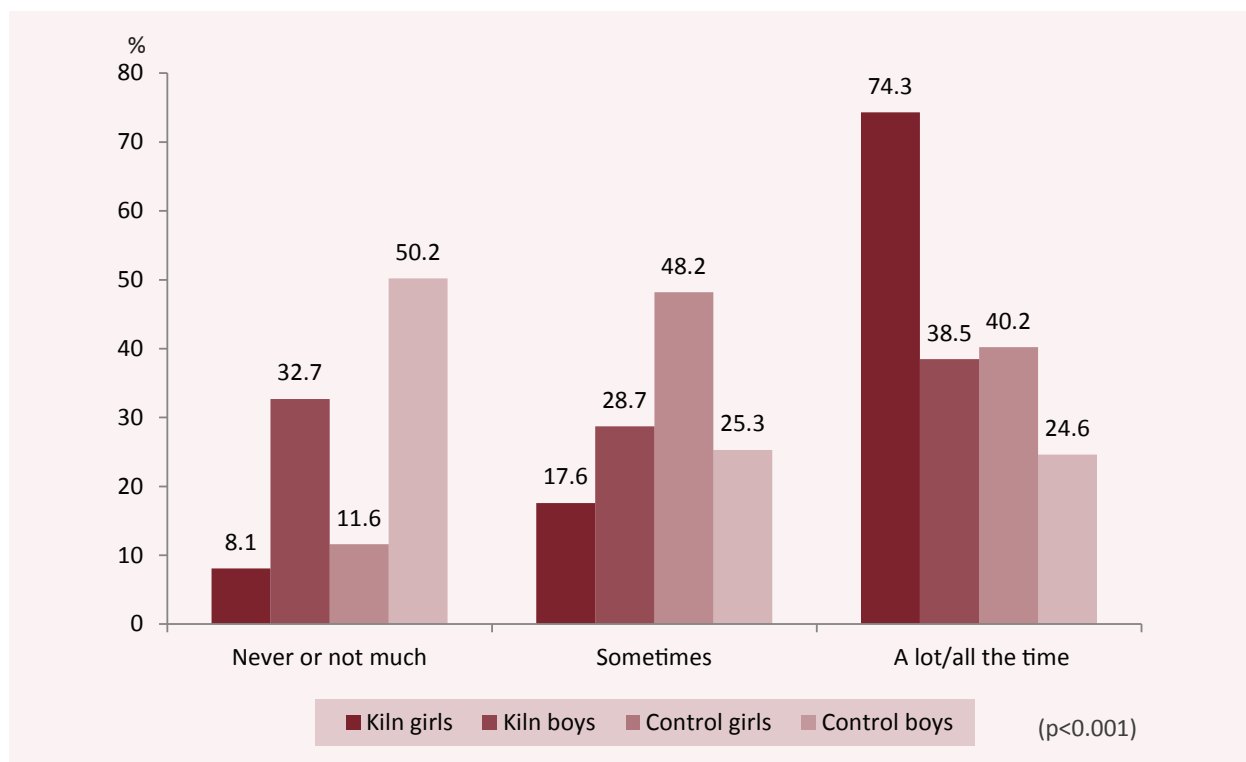
Table 16: Exposure to violence

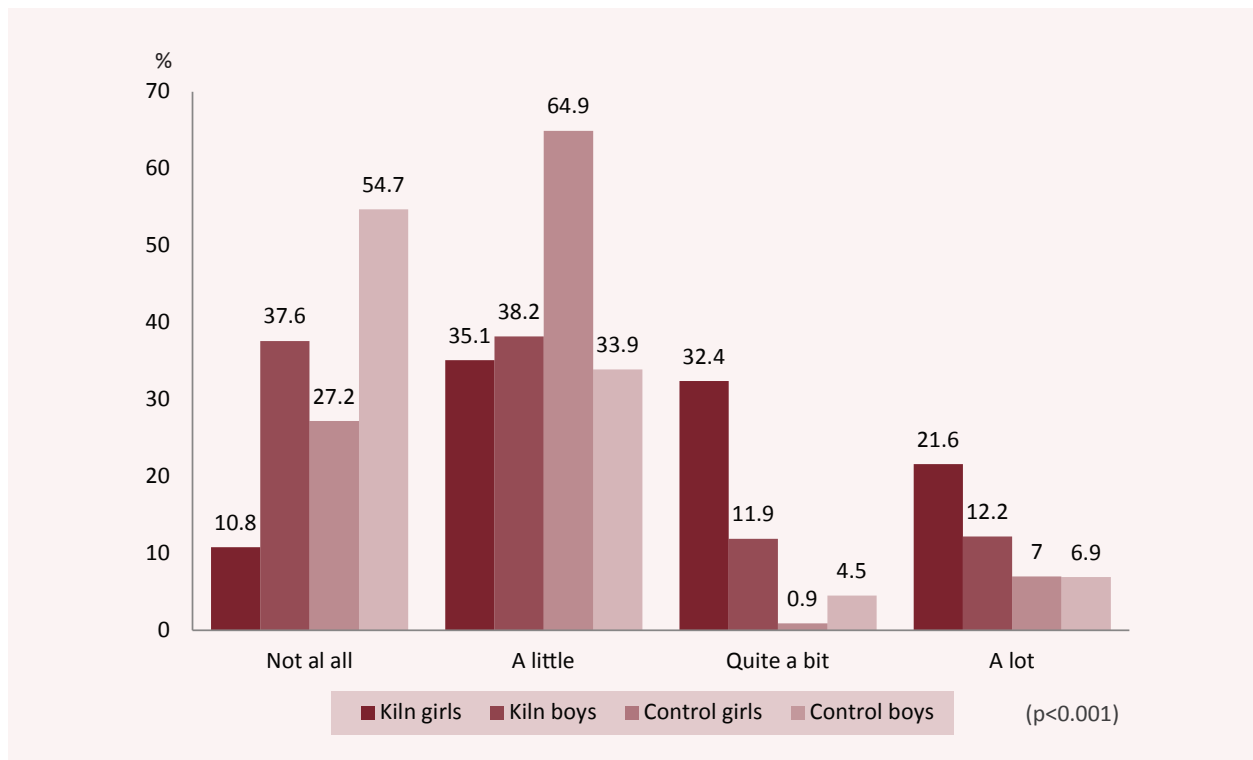
Violence*	Work in kilns	Siblings	Control	Total
Never or too much	113 28.2%	53 35.8%	158 39.4%	324 34.1%
Sometimes	107 26.7%	41 27.7%	127 31.7%	275 28.9%
A lot/all the time	181 45.1%	54 36.5%	116 28.9%	351 36.9%

(p<0.001).

* Violence = Conflict in family + Scolded, criticized, feel small or stupid + Beaten at home or work + Punished for mistake a lot.

Graph 2: Exposure to violence



Graph 4: Rejection, reasing and name calling

particularly kiln girls. Around a third of kiln girls were frequently subjected to criticism or scolding that made them felt small or stupid against 14 per cent for kiln boys, 9 per cent of control boys and less than 1 per cent of control girls. The same trends could be seen for feeling rejected or name calling. Boys in general are less likely to suffer this kind of violence.

Although the children in brick kilns were more susceptible to fight or quarrel than control children, girls were more often involved in these quarrels ($p < 0.001$). For instance, more than half of the kiln girls were frequently involved in those violent activities. By comparison, around 20 per cent of the kiln boys reported that situation (9.8 per cent a lot and 11 per cent quite a bit). Again, the less exposed to quarrels were the control boys as 56 per cent of them were never involved in them.

Finally, the team examined the hypothesis of increased vulnerability of girls to the pernicious effects of violence on mental health or phrasing the hypothesis in a question form: Are girls more likely than boys to suffer psychological distress when subjected to any given level of violence? They predicted psychological distress for girls and boys from linear regression equations where violence was categorized in three

levels of exposure (low, moderate and high) adjusting for kiln work. We obtained the following equations:

Psychological distress for girls = $24.9 + 5.4 \text{ Moderate violence} + 8.4 \text{ High violence} + 3.0 \text{ Kiln work}$

Psychological distress for boys = $22.8 + 1.3 \text{ Moderate violence} + 7.1 \text{ High violence} + 5.0 \text{ Kiln work}$

The coefficients for the high level of violence are not statistically different for boys (7.1) and girls (8.4). However, girls seemed to be more vulnerable to moderate levels of violence than boys (5.4 vs. 1.3, $p < 0.05$ in pooled analyses with a multiplicative interaction term). Working in brick kilns was associated with psychological distress both in boys and in girls.

3.5 Conclusion

This section has examined the occupational safety hazards of working in brick kilns for children. Exploring both physical conditions and psychological conditions as well as exposure to violence by tracing each step of the brick making process, this chapter has laid down the contextual foundation for the next section which looks at specific health risks and diseases that working children are vulnerable to.

These factors have both direct and indirect impacts on the physical health and psychological well-being of a child as the next section will demonstrate. They manifest in both short term and latent conditions. This section has highlighted the key role that children play in brick kilns and has established that not only is children's work in brick kilns considered to be normal (not looked at as child labour) but also that they are exposed to varying degrees of risk.

SUMMARY OF KEY FINDINGS

Tasks performed by children in brick making

- Generally, children tend to be involved in the first stage of the process, although exceptions occur. Children are often kept away from the kilns themselves due to higher levels of perceived risk associated with kiln-operations.
- Activities include preparing clay for mixing, hauling water to mix clay, mixing clay with water, kneading the clay, rolling the clay into balls to fit the moulds, packing clay into moulds, emptying brick from mould, arranging bricks to dry, turning bricks to dry and lifting bricks onto cart for transport to kilns.
- Boys were notably more likely to be involved in all stages of production than girls.
- The youngest children (aged approximately 4-7 years old) mostly take care of the preliminary phases of the brick making process.
- Children are often explicitly told to stay away from burning kilns.
- Currently, there is little or no provision of personal protective equipment for kiln workers – whether children or adults.

Adverse risks

- Parents are acutely aware of many of the risks associated with kiln work, and often try to keep children away from the most hazardous areas of work – particularly the kiln itself.
- Half of the children who work in kilns (50.1 per cent) said that they knew of a child who had been injured, compares to 41.2 per cent of children from the control group. The difference is more striking when looking at the proportions of children who know of another child who has been killed at work - 23.5 per cent of brick kilns workers and 10.7 per cent for the control group knew some children who had died at work, with differences between Nangarhar and Kabul.

Exposure to violence

- Almost half of the children working in kilns, one third of their siblings and more than one fourth of the children in the control group experienced violence daily or most of the time.
- A third of the kiln girls acknowledged being frequently beaten at home or at work compared with 19 per cent of the kiln boys. At the other end of the spectrum, 63 per cent of control boys and almost 50 per cent of the kiln boys reported not to be ever beaten at home or at work compared with 25 per cent of the control girls and 15 per cent of the kiln girls.
- On the frequency of punishment for mistakes at work, around a third of girls in both groups said it happened a lot or quite a bit in comparison to about 13 per cent of kiln boys and 10 per cent of control boys ($p < 0.001$).
- Children working in brick kilns were more exposed to psychological violence than control children, particularly kiln girls. Around a third of kiln girls were frequently subjected to critics or scolding that made them felt small or stupid against 14 per cent for kiln boys, 9 per cent of control boys and less than 1 per cent of control girls. The same trends could be seen for feeling rejected or name calling. Boys in general are less likely to suffer this kind of violence.

4. HEALTH IMPACTS OF WORKING IN BRICK KILNS

Having examined the inherent risks and hazards involved with child labour in brick kilns, this section of the report explores the impact of these risks on children's health. The data draws strong comparisons between kiln children and non-kiln children in order to identify which health issues are related to kiln work specifically, and which are commonly found among children from the same socio-economic background. This section also looks at the associated financial impacts of exposure to health hazards in brick kilns and examines the extent to which these costs are a contributing factor to debt-induced bonded labour.

"Children working in brick kilns sometimes fall sick because of the heavy load of the work and hot weather."

Nisar Ahmad, kiln owner, Nangarhar.

"No brick maker here is free from injuries and illnesses like lower back pains, leg pains and kidney conditions."

Brick maker, Nangarhar.

4.1 Physical health impacts

The survey found that **children working in brick kilns are more likely to suffer from poor health than children from the control group**. A cumulative index was created of general malaise in the last four weeks, including fatigue, minor cuts or bruises, pain and feelings of anxiety or fear. In general, kiln children were more troubled by these aspects - the average was 1.2768 for them, compared to 0.5658 for the control group and lower for the siblings (0.2550).

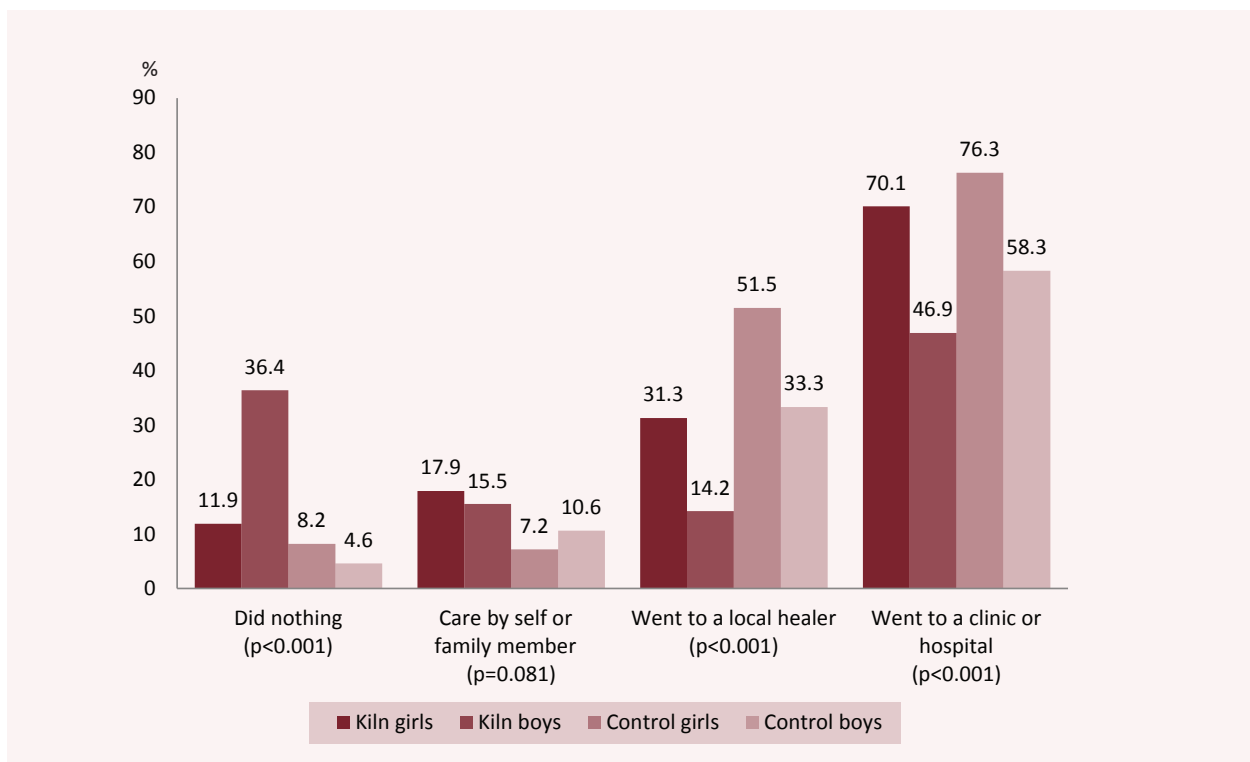
Children were asked whether they had experienced any injuries over the last 12 months. Injuries were common with obvious differences between the kiln workers and the control group for two types of injuries: bad cuts and bruises (23.4 per cent against 7.9 per cent) and sprains or dislocations (33.4 per cent against 16.4 per cent). Adding all types of injuries, more than a half of child brick kiln workers reported at least one injury compared to 35.2 per cent for the control groups.

"My children have done many heavy tasks that have caused them weight loss, lower back pains, weak eyesight, wrist pains and respiratory problems."

Khudima, housewife, Nangarhar .

