

**Findings from three  
surveys: CSES  
2010, CDHS 2010  
and CDB 2010**

**An analysis of child deprivation  
and inequality in Cambodia**

A study by UNICEF Cambodia



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## **Abbreviations**

ARI	Acute Respiratory Infection
CDB	Commune Database
CDHS	Cambodia Demographic and Health Survey
CMDG	Cambodia Millennium Development Goal
CMR	Child Mortality Rate
CNCC	Cambodia National Council of Children
CS	Current Status
CSES	Cambodia Socio-economic Survey
IMR	Infant Mortality Rate
LTS	Long-term Status
MMR	Maternal Mortality Rate
MPCE	Monthly Per Capita Expenditure
WATSAN	Water and Sanitation
U5MR	Under-5 Mortality Rate

## **Preface**

Cambodia has made some commendable progress on enhancing development outcomes for children, while achieving the fastest poverty reduction globally. Improvements in maternal mortality rates (MMR) and child mortality rates (CMR) have been remarkable. Cambodia has maintained steady economic growth, weathering well the impacts of the global fuel-finance-food crises and the lingering recession/slowdown in the USA and the Eurozone, the major destination countries for its exports. The country appears to be on the right monetary and fiscal track, and has contained budget deficit and inflation to 5 per cent. Cambodia is now setting a more ambitious growth agenda, building on principles of the Rectangular Strategy, such as human development, equity, good governance and infrastructure. The range of key policy processes under way - the National Strategic Development Plan, VISION 2030 and the Industrialization Policy (and the attendant Skill Development/Human Capital Strategy), present generational strategic opportunities to strengthen the foundation of Cambodia's development and growth.

Against this backdrop of policy and planning opportunities, UNICEF analysed datasets from 2010 to produce a progress report on the status of children, which allowed for the capture of outcomes for the poorest and most marginalised people.

This is a working document. It has been prepared by Dr Sarthi Acharya, formerly Evaluation Specialist, UNICEF Cambodia and Usha Mishra, Chief of Policy, Advocacy and Communication at UNICEF Cambodia to facilitate the exchange of knowledge and to stimulate discussion.

The authors thank UNICEF Representative Rana Flowers for her guidance and commitment to equity and evidence-based policy dialogue. Sincere thanks are due to David Parker, Chief of Planning and Programmes at UNICEF EAPRO, for his incisive review and feedback on the paper. Thanks also to all the government and development partners in the various TWGs and Sub/TWGs with which UNICEF is engaged and especially to those from Planning for Poverty Reduction and Social Protection.

Special thanks to Bossadine Uy, Monitoring and Statistics officer, and Sanoz Lim, Knowledge Management Assistant at Policy, Advocacy and Communication (PAC) in UNICEF, for their unflagging support, commitment and flexibility.

## Summary

*This paper presents a profile of children<sup>1</sup> in Cambodia, paying particular attention to those who are left behind in different spheres - education, health and nutrition, and protection - against the backdrop of society's prevalent inequality. It attempts to present key parameters computed from three databases: the Cambodia Socio-economic Survey (CSES) of 2010, the Cambodia Demographic and Health Survey (CDHS) of 2010 and the Commune Database (CDB) of 2010. At the time of writing, 2010 is the latest year for which data on human development indicators is available, and this analysis is the most recent equity-focused account of child status in Cambodia. The paper focuses on data analysis, presenting statistics of prevalent inequitable development outcomes. CSES data could be broken only into 33 per cent brackets as it is a small sample size, and not into quintiles (20 per cent brackets). CDHS data is broken into quintiles and CDB data has been used to analyse impacts by location (provincial, distance, etc). Although some determinants for inequity among children are clear, with income poverty being the leading one, additional analysis and research is required to reveal all the determinants and identify mitigation strategies that will reduce such inequities for Cambodian children.*

*All the indicators, which this paper analyses, show **poorer** performance levels among households (or families) with at least one of the following determinants: lower income/wealth; low education levels; and located in rural and remote areas. The following are the key aspects of the situation of children in Cambodia:*

- 1. On average, poorer households include a higher number of children. This results in child poverty being proportionately higher than the average household poverty level in Cambodia. More than 50 per cent of children belong to the bottom 33 per cent of households.*
- 2. Child school enrolment is high, but attendance is low. Some children work, while others are 'nowhere', meaning neither in school nor part of the labour force. The average length of education is about four years. The average distance from a village to a primary school is 1.2 km, increasing to 2 km for some districts. For lower secondary school, the average distance is 4 km.*
- 3. While some 90+ per cent of children have attended school at some point, only about 75 per cent can read or write.*
- 4. Under-5 child malnutrition is high; 55 per cent of children are anaemic, 28 per cent are underweight, 40 per cent are stunted and 11 per cent are wasted.*
- 5. Only a little more than half the population has access to a clean water supply, and more than half defecate in the open.*
- 6. The infant mortality rate (IMR) is 45 per 1000 live births and the under-5 mortality rate (U5MR) is 54 per 1000 live births.*
- 7. Some 8 per cent of babies weigh less than 2.5 kg at birth. They generally attain less than optimal physical growth and fail to reach their potential.*
- 8. Health outreach is improving; trained attendants assist in almost 90 per cent of childbirths; and more than 80 per cent of children are vaccinated against four to five major diseases.*

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<sup>1</sup> Government of Cambodia defines a child to be a person aged 17 years or less, in line with UNICEF/CRC definition.



9. *A health centre is, on average, 5 km from a village, impacting service access and use, especially among the poorest.*
10. *Almost one-fifth of children are in the labour force, mostly working on agriculture as unpaid family workers.*
11. *Close to 62 per cent of births are registered, showing a decline since 2005.*
12. *About 8 per cent of girls experience teenage pregnancy and childbirth, owing largely to early/childhood marriages.*
13. *The country has approximately 62,000 orphaned children, one-third due to parents dying of HIV and AIDS.*
14. *Dwellings with thatched roofs constitute 14-20 per cent of total dwellings.*

## Introduction

Credible evidence and data on the status of children is critical for effective public policy and action to improve Cambodia's human capital and accelerate economic growth. The Royal Government of Cambodia (RGC) routinely publishes reports, including the annual Cambodia Millennium Development Goals (CMDG) and Cambodia National Council of Children (CNCC) reports, on facets of the status of children. While these information and monitoring tools are useful, they almost always present the national average (mean) data, which does not show provincial, gender and wealth differences. Inequity, blind monitoring and reporting often result in inequity-blind approaches - a lack of more focused and targeted actions to address those regions, communities and children that have been left behind.

Although several child-related indicators are included in datasets like the CSES, CDHS and CDB, there are no independent datasets exclusive to children in Cambodia<sup>2</sup>, a problem shared with other developing nations. However, it is possible to draw out some socio-economic patterns based on the existing large datasets, which in turn would help us understand and act upon issues critical to children.

This paper presents a data-supported profile of Cambodia's children, with specific reference to those below the national mean averages in different spheres: income poverty, education, health and nutrition. These children do not get their due as enshrined in the law (Cambodia's Constitution) and international treaties to which Cambodia is a signatory. This paper attempts to present key parameters computed from the three databases already mentioned, all pertaining to 2010.

**CSES:** The **Cambodia Socio Economic Survey (CSES)** is a household survey with questions to households about housing conditions, education, economic activities, household production and income, household level and structure of consumption, health, victimization. It is generally conducted annually. The data from CSES provide important information about living conditions in Cambodia, and have a wide range of uses. Results from CSES are used for monitoring the National Strategic Development Plan (NSDP) and progress towards the Millennium Development Goals. Furthermore, the data are used for developing poverty lines and calculating poverty rates. Data have also been used for food security analyses. The CSES data base at the National Institute of Statistics (NIS) is open for research and analysis by external researchers.

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<sup>2</sup> CNCC is currently setting up a CRC database, with child-focused indicators.

**CDHS: Cambodia Demographic and Health Survey is implemented by** The Directorate General for Health (DGH) of the Ministry of Health (MoH) and the Ministry of Planning's (MoP) NIS. The survey includes information on demography, family planning, maternal mortality, infant and child mortality, and women's health care status, including related information such as breastfeeding, antenatal care, children's immunization, childhood diseases, and HIV/AIDS. The questionnaires (household, men's and women's questionnaires) are designed to evaluate the nutritional status of mothers and children, and to measure the prevalence of anemia.

**CDB: Commune Database** contains core information regarding demographic, socio-economic and physical assets of each commune (a group of villages). Starting from 2002, these data are collected by village chiefs and commune clerks and compiled at the commune level. The data are used by communes to prepare socio-economic profiles at commune, district and provincial levels, as part of annual planning exercises. The CDB is maintained by MoP, with data collection taking place at the end of the year. It is used to produce the poverty index for the allocation of investment funds for communes.

**Caution:** While the computations have been made in a form not attempted until now, the profile does not present a detailed analysis *per se*, and there are aspects, which require additional analysis, preferably using a larger dataset (like CSES 2009, which has a dataset based on 12,000 households, as opposed to 2010, which only has data for 3,000 households). The datasets are not completely comparable in the definitions of variables and coverage; hence, only limited cross-dataset comparisons have been attempted. Reliability of CSES and CDHS are high, while there is room for improvement for CDB.

There are five dimensions explored within this analysis of inequity among children. Based on the Bristol model of defining and measuring child poverty <sup>3</sup> (see Annex 1), the following key dimensions have been analysed:

1. Income poverty
2. Education
3. Health and nutrition
4. Water and sanitation
5. Child protection
6. Shelter

## I. Child Poverty

Income poverty levels are calculated at the household level in Cambodia, hence, to determine how many children are below this poverty line is not possible. **Only small sample studies capture the intra-household inequalities, and there are none known in Cambodia.**

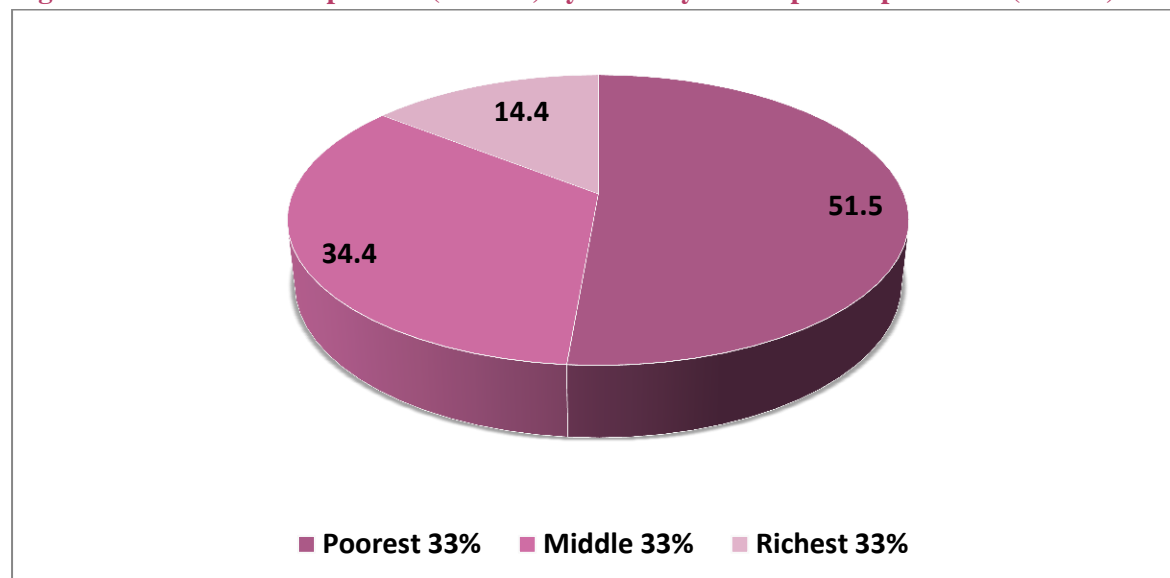
One way is to define a proxy variable. How many children are there in an average household across different income (expenditure) classes? CSES 2010 suggests that in the poorest 33 per cent, 38.6 per

<sup>3</sup> Bristol University developed a model for child poverty which included seven dimensions of: food, education, health, water, sanitation, shelter and information. In this paper, only access to information has been left out due to data limitations, as none of these surveys collect data on media habits or sources of various information (more in Annex 1).



cent of the persons are in the age group 5-17 years. In the middle 33 per cent, this age group constitutes 30.4 per cent, and in the upper 33 per cent, 23.7 per cent. The total number of persons in the 5-17 years age group, if distributed by these three income (expenditure) groups, will yield a picture, as in Figure 1. The cause is evidently the larger number of children in the poorer income groups, but the effect is that in proportion to households, more children are poor. The magnitude is rather staggering; more than half the children are in the poorest 33 per cent income bracket.

**Figure 1: Distribution of persons (6 to<18) by Monthly Per Capita Expenditure (MPCE)**



SOURCE- CESE 2010

## II. Education

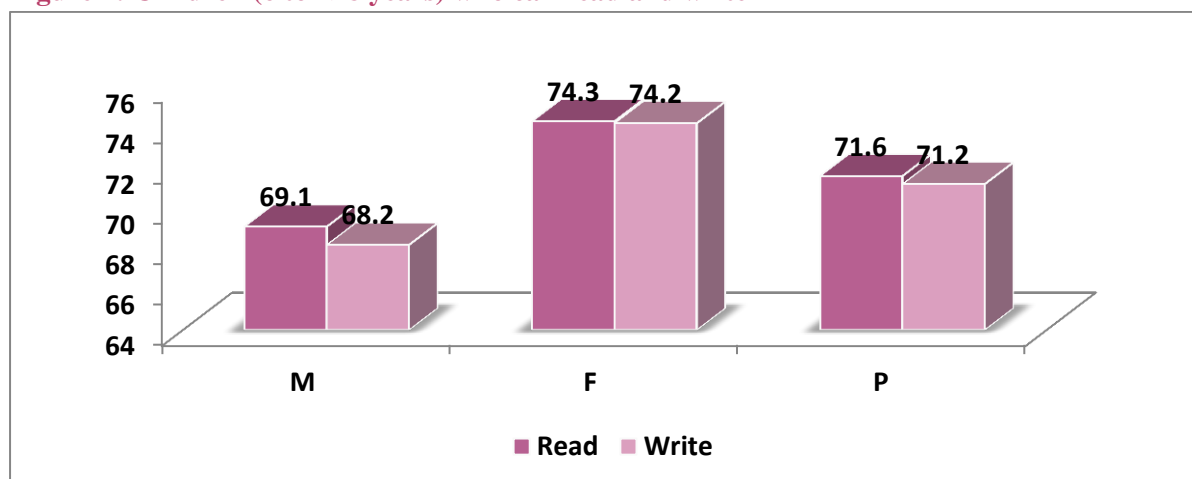
### Reading and writing skills

Cambodia's administrative records, the Education Monitoring Information System (EMIS), show that on aggregate, the net enrolment rate in 2010 was well over 90 per cent at the primary school level. The gender balance was also maintained. CSES 2010 data support government records: 92.5 per cent of children between the ages of 6 and 17 have 'ever attended' a school (male: 91.1, female: 93.9)<sup>4</sup>.

