



# Access to Essential Needs and Services for Children – Orphans and Poverty Status



A study on Cambodia, Thailand and Viet Nam



Scaling Up the Response for Children



unite for children



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Thailand and Viet Nam**



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Cover photographs:

- (1) Students in child friendly classroom using the Avian Influenza kit, which teaches them about the dangers of the illness, Svay Rieng, Cambodia: John Vink/UNICEF Cambodia/2007
- (2) Two boys: Palani Mohan/UNICEF Thailand
- (3) Children from the Tong Lang Commune School, Chau District, Moc Chau, Son La Province, Viet Nam: Jim Holmes/UNICEF Viet Nam
- (4) Two little girls in formal education setting/UNICEF Thailand

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This study on “Access to Essential Needs and Services for Children – Orphans and Poverty Status: A study on Cambodia, Thailand and Viet Nam” examines the factors that are associated with access to basic material and education needs of orphaned and non-orphaned children in poverty situations in Cambodia, Thailand and Viet Nam. The overall implications of this study have relevance for policies intended to ensure the protection and access to basic services of children affected by HIV and AIDS.

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# Executive Summary

This study used household survey data from Cambodia, Thailand and Viet Nam to examine the situation of orphans relative to children in poverty regarding access to essential needs and services, focusing on basic material needs and education outcomes. This study made use of summary statistics and multivariate regression analysis to determine whether poverty accounts for the education gap between orphans and non-orphans, or whether other factors also contribute to the lower education outcomes of orphans. A similar analysis was done on children's possession of basic materials – namely a blanket, a pair of shoes and two sets of clothes– which exemplify the capacity of families to protect and care for children.

The results of the study indicate that access to basic material needs in Cambodia is strongly associated with household wealth, and thereby support targeting interventions for addressing material needs based on poverty rather than orphan status. For Viet Nam, the findings reveal that virtually all children have the three basic clothing needs.

Regarding access to education, the difference in school attendance rates between orphans and non-orphans in Viet Nam is largely explained by poverty. Regression analysis for Cambodia and Thailand indicates that poverty also accounts for some of the disadvantages faced by paternal orphans in Cambodia and paternal and double orphans in Thailand. Therefore, the evidences in all three countries support targeting interventions based on household poverty. However, the findings also highlight the importance of the relationship to the head of household in Cambodia, which particularly puts double orphans at a disadvantage with regard to school attendance. Moreover, for all three countries, the results draw attention to the vulnerability of older children in terms of access to education. Policies providing educational support must therefore also be sensitive to these differences in vulnerability.

# Background

This report summarizes the findings from a statistical analysis of household survey data on the situation of orphans relative to children in poverty particularly on access to essential needs and services in Cambodia, Thailand and Viet Nam. Specifically, this study sought to determine whether poverty accounts for the education gap between orphans and non-orphans, or whether other factors also contribute to the lower education outcomes of orphans. A similar analysis is conducted on children's possession of basic materials – namely a blanket, a pair of shoes and two sets of clothes – which could measure the capacity of families to protect and care for children.

It is essential to understand the factors that promote access to education and basic material needs for designing social policies toward improving the well-being of children. For instance, if the evidence points to orphans having the same school attendance rate as non-orphans who are equally poor, the government may develop policies that target household poverty. If, however, orphans are less likely to attend school regardless of poverty, it is important to identify which other factors could disadvantage orphans in terms of access to school, and which could form the basis for developing social policies.

The purpose of this study is to inform planning on expanding care, support and access to basic services for underprivileged children, including children affected by HIV & AIDS. Due to data constraints, this report does not single out children orphaned and made vulnerable by HIV & AIDS, including those with parents who are chronically ill due to HIV & AIDS. While the analysis covers orphans in general, orphan status may be regarded as a proxy for children affected by HIV & AIDS because “orphaning remains the most visible, extensive and measurable impact of AIDS on children.”<sup>1</sup> This statement is particularly applicable to Cambodia where the National AIDS Authority has estimated that by 2010, 28 per cent of all orphans will have lost their parents due to AIDS. Thus, this has relevance for designing policies that will ensure the protection and access to basic services of children affected by HIV & AIDS.

This paper is divided as follows: Section 1 outlines the methodology of the household survey and analysis. Section 2 provides an overview of selected policies and programmes in Cambodia, Viet Nam and Thailand regarding the protection and care of disadvantaged children, including children living in poverty, orphans, and children affected by HIV & AIDS. Section 3 presents the profiles/characteristics of orphans in each of the three countries. Section 4 analyzes children's access to education and material needs by orphan status and by household wealth, to determine how poor orphans fare relative to other children who are equally poor. Section 5 explores further the determinants of education through multivariate regression analysis for the countries where orphans are disadvantaged in school attendance relative to other children from the same wealth level. Section 6 concludes.

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<sup>1</sup> UNAIDS/UNICEF/USAID, *Children on the Brink 2004, A Joint Report of New Orphan Estimates and a Framework for Action*, July 2004. Cited in Waranya Teukul and Viroj Tangcharoensathien. *Orphan and vulnerable children in East Asia and Pacific: revisit of policy choices*. 2008 (draft submitted to EAPRO UNICEF).

# Methods

Sources of data varied across the three countries as follows:

- Cambodia – Demographic and Health Survey (DHS) taken from a sample of 14,254 households in 2005;
- Thailand – Multiple Indicator Cluster Survey (MICS) based on a sample of 43,470 households surveyed between December 2005 and February 2006; and
- Viet Nam – 2005 Viet Nam Population and AIDS Indicator Survey (VPAIS), from a sample of 6,446 households using a two-stage sampling design.

The analysis was carried out using STATA 9.0 statistical software. Since the surveys have purposely over-sampled some sub-groups to obtain statistically meaningful sample sizes, all calculations used sampling weights so that the results could be generalized to the total population of each of the three countries.

Section 3 presents the results from the multivariate regression analysis, using a probit model, to estimate the marginal effects of parental loss on education, controlling for household wealth and other characteristics of households, heads of households, and children. The methodology for the regression analysis is based on that of Case, Paxson and Ableidinger (2004)<sup>2</sup>, which examines the impact of orphanhood on school enrolment across 10 countries in Sub-Saharan Africa.

This study uses school attendance as an indicator for education, specifically whether the child attended school at some point during the school year in which the interview was conducted. The possession of a blanket, a pair of shoes and two or more sets of clothes are used as indicators for determining whether a child's basic material needs are met.

For the purposes of this analysis, maternal, paternal and double orphans are defined as mutually exclusive categories, to better identify potential disparities among the orphan groups. Therefore, the definitions of orphan status for this analysis are as follows:

- **Maternal orphans:** children whose mothers are deceased and fathers are known to be living
- **Paternal orphans:** children whose fathers are deceased and mothers are known to be living
- **Double orphans:** children whose fathers and mothers are deceased

The analysis also combines the above categories to look at all types of orphans compared to non-orphans. Single orphans refer to the group of maternal and paternal orphans only. Children for whom the parental status is unknown, albeit a negligible number in the survey, are classified as non-orphans. While the analysis of most characteristics cover children aged 0 to 17 years, the education-specific analysis covers children aged seven to 14 years, and the section on basic material needs addresses children aged five to 17 years.

It should be noted that a key limitation of this analysis is that, using household data, it does not account for children living in institutions or on the streets. Therefore, orphan rates and the share of children living in poverty are likely to be underestimated. Additionally, the three household surveys do not contain information on the cause of parental death, so the number of children orphaned from HIV & AIDS could not be determined from the data.

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<sup>2</sup> Anne Case, Christina Paxson and Joseph Ableidinger. *Orphans in Africa: Parental death, poverty and school enrollment*. Centre for Health and Wellbeing Research Program in Development Studies, Princeton University. March 2004.



This section summarizes selected policies and programmes that have been implemented in Cambodia, Thailand and Viet Nam to improve the protection, care and access to essential needs and services for disadvantaged children, including orphans, children in poverty and children affected by HIV & AIDS.

## Cambodia

There have been limited government policies and programmes to mitigate the impact of HIV & AIDS on children in Cambodia.<sup>3</sup> Based on the needs identified in the 2006-2010 National Strategic Plan for a comprehensive and multisectoral response to HIV & AIDS, an Orphans and Vulnerable Children (OVC) Task Force was established to develop a national OVC multisectoral action plan. A policy was also developed on alternative care arrangements for children in need of special protection and/or children at risk, including orphans and abandoned children, children with HIV & AIDS, and children whose basic physical needs are not being met.<sup>4</sup> Some of the strategies laid out in the policy are to increase access to basic services for orphans and other vulnerable children, and to undertake regular monitoring and evaluation to ensure that programmes meet the needs of the disadvantaged children they target.

Regarding educational support for children, the government has prioritized reducing the cost burden of education on poor households.<sup>5</sup> To this effect, the government implemented two policies in 2000-2001:

- 1) the abolition of enrolment and informal school fees, and
- 2) the provision of direct school grants to replace school fees.

Studies have shown that following the implementation of these policies, the cost burden of education on households has lowered significantly. The government and donors, in particular the Japan Fund for Poverty Reduction, had provided direct educational support to households through four scholarship schemes for lower secondary students and a conditional cash transfer scheme of 180,000 Riel (US\$140) per child to improve the enrollment rate of girls.<sup>6</sup> The selection criteria for the conditional cash transfer included parental education, demographic composition of the household, ownership of various assets and distance to the nearest secondary school. Following the scheme's implementation, the enrolment and attendance rates of recipients were 87 per cent and 80 per cent respectively, compared to 65 per cent and 58 per cent for non-recipients in programme schools.<sup>7</sup> The impact of the scheme was greatest among girls from poor households.