Table 17: Injuries in the last year

	Work in kilns	Siblings	Control
Bad cuts or bruises (p<0.001)	94 23.4%	6 4.0%	32 7.9%
Broken bone (p=0.029)	22 5.5%	2 1.3%	29 7.2%
Sprains, strains or dislocations (p<0.001)	134 33.4%	11 7.4%	66 16.4%
Bad burns or scalds (p<0.001)	32 8.0%	5 3.4%	38 9.4%
Any injury (p<0.001)	206 51.4%	20 13.4%	142 35.2%

Graph 5: Action taken when ill or injured

A crucial observation of the survey was: **On receiving an injury, most children of kiln worker families did nothing or took care of their injury themselves while most of the control group sought help from local healers (35.9 per cent), clinics or a hospital (38.7 per cent).**

Kiln boys were more likely to report not doing anything than kiln girls (21 per cent vs. 10 per cent) or taking care of it by themselves (28 per cent vs. 15 per cent). Subsequently, kiln girls were more prone than boys to go to local healers (20 per cent vs. 13 per cent) or clinics and hospitals (46 per cent vs. 34 per cent).

Concerning illnesses interfering with their activities, the kiln children were less likely to stop their normal undertakings for three days or more. However, concerning diseases kiln boys were slightly more disposed to stop regular activities than kiln girls (56 per cent vs. 49 per cent), which was very different from the 87 per cent of control girls reporting to have stopped their normal activities because of sickness. These differences may be due to the fact that many children feel that they have to work in brick kilns to earn money for their families.

Gender disparities were apparent on many physical health issues. Using a cumulative index for malaise or unwellness, the study reveals that girls working in brick kilns were more disturbed by these conditions

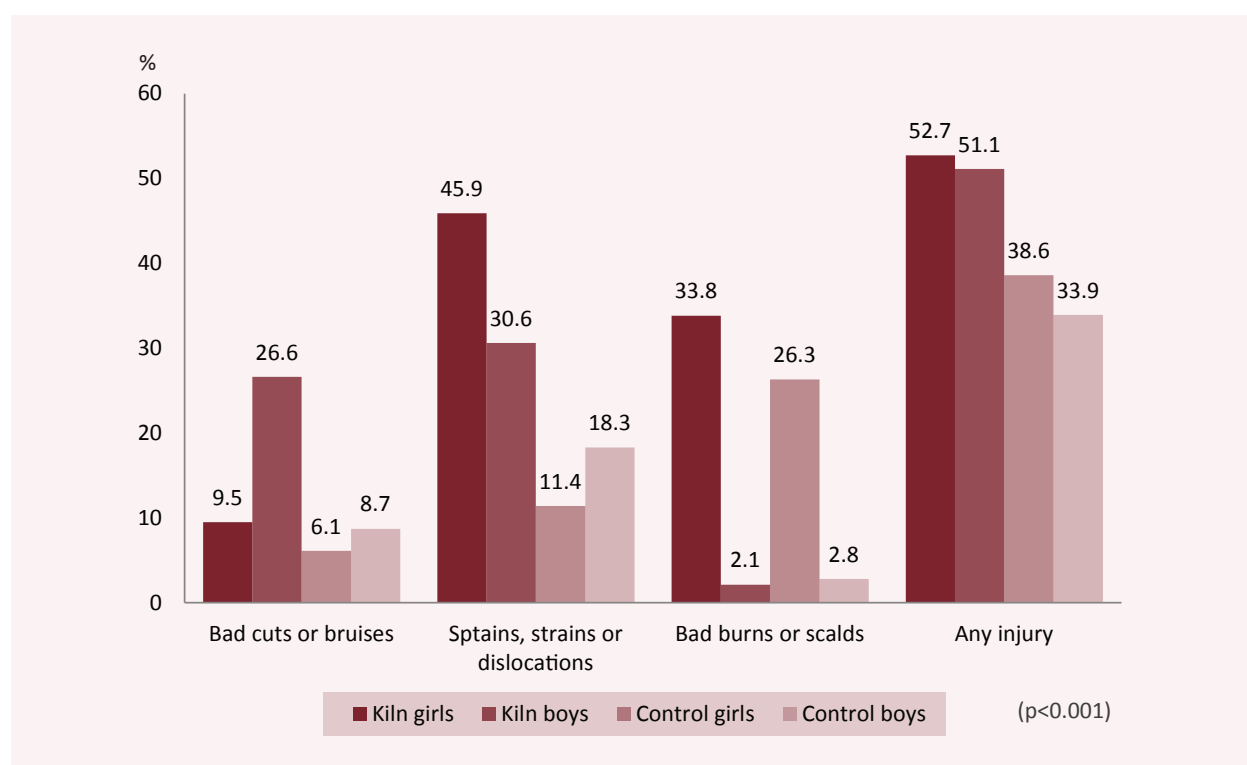
than the other groups (average 1.40). They were followed closely by the boys in kiln work (1.25), then non-kiln working girls (0.75) and finally non-kiln working boys (0.49) in the control groups (p<0.001).

Looking at the figures more closely still, the distribution of the types of injury received in the previous year show significant gender differences. First, boys working in kilns were more prone to suffer from bad cuts or bruises than other groups - 26.6 per cent compared to less than 10 per cent for the three other groups. As the qualitative research found, children often incur cuts and scrapes (of varying degrees of severity) when they knead the clay and press it into the brick moulds. They are also likely to incur these kinds of injury when they turn the drying bricks in the sun, as the edges can become sharp and brittle.

"[...] yesterday one of the children hurt his hand while trying to roll the mud, and now he is unable to work today."

Brick maker, Nangarhar.

Meanwhile, girls in kilns were more susceptible to sprains, strains or dislocations: almost half of them had experienced one of those in contrast to a third for boys in kilns and even less for boys and girls in the control groups. Given the inherent sensitivities associated with observing young girls at work, it was not possible to identify a clear gender delineation of

Graph 6: Injuries incurred in last 12 months, by gender

Table 18: Pain experienced in last 12 months

	Work in kilns	Siblings	Control
Neck (p=0.03)	72 40.9%	144 35.8%	65 36.7%
Shoulder (p=0.003)	47 26.7%	81 20.1%	31 17.5%
Elbows (p<0.001)	25 14.2%	32 8.0%	6 3.4%
Wrists/hands (p<0.001)	87 49.4%	136 33.8%	40 22.6%
Upper back (p<0.001)	33 18.8%	39 9.7%	4 2.3%
Lower back (p<0.001)	126 71.6%	226 56.2%	90 50.8%

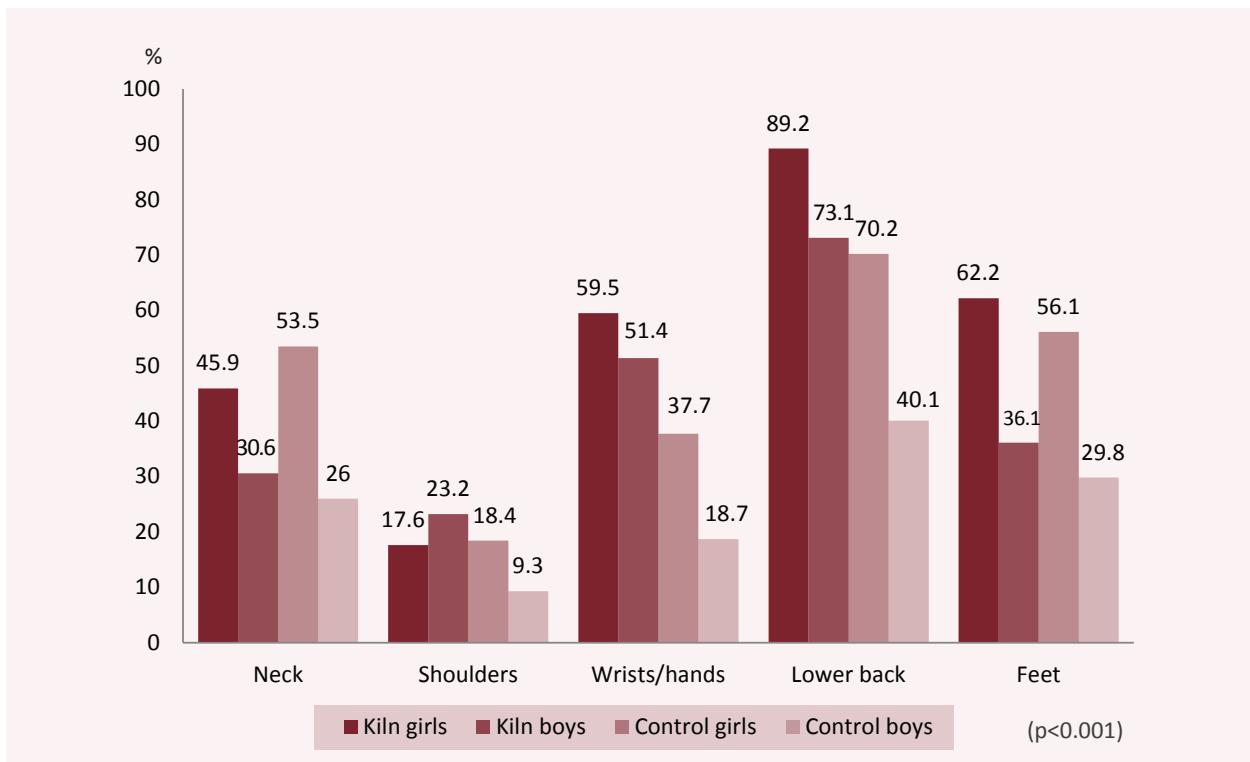
activities. Further research needs to be conducted in this area.

Another notable finding is that both groups of girls (brick kiln workers and controls) experienced more bad burns or scalds, while only a tiny fraction of boys reported that type of injury (34 per cent of kiln girls and 26 per cent of control girls). This fact could be explained by girls experiencing more while preparing

food or being involved in domestic tasks.

Children working in brick kilns are also more likely to report being in pain over the last 12 months compared to children who do not work in brick kilns. More kiln workers felt pain in the shoulders (p=0.003), elbows (p<0.001), wrists or hands (p<0.001), upper (p<0.001) and lower back (p<0.001) compared with control children. The results are starker when

Graph 7: Pain experienced in last 12 months, by gender



comparing the total proportion of children who felt any kind of pain in the last 12 months - 92.3 per cent of brick kilns workers compared to 75.7 per cent for the control group.

"[...] Most of them have left working due to lower back pains and other illnesses."

Haji Chenaargul, kiln owner, Kabul.

Gender differences exist between boys and girls in terms of pain experienced in the last 12 months. Firstly, boys working in brick kilns exhibited slightly superior pain in their shoulders (23 per cent) and elbows (12 per cent) than girls in kilns (18 per cent and 7 per cent respectively) and control groups. However, kiln girls were more numerous than kiln boys to declare pain in the wrist or hand (60 per cent vs. 51 per cent) and lower back (89 per cent vs. 73 per cent). Girls in both groups were more likely to assert pain to neck and feet than boys. For instance, 62 per cent of kiln girls and 56 per cent of control girls reported pain to their foot while 36 per cent of kiln boys and 30 per cent of control boys did so.

Finally, girls in brick kilns and in the control group are more likely to have been affected by various illnesses during the prior year than comparable boys. This was true for breathing problems, eye and ear problems

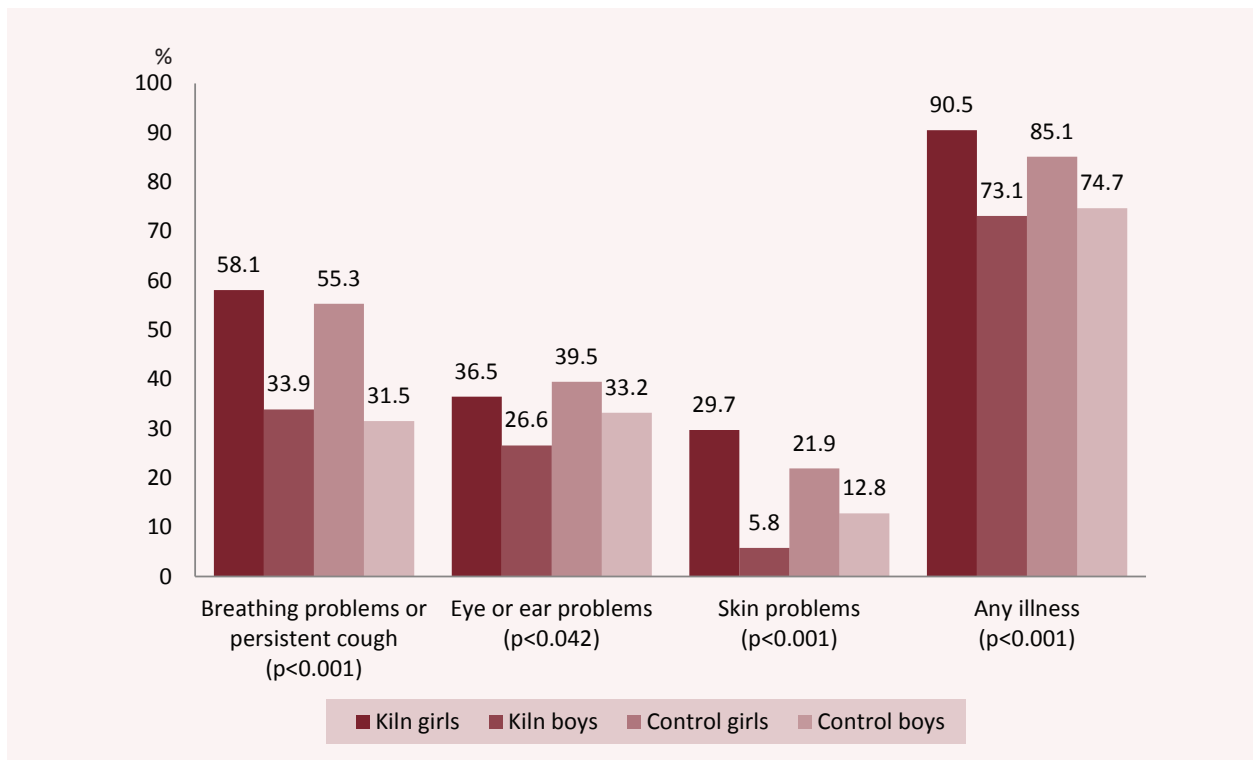
and skin problems. It was only in the case of stomach problems or diarrhoea that no significant gender difference was identified. By counting all the children who reported at least one of these illnesses, girls in kilns (90 per cent) came slightly ahead of the girls in the control group (85 per cent) and significant ahead of boys in kiln work (73 per cent) and in the control group (75 per cent).

4.2 Pulmonary diseases and lung function

The review team measured the lung function (breath) of both study and control group children, using spirometric tests. Lung function can be an indicator for conditions such as asthma, pulmonary fibrosis, cystic fibrosis and chronic obstructive pulmonary diseases.²⁰

- **Forced vital capacity (FVC)** is the volume of air that can forcibly be blown out after full inspiration, measured in litres.

²⁰ See: Perez, LL.: "Office spirometry" in *Osteopathic Family Physician*, 5 (2): 65–69, (March–April 2013); Pellegrino, R. et al.: "Interpretative strategies for lung function tests" in *The European respiratory journal : official journal of the European Society for Clinical Respiratory Physiology*, 26 (5): 948–68, (November 2005); and Miller, M.R. et al.: "General Considerations for lung function testing" in *European Respiratory Journal*, 26 (1): 153–161, (July 2005).

Graph 8: Illnesses last year, by gender

- **Forced expiratory volume (FEV₁)** is the volume of air that can forcibly be blown out in one second, after full inspiration. Predicted normal values for FEV₁ depend on age, sex, height, mass and ethnicity.
- **FEV₁/FVC (FEV1%)** is the ratio of FEV₁ to FVC. In obstructive diseases (asthma, COPD, chronic bronchitis, emphysema) FEV₁ is diminished because of increased airway resistance to expiratory flow; the FVC may be decreased as well, due to the premature closure of airway in expiration, just not in the same proportion as FEV₁. This generates a reduced value (<80%, often ~45%). In restrictive diseases (pulmonary fibrosis), the FEV₁ and FVC are both reduced proportionally and the value may be normal or even increased as a result of decreased lung compliance.
- **Forced expiratory flow (FEF)** is the flow (or speed) of air coming out of the lung during the middle portion of a forced expiration. It can be given at discrete times, generally defined by what fraction remains of the FVC. Predicted normal values for FEF depend on age, sex, height, mass and ethnicity.
- **Peak expiratory flow (PEF)** is the maximal expiratory flow (or speed) achieved during the maximally forced expiration initiated at full

inspiration, measured in litres per minute.

