

Country Data Profile: Orphans

14 Focus Countries



*U.S. Agency for International Development,
Bureau for Africa, Office of Sustainable Development*

Country Data Profile: Orphans

Countries Targeted by the Emergency Plan for AIDS Relief



BOTSWANA

Botswana's total population stands at 1.6 million, 622,000 of whom are children under the age of 15 years (BUCEN, 2003). The infant mortality rate stood at 80 deaths per 1,000 live births in 2001 and under-five mortality at 110 deaths per 1,000 live births (UNICEF 2003). According to UNAIDS, 28,000 children aged 0 to 14 were living with HIV/AIDS in 2001, and 38.8 percent of adults in Botswana were infected with HIV/AIDS, the highest adult HIV/AIDS prevalence in the world (UNAIDS, 2002). As such, Botswana is one of the 14 African and Caribbean countries selected for assistance by the President's Emergency Plan for AIDS Relief.

National Orphan Population. As seen in table 1, various estimates and projections of the percentage of children who are orphans (losing one or both parents due to all causes, including HIV/AIDS) are high – 8.3 percent (1995), 15.1 percent (2001), and 21.6 percent (2010, projected) by *Children on the Brink 2002*, and 12.5 percent (2000) by the Multiple Indicator Cluster Survey (MICS). The number of orphans in Botswana is likely to increase throughout the decade and reach an estimated 136,000 by 2010 (*Children on the Brink 2002*). The 2000 MICS reports that the percent of children who have lost both parents is greater in rural (1.5 percent of children) than urban areas (0.9 percent).

Orphans Due to AIDS. The estimated percentage of children orphaned by AIDS, as opposed to other causes, increased from 33.7 percent of all orphans in 1995 to 70.5 percent in 2001. If current trends continue, it is projected that by 2010 more than 88 percent of Botswana's orphans will have been orphaned by AIDS.

Table 1: Orphan Estimates as a Percent of All Children Under Age 15

| Factors | Source Name/Year | | | | | | | | |
|--|---|--------------|--------------|---|-----------|-------------------------------------|--------------|---|-----------|
| | <i>Children on the Brink 2002</i> (estimates for 1995) | | MICS 2000 | <i>Children on the Brink 2002</i> (estimates for 2001) | | UNAIDS 2002 (estimates for 2001) | | <i>Children on the Brink 2002</i> (projections for 2010) | |
| | % | # (000's) | % | % | # (000's) | % | # (000's) | % | # (000's) |
| HIV/AIDS Prevalence (Adults and Children) | | | | | | | 330 | | |
| Adult HIV Prevalence | | | | | | 38.8 | 300 | | |
| Total Orphans | 8.3 | 52 | 12.5 | 15.1 | 98 | | | 21.6 | 136 |
| Maternal Orphans | 2.2 | 14 | 1.8 | 1.1 | 7 | | | 1.7 | 11 |
| Paternal Orphans | 5.1 | 32 | 9.3 | 4.5 | 29 | | | | 0 |
| Double Orphans | 0.8 | 5 | 1.5 | 9.5 | 62 | | | 19.8 | 125 |
| Orphans due to HIV/AIDS as a Percentage of Total Orphans | 33.7 | 18 | | 70.5 | 69 | | | 88.4 | 120 |

Methodologies for Estimating Orphans. Differences among the orphan estimates and projections of various organizations occur due to differences in methodologies, definitions (of "orphan," for example), and demographic and epidemiological assumptions. On the one hand, *Children on the Brink* and UNAIDS estimate the number of



orphans using mathematical models, estimations, and projections based on certain assumptions about the impact of HIV/AIDS on adult mortality, fertility, and child survival. These assumptions are likely to lead to overestimations of female HIV prevalence and mortality. Surveys such as the Demographic and Health Survey (DHS) (not available for Botswana) and MICS, on the other hand, are based on data gathered through household surveys of representative samples of the national population. These surveys may underestimate the number of orphans because they fail to count orphans in institutions or on the street. In addition, surveys may underestimate the number of orphans if parental survival status is unknown.

Table 1 Data Sources

Children on the Brink 2002: A Joint Report on Orphan Estimates and Program Strategies. New York: UNICEF, November 2002: National estimates and projections for the number of orphans by country, type (whether the orphan has lost mother, father, or both parents), and cause (AIDS and non-AIDS) are provided for five-year periods between 1990 and 2010. By 2010, the model used to project future orphans estimates that the majority of orphans will have lost both parents, with the number of paternal orphans approaching zero. This report is a collaborative effort of USAID, UNAIDS, and UNICEF to produce estimates and projections specifically related to the orphan population, such as child mortality rates with and without AIDS and the number of children orphaned by AIDS and other causes.

Multiple Indicator Cluster Survey (MICS) New York: UNICEF, 2000. Household survey interviews provided information on children under 15 with a deceased parent or parents.

Report on the Global HIV/AIDS Epidemic. July 2002. Geneva: UNAIDS, July 2002: The models for the estimates take into consideration HIV/AIDS prevalence in special populations, AIDS deaths, and HIV/AIDS knowledge and behavior.

Other Data Sources

State of the World's Children 2003. New York: UNICEF. This source provide infant mortality and under-five mortality statistics.

United States Census Bureau (BUCEN), International Programs Center. Washington, D.C.: BUCEN International Programs Center, International Database (<http://www.census.gov/ipc/www/world.html>), accessed October 2003: The source provides the total number of children under 15.

Definitions by Data Source

Children on the Brink 2002

(The following definitions refer to the data in the *Children on the Brink 2002* final report. Figures in table 1 differ from those found in the final report as double orphans were subtracted from the maternal and paternal estimates to allow for comparability with DHS and MICS data.)

Maternal Orphans: Estimated percent of children under age 15 whose mothers, and perhaps fathers, have died (includes double orphans).

Paternal Orphans: Estimated percent of children under age 15 whose fathers, and perhaps mothers, have died (includes double orphans).

Double Orphans: Estimated percent of children under age 15 whose mother, father, or both parents have died.

Total Orphans: Estimated number of children under age 15 whose mother, father, or both parents have died regardless of parental cause of death. The total number of orphans is equal to the sum of the maternal and paternal, minus double orphans, because they are counted in both the maternal and paternal category.

Total Orphans Due to AIDS: Estimated number of children under age 15 whose mother, father, or both parents have died due to AIDS.

Orphans Due to AIDS as a Percentage of Total Orphans: Estimated percent of children under age 15 who have lost at least one parent due to AIDS as a percent of all children who have been orphaned, regardless of parental cause of death.

UNAIDS

Number of People Living with HIV/AIDS: Estimated number of adults and children living with HIV/AIDS at the end of 2001. Children are defined as those aged 0-14.

Number of Children Living with HIV/AIDS: Estimated number of children aged 0-14 living with HIV/AIDS at the end of 2001.

Adults HIV Prevalence: Estimated number of adults living with HIV/AIDS at the end of 2001. Adults are females and males aged 15-49, or those in their sexually active years.

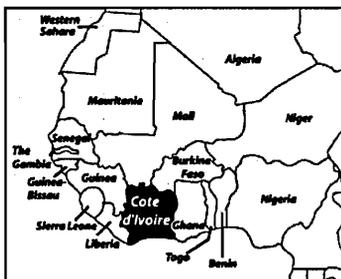
Adults HIV Prevalence Rate: To calculate the adult HIV prevalence rate, the estimated number of adults living with HIV/AIDS at the end of 2001 was divided by the 2001 adult population (aged 15-49).

This Country Data Profile was prepared for the USAID Bureau for Africa, Office of Sustainable Development, by the Population, Health and Nutrition Information (PHNI) Project.

October 2003

Country Data Profile: Orphans

Countries Targeted by the Emergency Plan for AIDS Relief



COTE D'IVOIRE

Cote d'Ivoire has a total population of 17.0 million, 7.7 million of whom are children under the age of 15 (BUCEN, 2003). With a national infant mortality rate of 102 deaths per 1,000 live births and an under-five mortality rate of 175 deaths per 1,000 live births, child health status remains poor (UNICEF 2003). Approximately 9.7 percent of adults (690,000 persons) in Cote d'Ivoire were infected with HIV/AIDS in 2001, and approximately 84,000 children between

the ages of 0 and 14 were living with HIV/AIDS (UNAIDS 2002). It is one of the sub-Saharan African countries most severely affected by HIV/AIDS and also one of the 14 African and Caribbean countries selected for assistance by the President's Emergency Plan for AIDS Relief.

National Orphan Population. As seen in table 1, various estimates and projections of the percentage of children who are orphans (losing one or both parents due to all causes, including HIV/AIDS) are high – 11.3 percent (1995), 13.3 percent (2001), and 12.1 percent (2010, projected) by *Children on the Brink 2002*; 6 percent (1994) by the Demographic and Health Survey (DHS); and 7.4 percent (2000) by the Multiple Indicator Cluster Survey (MICS). Projections from *Children on the Brink 2002* anticipate a decrease in the total percent of children orphaned by 2010, with slight increases in the total number of orphans.

Orphans Due to AIDS. The estimated percentage of children orphaned by AIDS, as opposed to other causes, increased from 23.2 percent of all orphans in 1995 to 46.4 percent in 2001. It is projected that by 2010 nearly 58 percent of orphans in Cote d'Ivoire will have been orphaned by AIDS.

Table 1: Orphan Estimates as a Percent of All Children Under Age 15

| Factors | Source Name/ Year | | | | | | | | | | | |
|--|------------------------|-----------|---|-----------|-----------|-----------|---|-----------|----------------------------------|-----------|---|-----------|
| | Cote d'Ivoire DHS 1994 | | Children on the Brink 2002 (estimates for 1995) | | MICS 2000 | | Children on the Brink 2002 (estimates for 2001) | | UNAIDS 2002 (estimates for 2001) | | Children on the Brink 2002 (projections for 2010) | |
| | % | # (000's) | % | # (000's) | % | # (000's) | % | # (000's) | % | # (000's) | % | # (000's) |
| HIV/AIDS Prevalence (Adults and Children) | | | | | | | | 770 | | | | |
| Adult HIV Prevalence | | | | | | | 9.7 | 690 | | | | |
| Total Orphans | 6 | 723 | 11.3 | 723 | 7.4 | 905 | 13.3 | 905 | | | 12.1 | 931 |
| Maternal Orphans | 1.6 | 210 | 3.3 | 210 | 1.2 | 262 | 3.8 | 262 | | | 3.9 | 300 |
| Paternal Orphans | 4 | 408 | 6.4 | 408 | 4.8 | 452 | 6.6 | 452 | | | 6.0 | 460 |
| Double Orphans | 0.4 | 105 | 1.6 | 105 | 1.4 | 192 | 2.8 | 192 | | | 2.2 | 171 |
| Orphans due to HIV/AIDS as a Percentage of Total Orphans | | | 23.2 | 168 | | | 46.4 | 420 | | | 57.9 | 539 |

Sub-National Orphan Populations. As shown in table 2, the percent of orphaned children within Cote d'Ivoire is evenly distributed across regions, varying between 5.1 percent of children under age 15 in the Center region and 6.7 percent of children under age 15 in the North and South regions. Paternal orphans represent the majority of



orphans in all regions, averaging 4.1 percent of children under age 15 for the country as a whole. Less than 1 percent of children in any region have lost both parents (double orphans).

