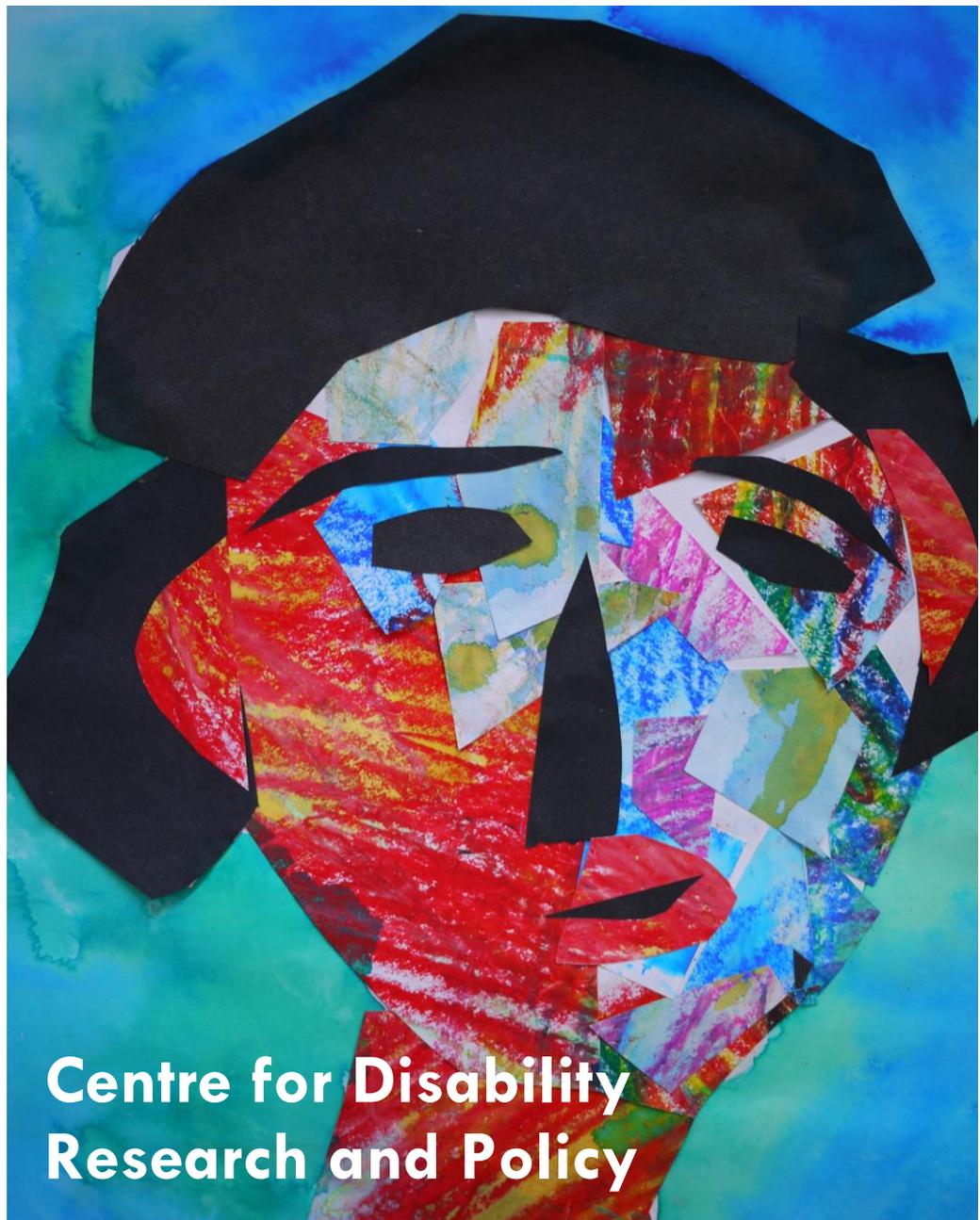


The Wellbeing of Children with Developmental Delay in Bangladesh, Bhutan, Laos, Nepal, Pakistan and Vietnam

An Analysis of Data from UNICEF's Multiple
Indicator Cluster Surveys



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TECHNICAL REPORT, 2016

December 2016

Centre for Disability Research and Policy
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ISBN: 978-1-74210-400-3

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Acknowledgements

This report utilises data collected by UNICEF's Multiple Indicator Cluster Survey (MICS) initiative. The study team would like to acknowledge the support of the UNICEF MICS team in providing access to these data.

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Summary

Since the development of the United Nations Convention on the Rights of the Child (UNCRC) in 1998, increased attention has been paid to monitoring the well-being of children. The UN Convention on the Rights of Persons with Disabilities (UNCRPD) and UNCRC both contain explicit provisions regarding the rights of children with disabilities. These impose obligations on governments to act to ensure that children with disabilities enjoy the same rights and opportunities as other children. In order to promote the visibility of children with disabilities, enable better policy, and monitor progress, disaggregation of data related to children's well-being on the basis of disability is needed.

In this project we used data collected in rounds four and five of UNICEF's Multiple Indicator Cluster Surveys programme (MICS) to describe the wellbeing of young children with and without developmental delay in six Asian countries. We used the Sustainable Development Goals as a framework for identifying indicators of child wellbeing

We found that

<p>1 NO POVERTY</p> 	<p>In five out the six countries children with developmental delay were more likely to be living in poverty than their peers</p>
<p>2 ZERO HUNGER</p> 	<p>In all six countries children with developmental delay were more likely to have experienced persistent severe hunger than their peers</p>
<p>3 GOOD HEALTH AND WELL-BEING</p> 	<p>On three indicators (poor peer relationships, diarrhoea and fever) children with developmental delay were more likely to have poor health than their peers. On three indicators (obesity, aggression and acute respiratory infections) there was no systematic difference between children with and without developmental delay.</p>
<p>4 QUALITY EDUCATION</p> 	<p>On all four indicators (attendance at early childhood education centre, family support for learning, access to learning materials in the home, maternal level of education) children with developmental delay were more disadvantaged than their peers.</p>
<p>5 GENDER EQUALITY</p> 	<p>On gender equality there was no systematic difference between children with and without developmental delay.</p>
<p>6 CLEAN WATER AND SANITATION</p> 	<p>On two indicators (improved sanitation, place to wash hands) children with developmental delay were more disadvantaged than their peers. On one indicator (improved drinking water) there was no systematic difference between children with and without developmental delay.</p>

The overall picture is that, across these six low and middle income Asian countries, three to four year old children with developmental delay are more systematically disadvantaged when compared to their peers with regard to five of the six sustainable development goals for which we could identify indicators.

While the association between social, economic and environmental disadvantage and developmental delay has been well documented in high income countries, few studies have addressed this issue in low and middle income countries. There is, however, a robust body of evidence from low and middle income countries that exposure to poverty, under nutrition and low levels of cognitive stimulation can impair the general cognitive development of children. The associations reported in the present report between poverty, under nutrition and reduced access to early childhood education, family support for learning and learning materials in the home are consistent with this body of knowledge. They are likely to reflect, in part, the causal relationships between exposure to these environmental adversities and child cognitive development. However, they are also threats to child development that are amenable to change.

Key to addressing these factors in the context of the 2030 Agenda for Sustainable Development will be a strong commitment to ensuring that all developmental programmes and activities for children and programmes not only include children with disabilities and their families, but also make appropriate 'reasonable accommodations' to ensure that children with disabilities and their families receive the same benefit as other children and families.