However, other indicators in the CSES 2010 dataset show remarkable contrasts across various dimensions, such as income and location/province. The proportion of children (6-17 years) who can read and write is almost 20 percentage points lower than those who have ever enrolled in primary school level (Figure 2). If these data are taken at face value, it would imply many children learn little or nothing in schools. Other plausible explanations could be:

1. Many children do not enrol at age six.
2. Some who dropout (and dropouts are many), relapse into illiteracy.
3. Some others enrol but never attend.

<sup>4</sup> Enrolment rates here are calculated for the whole 6-17 years age group. This is not comparable with the definitions that the government uses in its published reports.

**Figure 2: Children (6 to <18 years) who can read and write**

Source: CSES 2010, M-male, F-female, P-persons

Outcomes are sharply inequitable for children from poorer households. Figure 3 shows that there is a 20 percentage point difference between the poorest and the richest. It implies that a smaller proportion of poorer children attend school, and many lapse into illiteracy after finishing school or dropping out.

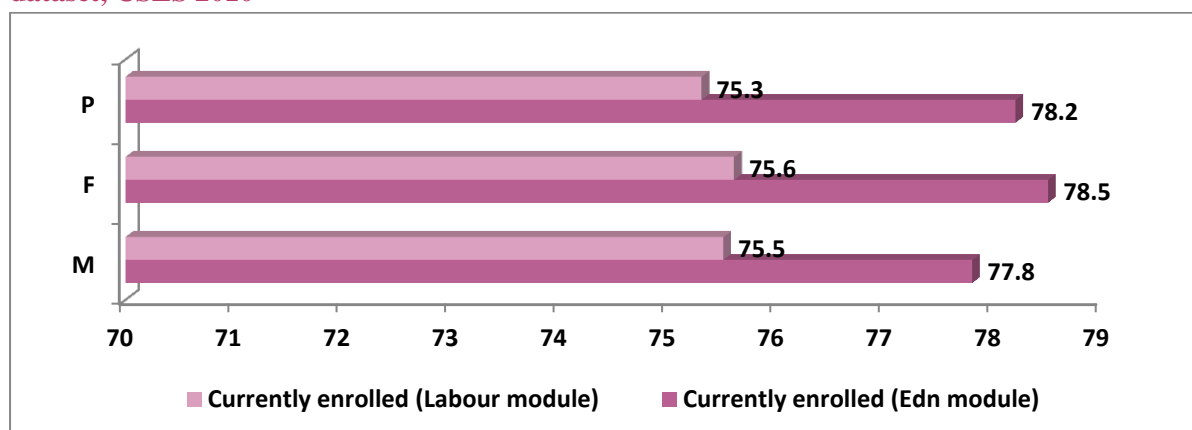
**Figure 3: Children (6 to <18 years) who can read and write, by MPCE**

Source: CSES 2010

### Enrolment rates

**No agency collects data on net attendance rates on a large scale, as this is quite challenging to monitor.** CSES uses 'enrolment' and 'attendance' interchangeably and collects data on the former only. However, some clue regarding school non-attendance can be obtained by examining data on net enrolment rates from two modules of CSES 2010, namely, the Labour Module and the Education Module (Figure 4).

**Figure 4: Children (6 to <18 years) currently enrolled in schools, from two modules in the same dataset, CSES 2010**

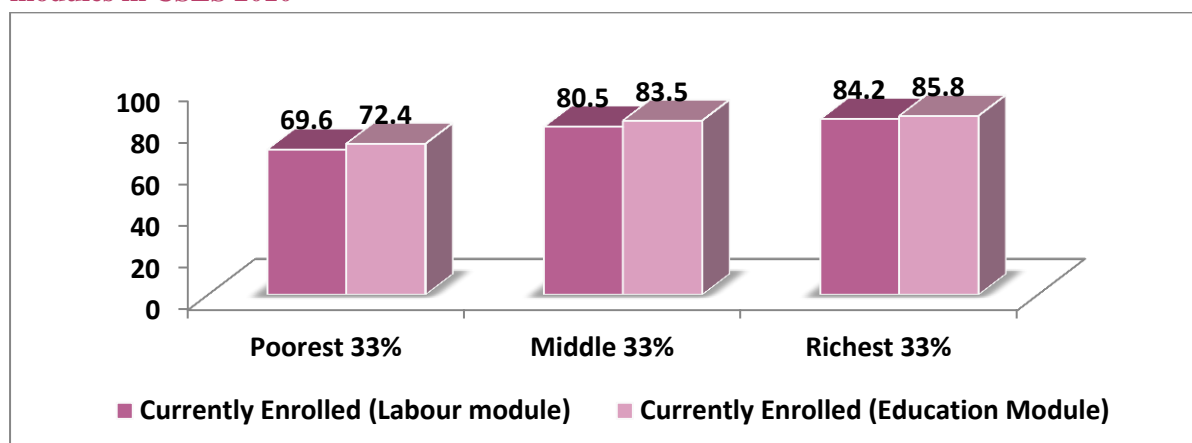


Source: CSES 2010

The Education Module shows school enrolment rates to be about three percentage points higher compared with the Labour Module<sup>5</sup>. There could be over-reporting in both the Education Module in the CSES and the government's administrative records. This calls for improvement in monitoring school attendance.

On inequality and enrolment, both the Labour Module and the Education Module indicate that children from poorer income (expenditure) groups enrol in smaller proportions compared to those from higher income groups (Figure 5).

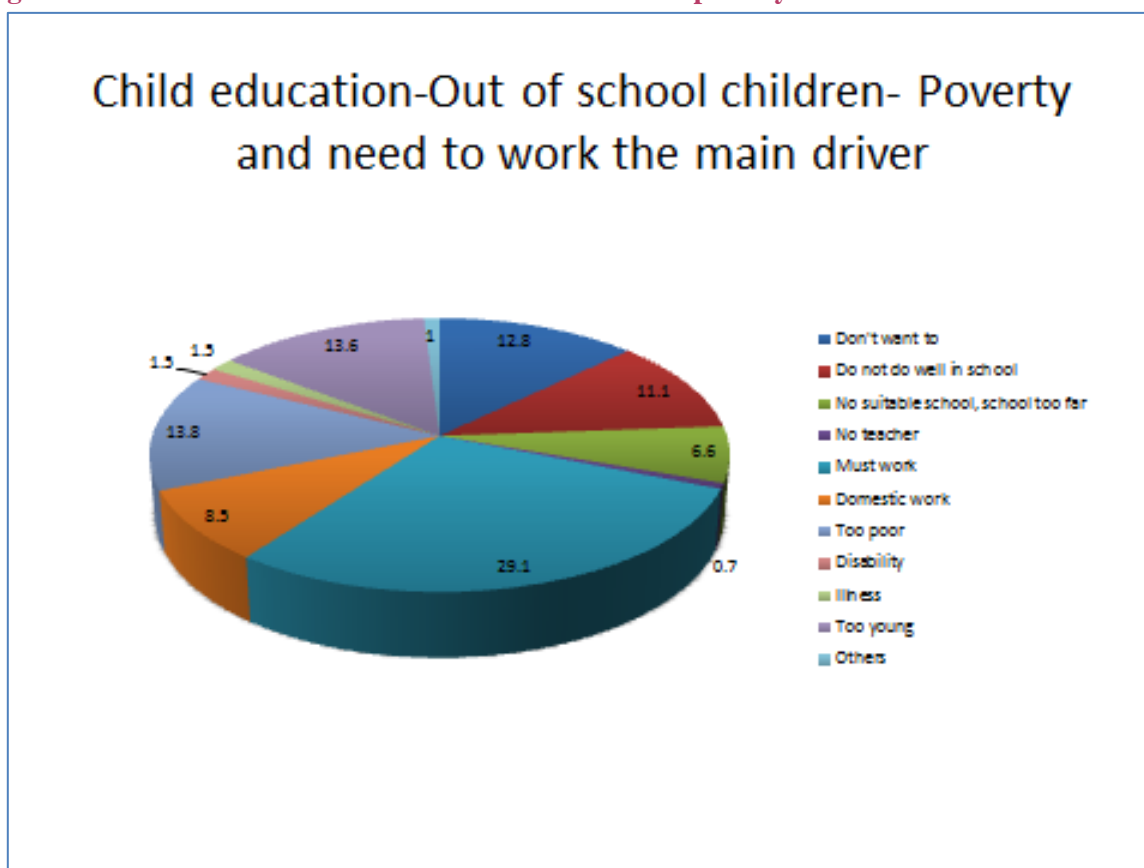
**Figure 5: Children (6 to <18 years) currently enrolled in schools by MPCE, seen from two modules in CSES 2010**



Source: CSES 2010

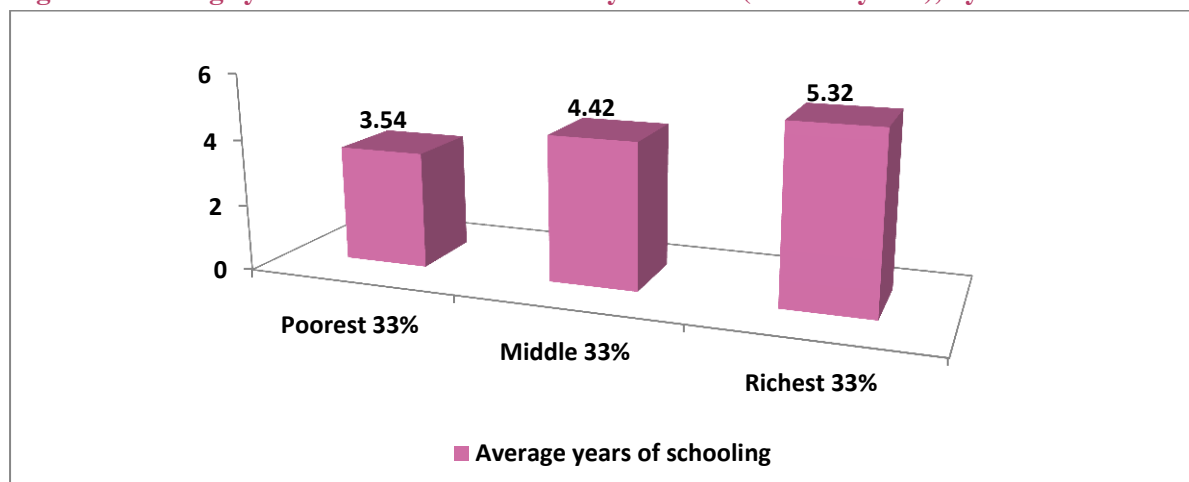
Economic status affects school enrolment, attendance and educational outcomes. This is due to the demand for child workers to sustain a household, and the fact that schools are not totally free. The chart below, based on the 2010 CSES, captures some key reasons for children not attending school.

<sup>5</sup> The Labour Module collects data on the usual and the current status of engagement of a person: whether s/he is a worker, student, homemaker, etc.

**Figure 6: Child Education: out-of-school children due to poverty and the need to work**

CSES 2010

Seen from the perspective of human capital formation, the average schooling of children aged 6-17 years is 4.13 years: 4.08 for male children and 4.18 for female children. Figure 7 shows that poorer sections of society have fewer years of education than others. There is also an urban-rural/capital-periphery divide. On average, the number of years of education children receive in Phnom Penh is 5.16 years, in other urban areas 4.48, and in rural areas 3.99.

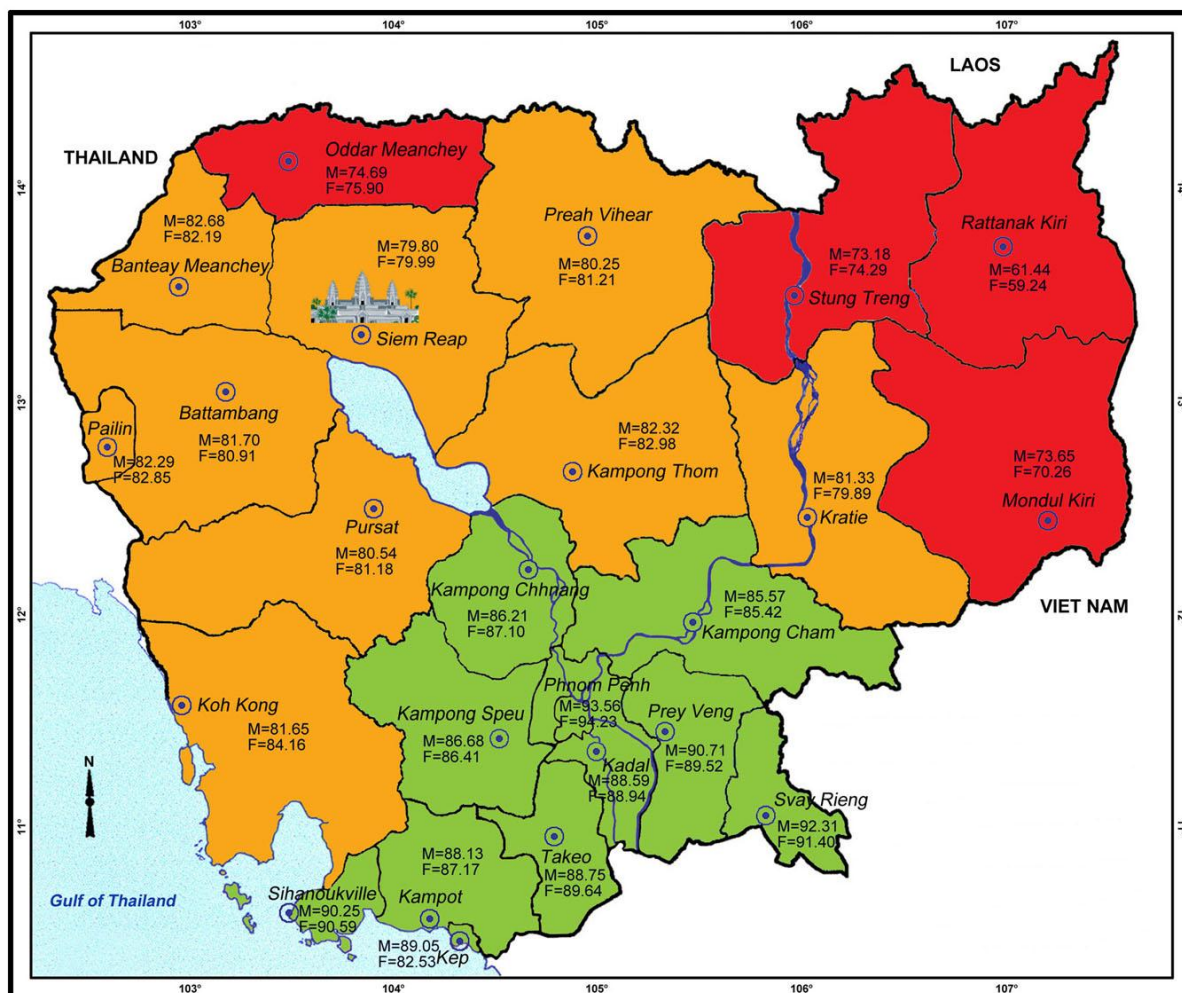
**Figure 7: Average years of education received by children (6 to <18 years), by MPCE**

Source: CSES 2010

The CDB suggests that in the age group 6-17 years, the average (for school enrolment) across

provinces is 83.13 per cent for boys and 82.83 per cent for girls. This is higher than the CSES data. As the methodology followed by CDB across provinces, districts, communes and villages is the same, a cross-sectional comparison is permissible. Variations across provinces are slight, with the coefficient of variation being less than 10 per cent for both boys and girls<sup>6</sup>. The profile also shows that Rattanakiri, Mondolkiri, Stung Treng and Oddar Meanchey are behind the average, while the more urbanised southern provinces exhibit better performance (Figure 8).

