Young Lives Preliminary Country Report: Peru

Javier Escobal
Claudio Lanata
Sofía Madrid
Mary Penny
Jaime Saavedra
Pablo Suárez
Héctor Verastegui
Eliana Villar
Sharon Huttly

September 2003

Young Lives
An International Study of Childhood Poverty

The Young Lives Partners

Centre For Economic and Social Studies (CESS), India

Department of Economics, University of Addis Ababa, Ethiopia

Ethiopian Development Research Institute,Addis Ababa, Ethiopia

General Statistical Office, Government of Vietnam

Grupo De Análisis Para El Desarrollo (GRADE), Peru

Institute Of Development Studies, University of Sussex, UK

London School Of Hygiene and Tropical Medicine, UK

Medical Research Council of South Africa

RAU University, Johannesburg, South Africa

Research and Training Centre for Community Development,Vietnam

Save the Children UK

South Bank University, UK

Statistical Services Centre, University Of Reading, UK

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Acronyms

BCG	Bacillus Calmette-Guerin vaccine against tuberculosis
BMI	Body mass index
CDC	Center for Disease Control, Atlanta, Georgia, USA.
CD-ROM	Compact disc
CPM	Raven's Coloured Progressive Matrices
DEMUNA	Municipal Child and Adolescent Protection Centres
DFID	UK Department for International Development
DHS	Demographic and Health Survey
ECLAC	Economic Commission for Latin America and the Caribbean
FONCODES	National Fund for Social Compensation and Development, Peru
GB	Gigabytes
GDP	Gross Domestic Product
GPS	Global Positioning System
GRADE	Analysis for Development Group, Lima, Peru
HDI	Human Development Index
HIV/AIDS	Human immunodeficiency virus / acquired immunodeficiency syndrome
IDB	International Development Bank
IIN	Nutrition Research Institute, Lima, Peru
ILO	International Labour Organization
IMR	Infant mortality rate
INEI	National Statistics Office, Peru
LAC	Latin American countries
LSMS	Living Standards Measurement Survey
MIMDES	Ministry for Women and Human Development
MoH	Ministry of Health
NGO	Non-governmental organisation
PAHO	Pan American Health Organisation
PRONAA	National Food Aid Programme, Peru
SC UK	Save the Children UK
SDQ	Strengths and Difficulties Questionnaire
TRC	Truth and Reconciliation Commission
UK	United Kingdom
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WHO	World Health Organization
YL	Young Lives (project)

Preface

The Young Lives (YL) project is a longitudinal study on childhood poverty being carried out in Ethiopia, India, Peru and Vietnam (website: www.younglives.org.uk). The research is co-ordinated internationally by an academic consortium involving the University of Reading, the London School of Hygiene and Tropical Medicine, London's South Bank University, the University of Sussex, the South African Medical Research Council, and Save the Children UK, which is also the dissemination and advocacy partner. This academic-NGO partnership is replicated in each of the four countries. In Peru the partners are the Nutrition Research Institute (Instituto de Investigación Nutricional – IIN), the Analysis for Development Group (Grupo de Análisis para el Desarrollo – GRADE) and the local office of Save the Children UK. The UK Government Department for International Development (DFID) is funding the first phase of the project. In each of the countries, this included the first survey of 2,000 index children aged around one year and a survey of 1,000 children aged around eight years, covering different geographical areas. The YL project is unique in measuring child well-being in a holistic and consistent way across several developing countries, including economic, social, physical and demographic aspects. The first round of data collection finished in 2003 and an important priority has been the early production of a preliminary report from each country, each report following a similar structure.

This preliminary report covers only a small selection of the explanatory and outcome variables. Data are mainly presented for the entire sample of an age group, in most cases separated into wealth groups or by urban/rural location. The full richness of the data is not reflected in this preliminary report, but we hope that it contains enough information to prompt academics, practitioners, policy-makers and other stakeholders to provide ideas, comments and questions to the YL team.

These will feed into further analysis plans, which will include work on the project's three main 'storylines': the effects on child well-being of (i) access to and use of services, (ii) social relations and (iii) livelihoods. As in any longitudinal research, the most interesting and important results will come after several rounds of data collection – we hope to survey our index children approximately every three years until they are 15. However, an examination of this first round – like a single snapshot cross-sectional study – can produce noteworthy results even at this early stage.

For further information on the Peru component of the YL project, please contact Eliana Villar (e.villar@savethechildren.org.pe), Claudio Lanata (clanata@iin.sld.pe) or Javier Escobal (jescobal@grade.org.pe), or access the website (www.ninosdelmilenio.org). For further information on the international dimension of the project, please contact the International Co-ordinator, Justine Coulson (younglives@younglives.org.uk).

Acknowledgements

Executive summary

Young Lives: An International Study of Childhood Poverty aims to improve our understanding of the causes and consequences of childhood poverty in the developing world, and to inform policy to reduce it. In each of four developing countries, a longitudinal survey will follow children every three years until they are 15. In Peru, the project is implemented by three organisations, the Nutrition Research Institute (IIN), the Analysis for Development Group (GRADE) and Save the Children UK (SC UK).

In the first phase, 2,052 index children aged 6-17.9 months and 716 children aged 7.5-8.5 years, at the time of enrolment, and their households, were selected from 20 sentinel sites across the country. Survey methods included household questionnaires, anthropometry, a questionnaire and a test of cognitive development for eight-year-old children, and a community questionnaire. Fieldwork was undertaken between August and November 2002.

This preliminary report presents descriptive information from the data on this initial survey. Key findings from this preliminary analysis are as follows:

- The coverage of electricity and sewage systems in rural and poor households is very low.

- Stunting is the main undernutrition problem in Peru, being worst in rural and poorer households.

- Obesity is emerging as a potential public health problem in Peru.

- Food aid programmes' coverage of the rural and poorest children is good. However, due to the high prevalence of undernutrition in these same households, the quality of the food aid and its consumption by target children should be reviewed.

- There is an important gap between adequate prenatal care and tetanus immunisation coverage among rural and the poorest women, and the low incidence of deliveries in health facilities or attended by health professionals.

- Chronic illnesses in children are prevalent, in particular those related to bronchospastic airways diseases and asthma.

- There is a high frequency of accidents and injuries in children.

- There is a high prevalence of dental problems in school age children.

- Soap is available in most households, including rural and the poorest households. Handwashing promotion programmes should be implemented.

- Measles immunisation coverage is low, compared with BCG immunisation.

- There is a high prevalence of likely mental health problems in the children's caretakers.

- Schooling coverage of eight-year-olds is high, but the quality of education, as indicated by the literacy and numeracy of the children tested, is not good, especially in rural and the poorest households.

- School violence (from teachers and other students) is the main problem identified by children in schools.

- There is a high prevalence of households experiencing shocks that affected their economic well-being. The recent loss of a job or a source of income is the most serious shock, followed by the occurrence of a severe illness or injury in a family member, and the arrival of a new family member, including newborns.

- Access to credit or the use of savings to mitigate the effect of these shocks is restricted to the urban and better-off households.

- The level of reported child labour is low, and children who work do not express that working causes them problems. Child labour seems to expose these children to work-related injuries and to affect their school attendance.

- The selection of the YL sample in Peru was adequate, representing the poor and rural communities. However, the results suggest that due to clustering of study children and the exclusion of some hard-to-reach areas, the sample represents less well the country's extreme poor. Some caution should be used in interpreting the YL results as representing Peru as a whole; nevertheless this will not limit the value of the YL sample for studying the causes and consequences of childhood poverty and for identifying policies to alleviate poverty in Peru.

1. Introduction

Young Lives (YL) is an international longitudinal study that aims to improve our understanding of the causes and consequences of childhood poverty in the developing world. At the heart of the research is a panel survey, tracking cohorts of 2,000 children and their families in each of four countries (Ethiopia, India, Peru and Vietnam) over a 15-year period. As a policy-oriented project, findings from the research will be used to help formulate policy to alleviate childhood poverty.

The objectives of this preliminary report are to: present a brief literature review of child poverty in Peru; review national policies that have an impact on child poverty; identify key national audiences for this study; and describe the study methods, present preliminary, descriptive results, and identify provisional conclusions and policy implications.

1.1. What is known about child poverty in Peru from existing data?

1.1.1 General trends: Poverty and income inequality

At the end of the 1980s, after the economic policies of the Garcia Government, Peru experienced one of the worst economic crises in its modern history. During this time, terrorism posed a major threat for the sustainability of democratic institutions; inflation peaked at over 7,000 per cent; gross domestic product (GDP) fell to 1978 levels, and per capita GDP to 1961 levels.[1] This situation led to considerable reductions in living standards of the population, and the proportion of poor households increased from 43 per cent in 1985-86 to 59 per cent in 1991.

Fujimori took office in July 1990 after which, in order to restore imbalances inherited from the previous administration, came a period of severe economic adjustment. Fujimori's administration also implemented structural reforms towards the liberalisation of the Peruvian economy. These reforms included trade liberalisation, tax reform, labour market flexibilisation, financial market deregulation, public sector downsizing and privatisation of state-owned enterprises.[2] After the period of adjustment, market-oriented reforms fostered private sector investment and the Peruvian economy experienced a 7.08 per cent average annual growth rate between 1993 and 1997, which may have partially accounted for reductions in the poverty rate during these years. Another factor is likely to be social expenditure, which increased by 253 per cent between 1990 and 1997[3]. In this sense, social programmes represented massive income transfers to the poor during this period[4]. In spite of this progress, social expenditure in Peru (6 per cent of GDP) still lags behind when compared with other Latin American countries (LAC) (Figure 1).

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1 As reported in Pascó-Font and Saavedra (2001), government expenditure in health programmes fell from 1 per cent of GDP in 1980 to 0.5 per cent in 1999; unemployment and underemployment rose considerably; wages reduced at a 7.7 per cent average annual rate; child mortality rates reached levels only experienced by low income African countries; and one-fifth of the population faced extreme poverty.

2 Figueroa (1998) mentions some of the most important changes in economic policies during the nineties: (a) monetary policy was tightened and hyperinflation was controlled; (b) a floating exchange rate scheme was adopted; (c) price controls almost disappeared; (d) the tax collection system was reformed; (e) tariffs were reduced and their variance also fell considerably (leading to a system with only two tariffs: 15 per cent and 20 per cent); (f) firing costs were reduced and labour stability was suppressed; (g) a considerable number of state-owned enterprises were privatised.

3 Social expenditure increased from US$1,033 million in 1990 to US$3,656 in 1996. These figures represent 2.3 per cent and 6 per cent of national GDP in the respective years (Vásquez et al, 1999).

4 The importance of social expenditure increases in poverty reduction has been documented by Pascó-Font and Saavedra (op. cit.) and Francke (2001).

FIGURE 1: SOCIAL EXPENDITURE (1996-97): PERU VS. OTHER LAC
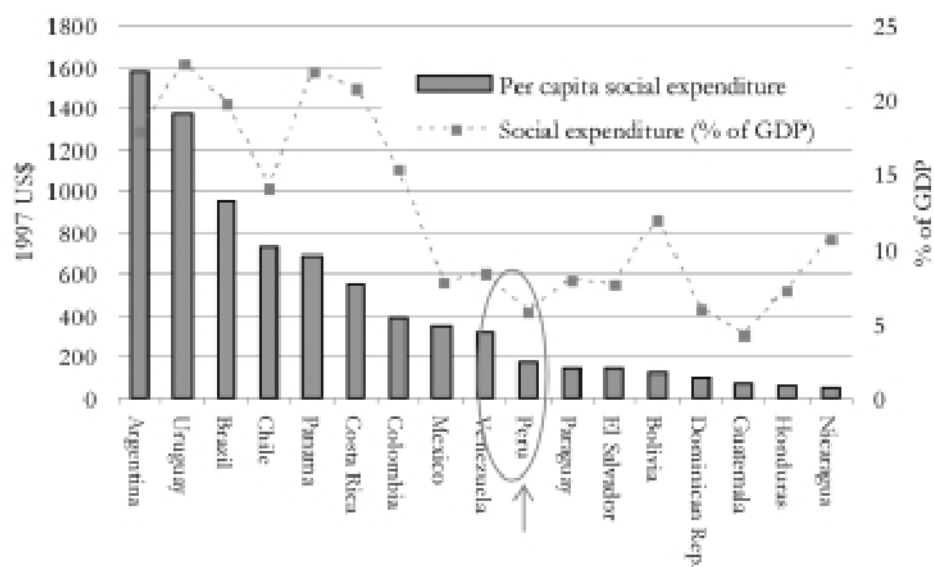
1. Source: Economic Commission for Latin America and the Caribbean (ECLAC) 1998.

Since 1997, however, Peru has experienced two large exogenous shocks: El Niño, and a series of international financial crises[5]. Additionally, inappropriate macroeconomic policies, slowdown in the implementation of market-oriented policies, and a severe political crisis originating from corruption scandals, have fostered poor macroeconomic performance. As a consequence, GDP growth rates have declined and much of the social progress achieved in previous years may have been wiped out. As a consequence, by 2000 poverty rates had climbed back up to their 1994 levels.[6]

Between 1985 and 1991, income inequality, as measured by the Gini coefficient, reduced within the context of an overall reduction of income and expenditures. In 2000 the Gini coefficient returned to the same value as it was in 1985 and Peru remains one of the LAC with the highest income inequality.

In Peru in 2001, there were 10,617,000 people under the age of 18, equivalent to 40 per cent of the total population, with 28.8 per cent living in rural areas. Despite the considerable increase in social expenditure in the 1990s, at the end of the decade only 25 per cent of this expenditure was targeted at children and adolescents. Furthermore, inadequate targeting excluded children in the poorest quintiles and less developed areas from any social protection[7]. Poverty among children is greater than among other age groups: 66 per cent of children under five and 65 per cent of 6 to-14-year olds live in poor households.

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5 For further references, see World Bank, 2001.

6 There may be two additional causes for concern. First, regional disparities increased throughout the decade. Almost 80 per cent of poverty reduction came from two regions (Lima and urban Sierra), while other regions fell behind. Second, income inequality for indigenous people has increased, causing this population to lag behind when compared with other groups (ibid.).

7 Vásquez and Mendizábal (2002) report that this 'excluding' situation may be especially worrisome for children in rural Sierra and rural Selva.

A brief review of poverty in childhood is presented below. It has been widely acknowledged that poverty is multidimensional, and is not just about income. The YL project defines poor children as those who are growing up without access to different types of resources that are vital for their well-being and for them to fulfil their potential. This includes economic, social, physical, environmental and political resources. The YL conceptual framework uses a range of child well-being outcome measures that go beyond traditional measures, such as nutritional status and physical health, to include indicators such as mental health, developmental stage for age, and life skills (numeracy and literacy). In addition, the project will allow the construction of a child-centred outcome measure – the child's own subjective perception of her/his quality of life.

While more details are provided in later chapters, this section reviews literature related to child poverty in Peru. Some important topics like HIV/AIDS and disability are not covered as the YL project does not address them due to design, cost or time constraints.

1.1.2 Health

During the last decade, the Ministry of Health's objective was to increase its coverage throughout the country. As a consequence, the number of healthcare establishments increased from 4,551 in 1990 to 7,561 in 2000[8]. Public expenditure also increased considerably with per capita health expenditure targeted at children increasing almost 250 per cent[9]. During the same period, infant and child mortality rates fell substantially (Figure 2) and the percentage of children fully vaccinated increased from 57.7 to 66.3 per cent. Nevertheless, inequalities persist in child and infant mortality rates (IMR). Regional disparities are very large; for instance in Lima the IMR is 24 per 1,000 live births while in a poor rural department such as Apurímac the rate is 100 per 1,000. Rates in urban areas are only half those observed in rural ones and the poorest quintile shows an IMR four times that of the wealthiest quintile (PAHO, 2002)[10].

FIGURE 2: CHILD MORTALITY RATE (0-5 YEARS) BY GEOGRAPHIC REGION
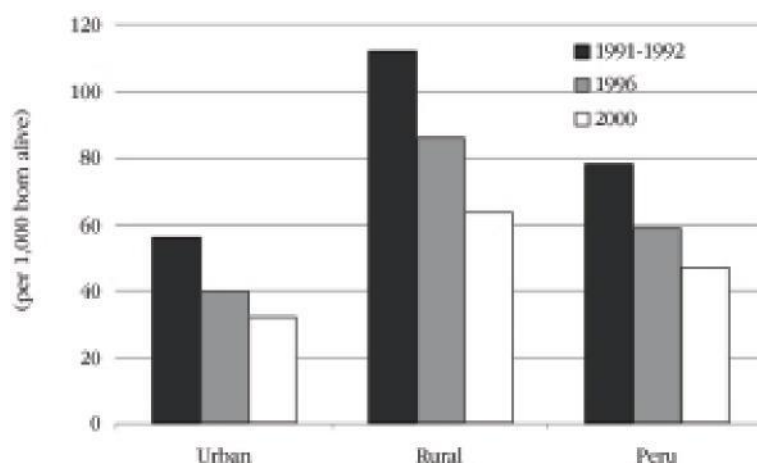
Source: Compendio Estadístico (INEI, 2001a).