Methodologies for Estimating Orphans. Differences among the orphan estimates and projections of various organizations occur due to differences in methodologies, definitions (of “orphan,” for example), and demographic and epidemiological assumptions. On the one hand, *Children on the Brink* and UNAIDS estimate the number of orphans using mathematical models, estimations, and projections based on certain assumptions about the impact of HIV/AIDS on adult mortality, fertility, and child survival. These assumptions are likely to lead to overestimations of female HIV prevalence and mortality. Surveys such as DHS and MICS, on the other hand, are based on data gathered through household surveys of representative samples of the national population. These surveys may underestimate the number of orphans because they fail to count orphans in institutions or on the street. In addition, surveys may underestimate the number of orphans if parental survival status is unknown.

Table 2. Sub-National Estimates of Orphans as a Percent of All Children Under Age 15, 1994

| Factors | Sub-Regions (Cote d'Ivoire DHS, 1994) | | | | |
|---|---------------------------------------|--------|-------|-------|-------|
| | National | Center | North | West | South |
| Total Number of Children Under 15 Surveyed | 17,707 | 6,038 | 2,943 | 2,970 | 5,755 |
| Total Orphans | 6.1 | 5.1 | 6.7 | 6.6 | 6.7 |
| Maternal Orphans | 1.6 | 1.6 | 1.9 | 1.0 | 1.9 |
| Paternal Orphans | 4.1 | 3.3 | 4.2 | 5.3 | 4.2 |
| Double Orphans | 0.4 | 0.2 | 0.5 | 0.3 | 0.6 |

Table 1 Data Sources

Children on the Brink 2002: A Joint Report on Orphan Estimates and Program Strategies. New York: UNICEF, November 2002: National estimates and projections for the number of orphans by country, type (whether the orphan has lost mother, father, or both parents), and cause (AIDS and non-AIDS) are provided for five-year periods between 1990 and 2010. This report is a collaborative effort of USAID, UNAIDS, and UNICEF to produce estimates and projections specifically related to the orphan population, such as child mortality rates with and without AIDS and the number of children orphaned by AIDS and other causes.

Multiple Indicator Cluster Survey (MICS). New York: UNICEF, 2000. Household survey interviews provided information on children under 15 with a deceased parent or parents.

Cote d'Ivoire Demographic and Health Survey (DHS), 1994. Calverton, Maryland, USA: Institut National de la Statistique, and Macro International Inc. This household survey provides orphan estimates.

Report on the Global HIV/AIDS Epidemic. July 2002. Geneva: UNAIDS, July 2002: The models for the estimates take into consideration HIV/AIDS prevalence in special populations, AIDS deaths, and HIV/AIDS knowledge and behavior.

Table 2 Data Sources

Cote d'Ivoire Demographic and Health Survey (DHS), 1994. Calverton, Maryland, USA: Institut National de la Statistique, and Macro International Inc.

Nyangara, F. and P. McDermott. 2003 (unpublished). “Sub-National Distribution and Situation of Orphans: Countries Targeted by the President’s Emergency Plan for AIDS Relief.” Washington, D.C.: Population, Health and Nutrition Information Project/USAID. National-level statistics and sub-national orphan percentages using 1994 DHS data.

Other Data Sources

State of the World’s Children 2003. New York: UNICEF. This source provides infant mortality and under-five mortality statistics.

United States Census Bureau (BUCEN), International Programs Center. Washington, D.C.: BUCEN International Programs Center, International Database (<http://www.census.gov/ipc/www/world.html>), accessed October 2003: The source provides the total number of children under 15.

Definitions by Data Source

Children on the Brink 2002

(The following definitions refer to the data in the *Children on the Brink 2002* final report. Figures in table 1 differ from those found in the final report as double orphans were subtracted from the maternal and paternal estimates to allow for comparability with DHS and MICS data.)

Maternal Orphans: Estimated percent of children under age 15 whose mothers, and perhaps fathers, have died (includes double orphans).

Paternal Orphans: Estimated percent of children under age 15 whose fathers, and perhaps mothers, have died (includes double orphans).

Double Orphans: Estimated percent of children under age 15 whose mother, father, or both parents have died.

Total Orphans: Estimated number of children under age 15 whose mother, father, or both parents have died regardless of parental cause of death. The total number of orphans is equal to the sum of the maternal and paternal, minus double orphans, because they are counted in both the maternal and paternal category.

Total Orphans Due to AIDS: Estimated number of children under age 15 whose mother, father, or both parents have died due to AIDS.

Orphans Due to AIDS as a Percentage of Total Orphans: Estimated percent of children under age 15 who have lost at least one parent due to AIDS as a percent of all children who have been orphaned, regardless of parental cause of death.

UNAIDS

Number of People Living with HIV/AIDS: Estimated number of adults and children living with HIV/AIDS at the end of 2001. Children are defined as those aged 0-14.

Number of Children Living with HIV/AIDS: Estimated number of children aged 0-14 living with HIV/AIDS at the end of 2001.

Number of Adults Living with HIV/AIDS: Estimated number of adults living with HIV/AIDS at the end of 2001. Adults are females and males aged 15-49, or those in their sexually active years.

Adults HIV Prevalence Rate: To calculate the adult HIV prevalence rate, the estimated number of adults living with HIV/AIDS at the end of 2001 was divided by the 2001 adult population (aged 15-49).

Country Data Profile: Orphans

Countries Targeted by the Emergency Plan for AIDS Relief



ETHIOPIA

Ethiopia has a population of 66.6 million, 29.8 percent of whom are children under the age of 15 years (BUCEN, 2003). Child health status remains poor in the country. UNICEF reports that infant mortality was 116 deaths per 1,000 live births in 2001, and under-five mortality was 172 deaths per 1,000 live births. As one of the sub-Saharan African countries most severely affected by HIV/AIDS, Ethiopia is one of the 14 African and Caribbean countries selected for assistance by the President's Emergency Plan for AIDS Relief.

UNAIDS estimates that adult HIV/AIDS prevalence was 6.4 percent in 2001 and that 230,000 children aged 0 to 14 were living with HIV/AIDS (UNAIDS 2002).

National Orphan Population. As seen in table 1, various estimates and projections of the percentage of children who are orphans (losing one or both parents due to all causes, including HIV/AIDS) are high – 12.4 percent (1995), 13.2 percent (2001), and 14.0 percent (2010, projected) by *Children on the Brink 2002*, and 10.7 percent (2000) by the Demographic and Health Survey (DHS). The number of orphans in Ethiopia is likely to increase throughout the decade and surpass 5 million by 2010 (*Children on the Brink 2002*).

Orphans Due to AIDS. The estimated percentage of children orphaned by AIDS, as opposed to other causes, increased from 9.6 percent of all orphans in 1995 to 25.8 percent in 2001. By 2010, it is estimated to increase to 43 percent of all orphans.

Table 1: Orphan Estimates as a Percent of All Children Under Age 15

| Factors | Source Name/ Year | | | | | | | | | |
|---|--|-----------|--|-----------|-------------------|----------------------------------|-----------|--|-----------|--|
| | <i>Children on the Brink 2002</i> (estimates for 1995) | | <i>Children on the Brink 2002</i> (estimates for 2001) | | Ethiopia DHS 2000 | UNAIDS 2002 (estimates for 2001) | | <i>Children on the Brink 2002</i> (projections for 2010) | | |
| | % | # (000's) | % | # (000's) | % | % | # (000's) | % | # (000's) | |
| HIV/AIDS Prevalence (Adults and Children) | | | | | | | 2,100 | | | |
| Adult HIV Prevalence | | | | | | 6.4 | 1,900 | | | |
| Total Orphans | 12.4 | 3,062 | 13.2 | 3,839 | 10.7 | | | 14 | 5,029 | |
| Maternal Orphans | 4.0 | 985 | 4.3 | 1,251 | 3.2 | | | 4.7 | 1,699 | |
| Paternal Orphans | 7.1 | 1,753 | 7.3 | 2,133 | 6.5 | | | 7.5 | 2,704 | |
| Double Orphans | 1.3 | 324 | 1.6 | 455 | 0.8 | | | 1.7 | 627 | |
| Orphans due to HIV/AIDS as a Percentage of Total Orphans | 9.6 | 294 | 25.8 | 989 | | | | 43 | 2,165 | |

Sub-National Orphan Populations. In all regions of the country, at least 10 percent of children under the age of 15 are orphans, as shown in table 2. The percent of children orphaned is especially high in the Affar region (20.7 percent) and Addis region (15.7 percent). Paternal orphans represent the majority of orphans in the country,



averaging 6.6 percent of all children. For the country as a whole, half as many children are maternal orphans as paternal orphans. However, in the Affar region, the ratio of maternal to paternal orphans is reaching parity, with 8.4 percent of children maternal orphans and 9.9 percent paternal orphans.

Methodologies for Estimating Orphans. Differences among the orphan estimates and projections of various organizations occur due to differences in methodologies, definitions (of “orphan,” for example), and demographic and epidemiological assumptions. On the one hand, *Children on the Brink* and UNAIDS estimate the number of orphans using mathematical models, estimations, and projections based on certain assumptions about the impact of HIV/AIDS on adult mortality, fertility, and child survival. These assumptions are likely to lead to overestimations of female HIV prevalence and mortality. Surveys such as DHS and Multiple Indicator Cluster Survey (MICS) (not available for Ethiopia), on the other hand, are based on data gathered through household surveys of representative samples of the national population. These surveys may underestimate the number of orphans because they fail to count orphans in institutions or on the street. In addition, surveys may underestimate the number of orphans if parental survival status is unknown.

Table 2. Sub-National Estimates of Orphans as a Percent of All Children Under Age 15, 2000

| Factors | Sub-Regions (Ethiopia DHS, 2000) | | | | | | | | |
|---|----------------------------------|--------|-------|--------|---------|--------|-------|-------|-------------------|
| | National | Tigray | Affar | Amhara | Oromiya | Somali | SNNP | Addis | All other states* |
| Total Number of Children Under 15 Surveyed | 31,353 | 2,084 | 323 | 8,441 | 11,998 | 431 | 6,870 | 644 | 562 |
| Total Orphans | 10.7 | 10.8 | 20.7 | 10.1 | 10.3 | 14.4 | 10.6 | 15.7 | 13.3 |
| Maternal Orphans | 3.3 | 2.4 | 8.4 | 2.8 | 3.4 | 4.9 | 3.3 | 3.9 | 3.7 |
| Paternal Orphans | 6.6 | 7.5 | 9.9 | 6.6 | 6.1 | 7.7 | 6.6 | 10.1 | 8.4 |
| Double Orphans | 0.8 | 0.9 | 2.5 | 0.8 | 0.8 | 1.9 | 0.7 | 1.6 | 1.1 |

*All other states include Ben-Gumz, Gambela, Harari, and Dire Dawa.

Table 1 Data Sources

Children on the Brink 2002: A Joint Report on Orphan Estimates and Program Strategies. New York: UNICEF, November 2002: National estimates and projections for the number of orphans by country, type (whether the orphan has lost mother, father, or both parents), and cause (AIDS and non-AIDS) are provided for five-year periods between 1990 and 2010. This report is a collaborative effort of USAID, UNAIDS, and UNICEF to produce estimates and projections specifically related to the orphan population, such as child mortality rates with and without AIDS and the number of children orphaned by AIDS and other causes.