## Thailand<sup>8</sup>

In 2006, the government unveiled the 2007-2009 Strategic Plan for Relieving Poor and Underprivileged Children that targets children of low-income earning families, street children, orphans and children affected by HIV & AIDS, to support the efforts of NGOs and communities in providing protection and care for these target groups. The plan was to be financed by extra-budgetary revenue generated from three-year lottery schemes. However, as a result of the change in the political situation, the lottery scheme was suspended and consequently the Strategic Plan was not implemented.

<sup>3</sup> National AIDS Authority. *Cambodia HIV/AIDS Policy Assessment and Audit. Draft Report.* January 2007.

<sup>4</sup> *Cambodia Policy on Alternative Care for Children. Draft.* 24.05.2005

<sup>5</sup> C. Badloe, J. Flanagan, R. Gore, T. Hozumi, K. Imhof and P. So. *Universal Primary Education: Reaching the Unreached in Cambodia.* UNICEF East Asia and the Pacific. February 2007.

<sup>6</sup> Ibid.

<sup>7</sup> C. Badloe, J. Flanagan, et.al, op.cit.

<sup>8</sup> Waranya Teokul and Viroj Tangcharoensathien. *Orphan and Vulnerable Children in East Asia and Pacific: Revisit of Policy Choices.* 2008 (draft submitted to EAPRO UNICEF).

From 2003 to 2006, the government provided educational support in the form of conditional cash transfers to children in poverty and children with multiple vulnerabilities such as orphans in poverty and children affected by HIV & AIDS and living in poor households. The amount of educational support provided was 6,000 Baht (US\$200) per year for primary education and lower; 10,000 (US\$332) Baht per year for secondary and vocational education; and 20,000 (US\$664) Baht per year for higher education. In total, nearly 500,000 children were covered under this scheme. An evaluation of this programme conducted in 2005 found that in the absence of this scheme, 16 per cent, 35.4 per cent and 39.7 per cent of recipients would not have completed primary, secondary and tertiary education, respectively.

The MICS 2005/2006 household survey includes a section on educational support. Table 1 provides the breakdown of number of children from households that reported having received educational support in the 12 months preceding the survey. This breakdown is categorized by orphan status and by household wealth quintile.

**Table 1: Recipients of educational support, ages 10 to 14 years**

By orphan status	%	By household wealth quintile	%
Non-orphans	23.1	Poorest	25.2
Maternal	9.4	Poorer	26.9
Paternal	45.7	Middle	22.3
Double	21.9	Richer	21.1
All orphans	76.9	Richest	4.6

Source: Multiple Indicator Cluster Survey (MICS) 2005-2006

Overall, 77 per cent of children who received financial support for education were orphans. As indicated above, single paternal orphans comprised nearly half of the children from households that received educational support. Just over 50 per cent of children who received educational support live in households belonging to the poorest two quintiles.

## Viet Nam<sup>9</sup>

The Ministry of Labour, War Invalids and Social Affairs (MOLISA) provides monthly social assistance to children living in difficult circumstances. It is estimated that 300,000 children in Viet Nam fall into this target group, of whom nearly 90,000 are orphans and 7,000 are children affected by HIV & AIDS. As of March 2005, the government provided monthly social assistance to 90,500 children among those living in difficult circumstances. The monthly allowance per child varies by region as follows: Ho Chi Minh City and the provinces of Quang Ninh and Ha Giang, 80,000 VND (US\$5); Ba Ria Vung Tau, 105,000 VND (US\$7); and in most of the other provinces, 45,000 VND (US\$3). MOLISA aims to increase the coverage of children living in especially difficult circumstances from 30 per cent to 65 per cent by 2010.

In addition to monthly social assistance, which covers basic needs such as food security, each child is also provided with a free medical-insurance card amounting to 50,000 VND (US\$3) per year, and is exempt from payment of school fees and learning materials. In its 2005-2010 Plan, MOLISA sought to provide educational support to 12,600 vulnerable children through tuition support equivalent to 70,000 VND (US\$4) per child per year, and the provision of books and other learning materials at a cost of 12,600 VND (US\$1) per child per year.

Beyond the government-supported initiatives, non-state social welfare facilities provide monthly grants of 200,000 to 500,000 VND (US\$13 to US\$31) to approximately 2,000 children, most of whom live in Ho Chi Minh City, Da Nang, Hai Phong and Can Tho. The social welfare facilities also provide assistance to these children for personal belongings, learning materials and a monthly allowance for personal hygiene for female children.

<sup>9</sup> Ministry of Labour, Invalids and Social Welfare (MOLISA), 2005, *Plan on community-based caring for children with especially difficult circumstances (Period 2005 - 2010)*, Hanoi, 25/03/2005.

## Characteristics of orphans in Cambodia, Thailand and Viet Nam

In Cambodia, 8.8 per cent of children younger than 18 years of age have lost at least one parent, while the orphan rate is 4.7 per cent and 4.2 per cent in Thailand and Viet Nam, respectively. Table 2 shows the share of children who are maternal, paternal and double orphans in each of the three countries.

Among orphans, the share of children who have lost a father is far higher than the share of children with deceased mothers in all three countries. Specifically, the proportion of single paternal orphans is 70.4 per cent in Cambodia, 71.5 per cent in Thailand and 76 per cent in Viet Nam. For Viet Nam, the sample size of double orphans is too small for a separate analysis, hence, most of the analysis covered all orphans combined.

**Table 2: Orphan status among children aged 17 years and under**

Orphan status	Share of total		
	Cambodia (N=33,721)	Thailand (N=32,833)	Viet Nam (N=9,114)
Maternal orphan	1.8%	0.9%	0.8%
Paternal orphan	6.2%	3.3%	3.2%
Double orphan	0.8%	0.4%	0.2%
<b>Any type of orphan</b>	<b>8.8%</b>	<b>4.7%</b>	<b>4.2%</b>

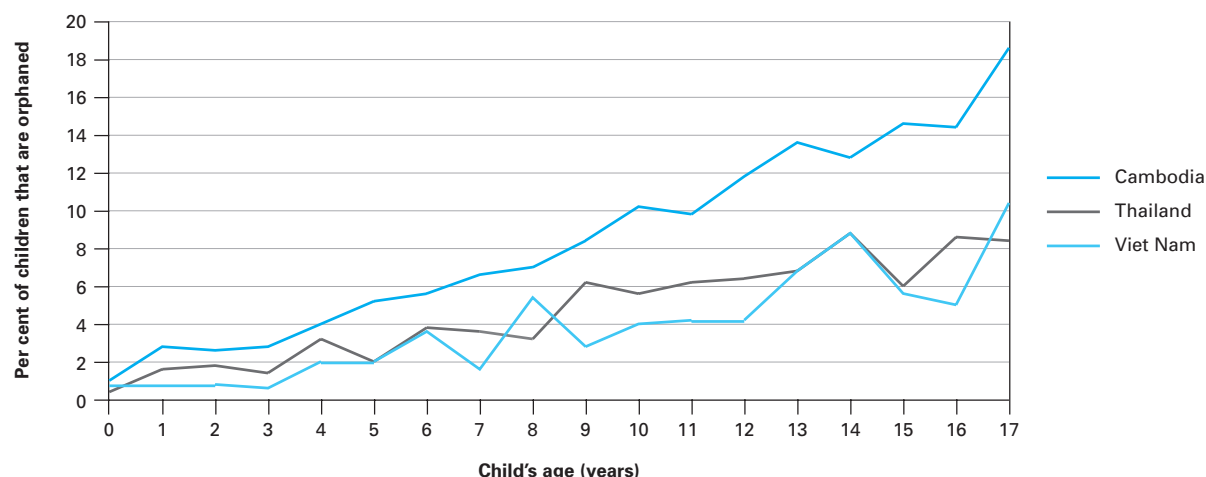
Source: Cambodia Demographic and Health Survey (DHS) 2005; Thailand Multiple Indicator Cluster Survey (MICS) 2005-2006; Vietnam Population and AIDS Indicator Survey (VPAIS) 2005.

The gender breakdown for orphans reveals that there are no significant differences between the numbers of male and female orphans in Cambodia and Thailand (although among maternal orphans in Thailand, 55.2 per cent are female). In Viet Nam, orphans are disproportionately more likely to be female. Of the orphans aged 17 years and under in Viet Nam, 53.7 per cent are female, whereas the gender breakdown of all children under 18 years of age consists of 52.4 per cent males versus 47.6 per cent females.

For all three countries, the likelihood of being an orphan increases with age, as shown in Figure 1, which implies that school-age children are at higher risk of orphanhood than are younger children. For example, the shares of four-year-olds who have lost a parent are 3.9 per cent, 3.1 per cent and 1.7 per cent in Cambodia, Thailand and Viet Nam, respectively. By age 17, the proportions of children who have lost a parent are 18.5 per cent, 8.2 per cent and 10.1 per cent, respectively.

<sup>3</sup> (UNICEF, 2007g), the State of the World's Children 2008

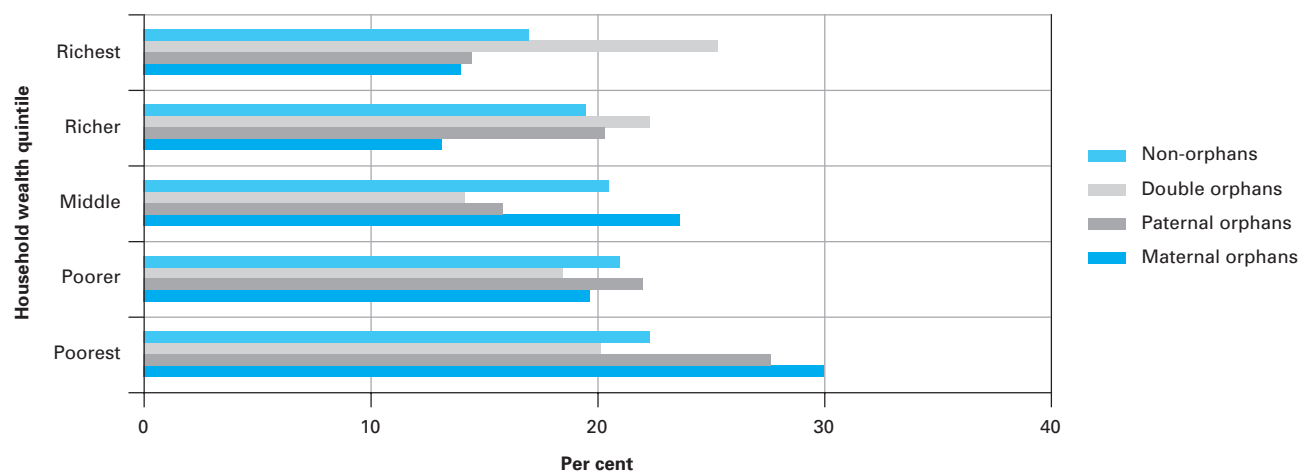
**Figure 1: Share of children who are orphaned, by age**



Source: Cambodia Demographic and Health Survey (DHS) 2005; Thailand Multiple Indicator Cluster Survey (MICS) 2005-2006; Vietnam Population and AIDS Indicator Survey (VPAIS) 2005.