8 National Statistics Office – INEI (2002).

9 Vásquez and Mendizábal (2002) op. cit.

10 Vásquez and Mendizábal (2002).op. cit. pp. 16-17.

This urban-rural gap may be related to differences in access to public services, such as piped water, sewage and health facilities. Even the wealthiest households in rural areas have less access to these services – only 54 per cent of households in the richest rural quintile have access to piped water compared to 81 per cent of households in the poorest urban quintile. The corresponding figures for access to sewage systems are 20 per cent and 70 per cent respectively.[11] Even though health infrastructure expanded in poorer areas during the 1990s, access to consultations remained considerably lower in rural areas with the costs of consultations and drugs remaining significant barriers to health service access.[12] Thus despite recent progress, Peru still lags behind most LAC with one of the largest differences in variation between the human development index (HDI) and the IMR (PAHO, 2002).

Thirteen per cent of adolescents aged 15 to 19 are already mothers or are pregnant for the first time. The incidence of adolescent pregnancy is higher in rural areas (25.5 per cent) than in urban areas (9.3 per cent). The departments of the Amazon region have the country's highest percentage of adolescent pregnancies and adolescent mothers (31 per cent). Adolescent pregnancy is related to educational level, and in many cases is one of the main causes of school dropout.

In Peru, depression is the leading reason for adolescents seeking help from mental health professionals. Among older children and adolescents, the depression rate is as high as 21 per 1,000 inhabitants in departments such as Amazonas. In Moquegua, a department with more accurate health records, the adolescent depression rate in 2000 was 43 per 1,000 inhabitants. The areas with the highest incidence of depression are also the poorest departments of the country, including Amazonas, Madre de Dios, Cerro de Pasco and Huancavelica. In 2000, health services treated more than 20,000 adolescents and 4,000 children for depression.[13]

1.1.3 Food and nutrition

Chronic malnutrition rates in children under five dropped from 37 to 25 per cent between 1991 and 2000, although the urban-rural disparity increased. In those departments where the problem is more severe – all of them located in the highlands – more than 40 per cent of children under five suffer from chronic malnutrition.[14] Dramatic inequalities are also seen between income groups (Figure 3). Peru still lags behind other LAC. Using data from nine countries in the region,[15] Peru has the third highest child malnutrition rate (behind Guatemala and Haiti) and the third worst ranking for inequality in malnutrition, proxied by the concentration index, behind Brazil and the Dominican Republic.

11 Calculations based on Living Standards Measurement Survey (LSMS, 2000).

12 Valdivia (2002b).

13 Pilar Dughi 'Stigmas and silence: mental health and violence against children in Peru', in Save the Children UK (ed) *Políticas Públicas e Infancia en el Peru*, Lima, March 2002.

14 Save the Children (2002) p. 6.

15 Data were taken from the World Bank (www.worldbank.org/poverty/health/data). Health and nutrition statistics, using DHSs carried out circa 1997, can be found for Bolivia, Brazil, Colombia, Dominican Republic, Guatemala, Haiti, Nicaragua, Paraguay and Peru.

FIGURE 3: MALNUTRITION RATE BY DECILES OF PER CAPITA INCOME (SIX MONTHS AND OLDER)
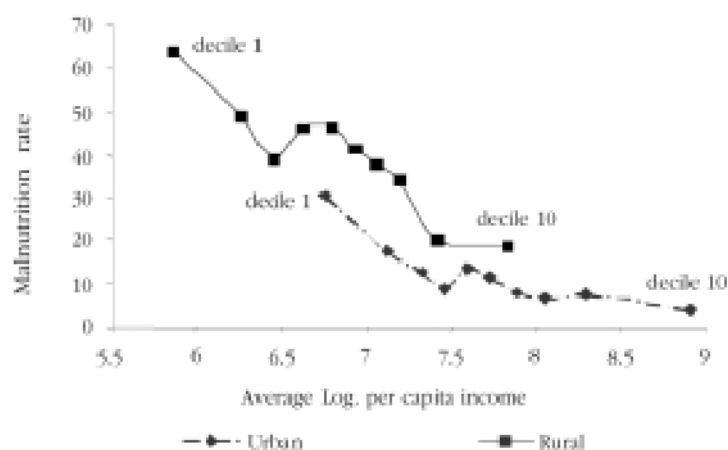
Source: Valdivia (2002a).

A recent study found serious inadequacies in the disbursement of expenditure in nutrition: overlapping efforts, lack of specialisation, multiplicity of institutions formulating policies and no monitoring and evaluation systems.[16] No real priority has been given to the most vulnerable groups, which are children under two and pregnant women; coverage of rural and extreme poverty zones is low, hence many of those who need assistance do not receive it. In addition, filtration is a serious problem. It is calculated that 34 per cent of households that do not qualify as the target population have benefited from these programmes, and it is estimated that filtration totals over US$80 million.

The Peruvian Government made considerable efforts to increase aid supplied by food and nutrition programmes during the 1990s, spending an average annual budget of US$300 million and benefiting around 9 million persons each year.[17] Table 1 shows a list of the main food and nutrition programmes. No clear relationship between food and nutrition programmes and the reduction in malnutrition rates has been established. Given the targeting problems[18] and the evidence of inadequate dietary composition of the rations provided,[19] other factors such as increases in household income and expansion of health infrastructure[20] may explain the decrease in malnutrition.

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16 Pierina Pollarolo 'Without a map: an analysis of state policy for children', in Save the Children UK (ed) (2002) *Public policy and childhood in Peru,* vol. 1, Young Lives, Lima

17 Vásquez and Mendizabal, op. cit. p. 61.

18 Vásquez and Riesco (2000) argue that food and nutrition programmes are concentrated in wealthier regions (Metropolitan Lima and Urban Costa). Furthermore, they state that these programmes may have benefited mostly non-poor household members and that households in extreme poverty conditions may have limited access to them. More recently, López-Cálix, Alcazar and Wachtenheim (2002) found that *Vaso de Leche* ('glass of milk'), *Comedores Populares* (state-subsidised lunch in community kitchens) and PRONAA (National Food Aid Programme) present significant leakages in their delivery of aid. Further discussion on inadequate targeting of food and nutritional programmes can be found in Hentschel (1999) and Portocarrero et al (2000).

19 Vásquez and Mendizabal op. cit.

20 In a static analysis of the DHS for 2000, Valdivia (2002a) found that differences in household income can explain around 40 per cent of the disparities in nutritional status of children in the richest and poorest quintiles of the population. In this paper, he also states that infrastructure (particularly sanitation) is significant as a determinant of nutritional status.

TABLE 1: FOOD AND NUTRITION PROGRAMMES IN PERU

Programme	Institution	Amount in millions of US$	Target group
Glass of milk breakfast programme	Local government	94.93	Pregnant and breastfeeding women, under-fives, 6 to 14-year-olds, over 60s, TB risk group
School breakfasts	National Health Institute (INS)	51.43	4 to14-year-olds
High risk groups supplementary food (PACFO)	National Health Institute (INS)	21.83	Under-threes
Community kitchens	PRONAA (food aid)	21.00	15-year-olds and upwards
School meals	PRONAA (food aid)	17.46	Under fives, 6 to 14-year-olds
Wawa Wasi (childcare service)	MIMDES (Ministry for Women and Human Development)	13.00	Under-fives
Infants' meals	PRONAA (food aid)	13.00	Under-fives
Food and nutrition for high risk families (PANFAR)	National Health Institute (INS)	4.00	Pregnant and breastfeeding women, under-threes
Dietary supplements	National Health Institute (INS)	3.90	6 to 14-year-olds
Social promotion project	PRONAA (food aid)	3.34	No information
Food and nutrition for TB patients	National Health Institute (INS)	2.32	TB risk groups
Children at moral risk	PRONAA (food aid)	0.55	6 to 14-year-olds
Food for deserted children at risk (Pronan)	National Health Institute (INS)	0.32	6 to 14-year-olds At-risk groups PRONAA (food aid) 0.25
No information Community work	PRONAA (food aid)	0.25	15-year-olds and upwards
TOTAL		247.58	

Three in every ten children under the age of five, and almost half of children aged six to nine, enrolled in the first year of primary school, are too short for their age. Their short stature is related to chronic nutritional deficiency and/or previous acute malnutrition, which affects the child's growth and, eventually, limits his or her intellectual capacity. Among children aged six to nine, 97 per cent of affected children attend public schools and 62 per cent live in rural areas.[21]

1.1.4 Education

During the last decade, Peru made huge efforts to increase enrolment and the provision of public education. Thus, by the end of the 1990s, school enrolment was almost universal for primary education, and around 73 per cent of 12 to 16-year-olds were enrolled in secondary education, achieving levels close to those found in developed nations.[22]

21 1999 GIN Report to the United Nations on the situation of children in Peru p. 18

22 The World Bank (2001a) argues that, taking 1997 figures, Peru ranked 15th in a worldwide list of countries with higher enrollment rates for 3 to-23-year olds.

These figures hide some concerns however. First, this expansion has not been accompanied by an increase in the government's budget for education,[23] which has remained relatively constant during the last 30 years. Consequently, expenditure per student has decreased, hence reducing the quality of public education. Peru still lags behind other LAC, with public spending per student representing only 18 per cent and 31 per cent respectively of the levels found in Chile and Brazil. International educational assessment tests[24] taken in a series of LAC reveal poor standards of education, with Peru ranking low down and behind countries with similar levels of GDP.

Second, inequalities in primary education have been reduced where enrolment and dropout rates between urban-rural and socio-economic groups are concerned[25], but disparities remain in over-age rates (Table 2). In secondary education, some narrowing of the urban-rural gap has taken place in the last 15 years[26] but considerable differences in key indicators remain. Furthermore, large differences in coverage and efficiency still exist between Spanish and non-Spanish native-speaking inhabitants, the poor and the non-poor and, to a lesser extent, between boys and girls within certain specific groups.[27]

Third, disproportionate government spending in wealthier regions has been documented.[28] Previous studies have also found that a considerable proportion of resources invested in education are financed by private spending. Even within the public system, families finance around one-third of total spending in education. As a consequence of disparities in public and private financing, there is a high degree of inequality in opportunities within the public system, as educational spending ends up being lower in schools that serve poorer populations.[29]

Finally, children who live in rural areas spend just 250 hours in the classroom annually, even though the required minimum is 1,050. They complete only 4.4 years of education in the same time that students in urban areas complete an average of 8.7 years, since they spend 500 to 600 hours in the classroom.

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23 Saavedra and Suárez (2002b) and World Bank (2001a).

24 Refers to international scholar assessment tests (including verbal and mathematical sections) taken in twelve LAC.

25 Saavedra and Cárdenas (2002) report that the primary net enrollment rate in rural areas increased from 57 per cent in 1985 to 94 per cent in 2000. Similarly, dropout rates reduced from 25.5 per cent to 2 per cent during the same period.

26 Saavedra and Cárdenas (ibid.) report that the gap in net enrollment rates, between urban and rural areas, fell from 39 per cent in 1985 to 20 per cent in 2000. During the same period, the gap in dropout rates narrowed from 44 per cent to 28 per cent.

27 Ibid.

28 Saavedra and Suárez (2002a) found a negative correlation between the level of government spending in education and poverty rates in each department.

29 Ministry of Education, Basic Education Programme of the Peru-UNICEF Co-operation Programme and USAID. *Two-year Advances of the Opening Doors or Punkukunata Kichaspa Project.* Lima, December 2001.

TABLE 2: PROPORTION OF OVER-AGED STUDENTS* BY REGION AND SEX

		PRIMARY SCHOOL				SECONDARY SCHOOL			
		Extreme Poor	Poor	Non-Poor	Total	Extreme Poor	Poor	Non-Poor	Total
Urban	**Boys**	26.7	14.2	5.7	10.5	40.7	29.0	12.2	20.9
	Girls	23.9	14.3	4.1	9.8	22.4	23.1	14.6	19.2
	Total	25.2	14.2	4.9	10.2	32.0	26.1	13.3	20.1
Rural	**Boys**	22.1	21.9	11.1	19.0	38.0	34.3	33.3	37.0
	Girls	29.3	25.2	11.5	21.5	37.1	31.9	21.0	27.7
	Total	25.3	23.4	11.3	20.2	37.6	33.2	26.6	30.9
Total	**Boys**	23.3	18.1	7.5	14.4	38.7	31.1	17.4	25.2
	Girls	27.6	19.8	6.5	14.9	31.8	26.4	16.6	22.2
	Total	25.3	18.9	7.0	14.6	35.8	28.8	17.0	23.7

Source: LSMS 2000.

* Over-aged students are defined as those who are two or more years older than expected, according to the grade they are enrolled in. For example, in Peru, children are supposed to be enrolled in the first grade of primary school at six. Children eight or older enrolled in first grade are, thus, defined as over-aged.

1.1.5 Child work

It is estimated that currently over two million children work in Peru, although accurate statistics regarding child labour are scarce. Seasonality of child labour and parents' resistance to declare it generate under-reporting and hide accurate estimates,[30] so published information on this topic should be interpreted with caution. Official statistics in 1996 revealed that 19.6 per cent of 6 to 17-year-olds were working, the figure being 11.3 per cent for 6 to 11-year-olds.[31] More recent calculations estimate that 22.3 per cent of children aged between 6 and 14 years old are part of the working population.[32] Further analysis reveals that, once again, an especially heavy burden is imposed on children living in rural areas. While only 8 per cent of urban 6 to 14-year-olds work, the figure reaches 42 per cent in rural areas. Figure 4 shows the variation in the proportion of working children by quintiles of household expenditure and urban-rural areas.

The situation of working children should be a genuine concern for Peruvian society. Most of these children live in poor or extremely poor households, and probably receive inadequate healthcare and nutrition. Furthermore, among 14 to 17-year-olds that work, 40 per cent are out of school. Among working children that attend school, over-age rates are high – on average, they are two to four years behind in school.[33]

Effective measures have not been taken to prevent child and adolescent participation in high risk jobs: market carriers, brick makers, work in rock quarries, dumps, mining, etc. An estimated 50,000 children and adolescents work in this last activity.

30 ILO (1998).

31 INEI (1998).

32 Calculations based on LSMS 2000.

33 Save the Children op. cit.

FIGURE 4: CHILD WORK BY QUINTILES OF EXPENDITURE
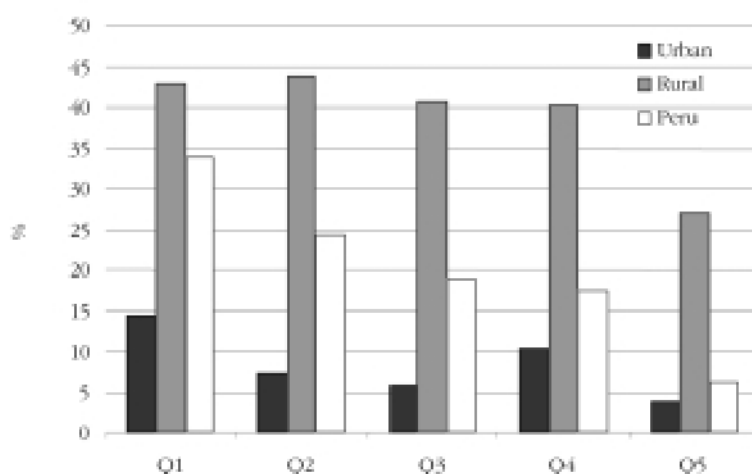
Source: LSMS 2000.

1.1.6 Protection

The Children and Adolescents Code[34] brought national legislation in line with the standards of the International Convention on the Rights of the Child and there are numerous state authorities charged with overseeing its implementation. Still, children do not receive adequate protection from the system and it does not facilitate the reporting and follow-up process. The most important entity for child protection are the DEMUNA (Municipal Child and Adolescent Protection Centres), which are generally found in the cities; but only rarely are abusive parents or relatives sanctioned.[35] The DEMUNA, which could become an efficient instrument for addressing these problems since they are more accessible than the justice administration system, do not have the necessary professional resources. Over 1,200 protection centres have been opened in local councils, primary schools, parishes, NGOs and community organisations, but in many of these places the protection centre comprises a council employee who has been put in charge of the area, without having received the required training.