Both tested lung function and questions related to lung function showed significant differences between workers and controls. For example, where only 1 out of 100 respondents from the control group reported being asthmatic, 20 brick kiln workers out of 100 said that they were suffering from asthma. It should be noted that smoking cannot be considered as a contributing factor to the higher rates of asthma among brick kiln workers (20 per cent), as none of the respondents reported being a smoker – even occasionally.

As shown in Table 20, when comparing the spirometric measurements of study and control groups, there are clear differences between the two surveyed groups. To better understand Table 20 it is worth noting that the most commonly used approach for deciding whether a measured value falls outside of the “normal” range is to compare the measured value for the surveyed individual (brick kiln worker) with a mean value measured for a group of similar individuals (“predicted” – with the same gender and age). Values of between 80 per cent and 120 per cent of the average value are considered “normal”. The results are as follows:

- both groups can be considered as normal, and the actual measurements tend to be generally better

than the “theoretical” or predicted ones – however, such positive results, for both groups, may have been influenced by the experimental protocol itself.

- More interestingly, there are significant differences between the study and control groups (17 percentage points for the PEF and 5 to 7 percentage points for FVC and FEV₁) – which validates the assumption that children working in the kilns are more likely to suffer from pulmonary diseases, as suggested by the abnormal rate of asthma in the surveyed sample.

Table 19: Spirometric measurements

Kiln children	PRE#1	Predicted	%
FEV ₁ /FVC	86,0	91,9	7
PEF	5,3	5,6	6
PEF ₂₅₇₅	3,1	2,7	-13
FVC	3,2	2,5	-21
FEV ₁	2,7	2,2	-18
Control children	PRE#1	Predicted	%
FEV ₁ /FVC	86,3	91,6	6
PEF	5,8	5,2	-11
PEF ₂₅₇₅	3,1	2,6	-16
FVC	3,1	2,3	-26
FEV ₁	2,7	2,0	-25

4.3 Body size

While surveyed kiln workers were younger by approximately 9 months (average 13,4 vs. 14,2 years), both their weight and height (average 38.6 kg and 147.4 cm) were superior to those of control group respondents (average 37.2 kg and 145.6 cm).

Table 20: Age, weight, and height (objective measurements)

	Age	Weight (kg)	Height (cm)
Kiln children	13,4	38,6	147,4
Control children	14,2	37,2	145,6

4.4 Mental health impacts

To a discerning observer, children working in the surveyed brick kilns were often smiling, cheerful and happy to participate in the survey. Many of the children, especially the younger ones, were observed taking spontaneous breaks, throwing balls of clay at each other and generally enjoying themselves. At

no point were children observed being reprimanded for not doing their work. However, as psychological impacts are not often evident to the casual observer, a questionnaire developed specifically by the ILO for exploring psychosocial impacts of children’s work was administered to the respondents. It included a range of symptoms and dimensions related to mental health including self-confidence, locus of control, somatic conditions (e.g. level of energy, sleeping difficulties, appetite, dizziness,) emotional states (e.g. restlessness, sadness, feeling lonely, anger, forgetfulness, fear, worry) and future orientation (e.g. lack of hope for a better life and if life is worth living.) These factors are grouped in a cumulative index, as suggested by factor analyses. Taking all negative psychological indicators together, the brick workers exemplified poorer emotional well-being overall (mean of 31.6484) than either their non-working siblings (mean 27.4832), or the control group (mean 26.4293).²¹

Levels of self-confidence are a good example of the trends between the groups (p<0.001). 69.1 per cent of the brick kilns workers were not at all (14.2 per cent) or a little (54.9 per cent) confident opposed to 68.1 per cent of the control groups to be quite a bit (30.4 per cent) or a lot confident (37.7 per cent). Based on the focus groups conducted with kiln workers, it appears that such a lack of self-confidence may be attributed to a social inhibition.

“We are different from other children in this area. Those who work in the kilns are tired and cannot enjoy their free time. So we know that we are not welcome. And I don’t feel comfortable with them.”
 Kiln child, 13 years old.

Sense of security is a key area of difference between child kiln workers and non-kiln workers, with 69.8 per cent of kiln workers not feeling safe at all (16.8 per cent) or only a little (53 per cent), while 84.2 per cent of the control group feeling safe quite a bit (51.9 per cent) or a lot (32.3 per cent). As suggested by the children we interviewed, such a significant difference between control and test groups implies that kiln workers are aware of the potential impact of their work on their health.

Again, looking at gender patterns, there are some notable differences between boys and girls. On most of the single indicators for the mental health assessment, girls in brick kilns seemed to be somewhat more negatively affected than other

²¹ As with the physical assessment, the psychological findings should be treated as indicative rather than definitive evidence of psychological disability.

Table 21: Levels of confidence

	Work in kilns	Siblings	Control	Total
Not at all	57	15	14	86
	14,2%	10,1%	3,5%	9,0%
A little	220	70	114	404
	54,9%	47,0%	28,4%	42,5%
Quite a bit	71	32	122	225
	17,7%	21,5%	30,4%	23,7%
A lot	53	32	151	236
	13,2%	21,5%	37,7%	24,8%

(p<0.001).

CHILD LABOUR: CHOICE, VOLUNTARY AND FORCED

In addition to this, children appear to have limited freedom to choose which activities they must perform. When asked if they could choose what to do at work, approximately half of them said never, while only 10.3 per cent answered always (2 per cent) or often (8.3 per cent). Questions were also asked on the voluntary nature of their work. They were asked if they could stop working in brick kilns if they wanted to. Only 18.3 per cent answered yes whereas 68.3 per cent said no. For those who could not choose, children were questioned on who was forcing them to work in brick kilns: 85.8 per cent said that their parents were the most directly responsible. When asked about why they think their parents were forcing them 83.3 per cent said that their parents owed money to someone else. This is explored later in this section of the report.

groups. As before, a cumulative index was composed to show the combined levels of mental wellbeing. The kiln girls, with a score of 35.1, had the worst average psychological distress amongst the groups. The girls in the control group followed next with a score of 31.49, and slightly behind were the boys in kilns with an average of 30.9. Demonstrating a better score on psychological symptoms, the control boys had an average score of 21.5.

“These kilns are dangerous. I know children who almost died here and others who got badly injured.”

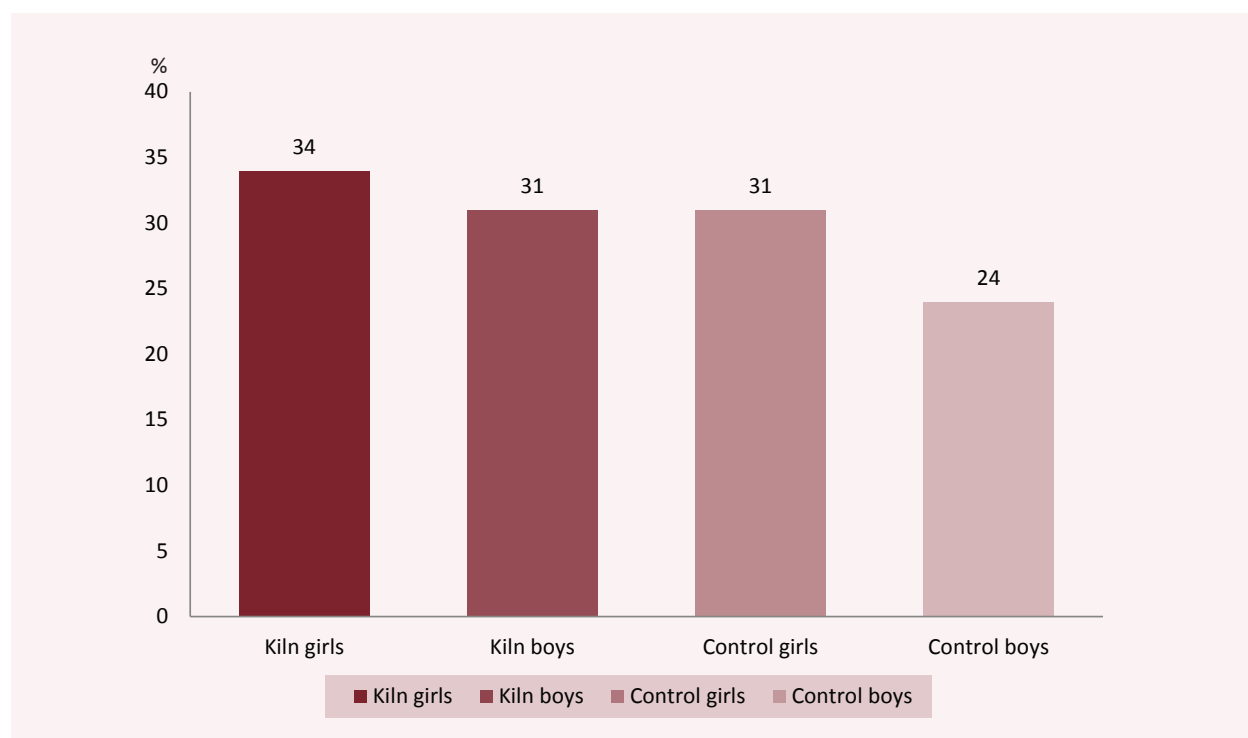
Kiln child, 11 years old.

The closeness of girls' scores in kilns and in control group suggests that girls face psychological pressures that are not related to brick kilns. By comparison, the differences in the scores for study and control groups suggest that kiln work exerts unique mental pressures on boys. This is an interesting observation and anecdotal evidence suggests that it can be attributed to the role of girls in the domestic sphere after they have finished working in the kilns. Afghan society lays stricter norms and rules on its women than on men in this extremely conservative environment. Moreover, the role of a girl as well as her freedom of movement and engagement with others changes drastically as she grows older, which may also cause psychological pressures.

To better portray these trends, individual components of psychological distress are analysed independently. One indicator that conflicted with the general tendency in favour of boys on mental health was the level of self-confidence. Children in brick kilns showed lower levels of self-confidence than control children but this was true particularly for boys. Less than 10 per cent expressed feeling confident as opposed to 28 per cent for girls. The same difference was observed for control groups – only 34 per cent of boys declared feeling confident as opposed to 48 per cent of girls. Few kiln girls were free from fear and anxiety. Girls in both groups were more inclined to feel afraid or nervous. Nearly 20 per cent of them admitted being afraid or nervous a lot of the time while less than 5 per cent of boys in both groups did so. Many more boys than girls stated never feeling afraid or nervous.

The conditions in which children work at the kilns appear to be fairly high pressured. In particular, children who work in brick kilns generally feel under great pressure to work faster, which may be a contributing factor to levels of stress and psychological distress. When asked about feeling under pressure to work faster only 8.8 per cent said that it never happened while more than 50 per cent said that they often (24.7 per cent) or always (26.5 per cent) felt that way. The same trends were detected when asked about feeling tired because of work, 58.2 per cent said it was so always (28.6 per cent) or often (29.6 per cent).

Graph 9: Psychological distress*



* Psychological distress = Lack of energy - Confident + Sleeping difficulties + Restless + Sadness + Fights + Lonely + Hot temper + Appetite + Memory + Tension + Dizzy + Fear + Worry + Thinking back on bad things - Hope for better life + Life worse than other + Life worth living.

Table 22: Feel under pressure to work faster

	Always	Often	Sometimes	Never
Frequency	105	98	158	35
%	26.5	24.7	39.9	8.8

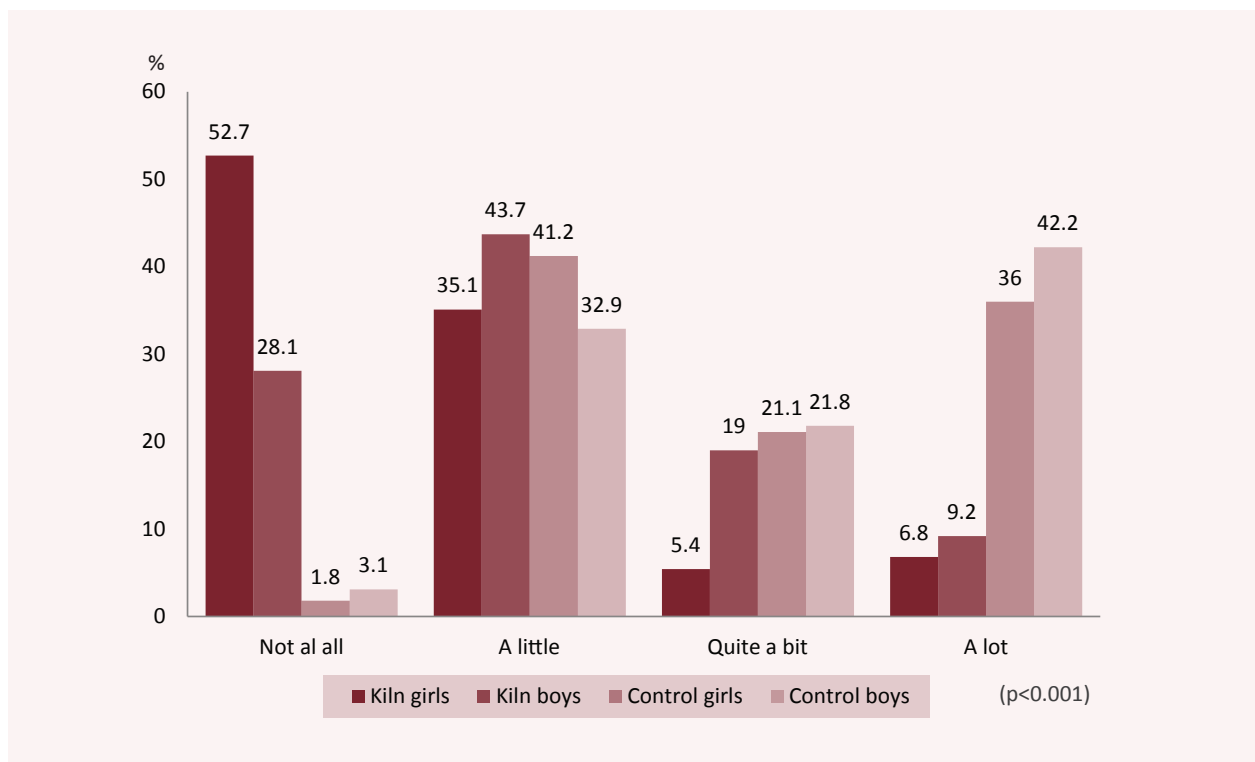
Table 23: Ability to stop working if want to

	Yes, I would be able to	Maybe	No, I would not be able to leave	I don't know
Frequency	73	23	272	30
%	18.3	5.8	68.3	7.5

Finally, when asked about how long they thought they would be working in the brick kilns, 33.5 per cent of them had no hope of leaving this work for the rest of their lives. This sentiment has an added permanence for young boys, as girls may have the opportunity to marry out of brick kilns when they grow older. Nevertheless girls who work in kilns tend to be the most pessimistic about the future by a notable margin. While 28 per cent of kiln boys declared having no hope at all for a better life that proportion rises to more than half for the kiln girls. By comparison, only 2 per cent of girls and 3 per cent of boys in the control groups stated no hope for a better future.

4.5 Latent health impacts

A comparison is made between the health impacts of kiln work on children aged 11-17 years, and the health impacts on youths aged 18-24 (see Appendix 3 for a full analysis). The conditions of children working in brick kilns do not seem to improve a lot when they get to adult life. While they suffer less violence - by being beaten or punished less - they still feel isolated from local communities in the same area. Working conditions also remain hard, as a majority of kiln children and youth feel under pressure to work faster and are tired because of it. These circumstances affect the health of children and youth to a similar extent. They both report high levels of injury, with cuts, bruises and sprains being the more frequent, and more frequently experiencing pain in the upper and lower back, hands and shoulders. Furthermore, while they differ on some isolated symptoms, mental health adverse outcomes are as frequent for young adults as for children.

Graph 10: Perception that life will improve

4.6 Health problems and debt bondage

"If they fall sick, we pay; we give them loans immediately. They can stop working any time they want, but they should return the advanced money or someone should guarantee on their behalf."

Nisar Ahmad, kiln owner, Nangarhar.