For this analysis, it is important to examine the poverty structure among orphans and non-orphans because access to essential needs and services and orphanhood are both likely to be related to household wealth. Figure 2 shows the distribution of maternal, paternal, double orphans and non-orphans across household wealth quintiles in each of the three countries. For all three household surveys, the wealth quintiles were constructed for all households in the sample, using the possession of specific durable goods as a proxy for household wealth. Therefore, each of the five categories (poorest, poorer, middle, richer, and richest) has 20 per cent of households. It should be noted that the wealth quintiles have been constructed differently in MICS surveys from those in DHS and AIS surveys, thus, these quintiles could not be compared across the three countries.<sup>10</sup>

**Figure 2A: Distribution of children by household wealth in Cambodia, 0 to 17 year olds**



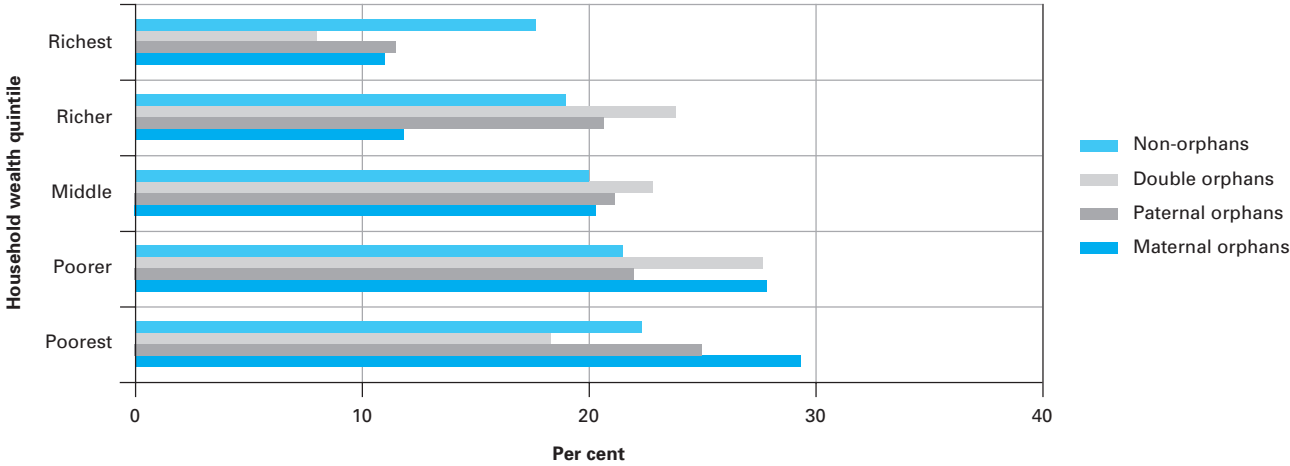
Source: Demographic and Health Survey (DHS) 2005.

<sup>10</sup> For both MICS and DHS/AIS surveys, the wealth index is constructed from a list of household assets and utility services, including the household's ownership of assets such as a radio, television, bicycle, motorcycle; use of electricity; materials used for construction of the dwelling; and types of water access and sanitation facilities. However, the methodology and the list of items used to construct the index differ slightly between MICS and DHS. For instance, most DHS surveys also construct the wealth index based on whether there is a domestic servant and whether the household owns agricultural land. An additional component for constructing the wealth index for the MICS2 surveys is the main cooking fuel used by the household.



The breakdown for Cambodia in Figure 2A indicates that among both single orphans and non-orphans, the largest share is in the poorest quintile. Single orphans are more likely to live in poverty than non-orphans, with 30 per cent of maternal orphans and 28 per cent of paternal orphans living in the poorest households, compared to 22 per cent of non-orphans. Interestingly, double orphans live on average in wealthier households than any other group of children, including non-orphans. Nearly half of double orphans live in households classified in the two richest quintiles, representing a far greater share than the other groups of children. In contrast, households in the bottom two wealth quintiles have 39 per cent of double orphans, compared to 50 per cent of paternal orphans, 49 per cent of maternal orphans and 43 per cent of non-orphans.

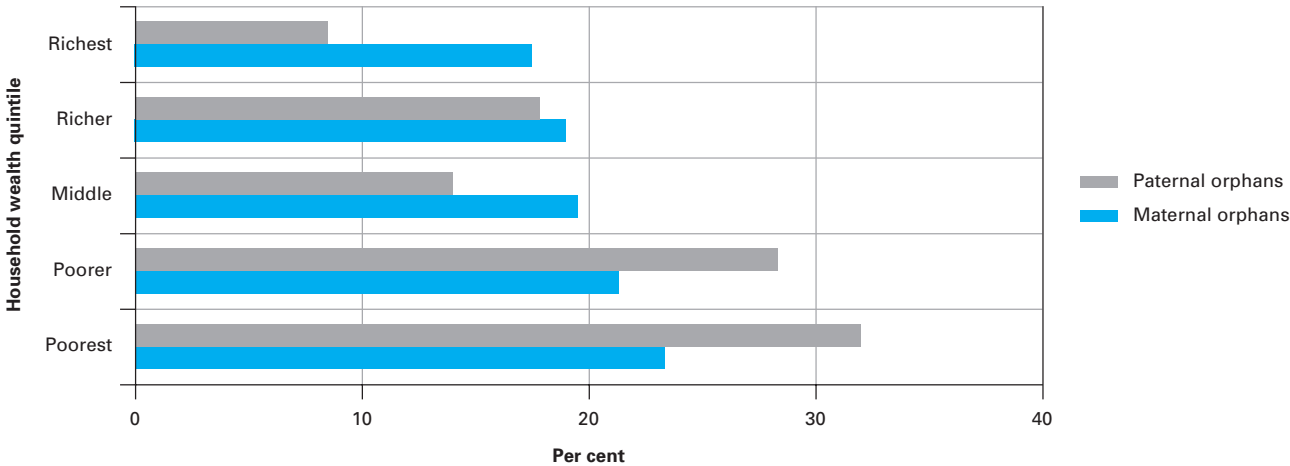
**Figure 2B: Distribution of children by household wealth in Thailand, 0 to 17 year olds**



Source: Multiple Indicator Cluster Survey (MICS) 2005-2006.

In Thailand, the share of children living in poorer households is somewhat greater for all three types of orphans than for non-orphans. For instance, the bottom two household quintiles account for 57.1 per cent of maternal orphans, 47.0 per cent of paternal orphans and 45.7 per cent of double orphans, compared to 43.6 per cent of non-orphans. In the richest household quintile, double orphans have the smallest share, with under 8 per cent. Children with both parents alive have the largest share, with 17.6 per cent living in households belonging in the wealthiest quintile.

**Figure 2C: Distribution of children by household wealth in Viet Nam, 0 to 17 year olds**



Source: Vietnam Population and AIDS Indicator Survey (VPAIS) 2005.

Also in Viet Nam, a larger fraction of orphans than non-orphans live in poorer households. For instance, households in the poorest two quintiles account for 60 per cent of orphans, compared to 44.4 per cent of non-orphans. Only 8.3 per cent of orphans compared to 17.4 per cent of non-orphans live in households belonging to the richest quintile. Overall, the prevalence of orphanhood is much higher among the poorest households. Specifically, 5.7 per cent of children living in the poorest 20 per cent of households are orphaned, compared to only 2.1 per cent of children in the richest 20 per cent of households.

Table 3 presents the proportions of orphans and non-orphans living in rural areas. In Viet Nam and Thailand, more orphans than non-orphans live in rural areas. This is consistent with the higher proportion of orphans living in poorer households, as the majority of poor households in all three countries are located in rural areas. However, Cambodia has a slightly smaller fraction of orphans than non-orphans younger than 18-years old living in rural areas. Table 3 also points to striking differences in the distribution of households across orphan groups. For instance, the table shows that double orphans in Cambodia are much less likely to live in rural areas than single orphans. For both Thailand and Viet Nam, the share of maternal orphans living in rural areas is considerably higher than that of other children. A possible explanation for this is the higher maternal mortality rate in rural areas as compared to urban areas.