For the first time in Peru, questions on domestic violence were included in a national survey in 2000 (INEI, 2001b). Forty-one per cent of parents – at the national level – admitted that they hit their children to "discipline them". This figure is even higher in areas of widespread poverty and exclusion (62 per cent in Apurimac and 73 per cent in Cajamarca). The study also provides evidence of the existence of a close relationship between parents' educational level and maltreatment of children. Additionally, there is a high level of inter-generational occurrence: parents who abuse their children were often themselves abused by their parents.

Juvenile delinquency has increased in recent years, especially in terms of neighbourhood gangs. In Lima, moderate estimates are that 100 gangs exist, each with 40 to 50 members, whose ages range from 8 to 22.[36]

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34 Act 27337.

35 Study of violence, carried out in Ayacucho, Huancavelica and San Martin by the Apoyo Institute. 'Violencia y Pobreza desde una Perspectiva de Género 2001'.

36 GIN (op. cit.) p.31.

According to the Truth and Reconciliation Commission's (TRC) conclusions of July 2003, there were approximately 6,089 cases of forced disappearance between 1980 and 2000. Abductions were carried out by the Shining Path, the Tupac Amaru Revolutionary Movement, and government security forces. The TRC concluded in 2003 that 60,000 people were killed during the political violence of the 80s and 90s, which also resulted in massive migration and internal displacement, typically from rural to urban areas and from the interior of the country to the coast. It is estimated that between 1980 and 1992 there were 600,000 people internally displaced, 40,000 orphans, 20,000 widows, 4,000 disappeared, 500,000 under-eighteens who suffered post-traumatic syndrome and 435 communities destroyed. Eighteen out of the country's twenty-four departments were affected and the damage is estimated at twenty-five thousand million US dollars, a figure similar to the national external debt.[37]

1.1.7 Concluding remarks

Poverty rates in Peru have fluctuated over the past few decades and declined considerably leading up to 1997. As a consequence of this progress, social conditions among children improved. However, the slowdown in economic growth experienced since 1998 has jeopardised these achievements. In 2000, 54 per cent and 15 per cent of the Peruvian population remained below the poverty and extreme poverty lines, respectively. This reflects the vulnerable situation that children face: 62 per cent of children live in poor and 22 per cent live in extremely poor households.

During the 1990s, increases in public social expenditure were accompanied by improvements in health indicators, malnutrition rates and school enrolment. Nevertheless, most indicators show that Peruvian children considerably lag behind their counterparts in the region, including countries with similar development levels. Furthermore, a significant degree of inequality remains between rural and urban children and between socio-economic groups.

1.2. Political context

1.2.1 Governance

In 2000, a decade of authoritarian rule came to an end when Alberto Fujimori resigned as president, amid accusations of corruption and human rights abuse, and sought exile in Japan. The charges against Fujimori, as of July 2003, include murder for having ordered two massacres of suspected rebel collaborators by paramilitary death squads in the early 1990s; embezzlement, illegal enrichment, and secretly shifting and using state funds to pay for intelligence activities; illegally authorising millions of dollars in government purchases; making an illegal US$15 million severance payment to former spy chief Vladimiro Montesinos who faces over 60 charges, including corruption and murder, and claims to have made frequent cash payments to Fujimori at his request; and bribing opposing congressional representatives to join his party. From Tokyo, Fujimori denies these charges, claims to be a victim of political persecution, and is a frequent commentator on the state of political affairs in Peru.

As Speaker of Congress, Valentín Paniagua became president of Peru from November 2000 to July 2001, following Fujimori's resignation, when both the first and second vice-presidents were deemed unfit to do so. As Secretary General of the centre Acción Popular party, Paniagua was the first opposition leader to head Congress in over eight years. As interim president, his bringing of non-

37 Nelson Manrique 'Los niños de la guerra', in *Políticas públicas e infancia en el Peru*, vol.2,.December 2003, Save the Children UK.

partisan politicians to his ministerial cabinet conferred upon him the reputation of a moderate leader with strong consensus-building skills. He ensured free and fair elections in April and June 2001, leading to the election of Alejandro Toledo of the *Peru Posible* party.

Toledo entered office facing tremendous challenges left by the Fujimori regime. Among them were: to rebuild democratic institutions; to achieve economic stability after three years of recession and political instability; to strengthen the economy and employment opportunities while controlling public spending; to carry out judicial reform and protect personal and property rights; and to modernise healthcare and education.

A cornerstone of Toledo's new government was decentralisation and the transfer of authority to local governments. Twenty-five regional governments were established when municipal and regional elections were held in November 2002. Fifty regional presidents and vice-presidents, 219 local council members and 1,800 mayors were elected. The new governments (twelve of which are headed by the opposition APRA party) began operating in January 2003.

On 22 July 2002, Toledo initiated a symbolic 'National Agreement' including his party, the leaders of the most representative political parties, and sectors of civil society to assist in Peru's transition to democracy through the development of shared long-term political goals: democracy and constitutional law; equity and social justice; economic competitiveness in the world market; and the development of an efficient, transparent and decentralised national state. One year later, however, there is a wide consensus on the lack of both follow-up and political will to translate this agreement into concrete short-term policies.

In May 2003, Toledo declared the second state of emergency of his government. As of late June, the state of emergency continues and the president faces crises of legitimacy and governance with an overall approval rating of 11 per cent.

1.2.2 Equity

Although the Peruvian Constitution provides for formal equality between men and women, the gender gap in representation persists in Peru compared to other countries in the region (Figure 5). Nevertheless, there are signs the gap is closing. One indication of this trend is the change in the composition of the Peruvian Parliament. From 1990 to 1992, women represented 6.7 per cent of the National Congress. From 1993 to 1995, the corresponding figure was 8.8 per cent, and from 1995 to 2000, 10.8 per cent. In 1996, the Quota Law established that women would make up 25 per cent of congressional candidates. This was later increased to 30 per cent. For the period 2001-2006, which corresponds to the government of Alejandro Toledo, 22 out of 120 congressional representatives are women (18.33 per cent).

Racial and gender discrimination in employment advertisements and in educational opportunities are prohibited by law but continue in practice. A 2000 law expanded the definition of domestic violence to include sexual violence. Between 1991 and 2000, the differential between the average income of men and women decreased from 47 per cent to 42 per cent.

FIGURE 5: COMPOSITION OF PARLIAMENT BY PROPORTION OF FEMALE REPRESENTATION
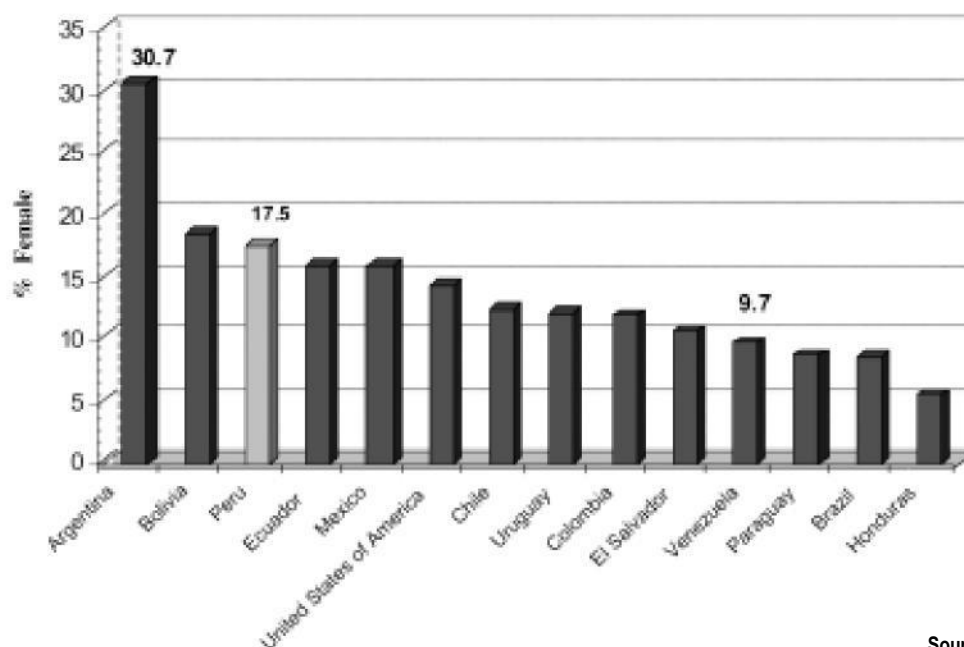
Source: IDEA (2003).

1.3. Policy process

There is abundant legislation in line with international conventions on children's rights. The laws recognise children's rights and protect them from violence and desertion. The Constitution and the law declare the state responsible for children's health and education. In the area of administration however, the operational institutions that should provide such protection and services do so only to a limited extent. Laws geared to protection are thus reduced to declarations with little clout. This means that the passing of a law in itself does not mean that the state has shown an unequivocal commitment to the objectives of that law. What in fact happens depends on the national budget and the development of these organisations' institutional capacity.

As in many developing countries, public entities in charge of providing protection and services in Peru do not have sufficient resources. A large number of organisations act with no defined policy, public officials are bureaucratic and take no initiative, and the results of public administration are seldom evaluated. Deficiencies of the public sector in general arise from the inadequate management of resources and personnel. For instance, the results of policy on nutrition show that an increase in expenditure alone is not enough. While the malnutrition rate did fall considerably, a greater impact could have been achieved with the same resources. The waste of resources, the lack of access of large sectors of beneficiaries, and shrinkage through benefits going to non-priority groups, is due to several factors: the lack of a planning and policy formulation entity to guide the numerous programmes and executive branches of agencies; the management deficiencies which affect the public sector in general; and the lack of monitoring and evaluation mechanisms. Regarding public policies for children and adolescents, the recently approved National Plan of Action for Children[38] is under the responsibility of

38 Plan Nacional de Acción por la Infancia (PNAI).

the MIMDES, which is one the sectors with less political support, very little policy influence and a modest budget.

1.3.1 Common issues in the public sector

Below is a summary of aspects of state intervention that are also characteristic of other areas. Firstly, public entities do not have sufficient resources for carrying out their duties, ie, they are not capable of providing reasonable services to all of the beneficiaries as stipulated by law. Secondly, there are a great many organisations that work independently of each other, with no single defined policy orientation and no co-ordination among sectors. This produces disorder, overlap and waste. Moreover, the lack of incentives for public officials to perform efficiently makes inaction the safest conduct, since any initiative bears the risk of making mistakes. The management capacity deficit is found at two levels. At the political level, lack of management capacity becomes visible when representatives and elected governments have no strategic control and do not or cannot have the capacity to formulate more adequate policies. At the level of public administration, management incapacity is linked to the lack of incentives and instruments for executing policies.

The Peruvian state spends, on each inhabitant, amounts very close to those of Chile and Costa Rica, and more than Mexico, Colombia and Venezuela. However, the results in terms of social indicators are greatly inferior. Naturally, each issue has its own complexity, and many factors could explain the differences. However, the accumulated evidence suggests that other states do more with fewer resources.

TABLE 3: PUBLIC SPENDING AND INFANT MORTALITY IN LATIN AMERICA

COUNTRY	PUBLIC SPENDING PER CAPITA (ANNUAL)[39] US$ 1999	INFANT MORTALITY Per thousand 1998
Haiti	32.2	116
Nicaragua	60.2	42
Honduras	98.8	46
Guatemala	99.6	52
Ecuador	131.0	37
Paraguay	158.0	27
Bolivia	161.6	78
Dominican Rep.	191.0	47
El Salvador	209.0	36
Venezuela	220.2	25
Colombia	270.0	28
Mexico	308.0	35
Peru	358.5	47
Chile	426.6	12

Source:World Development Report 2000/2001,World Bank.

39 Note that public spending shown in this column is the total current spending, and not the expenditure specifically allocated to health, education and nutrition.

As Table 3 illustrates, there is hardly any correspondence between per capita spending on the one hand and the IMR per thousand births on the other. These figures confirm that the state is not adequately establishing priorities for its spending and that it is highly inefficient in its management. The discussion regarding the role the state should play is very relevant to the subject of priorities.

The state apparatus is not well organised, and it is big and shows a tendency to grow, both in the number of institutions and the number of public servants. It is made up of a number of organisations and levels of government: Congress, the justice administration, 9 entities with constitutional autonomy, the presidency and the presidency of the Cabinet, 15 ministries, 73 decentralised public organisations, a national health service, 28 state universities, 189 provincial councils and 1,830 district councils. Some 750,000 people are on the payroll for these institutions, without including council workers. If we add to this figure the 300,000 pensioners in the state pension system, there are more or less one million people receiving remuneration from the state.

1.4 Young Lives in Peru: Panel committee

In May 2002, the YL team in Peru formed an advisory panel for the project. All nine members of the panel are leading experts in their fields and they have held key positions related to poverty within the country. Moreover, each of these individuals is also an opinion leader in his or her own right, quite independent of the institutions that she or he represents or has represented. Table 4 describes briefly the background and experience of each of the advisory board members as well as their institutional affiliations.

TABLE 4: ADVISORY PANEL FOR THE YOUNG LIVES PROJECT IN PERU

MEMBER	INSTITUTION
Mark Lewis	First Secretary of the British Embassy in Peru and representative of DFID in Peru. Pedro FranckeProfessor of Economics at the Catholic University of Peru and consultant expert in poverty and social policy. He has held the post of Executive Director of FONCODES. He has recently joined the World Bank office in Peru.
Cecilia Blondet	She is a historian and an expert in gender, poverty and development. She has worked in the Transparency Association and is a member of the board of directors of the Instituto de Estudios Peruanos. She is former Minister for Women and Human Development (MIMDES).
Richard Webb	He has a doctorate in economics from Harvard University. Currently president of Peru's Central Bank, he is also a consultant in economic development, employment and poverty. He is co-author of *History of the World Bank* and has been a lecturer at Princeton University.
Javier Abugattás	A civil engineer who has studied at the Lima's Centre for Psychoanalytical Psychotherapy. Former Deputy Minister of the Economy, he has also held the posts of Ad hoc Technical Secretary to the Inter-Ministerial Social Affairs Committee and development adviser to the president of the Council of Ministers.
Emma Rotondo	She is an anthropologist and a consultant in evaluation and children's rights. She has worked with civil society networks and with UNICEF on social policy and children and has published various papers on childhood in Peru. She is a consultant in strategy design for political advocacy, and in capacity-building for learning.
Gilberto Moncada	He is an economist with a master's degree from Georgetown University. Formerly managing director of the Instituto Cuánto and the Latin America and Caribbean Co-ordinator for the IDB MECOVI programme, he was until 2002 director of the National Statistics Institute.
Gastón Garatea	Priest of the Congregation of the Sacred Heart and Chair of the Executive Committee of the Fight Against Poverty Round Table.
Rosa Maria Palacios	She is a lawyer with a master's degree in comparative jurisprudence from the University of Texas. She is an associate researcher at the Peruvian University of Science and Technology and consultant in the organisation and operation of the state, and is currently working as an interviewer for the RPP radio station. She also hosts the *Tribuna Libre* programme on Channel 6, *Antena Informativa*.

2. Methods

2.1. Overall design

The main cohort of approximately 2,000 index children in each country was aged 6-17.9 months (hereafter called 'one-year-olds') at enrolment and will be followed until they are 15 years old. In Peru, 2,052 index children were enrolled. Index children were selected from 20 sentinel sites that were defined specifically in each country. The concept of 'sentinel site' comes from health surveillance studies and is a form of purposeful sampling, where the site (or cluster, in sampling language) is deemed to represent a certain type of population or area, and is expected to show early signs of the impact of trends affecting those particular people or areas. The selection of the 20 sites in Peru is described in section 2.4. The caregiver and, when he/she is old enough the child as well, will be interviewed every three years and the height and weight of each child will be measured. Data are also being collected at every round of interviews on the communities in which the children live. Communities are locally defined and correspond to administrative areas. In an urban area this might be a district or census tract, in a rural area it might be a group of villages or a small town around which the rural households are based. Each cluster site may have one or more communities within it. In Peru, 74 such communities were identified in the 20 cluster sites.

In addition to the above, approximately 1,000 children who were 7.5-8.5 years old at enrolment (hereafter called the 'eight-year-olds') and their caregivers were interviewed in each country to provide a comparative group for when the YL index children reach the age of eight, to pilot specific data collection techniques, and to provide results on a neglected age group. In Peru, due to resource constraints, only 716 eight-year-olds were enrolled.

A number of thematic, largely qualitative projects which will investigate issues that emerge from the first round of data analysis will be conducted from 2004 onwards. The project is also monitoring changes in the policy environment, using a policy matrix, in order to explore the links between the policy environment and outcomes for children.

Preparation for the first phase of YL began in 2001. The study was designed both 'internationally' through collaboration between the four country teams and the international co-ordination group, and 'nationally' through the participation of an advisory panel which represents government institutions, international donors and local NGOs (see Acknowledgements). There was involvement of key stakeholders from the beginning to ensure that data are relevant and are used to inform policy and action.

