

This is the first in a series of five fact sheets to describe preliminary results from Round 4 of the Young Lives survey to show the changing outcomes for children in Peru since 2002. The fact sheets do not aim to give a comprehensive overview of all the findings from Young Lives, but rather a broad outline of some of the key indicators and changes that have taken place in the lives of the children in the sample over the eleven years between the first round of data collection in 2002 and the fourth in 2013. This fact sheet describes the survey methods and sample design in Peru, while the other fact sheets present preliminary findings about Changes in household welfare; Education and Learning; Health and Nutrition, and Youth and Development.

## Children and poverty in Peru

During the last decade, Peru has been one of the most dynamic economies in Latin America. Between 2002 and 2013, the country grew at an average annual rate of over 6% and the average annual rate of inflation was 2.5% (the lowest in the region). Within this favourable context, improvements in the welfare of Peruvian children and their families have been observed in several dimensions. Between 2005 and 2013, monetary poverty fell from 59% to 24%. Similarly, access to some basic services improved, in some cases substantially (for instance, access to electricity increased from 76% to 91%). At the child level, the reduction in chronic under-nutrition among children under 5 has been notable, falling from 31% to 18%.

In spite of the country's strong economic performance and reductions in poverty, inequalities between different population groups and geographical areas have proved very difficult to overcome. In eight of Peru's 24 regions at least 40% of the population is classified as poor, and in six regions chronic under-nutrition is above 30%. Poverty remains concentrated in rural areas (where more than half the population is poor), in the Highlands and in the Amazonian jungle, and is more prevalent among indigenous families. Moreover, while monetary poverty is low in urban areas, under-employment is substantial (41% in the Lima Metropolitan Area). All of these spatial and ethnical inequalities make it possible to characterise Peru as an 'upper middle-income country' that still has many characteristics of a 'low-income' country.

Figure 1. Young Lives study sites in Peru



## About Young Lives

Young Lives is designed as a cohort study that is following the lives of 12,000 children in four low and middle-income countries – Ethiopia, India (in the states of Andhra Pradesh and Telangana), Peru and Vietnam – over 15 years. The sample in each country consists of two cohorts of children: a Younger Cohort who were aged between 6 and 18 months when Round 1 of the survey was carried out in 2002, and an Older Cohort then aged between 7.5 and 8.5 years.

Through a large-scale household survey of all the children and their primary caregiver, interspersed with more in-depth interviews, group work and case studies with a sub-sample of the children, their caregivers, teachers and community representatives, we are collecting a wealth of information, not only about their material and social circumstances, but also their perspectives on their lives and their aspirations for the future, set against the environmental and social realities of their communities.

The fact that our work spans 15 years in the lives of these children – covering all ages from early infancy into young adulthood when some will become parents themselves – means that we are also able to examine how children's lives change over time, whether growing up in rural or urban contexts, poor or not-so-poor neighbourhoods, large or small households, or as migrants, as well as taking into account a variety of other factors. The five rounds of survey data, supplemented by a survey of their schools and qualitative case studies, make Young Lives a unique cross-country longitudinal dataset exploring the causes and consequences of poverty in childhood.

## Young Lives cohort study

A cohort study is one which collects information over time on a group of people who share a common characteristic (such as age). It allows us to see how circumstances at an earlier time-point relate to later outcomes.

Four rounds of quantitative surveys of children, households and communities have been conducted in Peru. The first round was carried out between August and December 2002 when the children were aged around 1 year and 8 years. The following surveys have always been carried out at the same time of year in 2006 (Round 2), 2009 (Round 3), and between June and December 2013 (Round 4) – when the children were aged between 11 and 12 years (the Younger Cohort) and between 18 and 19 years (the Older Cohort). The survey rounds have been interspersed with four rounds of qualitative data collection with a sub-sample of 50 of the children, resulting in a series of nested longitudinal case studies.

## Sample design

The general strategy established for Young Lives was that children were selected from 20 sentinel sites defined specifically in each country. The concept of a sentinel site comes from health surveillance studies and is a form of purposive sampling where the site (or 'cluster' in sampling language) is deemed to represent a certain type of population, and is expected to show early signs of trends affecting those particular people or areas. For example, monitoring a typical slum of a given city may detect events and trends that will have an impact on most slums in that city.

### Principles and methods of the Young Lives sampling approach

- It was decided that a range of children should be sampled, not only the poorest children, although poor families were over-sampled.
- The children were sampled in clusters, which were selected through a semi-random/semi-purposive approach,<sup>1</sup> and within each cluster, children were randomly selected.
- In each country, 2,000 children aged between 6 and 18 months were selected to be followed as they grew up over 15 years. This was considered an appropriate number given the duration and scope of the study. It was also considered to be sufficiently large for statistical analysis in general, allowing for the detection of moderate-sized differences in quantities between sub-groups of children. The initial sample in Peru comprised 2052 younger children.
- In each country, a similar sample of 1,000 children aged between 7.5 and 8.5 years were selected as an Older Cohort for comparison. Because of cost constraints, the initial sample of older children in Peru was slightly smaller than in the other countries, and comprised 714 children.