Background

Since the development of the United Nations Convention on the Rights of the Child (UNCRC) in 1998 and its ratification by a majority of countries, increased attention has been paid to monitoring the well-being of children.¹⁻⁹ Following the UNICEF report into the state of children's well-being in OECD countries,^{3,7} many countries have produced 'State of the Nation's Children' style reports.¹⁰⁻¹⁵ However, with the exception of monitoring undertaken by UNICEF,^{4,5} most knowledge about children's well-being primarily relates to children living in high income countries. Further, the vast majority of reports on child wellbeing fail to disaggregate data to monitor inequalities in the well-being of specific groups of children who are at risk of marginalisation and social exclusion. Where data have been disaggregated it has been in relation to factors such as ethnicity, age and wealth.¹² One group of children at great risk for marginalisation and exclusion, but who are very rarely the focus of wellbeing research, are children with disabilities.

The UN Convention on the Rights of Persons with Disabilities (UNCRPD) defines persons with disability as 'those who have long-term physical, mental, intellectual or sensory impairments which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others'.¹⁶ While there are difficulties in measuring the prevalence of disability the WHO/World Bank *World Report on Disability* reported data from the Global Burden of Disease 2004 study, suggesting that 5.1% of children worldwide experience "moderate or severe disability".¹⁷ This equates to around 93 million children. UNICEF have estimated that around 150 million children (under age 18) have a disability.¹⁸

UNCRC and UNCRPD both contain explicit provisions regarding the rights of children with disabilities. These impose obligations on governments to act to ensure that children with disabilities enjoy the same rights and opportunities as other children. However, as reported to the United Nations General Assembly in 2011,¹⁹ this is not currently the case. Children with disabilities internationally experience entrenched social exclusion, the impact of which is that they are often denied "access to education and health care, opportunities for play and culture, family life, protection from violence, an adequate standard of living and the right to be heard" (p.5).¹⁹ The magnitude and scope of the problems identified constitute, according to the report, a "hidden emergency" (p.15).¹⁹

In order to promote the visibility of children with disabilities, enable better policy, and monitor countries' progress toward achieving their human rights, disaggregation of data related to children's well-being on the basis of disability is needed.¹⁹ Indeed, the recent report by the Inter-agency and Expert Group on Sustainable Development Goal Indicators proposed the following overarching principle of data disaggregation to accompany the list of proposed Sustainable Development Goal (SDG) indicators; '*SDG indicators should be disaggregated where relevant by income, sex, age, race, ethnicity, migratory status, disability and geographic location, or other characteristics, in accordance with the Fundamental Principles of Official Statistics.*'²⁰

In a previous report we used data from the third round of UNICEF's Multiple Indicator Cluster Surveys (MICS) to describe the relative well-being of disabled and non-disabled children in four South Asian/Pacific countries in 2005-8: Bangladesh, Laos, Mongolia and Thailand.²¹ We extracted indicators of wellbeing to address issues such as the child's right to education, health and a standard of living adequate for the child's physical, mental, spiritual, moral and social development.

Our main findings were that in all four countries:

1. Children with disabilities were markedly more disadvantaged than their non-disabled peers on the *majority* of the indicators available.
2. Children with disabilities were markedly more disadvantaged than their non-disabled peers on indicators relating to the child's right to education, health and an adequate standard of living.
3. There were notable differences *between* disabled children regarding the extent of disadvantage they faced. In both Bangladesh and Lao PDR, for example, children with sensory impairments fared particularly poorly. In Thailand, by contrast, children with cognitive delay fared particularly poorly.

These data were important on three counts. First, they demonstrated the viability of using simple items in population surveys to identify and characterise the wellbeing of disabled children.^{22,23} Second, they added to the limited evidence base on the well-being of children with disabilities in low and middle income countries.¹⁷ Third, they illustrated the importance of disaggregating disability information by type of impairment.¹⁷

In the present report we use data from rounds four and five of MICS to describe the relative wellbeing of three and four year old children with and without developmental delay in six Asian countries: Bangladesh, Bhutan, Laos, Nepal, Pakistan and Vietnam. We report on indicators of wellbeing that are consistent with six of the Sustainable Development Goals.²⁴

Method

We undertook secondary analysis of data collected in rounds four and five of UNICEF's MICS.⁵ The MICS programme, launched in 1994, sought to generate robust country-specific data on the wellbeing of young children and mothers. MICS formed the basis of measuring progress toward the achievement of the Millennium Development Goals,⁵ and will in the future contribute to the measurement of progress toward the achievement of the Sustainable Development Goals.²⁴

Following approval of access by UNICEF, data were downloaded from <http://mics.unicef.org/> in November 2015. MICS 4 surveys were undertaken between 2009 and 2012 in 56 low and middle income countries, with data available at the time of download for 40 countries. MICS 5 surveys commenced in 2012 and at the time of download had been completed in 25 countries, with data available for 10 countries.

MICS contains a number of questionnaire modules. Data used in the present report were extracted from the module applied to all three and four year-old children living in the sampled household. Details of the sampling procedure used in each country are available at <http://mics.unicef.org/>. In the majority of countries cluster sampling methods are used to derive samples representative of the national population of mothers and young children. In all countries sample weights are generated to take into account any biases deriving from the sampling method and household and individual level non-response.

In our previous report we identified children with disability using responses to the Ten Questions Screen, an optional module for measuring child disability. This optional module has not been included in subsequent rounds of MICS. However, the standard under five child module contains items can be used to identify children with significantly delayed development. These children may be considered to be at risk of intellectual disability.

Identification of children with developmental delay

The child under five module in MICS 4 and 5 contained a ten item module which is used to derive UNICEF's Early Child Development Index (ECDI). The index is based on selected milestones that children are expected to achieve by ages three and four. The ECDI is calculated as the percentage of children who are developmentally on track in at least three of four domains; literacy-numeracy, physical, social emotional and learning. We used the five items from the literacy-numeracy and learning domains to identify children with developmental delay.

1. Literacy-numeracy: Children are defined as being developmentally on track based on: (a) whether they can identify/name at least ten letters of the alphabet; (b) whether they can read at least four simple, popular words; and (c) whether they know the name and recognize the symbols of all numbers from 1 to 10. If at least two of these are true, then in the EDCI the child is considered developmentally on track.
2. Learning: Children are defined as being developmentally on track based on: (a) if the child follows simple directions on how to do something correctly; and (b) when given something to do, is able to do it independently. If at least one of these is true, then in the EDCI the child is considered developmentally on track.

We identified children as being developmentally delayed if they were reported by their primary caregiver to be unable to complete all five tasks. However, we only included data from countries that met three criteria: (a) the five items demonstrated a modest degree of internal consistency ($\alpha \geq 0.5$); (b) the prevalence of risk of developmental delay was greater than 1%; and (c) the number of children identified as being at risk of developmental delay was greater than 50. These inclusion criteria led to the exclusion of data from one country (Mongolia) due to low internal consistency. A further two countries were excluded as

ECDI items were not collected (Afghanistan and Indonesia). The year of data collection and sample sizes for the included countries is shown below in Table 1.