**Figure 8: Province-specific enrolment rates of children (6 to <18 years) from CDB**



Source: CDB, 2010; M = Male; F = Female

### Nowhere children

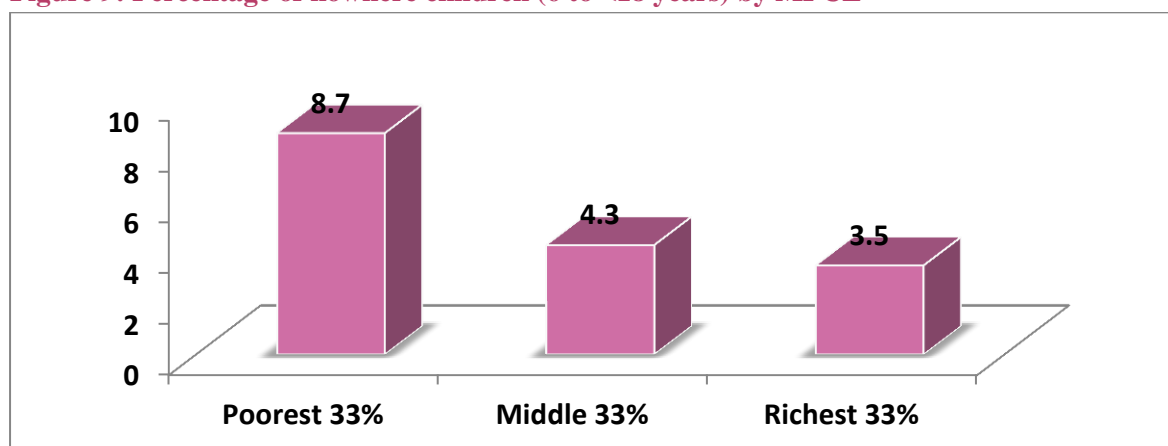
There are children neither enrolled in school nor visible in the labour force. These are termed 'nowhere children' as they are not at the places they could/should be. CSES identifies many reasons for this: earning in a latent manner (income-substituting household work), non-availability of schools, perception of the irrelevance of schooling, failure in school. They would be 'left out' for want of skills, motivation or inadequate supply of educational facilities. A re-tabulation of the CSES 2010 data suggests that 6.4 per cent of all children aged 6-17 years are 'nowhere': 6.9 per cent male and 6 per cent female. These high numbers could still be under-estimates, as government data suggest a

<sup>6</sup> The coefficient of variation is a measure of 'spread'. The smaller it is, the smaller the spread. Usually, a COV less than 15-20% is considered small; i.e. the central tendency is high, then vice versa.

sharp fall in enrolment after primary education in both lower secondary and higher secondary levels. Child labour does not rise in the same proportion. This suggests that ‘nowhere children’ could be in the range of 10 per cent.

Inequality also contributes to children being ‘nowhere’. There are more ‘nowhere children’ among the poorer sections of society and fewer among the rich (Figure 9). The reasons are obvious: the rich have choices and information, which the poor lack.

**Figure 9: Percentage of nowhere children (6 to <18 years) by MPCE**



Source: CSES 2010

One size does not fit all. That is, the same curricula and school environments do not appeal to all children, especially the poorer ones whose needs are different. This calls for a diagnosis of how to get poorer children into schools and make them stay there.

### **Educational infrastructure**

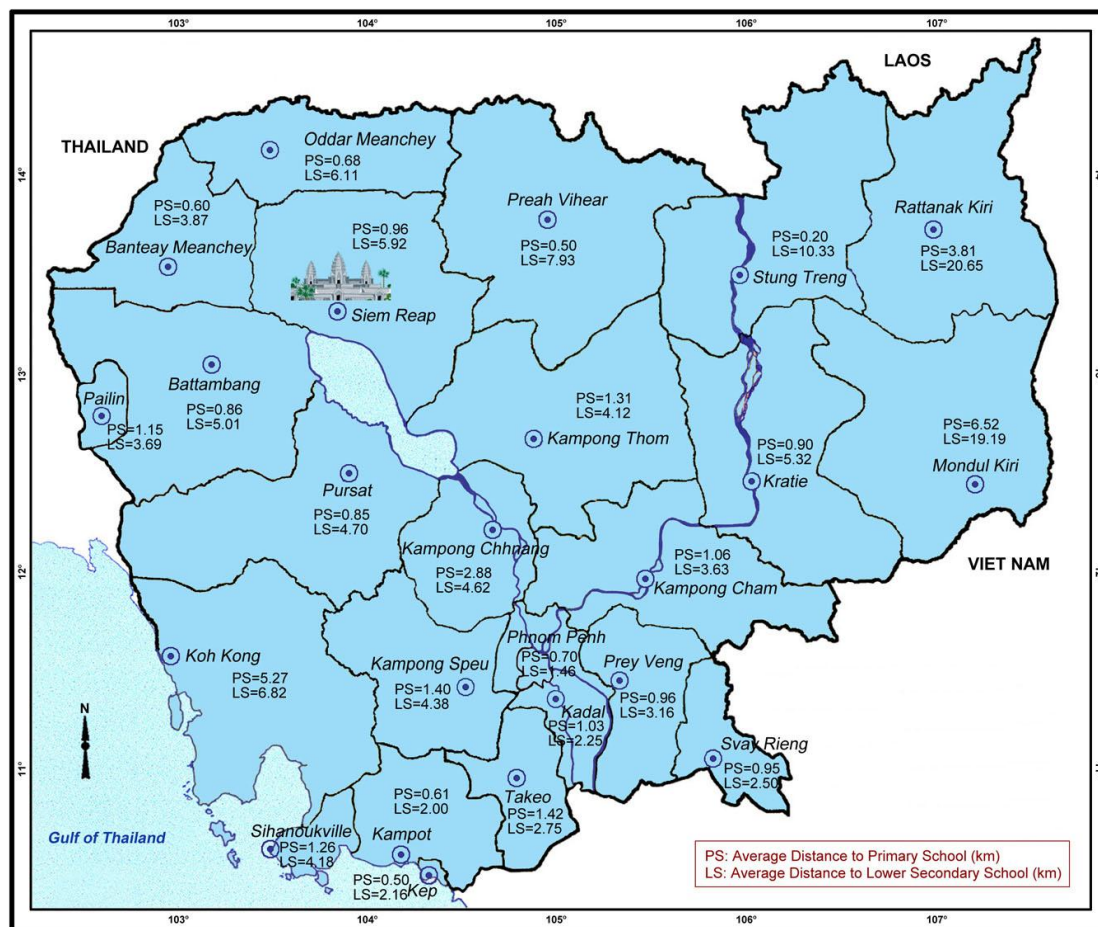
Distances from homes to schools inhibit children from enrolling in schools. This is why the concept of ‘neighbourhood schools’ has emerged in some parts of the world. The average distance of a primary school from a village is 1.2 km and young children (especially girls) might find it arduous to travel this distance (Figure 10). Of special reference are Kampong Chhnang, Koh Kong, Mondolkiri and Rattanakiri, where the distance exceeds 2 km. These provinces are also behind the national averages in enrolment, repetition/promotion, attendance and completion. In short, the further away the school, the poorer the access, and higher the chance of children being left out. The situation worsens in the rainy season, when earthen roads deteriorate and make it difficult for small children to travel to school.

On average, a lower secondary school is 4.22 km from a village: more than three times further than a primary school. It is not surprising, therefore, that there is a sharp fall of 20+ percentage points in enrolment/attendance of secondary school compared to primary school.

There is a high regional variation in the distance between a village and a school: this difference is more than 100 per cent for primary schools, while for lower secondary schools it is more than 80 per cent. This points to uneven regional development in the educational sector. The north, northwest and a (forested) province in the southeast lag behind provinces in the south and southeast.



**Figure 10: Average distance of a school from a village, grouped by province**



Source: CDB 2010

### III. Health and nutrition

Key child health variables, such as the IMR, vaccination and treatment statistics, are available from the CDHS 2010. CDHS also gives wealth-specific and province-specific disaggregation for some indicators.

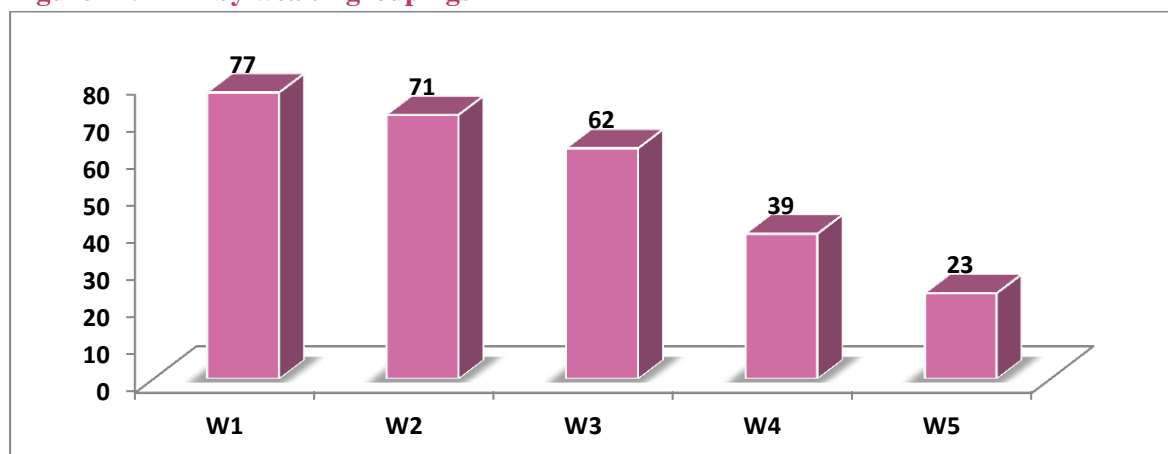
## Infant and child mortality

IMR and U5MR are recognised as the most important indicators of health and child health, with the highest mortality rates occurring in this age group. New-borns are biologically most vulnerable and small children cannot articulate their health conditions.

There are many reasons for mortality in this age group, chief among them the poor health of the mother, inadequate antenatal and postnatal care, and poor hygiene, nutrition and health care. Each of these factors appears to correlate with low income/wealth, and limited knowledge of and access to appropriate facilities (especially in times of crisis).

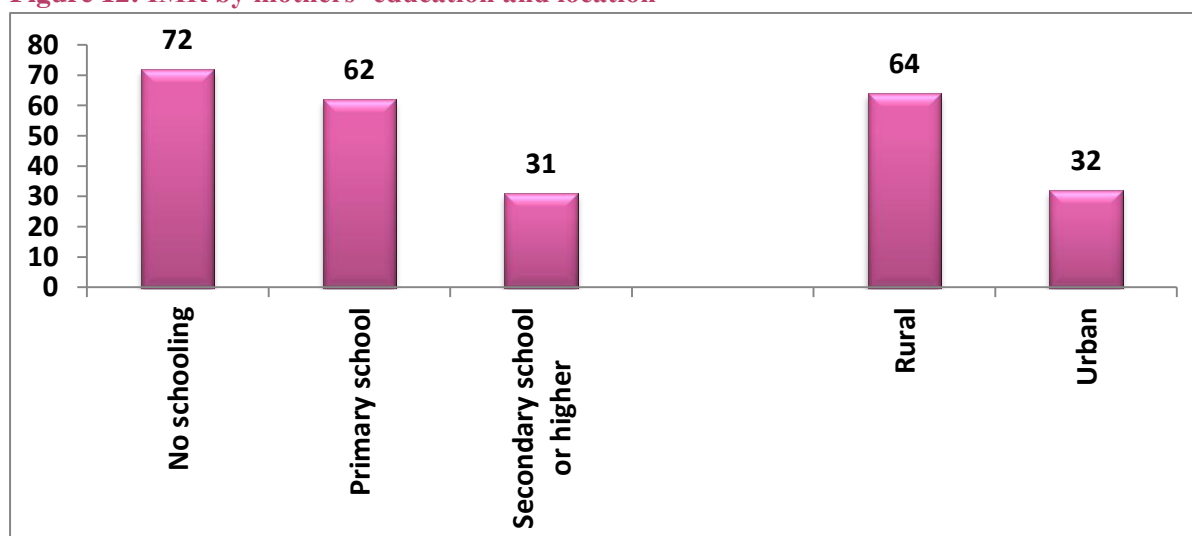
In Cambodia, reducing IMR from 65 per 1,000 live births to 45 per 1,000 live births between 2005 and 2010 has been commendable. However, the inequality component is stark. While the IMR among the wealthiest is as low as 23 per 1,000 live births, it is three times higher among the poorest (Figure

11).

**Figure 11: IMR by wealth-groupings**

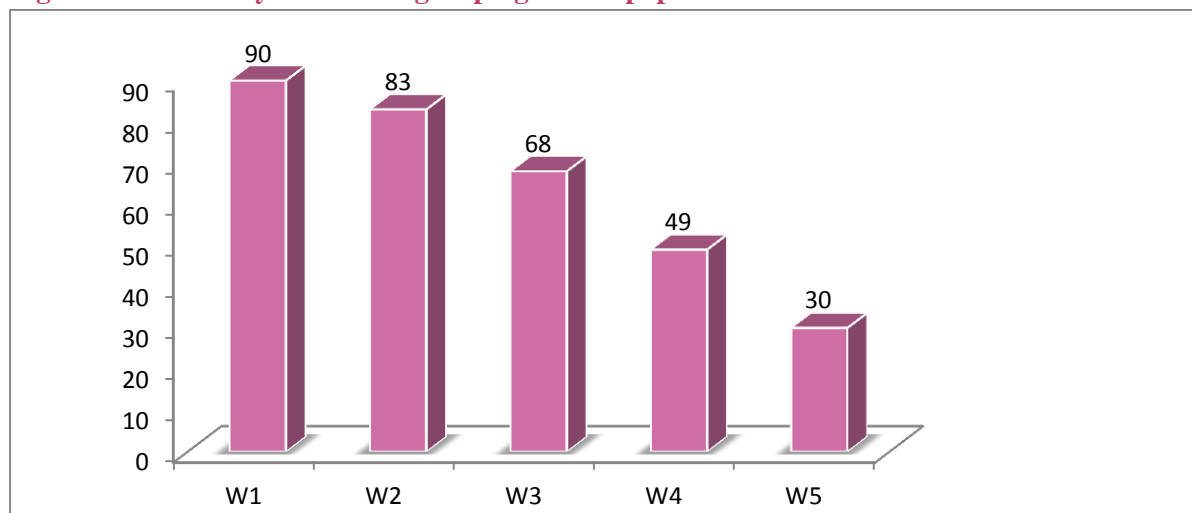
Note: W1 refers to the lowest and W5 the highest wealth grouping. Source: CDHS 2010

As discussed earlier, wealth inequality could manifest through more than one dimension/determinant; education, location, others. IMR is many times higher among the offspring of uneducated mothers, than those of educated mothers, and twice as high in rural areas compared to urban. Of course, some of the dimensions of inequality are related; mothers of wealthier households are expected to be educated, with a higher probability that they live in urban areas.