Ethiopia Demographic and Health Survey (DHS), 2000. Calverton, Maryland, USA: Central Statistical Authority [Ethiopia], and ORC Macro. This household survey provides orphan estimates.

Report on the Global HIV/AIDS Epidemic. July 2002. Geneva: UNAIDS, July 2002: The models for the estimates take into consideration HIV/AIDS prevalence in special populations, AIDS deaths, and HIV/AIDS knowledge and behavior.

Table 2 Data Sources

Ethiopia Demographic and Health Survey (DHS), 2000. Calverton, Maryland, USA: Central Statistical Authority [Ethiopia], and ORC Macro.

Nyangara, F. and P. McDermott. 2003 (unpublished). “Sub-National Distribution and Situation of Orphans: Countries Targeted by the President’s Emergency Plan for AIDS Relief.” Washington, D.C.: Population, Health and Nutrition Information Project/USAID. National-level statistics and sub-national orphan percentages using 2000 DHS data.

Other Data Sources

State of the World’s Children 2003. New York: UNICEF. This source provides infant mortality and under-five mortality statistics.

United States Census Bureau (BUCEN), International Programs Center. Washington, D.C: BUCEN International Programs Center, International Database (<http://www.census.gov/ipc/www/world.html>), accessed October 2003: The source provides the total number of children under 15.

Definitions by Data Source

Children on the Brink 2002

(The following definitions refer to the data in the *Children on the Brink 2002* final report. Figures in table 1 differ from those found in the final report as double orphans were subtracted from the maternal and paternal estimates to allow for comparability with DHS and MICS data.)

Maternal Orphans: Estimated percent of children under age 15 whose mothers, and perhaps fathers, have died (includes double orphans).

Paternal Orphans: Estimated percent of children under age 15 whose fathers, and perhaps mothers, have died (includes double orphans).

Double Orphans: Estimated percent of children under age 15 whose mother, father, or both parents have died.

Total Orphans: Estimated number of children under age 15 whose mother, father, or both parents have died regardless of parental cause of death. The total number of orphans is equal to the sum of the maternal and paternal, minus double orphans, because they are counted in both the maternal and paternal category.

Total Orphans Due to AIDS: Estimated number of children under age 15 whose mother, father, or both parents have died due to AIDS.

Orphans Due to AIDS as a Percentage of Total Orphans: Estimated percent of children under age 15 who have lost at least one parent due to AIDS as a percent of all children who have been orphaned, regardless of parental cause of death.

UNAIDS

Number of People Living with HIV/AIDS: Estimated number of adults and children living with HIV/AIDS at the end of 2001. Children are defined as those aged 0-14.

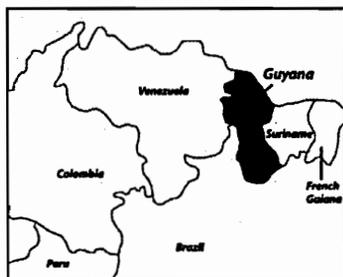
Number of Children Living with HIV/AIDS: Estimated number of children aged 0-14 living with HIV/AIDS at the end of 2001.

Number of Adults Living with HIV/AIDS: Estimated number of adults living with HIV/AIDS at the end of 2001. Adults are females and males aged 15-49, or those in their sexually active years.

Adults HIV Prevalence Rate: To calculate the adult HIV prevalence rate, the estimated number of adults living with HIV/AIDS at the end of 2001 was divided by the 2001 adult population (aged 15-49).

Country Data Profile: Orphans

Countries Targeted by the Emergency Plan for AIDS Relief



GUYANA

The population of Guyana stands at 702,000, 190,000 of whom are children under the age of 15 years (BUCEN, 2003). UNICEF reports that infant mortality stood at 54 deaths per 1,000 live births in 2001 and under-five mortality at 72 deaths per 1,000 live births. With an adult HIV/AIDS prevalence of 2.7 percent in 2001, Guyana has one of the highest rates of HIV/AIDS in the Latin America and Caribbean region (UNAIDS 2002). Approximately 800 children aged 0 to

14 were living with HIV/AIDS in 2001. Guyana is one of the 14 African and Caribbean countries selected for assistance by the President's Emergency Plan for AIDS Relief.

National Orphan Population. As seen in table 1, various estimates and projections of the percentage of children who are orphans (losing one or both parents due to all causes, including HIV/AIDS) are high – 7.2 percent (1995), 8.7 percent (2001), and 10.8 percent (2010, projected) by *Children on the Brink 2002*, and 4.4 percent (2000) by the Multiple Indicator Cluster Survey (MICS). The number of orphans in Guyana is likely to increase throughout the decade and surpass 23,000 by 2010 (*Children on the Brink 2002*).

Orphans Due to AIDS. The estimated percentage of children orphaned by AIDS, as opposed to other causes, increased from 5.7 percent of all orphans in 1995 to 20.8 percent in 2001. If current trends continue, it is projected that by 2010 more than 40 percent of Guyana's orphans will have been orphaned by AIDS.

Table 1: Orphan Estimates as a Percent of All Children Under Age 15

| Factors | Source Name/ Year | | | | | | | | | |
|---|---|--------------|--------------|---|--------------|--|--------------|---|--------------|--|
| | <i>Children on the Brink 2002</i> (estimates for 1995) | | MICS 2000 | <i>Children on the Brink 2002</i> (estimates for 2001) | | UNAIDS 2002 (estimates for 2001) | | <i>Children on the Brink 2002</i> (projections for 2010) | | |
| | % | # (000's) | % | % | # (000's) | % | # (000's) | % | # (000's) | |
| HIV/AIDS Prevalence (Adults and Children) | | | | | | | 18 | | | |
| Adult HIV Prevalence | | | | | | 2.7 | 17 | | | |
| Total Orphans | 7.2 | 18 | 4.4 | 8.7 | 20 | | | 10.8 | 23 | |
| Maternal Orphans | 2.4 | 6 | 1.7 | 2.6 | 6 | | | 2.8 | 6 | |
| Paternal Orphans | 4.4 | 11 | 3.3 | 5.2 | 12 | | | 7.1 | 15 | |
| Double Orphans | 0.4 | 1 | 0.6 | 0.9 | 2 | | | 0.9 | 2 | |
| Orphans due to HIV/AIDS as a Percentage of Total Orphans | 5.7 | 1 | | 20.8 | 4 | | | 40.5 | 9 | |

Sub-National Orphan Populations. The percent of children orphaned varies by sub-region, ranging from 3.0 percent in the Upper Takutu-Upper Essequibo region to 5.9 percent in the Demerara-Mahaica region, as shown in table 2. The percent of paternal orphans exceeds maternal orphans in all regions except Upper Takutu- Upper Essequibo. Double orphans remain at or below 1 percent of children in all regions.



Methodologies for Estimating Orphans. Differences among the orphan estimates and projections of various organizations occur due to differences in methodologies, definitions (of “orphan,” for example), and demographic and epidemiological assumptions. On the one hand, *Children on the Brink* and UNAIDS estimate the number of orphans using mathematical models, estimations, and projections based on certain assumptions about the impact of HIV/AIDS on adult mortality, fertility, and child survival. These assumptions are likely to lead to overestimations of female HIV prevalence and mortality. Surveys such as the Demographic and Health Survey (DHS) (not available for Guyana) and MICS, on the other hand, are based on data gathered through household surveys of representative samples of the national population. These surveys may underestimate the number of orphans because they fail to count orphans in institutions or on the street. In addition, surveys may underestimate the number of orphans if parental survival status is unknown.

Table 2. Sub-National Estimates of Orphans as a Percent of All Children Under Age 15, 2000

| Factors | Sub-Regions (Guyana MICS, 2000) | | | | |
|---|---------------------------------|--------------|--------------------|---------------------------|------------------|
| | National | Barima-Waini | Pomeroon-Supernaam | Essequibo Is.-W. Demerara | Demerara-Mahaica |
| Total Number of Children Under 15 Surveyed | 6,612 | 239 | 502 | 746 | 2,737 |
| Total Orphans | 4.4 | 3.8 | 3.6 | 5.1 | 5.9 |
| Maternal Orphans | 1.7 | 1.4 | 1.7 | 0.5 | 1.4 |
| Paternal Orphans | 3.3 | 2.2 | 1.9 | 3.6 | 3.8 |
| Double Orphans | 0.6 | 0.2 | 0.0 | 1.0 | 0.9 |

| Factors | Sub-Regions (Guyana MICS, 2000) | | | | | |
|---|---------------------------------|----------------------|-----------------|-----------------|--------------------------|----------------|
| | Mahaica-Berbice | E. Berbice-Corentyne | Cuyuni-Mazaruni | Potaro-Siparuni | Up. Takutu-Up. Essequibo | Upper Demerara |
| Total Number of Children Under 15 Surveyed | 404 | 1,100 | 175 | 62 | 211 | 436 |
| Total Orphans | 3.5 | 4.0 | 3.1 | 3.4 | 3.0 | 5.4 |
| Maternal Orphans | 0.0 | 1.1 | 0.6 | 0.0 | 1.3 | 1.7 |
| Paternal Orphans | 3.0 | 2.4 | 2.1 | 3.1 | 1.2 | 3.3 |
| Double Orphans | 0.5 | 0.5 | 0.3 | 0.3 | 0.6 | 0.4 |

Table 1 Data Sources

Children on the Brink 2002: A Joint Report on Orphan Estimates and Program Strategies. New York: UNICEF, November 2002: National estimates and projections for the number of orphans by country, type (whether the orphan has lost mother, father, or both parents), and cause (AIDS and non-AIDS) are provided for five-year periods between 1990 and 2010. This report is a collaborative effort of USAID, UNAIDS, and UNICEF to produce estimates and projections specifically related to the orphan population, such as child mortality rates with and without AIDS and the number of children orphaned by AIDS and other causes.

Multiple Indicator Cluster Survey (MICS). New York: UNICEF, 2000. Household survey interviews provided information on children under 15 with a deceased parent or parents.

Report on the Global HIV/AIDS Epidemic. July 2002. Geneva: UNAIDS, July 2002: The models for the estimates take into consideration HIV/AIDS prevalence in special populations, AIDS deaths, and HIV/AIDS knowledge and behavior.

Table 2 Data Sources

Multiple Indicator Cluster Survey (MICS). New York: UNICEF, 2000.

Nyangara, F. and P. McDermott. 2003 (unpublished). "Sub-National Distribution and Situation of Orphans: Countries Targeted by the President's Emergency Plan for AIDS Relief." Washington, D.C.: Population, Health and Nutrition Information Project/USAID. National-level statistics and sub-national orphan percentages using 2000 MICS data.

Other Data Sources

State of the World's Children 2003. New York: UNICEF. This source provides infant mortality and under-five mortality statistics.

United States Census Bureau (BUCEN), International Programs Center. Washington, D.C.: BUCEN International Programs Center, International Database (<http://www.census.gov/ipc/www/world.html>), accessed October 2003: The source provides the total number of children under 15.