**Table 3: Share of children aged 17 and under living in rural areas**

Orphan status	Proportion living in rural areas		
	Cambodia	Thailand	Viet Nam
Maternal orphans	85.0%	79.5%	92.4%
Paternal orphans	85.6%	72.6%	86.6%
Double orphans	77.9%	72.7%	–
All orphans	84.8%	74.0%	88.1%
Non-orphans	86.6%	73.0%	83.6%
<b>Total</b>	<b>86.3%</b>	<b>73.0%</b>	<b>83.8%</b>

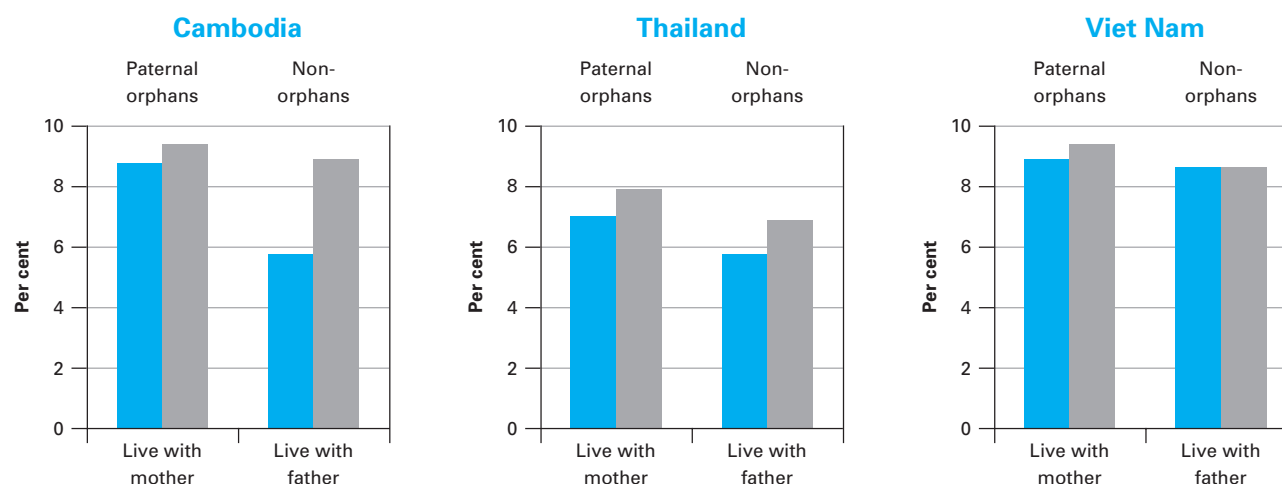
Source: Cambodia Demographic and Health Survey (DHS) 2005; Thailand Multiple Indicator Cluster Survey (MICS) 2005-2006; Vietnam Population and AIDS Indicator Survey (VPAIS) 2005.

The living arrangements within a household may also have an important impact on a child's well-being. For instance, parents may be more likely to invest in children than more distant relatives or non-relatives. Living arrangements can be examined on two levels:

- 1) whether the child lives with at least one parent, and
- 2) how the child is related to the head of household.

Figure 3 shows that in all three countries, children whose mothers have died are less likely to live with their surviving parent than children whose fathers have died. In all cases except for maternal orphans in Viet Nam, maternal/paternal orphans are less likely to live with their father/mother than non-orphans. The gap is particularly marked for maternal orphans in Cambodia, where 63 per cent live with their father compared to 87 per cent of non-orphans. In Thailand, among non-orphans aged 17 and under, less than 80 per cent live with their mother, and only 68.4 per cent live with their father.

**Figure 3: Living arrangements, single orphans vs. non-orphans aged 17 and under**



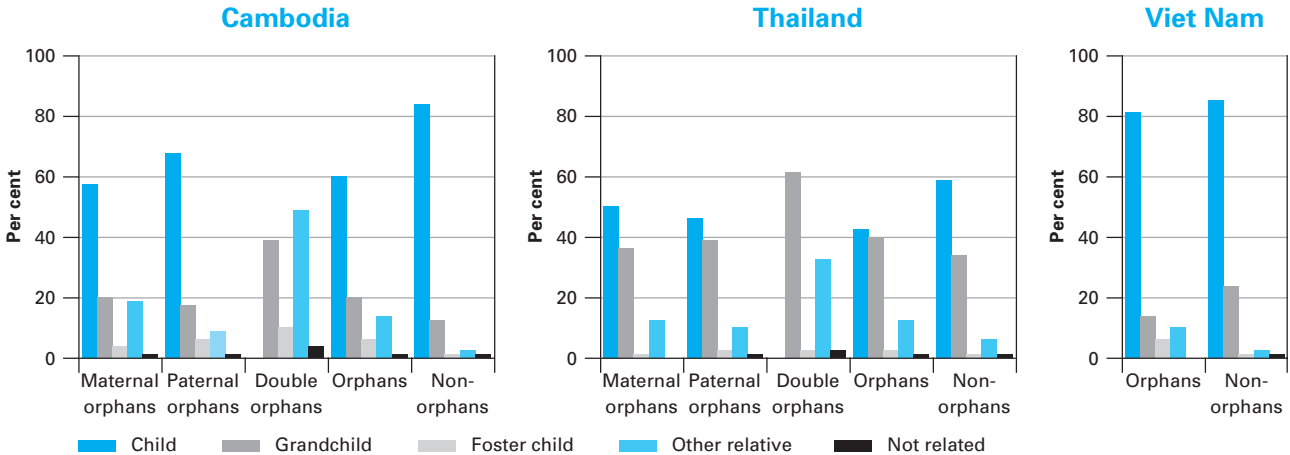
Source: Cambodia Demographic and Health Survey (DHS) 2005; Thailand Multiple Indicator Cluster Survey (MICS) 2005-2006; Vietnam Population and AIDS Indicator Survey (VPAIS) 2005.

Figure 4 shows the relationship of orphans and non-orphans to the head of household. The share of orphans who live in households headed by a parent is 60 per cent in Cambodia, 43 per cent in Thailand and 74 per cent in Viet Nam. In Thailand, 52.7 per cent of orphans live in households headed by a grandparent or other relative.

Among double orphans in both Cambodia and Thailand, a greater share of them live in a household headed by a grandparent than both types of single orphans. Double orphans in both countries are also more than twice as likely to live in households headed by a distant relative (such as an uncle or aunt) as single orphans. In Cambodia, nearly half of double orphans fall in this category. Moreover, 3 per cent of double orphans in Cambodia live with non-relatives compared to less than 1 per cent of single orphans.

In Viet Nam, a significant number of orphans live in households headed by a more distant relative or a foster parent. For instance, 8.5 per cent of orphans live in households where a distant relative is the head, compared to less than 2 per cent of non-orphans.

**Figure 4: Relationship to the head of household, children aged 17 and under**



Source: Cambodia Demographic and Health Survey (DHS) 2005; Thailand Multiple Indicator Cluster Survey (MICS) 2005-2006; Vietnam Population and AIDS Indicator Survey (VPAIS) 2005.

On nutritional status of orphans, Table 4 presents three nutritional indices for orphans, vulnerable children (defined here as children with one or both parents who are chronically ill) and children who are neither orphaned nor vulnerable, all under 5 years of age. As data was not available for Viet Nam, Table 4 only shows the results for Thailand and Cambodia.

The nutritional indicators were constructed based on an international reference population defined by the U.S. National Center for Health Statistics (NCHS) and accepted by the U.S. Center for Disease Control and Prevention (CDC). Children with height-for-age below minus two standard deviations from the mean are qualified as “stunted”; those with weight-for-height below minus two standard deviations from the mean are qualified as “wasted”; and children weight-for-age below minus two standard deviations from the mean are qualified as “underweight.”

**Table 4: Malnutrition among orphans and vulnerable children aged 0-4 years, Thailand and Cambodia**

Status	Underweight		Stunted		Wasted	
	Thailand	Cambodia	Thailand	Cambodia	Thailand	Cambodia
Orphaned	11.8%	42.2%	15.6%	47.1%	5.2%	5.9%
Vulnerable	11.9%	37.7%	14.7%	37.7%	5.4%	6.5%
Orphaned or vulnerable	12.5%	40.1%	14.1%	40.1%	5.7%	6.3%
Not orphaned or vulnerable	9.2%	37.6%	11.8%	39.3%	4.0%	7.1%
Total	9.3%	37.7%	11.9%	39.3%	4.1%	7.0%

Source: W. Teukul and V. Tangcharoensathien. *Orphan and vulnerable children in East Asia and Pacific: revisit of policy choices*. 2008 (draft); C. Wolf, *Quantitative Secondary Data Analysis of DHS 2000 and DHS 2005 for Cambodia OVC Situation Analysis*, prepared for UNICEF Cambodia, September 6/7, 2007.

Note: calculations are not weighted.

As can be observed from the table, in both Thailand and Cambodia the prevalence of malnutrition for orphans is not significantly different from that of non-orphans, with the exception of the “stunted” category, where for both countries, the prevalence is higher for orphans than for children who are neither orphaned nor have chronically ill parents. Stunting reflects the failure to receive adequate nutrition over a long period of time, and is affected by chronic illness.

## Orphans and children in poverty

This section discusses the levels of access to basic material needs and education of orphaned and non-orphaned children. The distribution of orphans and non-orphans by household wealth quintile indicates that orphans as a whole live in poorer households than children with both parents alive. Thus, the higher poverty rate of orphans could account for their lower level of access to essential needs and services compared with non-orphans.

### Basic material needs

To assess the capacity of families to provide care for children in terms of meeting their basic needs, they were asked whether the children have access to three minimum personal items: a blanket, a pair of shoes, and two or more sets of clothes. Table 5 shows the distribution of orphans and non-orphans who have each of the three personal items in Cambodia and Viet Nam (no data was available for Thailand).

For children aged 5 to 17 years in Cambodia, orphans are slightly less likely than non-orphans to have a blanket or a pair of shoes. Paternal orphans account for this disadvantage, as the percentage rates of maternal and double orphans with a blanket or shoes are not statistically significantly different from those of non-orphans. The results also indicate that large shares of orphans and non-orphans have at least two sets of clothes, and that the difference between the two groups is not statistically significant.