**Figure 12: IMR by mothers' education and location**

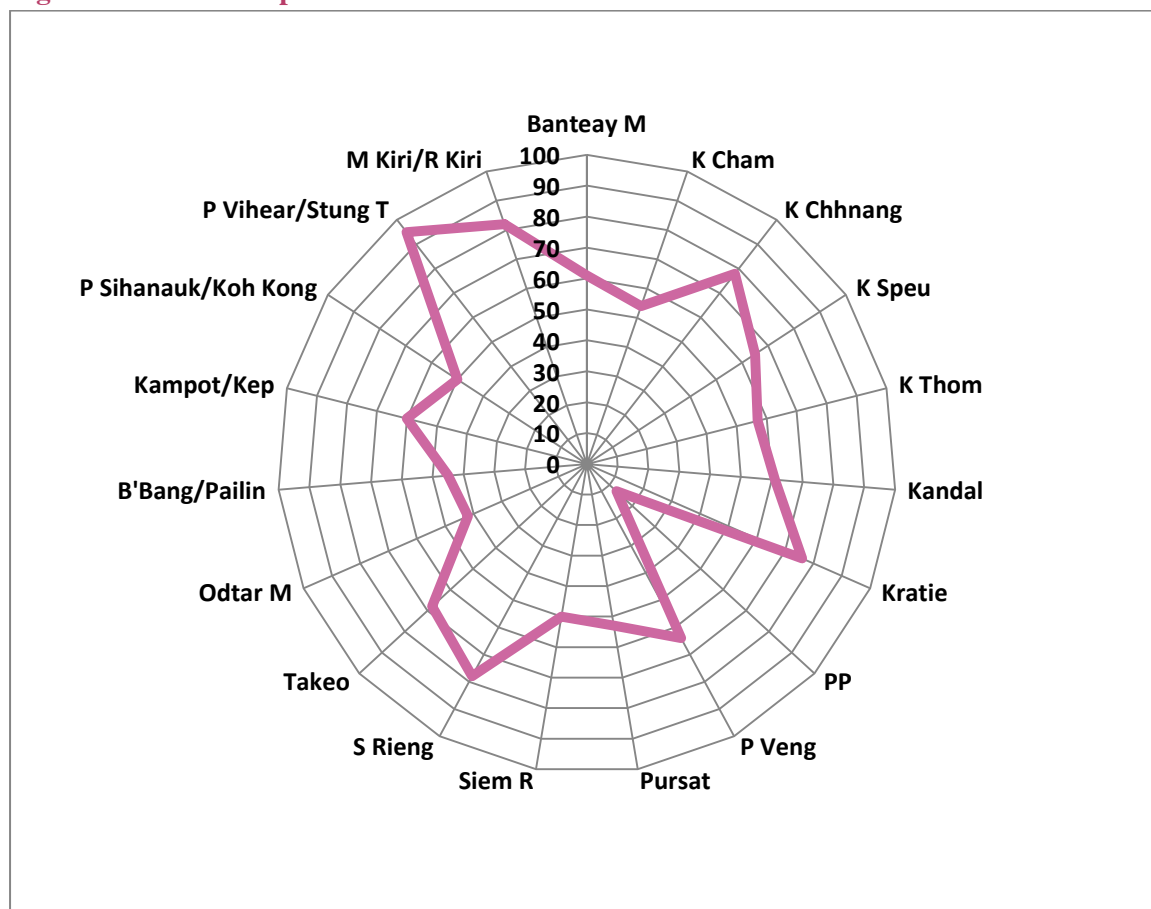
Source: CDHS 2010

Figures for U5MR mirror those of IMR, in that they are also wealth-specific.

**Figure 13: U5MR by the wealth groupings of the population**

Source: CDHS 2010

Province-specific IMR data from the CDHS 2010 (Figure 13), suggest that urban location matters a great deal. In provinces with more urban centres, both public and private facilities are available, with a higher level of know-how. This data underscores the importance of access in explaining inequitable outcomes.

**Figure 14: Province-specific IMR**

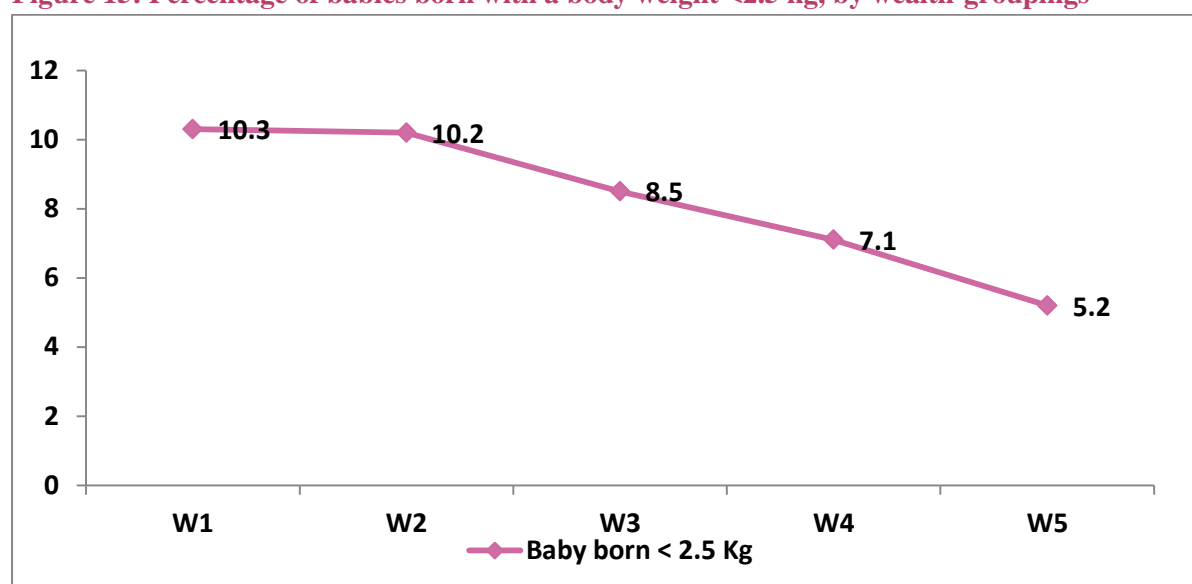
Source: CDHS 2010

The CDB collects data on variables from which the IMR could be calculated. These can be disaggregated regionally, but there is no option to disaggregate by income or wealth. Being based on recollections from the village/commune chiefs, the data might be weak on vital statistics. IMR figures calculated from the CDB are quite low, compared with what survey data suggest (in the range of 20-25 per 1,000 live births). Hence, they are not reproduced here.

### Babies delivered – weight and assistance received

Some 8.2 per cent of babies are born weighing less than 2.5 kg, and babies delivered in poorer households weigh less than those of wealthier households (Figure 15).

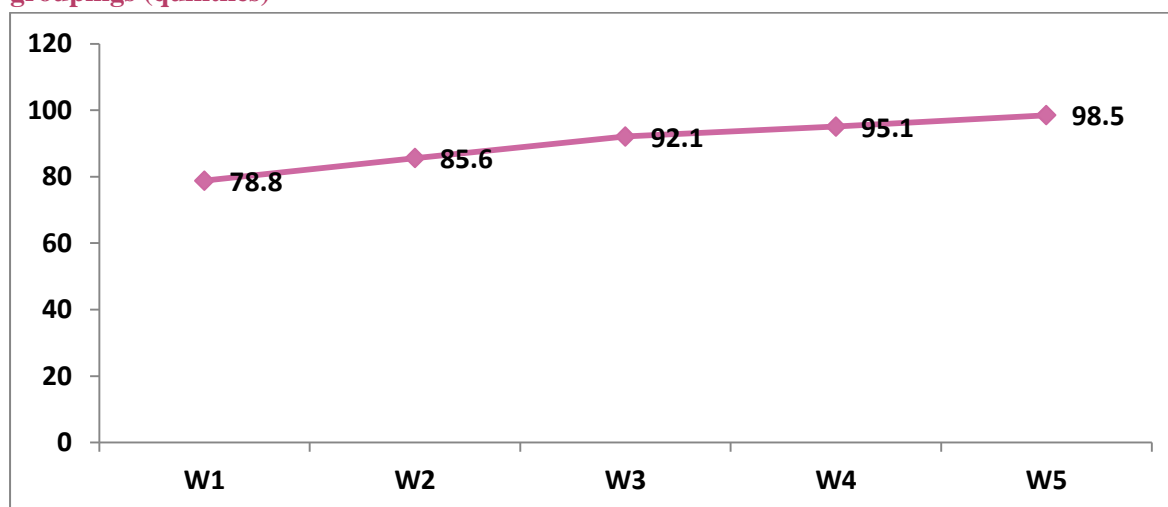
**Figure 15: Percentage of babies born with a body weight <2.5 kg, by wealth-groupings**



Source: CDHS 2010

The majority of babies are now delivered with assistance from trained attendants, as is evidenced in the CDHS 2010 and CDB 2010. The average is 89.1 per cent, with a wealth-specific distribution shown in Figure 16. While the distribution does not show much spread, the fact remains that there is wealth-specificity in accessing trained attendants.

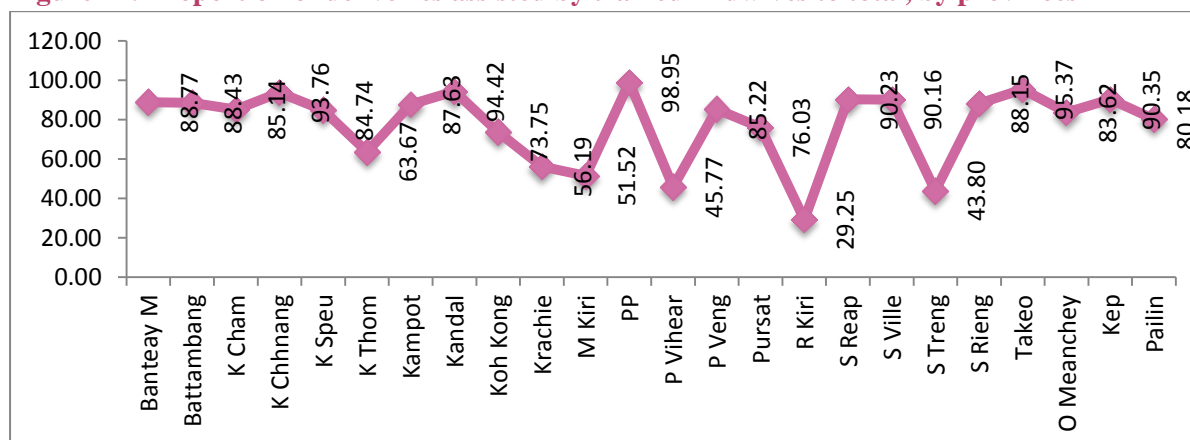
**Figure 16: Percentage of babies born with assistance from a trained attendant, by wealth groupings (quintiles)**



Source: CDHS 2010

CDB data suggests that traditional birth attendants deliver only 16 per cent of babies. This does not necessarily mean that all trained attendants are adequately trained and educated to modern global standards, but they are exposed to more scientific methods and precautions than traditional attendants. A province-specific profile of the proportion of babies delivered with assistance, as seen from CDB 2010, can be seen in Figure 17.

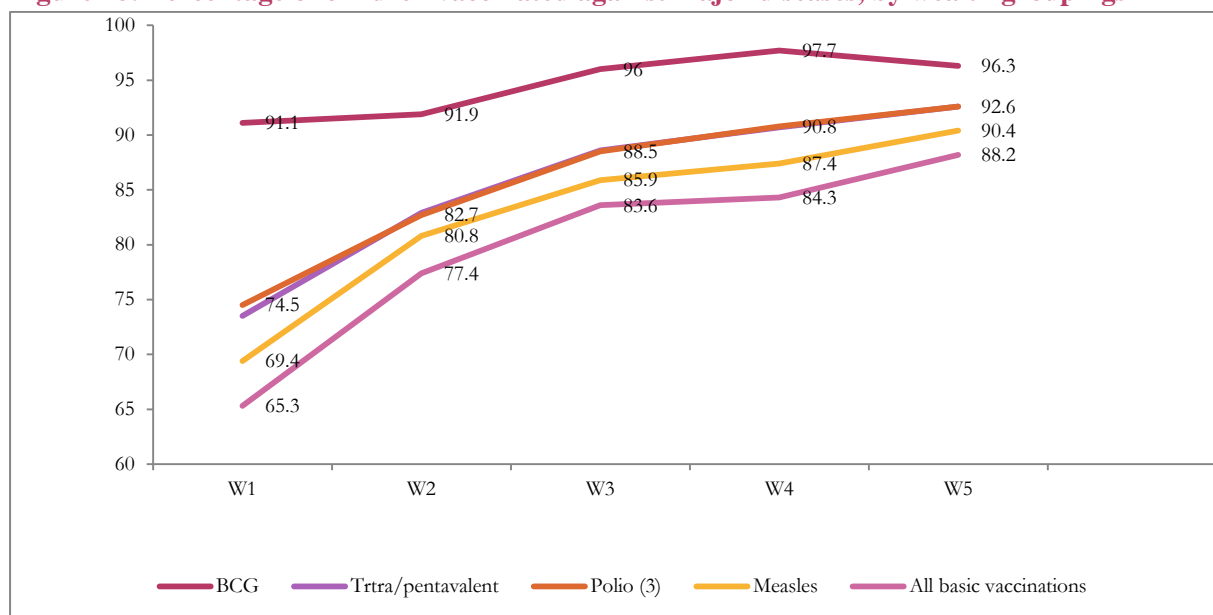
**Figure 17: Proportion of deliveries assisted by trained midwives to total, by provinces**



Source: CDB 2010

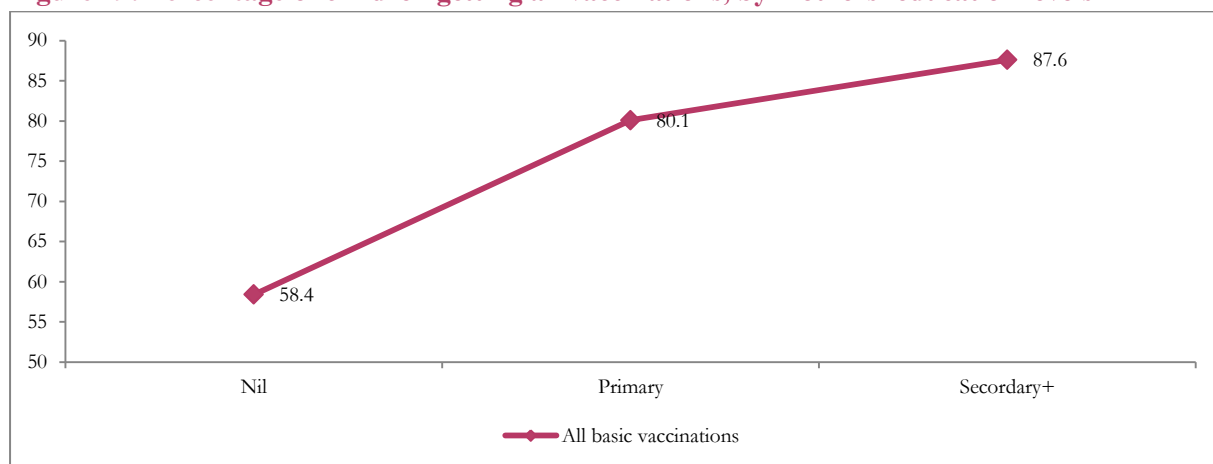
### Disease and vaccination

Data from CDHS 2010 suggests 79 per cent of children under 5 years are vaccinated against killer diseases such as polio and tuberculosis, one area with little wealth-specific difference. There is however, a relatively visible gap in protection against 'all major diseases' of up to 25 percentage points, shown in Figure 18.