Definitions by Data Source

Children on the Brink 2002

(The following definitions refer to the data in the Children on the Brink 2002 final report. Figures in table 1 differ from those found in the final report as double orphans were subtracted from the maternal and paternal estimates to allow for comparability with DHS and MICS data.)

Maternal Orphans: Estimated percent of children under age 15 whose mothers, and perhaps fathers, have died (includes double orphans).

Paternal Orphans: Estimated percent of children under age 15 whose fathers, and perhaps mothers, have died (includes double orphans).

Double Orphans: Estimated percent of children under age 15 whose mother, father, or both parents have died.

Total Orphans: Estimated number of children under age 15 whose mother, father, or both parents have died regardless of parental cause of death. The total number of orphans is equal to the sum of the maternal and paternal, minus double orphans, because they are counted in both the maternal and paternal category.

Total Orphans Due to AIDS: Estimated number of children under age 15 whose mother, father, or both parents have died due to AIDS.

Orphans Due to AIDS as a Percentage of Total Orphans: Estimated percent of children under age 15 who have lost at least one parent due to AIDS as a percent of all children who have been orphaned, regardless of parental cause of death.

UNAIDS

Number of People Living with HIV/AIDS: Estimated number of adults and children living with HIV/AIDS at the end of 2001. Children are defined as those aged 0-14.

Number of Children Living with HIV/AIDS: Estimated number of children aged 0-14 living with HIV/AIDS at the end of 2001.

Number of Adults Living with HIV/AIDS: Estimated number of adults living with HIV/AIDS at the end of 2001. Adults are females and males aged 15-49, or those in their sexually active years.

Adults HIV Prevalence Rate: To calculate the adult HIV prevalence rate, the estimated number of adults living with HIV/AIDS at the end of 2001 was divided by the 2001 adult population (aged 15-49).

Country Data Profile: Orphans

Countries Targeted by the Emergency Plan for AIDS Relief



HAITI

Haiti has a population of 7.5 million, of whom 3.2 million are children under the age of 15 years (BUCEN, 2003). Child health status remains poor in Haiti, which had an infant mortality rate of 79 deaths per 1,000 live births in 2001 and an under-five mortality rate of 123 deaths per 1,000 live births (UNICEF 2003). It is one of two Caribbean nations selected for assistance by the President's 14-country Emergency Plan for AIDS Relief. UNAIDS estimates that adult HIV prevalence was 6.1 percent in 2001, the highest prevalence rate in the Latin America/Caribbean region. Approximately 12,000 children aged 0 to 14 were living with HIV/AIDS in 2001.

National Orphan Population. As seen in table 1, various estimates and projections of the percentage of children who are orphans (losing one or both parents due to all causes, including HIV/AIDS) are high – 12.9 percent (1995), 14 percent (2001), and 11.7 percent (2010, projected) by *Children on the Brink 2002*, and 11.1 percent (1994/95) and 10.1 percent (2000) by the Demographic and Health Survey (2000). Unlike many other countries, the number of orphaned children in Haiti has remained relatively stable, and the data suggest the number is likely to decrease during this decade from an estimated 462,000 in 2001 to 404,000 by 2010 (*Children on the Brink 2002*).

Orphans Due to AIDS. The estimated percentage of children orphaned by AIDS, as opposed to other causes, increased from 26.9 percent of all orphans in 1995 to 43.2 percent in 2001. By 2010, a projected 200,000 children – nearly half of all of Haiti's orphans – will have been orphaned because of AIDS.

Table 1: Orphan Estimates as a Percent of All Children Under Age 15

| Factors | Source Name/Year | | | | | | | | | | | |
|---|-------------------|-----------|---|-----------|----------------|-----------|---|-----------|-------------------------|-----------|---|-----------|
| | Haiti DHS 1994/95 | | Children on the Brink 2002 (1995 estimates) | | Haiti DHS 2000 | | Children on the Brink 2002 (2001 estimates) | | UNAIDS 2002 (2001 data) | | Children on the Brink 2002 (2010 projections) | |
| | % | # (000's) | % | # (000's) | % | # (000's) | % | # (000's) | % | # (000's) | % | # (000's) |
| HIV/AIDS Prevalence (Adults and Children) | | | | | | | | 250 | | | | |
| Adult HIV Prevalence | | | | | | | | 6.1 | 240 | | | |
| Total Orphans | 11.1 | 416 | 12.9 | 416 | 10.1 | 462 | 14 | 462 | | | 11.7 | 404 |
| Maternal Orphans | 3.3 | 132 | 4.1 | 132 | 2.9 | 154 | 4.7 | 154 | | | 4.0 | 138 |
| Paternal Orphans | 6.4 | 227 | 7.0 | 227 | 6.3 | 233 | 7.0 | 233 | | | 6.2 | 215 |
| Double Orphans | 1.3 | 56 | 1.7 | 56 | 0.8 | 75 | 2.3 | 75 | | | 1.5 | 51 |
| Orphans due to HIV/AIDS as a Percentage of Total Orphans | | | 26.9 | 112 | | | 43.2 | 200 | | | 48.8 | 197 |

Sub-National Orphan Populations. As table 2 shows, Haiti's three regions have similar percentages of children who have lost at least one parent. The South region has the highest percentage of orphaned children (11.6 percent of all children) and the North the lowest (8.8 percent). Between 1994/95 and 2000, the percent of orphans



decreased in the Metropolitan Area and the North region. The percent of double orphans (children who have lost both parents) decreased in all regions during the same time period, as seen in table 3.

Methodologies for Estimating Orphans. Differences among the orphan estimates and projections of various organizations occur due to differences in methodologies, definitions (of “orphan,” for example), and demographic and epidemiological assumptions. On the one hand, *Children on the Brink* and UNAIDS estimate the number of orphans using mathematical models, estimations, and projections based on certain assumptions about the impact of HIV/AIDS on adult mortality, fertility, and child survival. These assumptions are likely to lead to overestimations of female HIV prevalence and mortality. Surveys such as DHS and the Multiple Indicator Cluster Survey (MICS), on the other hand, are based on data gathered through household surveys of representative samples of the national population. These surveys may underestimate the number of orphans because they fail to count orphans in institutions or on the street. In addition, surveys may underestimate the number of orphans if parental survival status is unknown.

Table 2. Sub-National Estimates of Orphans as a Percent of All Children Under Age 15, 2000

| Factors | Sub-National Regions (Haiti DHS, 2000) | | | |
|--|--|-------------------|-------|-------|
| | National | Metropolitan Area | North | South |
| Total Number of Children Under 15 Surveyed | 18,762 | 4,077 | 7,279 | 7,406 |
| Total Orphans | 10.2 | 10.1 | 8.8 | 11.6 |
| Maternal Orphans | 3.0 | 1.9 | 2.6 | 4.0 |
| Paternal Orphans | 6.4 | 7.2 | 5.5 | 6.8 |
| Double Orphans | 0.8 | 1.0 | 0.8 | 0.8 |

Table 3. Sub-National Estimates of Double Orphans and Total Orphans, 1994/95 and 2000

| Sub-Regions | 1994/95 (DHS) (N = 10,166) | | 2000 (DHS) (N = 18,762) | |
|-------------------|-------------------------------|-------------------|----------------------------|-------------------|
| | Double Orphans (%) | Total Orphans (%) | Double Orphans (%) | Total Orphans (%) |
| National Average | 1.3 | 11.1 | 0.8 | 10.2 |
| Metropolitan Area | 1.9 | 14.8 | 1.0 | 10.1 |
| North | 1.3 | 10.7 | 0.8 | 8.8 |
| South | 1.2 | 10.0 | 0.8 | 11.6 |

Table 1 Data Sources

Children on the Brink 2002: A Joint Report on Orphan Estimates and Program Strategies. New York: UNICEF, November 2002: National estimates and projections for the number of orphans by country, type (whether the orphan has lost mother, father, or both parents), and cause (AIDS and non-AIDS) are provided for five-year periods between 1990 and 2010. This report is a collaborative effort of USAID, UNAIDS, and UNICEF to produce estimates and projections specifically related to the orphan population, such as child mortality rates with and without AIDS and the number of children orphaned by AIDS and other causes.

Haiti Demographic and Health Survey (DHS), 1994/95 and 2000. Calverton, Maryland, USA: Ministry of Public Health and Population, The Child Institute of Haiti and ORC/Macro. This household survey provides orphan estimates.

Report on the Global HIV/AIDS Epidemic. July 2002. Geneva: UNAIDS, July 2002: The models for the estimates take into consideration HIV/AIDS prevalence in special populations, AIDS deaths, and HIV/AIDS knowledge and behavior.

Table 2 Data Sources

Haiti Demographic and Health Survey (DHS), 2000. Calverton, Maryland, USA: Ministry of Public Health and Population, the Child Institute of Haiti, and ORC/Macro.

Nyangara, F. and P. McDermott. 2003 (unpublished). "Sub-National Distribution and Situation of Orphans: Countries Targeted by the President's Emergency Plan for AIDS Relief." Washington, D.C.: Population, Health and Nutrition Information Project/USAID. National-level statistics and sub-national orphan percentages using 2000 DHS data.

Table 3 Data Sources

Haiti Demographic and Health Survey (DHS), 1994/95 and 2000. Calverton, Maryland, USA: Ministry of Public Health and Population, the Child Institute of Haiti, and ORC/Macro.

Nyangara, F. and P. McDermott. 2003 (unpublished). "Sub-National Distribution and Situation of Orphans: Countries Targeted by the President's Emergency Plan for AIDS Relief." Washington, D.C.: Population, Health and Nutrition Information Project/USAID. National-level statistics and sub-national orphan percentages using 1994/95 and 2000 DHS data.

Other Data Sources

State of the World's Children 2003. New York: UNICEF. This source provides infant mortality and under-five mortality statistics.

United States Census Bureau (BUCEN), International Programs Center. Washington, D.C.: BUCEN International Programs Center, International Database (<http://www.census.gov/ipc/www/world.html>), accessed October 2003: The source provides the total number of children under 15.

Definitions by Data Source

Children on the Brink 2002

(The following definitions refer to the data in the *Children on the Brink 2002* final report. Estimates in table 1 differ from those found in the final report as maternal and paternal estimates were recalculated to allow for comparability with DHS and MICS data.)

Maternal Orphans: Estimated percent of children under age 15 whose mothers, and perhaps fathers, have died (includes double orphans).

Paternal Orphans: Estimated percent of children under age 15 whose fathers, and perhaps mothers, have died (includes double orphans).

Double Orphans: Estimated percent of children under age 15 whose mother, father, or both parents have died.

Total Orphans: Estimated number of children under age 15 whose mother, father, or both parents have died regardless of parental cause of death. The total number of orphans is equal to the sum of the maternal and paternal, minus double orphans, because they are counted in both the maternal and paternal category.

Total Orphans Due to AIDS: Estimated number of children under age 15 whose mother, father, or both parents have died due to AIDS.

Orphans Due to AIDS as a Percentage of Total Orphans: Estimated percent of children under age 15 who have lost at least one parent due to AIDS as a percent of all children who have been orphaned, regardless of parental cause of death.