Figure 1. Young Lives longitudinal and cohort study



Note: In Peru, the original sample consisted of 2052 younger children and 714 older children.

While following these general principles, the Peru team applied a sampling approach that differed in some respects from the other three countries. In particular, although in the other countries the sampling of clusters was semi-random/semi-purposive, in Peru the sampling of clusters was random.

The sample frame used was the district level. The most recent poverty map of the 1818 districts in Peru at that time (FONCODES 2001) was used to select the 20 sentinel sites. Factors which determined the ranking of districts included infant mortality, housing, schooling, roads and access to services. To achieve the aim of over-sampling poor areas, the highest-ranking 5% of districts (all of them in Lima) were excluded, enabling a systematic selection of the remaining districts, which yielded approximately 75% of sample sites considered to be 'poor' and 25% 'non-poor'. Then, districts were divided into equal population groups. These units were ordered by a poverty index and were systematically sampled randomising the starting place. Ten selection runs were made and the resulting sample of districts was examined to cover rural, urban, peri-urban, coastal, mountain and Amazon areas and for logistical feasibility, and one of them was selected for the sampling. Since all the districts were divided into units with equal population groups, it follows that each district had a probability of being selected that was proportional to its population size.

Once the districts were chosen, a random population centre (i.e. a village or hamlet) was chosen within the district. The maps of census tracts were obtained from the National Statistics Institute (INEI), and a census tract randomly selected. Within each chosen census tract, the number of manzanas (street blocks) was counted, and again, using random number tables, one was selected as the starting point.

Finally the selected block was assigned to one fieldworker and neighbouring blocks to other fieldworkers (one each). All dwellings in each block or cluster of houses were visited to identify families with children of the right ages. On completion of one block, the next available neighbouring block was visited by the fieldworker until the required number of children was found.

<sup>1</sup> This semi-purposive approach was used in the other study countries, but in Peru a slightly different sampling methodology was used to produce a more nationally representative sample.

The project team visited a total of 36,373 dwelling to recruit 2,751 children. Although this may seem high, we estimated (using census data) that we would need to visit 13 families to recruit one child of the right age. This is about the same ratio reported for our recruitment process. A more thorough explanation of the sampling methods and characteristics of the sample can be found in Escobal and Flores (2008).

**Table 1. Young Lives sentinel sites**

Cluster ID	Department	Anonymised name*	Short description
1	Tumbes	Tumbes	A small city on the northern coast in the Tumbes region
2	Piura	Sullana	A poor coastal rural area in the Piura region
3	Piura	Morropon	A very poor rural area in the northern Andean highlands
4	Amazonas	Chachapoyas	A very poor rural area in the northern Amazon region
5	San Martin	Rioja	A poor rural area in the San Martin region
6	San Martin	San Martin	A medium-sized city in the San Martin region
7	Cajamarca	Cajamarca	A medium-sized city in the northern Andean highlands, in the Cajamarca region
8	La Libertad	Trujillo	A shanty town on the outskirts of a medium-sized city in the La Libertad region on the northern coast
9	Ancash	Huaylas	A poor rural area in the central Andean highlands
10	Ancash	Huaraz	A medium-sized city in the central Andean highlands, in the Ancash region
11	Huanuco	Dos de Mayo	A very rural area in the centre of the Andean highlands, in the Huanuco region
12	Lima	San Juan de Lurigancho	A large urban district located in the north of the capital city, Lima
13	Lima	Ate	A large urban district located in the eastern part of the capital city, Lima
14	Lima	Villa Maria de Triunfo	A large urban district located in the south of the capital city, Lima
15	Junin	Satipo	A poor rural area in the Amazon part of the Junin region
16	Ayacucho	Huamanga	A very rural poor community in the southern-centre of the Andean highlands
17	Ayacucho	Lucanas	A poor rural area in the southern-centre of the Andean highlands
18	Apurimac	Andahuaylas	A poor rural area in the southern Andean highlands
19	Arequipa	Camaná	A small city on the southern coast in the Arequipa region
20	Puno	Juliaca	A medium-sized city in the southern Andean highlands

\*Note: In order to protect the children's anonymity, we use the province name to anonymise the study sites, or the district name is used if the population is above 125,000.

Longitudinal qualitative research is also being undertaken in four of these communities with a sub-sample of 50 children covering both age cohorts to produce nested case studies across a seven-year period from 2007 to 2014.