**Figure 18: Percentage of children vaccinated against major diseases, by wealth groupings**

Source: CDHS 2010

The level of a mother's education is an important driver in protecting children against disease. As Figure 19 shows, children of educated mothers are more likely to be vaccinated than children of uneducated mothers. It could be assumed that mothers' education correlates to income/wealth levels, however, at least in some cases, education could be imparted to poorer women as well. So even without reductions in income inequality, child health could be improved.

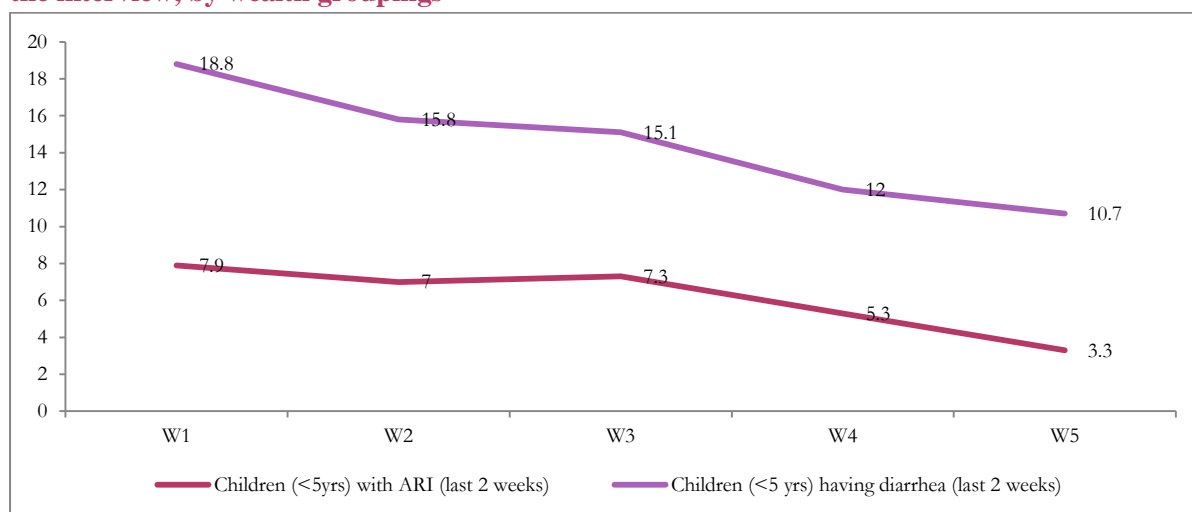
**Figure 19: Percentage of children getting all vaccinations, by mothers' education levels**

Source: CDHS 2010

CDHS 2010 suggests that the incidence of diarrhoea among children under 5 years in the two weeks prior to the interview was about 15 per cent, while Acute Respiratory Infection (ARI) was about 6 per cent. The former is considered high, and children from poorer groups suffer more (Figure 20).



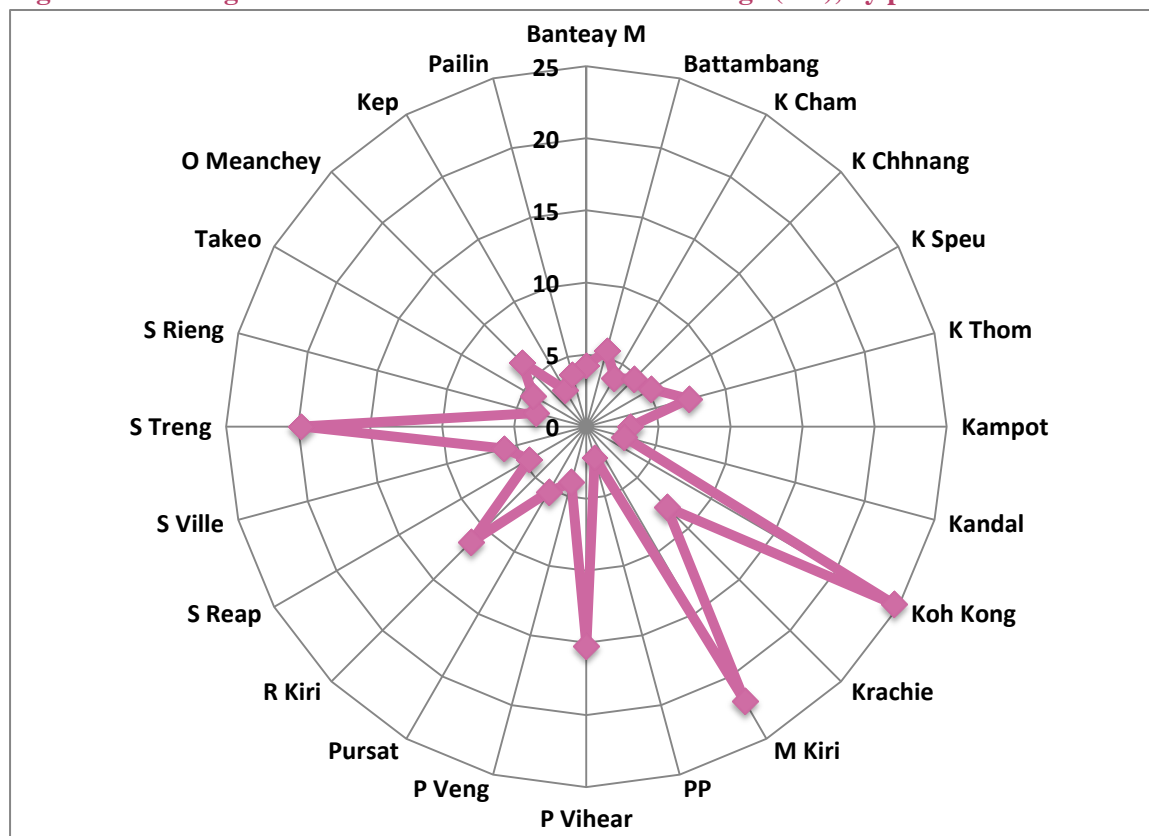
**Figure 20: Percentage of children suffering from ARI and diarrhoea, in the two weeks prior to the interview, by wealth groupings**



Source: CDHS 2010

Like poverty, distance is a great retarder of health entitlements. The average distance of a health centre from a village is 5.4 km. This is large, especially when the road network is poor and there are few means of transport. Figure 21 shows that in some provinces this distance is well over 10-20 km, imposing significant time and cost for all, but especially for poor people. Pregnant and very ill people struggle to reach the health centre. Private practitioners, including many unlicensed, step in to fill the gap.

**Figure 21: Average distance of a health centre from a village (km), by province**



Source: CDB 2010

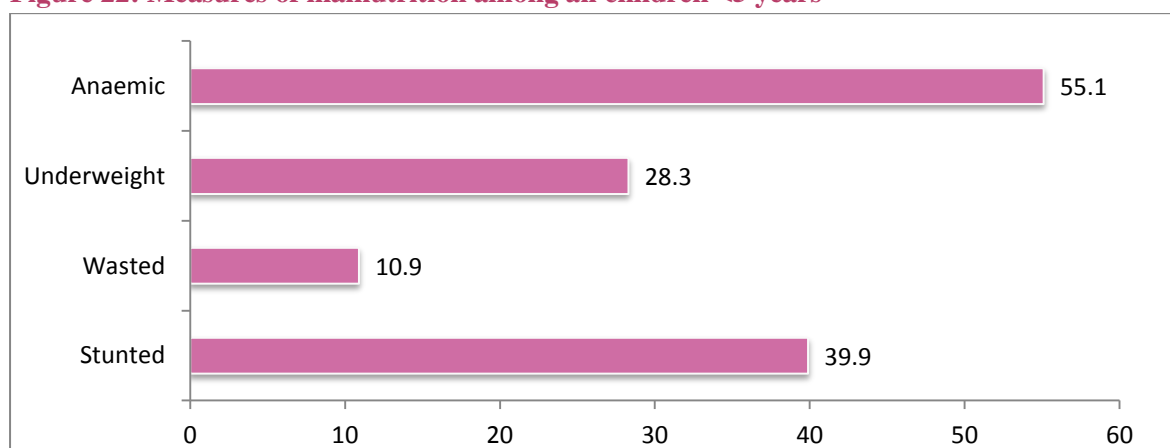
## Child malnutrition

The aggregate poverty rate, although a good indicator of human wellbeing, does not necessarily reflect the state of the child. In many developing countries, child malnutrition is higher than aggregate poverty.

Child malnutrition results in stunting (low height for age), wasting (low weight for height) and underweight (low weight for age). Each of these, in combination or in isolation, can affect both physical and mental agility, ultimately resulting in poor human capital formation, poor health and low earnings. This cycle extends inter-generationally, entrenching poverty traps.

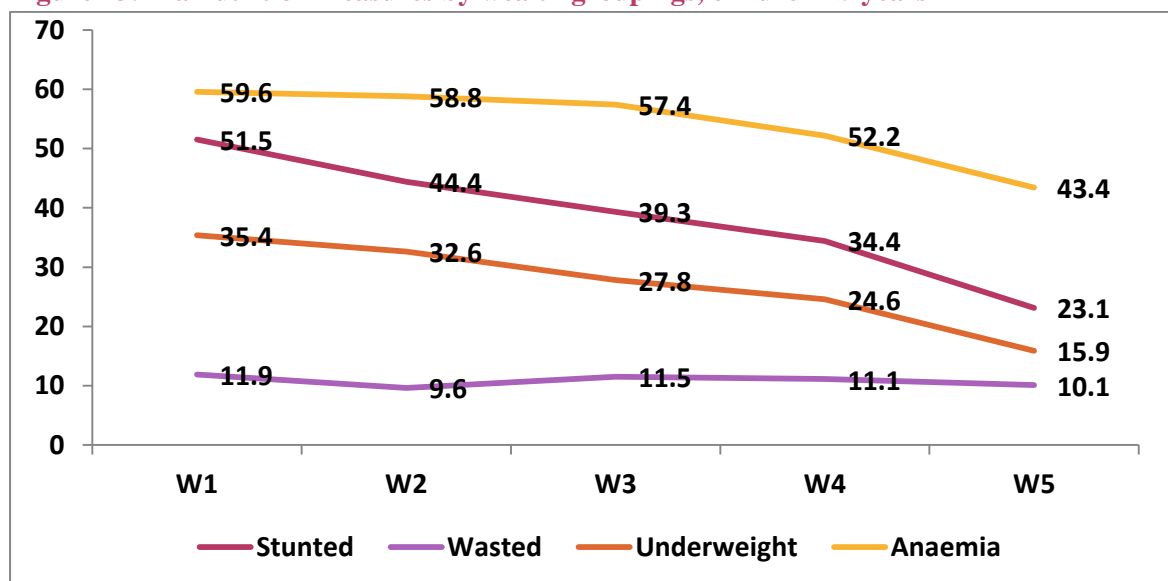
Data on child nutrition is available from the CDHS 2010. The sample gives a breakdown by province-specific and socio-economic groupings (wealth) categories.

**Figure 22: Measures of malnutrition among all children <5 years**



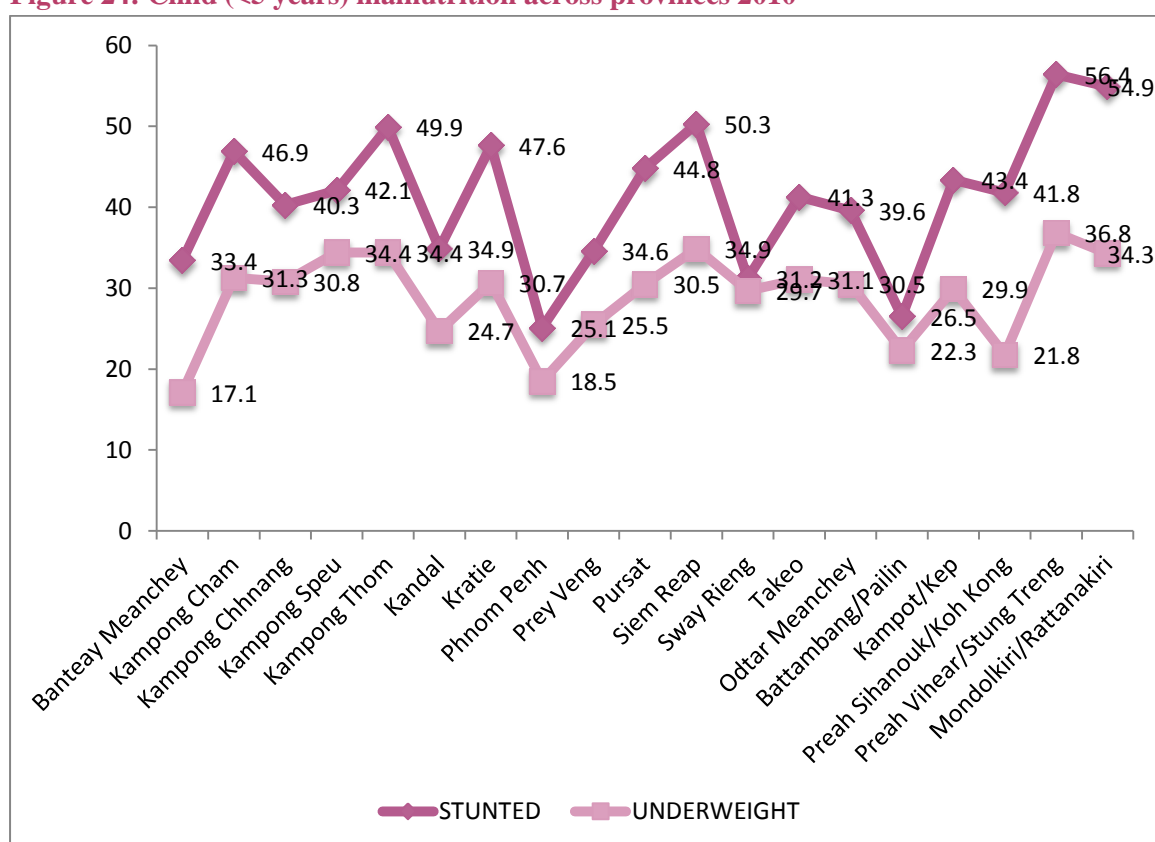
Source: CDHS 2010

There is widespread malnutrition among young children (Figure 22), with its wealth-specific dimension evident from the data presented in Figure 23. Except for 'wasted', all other variables are inversely related to the wealth status of the children's families. Inequality thus affects the current generation and increases the chance of future generations suffering.