Table 1: Year of data collection and sample sizes

Country	Income Status ^a	Year of Data Collection	N Children with Developmental Delay ^b	N Children without Developmental Delay ^c	Prevalence of Developmental Delay ^c
Bangladesh	Low	2012/13	634	7,959	7.6%
Bhutan	LM	2012	106	2,272	4.1%
Laos	LM	2012	221	4,177	5.0%
Nepal	Low	2014	287	1,937	15.4%
Pakistan (Baluchistan)^d	LM	2010	568	3,552	14.4%
Vietnam	LM	2011	106	1,302	6.3%
Total			1,922	21,199	8.3%

Notes:

- ^a In year of data collection as reported in that year's World Bank's World Development Report (Low = low income, LM = low middle income)
- ^b Sample sizes are unweighted (i.e., represent the actual number of children participating in the survey).
- ^c Prevalence uses sample weights provided by the UNICEF MICS team to take into account any biases deriving from the sampling method and household and individual level non-response.
- ^d In Pakistan MICS data was collected for the province of Baluchistan. In all other countries nationally representative samples were collected.

Approach to analysis

Identification of indicators

We used the Sustainable Development Goals²⁴ as a framework for identifying indicators of child wellbeing that could be extracted from MICS data. Some of the indicators we have used were defined MICS indicators, others were defined specifically for the present study.

No Poverty

MICS data is released with a derived wealth index for each household. To construct the wealth index, principal components analysis is performed by using information on the ownership of consumer goods, dwelling characteristics, water and sanitation, and other characteristics that are related to the household's wealth, to generate weights (factor scores) for each of the items used. First, initial factor scores are calculated for the total sample. Then, separate factor scores are calculated for households in urban and rural areas. Finally, the urban and rural factor scores are regressed on the initial factor scores to obtain the combined, final factor scores for the total sample. This is carried out to minimize the urban bias in the wealth index values. Each household in the total sample is then assigned a wealth score based on the assets owned by that household and on the final factor scores obtained as described above. The survey household population is then ranked according to the wealth score of the household they are living in, and is finally divided into 5 equal parts (quintiles) from lowest (poorest) to highest (richest). The wealth index is assumed to capture the underlying long-term wealth through information on the household assets, and is intended to produce a ranking of households by wealth, from poorest to richest.^{25,26} We defined poverty as living in a household in the poorest quintile for each country.

Zero Hunger

Child weight and height data was collected by direct measurement using anthropometric equipment recommended by UNICEF.²⁷ These data were available for five of the six Asian countries for which we were able to identify children with developmental delay. Height-for-

age data were transformed into z scores from the median reference population; WHO growth standards.²⁸ Children whose height-for-age was more than three standard deviations below the median reference population were classified as being severely stunted (typically a consequence of severe under nutrition) (MICS4 indicator 2.2). We used severe stunting as an indicator of possible exposure to significant and persistent hunger.

Good Health & Wellbeing

We identified six indicators of child health.

- *Obesity*: Childhood obesity, especially when it occurs in early childhood, has been identified as a major global public health concern.²⁹ Child weight and height data was collected by direct measurement using anthropometric equipment recommended by UNICEF.²⁷ These data were available for all but one of the five countries for which we were able to identify children with developmental delay. Weight-for-height data were transformed into z scores from the median reference population; WHO growth standards.²⁸ Children whose weight-for-height was more than three standard deviations above the median were classified as obese.³⁰
- *Social and Behavioural Health*: The social emotional component of the ECDI contains indicators of child developmental health based on simple Yes/No responses: ‘Does (name) get along well with other children?’; ‘Does (name) kick, bite, or hit other children or adults?’.
- *Infectious disease*: The children under five module of MICS collects information on the occurrence over the previous two weeks of acute respiratory infection, diarrhoea and fever. Information on acute respiratory infection is included as an indicator of risk of pneumonia. Information on fever is included as an indicator of risk of malaria. Pneumonia, diarrhoea and malaria are major global threats to child survival and wellbeing, accounting for over one-third of deaths globally of children under the age of five years³¹⁻³⁴.
 - *Acute Respiratory Infection (ARI)*: Assessed by responses to three questions: (1) ‘At any time in the last two weeks, has (NAME) had an illness with a cough?’; (2) ‘When (NAME) had an illness with a cough, did he/she breathe faster than usual with short, rapid breaths or have difficulty breathing?’; and (3) ‘Was the fast or difficult breathing due to a problem in the chest or a blocked or runny nose?’. An ARI was defined by affirmative answers to Q1 and Q2 and a response to Q3 indicating that the fast or difficult breathing was due at least in part to a problem in the chest.
 - *Diarrhoea*: Was assessed by a simple Yes/No response to the question ‘In the last two weeks, has (name) had diarrhoea?’
 - *Fever*: Was assessed by a simple Yes/No response to the question ‘In the last two weeks, has (NAME) been ill with a fever at any time?’

Quality Education

We identified four indicators of education.

- *Child Education*: Assessed by a simple Yes/No response to the question ‘Does (NAME) attend any organized learning or early childhood education programme, such as a private or government facility, including kindergarten or community child care?’ (MICS4 indicator 6.7)
- *Support for learning*: Respondents were asked ‘In the past 3 days, did you or any household member over 15 years of age engage in any of the following activities with (NAME): (a) read books to or looked at picture books with (NAME)?; (b) told stories to (NAME)?; (c) sang songs to (NAME) or with (NAME), including lullabies?; (d) took (NAME) outside the home, compound, yard or enclosure?; (e) played with (NAME)?; AND (F) named, counted, or drew things to or with (NAME)? *Support for learning* was defined as an adult having engaged in four or more activities to promote learning and school readiness in the past 3 days (MICS4 indicator 6.1).
- *Adequate books and playthings in the home*: Respondents were asked ‘How many children’s books or picture books do you have for (name)?’ and ‘I am interested in learning about the things that (NAME) plays with when he/she is at home. Does he/she play with: (a) homemade toys (such as dolls, cars, or other toys made at home)? (b) toys from a shop or manufactured toys?; (c) household objects (such as bowls or pots) or objects found outside

(such as sticks, rocks, animal shells or leaves)?' An adequate number of books (MICS4 indicator 6.3) was defined as having three or more children's books. An adequate number of playthings (MICS4 indicator 6.4) was defined as having two or more playthings. These two items were combined into a single of having adequate books and having adequate playthings.

- *Maternal Education*: The highest level of education received by the child's mother was recorded using country-specific categories. We recoded these data into a simple binary measure of whether the mother had received secondary level education

Clean Water & Sanitation

- *Access to Improved Water*: Defined as the main source of drinking water being: Piped, public tap/standpipe, tube well/borehole, protected well, protected spring, rainwater collection (MICS4 indicator 4.1).
- *Access to Improved Sanitation*: Defined as sanitation facilities which are not shared and are based on: Flush to piped sewer system/septic tank/pit(latrine), ventilated improved pit latrine, pit latrine with slab, composting toilet (MICS4 indicator 4.3).
- *Place to wash hands*: Household has a specific place for hand washing where water and soap/detergent are present (MICS4 indicator 4.5)

Gender Equality

To assess possible gender inequality, we first examined the existence of statistically significant gender differences among children with developmental delay for each of the 15 indicators we have described above. Where a significant gender difference was observed, we then also examined the extent to which this difference was also apparent among children without developmental delay.

Approach to data analysis

In the following sections we present simple comparisons for each country of the percentage of children with and without developmental delay who were reported to experience each indicator (e.g., to be living in poverty). Chi-square tests (with continuity corrections where required and an alpha probability level of 0.05) were used to test the statistical significance of any between-group differences observed. In this context, our claim that differences were statistically significant indicates that the observed difference would be likely to occur by chance alone in at most 1 in 20 instances. In addition, we report prevalence ratios for key results. Prevalence ratios (mathematically equivalent to measures of relative risk) are calculated by dividing the percentage of children with developmental delay who were reported to experience a particular indicator by the percentage of children without developmental delay reported to experience that indicator. Thus, if 50% of children with developmental delay and 25% of children without developmental delay were obese, the prevalence ratio associated with developmental delay would be 2.0 (50/25).