One of the purposes of this study is to explore the cost implications of negative health outcomes in brick kilns and how this relates to debt-incurred bonded labour. A detailed assessment of debt and the economic push and pull factors of bonded labour is explored in the ILO 2011 report *Buried in bricks*. This study looked specifically at health as a variable influencing economic costs and dependency. The figures show that most families bear the cost of medical treatment when their offspring incur illness or injury. Nevertheless, the qualitative research found that brick kiln owners often provided loans to cover the cost of medical treatment if the family could not afford it.

As the findings show, injuries often occur in brick kilns, and they can have both long- and short-term impacts. Minor physical injuries, like cuts and bruises require workers to rest, thereby depriving them of income. More serious injuries may require medical

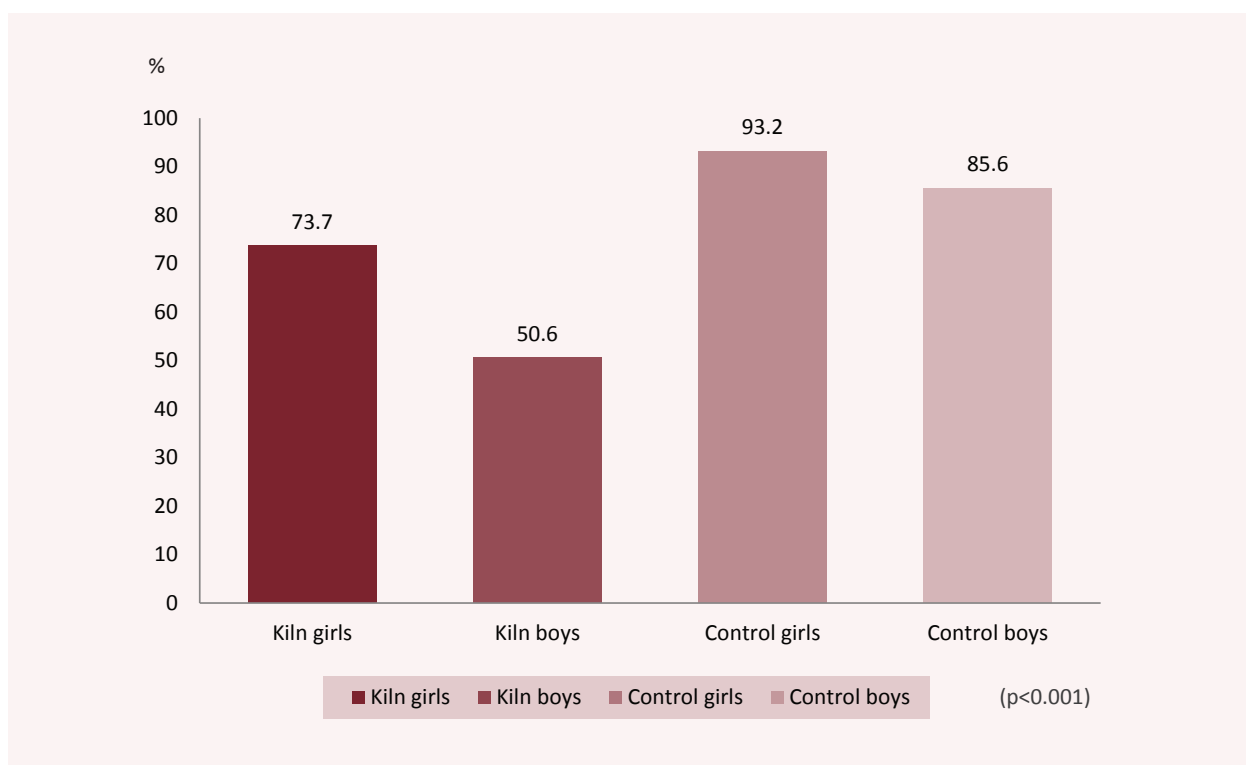
attention or prolonged treatment; in either case, the costs can be substantial. If a small child falls ill or becomes injured, another member of the family is required to accompany the child to the nearest medical facility. This means that at least two people within a family unit are unable to earn money. In addition, the cost of transport can be prohibitive for many people, especially if road conditions are poor and they do not own a vehicle. Lastly, the cost of medical treatment and medication, particularly for prolonged illnesses or injuries can be expensive.

"My name is Noor Mohammad, and I have a defective waist due to brick making tasks. I have been taking medicine for the past ten years."

Brick maker, Kabul.

Qualitative interviews with brick kiln owners showed that they would often bear the costs of healthcare if the workers incur an injury but are unable to afford it. However, if the workers are unable to pay off the loan, they are expected to work at the kiln until the loan is paid off. In this sense, the loan is more like a wage advance than a pure loan. The interviews found that this was a relatively common practice among kiln owners and kiln workers.

Graph 11: Did your family/relative pay for the health treatment?



“Most of them take loans for illness or injury. If they take a loan of 10,000 Afghanis, they can return it within 10 months, which doesn’t put any pressure on them.”

Nisar Ahmad, kiln owner, Nangarhar.

The quantitative survey of children provides further insight into health practices and behaviours. Overall, boys were less likely than girls to use health care services and kiln boys used services even less. Of those who had an injury during the preceding year, fewer boys were prevented from working. While this could reflect the fact that boys tend to incur less severe injuries, it may also suggest that boys are more likely to continue working with an injury than girls. If this is the case (and the survey data does not allow us to test this hypothesis), it indicates the sense of extreme economic hardship felt by the brick kiln workers. This is corroborated by the fact that the control groups tended to stay out of their normal activities (e.g. school) for a longer period than the study groups (56 per cent of boys in kilns and 79 per cent of the girls in kiln work, compared with 75 per cent for boys and 91 per cent for girls who did not participate in kiln work).

Surveyed children were also asked who paid for medical treatment the last time it was needed. For the most part, children say that their family paid for healthcare services. Once more, the children in kilns showed

lower frequencies of positive answers, which could be partly explained by more extreme poverty in brick kiln families. Nevertheless, according to the children, parents paid half of the time for health services to kiln boys compared with nearly three-quarters of the times for kiln girls. At the same time, 93 per cent of girls and 86 per cent of boys in the control group were provided paid health services for their injuries.

4.7 Death

The quantitative survey findings offer further evidence of the hazards involved in brick kiln work. Throughout, results are contrasted between children who work in brick kilns, their siblings and a control group of non-brick kiln working children from surrounding villages. To begin with, children were asked whether they know any other children who have been seriously injured or fallen ill at work. Around half of the children who work in kilns (50.1 per cent) said that they knew of a child who had been injured, compared to 41.2 per cent of children from the control group. The difference is more striking when looking at the proportions of children who know of another child who has been killed at work - 23.5 per cent of brick kilns workers and 10.7 per cent for the control group knew some children who had died at work, with differences between Nangarhar and Kabul.

Table 24: Knowledge of a child who has died at work

	Work in kilns	Siblings	Control
Nangarhar	54	8	22
	31%	16%	12%
Kabul	40	12	21
	18%	12%	9%
Total	94	20	43
	23,5%	13,4%	10,7%

(p<0.001).

4.8 Conclusion

The survey findings show that injuries are not uncommon in brick kilns, and that families often bear the costs of medical treatment themselves. However, brick-kiln owners say that they often provide loans for their workers to cover the cost of medical treatment. The evidence suggests that while healthcare costs are not the primary cause of debt bondage in brick kilns in the surveyed areas, they certainly play an important role.

The survey also found that there are large gender and work differences among these populations of poor children living in kiln communities outside of Kabul and Jalalabad.

Overall, girls are differentially affected by kiln work and by violence. They have fewer educational opportunities and suffer from greater levels of malaise and psychological distress than boys. The group that is the most exposed and vulnerable, as shown by this study, are the girl kiln workers. However, boys are less likely to receive care when injured or sick and they are also more likely to lack self-confidence. Large proportions of kiln children, and particularly girls, have little hope for the future. Indeed, psychological distress is highest among kiln girls. Kiln children suffer more from violence than children who do not work in kilns, and girls in the kilns suffer the most. Importantly, the survey found that many of the health risks that children face in the kilns continue when they become youth, as do the associated health impacts.

SUMMARY OF KEY FINDINGS

Overall observation: Children working in brick kilns are more likely to suffer from poor health than children from the control group.

Injuries and accidents

- Kiln boys were more prone to suffer from bad cuts or bruises. Meanwhile, girls in kilns were more susceptible to experience sprains, strains or dislocations. Girls were also more subject to bad burns or scalds.
- On receiving an injury, most children of kiln worker's families did nothing or took care of their injury themselves while most of the control group sought help from local healers (35.9 per cent) or clinics and hospital (38.7 per cent).

SUMMARY OF KEY FINDINGS (Cont.)

Pains and aches

- The results are stark when comparing the total proportion of children who felt any kind of pain in the last 12 months – 92.3 per cent of brick kilns workers compared to 75.7 per cent for the control group.
- Kiln boys exhibited slightly more pain in their shoulders (23 per cent) and elbows (12 per cent) than girls in kilns (18 per cent and 7 per cent respectively) and control groups. However, kiln girls were more numerous than kiln boys to declare pain in the wrist or hand (60 per cent vs. 51 per cent) and lower back (89 per cent vs. 73 per cent).

Illness and diseases

- Kiln girls and control girls are more likely to have been affected by various illnesses during the prior year than comparable boys. This was true for breathing problems, eye and ears problems and skin problems.
- Objective measurements (spirometry) and empirical observations validate the assumption that children working in the kilns are more likely to suffer from pulmonary diseases, as suggested by the abnormal rate of asthma in the surveyed sample (20 per cent).
- Only in the case of stomach problems or diarrhoea that no significant gender difference was identified. By counting all the children who reported at least one of these illnesses, girls in kilns (90 per cent) came slightly ahead of the girls in the control group (85 per cent) and largely more than boys in kilns (73 per cent) and in the control group (75 per cent).

Psychological impacts

In general, to a discerning observer, children working in the surveyed brick kilns were often smiling, cheerful and happy. However, this belied a hidden reality.

- **Levels of confidence:** 69.1 per cent of the brick kilns workers were not at all (14.2 per cent) or a little (54.9 per cent) confident opposed to 68.1 per cent of the control groups to be quite a bit (30.4 per cent) or a lot confident (37.7 per cent).
- **Levels of safety:** 69.8 per cent of kiln workers do not feel safe at all (16.8 per cent) or only feel safe a little (53 per cent), while 84.2 per cent of the control group feel safe quite a bit (51.9 per cent) or a lot (32.3 per cent).
- **Psychological distress:** Kiln girls, with a score of 35.1, had the worst average psychological distress amongst the groups. The girls in the control group followed next with a score of 31.49, and slightly behind were the boys in kilns with an average of 30.9.

The closeness of girls' scores in kilns and in control group suggests that girls face psychological pressures in addition to those associated with the brick kiln work. By comparison, kiln work for boys exerts unique mental pressures.

Conditions of work

- **Choice of work:** In addition to this, children appear to have limited freedom to choose which activities they must perform. When asked if they could choose what to do at work, approximately half of them said never, while only 10.3 per cent answered always (2 per cent) or often (8.3 per cent). Only 18.3 per cent answered yes whereas 68.3 per cent said no when asked if they could stop working in brick kilns if they wanted to.
- **Nature of work:** For those who could not choose, children were questioned on who was forcing them to work in brick kilns: 85.8 per cent said that their parents were the most directly responsible. When asked about why they think their parents were forcing them 83.3 per cent said that their parents owed money to someone else.
- **Level of pressure:** The conditions in which children work at the kilns appear to be fairly high-pressured. In particular, children who work in brick kilns feel under great pressure to work faster.
- **Hope for a better life:** When asked about how long they thought they would be working in the brick kilns, 33.5 per cent of them had no hope of leaving this work for the rest of their lives. This sentiment has an added permanence for young boys, as girls may have the opportunity to marry out of brick kilns when they grow older.

5. POLICY RECOMMENDATIONS

The Afghan tradition of children working alongside their families has been a necessity up until now and has been responsible for the development of strong personal virtues and important life skills. But while the world around it is changing rapidly, the brick industry remains locked in centuries-old patterns of work and technology. As a result, the children of brick kiln workers are becoming trapped between two worlds.

This study has confirmed that significant damage is occurring to the children's mental and physical abilities as a result of working on brick kilns. They face a life of diminished capacity at a time when the country will need them most. Ignoring the problem, therefore, is not an option.

The large numbers of children currently at risk may make the task appear overwhelming. However, as these recommendations indicate, there are practical, concrete steps that can promote progress and enable Afghanistan to join with other Asian, Middle Eastern and Latin American countries that are moving toward a modern construction industry based on "clean", child labour-free bricks.

The path toward eradication of all child labour from the brick-kilns and the promotion of decent work in the communities concerned begins with policy. The key lesson learned from countries where hazardous child labour is showing a rapid decrease is that policy does matter – regardless of the security, social, migration and/or economic situation. This study has documented three areas in which governmental policies could have an immediate effect on reducing the toll on Afghan children's health, bringing a halt to the destructive practice of bonded labour, as well as helping to create a positive image to the Afghan construction industry. These are: child protection, child education, and workers' protection.

Because the respondents in this study have repeatedly requested that the research be followed up with concrete action, recommendations to this effect are presented under each of the three policy categories.

POLICY PRIORITY NO. 1: CHILD PROTECTION

In collaboration with representatives of brick kiln owners and brick kiln workers' organizations, amend existing policy to specify:

- a. those activities and work situations which must be reserved for adults and strictly prohibited to any person under 18 years of age,
- b. those activities and areas which may be allowed, with proper protections, for persons over the legal working age (14 years),
- c. removal of all younger children from the brick kiln premises, and
- d. the provision of the necessary services to minimize the vulnerability of children and their families to child labour, through addressing know risk factors, social norms, and strengthening the resilience of children.

RECOMMENDED ACTION PRIORITIES FOR CHILD PROTECTION

- Codification of principles (a)-(c), along with appropriate sanctions, in local ordinances. All brick kiln owners need urgently to be informed of them as well as of the rationale behind them, using the most appropriate local media.
- Particularly urgent is to conduct an awareness-raising campaign directed toward parents and kiln owners on the health impacts identified by the research, especially those less visible (e.g. musculoskeletal damage).
- In light of the identified psychological concerns, a priority for both girls and boys of all ages is for social activities, leisure time, and sports.
- Creation of a health "micro-insurance" scheme to ensure that, in case of an injury, accident or sickness, families can access the care needed without resorting to more severe debt.

- Regular surveillance of brick kilns by those tasked with ensuring public health through additional health clinics or itinerant health camps
- The provision of appropriate social support and care services to vulnerable families.

POLICY PRIORITY NO. 2: CHILD EDUCATION

Prioritize children working in brick kilns as part of the focus on the “educational needs of vulnerable groups” in accordance with the Country Strategy Paper of the Islamic Republic of Afghanistan 2007-2013. Educational policy should specify that an educational facility or scheme, such as mobile school, para-teacher, or distance-learning programme, should be accessible to all children (both boys and girls) of brick kiln families and that all children are required to attend until completion of the secondary level.

Remove provisions from other educational policies (or common practice) which might constitute barriers to education for brick kiln families, such as fees, timing inconsistent with the brick kiln season, and language, residence or citizenship requirements, etc.

RECOMMENDED ACTION PRIORITIES FOR CHILD EDUCATION

- Awareness-raising campaign directed at brick kiln parents on the importance of education, especially that of girls, so as not to repeat another cycle of bondage and extreme poverty.
- Mainstreaming brick kiln children into regular schools where possible, organizing partnerships with nearby schools, or establishing alternative educational services where schools are not available, ensuring a presence and capacity of teachers. Incentivising attendance and/or completion of education through food or cash vouchers.
- Provision of literacy classes, including financial literacy, for children beyond school age.
- Providing locally-relevant skills training and vocational assistance for older youth.

POLICY PRIORITY NO. 3: WORKER PROTECTION

In consultation with representatives of brick kiln owners and brick kiln workers’ organizations and MoLSAMD, enact and promulgate a set of labour-related and economic policies as follows:

- require contracts for all brick workers that specify terms and amount of payment, the right to seek alternative employment, protection from additional charges, and other conditions associated with protection of workers from debt-bondage;
- specify that the right to freedom of association for workers and employers and the effective recognition of the right to collective bargaining are universal human rights at work;
- specify labour inspectors’ right to access and inspect all brick factories, regardless of the size or number of workers or the registration of the enterprise;
- facilitate understanding and compliance with the above policies by instituting a community-based child labour monitoring system (CLM).