**Figure 23: Malnutrition measures by wealth groupings, children <5 years**

Source: CDHS 2010

Figure 24 shows the regional profile of the spread of child malnutrition. Stunting and under-weight are visibly correlated<sup>7</sup>. The inter-province differential, of the north and northwest exhibiting greater incidence of deficiency compared to the south, is seen as well.

**Figure 24: Child (<5 years) malnutrition across provinces 2010**

Source: CDHS 2010

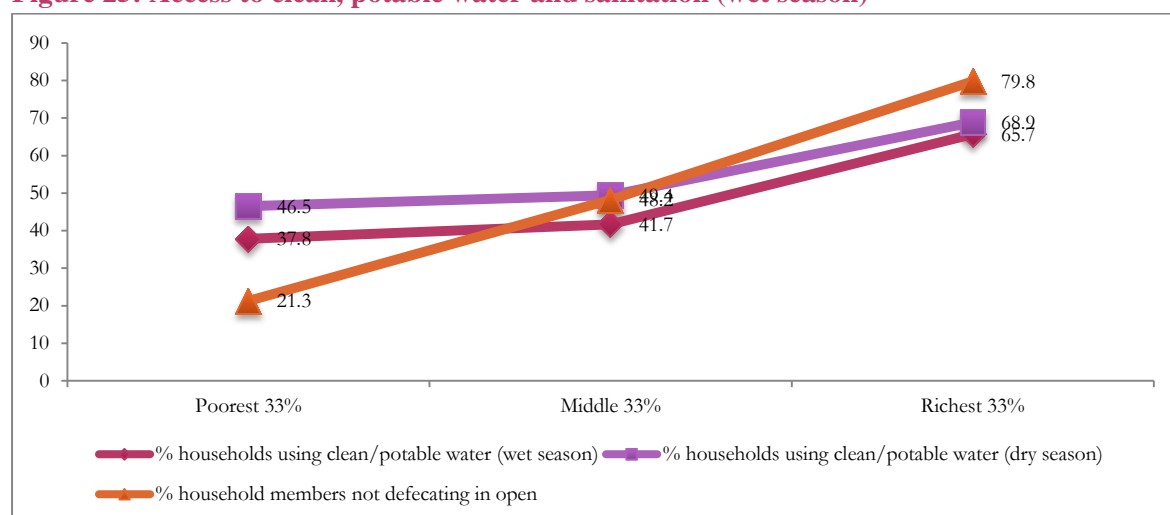
<sup>7</sup> Since the variable 'wasted' is statistically a combination of the two, it is not presented.

#### IV. Water and Sanitation

Clean/safe water, proper sanitation and waste disposal are central to achieving better health, especially for growing children. Empirical evidence is difficult to obtain as separate child-specific data on any of the variables associated with water and sanitation is not available on the current (household) databases.

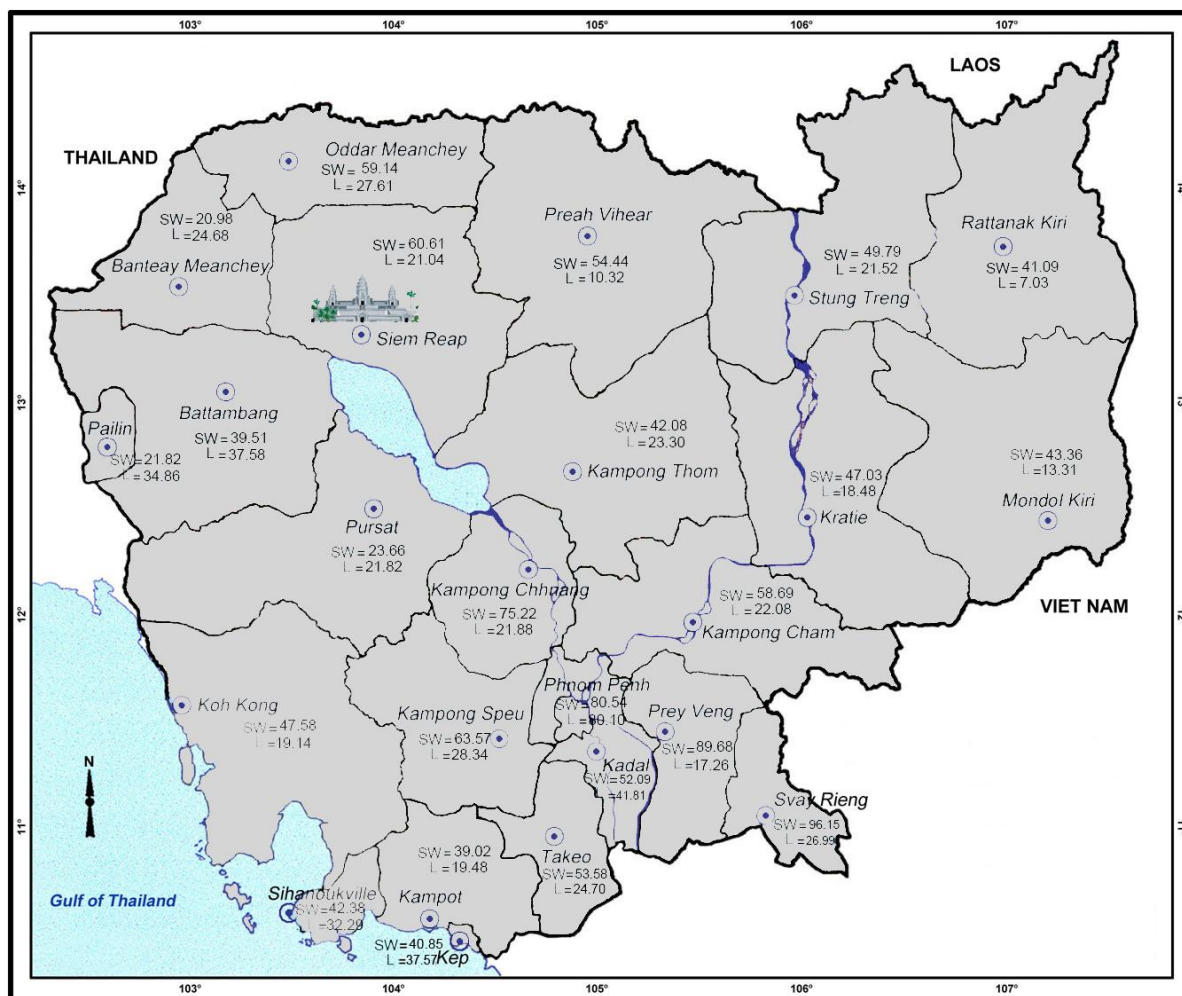
Data from CSES 2010 on water and sanitation suggest about 45.3 per cent of households drink improved water in the wet season, rising to 52.5 per cent in the dry season. Only 45 per cent of households use some form of latrine (toilet), others defecate in the open. The picture, when disaggregated by income (expenditure) groups is shown in Figure 25. Being household data, there can be no individual-specific inferences drawn, but as poorer households have more children, a larger proportion of children would be disadvantaged. Inequality between rural and urban areas persists; Phnom Penh is more privileged than other urban areas, which are in turn, more privileged than rural areas.

**Figure 25: Access to clean, potable water and sanitation (wet season)**



Source: CSES 2010

CDB 2010 provides data on the supply side of water and sanitation facilities at sub-national levels; e.g. the ratio of families with access to filtered/clean water to the total number of households in the village, and the number of latrines per number of total families in the village. Data for WASH is available only for families, not specifically for children. It suggests approximately 58 per cent of families have access to safe water, some 10 percentage points higher than what the CSES 2010 suggests, as the definition of what is 'clean' and who is answering the question varies across the two datasets. Nevertheless, as the CDB provides province-specific, and even greater, disaggregation, it can help illuminate the regional variation (Figure 26). Variations are large across provinces: the coefficient of variation for water exceeds 40 per cent, and for latrines, 50 per cent. This data provides clear pointers for where investments into the water and sanitation (WATSAN) sector should be allocated to achieve regionally balanced development and the CMDGs.

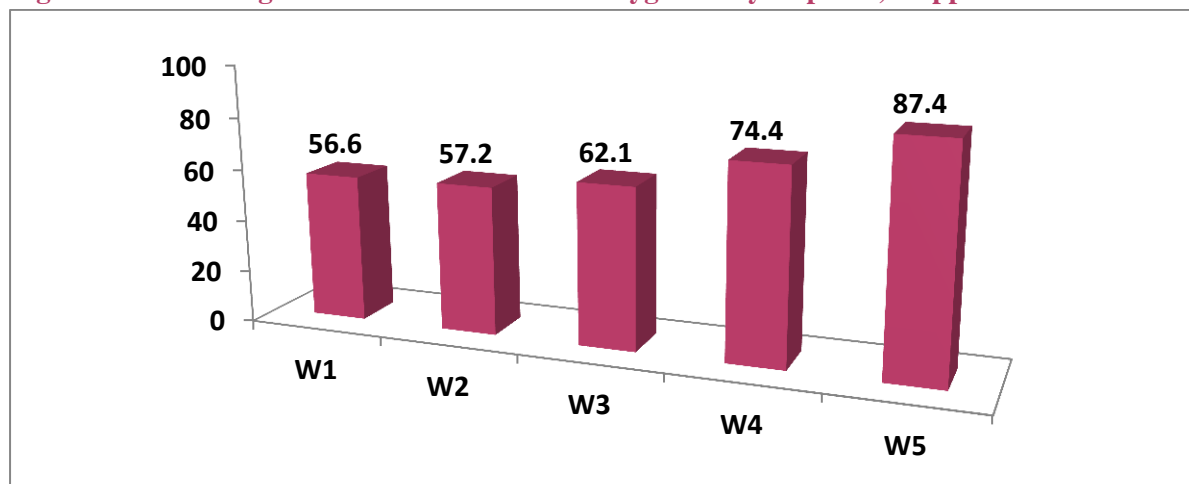
**Figure 26: Province-specific access to safe water and latrines (% families)**

Note: SW = safe water; L = latrines; (Latrines/family)\*100 means latrines per 100 families. Source: CDB

Another important indicator of good hygiene is how a child's stool is disposed. CDHS 2010 suggests that in approximately 66.3 per cent of cases, stool is disposed of hygienically by burying, latrines, etc. Morbidity and mortality rates can reduce significantly when this becomes universal.

Figure 27 indicates a link to income (expenditure), as safe disposal of stool varies by over 30 percentage points from the lowest to highest groupings.

A regionally balanced programme of public investment in WATSAN, along with a strong initiative for provision of micronutrients to children, would significantly advance progress on nutrition and development targets relating to children.

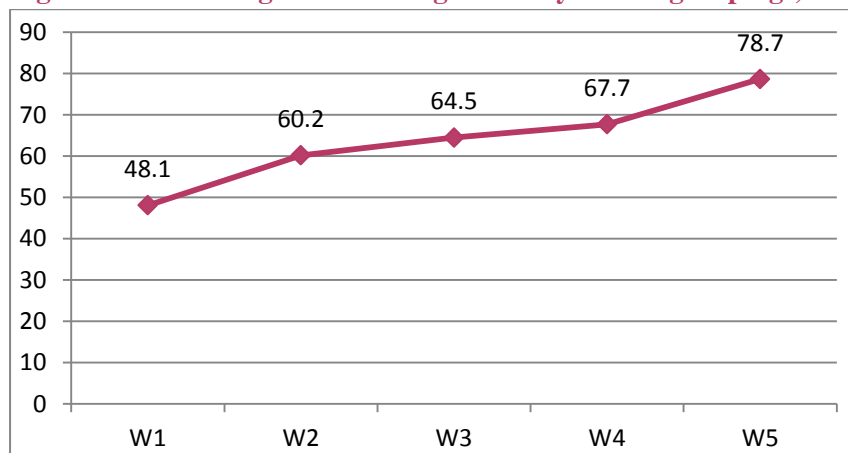
**Figure 27: Percentage of children whose stool is hygienically disposed, mapped to wealth status**

Source: CDHS 2010

## V. Child Protection

### Birth registration

Fewer poorer households register births than wealthier ones. Overall registration was 62.2 per cent in 2010.(Figure 28). Children from poorer households miss out on the social advantages and benefits that accompany birth registration.