Findings

No Poverty

Children living in poverty

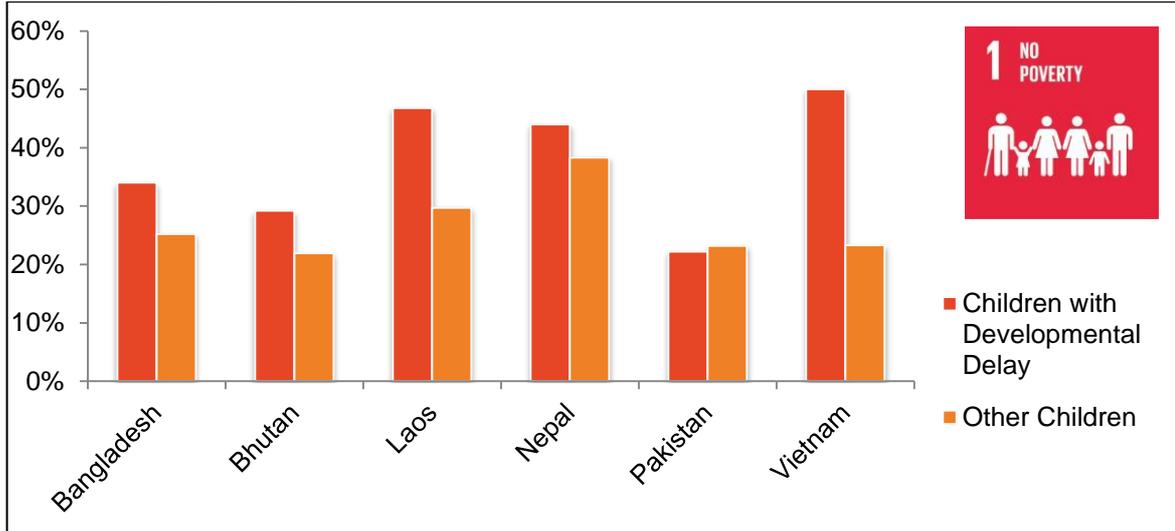


Figure 1: Percentage of children living in poverty

In five of the six countries, children with development delay were more likely to be living in poverty than their peers. In three countries (Bangladesh, Laos and Vietnam) differences were statistically significant. The highest rates of relative disadvantage were observed in Vietnam with children with development delay being 2.2 times more likely to be living in poverty.

Zero Hunger

Severe and persistent hunger

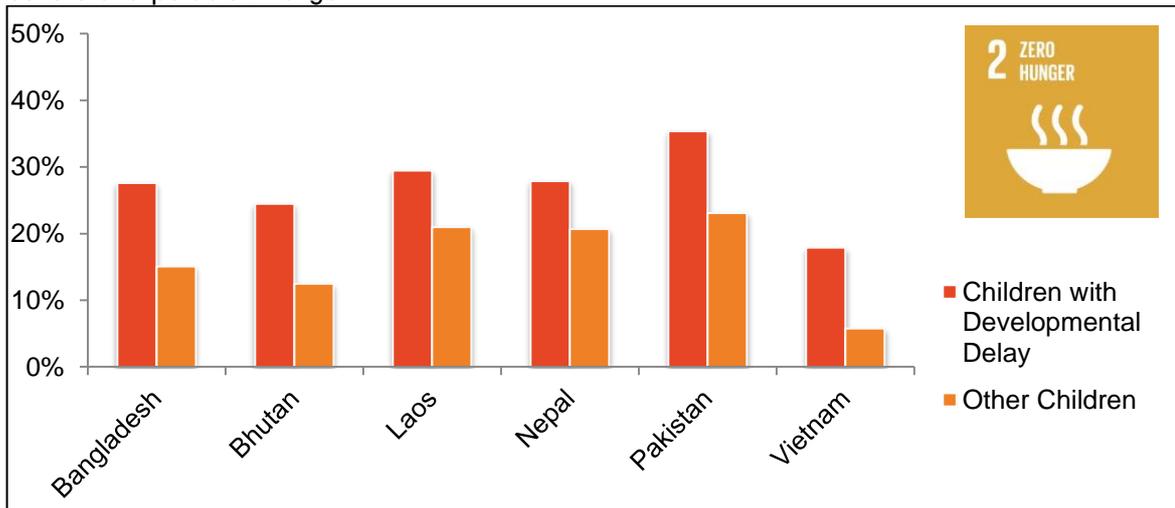


Figure 2: Percentage of children with severe stunting

In all six countries, children with development delay were more likely to be severely stunted (an indicator of likely exposure to severe and persistent hunger) than their peers. In all six countries these differences were statistically significant. The highest rates of relative disadvantage were observed in Vietnam with children with development delay being 3.1 times more likely to have been exposed to severe and persistent hunger.

Good Health & Wellbeing

Acute respiratory infection

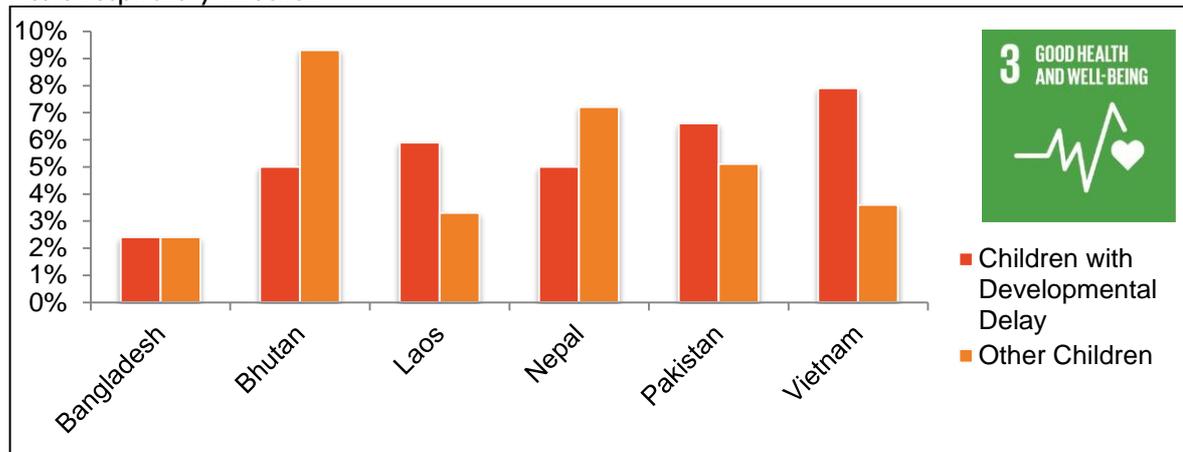


Figure 3: Percentage of children with acute respiratory infection in previous two weeks

There were no systematic differences in the prevalence of acute respiratory infections between children with and without developmental delay across the six countries. However, in the two countries where the between-group difference statistically significant (Laos and Vietnam), children with developmental delay were significantly more likely to have had an acute respiratory infection in the previous two weeks.