## Comparing Young Lives to other datasets

Young Lives is not intended to be a nationally representative survey. Rather, as a longitudinal study, it is intended to show changes over time and the impact of earlier circumstances on children's later outcomes. A comparison of Round 1 to the Demographic and Health Survey 2000 (DHS 2000) shows that the Young Lives sample covers the diversity of children and families in Peru (Escobal and Flores 2008). At the same time, their analysis indicates that, on average, the Young Lives sample includes households with more education, with better access to services and more ownership of assets than in the DHS. However, this does not take into account the fact that in the Young Lives sample for Peru, each district had a probability of being selected proportional to its population size. Once each observation is adjusted to account for this, many of the differences found between the Young Lives and the DHS 2000 samples are not significant. For this reason, we report results for the Young Lives sample in Peru using the sampling frame, as these are the results that most closely resemble what is happening in the country.

## Tracking and attrition

Sample attrition occurs when children who were surveyed in the first round of a survey are either not found or refuse to take part in later rounds. Young Lives, like all longitudinal surveys, is concerned to minimise attrition since if we were to lose touch with some of the children more than others (such as children from poorer families or from particular ethnic groups), this could bias results. We take care to ensure that we can track as many children as possible between the survey rounds to minimise the risk of drop-out. We started in Round 1 visiting 27 districts in 20 clusters. Over time, many children and their families have moved, increasing the number of areas we need to visit. By Round 4, the sample was located in 240 of the 1846 districts of Peru.

Attrition rates for Peru are low compared to other longitudinal studies (but slightly higher than in Ethiopia and India): 6.3% for the Younger Cohort and 10.3% for the Older Cohort since the start of the study. Tracking children is especially difficult in Peru because the country is geographically very dispersed and migration is higher in Peru than in the other study countries, making it necessary to follow them wherever possible to maintain these low attrition rates.

**Table 2. Attrition between Round 1 and Round 4**

	Younger Cohort		Older Cohort	
Initial sample in Round 1 (2002)	2052		714	
Died	22	1.1%	6	0.8%
Refused	83	4.0%	45	6.3%
Untraceable	20	1.0%	16	2.2%
Living abroad	25	1.2%	12	1.7%
<b>Interviewed in Round 4 (2013)</b>	<b>1902</b>	<b>92.7%</b>	<b>635</b>	<b>89.7%</b>
Attrition*		6.3%		10.3%

\*Note: we do not include deaths within attrition. Some children missing in one round were later found and interviewed in the next round.

## Key topics covered by survey

The survey is based on a core questionnaire for each child and a questionnaire for his or her primary caregiver that focuses on household circumstances. There is also a questionnaire for community representatives, to gather information about the local economy and environment, access to services, and other issues affecting child well-being within the community.

- Household Questionnaire (both cohorts):** includes sections on Parental background; Household and child education; Livelihoods and asset framework; Household food and non-food consumption and expenditure; Social capital; Economic changes and recent life history; Socio-economic status; Access to social programmes. For the Younger Cohort only, there are also sections on Child health; Anthropometry for the study child and a younger sibling; Caregiver perceptions and attitudes.
- Older Cohort Child Questionnaire (age 19):** includes sections on Parents and Caregiver's update; Mobility; Subjective well-being; Education; Employment, earnings, and time-use; Feelings and attitudes; Household decision-making; Marital and living arrangements; Fertility; Anthropometry; Health and nutrition; Cognitive tests (reading comprehension and maths); Self-administered questions.
- Younger Cohort Child Questionnaire (age 12):** includes sections on Schooling; Time-use; Health; Social networks; Feelings and attitudes for the study child and a younger sibling; Cognitive tests (Peabody Picture Vocabulary Test for the study child and a younger sibling, reading comprehension and maths for the study child); a computerised cognitive skill assessment was also administered on touch-screen tablet computers for the study child and a younger sibling.

- Community Questionnaire:** includes sections on General characteristics of the locality; Social environment; Access to services; Economy; Local prices; Social protection; Educational services; Health services; Migration.

**Table 3. General characteristics of the Young Lives sample in Peru (2013)\***

	Younger Cohort			Older Cohort		
	Inter-viewed in R4 (1902 children)	Inter-viewed R1-R4 (1864 children)	%	Inter-viewed in R4 (635 children)	Inter-viewed in R1-R4 (631 children)	%
<b>Gender</b>						
Boys	956	938	49.7	341	338	51.8
Girls	946	926	50.4	294	293	48.2
<b>Location</b>						
Urban	1,303	1,274	62.5	477	474	55.5
Rural	599	590	37.5	158	157	44.5
<b>Maternal education level</b>						
Primary incomplete or less	547	542	33.9	199	199	48.2
Complete Primary or Secondary	981	974	50.6	332	328	42.6
Higher education	343	340	15.6	97	97	9.2
<b>Mother's first language</b>						
Spanish	1,311	1,304	64.5	443	440	56.8
Indigenous language	568	560	35.5	187	186	43.2

\* Percentages are adjusted for the sample design.

Note: Totals for some categories may not always add up to the total for each cohort due to missing data for some children.

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