Research ethics approval was obtained in the UK from London South Bank University, London School of Hygiene and Tropical Medicine, and the University of Reading; and from the IIN Ethics Committee in Lima, Peru. Approval was also obtained from Peru's Ministry of Health (MoH) and from local authorities and community leaders. Written informed consent was obtained from all household heads or guardians of the one-year-olds and eight-year-olds enrolled in the study. In addition, most eight-year-olds gave their assent to participate in the study by signing their own consent form. For illiterate people, verbal consent was obtained by interviewers prior to the interviews.

2.2. Questionnaires

2.2.1. Household questionnaire

The information recorded in the household questionnaire which was used in all four countries (core questionnaire) is summarised in Table 5.

Given its importance for the purpose of tracking, contact information about family and close friends was recorded. Full copies of the core questionnaires can be found at www.younglives.org. Annex 1 presents all the variables of the survey.

Preliminary work conducted by an anthropologist in Lima, Ayacucho and Pucallpa with 8 and 15-year-old children, plus extensive consultation with the advisory panel and other stakeholders (see Acknowledgements), led to additional questions for inclusion in the Peru questionnaires. Table 6 presents the additional topics included in the household surveys for one-year-olds and eight-year-olds. The time each section of the questionnaire was started and finished was recorded in Peru.

The eight-year-olds were also interviewed directly about aspirations, perceptions of quality of life, social relations, study, work, health, numeracy and literacy. The Raven's Coloured Progressive Matrices (CPM) were used to assess cognitive development. A copy of the questionnaires used in Peru can be obtained from the project's web page: www.ninosdelmilenio.org

TABLE 5: QUESTIONNAIRE TOPICS IN THE ONE-YEAR-OLDS HOUSEHOLD QUESTIONNAIRE AND THE EIGHT-YEAR-OLDS HOUSEHOLD QUESTIONNAIRE

Questions to all households:
- Locating information (for tracking in future rounds)
- Household composition
- Child health (chronic and acute)
- Caregiver characteristics
- Livelihoods
- Economic changes (shocks) and coping strategies
- Socio-economic status (assets)
- Social capital
- Anthropometry of child

Question specific to one-year-olds' households:
- Pregnancy, delivery, breastfeeding
- Immunisation
- Childcare
- Caregiver psychosocial well-being

Questions specific to eight-year-olds' households:
- Child mental health
- Child's schooling
- Child labour
- Child leisure

2.2.2. Community questionnaire

There are five sections in the community questionnaire: natural environment, social situation, infrastructure and services access, economy, and health and education. Respondents were key informants within the community, usually local authorities and representatives of the education, health and agricultural sectors. The additional Peru-specific variables included:

- questions about how long it took to reach the capital of the province from each location

- questions about whether local government officials had been assassinated (due to terrorist activities), charged with corruption or removed because of corruption charges

TABLE 6: COUNTRY-SPECIFIC TOPICS FOR THE ONE-YEAR-OLDS HOUSEHOLD QUESTIONNAIRE AND THE EIGHT-YEAR-OLDS HOUSEHOLD QUESTIONNAIRE

ONE-YEAR-OLDS

Section 1: Added details of formal identity documents

Section 2: Addition of further options for the relationship of the child to people on the household roster

Section 3: Added birth length, reason for homebirth, whether the baby was hospitalised at birth, whether the mother became pregnant after the birth of index child

Section 4: Added questions about child sharing bed, mother's perception of whether child cried more than other children and action taken when the child would not stop crying

Section 5: Questions added on whether the child had ever been hospitalised, health insurance, and details of vaccinations were transcribed from the child's health card. Added open questions about activities in the family's free time

Section 6: Added question on languages spoken by the caretaker, what language the caretaker's mother spoke to her in, and mother's birthplace

Section 7: Question added to define ranking of importance of multiple activities performed by the same person and more detail on money and goods transferred and sent outside the household. In some questions additional codes were added as necessary. A question was added about donated food received by the household

Section 9: Additional household possessions, agricultural equipment and tools were included. Added questions on household hygiene and a judgment by the fieldworker of household hygiene based on observation of the living room, kitchen and bathroom

Section 10: Used the translation of a mental health survey, with comments for the interviewer, which had been previously used in Peru in a World Health Organization (WHO) study. Questions added about drunkenness and associated violence and domestic violence during the parents' childhood

Section 13: Added a list of clothing with average weights in order to correct for clothing when the child could not be weighed in the nude. Added the weight, height and triceps skin fold thickness of the mother

Section 14: This Peru-specific section was placed after section 7 and included information on household income and expenditure

EIGHT-YEAR-OLDS – AS FOR ONE-YEAR-OLDS PLUS THE FOLLOWING:

Section 3: Added questions on birthplace, desired sex of the child, breastfeeding and number of siblings who had died

Section 4: Added a question on grade reached and details of the school in order to match with the Ministry of Education database on schools. Added questions designed to evaluate the quality of the school and teaching. Asked about satisfaction with schooling, participation of the parents/carer in homework and/or school activities and for an estimation of school performance. Asked how far the school was from home and the most frequent reasons for missing school. Asked about education-related costs, time spent at school, provision of school breakfasts or lunches and whether the child had attended a preschool

- extra response options for the questions on local markets/selling and where food and clothing were bought, and for the questions on local organised groups.

All core questionnaires were translated into Spanish, revised by the study team, modified, field tested, used in the pilot study and finally typeset in a format to facilitate data entry. Headers were added so that each page bore the child code in case pages became separated, and the forms were finally bound into booklets. Substantial effort was made to train and standardise the fieldworkers in the use of the questionnaires, particularly for the economic sections and for use in rural areas. The training and testing process took three months, beginning with the selection of personnel and finishing with a large pilot test of the survey instruments and the whole system in the community of Canta, to the north of Lima. Several members of each team were standardised in anthropometric measurement.

2.3 Other data

2.3.1 Policy monitoring

Figure 6 shows the different levels of determinants of child well-being. Those determinants to the right of the vertical line are being collected through the community-based surveys but policy at meso- and macro-levels must also be considered. The policies that are assumed to have the most direct impact on child well-being are: healthcare, education, poverty reduction, social safety net, social security/insurance and public expenditure. Information on these policies will be collected every six months, using a policy matrix framework, with support from members of the advisory panel in each country. This will ultimately be used in analysing changes observed in the longitudinal analysis of Young Lives.

FIGURE 6: THE YOUNG LIVES CONCEPTUAL FRAMEWORK

MACRO-POLICY	EXTERNAL DETERMINANTS	MEDIATING DETERMINANTS	OUTCOMES
Government expenditure on education and policies on education Child labour and trade regulations	Child attributes Family attributes Physical, environmental and socio-economic assets. Social capital (household) Economic shocks Community attributes	Child care Education Work Leisure/play Security Health care Intra-family Environment Social capital (child) Migration	Nutritional status Physical health Mental health Life skills *(numeracy and literacy)* Development stage for age Child's perception of wellbeing

2.3.2 GPS for location of households

To facilitate location of houses when returning for future surveys the Peru team took GPS latitude and longitude bearings of each household. Although there were technical problems in some sites because of decalibration of the reader, most of the bearings were correctly taken. There were a few dwellings that had incorrect or missing bearings which will be corrected during the tracking visit that is currently underway in Peru. We believe that this information will be invaluable in the future, not only for tracking purposes but also to link the household data with a wealth of secondary data available in Peru, like the characteristics of nearby health or educational facilities, access to roads, etc.

2.3.3 Photos

The Peru team used digital cameras to take a standardised series of photographs of each household: the index child with his/her caretaker; the house's exterior; the main living room or household area used to receive visitors; and a group photo with all family members present at the time of the survey. These photos were downloaded to the laptops in the field, and sent to the IIN on CD-ROMs. The child/caretaker photos were used to produce certificates for each child, which are being distributed to

all study members during the tracking visit currently under way. The photos will also be used to help in identifying the child and household in subsequent survey rounds, and have also provided us with a unique bank of visual data which complements the survey data. For example, the photos have been used to check the validity of extreme anthropometric measures.

2.4 Sampling

To satisfy the needs and aims of the YL project, a general multi-stage sampling protocol was adapted to local situations while maintaining key principles. Further details of the YL sampling strategy can be found at www.younglives.org. When the sampling strategy to be used in Peru was discussed with stakeholders, they:

- emphasised the importance that the sample be considered representative of Peru, drawn using an acceptable sampling strategy
- emphasised the importance of including some representation of the *selva* (jungle) areas, although they were aware that these were particularly difficult to cover
- emphasised the importance of covering both rural and urban areas, including peri-urban areas
- confirmed that the major upcoming policy issues were national policy in the areas of education, for example an expansion of preschool education provision, improving the quality of primary education, etc.

The initial sampling frame used in Peru was at the district level. To assure a representative distribution of districts according to their poverty level, we used the most recent official poverty map of the 1,818 districts in Peru (FONCODES, 2000), ranked by poverty, to select the 20 sentinel sites by systematic sampling. Factors which determine the poverty ranking of districts included infant mortality estimates, housing, schooling, roads and access to services, etc. To achieve the project's aim of over-sampling poor areas, the top 5 per cent of districts were excluded from the sampling frame – this then enabled a systematic selection yielding approximately 75 per cent of sample sites considered as poor and 25 per cent as non-poor according to consumption-based poverty criteria that are widely used by the Peruvian Government. Districts were listed in rank order along with their population size. A random starting point was then selected and a systematic sample of districts was taken using the population list. Ten selection runs were made by computer and the resulting sample of districts were examined for their appropriateness in terms of coverage of rural/urban/peri-urban and jungle areas and for logistical feasibility. Selection number 7 best satisfied these study needs. Once the districts were chosen, an initial community/city sector in each district was chosen at random from the national census list of urban/rural towns, according to their population size. In large urban districts, all blocks were enumerated from official district maps and one starting block was selected using a random number from a table of random numbers. In cases where the rural district was not large enough to provide 100 children aged 6 to 17 months then a contiguous rural district with similar characteristics (poverty ranking) was added, a procedure that was needed in 6 of the initial 20 districts: in five of them only a second district was needed (Mariscal Castilla added La Jalca, Yuracyacu added Pardo Miguel, Santo Toribio added Pueblo Libre, Chuquis added Marías, and Nicolás de Piérola added Ocoña) while in the sixth two more districts were needed to complete the sample (Lucanas added Puquio and San Cristobal). Figure 7 shows where each of the 20 cluster sites was located according to the

FONCODES poverty index scale, Figure 8 shows their geographical location and Table 7 gives their names and population size..

In each district the study team selected local people to help with a house-to-house census to identify households with one-year-olds or eight-year-olds. The sampling strategy for urban areas was different to that used for rural areas. In urban areas, a single housing block and house were chosen as the starting point and a census was conducted radiating in a defined manner from this point. In rural areas, because of the small size of the hamlets, the greater distances between houses, and the need to divide the team in order to make the best use of resources, teams of two or three census workers scoured whole communities until sufficient children were identified. Study interviewers then visited the homes to obtain informed consent and conduct the interview.

FIGURE 7: LOCATION OF SENTINEL SITES (ALONG POVERTY SCALE)
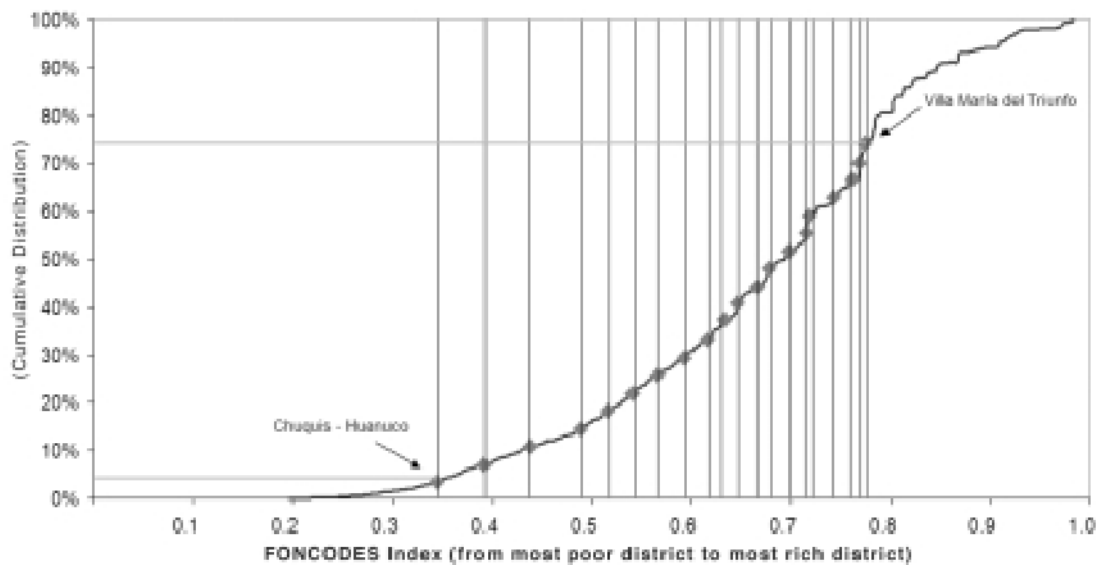
To enhance comparability between official data sources and the results obtained from the YL project we have followed the same definition of 'rural' as outlined by the Peruvian National Statistics Office (INEI). Thus for this project, a rural community is one that has less than 100 dwellings and is not the capital of a district.

BOX 1: BRIEF OUTLINE OF THE 74 COMMUNITIES

A shop selling basic provisions is available in 65 out of the 74 communities surveyed (88 per cent). 56 (76 per cent) of these 74 communities are accessible through a motorised road (either a paved or engineered earth road), while 18 can only be accessed by non-motorised tracks, trails or footpaths. 61 per cent of them have access to a public, communal or rural telephone while 50 per cent have at least some access to electricity. Only 19 per cent of these communities have a police station and only 8 per cent have access to either private or public banking services. Further details are given in Annex 2.

Source:YL community survey.

Table 7: Young Lives study sites in Peru

Cluster ID	Poverty quintile	Department	Anonymised name*	Population in 2002	Region
1	4	Tumbes	Tumbes	Between 40,000 and 100,000	Coast
2	3	Piura	Sullana	Between 10,000 and 40,000	Coast
3	1	Piura	Morropon	Between 10,000 and 40,000	Mountain
4	1	Amazonas	Chachapoyas	Less than 5,000	Mountain
5	1	San Martin	Rioja	Between 5,000 and 10,000	Jungle
6	4	San Martin	San Martín	Between 40,000 and 100,000	Jungle
7	3	Cajamarca	Cajamarca	More than 125,000	Mountain
8	3	La Libertad	Trujillo	Between 100,000 and 125,000	Coast
9	2	Ancash	Huaylas	Less than 5,000	Mountain
10	3	Ancash	Huaraz	Between 40,000 and 100,000	Mountain
11	1	Huanuco	Dos de Mayo	Less than 5,000	Mountain
12	4	Lima	San Juan de Lurigancho	More than 125,000	Coast
13	3	Lima	Ate	More than 125,000	Coast
14	4	Lima	Villa Maria del Triunfo	More than 125,000	Coast
15	2	Junin	Satipo	Between 10,000 and 40,000	Jungle
16	1	Ayacucho	Huamanga	Between 5,000 and 10,000	Mountain
17	2	Ayacucho	Lucanas	Less than 5,000	Mountain
18	2	Apurimac	Andahuaylas	Between 10,000 and 40,000	Mountain
19	3	Arequipa	Camaná	Between 5,000 and 10,000	Coast
20	2	Puno	Juliaca	More than 125,000	Mountain

Note: To protect children's anonymity, we use province names to anonymise the study sites, or district names if the population is above 125,000.

Young Lives study sites in Peru

2.5. Fieldwork

2.5.1 Training

Interviewers were selected and trained over a three-month period. This consisted of trying out the questionnaire, at first on each other and then on family members or neighbours, until they were familiar with the questions. Once the interview could be conducted with some fluidity the surveys were practised, once both explanation and consent had been given, on families in shanty town areas around Lima. After each round of practice the whole team met and exchanged experiences – difficulties with the questions were discussed, interpretation and exact wording of the Spanish translation was standardised, and revisions were made to improve the detailed content and layout of the instrument. This training was also used to select the best interviewers and supervisors for the study teams. During this period anthropometry training was undertaken, with practice on small

children, and standardisation exercises were completed. Copies were made of the Raven's test and its application was taught by a psychologist with experience in the test. Save the Children UK arranged training on the ethics of working with children, for example what to do in cases of suspected abuse. Finally, a full-scale rehearsal including the census strategy, enrolment and logistics was undertaken in Canta, an urban and rural area near Lima, over the course of one week. This experience was invaluable and led to many revisions and the development of protocols for dealing with ethical issues arising from the surveys, for instance what to do when children at risk of harm or who were severely ill are encountered.