Diarrhoea

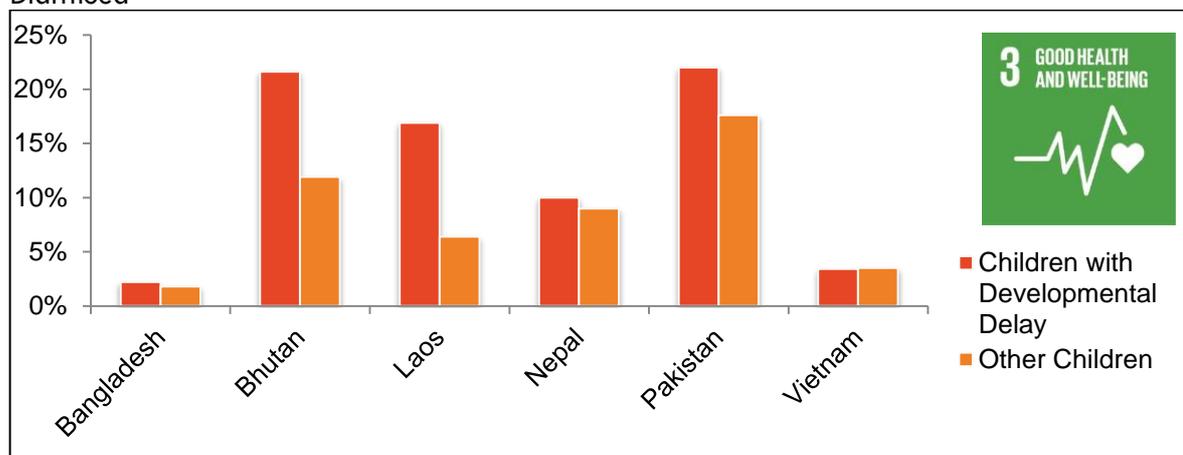


Figure 4: Percentage of children with diarrhoea in previous two weeks

In five of the six countries, children with development delay were more likely to have had diarrhoea in the previous two weeks. In two countries the between-group difference was statistically significant (Laos and Pakistan), children with developmental delay were significantly more likely to have had an acute respiratory infection in the previous two weeks. The highest rates of relative disadvantage were observed in Pakistan with children with developmental delay being 1.4 times more likely than their peers to have had diarrhoea.

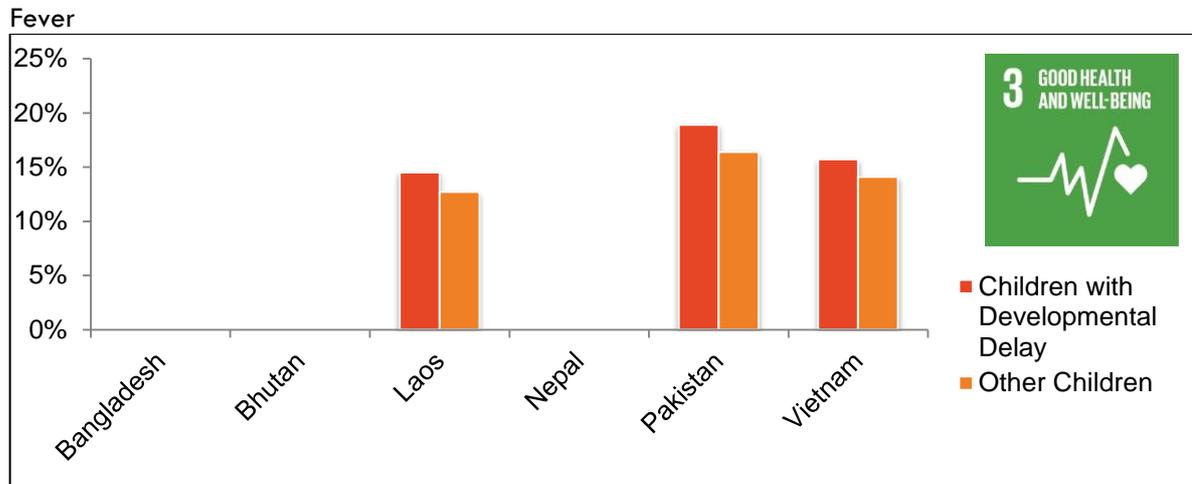


Figure 5: Percentage of children with fever in previous two weeks

In all three countries for which data was available children with developmental delay were more likely than their peers to have had a fever in the previous two weeks. In two of these countries (Laos and Vietnam) these differences were statistically significant. The highest rate of relative disadvantage was observed in Pakistan with children with developmental delay being 1.4 times more likely than their peers to have had a fever.

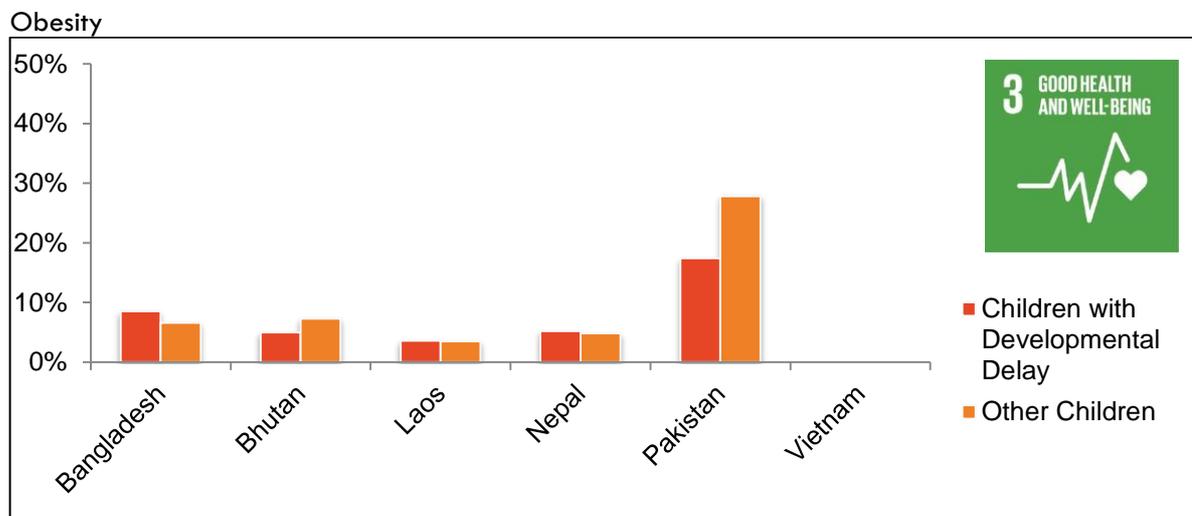


Figure 6: Percentage of obese children

There were no systematic differences in the prevalence of obesity between children with and without developmental delay across the five countries for which data was available. In only one country (Pakistan) was the between-group difference statistically significant, with children with developmental delay being 1.6 times less likely to be obese than their peers.