RECOMMENDED ACTION PRIORITIES FOR WORKER PROTECTION

These would be most effective if conditional upon removal of child labour and compliance with laws and protections outlined under the policies above:

- In cooperation with the relevant national and international trade union bodies (including BWI and, as appropriate, through South-South Cooperation) support the development of an independent and democratic brick kiln workers’ organisation.
- Strengthen the brick industry through educational programmes for kiln owners on business improvement (SYOB) and/or formation of producers’ cooperatives enabling them to improve the financial viability of the industry.
- Develop a mechanism for instituting time- rather than piece-based payment in brick manufacturing so as to remove the incentive for brick kilns to use child labour in order to meet production quotas.
- Provide assistance to kiln owners to observe and access new low-cost technologies and methods of production being developed in neighboring countries, thus enabling them to improve

efficiency, improve brick quality, and reduce occupational health risks (e.g. SEWA and TARA training programs).

- Convene a meeting of key national and international brick purchasers in Afghanistan and train them on essential principles of supply chain management in order to promote the elimination of child labour in their brick supply chains.
- Provide training and equipment to adult women to enable them to contribute to family income in a culturally acceptable manner.
- Provide training and equipment to young adults to obtain alternate means of livelihood.

DEVELOPING AN INTEGRATED NATIONAL AND REGIONAL STRATEGY FOR ACTION

On the regional level, it is important to note that Afghan brick kiln workers often migrate across the borders between Afghanistan and Pakistan in search for work. Therefore, a regional strategy to share information on improved technologies, experience of organizing, and possible alternative livelihoods, as well as measures to harmonize laws and monitoring systems may amplify the effectiveness of efforts to eradicate child labour from the brick industry in both countries.

On the national level, given the physical and mental injury that the brick kiln children – who are among the poorest and most vulnerable Afghan children – are suffering as a result of working in the brick kilns, it is evident that an urgent and coordinated multi-agency response is needed. This response needs to be set within a set time frame and it is essential that it be crafted with the input of the brick kiln workers, employers, and other parties relevant to the industry. As a first step in this direction, the Government may consider forming an inter-ministerial body with senior representatives of the ministries of labour, social welfare, education, and health, in collaboration with workers' and employers' organizations, that will prepare the operational plan. Such a body might be constituted at multiple levels: national, provincial, and local so as to ensure local perspectives and needs are adequately represented.

APPENDIXES

APPENDIX 1. Methodology

This research design employs 3 methods:

1. risk assessment;
2. interviews (both individual and FGDs);
3. clinical and environmental measurements.

For each of the methods above, tools specific to target population have been developed keeping in mind the following factors:

1. the Afghan context;
2. the cross-sectional nature of this study across multiple countries;
3. the importance of standardized health indicators.

MODULE 1: HAZARD OBSERVATION CHECKLIST (HOC)

DESCRIPTION AND OBJECTIVE OF HAZARD OBSERVATION CHECKLIST

This module aimed to capture all of the work hazards to which child workers appear to be exposed at the brick kilns and in home-based tasks. Working children in six categories (male/female, age group <10 years, 11-14 years, 15-17 years) were identified and observed from “dawn to dark”. The whole sequence of brick kiln work and the tasks in which only adults are engaged are not described.

METHODOLOGY AND TOOLS FOR MODULE 1: OBSERVATION AND CHECKLIST

This is an **observational** study, based upon a standard risk assessment approach. It used a **checklist** that had been adapted to take particular account of the characteristic hazards of brick kiln work as ascertained from the literature and previous general observations.

The HOC has three parts:

1. The first part shows you what to look for in the **general environment**, the **work environment** at the brick kilns, and the work environment at the home. The reason for looking at the environment is because we want to see what factors other than the work itself might be affecting the health of the working children.
2. The second part shows you what to observe about the **work** the children do and the way it is being carried out.
3. The third part is a more detailed guide to detect strain or stress on the musculo-skeletal system.

INSTRUCTIONS FOR TEAM

1. **Explain** to workers (parents and children), supervisors, or others as necessary that you will be watching the work throughout the day, and to please continue to perform their regular work activities. Explain that you are not judging, but just want to understand what they do. Thereafter try to be as inconspicuous as possible. If they are curious or concerned, show them the form that you are filling out.
2. **Observe** all of the tasks of children (aged 5-17 years) by walking around the area. If, at any point, you see that there is a task that is not listed on the form, please add it to the blank sheets provided. This will be done on the day of the Pilot test.
3. **Identify** 6 child workers to observe: a girl and a boy in each of the three age groups (< 10 years, 11-14 years, 15-18 years). Observe only. Day 1 + 2 of FW in each province – to be administered by the field supervisors.
4. **Note** on the form who is doing what task, and how it is being done according to the categories listed.

Nota Bene

Original Instructions said: When work at the kilns is finished for the day, accompany the selected workers to their homes, observing and noting characteristics of the journey back to the home. Observe and note characteristics of the work, if any, the children do before going to sleep.

In the Afghan context, visiting homes and being allowed entry into private space is an extremely sensitive issue, which may have put interviewers at risk. Home observations were therefore taken on a case by case basis, pending approval and permissions from the male members of that household.

The following information were captured through the observation checklist:

- age and sex of the child undertaking the task;
- duration of each task;
- equipment, tools, or substances that the child uses;
- physical environment in which the child is working;
- psychological environment in which the child is working;
- work breaks, food eaten, water taken;
- distances (e.g. No. of meters water is carried);
- weights (No. of kilos the child carries, pushes, pulls and weight of the child) = % of body weight carried);
- temperature in locations where children are present (ambient, near kilns).

MODULE 2: QUESTIONNAIRE SURVEY

The study design calls for a purposive sample, where children aged 11-17 years were selected for interview and measurement from among those who work in the brick kilns. In addition, **the same number of non-working children** were selected for interview and measurement to serve as a control group in an effort to differentiate work-related health outcomes from those experienced as part of normal growing up in this environment. Last, some siblings of the first group were selected to assess if they had been / were also working on the kiln and if they had been impacted by this early work experience. The interview schedule for both working, non-working children, and siblings was the same.

The interview schedule had the following components:

- work history;
- health history;
- psychological functioning.

The first objective was to ascertain the state of health of working children with respect to five dimensions which previous research has identified as associated with brick kiln work:

1. injuries;
2. musculo-skeletal impairment;
3. respiratory impairment;
4. stunting;
5. certain aspects of psychological functioning (self-concept, locus of control, depression).

The second objective was to examine the pathways by which the type and conditions of work of the children may be causing or contributing to their current state of health in those areas. This study has limited itself to these variables because, while child brick kiln workers have reported a number of additional health problems (e.g. gastro-intestinal problems, fevers), it is extremely difficult to differentiate those aspects which can be attributed to work from those which derive from the living conditions and other poverty-related factors characteristic of brick kiln families.

SELECTION OF PROVINCES

Provinces proposed for the survey were Kabul and Nangarhar. The provinces have been selected based on presence of kilns, security and a preliminary visit to note whether children work in the kilns.

SELECTION OF DISTRICTS

The brick kilns and working community are concentrated in two districts of the two provinces – Deh Sabz district in Kabul and Surkhrod district in Nangarhar.

SELECTION OF KILNS

In each district, a list of kilns was acquired from the Department of Labour and Social Affairs. In the likely eventuality that such a list did not exist, numbers of kilns were based on interviews with government officials and local kiln owners. At an earlier stage, our preliminary site visits and interviews with kiln owners indicated the following number of kilns – 400 in Kabul and 200 in Jalalabad.

From these numbers, the kilns were selected on the basis of varying proximity to an urban center or distance from a main road. Kilns were sampled until the target respondents based on pre-selected criteria had been reached.

TRAINING FOR FIELDWORK

1. Full day of training in Kabul where the interviewers were given copies of all 3 questionnaires (children, parents and youth), presented every question and put through group exercises to get a better grasp of the fieldwork.
2. Half day of training upon arrival in Jalalabad, to go through the minor changes to the questionnaires since the Kabul training session.
3. Training for the hazard observation checklist (HOC). The project manager and two field supervisors were trained remotely the ILO team spearheading the same project in Pakistan.
4. Training for the environmental and clinical tests. This training was provided by the ILO team in Pakistan to the project manager and three field interviewers, who were a part of the original team of interviewers.

All the tools were translated into Dari, the predominant language spoken in the kilns in Kabul. For Jalalabad, all the interviews were conducted in Pashto. The translations were done before the training in order

to ensure that the training was conducted in the language that the interviewers felt comfortable with.

THE PILOT TEST

The pilot test was conducted for the purposes of checking the tools, checking interviewer understanding of the tools, making preliminary observations to inform the subsequent fieldwork and sampling plan especially for Modules 1, 2, 3 and 4. It was conducted in Surkhrod district of Jalalabad because the kilns in Kabul were not yet open due to rains. The Pilot Test did not bring about changes to the questionnaires. All interviewers were asked to fill out a questionnaire to test their understanding and familiarity of the questionnaire on the one hand and the validity of the questions themselves on the other. Additionally, preliminary observations were made on the ratio of boys and girls in various age groups as well as the location and lay out of the kilns.

SELECTION OF PRIMARY SAMPLING UNITS

Due to the absence of a list with the Department of Labour and Social Affairs, of all kilns that exist in Jalalabad and Kabul, the field supervisors selected the kilns based on the following criteria:

- security;
- accessibility;
- presence of workers in the kilns;
- proximity to an urban centre;
- permission from the kiln owner to be able to do interviews and observations in the kilns.

The study design calls for a purposive sample, wherein a total of **400 children** aged 11-17 years (225 in Kabul and 175 in Nangarhar) were selected for interview and measurement from among those who work in the brick kilns. In addition, another **400 non-working children** were selected for interview and measurement to serve as a control group in an effort to differentiate work-related health outcomes from those experienced as part of normal growing up in this environment. The questionnaire for both working and non-working children was the same.

- **Criteria to select working children (401 respondents).** The following criteria was established for selection of appropriate respondents: girls and boys (11-17 years old) who have been observed currently working and who have worked at least 2 years in the brick kilns (enough time to have

Table 25: Siblings’ socio-demographic characteristics

Siblings (149 respondents from both Kabul and Jalalabad)	
Gender	64% of male respondents 36% of female respondents
How old are you?	11 – 27% 12 – 23% 13 – 17% 14 – 7% 15 – 9% 16 – 8% 17 – 9%
Do you currently attend school?	Yes – 48% / No – 52%
Do you currently work in a brick kiln?	No – 100%
Are you currently doing any kind of work other than in the brick kilns?	No – 100%

established a routine and to have experienced health impacts).

- **Criteria to select siblings (149 respondents).** Siblings were randomly selected in the families of the working children: girls and boys (11-17 years old). Table 25 synthesizes the key socio-demographic characteristics of this subgroup.
- **Criteria to select the control group (403 respondents).** Children who live in the nearest village from similar demographic groups: homogenous ethnic/linguistic group; comparable house construction and number of rooms.

FIELD TEAM

The field team consisted of 23 people:

- the project manager;
- 2 field supervisors;
- 20 field interviewers, including 3 women.

The project manager divided time between the brick kilns, completing a hazard observation checklist (HOC) and making field observations, and the city centre for key informant interviews with relevant stakeholders. The field supervisors managed the logistics (transport, food and accommodation) and organised the interviewers' work. They would select a kiln on pre-decided criteria, introduce themselves and explain the project to the kiln owner, and give suggestions to the interviewers as to the people they could question. If the field interviewers had any questions or encountered a problem, the supervisors would be on hand to help them. If they did not have an answer to a specific question, they would notify the project manager who would take care of the issue.

THE ANALYSIS OF DATA

Three health and statistics experts of the University of Montreal provided further analysis of the data extracted from the quantitative surveys: (1) comparative surveys of working and non-working children; (2) survey of siblings; and (3) household surveys. The analysis:

- Used only the “valid cases” which means the cases where respondents gave an answer to a question.
- Excluded the “missing cases” where there was no answer or where the cases were codified as an “interviewer mistake”. Where questions were answered by fewer than 953 respondents was partly because of the missing cases, but also because some questions were only for a specific category of respondents, mainly the children working in brick kilns.

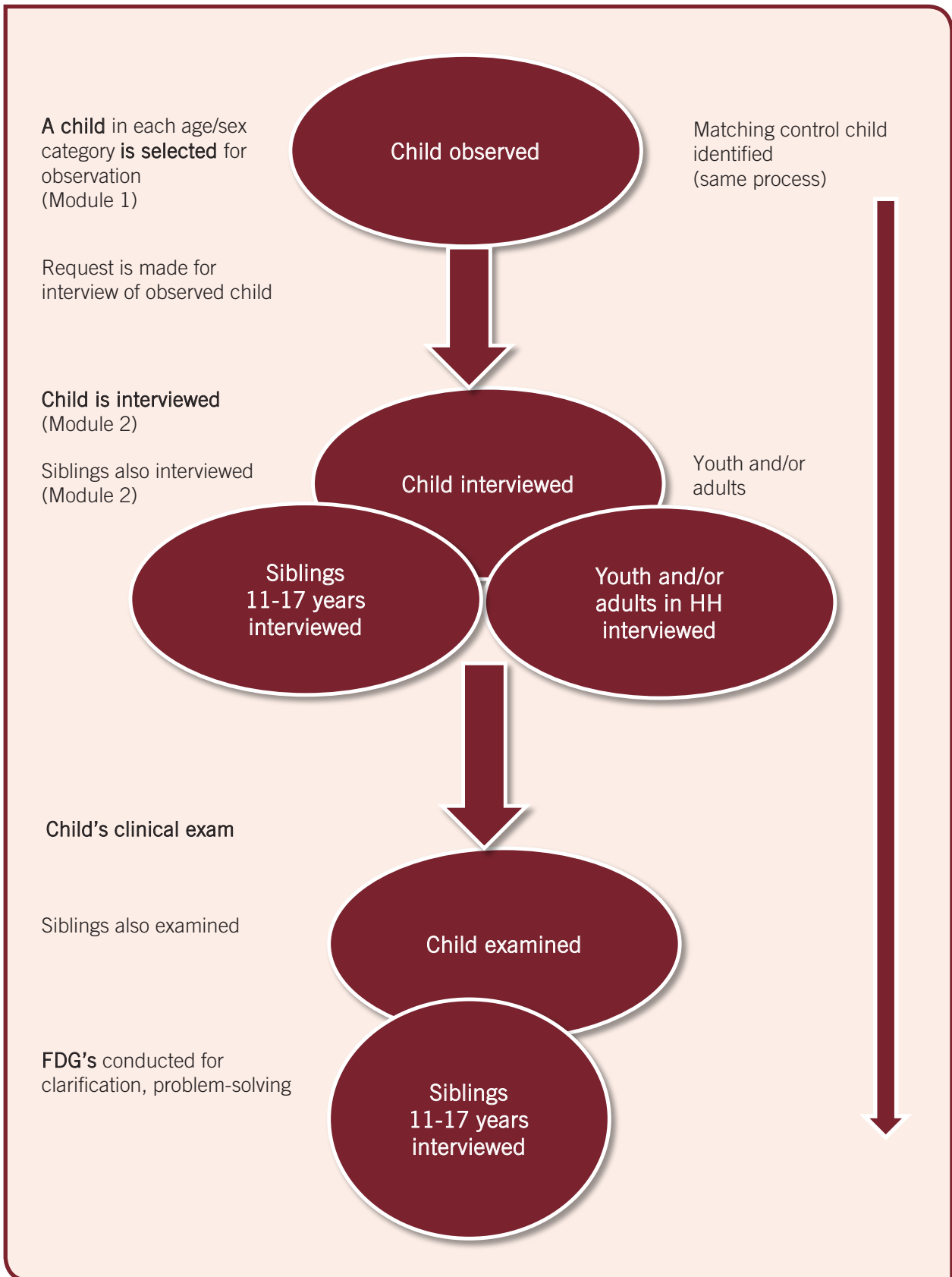
The Montreal team used descriptive statistics reported as percentages and the chi-square test to calculate the statistical significance of differences between groups. They verified the probability of being able to generalize the results of the sample (composed by the 953 respondents) to the whole population (children working in brick kilns in the province of Kabul and Nangarhar).