UNAIDS

Number of People Living with HIV/AIDS: Estimated number of adults and children living with HIV/AIDS at the end of 2001. Children are defined as those aged 0-14.

Number of Children Living with HIV/AIDS: Estimated number of children aged 0-14 living with HIV/AIDS at the end of 2001.

Number of Adults Living with HIV/AIDS: Estimated number of adults living with HIV/AIDS at the end of 2001. Adults are females and males aged 15-49, or those in their sexually active years.

Adults HIV Prevalence Rate: To calculate the adult HIV prevalence rate, the estimated number of adults living with HIV/AIDS at the end of 2001 was divided by the 2001 adult population (aged 15-49).

Country Data Profile: Orphans

Countries Targeted by the Emergency Plan for AIDS Relief



KENYA

Kenya has a population of 31.6 million, 13.1 million of whom are children aged less than 15 years (BUCEN, 2003). According to UNICEF, infant mortality stood at 78 deaths per 1,000 live births in 2001 and under-five mortality at 122 deaths per 1,000 live births (UNICEF, 2003). UNAIDS estimates that adult HIV prevalence was 15 percent in 2001 and that 220,000 children aged 0 to 14 were living with HIV/AIDS. It is one of the sub-Saharan

African countries most severely affected by HIV/AIDS and also one of the 14 African and Caribbean countries selected for assistance by the President's Emergency Plan for AIDS Relief.

National Orphan Population. The size of its orphan population – estimated at more than 1.6 million – puts Kenya in crisis. As seen in table 1, various estimates and projections of the percentage of children who are orphans (losing one or both parents due to all causes, including HIV/AIDS) are high – 9.1 percent (1995), 12.4 percent (2001), and 14.3 percent (2010, projected) by *Children on the Brink 2002*; 7 percent (1993) and 9.4 percent (1998) by the Demographic and Health Survey (DHS); and 9.2 percent (2000) by the Multiple Indicator Cluster Survey (MICS). All the data support the consensus that the number of orphans in Kenya is likely to increase throughout the decade and exceed 2 million by 2010 (*Children on the Brink 2002*).

Orphans Due to AIDS. The estimated percentage of children orphaned by AIDS, as opposed to other causes, increased from 22.1 percent of all orphans in 1995 to 53.8 percent in 2001. If current trends continue, it is projected that by 2010 more than two-thirds of Kenya's orphans will have been orphaned by AIDS.

Table 1: Orphan Estimates as a Percent of All Children Under Age 15

| Factors | Source Name/ Year | | | | | | | | | | |
|--|-------------------|---|-----------|----------------|-----------|---|-----------|-------------------------|-----------|---|-----------|
| | Kenya DHS 1993 | Children on the Brink 2002 (1995 estimates) | | Kenya DHS 1998 | MICS 2000 | Children on the Brink 2002 (2001 estimates) | | UNAIDS 2002 (2001 data) | | Children on the Brink 2002 (2010 projections) | |
| | % | % | # (000's) | % | % | % | # (000's) | % | # (000's) | % | # (000's) |
| HIV/AIDS Prevalence (Adults and children) | | | | | | | | | 2,500 | | |
| Adults HIV Prevalence | | | | | | | | 15 | 2,300 | | |
| Total Orphans | 7 | 9.1 | 1,160 | 9.4 | 9.2 | 12.4 | 1,659 | | | 14.3 | 2,099 |
| Maternal Orphans | 1.5 | 2.9 | 378 | 1.8 | 1.8 | 4.1 | 556 | | | 4.9 | 725 |
| Paternal Orphans | 5.1 | 5.3 | 669 | 6.6 | 6.6 | 6.0 | 812 | | | 5.7 | 841 |
| Double Orphans | 0.3 | 0.9 | 113 | 0.9 | 0.9 | 2.2 | 291 | | | 3.6 | 533 |
| Orphans Due to HIV/AIDS as a Percentage of Total Orphans | | 22.1 | 257 | | | 53.8 | 892 | | | 73.4 | 1,541 |

Sub-National Orphan Populations. As seen in table 2, the percentage of orphaned children in Kenya's sub-national regions ranges from 5.3 percent of all children in the Central region to 14 percent in the Nyanza region. The percentage of paternal orphans (children who have lost their father) is higher than the percentage of maternal orphans in all regions. Between 1993 and 1998, total orphans increased in all regions except the Central region, as



shown in table 3. Total orphans in the Nyanza region increased by over 4 percentage points. The percent of children having lost both parents (double orphans) increased in all regions outside of Nairobi but remained in the 0.5 to 1.5 percent range in all regions in 1998.

Methodologies for Estimating Orphans. Differences among the orphan estimates and projections of various organizations occur due to differences in methodologies, definitions (of “orphan,” for example), and demographic and epidemiological assumptions. On the one hand, *Children on the Brink* and UNAIDS estimate the number of orphans using mathematical models, estimations, and projections based on certain assumptions about the impact of HIV/AIDS on adult mortality, fertility, and child survival. These assumptions are likely to lead to overestimations of female HIV prevalence and mortality. DHS and MICS, on the other hand, are based on data gathered through household surveys of representative samples of the national population. These surveys may underestimate the number of orphans because they fail to count orphans in institutions or on the street. In addition, surveys may underestimate the number of orphans if parental survival status is unknown.

Table 2. Sub-National Estimates of Orphans as a Percent of All Children Under Age 15, 1998

| Factors | Sub-National Regions (Kenya DHS, 1998) | | | | | | | |
|--|--|---------|---------|-------|---------|--------|-------------|---------|
| | National | Nairobi | Central | Coast | Eastern | Nyanza | Rift Valley | Western |
| Total Number of Children Under 15 Surveyed | 16,140 | 798 | 1,728 | 1,174 | 2,709 | 3,360 | 4,200 | 2,171 |
| Total Orphans | 9.5 | 9.1 | 5.3 | 10.3 | 9.7 | 14.0 | 7.7 | 8.8 |
| Maternal Orphans | 1.8 | 3.5 | 1.1 | 1.8 | 2.1 | 2.1 | 1.1 | 2.4 |
| Paternal Orphans | 6.8 | 5.0 | 3.8 | 7.4 | 7.2 | 10.4 | 5.9 | 5.3 |
| Double Orphans | 0.9 | 0.6 | 0.5 | 1.2 | 0.5 | 1.5 | 0.7 | 1.1 |

Table 3. Sub-National Estimates of Double Orphans and Total Orphans, 1993 and 1998

| Sub-Regions | 1993 (DHS) (N = 18,345) | | 1998 (DHS) (N = 16,140) | |
|------------------|----------------------------|-------------------|----------------------------|-------------------|
| | Double Orphans (%) | Total Orphans (%) | Double Orphans (%) | Total Orphans (%) |
| National Average | 0.3 | 6.9 | 0.9 | 9.5 |
| Nairobi | 0.7 | 6.0 | 0.6 | 9.1 |
| Central | 0.2 | 6.4 | 0.5 | 5.3 |
| Coast | 0.3 | 7.2 | 1.2 | 10.3 |
| Eastern | 0.2 | 7.6 | 0.5 | 9.7 |
| Nyanza | 0.4 | 9.3 | 1.5 | 14.0 |
| Rift Valley | 0.3 | 6.2 | 0.7 | 7.7 |
| Western | 0.1 | 6.3 | 1.1 | 8.8 |

Table 1 Data Sources

Children on the Brink 2002: A Joint Report on Orphan Estimates and Program Strategies. New York: UNICEF, November 2002: National estimates and projections for the number of orphans by country, type (whether the orphan has lost mother, father, or both parents), and cause (AIDS and non-AIDS) are provided for five-year periods between 1990 and 2010. This report is a collaborative effort of USAID, UNAIDS, and UNICEF to produce estimates and projections specifically related to the orphan population, such as child mortality rates with and without AIDS and the number of children orphaned by AIDS and other causes.

Multiple Indicator Cluster Survey (MICS). New York: UNICEF, 2000. Household survey interviews provided information on children under 15 with a deceased parent or parents.

Kenya Demographic and Health Survey (DHS), 1993 and 1998. Calverton, Maryland, USA: National Council for Population and Development, Central Bureau of Statistics (Off ice of the Vice President and Ministry of Planning and National Development) [Kenya], and Macro International Inc. This household survey provides orphan estimates.

Report on the Global HIV/AIDS Epidemic. July 2002. Geneva: UNAIDS, July 2002: The models for the estimates take into consideration HIV/AIDS prevalence in special populations, AIDS deaths, and HIV/AIDS knowledge and behavior.

Table 2 Data Sources

Kenya Demographic and Health Survey (DHS), 1998. Calverton, Maryland, USA: National Council for Population and Development, Central Bureau of Statistics (Off ice of the Vice President and Ministry of Planning and National Development) [Kenya], and Macro International Inc.

Nyangara, F. and P. McDermott. 2003 (unpublished). "Sub-National Distribution and Situation of Orphans: Countries Targeted by the President's Emergency Plan for AIDS Relief." Washington, D.C.: Population, Health and Nutrition Information Project/USAID. National-level statistics and sub-national orphan percentages using 1998 DHS data.

Table 3 Data Sources

Kenya Demographic and Health Survey (DHS), 1993 and 1998. Calverton, Maryland, USA: National Council for Population and Development, Central Bureau of Statistics (Off ice of the Vice President and Ministry of Planning and National Development) [Kenya], and Macro International Inc.

Nyangara, F. and P. McDermott. 2003 (unpublished). "Sub-National Distribution and Situation of Orphans: Countries Targeted by the President's Emergency Plan for AIDS Relief." Washington, D.C.: Population, Health and Nutrition Information Project/USAID. National-level statistics and sub-national orphan percentages using 1993 and 1998 DHS data.

Other Data Sources

State of the World's Children 2003. New York: UNICEF. This source provides infant mortality and under-five mortality statistics.

United States Census Bureau (BUCEN), International Programs Center. Washington, D.C.: BUCEN International Programs Center, International Database (<http://www.census.gov/ipc/www/world.html>), accessed October 2003: The source provides the total number of children under 15.

Definitions by Data Source

Children on the Brink 2002

(The following definitions refer to the data in the *Children on the Brink 2002* final report. Estimates in table 1 differ from those found in the final report as maternal and paternal estimates were recalculated to allow for comparability with DHS and MICS data.)

Maternal Orphans: Estimated percent of children under age 15 whose mothers, and perhaps fathers, have died (includes double orphans).

Paternal Orphans: Estimated percent of children under age 15 whose fathers, and perhaps mothers, have died (includes double orphans).

Double Orphans: Estimated percent of children under age 15 whose mother, father, or both parents have died.

Total Orphans: Estimated number of children under age 15 whose mother, father, or both parents have died regardless of parental cause of death. The total number of orphans is equal to the sum of the maternal and paternal, minus double orphans, because they are counted in both the maternal and paternal category.

Total Orphans Due to AIDS: Estimated number of children under age 15 whose mother, father, or both parents have died due to AIDS.

Orphans Due to AIDS as a Percentage of Total Orphans: Estimated percent of children under age 15 who have lost at least one parent due to AIDS as a percent of all children who have been orphaned, regardless of parental cause of death.

UNAIDS

Number of People Living with HIV/AIDS: Estimated number of adults and children living with HIV/AIDS at the end of 2001. Children are defined as those aged 0-14.