Peer relations

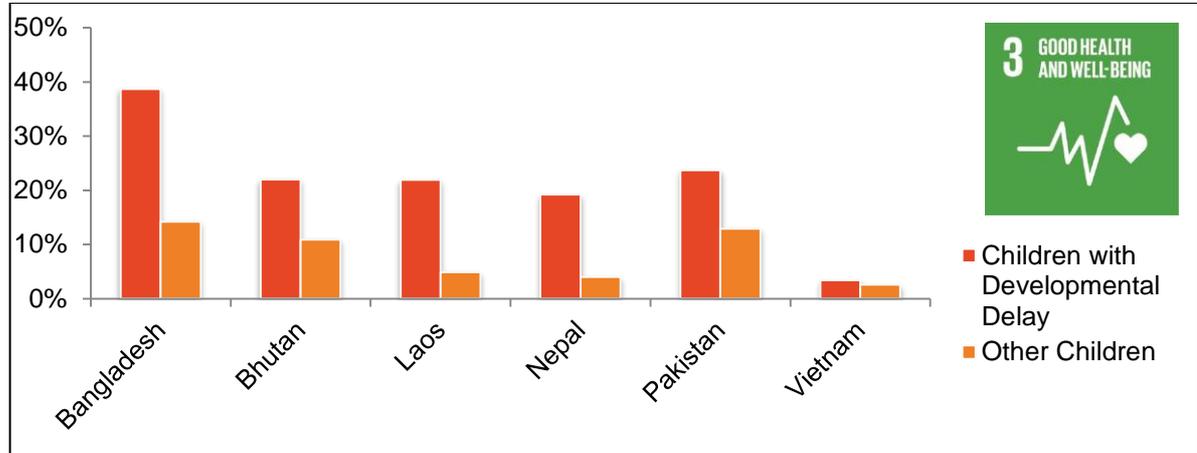


Figure 7: Percentage of children who do not get on well with others

In all six countries children with developmental delay were more likely to not get on well with their peers than children without developmental delay. In five of the six countries these differences were statistically significant (the exception being Vietnam). The highest rates of relative disadvantage were observed in Nepal with children with developmental delay being 4.8 times less likely than other children to get on well with their peers.

Aggression

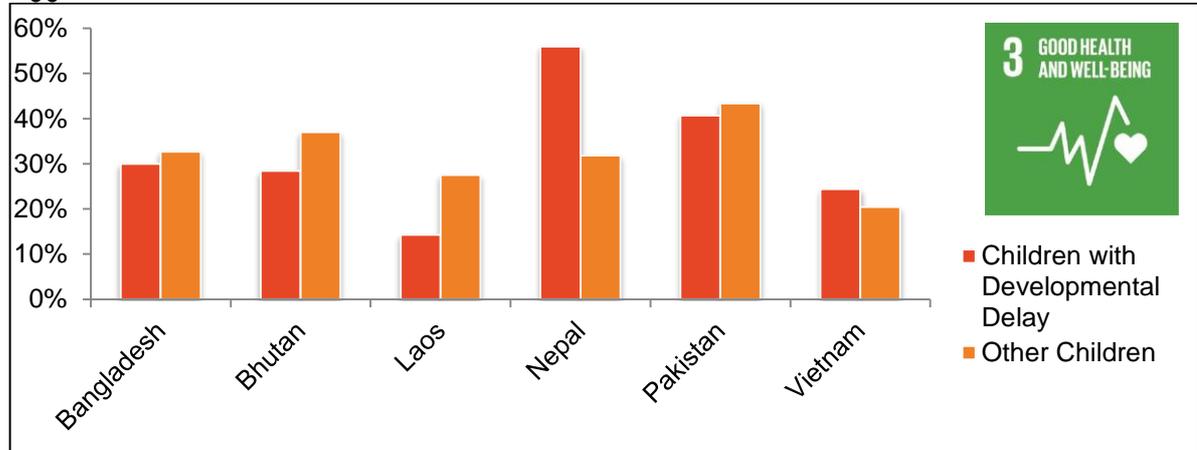


Figure 8: Percentage of children showing aggression

There were no systematic differences in the prevalence of aggression between children with and without developmental delay across the six countries. In only two countries were the between-group difference statistically significant, with children with developmental delay being 1.9 times less likely to show aggression in Laos and 1.8 times more likely to show aggression in Nepal.

Quality Education

Early childhood education

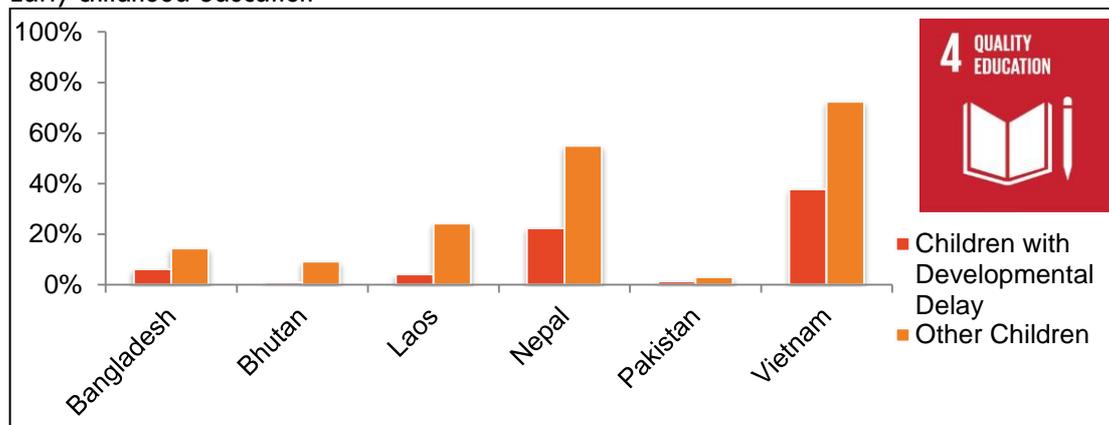


Figure 3: Percentage of children early childhood education centre

In all six countries, children with development delay were less likely to be attending an early childhood education centre than their peers. In all six countries these differences were statistically significant. The highest rates of relative disadvantage were observed in Bhutan with children with development delay being 9.7 times less likely to be attending an early childhood education centre.

Support for learning

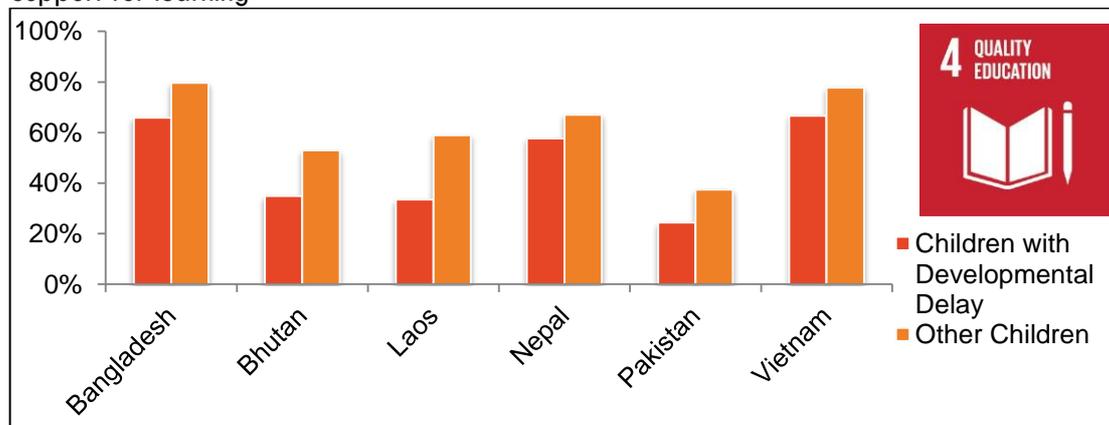


Figure 4: Percentage of children with good support for learning

In all six countries, children with development delay were less likely to have family support for learning than their peers. In all six countries these differences were statistically significant. The highest rates of relative disadvantage were observed in Laos with children with development delay being 1.8 times less likely to have family support for learning.