**Table 5A: Proportion of children with possession of basic material goods in Cambodia, by orphan status (ages 5-17)**

Orphan status	Has a blanket (%)	Has a pair of shoes (%)	Has two or more sets of clothes (%)
Maternal orphans	74.0%	83.8%	94.2%
Paternal orphans	72.7%*	83.9%*	95.2%
Double orphans	79.8%	89.3%	95.6%
All orphans	73.6%*	84.4%*	95.0%
Non-orphans	75.8%	85.9%	95.1%

Source: Demographic and Health Survey (DHS) 2005.  
N=25,080\* p<0.05

In Viet Nam, the basic material needs are met for nearly all children. Overall, 99.1 per cent of all children aged 5 to 17 years possess all three basic personal items. Within this age group, 97.9 per cent of orphans possess all three items, compared to 99.2 per cent of non-orphans.

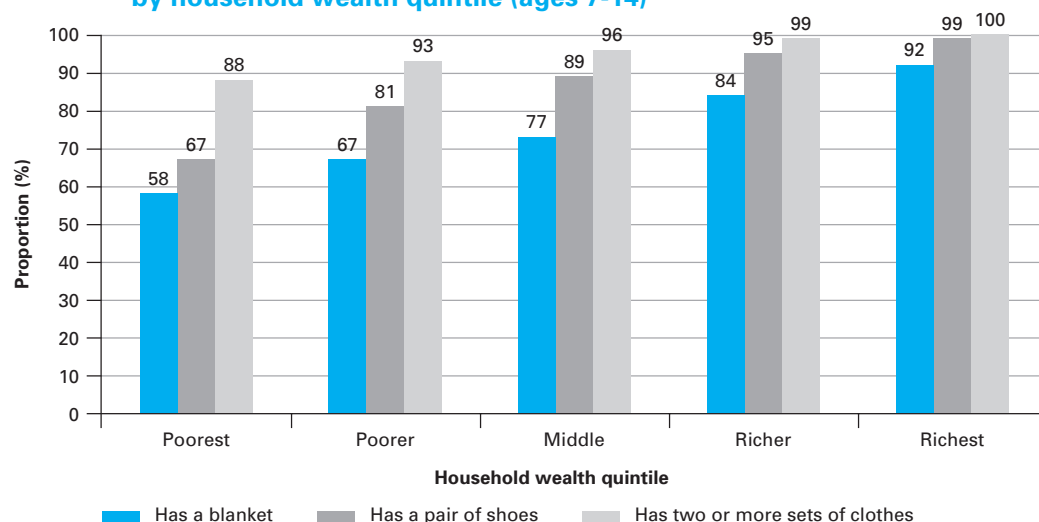
**Table 5B: Proportion of children with possession of basic material goods in Viet Nam, by orphan status (ages 5-17)**

Orphan status	Has a blanket (%)	Has a pair of shoes (%)	Has two or more sets of clothes (%)
Orphans	99.9%	98.3%	99.6%
Non-orphans	99.7%	99.5%	99.7%

Source: Vietnam Population and AIDS Indicator Survey (VPAIS) 2005.

When the possession of basic material goods by children aged 7 to 14 years is broken down by household wealth quintile, the results for Cambodia demonstrate that the possession of each of the three goods is strongly correlated with household wealth (see Figure 5). Moreover, there is a greater difference between children from the poorest and the wealthiest households than between children who are orphaned and those with both parents alive.

**Figure 5: Proportion of children with possession of basic material goods in Cambodia, by household wealth quintile (ages 7-14)**



Source: Demographic and Health Survey (DHS) 2005.

In contrast, a similar analysis for Viet Nam shows that nearly all (96.8 per cent) children possess the three basic items, regardless of orphan or poverty status, though orphans are slightly worse off than non-orphans (see Table 6). Among the poorest 20 per cent of households, more non-orphans (96.9 per cent) than orphans (93.3 per cent) possess the three basic personal items. For the other wealth quintiles, the difference between orphans and other children is minimal.

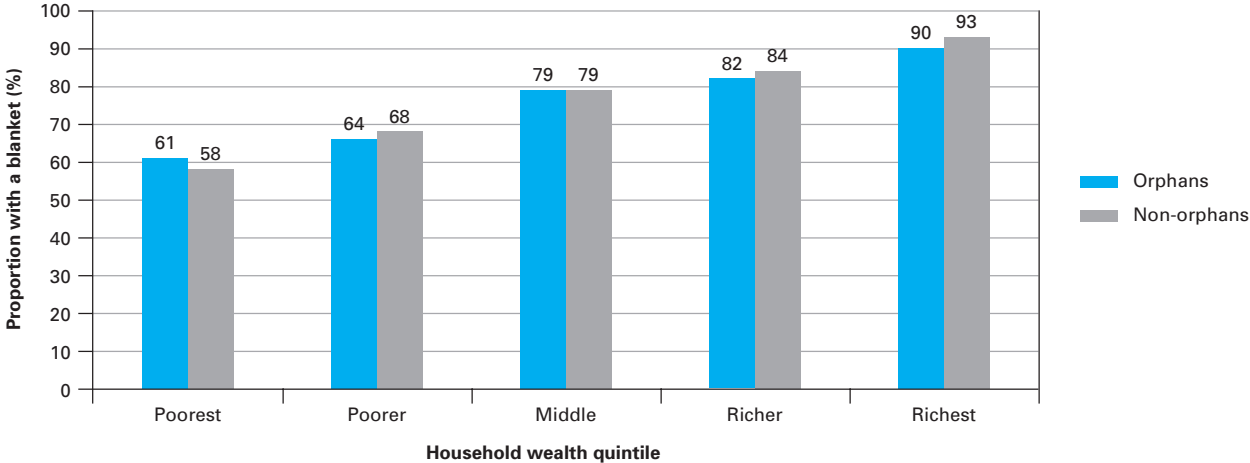
**Table 6: Proportion of children in Viet Nam with possession of basic material goods, by household wealth quintile (ages 5-17)**

Household wealth quintile	Has a blanket (%)	Has a pair of shoes (%)	Has two or more sets of clothes (%)
Maternal orphans	74.0%	83.8%	94.2%
Poorest	99.0%	97.8 %	98.7%
Poorer	99.9%	100%	100%
Middle	99.8%	99.9%	100%
Richer	100%	100%	100%
Richest	100%	100%	100%

Source: Vietnam Population and AIDS Indicator Survey (VPAIS) 2005.

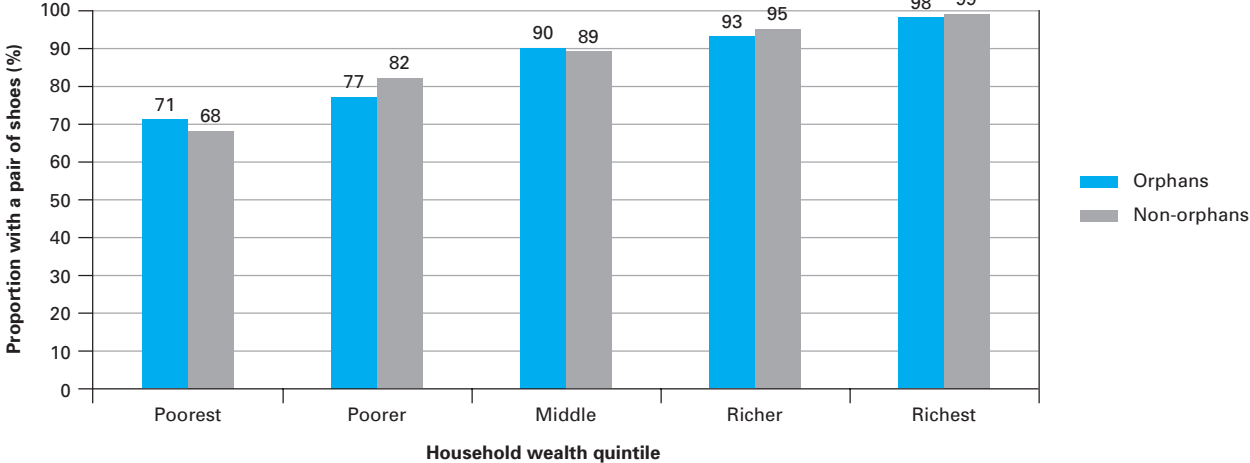
Having established that the provision of basic material needs is strongly and positively associated with household wealth in Cambodia, the remaining issue is whether orphans in this country are worse off than children of the same poverty group. Figures 6 and 7 show the distribution of orphaned and non-orphaned children in Cambodia who possess a blanket and a pair of shoes, within each wealth quintile. As there is no significant difference between orphans and non-orphans regarding possession of two or more sets of clothing, the graph for this item is not shown.

**Figure 6: Proportion of orphans vs. non-orphans with a blanket in Cambodia, by household wealth quintile (ages 7 to 14 years)**



Source: Demographic and Health Survey (DHS) 2005.

**Figure 7: Proportion of orphans vs. non-orphans with a pair of shoes in Cambodia, by household wealth quintile (ages 7-14 years)**



Source: Demographic and Health Survey (DHS) 2005.

The preceding two graphs show that the difference is much smaller between orphans and non-orphans within each household wealth quintile, and that orphans fare even slightly better in certain quintiles (though in all cases, the difference is not statistically significant). In other words, poverty rather than orphan status could influence the level of access to basic material needs among Cambodian orphans.