**Figure 28: Percentage of births registered by wealth groupings, 2010**

Source: CDHS 2010

### Child labour

The existence of child labour in Cambodia cannot be denied. Slight alterations in definitions could change numbers and proportions significantly. The country defines child labour as a worker who has yet not attained 18 years of age. Two different computational options are put forth:

1. Per cent of children who are workers to total children:  $[(\text{Number of workers aged } <18 \text{ years})/(\text{Total number of persons } <18 \text{ years})] \times 100$



2. Per cent of child workers to total workers:  $[(\text{Number of workers aged } <18 \text{ years})/(\text{Total number of workers})] \times 100$

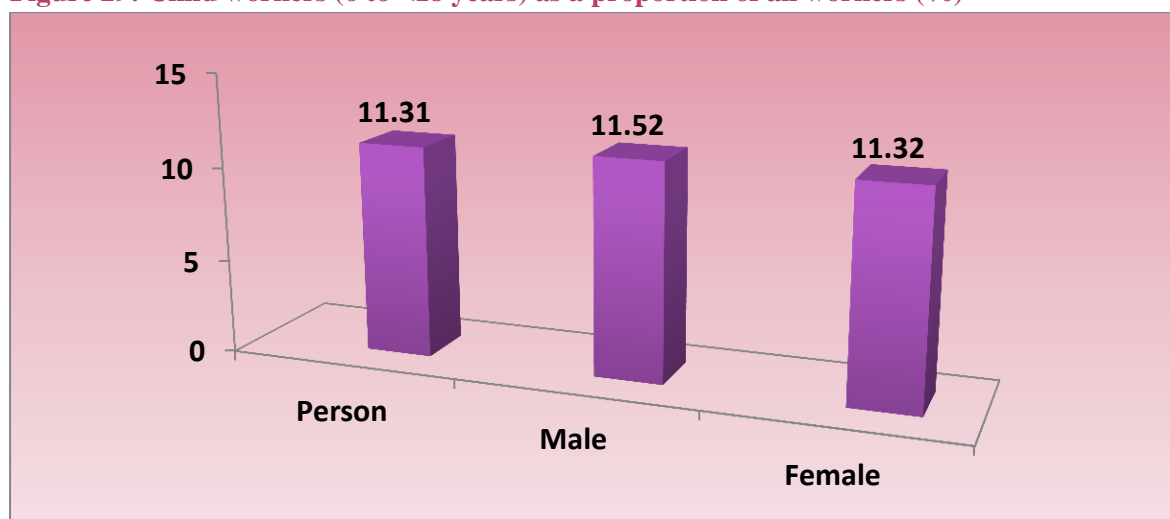
The Cambodian statistical system defines a worker in two ways:

1. Long-term status (LTS): major activity as worker over a long period of time, e.g. six months or more (employed or looking for work – CSES and Census)
2. Current status (CS): activity in the last (reference) week – worked at least one hour in the week before the interview (CSES)<sup>8</sup>

To determine the incidence and extent of child labour, LTS is appropriate, as a worker's weekly status could change radically in different seasons in a largely agrarian society.

Tabulations from CSES 2010 indicate 11.31 per cent of the labour force in Cambodia is less than 18 years old (i.e. between the ages of six and <18 years) (Figure 29). The data does not suggest any gender difference. Working children miss out on acquiring human capital, health and their childhood. The economic and social distance between them and those who are educated could remain, and perhaps widen.

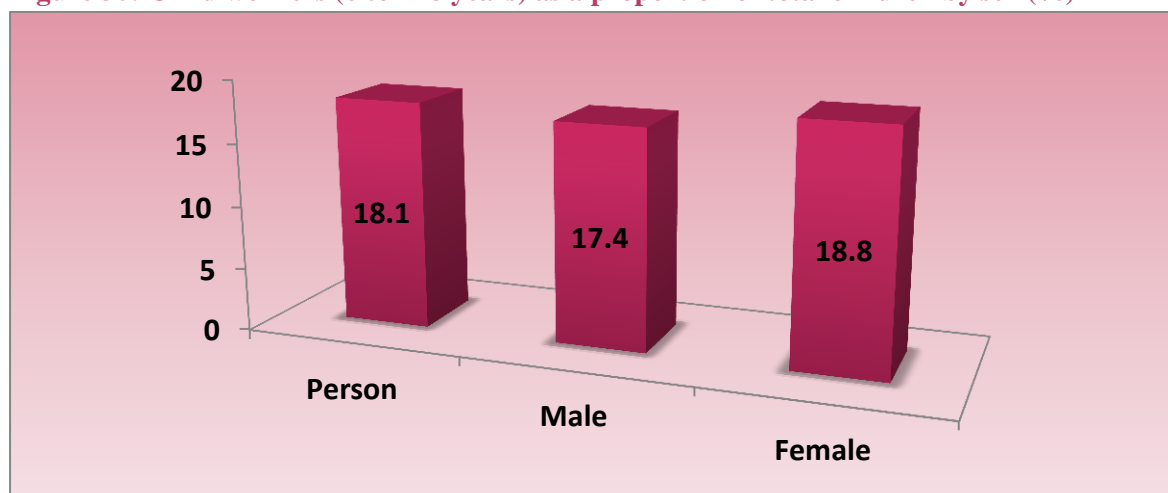
**Figure 29: Child workers (6 to <18 years) as a proportion of all workers (%)**



Source: CSES 2010

Approximately 18 per cent of Cambodia's children are child workers, with female employment slightly above male (Figure 30). Almost one-fifth of children work for a livelihood and/or contribute to the livelihood of their household. As discussed in the education section, the necessity to supplement household income and do household chores is a key contributor to children not attending schools.

<sup>8</sup> The official CSES report presents work status only by CS and not the LTS of a person. Also, the age groups for which it draws up tables are for 15 years and above. The Population and Housing Census collects and presents data by LTS, but the age groups for which it publishes data do not permit exact estimation of child labour. Also, it does not collect data on income, consumption or wealth. It dates back to 2008 – dated for current use. This paper has computed the LTS of persons from CSES for the first time.

**Figure 30: Child workers (6 to <18 years) as a proportion of total children by sex (%)**

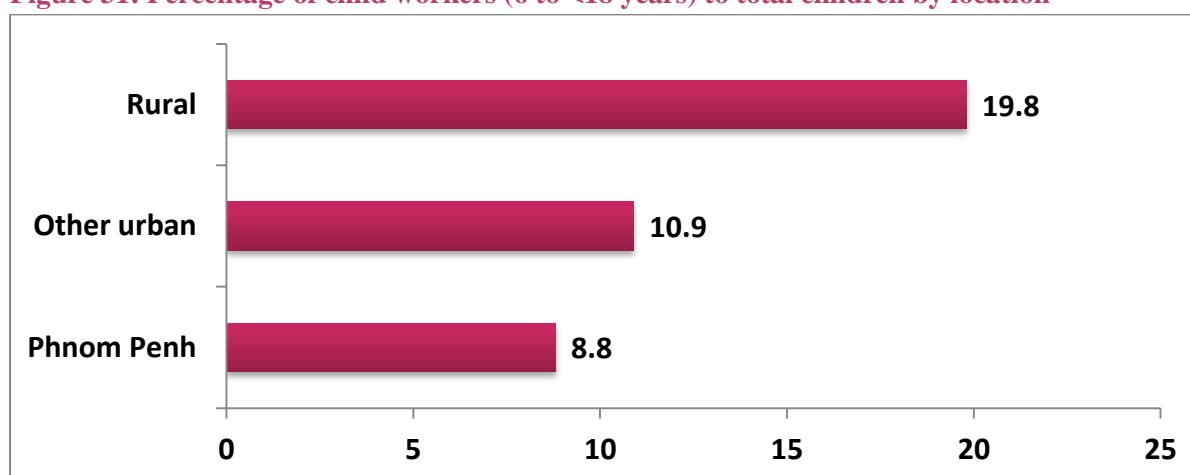
Source: CSES 2010

**The location and types of labour**

The proportion of child workers in rural areas is nearly twice that of urban areas (Figure 31). A large majority are engaged in agriculture and allied activities as unpaid family workers (Figure 32). This is a typical distribution of workers in an agrarian economy.

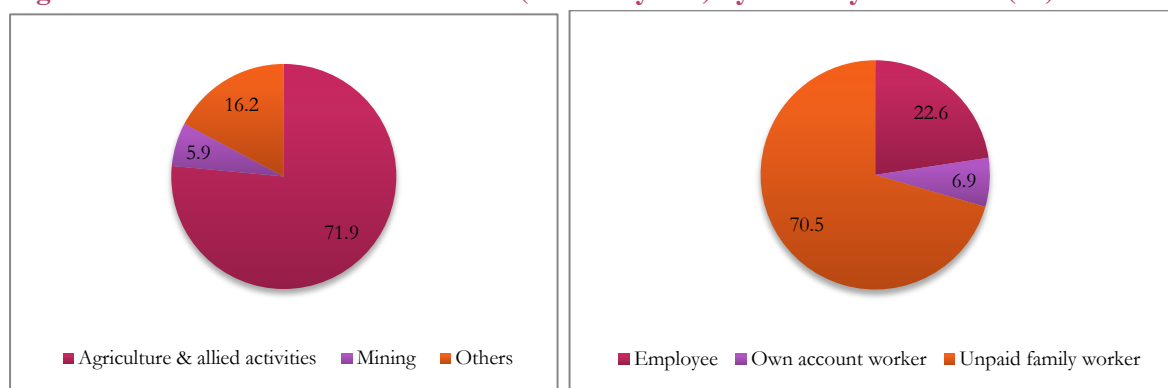
The rapid economic growth of recent years has not significantly affected the structure of Cambodia's labour force, with more than 70 per cent still engaged in subsistence agriculture. There is sufficient evidence that labour productivity in subsistence agriculture is four to five times lower than in other sectors<sup>9</sup>; and children get pulled into the workforce to keep households going. Hence, there is significant child labour in the agrarian sector.

This implies that 'left out' child workers in rural areas are destined for a subsistence agricultural existence, unless some substantive corrective action is initiated.

**Figure 31: Percentage of child workers (6 to <18 years) to total children by location**

Source: CSES 2010

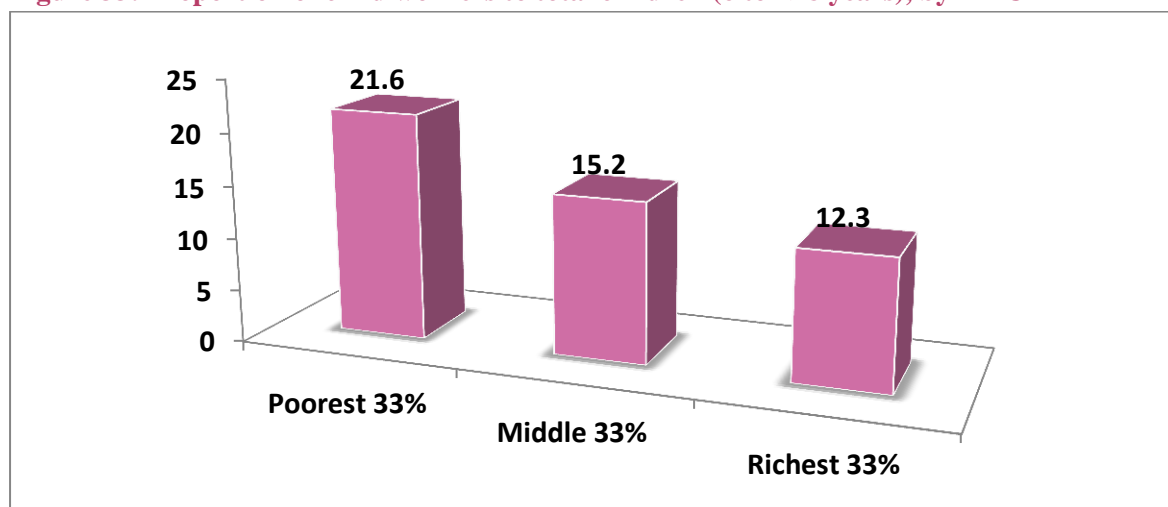
<sup>9</sup> *Diversifying the Cambodian Economy – The Role of Industrial Development*, Paper presented at Cambodian Economic Forum by SNEC 2011.

**Figure 32: Distribution of child workers (6 to <18 years) by industry and status (%)**

Source: CSES 2010

**Child workers by income groupings**

Both economic compulsion and subsistence-type agricultural activity pull children into the labour force, although the two are not mutually exclusive.

**Figure 33: Proportion of child workers to total children (6 to <18 years), by MPCE**

Source: CSES 2010

Seen proportionately, there are nearly 80 per cent more child workers in the lower 33 per cent income (expenditure<sup>10</sup>) class than in the top one (Figure 33). Interestingly, even in the top third there are visible numbers of child workers<sup>11</sup>.

This implies that even in relatively affluent households, child workers are drawn into paid/non-paid activities. Despite Cambodian laws against child labour, societal norms speak otherwise. Many traditional agrarian families in affluent societies believe a 17-year-old is ready to work. There are also

<sup>10</sup> Expenditure, rather than income, is a more robust measure of the standard of living in most economies dominated by an agrarian structure.

<sup>11</sup> The CSES 2010 dataset is small and therefore not feasible to disaggregate the sample by more than three expenditure groups.

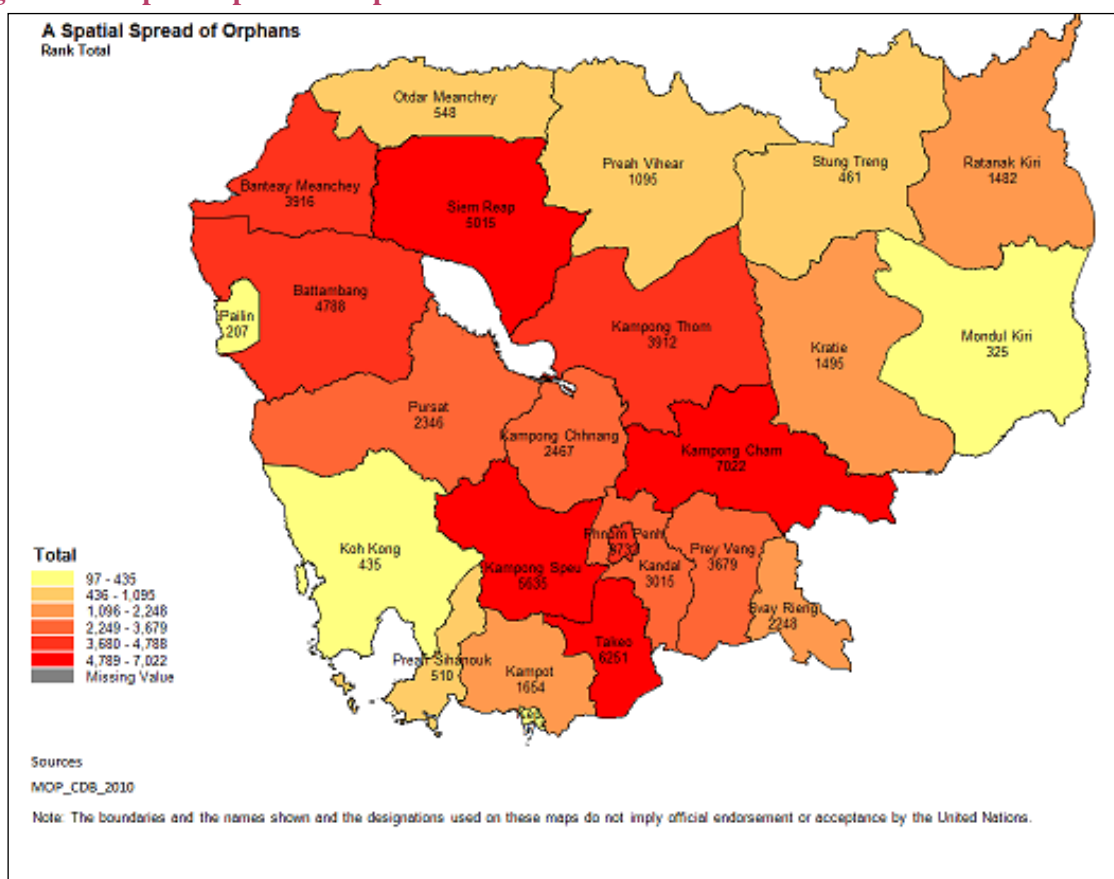
supply constraints in the form of non-availability, quality and access to schools, which pull children out of education and into the workforce.