Home environment

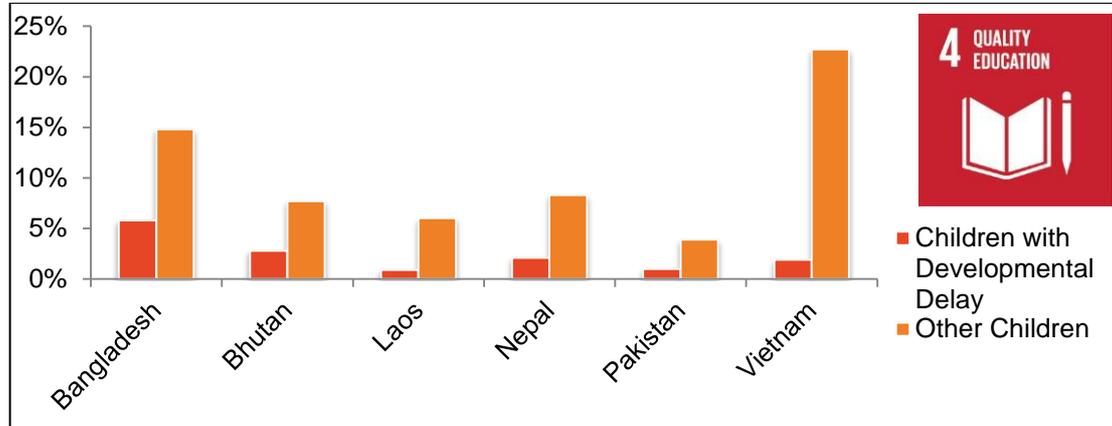


Figure 5: Percentage of children with adequate books and playthings in the home

In all six countries, children with development delay were less likely to have access to adequate books and playthings in their home than their peers. In five of these six countries these differences were statistically significant (the exception being Bhutan). The highest rates of relative disadvantage were observed in Vietnam with children with development delay being 12.0 times less likely to have access to adequate books and playthings in their home.

Maternal education

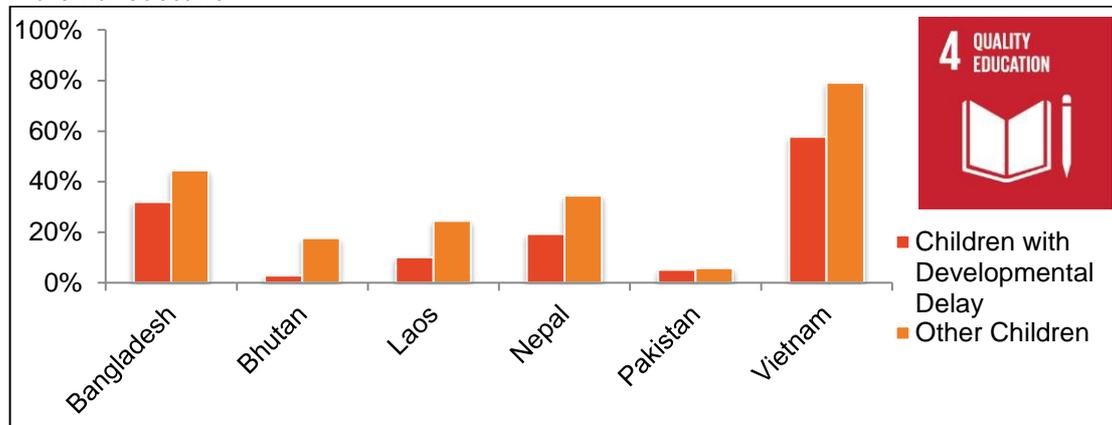


Figure 6: Percentage of children whose mother has secondary or higher level of education

In all six countries, the mothers of children with development delay were less likely to have had a secondary level education than the mothers of children without developmental delay. In five of these six countries these differences were statistically significant (the exception being Pakistan). The highest rates of relative disadvantage were observed in Bhutan with the mothers of children with development delay being 6.2 times less likely to have had a secondary level education.

Clean Water & Sanitation

Improved water supply

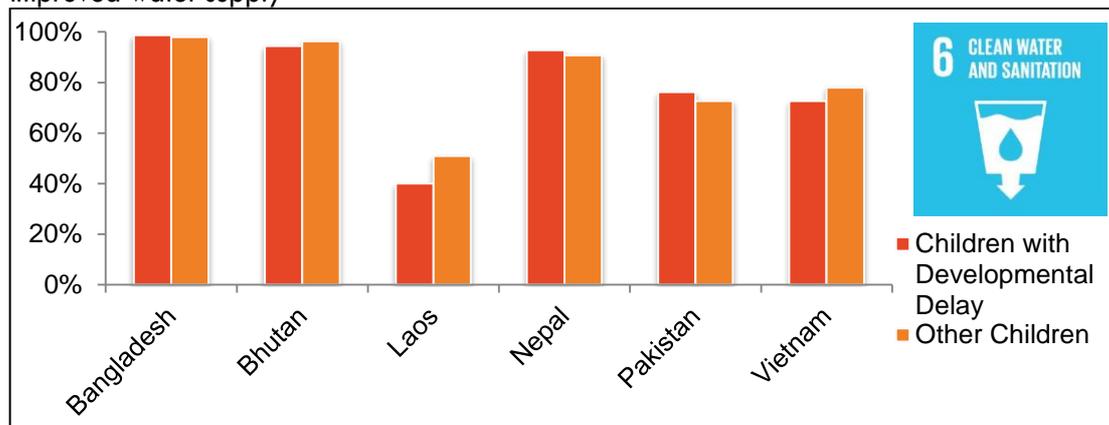


Figure 7: Percentage of children with access to improved water supply

There were no systematic differences between children with and without developmental delay with regard to access to improved water.

Improved sanitation

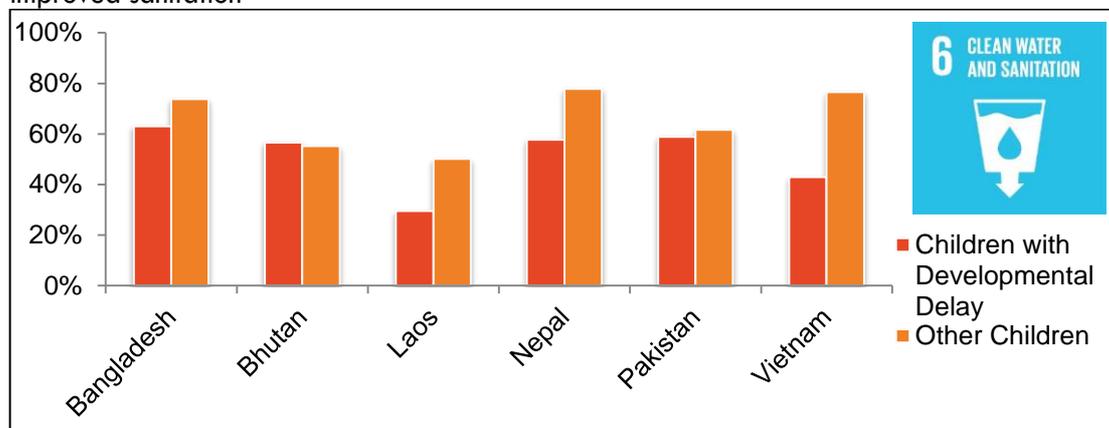


Figure 8: Percentage of children with access to improved sanitation

In five of the six countries, children with development delay were less likely to have access to improved sanitation facilities than their peers. In four of these five countries these differences were statistically significant (the exception being Pakistan). The highest rates of relative disadvantage were observed in Vietnam with children with development delay being 1.8 times less likely to have access to improved sanitation.