2.5.2 Field data collection

Field data collection was conducted by three teams, each consisting of six interviewers, a supervisor and a data entry clerk, overseen by a field manager, a data manager and the study investigators. Teams were assisted by local residents to help with identification of households and to carry equipment. Each team worked in six or seven cluster sites between August and November 2002, spending approximately two to three weeks in each site. Regular contact between the teams and IIN/GRADE was facilitated by telephone, email and Internet discussion boards which worked well in urban areas although was less easy for rural sites.

A numbering system was used in each cluster to identify all households contacted in order to enrol all index children. There were more than 40,000 households contacted to enrol the index children and the eight-year-olds. The time needed to complete the survey has not yet been analysed, but preliminary data suggest that it took a mean of two hours' total time to complete in each household.

2.5.3 Supervision and quality control

Supervisors observed interviewers on a regular basis, reviewed forms before data entry, and organised team discussions of common problems. Some key variables were selected for repeat visits by the supervisor to 5 per cent of households selected randomly by the computer system. Data from these forms were entered independently from the original form and will be analysed later.

2.5.4 Data entry

Data entry programmes were designed at the IIN using the Delphi programme (Borland Corp, USA). This provided a user-friendly design whereby the computer screen resembled the form being entered, and skip patterns, acceptable range values and consistency checks were incorporated. The data were transferred to Microsoft Access tables for submission to the international co-ordination team, in accordance with the YL data guidelines. This system seemed to work well and allowed us to expand codes, add questions, and alter the coding of questions so that they were compatible with the fieldworkers' usual customs, and then convert these codes to those required for the core database.

Data entry clerks with laptop computers accompanied the fieldwork teams to each of the 20 clusters. Once the forms had been completed by the interviewer they were checked by the supervisor and then passed to the data entry clerk who entered the form. Errors detected by the data entry programme (values outside the acceptable range) and the consistency checks identified by the data entry clerk were

referred back to the fieldworker and supervisor for immediate resolution. This gave fieldworkers the chance to correct wrong values, while their memory was still fresh, or to revisit the household if necessary, although in practice this rarely occurred. Data entered into each laptop were copied onto a CD-ROM, which was sent through the public transportation system to the IIN every week. No data were lost using this system. Because of time constraints, and underestimation of the time required to manage the photo data files (the total size of the photo data file was 43GB), the data entry clerks could not finish data entry while still in the field and about half the data were entered on their return to Lima.

2.5.5 Data analysis

Data analyses were conducted using SPSS. Anthropometric indicators were computed using the EpiNut module of EpiInfo 2000, which uses the WHO International Growth Reference as a standard to derive Z scores.

For purposes of preliminary data analysis, this report presents descriptive information on the whole sample and provides breakdown by location (urban, rural) and wealth category. The 'wealth index' draws on work undertaken by the World Bank and Macro International that was used to develop the wealth index cited in the UNICEF Multiple Indicator Cluster Surveys. It has been designed to include sufficient variables that vary substantially across the sample according to wealth. The index was constructed from:

- The number of rooms per household member as a continuous variable

- A set of dummy consumer durable variables, each equal to one if a household member owns a radio, fridge, bike, TV, motorbike, motor vehicle, mobile phone, land phone, or some additional consumer durable indicator specific to the country context, such as an electric fan or heater

- A set of three dummy variables equal to one if the house has electricity, brick or plastered walls, or a sturdy roof (such as corrugated iron, tiles or concrete)

- A dummy variable equal to one if the dwelling floor is made of a finished material (such as cement, tile or a laminated material)

- A dummy variable equal to one if the household's source of drinking water is piped into the dwelling or the yard

- A dummy variable equal to one if the household has a flush toilet or pit latrine (not shared with others in the community)

- A dummy variable equal to one if the household uses electricity, gas or kerosene for cooking.

The wealth index is a simple average of the following three components:

- Housing quality, which is the simple average of rooms per person, floor, roof and wall

- Consumer durables, being the scaled sum of the consumer durable dummies

- Services, being the simple average of drinking water, electricity, toilet and fuel, all of which are 0-1 variables.

The wealth index is thus a score between 0 and 1. The distribution of this score was examined in order to define four groups for comparison in this report and the following cut-off points were used: <0.25 the 'poorest', 0.25-<0.4 'very poor', 0.4-<0.7 'less poor', >=0.7 'better-off'.

Poverty is commonly recognised as multidimensional, and adequacy of livelihoods that include income, assets, food availability, etc, is only one of five major dimensions to be considered in YL.[40] YL did not measure household income or consumption in the core questionnaire but used the asset-based wealth index in all four countries. Recent research suggests that the asset-consumption relationship is quite close to income data (Filmer and Pritchett, 1998). Furthermore, the cost of and time taken collecting income and expenditure data had to be balanced with other needs of the study and thus these data were not included in the common core. In the case of Peru, however, both these measures of poverty were used since the advisory panel strongly suggested that at least one of the poverty measures constructed in YL should be comparable with income- or expenditure-based poverty figures used in official statistics. Peru-specific questions allowed us to construct an income-based poverty measure. It is expected that comparison between this and the asset-based wealth index will allow us to validate the former as a structural measure of poverty, or adjust it if necessary. Furthermore, Peru's additional module on income will allow us to review whether short-term fluctuations, or shocks that households may have in the future, will be better captured by the income rather than the wealth measure.

Finally, the Peruvian country-specific module included a detailed record of school-related expenditure in order to evaluate how shocks may affect the quality of schooling, proxied by expenditure on school inputs. In a paper developed under the YL project, Escobal, Saavedra and Suarez (2003) have shown, using secondary data, that there is no evidence that short-term negative shocks lead to additional reduction in educational coverage. In this sense, shocks will have no clear effect on repetition or school dropout. However, it was found that in both urban and rural areas, shocks may reduce effective accumulation of human capital, as expenditure on education is clearly reduced when income or expenditures fall or when the head of household loses his/her job. Gathering detailed data on schooling expenditure may allow us to further analyse this hypothesis.

As can be seen from the above, there is a wealth of information being collected by the YL project which will yield important analytical work over the next months of the study, while preparing for the next phase of the survey work.

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40 The major dimensions of poverty to be measured in the YL study are: (1) adequacy of livelihoods; (2) social indicators (health and education); (3) other child welfare indicators (including work, leisure and play) and indicators of quality of child's environment (housing, infrastructure, access to clean water, sanitation); (4) quality of social life (contact time with carer, feeling of closeness to family/friends, extent to which they can rely on others for help); and (5) dignity/autonomy, including mental health and participation.

3. Results: the one-year-olds survey

3.1 General characteristics of the index children, their caregivers and their households

Boxes 2, 3 and 4 show the main characteristics of the caregivers, their households and the index children.

BOX 2: GENERAL CHARACTERISTICS OF THE CAREGIVERS (N=2,052)

- 12% aged 19 or under, 54% aged 20-29, 34% aged 30 or over
- 2% males
- 14% have no partner, 2% have a partner outside of the household
- 8% were never schooled, 38% completed primary, 45% completed secondary,
- 8% completed higher level. 2% of urban caretakers and 19% of rural ones had no schooling while the rates diminished from 18% to <1% from the poorest to the better-off wealth groups
- 72% literate in Spanish. Literacy in Spanish varied from 87% in urban caretakers to 43% in rural ones, and from 47% in the poorest group to 96% in the better-off group
- 91% fluent in Spanish. Fluency varied from 99% in urban caretakers to 72% in rural ones, and from 80% in the poorest group to 100% in the better-off group
- 80% Catholic, 11% Evangelical
- 92% Mestizo, 5% white.

BOX 3: GENERAL CHARACTERISTICS OF THE HOUSEHOLDS OF THE CAREGIVERS (N=2,052)

- 50 % of households headed by females
- Household size: 54% had 2-5 people, 42% had 6-10 people, 4% had more than 10 people
- 38% more male than female members, 41% more females than males, 20% equal number of each sex.
- 1% of heads of household did not complete primary school
- In households where the index child had older live-born siblings, 17% of households reported a child death (<5 years old) among these older siblings

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BOX 4: GENERAL CHARACTERISTICS OF THE ONE-YEAR-OLDS (N=2,052)

- 50% male, 50 % female
- 66% urban, 34% rural
- 26% poorest, 21% very poor, 32% less poor, 20% better-off.
- 97% cared for by biological mother
- 83% live with both parents
- 99% see their mother daily
- 82% see their father daily
- 36% are an only child

3.2. Nutritional status

Nutritional status, as measured by anthropometry, is one of the two 'outcome variables' used for YL one-year-olds – the other is physical health. Table 8 presents three key indicators of nutritional status by location and wealth. Overall, this group of children shows a 'moderate' level of stunting (25 per cent), a 'low' level of wasting (2 per cent) and a 'moderate' degree of underweight (10 per cent), as categorised by the WHO (1995).

TABLE 8: ANTHROPOMETRIC STATUS OF ONE-YEAR-OLDS BY LOCATION AND WEALTH INDEX

	Total (N=2002)	%	Urban % (N=1319)	Rural % (N=678)	Poorest % (N=525)	Very poor % (N=424)	Less poor % (N=648)	Better-off % (N=404)
Stunting (Z score height for age < -2)	501	25	18	39	38	34	16	12
Wasting (Z score weight for height < -2)	41	2	2	3	3	2	2	1
Underweight (Z score weight for age < -2)	214	10	7	18	17	17	6	3

Striking differences exist according to the location and wealth index for stunting and underweight, with rural children and those in the lower wealth groups faring worst, although there is little distinction in rates between the poorest and the very poor groups. Wasting rates are low in all groups however. These rates are comparable to those found in the latest national Demographic and Health Survey (INEI, 2001b). Table 9 shows the DHS anthropometry results by age of index child for comparison with the YL data.

TABLE 9: DHS ANTHROPOMETRY RESULTS BY AGE GROUP, PERU 2000

	6-9 MONTHS	10-11 MONTHS	12-15 MONTHS	16-23 MONTHS
Height-for-age <-2 Z scores	10%	13%	22%	31%
Weight-for-height <-2 Z scores	1%	2%	2%	1%
Weight-for-age <-2 Z scores	4%	7%	12%	10.0%

3.3. Physical health

Table 10 shows various health conditions of the index child. Fourteen per cent of caregivers considered their children to have worse health status than other children and there is some indication that this was more likely to be reported by mothers in rural areas and those with a lower wealth index. A sizeable 21 per cent reported their children as having long-term health problems and almost one-third said their child had experienced an illness or accident so severe they thought the child might die. Treatment for

these severe illnesses was sought in most cases. When asked specifically about accidents such as burns and falls, 15 per cent answered in the affirmative. One-fifth of children were reported to have had an illness during the last 24 hours. For all indicators except comparative health status, there was little variation by socio-economic group or rural/urban areas. This was in contrast to the differences noted in anthropometric status, differences that will be explored in further analyses.

TABLE 10: PHYSICAL HEALTH OF ONE-YEAR-OLDS BY LOCATION AND WEALTH INDEX

	Total (N=2052)	%	Urban % (N=1357)	Rural % (N=690)	Poorest % (N=537)	Very poor % (N=429)	Less poor % (N=662)	Better off % (N=421)
Health compared to others								
Same	940	46	50	39	41	41	51	52
Better	811	40	38	44	42	44	37	39
Worse	274	14	12	17	18	16	12	9
Considered child to have a long-term health problem	422	21	20	21	22	26	18	18
Occurrence of life-threatening illness *(Sought treatment for it)*	633 (571)	31 (90)	30 (93)	32 (85)	33 (88)	33 (85)	30 (94)	26 (92)
Occurrence of severe injury/accident	306	15	15	14	16	13	16	14
Illness in last 24 hours*	425	21	20	22	22	21	22	17

* illness = any of the following: vomiting, convulsions, loss of consciousness, major loss of appetite, high fever, three or more loose stools with fever or blood, cough with rapid breathing

3.4 Perinatal health and immunisation

Conditions before and at birth can have a significant effect on the development of children. Attendance at antenatal care was universally high, even in rural areas, and 80 per cent of women who had attended had received an anti-tetanus injection (Table 11). Almost one-third of these births took place at home and a quarter were not attended by medically trained personnel. The proportions differed considerably across location and wealth groups, with rural women and those from the poorest groups being more likely to deliver at home and in the absence of trained personnel.

TABLE 11: ANTENATAL CARE, PLACE OF BIRTH, ASSISTANCE AT DELIVERY AND BIRTH WEIGHT OF ONE-YEAR-OLDS, BY LOCATION AND WEALTH INDEX

	Total (N=2037)	%	Urban % (N=1346)	Rural % (N=687)	Poorest % (N=534)	Very poor % (N=428)	Less poor % (N=656)	Better off % (N=417)
Any antenatal care	1888	93	93	92	89	90	95	97
Received tetanus injection (of those with antenatal care)	1504	80	78	84	82	80	80	79
Delivered at								
Home	644	32	18	58	59	44	17	6
Hospital	930	46	60	17	19	29	59	74
Health centre	433	21	20	22	20	24	23	17
Medically trained person attended delivery	1536	75	87	52	50	67	88	95
Low birth weight baby (<2500g) N=1748	104	5	6	6	7	6	5	6

These rates of prenatal and delivery care were higher than those reported for circa 1999 by PAHO (2002) but confirm the findings of substantial differences between wealth groups. The latest Demographic and Health Survey (INEI, 2001b) showed the same attendance rate in urban areas but lower rates in rural areas (73 per cent). This difference might be explained by the DHS sampling some of the more inaccessible areas which, due to resource constraints, YL was unable to access (see also section 3.7). Information on birth weight was available for 1,748 (85 per cent) of children, and in 1,189 (68 per cent) of these cases the interviewer was able to verify the weight from documentation. Six per cent of children were reported to have been born with low birth weight (<2500g) – with no differences between location or wealth group – a similar rate to that reported by the 2000 national DHS in Peru. It must be borne in mind that these children represent those who survived to at least six months of age and thus the low birth weight prevalence is likely to be lower in our index children than among newborns. Nevertheless, future rounds of the YL study will provide the opportunity to study longer-term effects of birth weight and other early life variables on outcomes at later ages.

Regarding the reproductive history of the biological mother of the index child, 21 per cent reported having had a miscarriage in the past, and this was more frequent in urban and better-off households (Table 12). The proportion of mothers who wanted to have a child of a different sex from that of the index child was similar (about 40 per cent) for both sexes. More women in urban areas (40 per cent) and better-off households (43 per cent) compared to rural areas (28 per cent) and poorest households (28 per cent) wanted to have more children.

TABLE 12: BIOLOGICAL MOTHER'S REPRODUCTIVE HISTORY AND PREFERENCES BY LOCATION AND WEALTH INDEX

	Total N=2021	%	Urban % (N=1338)	Rural % (N=683)	Poorest % (N=529)	Very poor % (N=424)	Less poor % (N=654)	Better off % (N=414)
Mother had a miscarriage	429	21	25	14	15	16	24	30
Mother wanted a girl	765	38	38	37	37	37	40	36
Mother wanted a boy	799	40	40	39	42	38	39	39
Mother wants to have more children	758	38	40	28	28	32	42	43

TABLE 13: BCG AND MEASLES IMMUNISATION STATUS OF CHILDREN OVER ONE YEAR OLD BY LOCATION AND WEALTH INDEX

VACCINE	Total N=1007	%	Urban % (N=658)	Rural % (N=347)	Poorest % (N=260)	Very poor % (N=217)	Less poor % (N=327)	Better off % (N=20)
BCG	985	98	98	98	98	98	97	99
Measles	666	66	67	65	60	71	65	70
Both BCG and Measles	657	64	66	64	59	70	64	70

The BCG vaccine coverage was quite high, being similar in urban and rural areas and across wealth groups (Table 13). Measles vaccine coverage was moderate however, in contrast with the over 80 per cent coverage reported by the DHS and other official reports. The official immunisation calendar in Peru schedules BCG immunisation at birth and the measles vaccine at 12 months, so we also looked for measles coverage among index children aged 14 months and above, with similar results. For most of 2002, the MoH in Peru reduced the level of purchasing of a series of supplies, including vaccines, for political reasons, which resulted in an unprecedented return to the Peruvian central bank of 20 per cent of the central funds allocated to the ministry. Anecdotal reports by MoH officials mentioned that immunisation coverage dropped to 60 per cent. Given this situation, towards the end of 2002 the MoH launched a very aggressive immunisation campaign to improve immunisation coverage. Most index children, however, were surveyed before these efforts took place, explaining the low level of measles immunisation observed.

There were no differences in coverage between urban and rural areas or between wealth groups.