NB: The chi-square calculates the probability of the null hypothesis to be true or that the trend observed doesn't exist in the population. In social sciences, this probability is noted “p” and is usually fixed under 5 per cent ($p=0.05$), but we have sometimes accepted a probability threshold a bit higher where the trend observed was worthy of interest.

We have also showed some answers when there was no difference between the groups in cases where that absence was surprising.

Finally, we have carried out factor analyses to construct scales of psychological distress, exposure to violence, social support and social integration.

APPENDIX 2. Overview of sample design



APPENDIX 3. Latent health risks: A comparison of children and youths

This section of the report examines the latent health impacts of working in brick kilns by comparing survey findings for children who work in kilns with youths who work in kilns. The section begins with a brief sociodemographic description of the sample, before examining how children and young adults in kilns differ on some social environment characteristics. Next, the report will observe how the indicators on working conditions remain similar between these two groups. Finally, it will examine how working in brick kilns affects physical and mental health of both children and young adults.

METHODOLOGY

The results are based on sample sizes of 802 children, aged 11-17 years working at kilns or in their communities and 151 young adults aged 18-24 years, who had also worked in brick kilns for at least two years when they were children. The analysis compares findings from children working in kilns with 127 young adults still working at brick kilns, excluding the small group of 24 young adults who used to work in kilns. On some of these analyses, the control group of non-kiln workers is included as a point of comparison. These three groups are designated as kiln children, kiln youth and control children.

SOCIO-DEMOGRAPHIC DISTRIBUTION OF THE STUDY SAMPLES

Almost all young adults in the surveyed sample were in employment – the vast majority of them (86 per cent) were still working in bricks kilns. Most of the others (13 per cent) were helping their families in household work. The subsequent analysis focuses on those who work in brick kilns only, in order to isolate specific health impacts of kiln work. This group is denoted as “kiln youth”. The rest of the workers and those not working in a group were classified as “other youth”.

This division results in gender disparities and unequal groups. Despite the fact that the samples of kiln children and all young adult had the same percentage of male and female respondent, a bit less than 19 per cent, they differed largely when we examined the kiln youth and other youth separately. The kiln youth were

Table 26: Type of employment (working youth)

	Brick kiln	Agriculture and farm work	Helping family in household work	Total
Frequency	127	1	19	147
%	86,4	7	12,9	100,0

Table 27: Gender and work area

	Kiln children	Kiln youth	Control children	Other youth	Total
Male	325	120	289	3	737
	81,5%	94,5%	71,7%	12,5%	77,3%
Female	74	7	114	21	216
	18,5%	5,5%	28,3%	87,5%	22,7%

($p < 0.001$).

composed of 95 per cent of male, while 88 per cent of the other youth were female. This is not surprising considering that girls tend to stop working in brick kilns in their middle teens.

Finally, we decided to retain in the analysis only the kiln youth, since the “other youth” were not numerous enough to provide valid results and because work in brick kilns was at the center of this study.

SOCIAL ENVIRONMENT

There are many similarities between kiln youth and kiln children, however, there are some key differences. First, the findings show that kiln youth are generally less affected than kiln children by violence issues. For example, the proportion of those who were exposed to violence a lot or all the time, drops from 45 per cent for kiln children to 22 per cent for kiln youth.

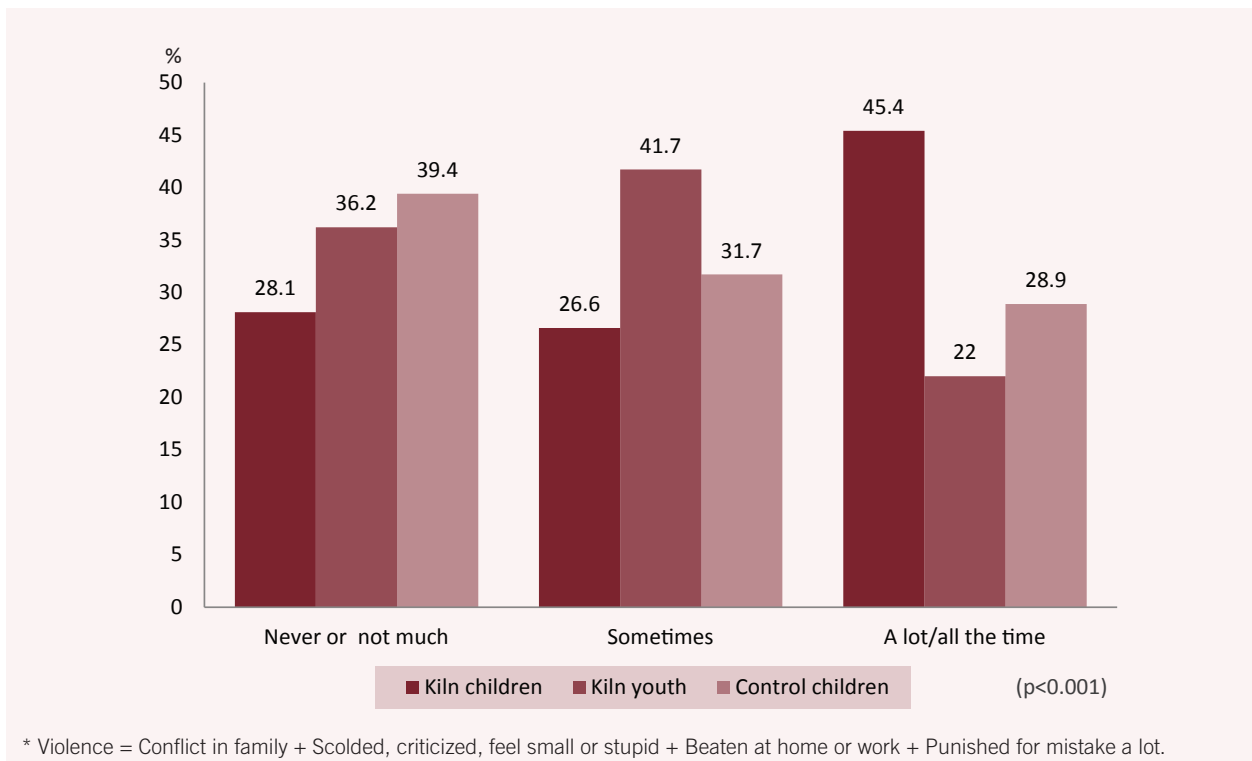
Likewise, the proportion of those who are less exposed increases from 28 per cent for kiln children to 36 per cent for kiln youth. The cumulative index constructed on violence included the answers to questions on existence of conflict in the family, getting scolded, criticized or made feel small or stupid, getting beaten

at home, and severely punished at work. Kiln youth were far less susceptible to be beaten at home or punished severely at work, likely due to their advanced age (hence their higher socio-economic status at home or at work).

Levels of community support between kiln children and youths are comparable. The cumulative index of community support was constructed from questions on perceptions of acceptance of families around them and the presence of good friends. A gap is still apparent between the control children and both groups working in kilns. For instance, 39 per cent of control children expressed a high level of community support compared to almost none of the kiln children and kiln youth. Meanwhile, a quarter of kiln children and a third of kiln youth had low community support compared to merely 6 per cent of control children.

No significant differences are detected on the social integration index. The social integration cumulative index was calculated from answers on presence of good friends, playing games, being free from perceptions of rejection and not feeling different from other people. Kiln children (-1.14) and kiln youth (-0.96) both have negative scores close to ones

Graph 12: Exposure to violence*



another, while control children displayed positive scores (1.09).

WORKING CONDITIONS

The working conditions examined in the survey do not show significant divergence between kiln children and kiln youth. For example, kiln children and kiln youth moved homes in a comparable manner, as brick kilns works appear to be a seasonal job depending on the weather. Over the last two years, around 75 per cent of kiln youth and 70 per cent of kiln children moved at least once compared to 94 per cent of control children who never moved.

No change was identified in the answers of kiln groups on serious accidents at work. Both reported more accidents than control children. When asked if they knew about a child who was hurt very badly, half of them answered “yes” and a quarter of them knew about a child who died because of a work injury.

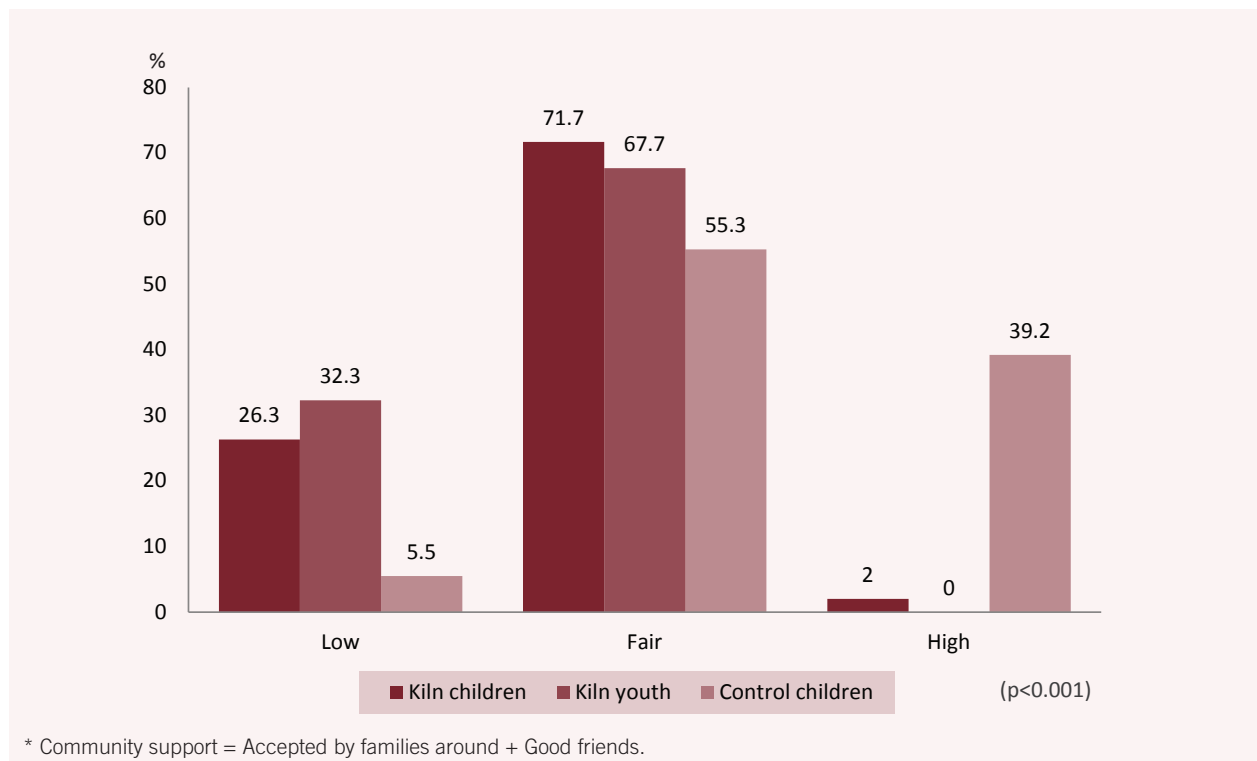
Kiln children and kiln youth expressed similar feeling about their work. For instance, more than half of both groups felt under pressure to work faster *often* (25 per

cent for kiln children and 28 per cent for kiln youth) or *always* (27 per cent for kiln children and 25 per cent for kiln youth). No significant differences were identified when asked about feeling tired because of work. Around a third of them said that they felt tired *often* (30 per cent for kiln children and 36 per cent for kiln youth) or *always* (29 per cent and 31 per cent respectively).

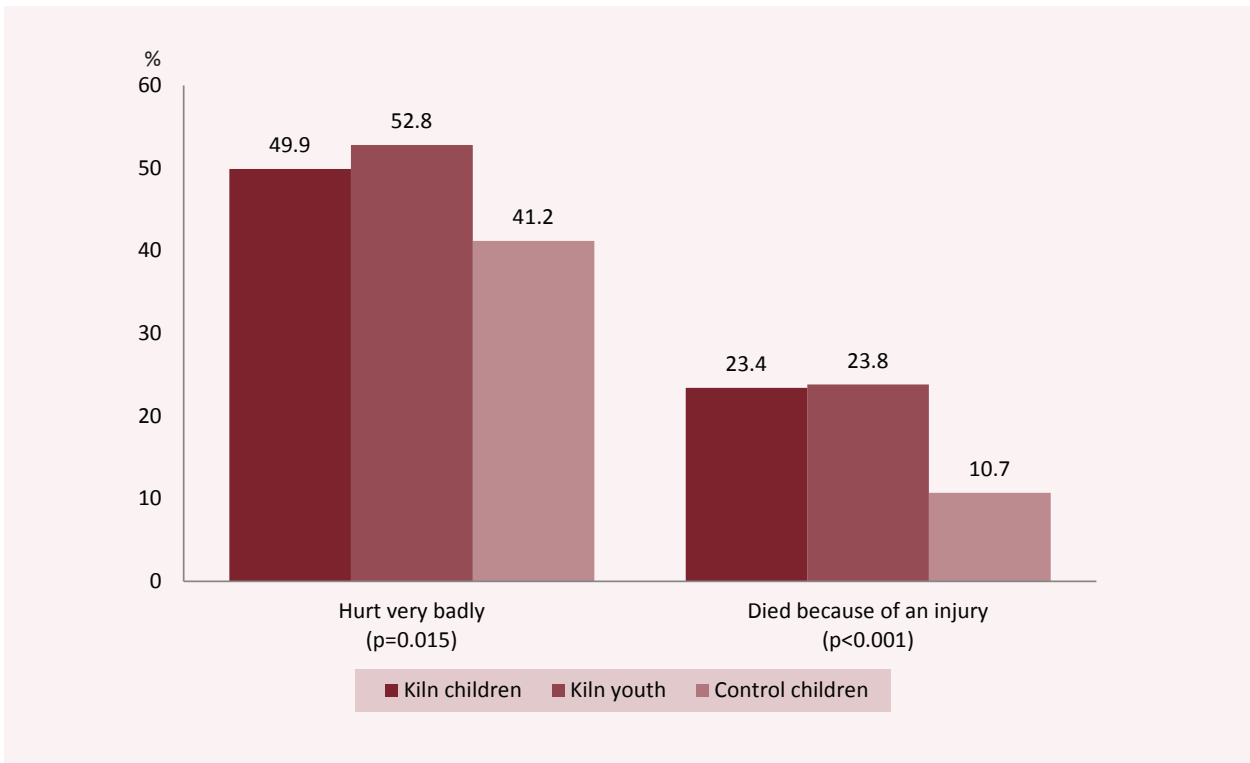
Not surprisingly, because of the age difference, some distinctions appear when asked about their autonomy at work. While half of the kiln children felt that there were never able to choose what to do at work, the percentage of kiln youth in the same situation drops to 37 per cent ($p=0.008$). Still, only a fraction of kiln children (10 per cent) and kiln youth (13 per cent) reported being able to choose often or always what to do.

A greater number of kiln youth sensed that their family relied on them and needed help from them: 61 per cent of kiln youth said that their families relied on them compared to 40 per cent for kiln children ($p<0.001$).