Access to a place for hand washing

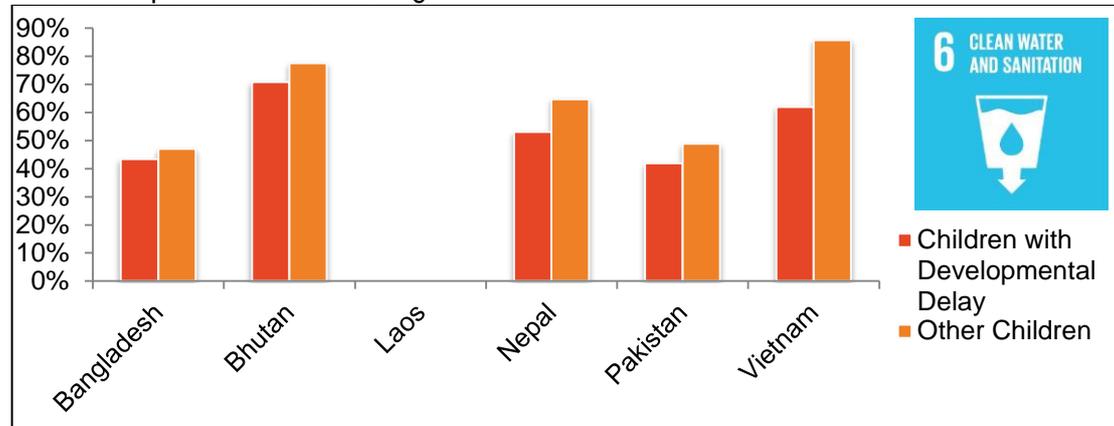


Figure 9: Percentage of children with access to a place to wash their hands

In all five of the countries for which data were available, children with developmental delay were less likely to have access to a place to wash their hands than their peers. In three of these five countries these differences were statistically significant (Nepal, Pakistan and Vietnam). The highest rates of relative disadvantage were observed in Vietnam with children with developmental delay being 1.4 times less likely to have access to a place to wash their hands.

Gender Equality

To assess possible gender inequality we first examined the existence of statistically significant gender differences among children with developmental delay for each of the 15 indicators we have reported on above. Where a significant gender difference was observed, we then also examined the extent to which this difference was also apparent among children without developmental delay. The results of this process are summarized below in Table 2.



As can be seen, there is very little systematic evidence of gender inequality among children with developmental delay on the 15 indicators used in this report. On seven of the indicators in no country were there any statistically significant gender differences among children with developmental delay. On only two indicators were there statistically significant gender differences among children with developmental delay in two or more countries. With regard to 'support for learning', the direction of gender inequality was inconsistent (higher disadvantage among boys in Vietnam and girls in Nepal). With regard to 'aggression' to others, significantly higher prevalence was observed among boys with developmental delay in Bangladesh, Pakistan and Vietnam. Higher rates of aggressive behaviour among boys with developmental delay have also consistently been reported in high income countries.³⁵

Table 2: Gender Inequalities

Indicator	Bangladesh	Bhutan	Laos	Nepal	Pakistan (Baluchistan)	Vietnam
Poverty	D:Bx1.3 O:ND	X	X	X	X	X
Stunting	D:Gx1.4 O:ND	X	X	X	X	X
Obese	X	X	X	X	X	
Poor peer relations	X	X	X	X	D:Gx1.3 O:ND	X
Aggression	D:Bx1.5 O:Bx1.2	X	X	X	D:Gx1.7 O:ND	D:Bx2.2 O:Bx1.7
Acute respiratory infection	X	X	X	X	X	X
Diarrhoea	X	X	D:Gx2.1 O:ND	X	X	X
Fever		X	D:Gx2.6 O:ND		X	X
Early childhood education	X	X	X	X	X	X
Support for Learning	X	X	X	D:Gx1.4 O:ND	X	D:Bx1.8 O:ND
Books & playthings	X	X	X	X	X	X
Maternal secondary education	X	X	X	X	X	X
Improved water	X	X	X	X	X	D:Gx2.4 O:ND
Improved sanitation	X	X	X	X	X	X
Place to wash hands	X	X		X	X	X
Notes	X = no statistically significant gender difference among children with developmental delay D: = risk among children with developmental delay O: = risk among children without developmental delay B = boys more disadvantaged G = girls more disadvantaged X(number) = (prevalence) ratio of disadvantage (e.g., boys in Bangladesh were 1.3 times more likely than girls to be living in poverty) ND: no statistically significant difference					

Discussion

The results are summarised below in Table 3.

Table 3: Summary of Results

<p>1 NO POVERTY</p> 	<p>In five out of the six countries children with developmental delay were more likely to be living in poverty than their peers</p>
<p>2 ZERO HUNGER</p> 	<p>In all six countries children with developmental delay were more likely to have experienced persistent severe hunger than their peers</p>
<p>3 GOOD HEALTH AND WELL-BEING</p> 	<p>On three indicators (poor peer relationships, diarrhoea and fever) children with developmental delay were more likely to have poor health than their peers. On three indicators (obesity, aggression and acute respiratory infections) there was no systematic difference between children with and without developmental delay.</p>
<p>4 QUALITY EDUCATION</p> 	<p>On all four indicators (attendance at early childhood education centre, family support for learning, access to learning materials in the home, maternal level of education) children with developmental delay were more disadvantaged than their peers.</p>
<p>5 GENDER EQUALITY</p> 	<p>On gender equality there was no systematic difference between children with and without developmental delay.</p>
<p>6 CLEAN WATER AND SANITATION</p> 	<p>On two indicators (improved sanitation, place to wash hands) children with developmental delay were more disadvantaged than their peers. On one indicator (improved drinking water) there was no systematic difference between children with and without developmental delay.</p>

The overall picture is that, across these two low and four low middle income Asian countries, three to four year old children with developmental delay are systematically disadvantaged than their peers with regard to five of the six sustainable development goals for which we could identify indicators from UNICEF's MICS data from rounds 4 and 5. These results are consistent with those reported by studies using MICS3 data which highlighted the relative disadvantage faced by children with disabilities.²¹⁻²³

While the association between social, economic and environmental disadvantage and severe developmental delay has been well documented in high income countries,³⁶⁻³⁸ few studies have addressed this issue in low and middle income countries.³⁹ There is, however, a robust body of evidence from low and middle income countries that exposure to poverty, under nutrition and low levels of cognitive stimulation can impair the general cognitive development of children,⁴⁰⁻⁴² a body of research that has been used to estimate that globally over 200 million children

under 5 years are failing to fulfilling their developmental potential.⁴⁰ The associations reported in the present report between poverty, under nutrition and reduced access to early childhood education, family support for learning and learning materials in the home are consistent with this body of knowledge. They are likely to reflect, in part, the causal relationships between exposure to these environmental adversities and child cognitive development. However, they are also threats to child development that are amenable to change.⁴²

Key to addressing these factors in the context of the 2030 Agenda for Sustainable Development will be a strong commitment to ensuring that all developmental programmes and activities for children and programmes not only include children with disabilities and their families, but also make appropriate 'reasonable accommodations' to ensure that children with disabilities and their families receive the same benefit as other children and families.

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