3.5 Caregiver mental health and alcoholism

Caregiver's mental health was measured by the WHO recommended 'Self-reporting questionnaire – 20 items' (SRQ20) (Harpham, Reinchenheim, Oser, et al, 2003). This consists of 20 yes/no questions that measure depression and anxiety. It has been used previously in Peru but not validated; however it has been validated in several countries in the region by comparing it to in-depth psychiatric interviews, and in these situations a cut-off point of eight or more 'yes' answers was defined as a probable case of mental ill health. The same cut-off point was used for the analyses presented here.

TABLE 14: CAREGIVER'S MENTAL ILL HEALTH BY LOCATION AND WEALTH INDEX

	Total (N=2053)	%	Urban % (N=1357)	Rural % (N=690)	Poorest % (N=537)	Very poor % (N=429)	Less poor % (N=662)	Better off % (N=421)
Possible case of mental ill health	625	30	30	32	31	33	33	23

Table 14 shows that caregiver mental ill health was found in 30 per cent of the respondents. There were no great differences by location or wealth although there was some suggestion that the better-off group had a lower rate. This prevalence is comparable to rates found for poor women in a range of developing countries, including urban and peri-urban areas in Brazil. To our knowledge, this is the first time maternal mental health has been measured in a widespread community-based survey in Peru. Studies in other countries have shown that maternal mental health is positively associated with child well-being. The YL study will be able to investigate whether this is true in Peru and to identify the determinants of maternal mental health in order to inform mental health policy.

According to WHO, 64 per cent of the countries of the Americas have specific mental health policies and 80 per cent have mental health programmes (Health in the Americas, 2002). However, despite the importance of such policies and programmes for the global burden of disease, and their influence on society's development and productivity, resource allocation to mental health is low. Strengthening of an evidence base is an important component if this resource allocation is to improve and YL should be well positioned to contribute through the data collected on both adults and children.

One area related to mental health is alcoholism and associated domestic violence. In 25 per cent of households the child's caretaker reported that their partner drank alcohol at least once a week, with a similar rate between urban and rural households, but significant differences between the poorest (30 per cent) and better-off households (18 per cent) (Table 15). In the great majority (85 per cent) of households where the partner drinks, the caretaker reported that the partner got drunk and in a third of them (28 per cent) they reported that they were beaten by their partners when they were drunk.

TABLE 15: ALCOHOLISM AND VIOLENCE IN HOUSEHOLDS BY LOCATION AND WEALTH INDEX

	Total (N=1736)	%	Urban % (N=1158)	Rural % (N=577)	Poorest % (N=447)	Very poor % (N=363)	Less poor % (N=559)	Better off % (N=366)
Caregiver's partner drinks alcohol at least once a week	438	25	25	25	30	28	24	18
Caregiver's partner drinks alcohol at least once a week and gets drunk	373	21	21	22	27	25	19	15
Caregiver's partner hits her when drunk	123	7	7	8	9	11	6	2

3.6 Childcare

About one-fifth of children were cared for by individuals not in the household and this was more common among urban children and those from wealthier households (Table 16). Two per cent of children had been left alone or only with other young children for at least half a day a week in the last six months.

TABLE 16: CHILDCARE AND SLEEPING PLACE BY LOCATION AND WEALTH INDEX

	Total (N=2051)	%	Urban % (N=1356)	Rural % (N=690)	Poorest % (N=537)	Very poor % (N=429)	Less poor % (N=662)	Better off % (N=421)
Cared for by individuals not in the household, excluding institutional childcare	437	21	25	14	16	16	23	30
Been left alone (with nobody over the age of five) for at least half a day a week in the last six months	48	2	2	3	3	3	2	1
Child sleeps alone in bed	135	7	9	2	2	3	7	15

A related childcare variable was whether index children were sleeping in their own bed or in a bed shared with other family members, usually the parents. Only 7 per cent of one-year-olds slept in their own bed, a proportion that ranged from 2 per cent in the poorest households to 15 per cent in better-off households (Table 16).

3.7 Housing

Two-thirds of households had electricity; however only 24 per cent of rural households had access compared to 86 per cent of urban households (Table 17). Very few of the poorest socio-economic group had electricity (9 per cent) compared to all but one household in the wealthiest group. Less than 10 per cent of households used water from unprotected sources, but this was more frequent among rural (16 per cent) and the poorest (23 per cent) households. Toilet facilities also varied by area and wealth group, so that while overall 70 per cent of households used a flush toilet/septic tank or had their own pit latrine, this figure was 82 per cent for urban and 47 per cent for rural households. The percentage varied from 26 per cent in the poorest group to 99 per cent in the better-off group. Housing structure also varied according to location and wealth index. However, it must be borne in mind that all these variables contribute to the construction of the wealth index and thus some correlation is to be expected.

The latest Demographic and Health Survey (INEI, 2001b) provides useful comparative data to strengthen the face validity of the YL data. The DHS data show that in 2000, 92 per cent of urban households had electricity (rural, 29 per cent), 78 per cent had piped water in the dwelling/yard/plot (rural, 35 per cent), 68 per cent had a private flush toilet in the home (rural, 6 per cent) and 53 per cent had a cement or brick floor (rural, 12 per cent). Rural areas in the YL study show better access to piped water than rural areas in the DHS study; however, access to electricity and flush toilets were similar.

TABLE 17: HOUSING CHARACTERISTICS BY LOCATION AND WEALTH INDEX

	Total (N=2049)	%	Urban % (N=1354)	Rural % (N=690)	Poorest % (N=537)	Very poor % (N=429)	Less poor % (N=662)	Better off % (N=421)
Electricity	1336	65	86	24	9	56	95	>99
Source of drinking water								
Piped into dwelling/yard/plot	1577	77	84	64	41	82	89	99
Tube-well in dwelling	56	3	1	6	6	4	1	0
Public standpipe/tube-well	69	3	2	6	9	2	1	<1
Unprotected well/spring/ pond/river/stream	157	8	4	16	23	5	2	0
Water tanker/street seller	5	<1	<1	0	<1	<1	<1	<1
Other	185	9	9	10	21	6	6	<1
Toilet facility								
Flush toilet/septic tank	903	44	64	6	4	14	63	95
Pit latrine (household's)	524	26	18	41	22	51	26	4
Pit latrine (communal)	25	1	1	2	3	1	1	<1
None	356	17	10	32	48	17	4	<1
River/canal/ditch	18	1	<1	2	3	1	0	0
Other	223	11	8	17	20	16	7	0
Floor material								
Earth	1237	60	44	92	98	92	46	3
Wood	34	2	2	1	1	2	3	<1
Stone/brick	12	1	1	<1	<1	0	1	<1
Cement/tile	752	37	52	6	1	5	49	96
Laminated material	3	<1	<1	0	0	0	0	1
Other	11	<1	1	<1	0	1	1	0
Roofing material								
Straw/thatch	218	11	8	16	22	8	9	1
Earth/mud	10	<1	1	<1	<1	<1	1	<1
Wood/planks	52	3	3	1	2	2	5	1
Galvanised iron	827	40	39	43	34	56	48	21
Concrete/cement	430	21	31	1	0	1	18	73
Tiles/slates	234	11	2	22	15	21	8	1
Other	278	14	12	17	27	12	10	2
Wall material								
Brick/concrete	643	32	47	4	0	2	38	92
Adobe/earth	821	42	30	65	62	58	39	5
Wood/branches	139	7	4	14	7	13	7	<1
Galvanised iron	2	<1	<1	<1	0	<1	<1	0
Matting	25	1	2	<1	2	2	2	0
Quincha (rushes and mud)	16	1	<1	2	2	1	<1	0
Stone and mud	83	4	3	6	7	9	2	0
Other	251	13	14	9	19	16	12	2

3.8 Livelihoods, diversification, debts, shocks and coping strategies

Several studies in Peru and elsewhere have shown that opportunities for diversification in economic activity increase with the household's asset base (Reardon et al, 2001). Consistent with this evidence, the data collected by YL show that the poorest households have fewer income-earning options. Just 43 per cent of the poorest households were able to obtain their income from an activity in more than one economic sector, while 65 per cent of those who were better off obtained their income from activities in more than one economic sector (Table 18).

TABLE 18: DIVERSIFICATION OF ECONOMIC ACTIVITY BY LOCATION AND WEALTH INDEX

	Total (N=2037)	%	Urban % (N=1883)	Rural % (N=1089)	Poorest % (N=535)	Very poor % (N=428)	Less poor % (N=655)	Better off % (N=419)
Activities in one sector	935	46	28	37	57	52	40	35
Activities in more than one sector	1102	54	72	63	43	48	60	65

As expected, economic activity in rural areas was concentrated in agriculture, hunting, forestry and fishing activities (Table 19). Only a few of those living in rural areas were able to diversify their income sources away from these activities and towards manufacturing (mostly handicraft) or trade-related activities.

TABLE 19: HOUSEHOLD'S TYPES OF ECONOMIC ACTIVITY BY LOCATION AND WEALTH INDEX

	Total (N=2045)	%	Urban % (N=1355)	Rural % (N=690)	Poorest % (N=535)	Very poor % (N=428)	Less poor % (N=662)	Better off % (N=420)
Agriculture, hunting, forestry & fishing	1132	55	35	95	94	83	32	14
Mining & quarrying	54	3	3	3	2	4	2	3
Manufacturing	416	20	23	15	17	14	23	26
Electricity, gas & water	8	0	0	0	0	0	1	0
Construction	260	13	16	6	7	10	17	15
Wholesale & retail trade	718	35	45	16	17	22	46	54
Transport, storage & communications	308	15	21	4	1	7	24	26
Finance, insurance, real estate & business services	71	3	5	0	0	1	3	11
Community, social & personal services	557	27	35	12	11	20	33	45
Not specified	78	4	4	3	4	2	3	7
Household had no activities	8	0	1	0	0	0	1	0

It is very likely that diversification of economic activities can help to protect poor households against negative shocks. However, the exact mechanisms through which diversification affects livelihoods is an area of research that is fairly underdeveloped. YL has gathered extensive information about the types of shock that households face and the strategies they may develop to cope with those shocks.

We found that 39 per cent of households mentioned at least one event that had decreased their economic welfare during the last three years, with a slightly lower percentage in the rural area (Table 20). It is interesting to note that the most common shock faced was the loss of a job or source of income, which is consistent with the macroeconomic downturn that has Peru faced during recent years. During the last three years GDP per capita has showed almost no growth, compared with an average growth rate of 2.2 per cent during the last decade. In general, there is no clear pattern of shocks across the wealth groups. Another common shock faced by these households is that of severe illness or injury, which was experienced by 8 per cent of the sample.

TABLE 20: TYPES OF SHOCK BY LOCATION AND WEALTH INDEX

	Total (N=2043)	%	Urban % (N=1353)	Rural % (N=690)	Poorest % (N=535)	Very poor % (N=428)	Less poor % (N=660)	Better off % (N=420)
Number of shocks								
None	1246	61	59	64	65	61	56	64
1 to 5	797	39	41	36	35	39	44	36
Type of shock **Natural disaster**	1	0	0	0	0	0	0	0
Decrease in food availability	51	2	3	1	2	3	3	2
Livestock died or stolen	26	1	1	3	2	2	0	0
Crops failed or stolen	38	2	1	4	4	3	1	0
Death/reduction in household members	22	1	1	1	0	1	1	1
Loss of job/source of income/family enterprise	246	12	14	9	11	9	13	15
Severe illness or injury	162	8	8	7	6	10	9	6
Victim of crime	12	1	1	0	1	1	1	0
Divorce or separation	63	3	4	2	2	2	5	3
Birth/new household member	118	6	7	4	3	5	8	7
Paying for child's education	6	0	0	0	0	0	0	0
Moved, migrated or fled	22	1	1	1	1	1	1	0
Other	229	11	11	12	10	13	13	8

Note: This table reflects responses to a question about events that changed the household's economic welfare, thus these rates are not the frequency of such events occurring overall.

Focusing analysis on the most common shocks faced by the household during the last two years, again the loss of a job and the occurrence of an illness or injury appear most frequently as the shocks that affected the household economic welfare of this sample (Table 21). In this case, however, shock related to the loss of a job was much more concentrated in urban households and in those who were better off in terms of their household's asset base. This may just reflect the nature of the Peruvian labour market

in which wage employment is highly concentrated in better-off households, while non-wage agricultural-related income sources are concentrated among the poorest, especially those living in rural areas.

TABLE 21: MOST COMMON SHOCKS BY LOCATION AND WEALTH INDEX

	Total (N=770)	%	Urban % (N=545)	Rural % (N=225)	Poorest % (N=173)	Very poor % (N=153)	Less poor % (N=288)	Better off % (N=156)
Natural disaster	3	0	0	0	1	0	1	0
Decrease in food availability	29	4	4	4	4	5	4	3
Livestock died or stolen	17	2	1	5	5	3	1	1
Crops failed or stolen	29	4	2	8	8	7	1	1
Death/reduction in household members	17	2	2	3	2	4	2	1
Loss of job/source of income/family enterprise	220	29	31	23	28	20	27	40
Severe illness or injury	128	17	17	16	16	20	17	13
Victim of crime	9	1	1	1	1	1	1	1
Divorce or separation	50	6	7	5	4	7	8	6
Birth/new household member	97	13	14	10	9	9	15	16
Paying for child's education	1	0	0	0	0	0	0	1
Moved, migrated or fled	9	1	1	2	2	1	1	1
Other	161	21	20	24	21	24	22	16

Responses to the main shock faced by these households were spread across a wide range of coping strategies. The most common responses were starting to search, or increasing efforts to search, for an additional income source (31 per cent), receiving transfers from relatives or friends (23 per cent) or even eating less (17 per cent) (Table 22). It is important to note the low response that taking children out of school had as a possible coping strategy. This is consistent with results from the analysis of secondary data reported by this YL project (Escobal, Saavedra and Suarez, 2003). As expected, other coping strategies like use of savings and buying less were more likely to be used by those who were better off, while eating less or selling things (including livestock) were more common strategies in those who were very poor.

TABLE 22: TYPE OF RESPONSE TO MOST COMMON SHOCKS BY LOCATION AND WEALTH INDEX

	Total (N=786)	%	Urban % (N=553)	Rural % (N=233)	Poorest % (N=181)	Very poor % (N=157)	Less poor % (N=293)	Better off % (N=155)
Nothing	65	8	8	9	8	6	8	11
Sold things	25	3	3	5	4	5	4	0
Used savings	74	9	11	6	7	6	11	12
Used credit	13	2	2	1	1	3	2	1
Ate less	136	17	16	22	17	25	15	14
Bought less	54	7	8	5	4	8	7	10
Worked more/started work	247	31	32	30	29	31	33	31
Took children out of school	10	1	1	2	2	0	2	1
Sent children to work	4	1	1	<1	0	1	1	0
Fled/moved away from problem	3	<1	1	0	0	0	1	1
Migrated to work/to find work	18	2	2	2	3	1	3	2
Received help from relatives/friends	182	23	26	16	23	21	25	23
Received help from government/NGO	6	1	1	1	1	3	<1	0
Insurance paid	7	1	1	<1	1	0	<1	3
Other	152	19	17	24	24	19	17	17

The proportion of households in urban areas having serious debts was 44 per cent – higher than in rural areas (29 per cent) (Table 23). Also, serious debt was more prevalent in wealthier households than in poorer ones (30 per cent, rising to 48 per cent). Among those who reported having large debts, perception of ability to repay on time did not vary between groups.

TABLE 23: HOUSEHOLD DEBT AND ABILITY TO REPAY BY LOCATION AND WEALTH INDEX

	Total (N=2047)	%	Urban % (N=1352)	Rural % (N=690)	Poorest % (N=537)	Very poor % (N=429)	Less poor % (N=660)	Better off % (N=420)
Serious debt	795	39	44	29	30	34	43	48
Can repay on time	695	87	86	93	88	87	88	87

3.9 Social capital

Social capital is usually connected to the ability of individuals to construct networks that can be used to exchange information and ideas, improve co-ordination and co-operation, and manage risk and cope with uncertainty. Structural social capital is connectedness, or networks, and is measured here by the caregiver's activity in informal and formal groups in her/his community. It is measured in an absolute sense (number of groups) and in a relative sense (number of groups participated in as compared to actual number of groups/organisations present in community, as measured in the community questionnaire). Cognitive social capital is how people feel (subjectively) about trust, reciprocity and sense of belonging in their community.

Overall 78 per cent of caregivers were not active members of any community group (absolute structure social capital = 0) (Table 24). However, there seems to be a slight negative correlation between structural social capital and asset base. In addition, it appears that rural dwellers have a larger stock of structural social capital. This may be so because rural dwellers and the poor tend to have more safety net organisations. This pattern may appear because structural social capital might be adding up different sources of social capital. One source is related to what is called 'bonding', which is associated typically with survival strategies; another is related to what is called 'bridging', which is associated with connections that allow social and economic mobility; and finally, there is a type of social capital that is related to what is called 'linking', concerning connections to people in positions of power, which may be used to leverage resources (Adler and Kwon, 2002).