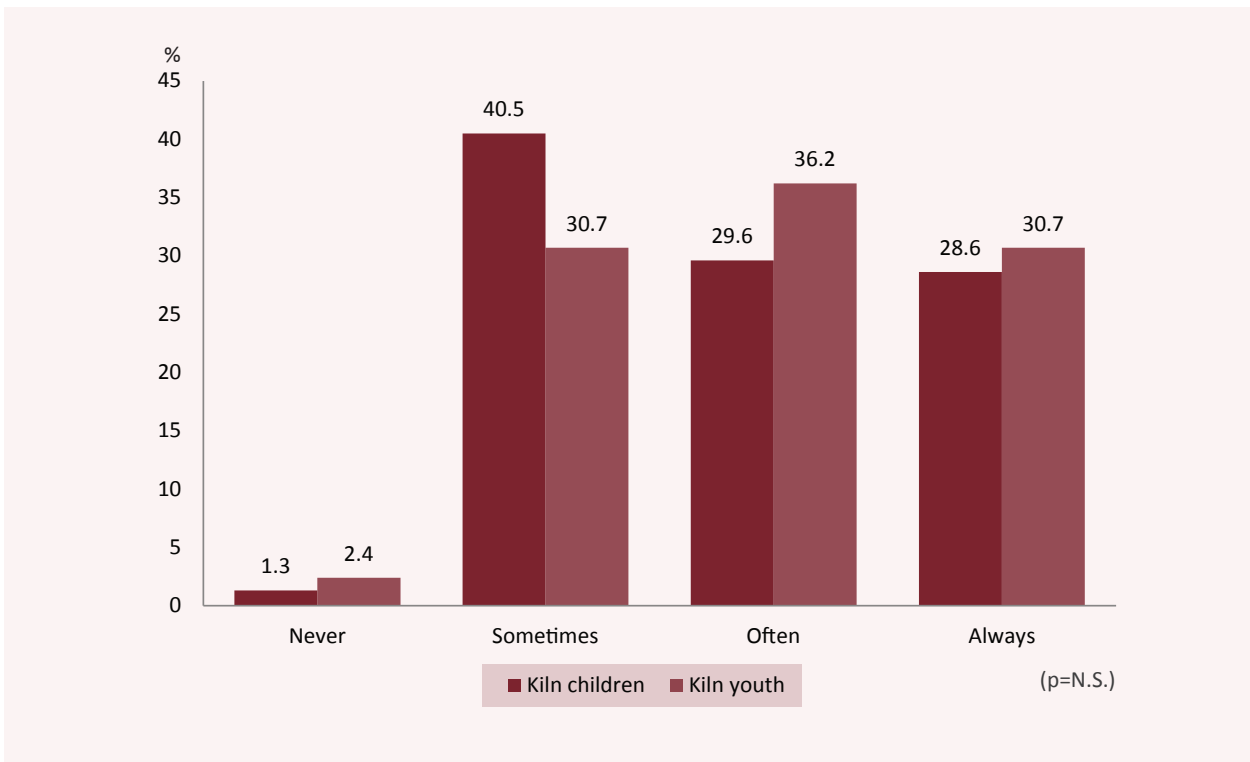
Graph 13: Community support*

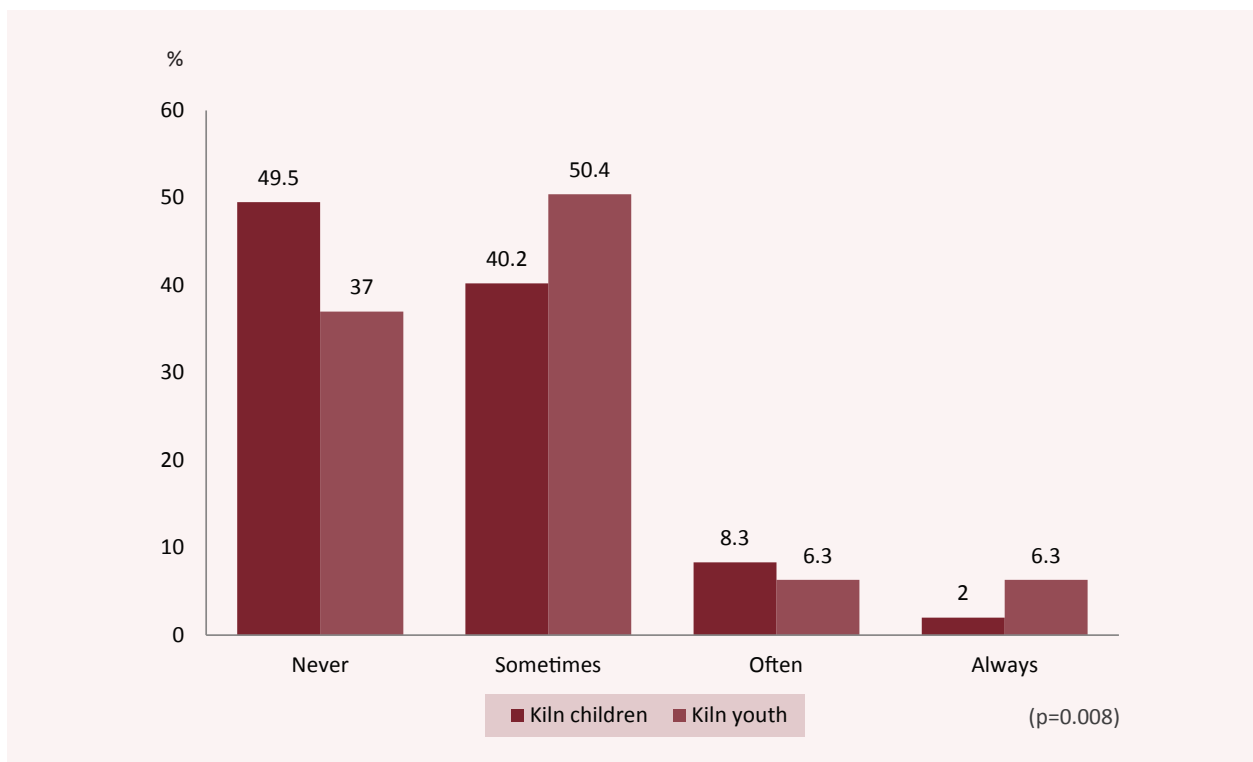


Graph 14: Knowledge of death or injury at work



Graph 15: Feeling tired due to work



Graph 16: Choice of labour activities

PHYSICAL HEALTH

A cumulative index of general malaise is created (as in the previous section), which includes fatigue, minor cuts or bruises, pain and feeling of anxiety or fear in the four preceding weeks. Kiln children (1.27) and kiln youth (1.25) reported similar overall scores, which were higher than control children (0.57). However, kiln youth indicated a greater amount of fatigue than kiln children and at the same time children experienced more minor cuts and bruises.

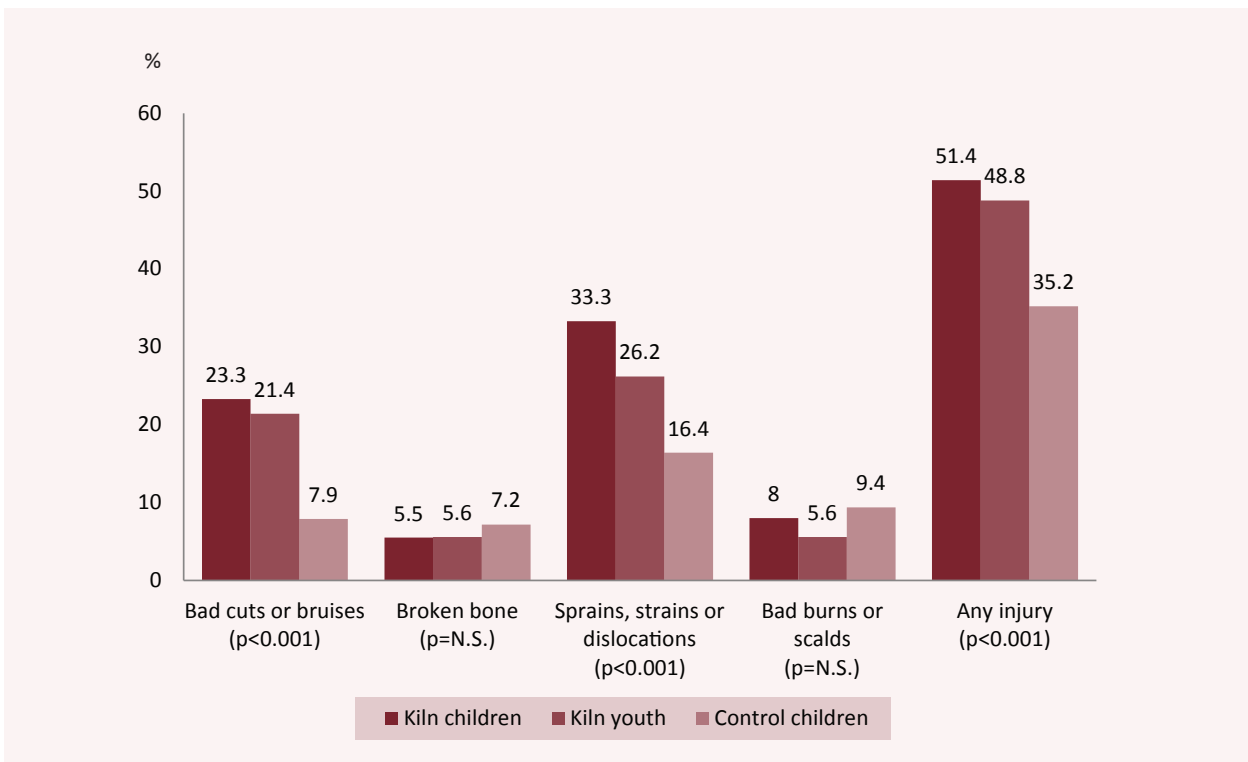
The distribution for the type of injuries received in the previous year showed no significant differences between kiln children and kiln youth. Wounds were still common as almost half of both groups had at least one injury against a third of control children in the same time frame. Types of injury were also reported to the same extent by kiln youth and kiln children. Bad cuts or bruises being reported by about a fifth of both groups and while sprains or strains were somewhat more often identified by kiln children (33 per cent vs. 26 per cent), the difference was not statistically significant.

When asked how they treated their injury/illness, there is little difference between each group. The only exception is the proportion of children (19 per cent) and youth (29 per cent) who said that they did nothing.

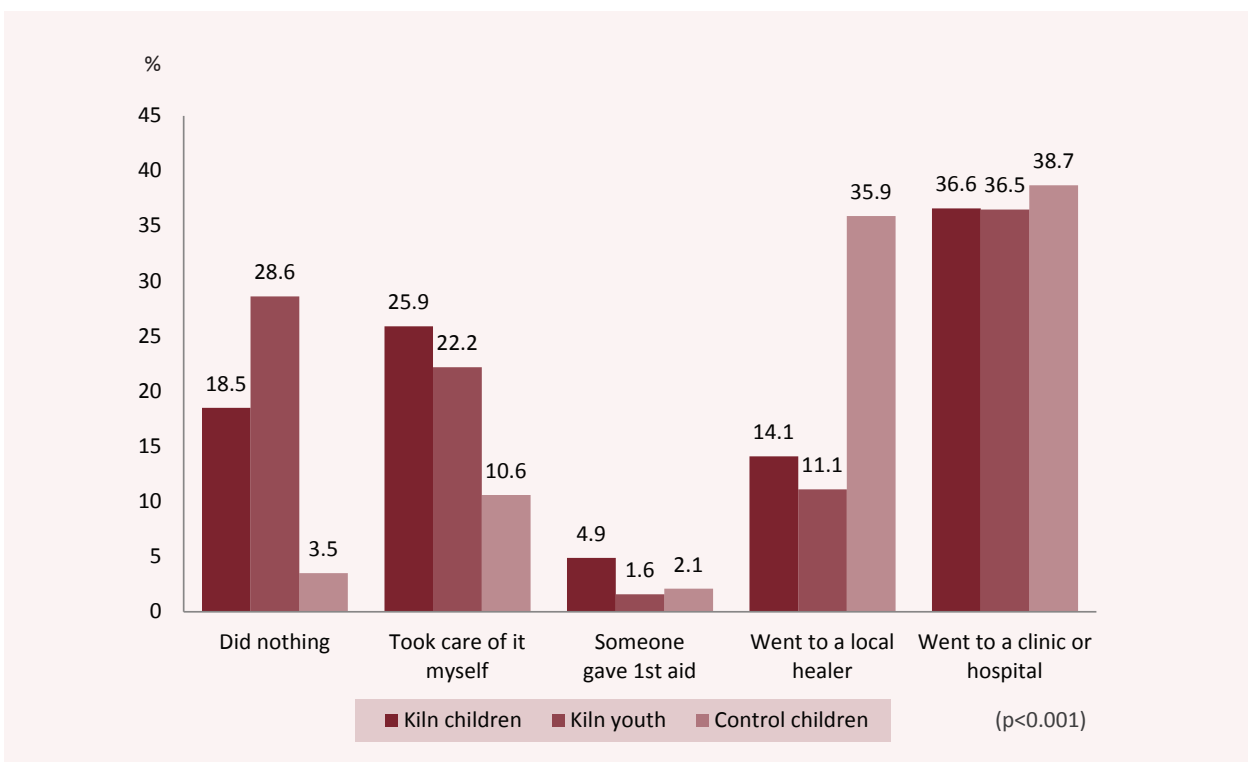
Overall, kiln children (92 per cent) and kiln youth (95 per cent) were more likely to report any pain than control children (76 per cent). Pain in the prior year did not reveal major disparities for specific parts of the body between kiln children and kiln youth. For both of them, pain in shoulders, wrist or hands, upper and lower back were still higher by a large margin compared to control children. While not enough to be statistically significant, we observed a small increase for kiln youth in pain in the back area, particularly for upper back region (82 per cent for youth vs. 76 per cent for children).

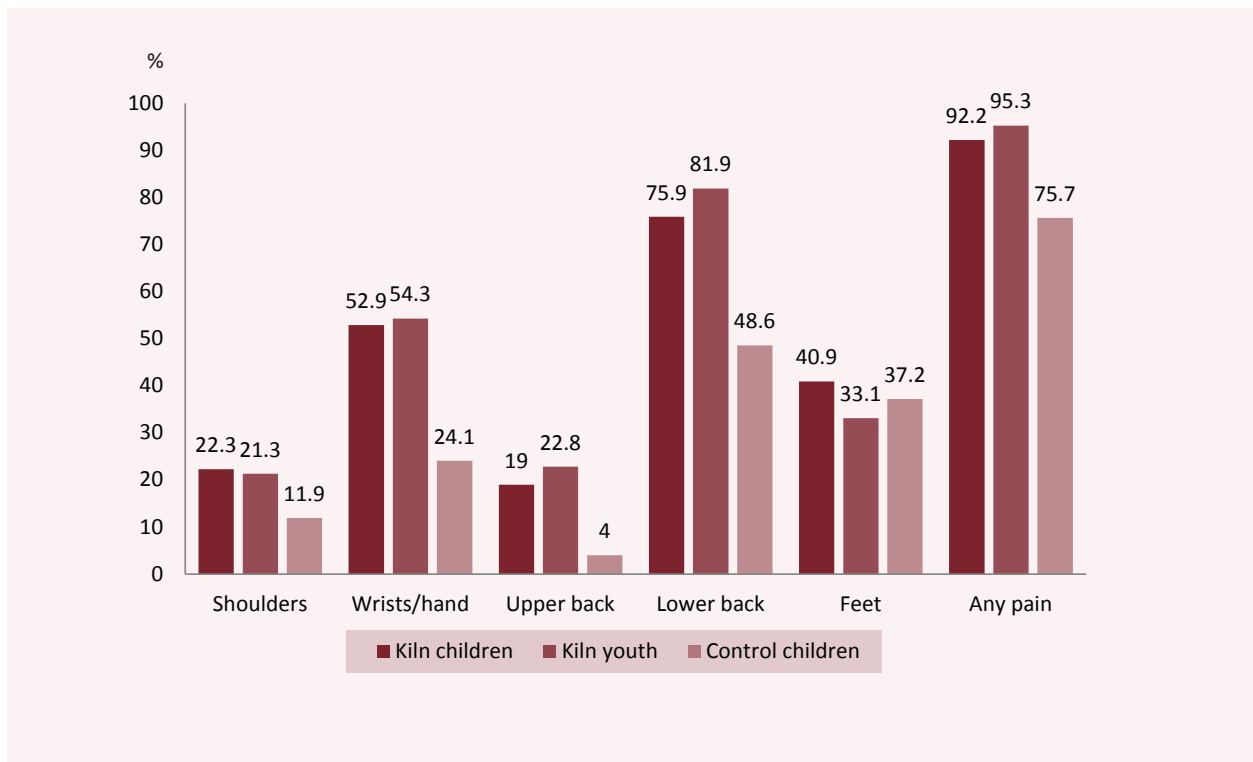
While high levels of chronic conditions or illnesses were reported, no significant differences were apparent between the three groups. For instance, approximately three-quarters of respondents in each group reported one of the following illnesses: breathing, eye or ear, skin or stomach problems.