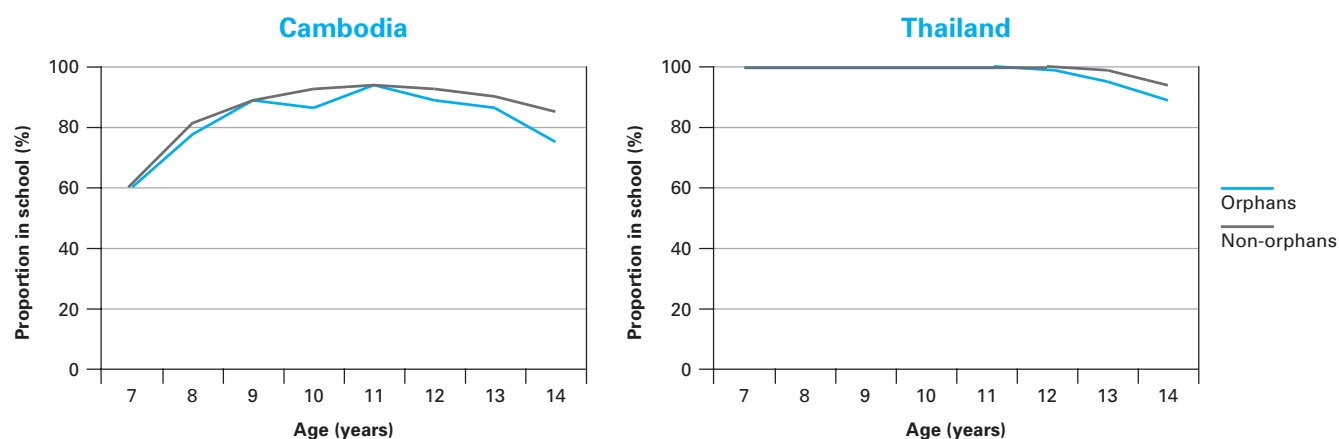
### Access to education

In this study, access to education of children according to orphan status and household wealth was assessed using school attendance as an indicator. This refers to the proportion of children who attended school at some point during the school year at the time of the survey.

Figure 8 shows the school attendance rate by age for children between the ages of seven and 14 years. In Cambodia, the gap in school attendance between orphans and non-orphans is widest among 14 year olds (with a school attendance rate of 74.6 per cent for orphans compared to 85.3 per cent for non-orphans) followed by 10 year olds, suggesting that older orphaned children are at a greater disadvantage.

For Thailand, until the age of 11, there is virtually no difference in school attendance between orphans and non-orphans, as close to 100 per cent of children in both groups attended school at some point during the school year. However, among older children, the overall school attendance rate falls, and the rate for orphans is slightly lower than for other children. This gap in school attendance between orphans and non-orphans is widest among 14 year olds, with 87.7 per cent of orphans and 94.3 per cent of non-orphans who attended school.

**Figure 8: School attendance by age and orphan status**



Source: Cambodia Demographic and Health Survey (DHS) 2005; Thailand Multiple Indicator Cluster Survey (MICS) 2005-2006.

For Viet Nam, the sample size for orphans is too small to present school attendance rates by age in years. As shown in Table 7, the proportions of seven to nine year olds attending school are the same for orphans and non-orphans, thus, the difference in overall school attendance rates lies among the older children. For all children, the average school attendance rate is lower for the older age group than for the younger age group; however, older orphans are worse off than other children in their age group.

**Table 7: School attendance rate by age group and orphan status in Viet Nam**

Age group	Proportion that attended school during the current school year	
	Orphans	Non-orphans
7-9 years	97.1%	97.0%
10-14 years	87.2%	93.1%
<b>7-14 years (N=4,375)</b>	<b>90.9%</b>	<b>94.6%</b>

Source: Vietnam Population and AIDS Indicator Survey (VPAIS) 2005.

The remainder of this section examines further the discrepancy of school attendance rates between orphans and other children in all three countries, with focus on 10 to 14 year olds. Table 8 shows that overall, the school attendance rate for all orphans aged 10 to 14 years is over six percentage points lower than for non-orphans in the same age group in Cambodia, and three percentage points lower in Thailand.<sup>11</sup>

In both Thailand and Cambodia, school attendance rates were lowest among double orphans while highest among maternal orphans. Findings show that the attendance rate of maternal orphans is not significantly different from that of non-orphans. In Cambodia, double orphans have lower school attendance rate compared with single orphans.

<sup>11</sup> Similar results are not provided for Viet Nam because the sample sizes for double and maternal orphans are too small to conduct separate analyses by orphan status.



**Table 8: School attendance among children aged 10-14 years**

Orphan status	Proportion that attended school during the current school year	
	Cambodia	Thailand
Maternal orphans	92.8%	98.0%
Paternal orphans	84.5%	95.0%
Double orphans	76.1%	93.0%
All orphans	85.3%	95.4%
Non-orphans	91.6%	98.4%
<b>Total</b>	<b>90.9%</b>	<b>98.2%</b>

Source: Cambodia Demographic and Health Survey (DHS) 2005; Thailand Multiple Indicator Cluster Survey (MICS) 2005-2006.

Access to education is strongly correlated with household wealth. As shown in Table 9, children living in wealthier households have, on average, higher school attendance rates than children in poorer households.

**Table 9: Education and household wealth, all children aged 10 to 14 years**

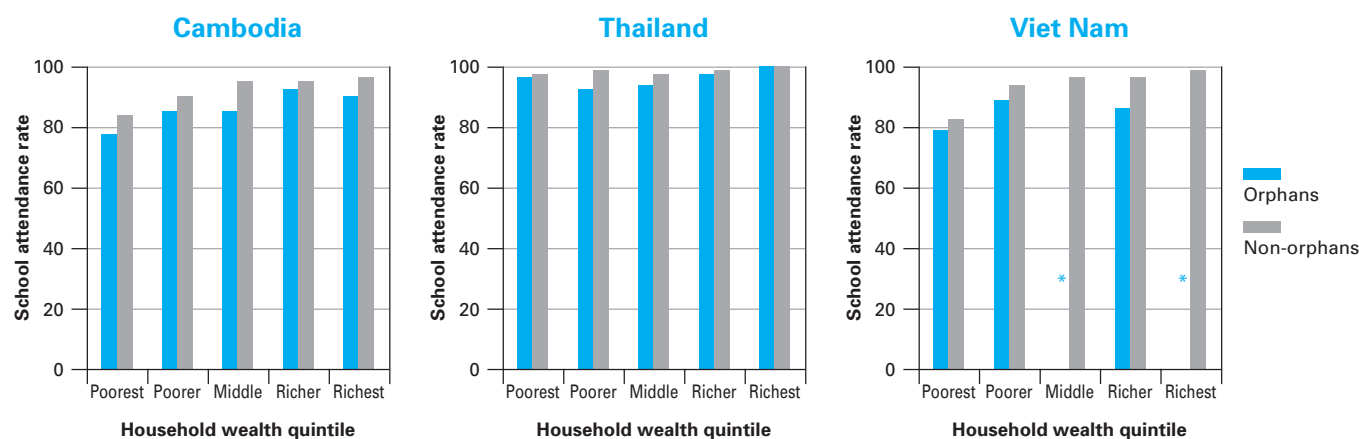
Household wealth quintile	Proportion that attended school during the current school year		
	Cambodia	Thailand	Viet Nam
Poorest	82.6%	97.5%	82.3
Poorer	89.4%	98.1%	93.1
Middle	93.6%	97.4%	96.1
Richer	94.5%	98.6%	95.9
Richest	95.2%	99.7%	98.2

Source: Cambodia Demographic and Health Survey (DHS) 2005; Thailand Multiple Indicator Cluster Survey (MICS) 2005-2006; Vietnam Population and AIDS Indicator Survey (VPAIS) 2005.

As with basic material needs, it is possible that some gaps in school attendance between orphans and non-orphans are accounted for by the greater share of orphans living in poorer households. Figure 9 shows the school attendance rates of orphans and non-orphans within each household wealth quintile. In both Cambodia and Thailand, orphans do have lower school attendance rates than non-orphans in all household wealth groups. The gaps are most evident among the poorest and middle wealth groups in Cambodia, and among the second poorest wealth group in Thailand.

In Viet Nam, the too small sample sizes of orphaned children belonging to middle and top wealth quintiles would not be a good basis for making any conclusion. To some extent, however, poverty accounts for the gap in school attendance rates between orphans and non-orphans aged 10 to 14 years.

**Figure 9: School attendance rate by wealth quintile, ages 10 to 14**



\* Figures have been excluded from the graph because the sample size for each of these groups is less than 25.

In sum, key findings reveal the following:

### Cambodia:

- Poverty accounts for almost the entire difference in access to basic material goods between orphans and non-orphans, but does not account for the difference in school attendance for children aged 10 to 14 years. Within each household wealth quintile, orphaned children have lower school attendance rates than non-orphaned children on average.
- Single orphans typically live in poorer households than other children, with little difference in wealth status between paternal and maternal orphans. However, maternal orphans have a higher school attendance rate than paternal orphans.
- Double orphans are wealthiest, yet they also have the lowest attendance rate.

### Thailand

- Until age 11, there is no difference in school attendance between orphans and non-orphans. From ages 11 to 14, orphans have a slightly lower attendance rate than non-orphans.
- While orphans live on average in poorer households than non-orphans, orphans living in households that belong to the poorest, poorer and middle quintiles have slightly lower school attendance rates than non-orphans of the same wealth quintile.
- Three categories of orphans in the 10 to 14-year age group are particularly vulnerable regarding access to education, relative to their peers: older orphans (ages 13 and 14), orphans in the second poorest wealth quintile and double orphans. The school attendance rates of these groups are 93.1 per cent, 92.4 per cent and 87.7 per cent, respectively.

### Viet Nam

- On average, orphans live in poorer households than non-orphans.
- Nearly all children aged 5 to 17 years possess all three minimum personal items, regardless of orphan status and household wealth quintile, although orphans in the poorest wealth quintile are slightly worse off than other children who are equally poor.
- While there is no difference in school attendance rate between orphans and non-orphans aged seven to nine years, orphans aged 10 to 14 years have on average a lower school attendance rate than non-orphans of the same age group. However, the higher poverty rate among orphans compared with non-orphans accounts for this difference.

These issues point to the importance of examining in greater depth the relationship between education and orphan status, household wealth and other factors that may affect access to education. Also, there is a need to determine why orphans in Cambodia and Thailand are disadvantaged with regard to school attendance compared with other children of the same poverty status. The next section attempts to analyze these issues further.