Number of Children Living with HIV/AIDS: Estimated number of children aged 0-14 living with HIV/AIDS at the end of 2001.

Number of Adults Living with HIV/AIDS: Estimated number of adults living with HIV/AIDS at the end of 2001. Adults are females and males aged 15-49, or those in their sexually active years.

Adults HIV Prevalence Rate: To calculate the adult HIV prevalence rate, the estimated number of adults living with HIV/AIDS at the end of 2001 was divided by the 2001 adult population (aged 15-49).

Country Data Profile: Orphans

Countries Targeted by the Emergency Plan for AIDS Relief



MOZAMBIQUE

Mozambique has a population of 18.6 million, 8.1 million of whom are children aged less than 15 years (BUCEN, 2003). Infant and under-five mortality in the country are among the highest in the world at 125 deaths per 1,000 live births and 197 deaths per 1,000 live births, respectively, in 2001 (UNICEF, 2003). UNAIDS estimates that adult HIV prevalence was 13 percent in 2001 and that 80,000 children aged 0 to 14 were living with HIV/AIDS.

National Orphan Population. As seen in table 1, various estimates and projections of the percentage of children who are orphans (losing one or both parents due to all causes, including HIV/AIDS) are high – 12.8 percent (1995), 15.5 percent (2001), and 19.5 percent (2010, projected) by *Children on the Brink 2002*, and 12.1 percent (1997) by the Demographic and Health Survey (DHS). All the data support the consensus that the number of orphans in the country is likely to increase throughout the decade and exceed 1.8 million by 2010 (*Children on the Brink 2002*).

Orphans Due to AIDS. The estimated percentage of children orphaned by AIDS, as opposed to other causes, increased from 5.2 percent of all orphans in 1995 to 32.8 percent in 2001. If current trends continue, it is projected that by 2010 more than half of Mozambique's orphans will have been orphaned by AIDS.

Table 1: Orphan Estimates as a Percent of All Children Under Age 15

| Factors | Source Name/Year | | | | | | | | |
|---|---|-----------|---------------------|---|-----------|-------------------------|-----------|---|-----------|
| | Children on the Brink 2002 (1995 estimates) | | Mozambique DHS 1997 | Children on the Brink 2002 (2001 estimates) | | UNAIDS 2002 (2001 data) | | Children on the Brink 2002 (2010 projections) | |
| | % | # (000's) | % | % | # (000's) | % | # (000's) | % | # (000's) |
| HIV/AIDS Prevalence (Adults and Children) | | | | | | | 1,100 | | |
| Adult HIV Prevalence | | | | | | 13 | 1,000 | | |
| Total Orphans | 12.8 | 914 | 12.1 | 15.5 | 1,274 | | | 19.5 | 1,820 |
| Maternal Orphans | 4.0 | 284 | 4.3 | 4.6 | 378 | | | 6.1 | 571 |
| Paternal Orphans | 7.5 | 538 | 6.7 | 8.7 | 712 | | | 9.2 | 856 |
| Double Orphans | 1.3 | 92 | 1 | 2.2 | 184 | | | 4.2 | 392 |
| Orphans Due to HIV/AIDS as a Percentage of Total Orphans | 5.2 | 47 | | 32.8 | 418 | | | 58.5 | 1,064 |

Sub-National Orphan Populations. As shown in table 2, orphan populations in Mozambique's sub-regions range from 8.7 percent of all children in Nampula province to about 15 percent in Inhambane and Gaza provinces. Paternal orphans (children whose fathers have died) exceed maternal orphans in all regions except Niassa, Cabo Delgado, and Sofala provinces.

Methodologies for Estimating Orphans. Differences among the orphan estimates and projections of various organizations occur due to differences in methodologies, definitions (of "orphan," for example), and demographic and epidemiological assumptions. On the one hand, *Children on the Brink* and UNAIDS estimate the number of orphans using mathematical models, estimations, and projections based on certain assumptions about the impact of HIV/AIDS on adult mortality, fertility, and child survival. These assumptions are likely to lead to overestimations of female HIV prevalence and mortality. Surveys such as DHS and the Multiple Indicator Cluster Survey (MICS) (not available for Mozambique), on the other hand, are based on data gathered through household surveys of representative samples of the national population. These surveys may underestimate the number of orphans



because they fail to count orphans in institutions or on the street. In addition, surveys may underestimate the number of orphans if parental survival status is unknown.

Table 2. Sub-National Estimates of Orphans as a Percent of All Children Under Age 15, 1997

| Factors | Sub-National Regions (Mozambique DHS, 1997) | | | | | | | | | | | |
|--|---|--------|--------------|---------|----------|------|--------|--------|------------|-------|--------|------------------|
| | National | Niassa | Cabo Delgado | Nampula | Zamb'zia | Tete | Manica | Sofala | Inham-bane | Gaza | Maputo | Cidade de Maputo |
| Total Number Children Under 15 Surveyed | 19,342 | 1,029 | 1,181 | 3,191 | 3,202 | 916 | 1,229 | 2,607 | 1,738 | 1,988 | 1,268 | 993 |
| Total Orphans | 12.2 | 11.6 | 13.0 | 8.7 | 13.6 | 14.3 | 13.1 | 12.1 | 15.0 | 14.9 | 9.9 | 9.0 |
| Maternal Orphans | 4.3 | 6.6 | 7.5 | 2.3 | 4.9 | 5.5 | 3.3 | 5.6 | 6.0 | 3.5 | 1.1 | 2.5 |
| Paternal Orphans | 6.9 | 4.6 | 4.5 | 5.7 | 7.7 | 7.8 | 8.8 | 4.9 | 7.8 | 10.1 | 7.7 | 5.9 |
| Double Orphans | 1.0 | 0.4 | 0.9 | 0.7 | 1.0 | 1.1 | 1.1 | 1.6 | 1.1 | 1.4 | 1.1 | 0.5 |

Table 1 Data Sources

Children on the Brink 2002: A Joint Report on Orphan Estimates and Program Strategies. New York: UNICEF, November 2002: National estimates and projections for the number of orphans by country, type (whether the orphan has lost mother, father, or both parents), and cause (AIDS and non-AIDS) are provided for five-year periods between 1990 and 2010. This report is a collaborative effort of USAID, UNAIDS, and UNICEF to produce estimates and projections specifically related to the orphan population, such as child mortality rates with and without AIDS and the number of children orphaned by AIDS and other causes.

Mozambique Demographic and Health Survey (DHS), 1997. Calverton, Maryland, USA: National Institute of Statistics and Macro International Inc. This household survey provides orphan estimates.

Report on the Global HIV/AIDS Epidemic. July 2002. Geneva: UNAIDS, July 2002: The models for the estimates take into consideration HIV/AIDS prevalence in special populations, AIDS deaths, and HIV/AIDS knowledge and behavior.

Table 2 Data Sources

Mozambique Demographic and Health Survey (DHS), 1997. Calverton, Maryland, USA: National Institute of Statistics and Macro International Inc.

Nyangara, F. and P. McDermott. 2003 (unpublished). "Sub-National Distribution and Situation of Orphans: Countries Targeted by the President's Emergency Plan for AIDS Relief." Washington, D.C.: Population, Health and Nutrition Information Project/USAID. National-level statistics and sub-national orphan percentages using 1997 DHS data.

Other Data Sources

State of the World's Children 2003. New York: UNICEF. This source provides infant mortality and under-five mortality statistics.

United States Census Bureau (BUCEN), International Programs Center. Washington, D.C.: BUCEN International Programs Center, International Database (<http://www.census.gov/ipc/www/world.html>), accessed October 2003: The source provides the total number of children under 15.

Definitions by Data Source

Children on the Brink 2002

(The following definitions refer to the data in the *Children on the Brink 2002* final report. Estimates in table 1 differ from those found in the final report as maternal and paternal estimates were recalculated to allow for comparability with DHS and MICS data.)

Maternal Orphans: Estimated percent of children under age 15 whose mothers, and perhaps fathers, have died (includes double orphans).

Paternal Orphans: Estimated percent of children under age 15 whose fathers, and perhaps mothers, have died (includes double orphans).

Double Orphans: Estimated percent of children under age 15 whose mother, father, or both parents have died.

Total Orphans: Estimated number of children under age 15 whose mother, father, or both parents have died regardless of parental cause of death. The total number of orphans is equal to the sum of the maternal and paternal, minus double orphans, because they are counted in both the maternal and paternal category.

Total Orphans Due to AIDS: Estimated number of children under age 15 whose mother, father, or both parents have died due to AIDS.

Orphans Due to AIDS as a Percentage of Total Orphans: Estimated percent of children under age 15 who have lost at least one parent due to AIDS as a percent of all children who have been orphaned, regardless of parental cause of death.

UNAIDS

Number of People Living with HIV/AIDS: Estimated number of adults and children living with HIV/AIDS at the end of 2001. Children are defined as those aged 0-14.

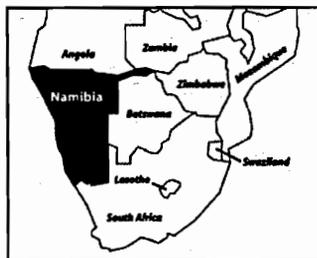
Number of Children Living with HIV/AIDS: Estimated number of children aged 0-14 living with HIV/AIDS at the end of 2001.

Number of Adults Living with HIV/AIDS: Estimated number of adults living with HIV/AIDS at the end of 2001. Adults are females and males aged 15-49, or those in their sexually active years.

Adults HIV Prevalence Rate: To calculate the adult HIV prevalence rate, the estimated number of adults living with HIV/AIDS at the end of 2001 was divided by the 2001 adult population (aged 15-49).

Country Data Profile: Orphans

Countries Targeted by the Emergency Plan for AIDS Relief



NAMIBIA

Namibia has a population of 1.9 million, 819,000 of whom are children under the age of 15 years (BUCEN, 2003). The country's 2001 infant mortality rate of 55 deaths per 1,000 live births is one of the lowest in the region. Under-five mortality (67 deaths per 1,000 live births in 2001) is also relatively low (UNICEF 2003). It is among the smallest in population size of the 14 African and Caribbean countries selected for assistance by the President's Emergency Plan for AIDS Relief. UNAIDS estimates that adult HIV prevalence was 22.5 percent in 2001 and that 30,000 children aged 0 to 14 were living with HIV/AIDS.

National Orphan Population. As seen in table 1, various estimates and projections of the percentage of children who are orphans (losing one or both parents due to all causes, including HIV/AIDS) are high – 8.8 percent (1995), 12.4 percent (2001), and 18.3 percent (2010, projected) by *Children on the Brink 2002*, and 7.1 percent (1992) and 11 percent (2000) by the Demographic and Health Survey (DHS). The data support the consensus that the number of orphans in Namibia is likely to increase throughout the decade from an estimated 97,000 in 2001 to 156,000 in 2010 (*Children on the Brink 2002*).

Orphans Due to AIDS. The estimated percentage of children orphaned by AIDS, as opposed to other causes, increased from 10.3 percent of all orphans in 1995 to 48.5 percent in 2001. If current trends continue, it is projected that by 2010 more than three-quarters of Namibia's orphans will have been orphaned by AIDS.