It is interesting to note that 70 per cent of the caregivers have received social support in the last year, and almost all the caregivers had some trust in community people as well as feeling that they were really a part of their community (high cognitive social capital) (Table 24). However, it is not common for them to work together to address a problem or common issue, as non-citizenship is common in 80 per cent of all caregivers. This cognitive social capital is similar in rural and urban areas, as well as across socio-economic groups. However social support does appear to increase with increasing wealth index.

TABLE 24: DIMENSIONS OF SOCIAL CAPITAL OF CAREGIVER BY LOCATION AND WEALTH INDEX

	Total (N=2028)	%	Urban % (N=1343)	Rural % (N=685)	Poorest % (N=532)	Very poor % (N=426)	Less poor % (N=658)	Better off % (N=412)
ABSOLUTE STRUCTURAL SOCIAL CAPITAL								
None	1572	78	79	75	74	78	78	81
Medium	429	21	20	24	24	21	20	18
High	27	1	1	1	2	1	2	1
RELATIVE STRUCTURAL SOCIAL CAPITAL								
None	1574	78	79	75	74	79	78	81
Medium	332	16	18	13	15	14	19	17
High	122	6	3	12	11	8	3	3
SOCIAL SUPPORT								
None	607	30	25	39	38	37	26	19
Medium	1281	63	68	55	55	57	68	72
High	140	7	7	6	7	6	6	9
COGNITIVE SOCIAL CAPITAL								
None	81	4	4	4	3	4	5	5
Medium	1081	53	55	49	46	46	60	58
High	866	43	40	47	51	50	35	37
CITIZENSHIP								
None	1631	80	84	73	73	74	85	88
Some	397	20	16	27	27	26	15	12

3.10. Household hygiene

Studies in peri-urban Lima have demonstrated that Peru has one of the highest rates of diarrhoeal diseases in children. Even though mortality due to diarrhoea has decreased substantially due to appropriate case management, diarrhoea incidence has stayed the same. The promotion of hygienic practices, particularly that of handwashing, has been identified as a key hygiene behaviour to be promoted to reduce diarrhoea incidence in Peru in a large World Bank/USAID-supported project. The YL project has included hygiene-specific questions to contribute to such promotion and evaluation of the changes over time for when this programme will be introduced in the country. The prevalence of soap in the households of index children was high (99 per cent), even in rural areas, as confirmed by fieldworkers documenting its presence, although its use for handwashing purposes was less frequent in rural and poorest households than in better-off households (Table 25). Soap was more prevalent than detergent. Fieldworkers also noted the hygienic condition of the household and whether faeces were present in the household areas they could see.

TABLE 25: PREVALENCE OF SOAP AND DETERGENTS, AS OBSERVED BY FIELDWORKERS, IN HOUSEHOLDS BY LOCATION AND WEALTH INDEX

	Total (N=2049)	%	Urban % (N=1354)	Rural % (N=690)	Poorest % (N=537)	Very poor % (N=429)	Less poor % (N=662)	Better off % (N=421)
Use of soap in the household								
Yes, only for handwashing	190	9	11	6	6	8	10	14
No	34	2	2	2	2	1	3	<1
Yes, only for washing clothes	731	36	26	56	58	52	22	12
Yes, handwashing and washing clothes	1092	53	62	36	35	40	65	73
Use of detergent								
Always, only for clothes	983	48	53	39	34	42	56	61
No	240	12	6	22	24	14	6	3
For clothes & handwashing:								
• *Always*	581	28	31	24	25	29	30	28
• *Occasionally*	134	6	6	8	9	7	5	6
• *Rarely*	63	3	2	5	5	5	2	<1
Other	43	2	2	3	4	3	1	1

3.11 Food aid programmes

Two-thirds of households reported that they had received food aid; this was more common in rural areas and among poorer households (Table 26). The main donors were the official Vaso de Leche ('glass of milk') programme and, in rural areas, the MoH. In almost all cases the index child had received some of this food.

TABLE 26: PROPORTION OF HOUSEHOLDS OF INDEX CHILDREN RECEIVING FOOD AID BY LOCATION AND WEALTH INDEX

	Total (N=2037)	%	Urban % (N=400)	Rural % (N=1600)	Poorest % (N=446)	Very poor % (N=753)	Less poor % (N=610)	Better off % (N=191)
Received food aid	1332	65	52	91	86	83	56	33

4. Results: the eight-year-olds survey

4.1. Nutritional status

The prevalence of stunting was high at 26 per cent, being twice as prevalent among rural children as urban children and more than three times higher among the poorest compared to the better off (Table 27). Wasting and underweight prevalence rates were low and thus trends across wealth and location groups cannot be ascertained. There is growing concern at rising global overweight trends. For a preliminary look at this, the Body Mass Index (BMI –weight in kg/height in cm squared) was computed and compared to CDC growth charts based on US children. The proportion above the 95th percentile (20 for boys and 20.6 for girls aged eight) was computed, which showed 5 per cent of children in this study could be considered as obese; this was twice as common in urban as in rural areas. A trend across wealth groups was not seen but numbers were small. Anthropometric measurements have also been obtained from the biological mothers of the one-year-olds and eight-year-olds in Peru, including arm circumference and triceps skinfold thickness, which will be used in further analyses to study the relationship between maternal overweight and childhood obesity.

TABLE 27: NUTRITIONAL STATUS OF EIGHT-YEAR-OLDS BY LOCATION AND WEALTH INDEX

	Total (N=700)	%	Urban % (N=515)	Rural % (N=185)	Poorest % (N=125)	Very poor % (N=153)	Less poor % (N=250)	Better off % (N=172)
Stunting (Z score height for age < -2)	180	26	20	41	45	34	20	13
Wasting (Z score weight for height < -2)	4	1	<1	1	0	1	<1	1
Underweight (Z score weight for age < -2)	20	3	2	4	4	4	3	1
Obese (BMI>95th percentile CDC)	36	5	6	3	6	2	6	7

4.2 Physical health

Approximately 11 per cent of caregivers perceived their eight-year-old children's health status as worse than that of other children, and this was more frequently reported by rural caregivers and those in the poorer wealth groups (Table 28). Long-term health problems were reported by 17 per cent, many of whom said their child had asthma or another serious respiratory problem. Twenty-four per cent of caregivers considered that their child had had a life-threatening illness or accident in the last three years, for which treatment was sought in most cases. Nearly half of children had had severe toothache in the last year, and 41 per cent were reported to have been ill in the last two weeks (mostly 'flu', tummy ache/diarrhoea). These prevalence rates did not differ by location and socio-economic conditions. Further coding of the data will be done to look at the specific illnesses in more depth but there is a consistent pattern of asthma and other respiratory problems playing a significant role in the health of eight-year-olds.

TABLE 28: PHYSICAL HEALTH OF EIGHT-YEAR-OLDS BY LOCATION AND WEALTH INDEX

	Total (N=714)	%	Urban % (N=529)	Rural % (N=185)	Poorest % (N=125)	Very poor % (N=158)	Less poor % (N=254)	Better off % (N=177)
Health compared to others								
Same	408	57	60	48	41	56	61	64
Better	230	32	31	35	42	27	32	30
Worse	75	11	8	17	17	17	7	6
Long-term health problem	122	17	18	16	16	20	16	17
Occurrence of life-threatening illness in last three years	170	24	22	29	26	27	24	20
(Sought treatment for it)	(148)	(87)	(87)	(87)	(88)	(77)	(92)	(91)
Occurrence of severe toothache in last year	311	44	44	43	40	48	44	42
Illness in last two weeks	294	41	42	40	44	44	41	37

4.3 Schooling

Almost all eight-year-olds attended school (99 per cent). Children readily offered their views on things they like and dislike about school, although it appears that rural children and those from the poorer groups were more likely to reply "nothing" about their dislikes, probably indicating their difficulties of expressing their views more freely in an interview. More detailed coding of responses is required but teachers or pupils beating the child emerges as a common theme expressed by children regarding what they don't like about school, endorsing the results of the YL preliminary study carried out in some regions in Peru. This is similar across location and socio-economic status. The positive responses about school seemed similar in urban and rural areas and across wealth groups, with the most frequent response being "learning/studying".

When questioned about the main activity that the child does for fun, playing with friends was the most common option (72 per cent); however this was more frequent among rural children (84 per cent) than among urban children (68 per cent). It also varied from 85 per cent in the poorest group to 60 per cent in the better-off group. Conversely, parents reporting watching TV as their child's main activity for fun was more common among urban than rural children (10 per cent vs. 2 per cent), and in the wealthier groups (1 per cent in the poorest to 14 per cent in the better-off).

4.4 Child work

Thirteen per cent of caregivers reported that the child had worked for payment, and this was more common among rural (23 per cent) than among urban children (10 per cent), and decreased from 24 per cent in the poorest group to 6 per cent in the better-off group (Table 29). This did not include non-remunerated labour, usually done at home or in the family business. The reasons reported by caregivers for why the children worked were similar in all groups, although all seven cases of bonded labour were in the poorest or very poor households. When questions were asked directly to the child, almost all those who reported working said they liked it (96 per cent). However, almost a third who

had worked reported that they had had to miss school on at least one occasion because they were working, and this was more common among rural children (40 per cent) than urban children (24 per cent). Of particular note is that 14 per cent of these working children were reported to have been hurt while working – the injuries sustained were mostly cuts, burns and fractures.

TABLE 29: MAIN CHARACTERISTICS OF SALARIED CHILD WORK*

		No.	%
Has child ever worked for money or goods?	Yes	96	13
	No	720	87
Group total		816	100
Main reason for working	Supplement household income	35	36
	Generate own income	4	4
	Gain experience	7	7
	They like to work	23	24
	Keep them out of trouble	9	9
	Bonded labour	7	7
	Other	5	5
Group total		90	100
Has child been seriously hurt while working?	Yes	13	14
	No	77	86

* does not include non-remunerated work, for example, in the house or farm

4. 5 Child's mental health

Child mental health was measured by the Strengths and Difficulties Questionnaire (SDQ) which consists of 25 questions put to the caregiver about the child's emotional symptoms, behaviour problems, hyperactivity, interaction with peers and general social interaction. This instrument has been validated in several developing countries, but not in Peru. Preliminary analyses of these data have shown that further work is required to validate the classification scores and the general validity of the instrument for Peruvian children, and reporting of these results will be made at a later stage.

4.6 Child's perceptions

A child-centred outcome measure of YL is the child's own perception of their quality of life. Several different indicators were measured and some of the key ones are presented here; other indicators require more specific coding prior to analysis. Many children perceived the water and the air in their area as good or average, however 96 per cent reported that the amount of rubbish in their area was bad (Table 30). Almost a third of children considered that their area was unsafe for children and this was more common among urban than rural children and among the wealthier groups. Most children considered that they got enough food to eat.

TABLE 30: CHILD'S PERCEPTION OF WELL-BEING BY LOCATION AND WEALTH INDEX

	Total	%	Urban %	Rural %	Poorest %	Very poor %	Less poor %	Better off %
Is the water people drink around here (N=673) *Good*	445	66	65	70	67	78	67	62
Bad	73	11	10	14	16	2	8	13
Average?	155	23	25	16	18	20	25	25
Is the air people breath around here (N=674) *Good*	438	65	63	71	72	73	62	59
Bad	83	12	12	14	12	13	12	12
Average?	153	23	25	16	16	15	26	29
Is the amount of rubbish on the street (N=670) *Good*	8	1	1	1	2	0	1	2
Bad	639	96	96	95	94	98	97	93
Average?	23	3	3	4	4	2	2	5
Is the area you live in safe for children? (N=677) *Yes*	458	68	64	78	75	76	62	64
Do you get enough food to eat? (N=672) *Yes*	554	82	81	86	88	89	79	79

4.7 Child's social capital

The YL study experimented with some measures of child social capital (social relations and connectedness with community) and preliminary results on some indicators are considered here. Playing daily with friends was reported by 50 per cent of children. This occurs more among rural children (61 per cent) than urban (46 per cent), and among the poorest children (61 per cent) compared to better-off children (38 per cent). Eighty eight per cent of children reported that when they had a problem there was someone who could help them; in almost half the cases this person was their mother. This rate did not differ according to location or wealth group.

4.8 Literacy and numeracy

The life skills of numeracy and literacy are outcome measures in the YL conceptual framework. The majority of eight-year-olds (83 per cent) could read a test sentence presented to them, 56 per cent could write a test sentence without errors or difficulties, and 57 per cent could answer a numeracy test correctly (Table 31). However, there were striking differences by location and socio-economic level. Rural children performed worse than urban children on all success measures in reading, writing and numeracy tests. Similarly, trends across the wealth groups were evident for all tests, with the poorest children performing worst.

TABLE 31: LITERACY AND NUMERACY OF EIGHT-YEAR-OLDS BY LOCATION AND WEALTH INDEX

	Total	%	Urban %	Rural %	Poorest %	Very poor %	Less poor %	Better off %
Reading* (N=663)								
Cannot read anything	55	8	5	18	16	12	8	2
Can read letters only	31	5	4	8	11	7	1	3
Can read words only	14	2	2	2	4	2	2	1
Can read sentence	550	83	88	69	64	77	88	93
Refused to take test	13	2	1	4	6	3	<1	1
Writing (N=679)**								
Could not write sentence	81	12	8	22	24	15	7	8
Wrote without difficulty or errors	378	56	64	33	34	47	59	72
Wrote with difficulty or errors	216	32	28	43	40	37	33	20
Refused to take test	4	1	<1	2	1	1	1	0
Numeracy* (N=678)**								
Multiply correct	384	57	64	37	31	43	59	82
Multiply incorrect	130	19	18	23	23	20	24	8
Does not know	147	22	17	33	39	33	16	8
Refused to take test	17	2	1	1	7	4	1	1

* sentence = El pan es rico (bread is delicious)
** sentence = Me gustan los perros (I like dogs)
*** 2 x 4 = ?

4.9 Child development

In addition to literacy and numeracy, children's cognitive development can be affected by schooling (as well as home conditions) and this is another outcome measure in the YL conceptual framework. The CPM were used to assess children's cognitive development. Several tests exist to measure development in children. The CPM were selected for the YL project due to their simplicity and appropriateness for cross-cultural use, since they do not use any written codes or instructions. This test has been found reliable and valid across cultures (Raven et al, 1998). It consists of three sets of twelve problems each: set A tests the child's ability to complete continuous patterns; set AB tests the child's ability to recognise discrete figures in spatially-related wholes, selecting a figure to complete the design; and set B contains a number of problems based on analogies that the child should be able to discriminate. Children did better with set A (56 per cent scored high) than with set AB (36 per cent scored high) or set B (22 per cent scored high) (Table 32). High scores were always obtained with higher frequency in urban as opposed to rural areas and in better-off wealth groups.

TABLE 32: RAVEN'S TEST RESULTS BY LOCATION AND WEALTH INDEX

	Total (N=681)	%	Urban % (N=501)	Rural % (N=178)	Poorest % (N=117)	Very poor % (N=143)	Less poor % (N=243)	Better off % (N=176)
Set A								
Low (0-4)	28	4	2	10	12	4	2	2
Average (5-8)	273	40	37	49	54	45	38	30
High (9-12)	380	56	61	40	34	51	60	69
Set AB								
Low (0-4)	175	26	20	42	44	34	23	11
Average (5-8)	261	38	40	35	35	40	42	34
High (9-12)	245	36	40	23	20	27	35	55
Set B								
Low (0-4)	285	42	36	57	62	54	36	26
Average (5-8)	246	36	39	26	17	29	43	44
High (9-12)	150	22	24	16	20	17	21	30

5. Provisional conclusions and policy implications

The YL panel of one-year-olds and their families constitutes a unique opportunity to learn about poverty and to identify how policies implemented at different levels could make a difference in the life of these children in the years to come. Although most policy issues that this first phase of data can address require further analyses, the preliminary results presented in this report already lead to the following provisional recommendations:

5.1 Housing

- Access to electricity is quite low in rural and poorer households. This should be given due attention by developmental programmes in Peru.

- Although access to piped water is higher than expected in the YL sample, there is a need to continue the work in facilitating access to clean (drinking) water to all households in Peru.

- Sewage disposal systems and appropriate sanitary facilities coverage is still very low in rural and poorer households. Programmes to improve sanitation should be continued and strengthened.