Thus far, this paper has focused on the disadvantages faced by children in terms of orphan status and wealth quintile. However, it is also important to examine whether other factors play an important role in enabling or preventing children from accessing essential services. Another useful analysis would be to study the different factors that affect school attendance for each of the three types of orphans: maternal, paternal and double orphans. For instance, since double orphans are on average from wealthier households than other children in Cambodia, it would be interesting to know which other factors would likely contribute to their lower school attendance. This section identifies some key determinants of school attendance based on available household survey data. Viet Nam is not included here as it was found that poverty accounts for the lower school attendance rate among Vietnamese orphans, and data could not be analyzed by orphan status due to the very limited sample sizes.

## Model

Regression analysis was done for Cambodia and Thailand to estimate the impact of “being an orphan” on school attendance among 7 to 14 year-olds, controlling for household wealth and other factors associated with school attendance. As the dependent variable – school attendance – is dichotomous, a probit model was used to estimate the marginal effects of the independent variables on school attendance.

Each regression included an orphan indicator and a set of control variables ( $X_i$  in the equation below). The coefficient on the orphan indicator ( $\beta_1$ ) provides an estimate of the relationship between orphanhood and school attendance, adjusted for differences in the control variables.

$$\text{School\_attendance} = \alpha + \beta_1 \text{Orphan} + \theta X_i + \varepsilon_i$$

The analysis was carried out in four parts, starting with the most basic model and adding control variables in stages, as explained below:

- (1) First, school attendance was regressed on orphan status and household wealth quintile indicators. The coefficient on the orphan status indicator estimates the association between orphanhood and school attendance, controlling for household wealth.
- (2) The second regression was carried out using the above specification and adding characteristics of children. As explained earlier, age is related to both orphanhood and school attendance, so an indicator on children’s age was included to avoid bias in the orphan coefficient. Gender was also included as an indicator to test its impact on education.
- (3) For the third regression, the variables in part (2) were kept, and household characteristics were added to the specification. In particular, indicators were added to capture the following household factors: rural/urban location, province, the number of household members, the share of household members under the age of 15, and the share of household members over the age of 65 (the latter two indicators capture the ratio of dependent household members).
- (4) The fourth regression adds characteristics of heads of household to the above specification. Indicators on age, sex and education (in years) of the head of household were added, as these could affect children’s access to education. Child’s relationship to the head of household was also included.

The exercise was conducted separately for each orphan status: maternal, paternal and double orphans, as well as all orphans combined. To set non-orphans as the reference case in all regressions, the analysis of each orphan group excluded the other two orphan groups from the sample. For instance, the regressions on maternal orphans excluded paternal and double orphans from the sample, and so forth.

## Results

For the purposes of this paper, the regression results are analyzed on two levels: First, to determine whether there is a statistically significant negative coefficient on the orphan indicator after the control variables have been added. A negative coefficient would imply that orphans are still worse off in terms of school attendance, holding all other factors equal. Second, to identify what other determinants of school attendance have been captured in the model, i.e. what other variables in the model have statistically significant coefficients.

### Cambodia

#### 1) Orphan status and school attendance

Table 10 presents the results from the regression analysis of the coefficient on the orphan indicator for each orphan group. Each coefficient measures the difference in the probability of school attendance between orphans and non-orphans, adjusting for the other control variables. For example, the coefficient of -0.199 for double orphans in the second column indicates that, controlling for household wealth, the school attendance of double orphans is on average 19.9 percentage points lower than that of non-orphans. All coefficients that are statistically significant are marked in the table.

**Table 10: Coefficients of orphans (aged 7 to 14 years) from regressions on school attendance, Cambodia**

	No controls	Controlling for household wealth (1)	Controlling for household wealth and characteristics of children (2)	Controlling for household wealth, and characteristics of children and households (3)	Controlling for household wealth and characteristics of children, households and heads of households (4)
Maternal orphans	-0.022	-0.001	-0.041	-0.042	-0.019
Paternal orphans	-0.054**	-0.020*	-0.054*	-0.087**	-0.057*
Double orphans	-0.190**	-0.199**	-0.225**	-0.264**	-0.173*
Any type of orphan	-0.060**	-0.033	-0.067**	-0.092**	-0.057**

Source: Author's calculations based on Cambodia Demographic and Health Survey (DHS) 2005.

\*significant at 5%; \*\*significant at 1%.

N=16,280

As shown in the table above, the coefficients for maternal orphans are not statistically significant because there is no significant difference in enrolment between maternal orphans and non-orphans among 7 to 14 year-olds (Table 8 indicated similar results for 10-to 14-year olds). Therefore, the interpretation of results is focused on paternal and double orphans.

**Paternal orphans:** In the regressions for paternal orphans, controlling for household wealth reduces the coefficient on the orphan indicator. This signifies that poverty does indeed account for some – though not all – of the lower school attendance rate observed among paternal orphans.

Adding the child and household variables increases the coefficient on the orphan indicator. In other words, holding constant the age and sex of children as well as the specified characteristics of households, paternal orphans are still worse off in terms of school attendance than non-orphans who are equally poor.

However, after incorporating the head of household variables into the regression, the coefficient on the paternal orphan indicator decreases considerably in size and statistical significance. This implies that the lower attendance rate is partly explained by head of household characteristics. While the education of the head of household is statistically significant, the child's relationship to the head of household has more importance. The next section on the other determinants of school attendance provides more detailed results on this characteristic.

Controlling for the specified child, household and head-of-household characteristics, the coefficient on paternal orphans remains negative, though not statistically significant at the 5 per cent level. In other words, the variables in the model account for much of the difference in school attendance between paternal orphans and non-orphans. Of these variables, household wealth and relationship to the head of household are particularly important.

**Double orphans:** Controlling for wealth, the coefficient on the indicator for double orphans increases, indicating that within the same wealth quintiles, double orphans are even worse off. This is consistent with previous findings that education is positively associated with household wealth, and that double orphans are wealthier on average than other children. By adjusting for child and household characteristics, the likelihood of school attendance decreases even further, as with paternal orphans.

In all four stages of the model carried out on double orphans, the coefficient on the orphan indicator remains statistically significant and negative. Therefore, despite adjusting for household, child and head-of-household factors, double orphans remain disadvantaged compared with non-orphans with regard to school attendance.

However, controlling for the head-of-household variables does considerably reduce the coefficient size on the orphan indicator. In other words, the lower attendance rate among double orphans is partially explained by head-of-household factors, in particular, the relationship to the head-of-household, as explained below.

## 2) Other determinants of school attendance

Many of the other variables have statistically significant coefficients, indicating that they are associated with attendance in school.<sup>12</sup> Household wealth is strongly significant in all specifications of the model, which supports the prevailing notion that children from poorer households are less likely to attend school. Table 11 presents the regression coefficients of household wealth quintiles, with the bottom wealth quintile as the reference group. For example, the average school attendance rate for children from households in the “middle” quintile is 7.5 percentage points higher than those in the “poorest” quintile.

**Table 11: Coefficients of household wealth from regressions on school attendance, Cambodia (aged 7 to 14 years)**

Household wealth quintile (with “poorest” as the reference group)	Controlling for orphan status and characteristics of children, households and heads of households
Poorer	0.043**
Middle	0.075**
Richer	0.095**
Richest	0.117**

Source: Author’s calculations based on Cambodia Demographic and Health Survey (DHS) 2005.

\* significant at 5%; \*\* significant at 1%. N=16,260.

Each of the age indicators is statistically significant. Even after adjusting for all the other control variables, the association between age and school attendance follows a similar pattern as depicted in Figure 8. In other words, school attendance peaks at age 11 and then drops for the older children. The coefficient on the sex of the child is not significant among younger children, but when the regression was conducted for 10 to 14 year olds only, the coefficient on the “female” dummy variable was negative and statistically significant, suggesting that there is a gender gap in school attendance among older children.

Rural location, the number of household members, and the share of household members under 15 are all negatively associated with school attendance (for example, the larger the number of household members, the lower the likelihood of a child attending school).

<sup>12</sup> This paper presents the regression coefficients of selected variables for Cambodia, namely orphan status, household wealth, and relationship to the head of household. The full results, showing coefficients of all variables, are available upon request.

Regarding the head of household factors, the probability of attending school increases with the years of education of the head of household. Most importantly, results show that the child's relationship to the head of household has a significant association with school attendance, as indicated in Table 12. All coefficients in this table are relative to the reference group, which is the category of children living in households headed by non-relatives. Holding the other variables constant, children who live in households headed by a parent are the most likely to attend school, followed by children in households headed by a grandparent, foster parent and other relative. In stark contrast, children who live in households headed by non-relatives are considerably less likely to attend school than other children.

**Table 12: Coefficients of relationship to head of household from regressions on school attendance, Cambodia (ages 7 to 14 years)**

Relationship to head of household (with "non-relatives" as the reference group)	Controlling for orphan status and characteristics of children, households and heads of households
Foster child	0.092**
Other relative	0.095**
Grandchild	0.128**
Child	0.512**

Source: Author's calculations based on Cambodia Demographic and Health Survey (DHS) 2005

\* significant at 5%; \*\* significant at 1% ; N=16,260.

A child's relationship to the head of household partly explains the schooling gap between orphans and other children, particularly on the markedly lower attendance rate of double orphans. As shown in Figure 4, the share of double orphans living in households headed by non-relatives, though small, is over three times the share of other children living in similar households. Additionally, households headed by relatives other than parents, foster parents or grandparents are associated with the second lowest likelihood of school attendance, holding all else equal. Considering that 42 per cent of double orphans live in these types of households (a share far higher than for the other children), this living arrangement puts double orphans at a disadvantage and provides some explanation as to why double orphans in Cambodia fare worse than other orphans in terms of school attendance, despite living in wealthier households on average.