As poverty seems to be one of the key drivers of child labour, sufficient social security and protection measures and alternatives are required to minimise the incidence of child labour. However there are other factors like employment opportunities<sup>12</sup>, perceived rates of return on education, the quality of education and the opportunity cost of sending children to school, especially in areas where adolescent children can easily get employment in an expanding local economy. This phenomenon is common across similar contexts in Andhra Pradesh in India, where economic growth saw a concomitant decline in school attendance and retention. More research is needed to understand and address the issue better. UNICEF's Regional Study on "Out of School Children" will hopefully further address this.

## Orphans

CDB 2010 data suggest there are 62,334 orphans (children under 18 years not having any living parent), of which more than 80 per cent live with guardians. Some 19,000 children are orphans due to their parents dying of AIDS. A numerical spatial spread of orphans can be seen in Figure 34. These numbers could help inform public action and the funds required for it.

**Figure 34: A spatial spread of orphans**



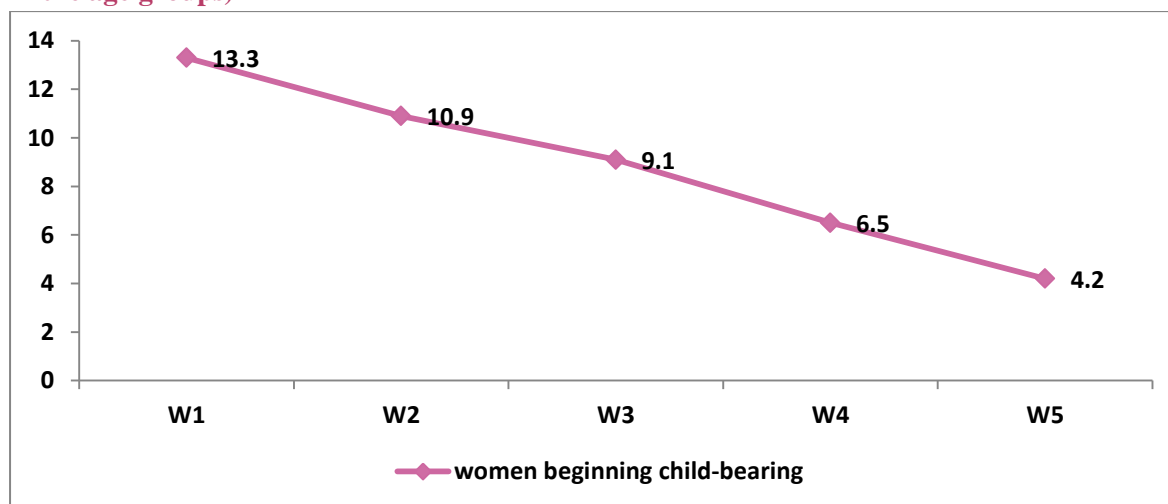
Source: CDB 2010

<sup>12</sup> UNDP Human Capital Implications Report 2011.

## Teenage pregnancies

Cambodian law sets the ‘age of consent’ for sexual intercourse by girls at 15 years. Teenage pregnancies are harmful and highly risky to both mothers and children. The average rate of Cambodian teenage pregnancy is 8.2 per cent, which is high by Southeast Asian standards. Although this issue needs further research, early (child) marriage is expected to be a major contributor. The incidence is lower in wealthier families (Figure 35).

**Figure 35: Women beginning childbearing during teens, by wealth groupings (% of total women in the age groups)**

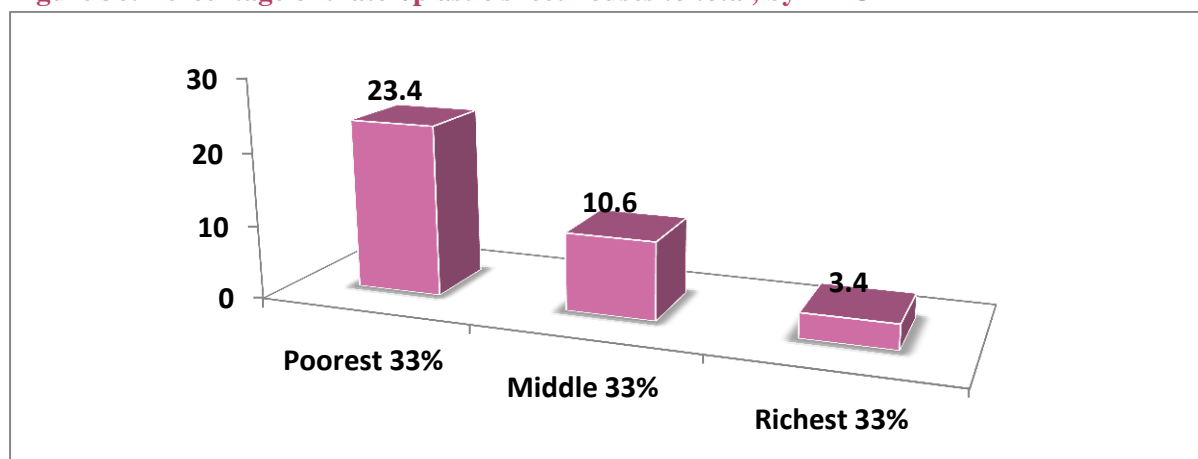


Source: CDHS 2012

When girls begin childbearing as teenagers, the probability that they will produce a larger number of children than average for their childbearing age group (i.e. in the next 25-30 years) increases. Given likely levels of wealth and health, some offspring would be weak and die early. Repeated pregnancies make mothers weaker, in turn affecting their longevity and parenting quality.

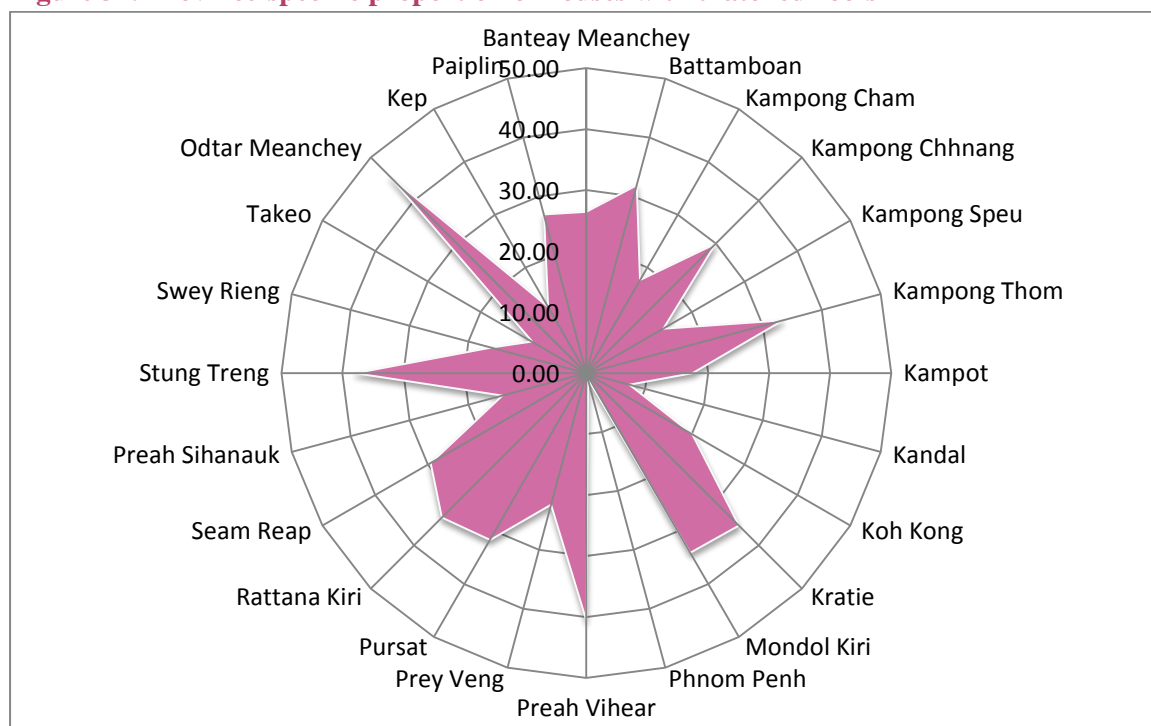
## VI. Shelter

The quality of shelter is vital to a child’s wellbeing: poor-quality housing can affect studies, rest/sleep, hygiene and many other facets of life, including psychological factors. The poorest quality housing has roofs of thatch, leaf or plastic sheet, the best dwellings are concrete or brick, with other combinations such as temporary tin/zinc sheds falling in the middle. CSES 2010 shows 14 per cent of dwellings are of the worst type and, as poorer households have more children, there are more children living in poor housing than this number initially suggests. CDB 2010 data shows 20.8 per cent of houses as thatched, compared to CSES 2010, while CDB does not collect data on houses with plastic sheets. Differences in definition can thus give statistical differences as large as 6 percentage points.

**Figure 36: Percentage of thatch/plastic sheet houses to total, by MPCE**

Source: CSES 2010

Figure 37 shows the usual pattern of households in the north of the country being more deprived than those in the south.

**Figure 37: Province-specific proportion of houses with thatched roofs**

Source: CDB 2010

## Conclusion

A number of issues concerning children requiring attention in Cambodia are closely linked to the level of inequality. In this essay, effort has been made to re-tabulate three large, countrywide datasets pertaining to 2010, to put forth concerns emerging from inequalities in Cambodian society. This is the first time data has been disaggregated in this form, establishing a strong empirical basis underlying the relationship between inequality and the state of children. While definitions of variables and

coverage of the three surveys differ, the messages are clear. Following are some key findings:

- Children disproportionately bear the burden of poverty. As poorer families have a higher than average number of children, the level of problems is higher than the percentage of disadvantaged households.
- There are more child workers in poorer households. These children will most likely not gain much human capital and therefore will stay in the lower echelons of society, with implications for earnings, unless corrective action is taken.
- Inequality affects schooling, which in turn affects human capital formation. Poorer children dropping out or not going to school widens the knowledge gap, and therefore income/wealth gap, between the 'haves' and 'have-nots'.
- Poorer children suffer more from malnutrition and poorer health services, resulting in higher mortality and morbidity. Physical distances from services are also a factor. This is a matter of concern for human capital formation and human development.

Inequality presents not only moral and ethical challenges, but is an economic roadblock to Cambodia's efforts to rise out of least-developed country status through economic diversification. To transition from a largely agrarian society to a more industrialised one, children in rural areas (who largely form the bottom quintile) need to develop better physical, mental and intellectual capacities. There is an indisputable link between human capital, labour productivity and growth, which has been clear to national planners and policy makers for some time. It is now apparent that there is a link between equality and the pace of growth. There is growing evidence that more equal societies develop more rapidly (Amartya Sen, 1999) and inequality works against development. Reducing inequality is an issue of choosing policies; some strategies being used by governments include not only enhanced investment in social sectors like health and education to improve supply and quality, but measures of social protection for the poorest, who need targeted assistance to access services. According to a recent study conducted by UNICEF/CARD, if Cambodia implemented basic social protection coverage (costing 1.6 per cent GDP), it would reduce poverty faster and accelerate its economic growth (through an accumulation of human capital). Cash transfers to children under six, and cash scholarships to poor students in lower secondary schools, are two such instruments that meet the criteria of effectiveness and efficiency and contribute to poverty reduction and accumulation of human capital.



## Annex 1

**Box 1: A Multidimensional Deprivation Approach to Child Poverty**

**i) The Bristol Deprivation Approach:** The Bristol Deprivation Model was adopted by the Global Study on Child Poverty and Disparity as a method to measure child poverty that not only captures the multidimensional nature of child poverty, but also the depth of poverty. The deprivation measures of child poverty are based on internationally agreed upon dimensions of child wellbeing and the child rights enshrined in the CRC, namely: adequate nutrition, safe drinking water, decent sanitation facilities, health, shelter, education and information. The dimensions shown below were agreed upon at the 1995 World Social Summit.

**ii) The Seven Dimensions of Child Poverty**

Food	Water	Shelter	Sanitation	Health	Education	Information
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**ii) The Continuum of Deprivation along Each Dimension\***

No Deprivation → Less Severe Deprivation → Severe Deprivation

**iii) Thresholds for Severe and Less Severe Deprivation in Each Dimension**

Dimension	Severe Deprivation	Less Severe Deprivation	Age**
Food	Children whose height and weight were more than 3 SDs below the median of the international reference population.	Children who are more than 2 SDs below the international reference population for stunting or wasting, or are underweight.	Under 5 yrs
Water	Children who only had access to surface water (e.g. rivers) for drinking or who lived in households where the nearest source of water was more than 30 minutes round trip away.	Children using water from an unimproved source such as open wells, open springs or surface water or who it takes 30 minutes or longer to collect water	Under 18yrs
Shelter	Children in dwelling with 5 or more people per room or with no flooring material	Children living in dwellings with 1 or more people per room or living in a house with no flooring or inadequate roofing.	Under 18yrs
Sanitation	Children who had no access to a toilet of any kind in the vicinity of their dwelling. E.g., No private or communal toilets or latrines	Children using unimproved sanitation facilities. Unimproved are: pour flush latrines, covered pit latrines, open pit latrines, and buckets.	Under 18yrs
Health	Children who had not been immunized against any diseases or young children who had a recent illness and had not received any medical advice or treatment.	Children who have not been immunized by 2 yrs of age. If the child has not received eight specific vaccinations they are defined as deprived or if they did not receive treatment for a recent illness involving an acute respiratory infection or diarrhea.	Under 5yrs
Education	Children who had never been to school and were not currently attending school.	Children of schooling age not currently attending school or who did not complete their primary education	7-17yrs
Information	Children with no access to newspapers, radio, television, phones, or computers at home.	Children with no access to broadcast media (television and radio)	3-17yrs

**iv) Incidence of Child Poverty Using the Deprivation Approach****Severe Deprivation (1+):**

The condition of the being severely deprived in at least one dimension

**Multiple Severe Deprivation (2+):**

The condition of being severely deprived in two or more dimensions\*\*\*

\*Adapted from Gordon's (2000) theory of relative deprivation.

\*\*Given the age cohorts under consideration, it should be noted that any mention of the incidence of deprivation in this paper refers to incidence among children only.

\*\*\*This condition is referred to as Absolute Poverty in the Bristol Model, but was renamed for the purpose of this report since the Bristol terminology does not adequately capture how it relates to 'Severe Deprivation'.