5.2 Nutrition

- In line with other national surveys, the main nutritional problem in Peru, as indicated by anthropometry, is low stature. Several studies in Peru have clearly indicated that this is a consequence of the poor diet of children aged between 6 and 18 months, which may explain why this problem is worse in rural areas and in poorer households. There is a need to develop programmes to improve the quality of complementary food given to children under three years of age, in addition to breastfeeding promotion.

- Wasting was observed with very low frequency, even in rural and poorer households, which could suggest that lack of food may not be a major problem in Peru; again endorsing the concept that quality of diet should be the main focus of nutritional programmes.

- Undernutrition is concentrated mostly in rural and poorer households, endorsing the concept of targeting in nutritional programmes.

- Obesity seems to be emerging as a public health problem in Peruvian children. This problem needs attention now, to promote healthy diets that might in the future reduce the risk of obesity and other chronic illnesses associated with poor diet.

5.3 Food aid programmes

- The number of households receiving food aid is quite high in rural and poorer sectors, indicating that these programmes have been effectively targeted.

- Given the high prevalence of undernutrition (stunting) in children living in the same

groups of households receiving food aid, the YL results suggest the need to concentrate on improving the quality of children's diets through these programmes, complemented by adequate nutritional education for mothers.

5.4 Perinatal health

- The prevalence of prenatal care and tetanus immunisation is high in the YL sample, including in rural areas and poorer households, indicating that these programmes are equitable.

- There is a significant gap between the high level of prenatal care and the lower level of delivery in health facilities/attended by health professionals in rural areas and poorer households. This indicates that problems other than physical access to health facilities may be playing a part, such as quality of care and/or cost of health services. If maternal mortality is to be reduced in the country, these problems require adequate attention by the MoH.

- The proportion of women having miscarriages and the proportion of women wishing to have more children were higher in urban and better-off households, indicating that the number of abortions may be higher in urban areas and the need for family planning greater in rural areas.

5.5 Children's health

- These preliminary results of the YL project in Peru have indicated that a significant proportion of children, particularly those of older ages, are affected by chronic (long-term) illnesses as perceived by their mothers. Even though further analysis needs to be done on this subject, attention to chronic respiratory illnesses such as asthma is needed in Peru.

- There is a relatively high frequency of accidents and injuries affecting children. There is a need to develop, implement and evaluate prevention programmes to avoid these injuries in children.

- There is a high prevalence of reported dental problems in school age children. If this is confirmed, dental health programmes should be promoted in schools.

5.6 Hygiene

- Soap availability in Peruvian households is very high, including in rural and the poorest households.

- Handwashing programmes should be developed, implemented and evaluated to prevent diarrhoea and other childhood illnesses.

5.7 Immunisation programmes

- The high incidence of BCG compared to measles vaccination in YL children in 2002 confirms the problem that temporarily existed in Peru with vaccine supplies. Immunisation programmes should be well attended, to maintain high coverage in all children, to avoid

the re-introduction of measles, and to control other illnesses in Peru.

- The similar immunisation coverage in urban/rural areas and across wealth groups indicates that immunisation programmes in Peru are equitable.

5.8 Mental health

- The prevalence of caretakers with a potential mental health problem is high. The consequences of maternal depression for young children are known to be considerable and long lasting. Mental health programmes to control maternal depression should be developed, implemented and evaluated.

- Alcoholism is a significant public health problem, associated with violence at home. There is a need for effective programmes to control this problem.

- The mental health status of school age children deserves further analysis.

5.9 Schooling

- Primary education coverage in Peru is very high.

- School violence (from teachers as well as pupils) seems to be a significant problem not previously recognised in Peru, affecting the well-being of children. Programmes to avoid school violence should be developed, implemented and evaluated.

- The literacy and numeracy tests given to the eight-year-olds in Peru indicate that quality of schooling is a big problem, affecting rural and poorer children in particular. Programmes to improve the quality of education, paying particular attention to rural and poorer areas of the country, should be given priority.

5.10 Environment

- Children, particularly those living in urban and better-off households, perceive that they live in an unsafe neighbourhood. Crime prevention in urban areas should be developed, implemented and evaluated.

- Most children perceive that rubbish is a major problem in their neighbourhood. Civic programmes that will promote clean environments should be developed, implemented and evaluated.

5.11 Economic shocks

- A significant proportion of households (40 per cent) have suffered shocks that have affected their economic well-being, in both urban and rural areas and across wealth groups.

- The recent loss of a job or a source of income was the most common shock affecting families in the YL sample. Labour promotion and job security /compensation policies should receive priority attention by the Peruvian Government to reduce these economic shocks.

- The occurrence of a severe illness or injury was reported as the second most frequent cause

of shock affecting the economy of a household. This indicates that the great majority of households do not have access to insurance policies to protect them from these shocks. Universal health insurance systems should be developed and implemented.

- The arrival of a newborn baby or a new family member was reported as the third most common shock affecting the economy of a household. This suggests that no system exists to protect families exposed to such events. There is a need to study this perceived problem further, to identify programmes that could be developed to compensate for this type of economic shock.

- Access to savings/credit that can be used in the presence of an economic shock affecting a household is not high and is concentrated in urban and better-off households. There is a need to create savings and credit programmes that will serve the poor in Peru.

5.12 Child labour

- Regarding income sources, a low proportion of eight-year-olds in the YL sample were reported to be working. This was not perceived as a major problem by these children. For those who work, however, there appears to be interference with school activities and exposure to work-related injuries.

The sample in Peru covers a rigorously selected group of families including good representation of poor and rural children, as the 20 clusters were selected across the FONCODES poverty scale. However, due to the clustering of children and the exclusion of very hard-to-reach areas of Peru (mostly in the jungle), the YL sample represents the extreme poor of Peru less well. This selection bias may explain the high educational level observed in the caretakers as well as the high prenatal care coverage of mothers in rural areas and poorest households in the YL sample. Other variables compare well with national rates, however. Nevertheless some caution should be exercised in interpreting the YL results as representing Peru as a whole. This potential selection bias, however, will not limit the value of the YL sample to study the selected areas over time and to identify which policies are making a difference for the poor in Peru.

Annex 1: Main variables in the questionnaires

A - ONE-YEAR-OLD CHILD

1. Demographic characteristics

- Age
- Sex
- Ethnic group
- Religion
- Birth order

2. Anthropometry

- Birth weight
- Weight and height at time of survey

3. Child temperament

- Perception of child crying compared to others
- Actions taken to stop child crying

4. Child health

- Perceived general health
- Illness/symptoms in previous 24 hours
- Ever had a serious illness or accident that caretaker thought the child would die of *Type of illness/accident Hospitalisation or treatment*
- Ever had a burn that left a scar
- Ever broken or fractured a bone
- Ever had a severe fall *Effect of severe fall*
- Chronic illnesses/disabilities *Types of illness/disability*
- Vaccination status
- Ever been hospitalised
- Health insurance

B- EIGHT-YEAR-OLDS

1. Demographic characteristics

- Age
- Sex
- Ethnic group
- Religion
- Birth order

2. Anthropometry

- Birth weight
- Weight and height at time of survey

3. Child's health

- Perceived general health
- Illnesses in last two weeks
- Health problems that affect ability to attend school or work – types
- Health problems that affect ability to make friends or play – types
- Chronic health problems – types

- Serious illness/accident in the last three years when caretaker thought the child might die *Types of illness/accident Hospitalisation or treatment*
- Severe toothache in the last year
- Use of parent's free time with child
- Health insurance

4. Child's mental health

- 25 questions about child mental health (SDQ)

5. Child's schooling

- Ever attended school *Age of enrolment Years of schooling Highest grade*
- Currently attending school

B- EIGHT-YEAR-OLDS (CONTINUED)

- Main reasons for not attending school
- Type of school
- School ID details
- Perceptions of quality of schooling
- Help with school work in the home
- Transport to school
- Expenditure on schooling
- Study times
- Whether receives school breakfasts

6. Child work

- Work undertaken during last 12 months (as for household section)
- Undertaking of formal/informal activities for cash or goods
- Age when started working
- Time spent working, whether during school periods
- Whether child keeps/saves money from working
- Main reasons for child working
- Involved in household chores in the last seven days – payment, time
- If experienced serious illness/injuries while working
    Types of illness/injuries

7. Child's perceptions of well-being and life *(asked directly to child)*

- Job that child wants to do when grown up
- What makes the child happy and unhappy
- What does the child like and dislike about where they live
- What does the child think about the water, air and rubbish in their community
- Whether the child thinks their community treats them well
- Perception of safety
- Whether the child gets enough to eat

8. Child 's social relations

- Frequency of playing with friends
- Person who helps the child when they have a problem
- Leisure activities in the last six months

9. Child's perception of their health

- Whether they have health problems which limit their ability to make friends or play – type
- Whether they have health problems which prevent them going to school or working – type
- Other health problems

10. Child 's literacy and numeracy

- Reading ability
- Writing ability
- Multiplication ability

11. Child's cognitive development

- CPM tests

12. Child's views on school and work

- Attendance at school in the last year
- Worst and best things in school
- Earning money for self and family *Type of job*
    Like / dislike job
    Main reasons dislike job
- Miss lessons due to work

C – CHILD'S PARENTS

Mother

1. Background information
- Place of birth
- Time living in this community
- Ethnic group
- Religion
- Literacy in Spanish
- Languages spoken
- Fluency in Spanish
- Education
- Marital status
- Place of her mother's birth
- Living with partner
- Frequency of seeing child
- Who is considered head of household
- Weight, height, skinfold thickness

2. Birth history
- Previous births – survival status by sex and age

3. Pregnancy with index child
- Antenatal care – when started, number of visits
- Vaccination against tetanus
- Whether pregnancy was intended
- Perceived health status during pregnancy
- Desired sex of baby

4. Delivery
- Difficulty with labour
- Place of birth – reason for homebirth
- Whether caesarean section – whether this was planned
- Who attended delivery
- Whether birth premature
- Perceived birth weight and length
- Recorded birth weight and length

5. Breastfeeding of index child
- Ever breastfed
- Duration of breastfeeding

7. Maternal mental health
- SRQ20 questions

Father

1. Background information
- Place of residence
- Frequency of seeing child

Caretaker (if not mother)

1. Background information
- Place of residence
- Marital status
- Presence of partner

The questions in some sections of the questionnaire were put to the caretaker if this was not the biological mother; those in other sections were only put to the mother.

D - HOUSEHOLDS

1. Household composition and demographics (for every member of the household)
- Name, sex, age
- Relationship to index child
- Whether currently in school
- Education level completed
- Chronic disability
- Whether had regular responsibility for caring for index child
- Whether supports index child with cash or in kind

2. Care of index child (one-year-old)
- Whether child sent to childcare facility
- Time enrolled in childcare facility
- Other childcare – time, payment
- Whether child regularly left alone or with other young children
- Where child sleeps

3. Livelihoods
- Three most important income-generating activities for all household members – whether hired, frequency of work in last 12 months, days worked per week
- Activities which contributed most to household economy
- Remittances received and sent in the last 12 months
  Receipt of cash or goods from various sources
  Relationship of sender to child
  Frequency of receipt
  Type of goods received
- Significant debts
- Ability to repay debts
- Food donations received
- Plans for times of economic difficulty
- Use of community kitchens
- Details of income and expenditure (food and schooling)

4. Household assets and services
Ownership of dwelling
Number of rooms
- Electricity supply
- Material of walls, floor, roof
- Source of drinking water
- Toilet facilities
- Type of cooking and heating fuels
- Consumer goods owned – list of 24 items
- Agricultural tools and machinery
- Ownership or rental of land – plot size, usage
- Use of chemical fertilisers
- Irrigation
- Sharing of agricultural machinery or labour
- Livestock – type, ownership, purchase, loss
- Use of Internet

5. Social capital *(questions for caregiver)*
- Membership of community groups
- Support (emotional or physical) received from these groups or other sources
- Questions on community spirit, activity, trust
- Experience of crime, action taken

6. Economic shocks
- Shocks with negative impact and coping strategy used
- Shocks with positive impact and coping strategy used

7. Other
- Observations of household hygiene
- Use of soap, detergent

E - COMMUNITIES

1. Natural environment
- Land area
- Population
- Changes in population size in last three years
- Whether part of a city or town
- Time, distance and mode of transport to district and province capitals
- Ecological classification
- Months of the year when community experiences food shortages, food more expensive, more work available, migration in or out
- Natural disasters in the last two years – types, population affected, support received

- Types of problems which affect community
- Types of housing in community

2. Social characteristics
- Main religious groups
- Main languages spoken
- Largest kinship/power groups
- Legal status of community
- Political representation
- Political assassinations, corruption
- Crime

3. Infrastructure and services
- Types of service – recent improvements, distance, travel time
- Main sources of drinking water
- Main sanitation facilities
- How rubbish is disposed of
- Markets/trading
  Types of market/trading facilities
  Produce sold
  Distance, travel time to nearest schools
- Main places where people buy goods, food
- Roads – type, accessibility, distance from community
- Types of public transport, distance, frequency
- Social support programmes – food, education, health, infrastructure, others

- Organised groups/ membership of organisations

4. Economy
- Main livelihoods, employment
- Whether anyone owns 5, 10 or 20% of the community land
- Average daily wage for agricultural labour – by gender, age, type of work
- Main way to obtain land rights
- Main crops planted
- Use of fertilisers, herbicides or pesticides
- Crop subsidisation by government or NGOs
- Any agricultural company or producer employing >5% of the community – name, main crops, number of employees
- Any factory employing >5% of the community – name, main products, number of employees, wages
- Any business employing >5% of the community – name, main products, number of employees, wages
- Average salary of secondary school teacher, nurse, municipal worker
- Price list of basic goods
- Sources of credit

5. Health and education
- Access to different types of health service – availability, distance, time to reach
- Cost of consultations
- Specific services such as traditional healers, blood bank
- Name and type of schools available
- Tuition fees
- Literacy programmes

Annex 2: Community survey: Access to key facilities

	RANKED BY FONCODES POVERTY INDEX (QUINTILES)					
	Q1	Q2	Q3	Q4	Q5	TOTAL
Shop selling basic provisions	80.0	85.7	93.8	100.0	100.0	87.8
Pit latrine inside household is commonly used	84.0	85.7	50.0	87.5	100.0	78.4
Religious institutions, Church	72.0	81.0	68.8	87.5	100.0	77.0
Transport outside the community is available daily	55.0	83.3	81.3	100.0	100.0	76.0
Motorised road/highway is a main access route	88.0	57.1	56.3	75.0	75.0	70.3
Piped water	56.0	57.1	87.5	87.5	100.0	68.9
Public, communal or rural telephone	44.0	57.1	62.5	100.0	100.0	60.8
Rubbish is burned	48.0	81.0	62.5	50.0	33.3	59.9
Irrigation	40.0	61.9	81.3	62.5	25.0	56.8
Electric power supply	24.0	47.6	62.5	87.5	100.0	50.0
Non-paved road/highway is a main access route	12.0	47.6	37.5	87.5	50.0	37.8
Toilet or septic tank is commonly used	32.0	9.5	31.3	87.5	100.0	35.1
Paved road/highway is a main access route	8.0	23.8	37.5	87.5	75.0	31.1
Rubbish is thrown into recycling fields	36.0	23.8	18.8	50.0	0.0	28.4
Telephone network	0.0	14.3	18.8	87.5	100.0	23.0
Rubbish is collected	4.0	4.8	18.8	87.5	100.0	21.6
Recreational area	16.0	4.8	43.8	12.5	50.0	20.3
Transport outside the community is available weekly	30.0	16.7	18.8	0.0	0.0	18.9
Police station	16.0	4.8	12.5	62.5	50.0	18.9
Pit latrine outside household is commonly used	20.0	25.0	6.3	12.5	0.0	16.6
Post office	0.0	9.5	12.5	50.0	50.0	13.5
Cinema	0.0	0.0	6.3	37.5	50.0	8.1
Public bank services	4.0	0.0	6.3	25.0	50.0	8.1
Internet services	0.0	0.0	6.3	25.0	50.0	6.8
Private bank services	0.0	0.0	6.3	12.5	75.0	6.8
Transport outside the community is available	15.0	0.0	0.0	0.0	0.0	5.1
Number of organised groups in the community	**4.5**	**4.0**	**4.2**	**6.9**	**6.5**	**4.6**
Number of communities considered in each quintile	**25**	**21**	**16**	**8**	**4**	**74**

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Young Lives is an international longitudinal study of childhood poverty, taking place in Ethiopia, India, Peru and Vietnam, and funded by DfID.The project aims to improve our understanding of the causes and consequences of childhood poverty in the developing world by following the lives of a group of 8000 children and their families over a 15 year period.Through the involvement of academic, government and NGO partners in the aforementioned countries, South Africa and the UK, the Young Lives project will highlight ways in which policy can be improved to more effectively tackle child poverty.

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