Table 1: Orphan Estimates as a Percent of All Children Under Age 15

| Factors | Source Name/Year | | | | | | | | | | | |
|--|------------------|-----------|---|-----------|------------------|-----------|---|-----------|-------------------------|-----------|---|-----------|
| | Namibia DHS 1992 | | Children on the Brink 2002 (1995 estimates) | | Namibia DHS 2000 | | Children on the Brink 2002 (2001 estimates) | | UNAIDS 2002 (2001 data) | | Children on the Brink 2002 (2010 projections) | |
| | % | # (000's) | % | # (000's) | % | # (000's) | % | # (000's) | % | # (000's) | % | # (000's) |
| HIV/AIDS Prevalence (Adults and Children) | | | | | | | | 230 | | | | |
| Adult HIV Prevalence | | | | | | | | 22.5 | 200 | | | |
| Total Orphans | 7.1 | 8.8 | 61 | 11 | 12.4 | 97 | | | | 18.3 | 156 | |
| Maternal Orphans | 1.5 | 2.9 | 20 | 2.3 | 3.7 | 29 | | | | 5.0 | 43 | |
| Paternal Orphans | 5.1 | 5.2 | 36 | 7.5 | 6.4 | 50 | | | | 6.0 | 51 | |
| Double Orphans | 0.4 | 0.8 | 6 | 1.1 | 2.3 | 18 | | | | 7.3 | 62 | |
| Orphans due to HIV/AIDS as a Percentage of Total Orphans | | 10.3 | 6 | | 48.5 | 47 | | | | 76 | 118 | |

Sub-National Orphan Populations. As seen in table 2, Namibia's Northwest and Northeast regions have the highest orphan percentages, 13.7 percent of all children and 13.4 percent, respectively. The South (6.7 percent) and Central (7.3 percent) regions have the lowest percentages. Table 3 shows that the percentage of children who are orphans increased in all regions of the country between 1992 and 2000, with the Northwest region having the



greatest increase from 7.8 percent to 13.7 percent of children. The percent of children losing both their mother and their father increased in all regions except the South during the same time period.

Methodologies for Estimating Orphans. Differences among the orphan estimates and projections of various organizations occur due to differences in methodologies, definitions (of “orphan,” for example), and demographic and epidemiological assumptions. On the one hand, *Children on the Brink* and UNAIDS estimate the number of orphans using mathematical models, estimations, and projections based on certain assumptions about the impact of HIV/AIDS on adult mortality, fertility, and child survival. These assumptions are likely to lead to overestimations of female HIV prevalence and mortality. Surveys such as DHS and the Multiple Indicator Cluster Survey (MICS) (not available for Namibia), on the other hand, are based on data gathered through household surveys of representative samples of the national population. These surveys may underestimate the number of orphans because they fail to count orphans in institutions or on the street. In addition, surveys may underestimate the number of orphans if parental survival status is unknown.

Table 2. Sub-National Estimates of Orphans as a Percent of All Children Under Age 15, 2000

| Factors | Sub-National Regions (Namibia DHS, 2000) | | | | |
|--|--|-----------|-----------|---------|-------|
| | National | Northwest | Northeast | Central | South |
| Total Number of Children Under 15 Surveyed | 13,497 | 6,715 | 2,072 | 1,956 | 2,752 |
| Total Orphans | 11.3 | 13.7 | 13.4 | 7.3 | 6.7 |
| Maternal Orphans | 2.4 | 2.9 | 2.6 | 1.6 | 1.7 |
| Paternal Orphans | 7.7 | 9.8 | 8.0 | 4.8 | 4.5 |
| Double Orphans | 1.2 | 1.0 | 2.8 | 0.9 | 0.5 |

Table 3. Sub-National Estimates of Double Orphans and Total Orphans, 1992 and 2000

| Sub-Regions | 1992 (DHS) (N = 10,444) | | 2000 (DHS) (N = 13,497) | |
|------------------|----------------------------|-------------------|----------------------------|-------------------|
| | Double Orphans (%) | Total Orphans (%) | Double Orphans (%) | Total Orphans (%) |
| National Average | 0.4 | 7.2 | 1.2 | 11.3 |
| Northwest | 0.3 | 7.8 | 1.0 | 13.7 |
| Northeast | 0.8 | 8.8 | 2.8 | 13.4 |
| Central | 0.1 | 4.0 | 0.9 | 7.3 |
| South | 0.6 | 6.1 | 0.5 | 6.7 |

Table 1 Data Sources

Children on the Brink 2002: A Joint Report on Orphan Estimates and Program Strategies. New York: UNICEF, November 2002: National estimates and projections for the number of orphans by country, type (whether the orphan has lost mother, father, or both parents), and cause (AIDS and non-AIDS) are provided for five-year periods between 1990 and 2010. This report is a collaborative effort of USAID, UNAIDS, and UNICEF to produce estimates and projections specifically related to the orphan population, such as child mortality rates with and without AIDS and the number of children orphaned by AIDS and other causes.

Namibia Demographic and Health Survey (DHS), 1992 and 2000. Calverton, Maryland, USA: Ministry of Health and Social Services and Macro International, Inc. This household survey provides orphan estimates.

Report on the Global HIV/AIDS Epidemic. July 2002. Geneva: UNAIDS, July 2002: The models for the estimates take into consideration HIV/AIDS prevalence in special populations, AIDS deaths, and HIV/AIDS knowledge and behavior.

Table 2 Data Sources

Namibia Demographic and Health Survey (DHS), 2000. Calverton, Maryland, USA: Ministry of Health and Social Services and Macro International, Inc.

Nyangara, F. and P. McDermott. 2003 (unpublished). "Sub-National Distribution and Situation of Orphans: Countries Targeted by the President's Emergency Plan for AIDS Relief." Washington, D.C.: Population, Health and Nutrition Information Project/USAID. National-level statistics and sub-national orphan percentages using 2000 DHS data.

Table 3 Data Sources

Namibia Demographic and Health Survey (DHS), 1992 and 2000. Calverton, Maryland, USA: Ministry of Health and Social Services and Macro International, Inc.

Nyangara, F. and P. McDermott. 2003 (unpublished). "Sub-National Distribution and Situation of Orphans: Countries Targeted by the President's Emergency Plan for AIDS Relief." Washington, D.C.: Population, Health and Nutrition Information Project/USAID. National level statistics and sub-national orphan percentages using 1992 and 2000 DHS data.

Other Data Sources

State of the World's Children 2003. New York: UNICEF. This source provides infant mortality and under-five mortality statistics.

United States Census Bureau (BUCEN), International Programs Center. Washington, D.C.: BUCEN International Programs Center, International Database (<http://www.census.gov/ipc/www/world.html>), accessed October 2003: The source provides the total number of children under 15.

Definitions by Data Source

Children on the Brink 2002

(The following definitions refer to the data in the *Children on the Brink 2002* final report. Estimates in table 1 differ from those found in the final report as maternal and paternal estimates were recalculated to allow for comparability with DHS and MICS data.)

Maternal Orphans: Estimated percent of children under age 15 whose mothers, and perhaps fathers, have died (includes double orphans).

Paternal Orphans: Estimated percent of children under age 15 whose fathers, and perhaps mothers, have died (includes double orphans).

Double Orphans: Estimated percent of children under age 15 whose mother, father, or both parents have died.

Total Orphans: Estimated number of children under age 15 whose mother, father, or both parents have died regardless of parental cause of death. The total number of orphans is equal to the sum of the maternal and paternal, minus double orphans, because they are counted in both the maternal and paternal category.

Total Orphans Due to AIDS: Estimated number of children under age 15 whose mother, father, or both parents have died due to AIDS.

Orphans Due to AIDS as a Percentage of Total Orphans: Estimated percent of children under age 15 who have lost at least one parent due to AIDS as a percent of all children who have been orphaned, regardless of parental cause of death.

UNAIDS

Number of People Living with HIV/AIDS: Estimated number of adults and children living with HIV/AIDS at the end of 2001. Children are defined as those aged 0-14.

Number of Children Living with HIV/AIDS: Estimated number of children aged 0-14 living with HIV/AIDS at the end of 2001.

Number of Adults Living with HIV/AIDS: Estimated number of adults living with HIV/AIDS at the end of 2001. Adults are females and males aged 15-49, or those in their sexually active years.

Adults HIV Prevalence Rate: To calculate the adult HIV prevalence rate, the estimated number of adults living with HIV/AIDS at the end of 2001 was divided by the 2001 adult population (aged 15-49).

Country Data Profile: Orphans

Countries Targeted by the Emergency Plan for AIDS Relief



NIGERIA

Nigeria has a population of 133.9 million, 58.3 million of whom are children aged less than 15 years (BUCEN, 2003). Child health remains poor in the country. UNICEF estimates that infant mortality stood at 110 deaths per 1,000 live births in 2001 and under-five mortality at 183 deaths per 1,000 live births. Approximately 270,000 children aged 0 to 14 were living with HIV/AIDS in 2001, according to UNAIDS. With an estimated adult HIV/AIDS prevalence rate of 5.8 percent in 2001 (UNAIDS 2002), Nigeria is one of the sub-Saharan African countries most

severely affected by HIV/AIDS and is also one of the 14 African and Caribbean countries selected for assistance by the President's Emergency Plan for AIDS Relief.

National Orphan Population. As seen in table 1, various estimates and projections of the percentage of children who are orphans (losing one or both parents due to all causes, including HIV/AIDS) are high – 10.2 percent (1995), 10.3 percent (2001), and 10.6 percent (2010, projected) by *Children on the Brink 2002*, and 5.9 percent (1999) by the Demographic and Health Survey (DHS). The number of orphans in Nigeria is likely to increase throughout the decade and reach approximately 6.7 million by 2010 (*Children on the Brink 2002*).

Orphans Due to AIDS. The estimated percentage of children orphaned by AIDS, as opposed to other causes, increased from 4.2 percent of all orphans in 1995 to 18.4 percent in 2001. If current trends continue, it is projected that by 2010 nearly 40 percent of Nigeria's orphans will have been orphaned by AIDS.

Table 1: Orphan Estimates as a Percent of All Children Under Age 15

| Factors | Source Name/ Year | | | | | | | | |
|---|---|-----------|------------------|---|-----------|-------------|-----------|---|-----------|
| | Children on the Brink 2002 (1995 estimates) | | Nigeria DHS 1999 | Children on the Brink 2002 (2001 estimates) | | UNAIDS 2001 | | Children on the Brink 2000 (2010 projections) | |
| | % | # (000's) | % | % | # (000's) | % | # (000's) | % | # (000's) |
| HIV/AIDS Prevalence (Adults and Children) | | | | | | | 3,500 | | |
| Adult HIV Prevalence | | | | | | 5.8 | 3,200 | | |
| Total Orphans | 10.2 | 4,638 | 5.9 | 10.3 | 5,421 | | | 10.6 | 6,686 |
| Maternal Orphans | 3.4 | 1,570 | 1.8 | 3.5 | 1,834 | | | 3.7 | 2,339 |
| Paternal Orphans | 5.6 | 2,574 | 2.9 | 5.7 | 2,980 | | | 5.6 | 3,538 |
| Double Orphans | 1.1 | 495 | 0.9 | 1.2 | 607 | | | 1.3 | 810 |
| Orphans Due to HIV/AIDS as a Percentage of Total Orphans | 4.2 | 196 | | 18.4 | 995 | | | 39.5 | 2,638 |

Sub-National Orphan Populations. The percent of children orphaned in Nigeria varies by sub-region, as shown in table 2. The North East region has the lowest percentage of orphaned children (4.1 percent of all children), and the South East region has the highest at 11.0 percent.