Graph 17: Injuries since last year



Graph 18: Took care of injury



Graph 19: Pain experienced over the last 12 months

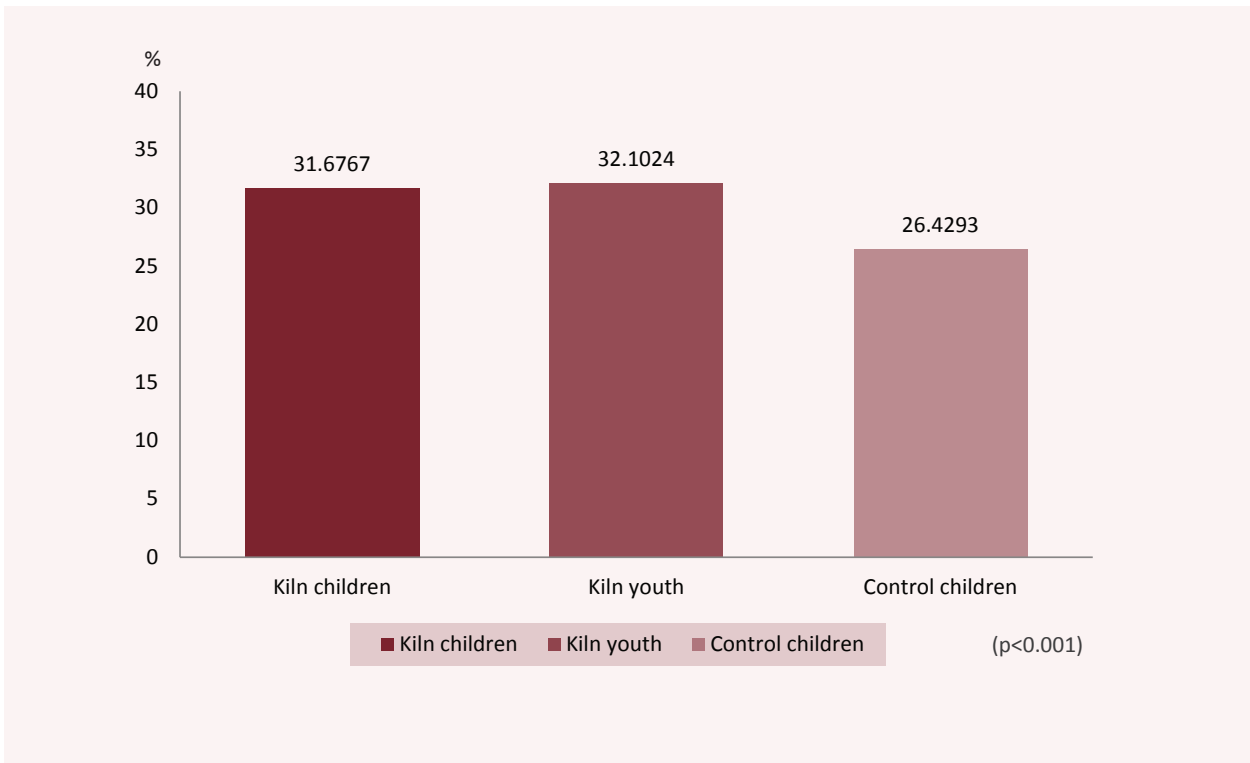
MENTAL HEALTH

Concerning mental health, a cumulative index was used including the following symptoms: level of energy, confident feelings of confidence, sleeping difficulties, restless feeling, sadness, fights, lonely feelings, hot temper, appetite, memory, tension feeling, dizziness, fear, worry, negative feelings, lack of hope for a better life, thinking life is worse than for other children and if life is worth living.

While the overall average scores were similar between kiln children (31.7) and youth (32.1), they differed on a number of isolated symptoms. For example, the kiln youth were more likely to have sleeping problems. Almost a third of them said that they had difficulty sleeping quite a bit (17 per cent) or a lot (15 per cent) by comparison to less than 20 per cent for kiln children. The situation was reversed on the indicator about feeling sad. While 18 per cent of kiln children felt sad a lot, only 3 per cent of kiln youth felt the same way.

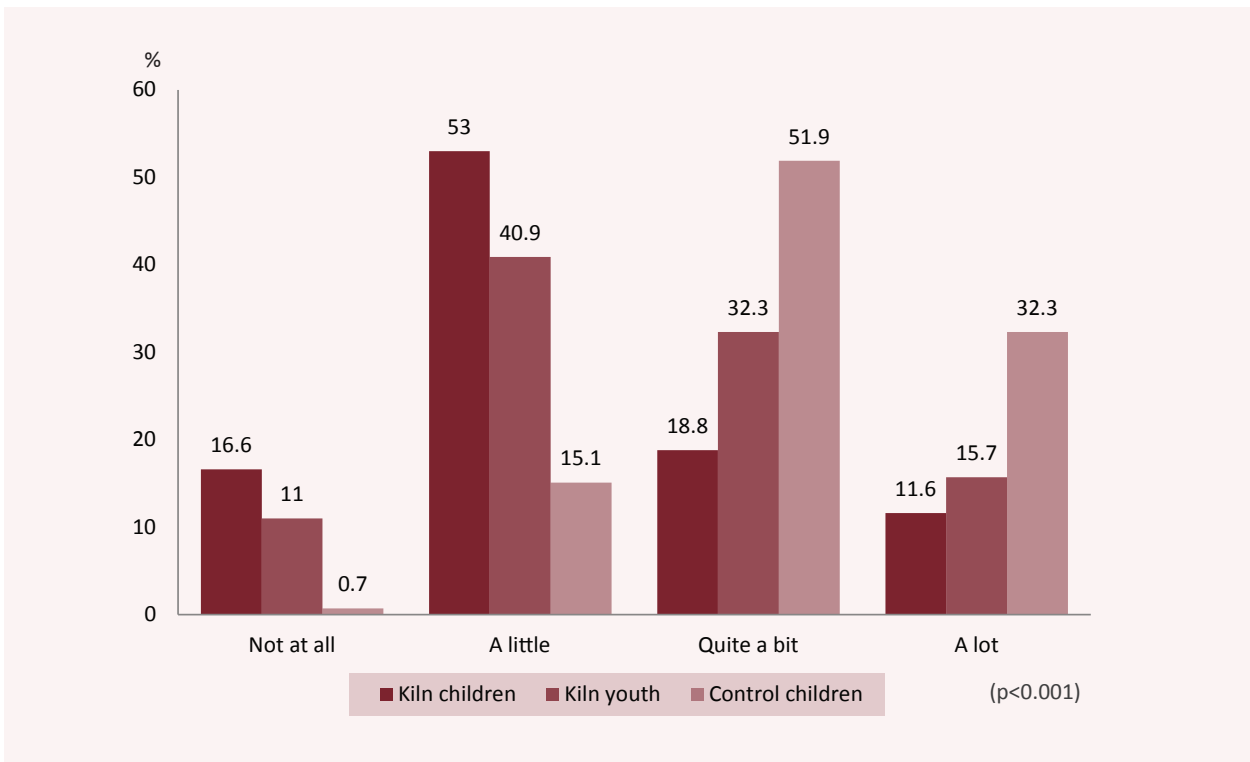
Kiln youth were however more likely than kiln children to feel safe in day-to-day life. For instance, half of kiln youth felt safe a lot (16 per cent) or quite a bit (32 per cent) by comparison to a third (12 per cent a lot and 19 per cent quite a bit) of kiln children to be in the same situation. These levels are still not as much as control children as 85 per cent of them felt safe a lot (32 per cent) or quite a bit (52 per cent).

Graph 20: Psychological distress* (moyenne)



* Psychological distress = Lack of energy - Confident + Sleeping difficulties + Restless + Sadness + Fights + Lonely + Hot temper + Appetite + Memory + Tension + Dizzy + Fear + Worry + Thinking back on bad things - Hope for better life + Life worse than other + Life worth living..

Graph 21: Feel safe in day-to-day life



CONCLUSIONS

The conditions of children working in brick kilns does not seem to improve a lot when they get to adult life. While they suffer less violence – by being beaten or punished less – they still feel isolated from local communities in the same area. Working conditions also remain hard, as a majority of kiln children and youth feel under pressure to work faster and are tired because of it. These circumstances affect the health of children and youths to a similar extent. They both report high level of injuries, cuts, bruises and sprains being the more frequent, and pain to body areas such as upper and lower back, hands and shoulders. Furthermore, while they differ on some isolated symptoms, mental health adverse outcomes are as frequent for young adults as for children.

APPENDIX 4. Additional tables

ETHNICITY

	Work in kilns	Siblings	Control	Total
Pashtun	360	120	223	703
	89,8%	80,5%	55,5%	73,8%
Tajik	28	13	177	218
	7,0%	8,7%	44,0%	22,9%
Other	13	16	2	31
	3,2%	10,7%	,5%	3,3%

($p < 0.001$).

DISTRIBUTION BY AGE

	Work in kilns	Siblings	Control	Total
Under 14	206	101	194	501
	51,6%	67,8%	48,6%	52,9%
14 and more	193	48	205	446
	48,4%	32,2%	51,4%	47,1%

($p < 0.001$).

GENDER

	Work in kilns	Siblings	Control	Total
Male	327	95	289	711
	81,5%	63,8%	71,7%	74,6%
Female	74	54	114	242
	18,5%	36,2%	28,3%	25,4%

($p < 0.001$).

YEARS OF SCHOOL

	Work in kilns	Siblings	Control	Total
Mean	0.44	1.66	4.12	2.20
Frequency	396	149	403	948
Standard deviation	2.653	3.314	3.609	3.617

($p < 0.001$).

CHILDREN IN HOUSEHOLD

	Work in kilns	Siblings	Control
Mean	6.35	6.54	5.65
Frequency	401	149	403
Standard deviation	2.65	2.73	2.30

*(p<0.001).***FEEL HUNGRY OFTEN**

	Work in kilns	Siblings	Control	Total
Frequency	315	88	318	721
%	78,8	59,9	79,1	76,0

*(p<0.001).***FEEL IT'S THEIR RESPONSIBILITY TO ADDRESS FINANCIAL DIFFICULTIES**

	Not at all	To some extent	To a great extent	I don't know
Frequency	15	187	138	58
%	3.8	47.0	34.7	14.6

SOCIAL INTEGRATION*

	Work in kilns	Siblings	Control
Mean	-1,1325	-,1141	1,0920
Frequency	400	149	402
Standard deviation	2,14743	2,28843	2,06116

*(p<0.001).*** Social integration = Good friend – People rejection or tease + Games & sports – Feeling different from other children.***KNOWLEDGE OF CHILD WHO HAVE BEEN HURT BADLY AT WORK**

	Work in kilns	Siblings	Control
Nangarhar	93	81	17
	52,8%	45,8%	34,0%
Kabul	108	29	85
	48,0%	29,3%	37,6%
Total	201	46	166
	50,1%	30,9%	41,2%

(p<0.001).

TIME WORKING IN BRICK KILNS

	Frequency	%
Less than 1 year	27	6,8
1 to < 2 years	46	11,5
2 to < 3 years	49	12,3
3 to < 4 years	60	15,0
4 to < 5 years	75	18,8
5 to < 6 years	49	12,3
6 to < 7 years	22	5,5
7 to < 8 years	32	8,0
More than 8	40	10,0

HOURS WORKING IN A DAY

	Frequency	%
Less than 6 hours	27	6,8
7 to 9 hours	78	19,5
10 to 11 hours	83	20,8
12 hours	113	28,3
13 hours	41	10,3
More than 14 hours	58	14,5

HOURS WORKING IN A DAY

	Mean	Median	Standard deviation	Variance
	11.00	12	2.540	6.454

FEEL TIRED BECAUSE OF WORK

	Always	Often	Sometimes	Never
Frequency	113	117	160	5
%	28.6	29.6	40.5	1.3

CAN CHOOSE WHAT TO DO

	Always	Often	Sometimes	Never
Frequency	8	33	159	196
%	2.0	8.3	40.2	49.5

WHO IS FORCING THEM TO WORK THERE

	Parents directly	Parents, under third party pressure	Other relative	Employer	Other
Frequency	278	26	4	12	4
%	85.8	8.0	1.2	3.7	1.2

HOW MUCH LONGER WILL THEY BE WORKING IN BRICK KILNS

	Frequency	Mean %
This year only	6	1,5
2 years	21	5,3
5 years	42	10,6
6-10 years	29	7,3
11-20 years	9	2,3
21-30 years	7	1,8
The rest of my life	133	33,5
I am told every year that this will be my last year	23	5,8
I don't know	127	32,0

MALAISE*

	Work in kilns	Siblings	Control
Mean	1,2768	,2550	,5658
Frequency	401	149	403
Standard deviation	1,27894	,68925	,81498

($p < 0.001$).

* Malaise= In last 4 weeks: Fatigue + Minor cuts & bruises + Pains + Anxiety or fear.

PSYCHOLOGICAL DISTRESS*

	Work in kilns	Siblings	Control
Mean	31,6484	27,4832	26,4293
Frequency	401	149	403
Standard deviation	6,87994	7,16750	7,83136

($p < 0.001$).

* Psychological distress = Lack of energy - Confident + Sleeping difficulties + Restless + Sadness + Fights + Lonely + Hot temper + Appetite + Memory + Tension + Dizzy + Fear + Worry + Thinking back on bad things - Hope for better life + Life worse than other + Life worth living.

KILNS WORKERS INJURIES SINCE LAST YEAR BY AGE

	Under 14	14 and more	Total
Bad cuts or bruises (p=0.044)	40 19,4%	54 28,0%	94 23,6%
Broken bone (p= n.s.)	10 4,9%	10 5,2%	20 5,0%
Sprains, strains or dislocations (p= n.s.)	69 33,5%	63 32,6%	132 33,1%
Bad burns or scalds (p=0.004)	23 11,2%	7 3,6%	30 7,5%
Any injury (p=0.095)	97 47,1%	107 55,4%	204 51,1%

TOOK CARE OF INJURY HOW

	Work in kilns	Siblings	Control	Total
Did nothing	39 18,9%	5 3,5%	6 30,0%	50 13,6%
Took care of it myself	53 25,7%	15 10,6%	4 20,0%	72 19,6%
Brick kiln owner/parent/ other gave 1st aid	10 4,9%	3 2,1%	0 0,0%	13 3,5%
Went to a local healer	29 14,1%	51 35,9%	2 10,0%	82 22,3%
Went to a clinic or hospital	75 36,4%	55 38,7%	8 40,0%	138 37,5%
Other	0 0,0%	13 9,2%	0 0,0%	13 3,5%

(p<0.001).

FEEL SAFE IN DAY-TO-DAY LIFE

	Work in kilns	Siblings	Control	Total
Not at all	67 16,8%	24 16,1%	3 7%	94 9,9%
A Little	212 53,0%	54 36,2%	61 15,1%	327 34,3%
Quite a bit	75 18,8%	49 32,9%	209 51,9%	333 35,0%
A lot	46 11,5%	22 14,8%	130 32,3%	198 20,8%

(p<0.001).

PAIN SINCE LAST YEAR

	Work in kilns	Siblings	Control
Neck (p=0.003)	72 40,9%	144 35,8%	65 36,7%
Shoulders (p=0.003)	47 26,7%	81 20,1%	31 17,5%
Elbows (p<0.001)	25 14,2%	32 8,0%	6 3,4%
Wrists / Hands (p<0.001)	87 49,4%	136 33,8%	40 22,6%
Upper Back (p<0.001)	33 18,8%	39 9,7%	4 2,3%
Lower back (p<0.001)	126 71,6%	226 56,2%	90 50,8%
Any pain (p<0.001)	370 92,3%	74 49,7%	305 75,7%

ILLNESS SINCE LAST YEAR

	Work in kilns	Siblings	Control
Breathing problems or persistent cough (p=0.002)	154 38,4%	35 23,5%	154 38,2%
Eye or ear problems (p<0.001)	114 28,4%	282 29,6%	141 35,0%
Skin problems (p=0.003)	41 10,2%	8 5,4%	62 15,4%
Stomach problems / diarrhoea (p=n.s.)	186 46,4%	68 45,6%	199 49,4%
Any illness (p=0.013)	306 76,3%	98 65,8%	313 77,7%

**International Programme on
the Elimination of Child Labour (IPEC)**

**Fundamentals Principles and Rights at Work Branch (FUNDAMENTALS)
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ISBN 978-92-2-129626-3



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