In sum, the findings on school attendance among 7 to 14-year-olds in Cambodia show that:

- There is no significant difference in enrolment between maternal orphans and non-orphans.
- Paternal orphans have lower school attendance than non-orphans, although this is partly explained by poverty.
- However, even among children who are equally poor, paternal orphans are still less likely to attend school.
- Double orphans remain considerably worse off than non-orphans in terms of school attendance, despite controlling for household characteristics.
- Relationship to the head of household accounts for some schooling gap between orphans and non-orphans, particularly for double orphans, many of whom live in households headed by distant relatives or non-relatives.
- For all children, wealth status is strongly related to school attendance.
- Other determinants of education identified in the analysis are: rural/urban location, the number of people in a household, the share of household members that are under 15 years of age, and the education level of the head of household.

## Thailand

### 1) Orphan status and school attendance

Table 13 presents the results from the regression analysis regarding the coefficient on the orphan indicator for each of the orphan groups. Each coefficient measures the difference in the probability of school attendance relative to non-orphans, adjusting for the other control variables. For example, the coefficient of -0.028 for paternal orphans in the second column indicates that, controlling for household wealth, the school attendance of paternal orphans is on average 2.8 percentage points lower than that of non-orphans. All coefficients that are statistically significant are marked in the table.

**Table 13: Coefficients of orphans (aged 10 to 14 years) from regressions on school attendance, Thailand**

	No controls	Controlling for household wealth (1)	Controlling for household wealth and characteristics of children (2)	Controlling for household wealth, and characteristics of children and households (3)	Controlling for household wealth and characteristics of children, households and heads of households (4)
Maternal orphans	-0.004	-0.001	-0.000	-0.001	-0.001
Paternal orphans	-0.034**	-0.028**	-0.012**	-0.009**	-0.005*
Double orphans	-0.056*	-0.047*	-0.022*	-0.022*	-0.018*
Any type of orphan	-0.030**	-0.025**	-0.011**	-0.008**	-0.005*

\* significant at 5%; \*\* significant at 1%

N=12,349

As with Cambodia, the coefficients for maternal orphans are not statistically significant as there is no significant difference in enrolment between maternal orphans and non-orphans among 10 to 14 year olds (see Table 13). Therefore, the interpretation of results is focused on paternal and double orphans.

**Paternal orphans:** Controlling for household wealth reduces the coefficient on the indicator for paternal orphans. This signifies that poverty does indeed account for some of the lower school attendance rate observed among paternal orphans.

Adding indicators on sex and age of the child significantly decreased the coefficient on the paternal orphan indicator. This is attributed to the larger share of paternal orphaned than non-orphaned children aged 13 or 14 years old, the lower probability of attending school among children in this age group compared with those aged 10 to 12 years, and the lower access to education among older orphaned children. Therefore, controlling for the age structure reduces the magnitude of the coefficient on the orphan indicator.

The coefficient on the paternal orphan indicator declines further once the selected household and head of household characteristics are adjusted. The other determinants of school attendance are discussed in the following section. It is important to note that, even after controlling for the child, household and head of household characteristics, the coefficient on the paternal orphan indicator remains negative (albeit small). Thus, paternal orphans remain at a slight disadvantage regarding access to education.

**Double orphans:** Controlling for household wealth decreases the coefficient on double orphans so that, once poverty differences are adjusted, the probability of double orphans attending school is 4.7 percentage points lower than that of non-orphans.

As with paternal orphans, the coefficient on double orphans decreases considerably after controlling for differences in the distribution of sex and age of the children. The coefficient does not change after including household characteristics, although some of these variables are statistically significant. After controlling for head of household characteristics, the coefficient drops further in size, but remains significant at the 95 per cent level, akin to the coefficient on paternal orphans. However, the larger coefficient on double orphans indicates that double orphans are worse off than paternal orphans, even after controlling for child, household and head of household characteristics.

## 2) Other determinants of school attendance

Many other variables have statistically significant coefficients, indicating that they are associated with attendance in school.<sup>13</sup> Of these variables, household wealth and age of the child are most strongly associated with school attendance. Household wealth is strongly significant in all specifications of the model, which supports the prevailing notion that children from poorer households are less likely to attend school. Table 14 presents the regression coefficients of household wealth quintiles, with the bottom wealth quintile as the reference group.

**Table 14: Coefficients of household wealth from regressions on school attendance, Thailand (ages 10 to 14 years)**

Household wealth quintile (with "poorest" as the reference group)	Controlling for orphan status and characteristics of children, households and heads of households
Poorer	0.002**
Middle	0.002**
Richer	0.004**
Richest	0.005**

\* significant at 5%; \*\* significant at 1%

N=12,349

Controlling for the age structure is important since, as shown in Figure 8, there is no difference in school attendance between orphans and non-orphans except when it comes to age. Table 15 presents the coefficients on the age indicator after including all control variables, with all coefficients indicating the probability of school attendance relative to children aged 12 years. The table shows that, all else being equal, age remains negatively associated with school attendance. The likelihood of school attendance is lowest for children aged 14, for whom the probability of attending school is 2.7 percentage points lower than for children aged 12.

**Table 15: Coefficients of age indicators from regressions on school attendance, Thailand (ages 10 to 14 years)**

Age in years (with age 12 as the reference group)	Controlling for orphan status and characteristics of children, households and heads of households
10	0.003*
11	0.003*
13	-0.007**
14	-0.027**

\* significant at 5%; \*\* significant at 1%

N=12,349

<sup>13</sup> This paper presents the regression coefficients of selected variables for Thailand, namely orphan status, household wealth, and relationship to the head of household. The full results, showing coefficients of all variables, are available upon request.



In terms of other indicators that have statistically significant coefficients, the results show that girls on average have slightly higher school attendance rates than boys, particularly for children aged 13 and 14. For household variables, the more people living in a household, the lower the probability of attending school. Regarding the head of household variables, the higher the level of education of the head of household, the more likely the child will attend school. No other head of household indicators were statistically significant.

In sum, the findings on school attendance among children aged 10 to 14 years in Thailand reveal that:

- Overall, the differences in school attendance are low for both orphans and non-orphans.
- Maternal orphans have the same school attendance rates as non-orphans.
- Some of the lower school attendance rates among paternal and double orphans can be explained by poverty. However, even among children who are equally poor, paternal and double orphans are still less likely to attend school.
- For all children, household wealth is positively correlated with school attendance.
- Age is negatively correlated with school attendance. Older orphans are particularly more vulnerable in terms of access to education.
- Other determinants of education identified in the analysis include the sex of the child, the number of household members and the level of education of the head of household.



## Conclusions

This report has examined differences in education and basic material needs between orphans and non-orphans to determine whether poverty or other factors account for the gap in access to basic needs and services between orphans and non-orphans in Cambodia, Thailand and Viet Nam.

The purpose of this study has been to inform planning on expanding care, support and access to basic services for underprivileged children, including children affected by HIV & AIDS. While the analysis covers all orphans regardless of the cause of death, the overall policy implications derived from the results of this analysis have relevance for policies to ensure the protection and access to basic services of children affected by HIV & AIDS.

Based on the findings of this study, the policy implications for basic material needs are as follows: For Cambodia, access to basic material needs is strongly associated with household wealth, and thereby support targeting interventions for material needs based on poverty rather than orphan status. For Viet Nam, access to the three basic material needs is not a problem, as virtually all children have these.

The findings on access to education are more complex. For Viet Nam, the difference in school attendance rates between orphans and non-orphans is largely explained by poverty. Among the many determinants of education, children living in the poorest households are particularly disadvantaged with regard to attending school; therefore, the evidence supports targeting education-related interventions based on household poverty.

The results for Cambodia and Thailand indicate that maternal, paternal and double orphans have very different characteristics, which are important to account for in designing policies to improve the educational outcomes of orphans and other children. As household wealth is strongly related to schooling attendance and accounts for some of the disadvantage faced by paternal orphans in Cambodia and paternal and double orphans in Thailand, the evidence in both countries also supports targeting interventions based on household poverty. However, the evidence also draws attention to the vulnerability of older children with regard to school attendance. For Cambodia, the findings also highlight the importance of the relationship of the child to the head of household, which particularly disadvantaged double orphans. Policies providing educational support must therefore be sensitive to these differences in vulnerability.

According to the results, policies targeting poverty and adapted to age will cover much of the disadvantages orphans face in school attendance relative to their peers. These results emphasize the large degree of overlap among children living in poverty and other disadvantaged groups, including orphans. However, there are remaining factors affecting the lower school attendance rates among double and paternal orphans in Cambodia and Thailand that the model does not capture. The many issues unaccounted for in this report that could play a role in lowering school attendance rates for orphans include the child's ill-health, discrimination within the household and child labour. It is important that further research be conducted to guide policies intended to target the most vulnerable children regarding their access to essential services.



# References

Badloe, C.; J. Flanagan, R. Gore, T. Hozumi, K. Imhof and P. So. *Universal Primary Education: Reaching the Unreached in Cambodia*. UNICEF East Asia and the Pacific. February 2007.

Cambodia Policy on Alternative Care for Children. Draft. 24.05.2005

Case, Anne; Christina Paxson and Joseph Ableidinger. *Orphans in Africa: Parental death, poverty and school enrollment*. Centre for Health and Wellbeing Research Program in Development Studies, Princeton University. March 2004.

Ministry of Labour, Invalids and Social Welfare (MOLISA), 2005, *Plan on Community-based Caring for Children with Especially Difficult Circumstances (Period 2005 - 2010)*, Hanoi, 25/03/2005.

National AIDS Authority. Cambodia HIV/AIDS Policy Assessment and Audit. Draft Report. January 2007.

Teokul, Waranya and Viroj Tangcharoensathien. Orphan and vulnerable children in East Asia and Pacific: revisit of policy choices. 2008 (draft submitted to HIV Section, UNICEF EAPRO).

Wolf, C., Quantitative Secondary Data Analysis of DHS 2000 and DHS 2005 for Cambodia OVC Situation Analysis, prepared for UNICEF Cambodia, September 6/7, 2007.





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