Methodologies for Estimating Orphans. Differences among the orphan estimates and projections of various organizations occur due to differences in methodologies, definitions (of “orphan,” for example), and demographic and epidemiological assumptions. On the one hand, *Children on the Brink* and UNAIDS estimate the number of orphans using mathematical models, estimations, and projections based on certain assumptions about the impact of HIV/AIDS on adult mortality, fertility, and child survival. These assumptions are likely to lead to overestimations of female HIV prevalence and mortality. Surveys such as DHS and Multiple Indicator Cluster Survey (MICS) (not available for Nigeria), on the other hand, are based on data gathered through household surveys of representative samples of the national population. These surveys may underestimate the number of orphans because they fail to count orphans in institutions or on the street. In addition, surveys may underestimate the number of orphans if parental survival status is unknown.

Table 2. Sub-National Estimates of Orphans as a Percent of All Children Under Age 15, 1999

| Factors | Sub-Regions (Nigeria DHS, 1999) | | | | | |
|---|---------------------------------|------------|------------|------------|------------|---------|
| | National | North East | North West | South East | South West | Central |
| Total Number of Children Under 15 Surveyed | 16,039 | 3,127 | 2,396 | 3,297 | 3,690 | 3,528 |
| Total Orphans | 6.0 | 4.1 | 4.3 | 11.0 | 4.7 | 5.6 |
| Maternal Orphans | 2.0 | 1.8 | 2.1 | 2.5 | 1.7 | 1.6 |
| Paternal Orphans | 3.2 | 1.8 | 1.8 | 7.4 | 2.6 | 2.1 |
| Double Orphans | 0.9 | 0.6 | 0.4 | 1.1 | 0.4 | 1.9 |

Table 1 Data Sources

Children on the Brink 2002: A Joint Report on Orphan Estimates and Program Strategies. New York: UNICEF, November 2002: National estimates and projections for the number of orphans by country, type (whether the orphan has lost mother, father, or both parents), and cause (AIDS and non-AIDS) are provided for five-year periods between 1990 and 2010. This report is a collaborative effort of USAID, UNAIDS, and UNICEF to produce estimates and projections specifically related to the orphan population, such as child mortality rates with and without AIDS and the number of children orphaned by AIDS and other causes.

Nigeria Demographic and Health Survey (DHS), 1999. Calverton, Maryland, USA. National Population Commission [Nigeria], and ORC Macro. This household survey provides orphan estimates.

Report on the Global HIV/AIDS Epidemic. July 2002. Geneva: UNAIDS, July 2002: The models for the estimates take into consideration HIV/AIDS prevalence in special populations, AIDS deaths, and HIV/AIDS knowledge and behavior.

Table 2 Data Sources

Nigeria Demographic and Health Survey (DHS), 1999. Calverton, Maryland, USA. National Population Commission [Nigeria], and ORC Macro.

Nyangara, F. and P. McDermott. 2003 (unpublished). “Sub-National Distribution and Situation of Orphans: Countries Targeted by the President’s Emergency Plan for AIDS Relief.” Washington, D.C.: Population, Health and Nutrition Information Project/USAID. National-level statistics and sub-national orphan percentages using 1999 DHS data.

Other Data Sources

State of the World’s Children 2003. New York: UNICEF. This source provides infant mortality and under-five mortality statistics.

United States Census Bureau (BUCEN), International Programs Center. Washington, D.C.: BUCEN International Programs Center, International Database (<http://www.census.gov/ipc/www/world.html>), accessed October 2003: The source provides the total number of children under 15.

Definitions by Data Source

Children on the Brink 2002

(The following definitions refer to the data in the *Children on the Brink 2002* final report. Figures in table 1 differ from those found in the final report as double orphans were subtracted from the maternal and paternal estimates to allow for comparability with DHS and MICS data.)

Maternal Orphans: Estimated percent of children under age 15 whose mothers, and perhaps fathers, have died (includes double orphans).

Paternal Orphans: Estimated percent of children under age 15 whose fathers, and perhaps mothers, have died (includes double orphans).

Double Orphans: Estimated percent of children under age 15 whose mother, father, or both parents have died.

Total Orphans: Estimated number of children under age 15 whose mother, father, or both parents have died regardless of parental cause of death. The total number of orphans is equal to the sum of the maternal and paternal, minus double orphans, because they are counted in both the maternal and paternal category.

Total Orphans Due to AIDS: Estimated number of children under age 15 whose mother, father, or both parents have died due to AIDS.

Orphans Due to AIDS as a Percentage of Total Orphans: Estimated percent of children under age 15 who have lost at least one parent due to AIDS as a percent of all children who have been orphaned, regardless of parental cause of death.

UNAIDS

Number of People Living with HIV/AIDS: Estimated number of adults and children living with HIV/AIDS at the end of 2001. Children are defined as those aged 0-14.

Number of Children Living with HIV/AIDS: Estimated number of children aged 0-14 living with HIV/AIDS at the end of 2001.

Number of Adults Living with HIV/AIDS: Estimated number of adults living with HIV/AIDS at the end of 2001. Adults are females and males aged 15-49, or those in their sexually active years.

Adults HIV Prevalence Rate: To calculate the adult HIV prevalence rate, the estimated number of adults living with HIV/AIDS at the end of 2001 was divided by the 2001 adult population (aged 15-49).

Country Data Profile: Orphans

Countries Targeted by the Emergency Plan for AIDS Relief



RWANDA

Rwanda has a population of 7.8 million, 3.3 million of whom are children less than 15 years old (BUCEN, 2003). Infant mortality in 2001 stood at 96 deaths per 1,000 live births and under-five mortality at 183 deaths per 1,000 live births (UNICEF, 2003). UNAIDS estimates that adult HIV prevalence was 8.9 percent in 2001 and that 65,000 children aged 0 to 14 were living with HIV/AIDS.

Rwanda is one of the 14 African and Caribbean countries selected for assistance by the President's Emergency Plan for AIDS Relief.

National Orphan Population. As seen in table 1, various estimates and projections of the percentage of children who are orphans (losing one or both parents due to all causes, including HIV/AIDS) are high – 21.6 percent (1995), 17.5 percent (2001), and 16.8 percent (2010, projected) by *Children on the Brink 2002*; 9.6 percent (1992) and 26.8 percent (2000) by the Demographic and Health Survey (DHS); and 28 percent (2000) by the Multiple Indicator Cluster Survey (MICS). In addition, the percentage of children who are double orphans (having lost both parents) is also high when compared to other countries. The data support the consensus that the number of orphans in Rwanda is likely to increase throughout the decade and reach 687,000 by 2010 (*Children on the Brink 2002*).

Orphans Due to AIDS. The estimated percentage of children orphaned by AIDS, as opposed to other causes, increased from 24.7 percent of all orphans in 1995 to 43.1 percent in 2001. If current trends continue, it is projected that by 2010 half of Rwanda's orphans will be orphaned by AIDS.

Table 1: Orphan Estimates as a Percent of All Children Under Age 15

| Factors | Source Name/ Year | | | | | | | | | | |
|---|-------------------|---|-----------|-----------|-----------------|---|-----------|-------------------------|-----------|---|-----------|
| | Rwanda DHS 1992 | Children on the Brink 2002 (1995 estimates) | | MICS 2000 | Rwanda DHS 2000 | Children on the Brink 2002 (2001 estimates) | | UNAIDS 2002 (2001 data) | | Children on the Brink 2002 (2010 projections) | |
| | % | % | # (000's) | % | % | % | # (000's) | % | # (000's) | % | # (000's) |
| HIV/AIDS Prevalence (Adults and children) | | | | | | | | | 500 | | |
| Adults HIV Prevalence | | | | | | | | 8.9 | 430 | | |
| Total Orphans | 9.6 | 21.6 | 498 | 28 | 26.8 | 17.5 | 613 | | | 16.8 | 687 |
| Maternal Orphans | 2.3 | 6.2 | 144 | 3.3 | 3.8 | 5.3 | 184 | | | 5.5 | 225 |
| Paternal Orphans | 6.5 | 11.3 | 260 | 19.8 | 17.8 | 8.1 | 284 | | | 7.9 | 322 |
| Double Orphans | 0.7 | 4.1 | 94 | 4.9 | 4.9 | 4.1 | 145 | | | 3.4 | 140 |
| Orphans Due to HIV/AIDS as a Percentage of Total Orphans | | 24.7 | 123 | | | 43.1 | 264 | | | 51.8 | 356 |

Sub-National Orphan Populations. The percent of orphaned children in Rwanda does not vary widely among sub-national regions, as shown in table 2. In all of Rwanda's five sub-national regions, the percentage of children who are orphans is higher than 20 percent. The Southwest region has the lowest percentage of orphaned children (20.5 percent of all children), while all other regions are between 25 and 31 percent, with the Northwest region highest at 31.2 percent. In all regions, the percentage of children whose fathers have died (paternal orphans) is much higher



than in other countries. Table 3 shows that between 1992 and 2000 the percent of children who had lost either one or both parents more than doubled in all regions of the country, with the Northwest region experiencing a fourfold increase. Double orphans (children who have lost both parents) increased significantly in all regions as well.

Methodologies for Estimating Orphans. Differences among the orphan estimates and projections of various organizations occur due to differences in methodologies, definitions (of “orphan,” for example), and demographic and epidemiological assumptions. On the one hand, *Children on the Brink* and UNAIDS estimate the number of orphans using mathematical models, estimations, and projections based on certain assumptions about the impact of HIV/AIDS on adult mortality, fertility, and child survival. These assumptions are likely to lead to overestimations of female HIV prevalence and mortality. Surveys such as DHS and MICS, on the other hand, are based on data gathered through household surveys of representative samples of the national population. These surveys may underestimate the number of orphans because they fail to count orphans in institutions or on the street. In addition, surveys may underestimate the number of orphans if parental survival status is unknown.

Table 2. Sub-National Estimates of Orphans as a Percent of All Children Under Age 15, 2000

| Factors | Sub-National Regions (Rwanda DHS, 2000) | | | | | |
|---|---|--------|-----------|-----------|---------------|-----------|
| | National | Kigali | Northwest | Southwest | Central-South | Northeast |
| Total Number of children Under 15 Surveyed | 20,898 | 3,234 | 6,913 | 2,870 | 3,630 | 4,252 |
| Total Orphans | 27.6 | 28.4 | 31.2 | 20.5 | 28.5 | 25.0 |
| Maternal Orphans | 4.0 | 3.2 | 4.4 | 2.9 | 4.0 | 4.6 |
| Paternal Orphans | 18.4 | 19.2 | 20.5 | 13.9 | 19.9 | 16.2 |
| Double Orphans | 5.2 | 5.9 | 6.2 | 3.7 | 4.6 | 4.2 |

Table 3. Sub-National Estimates of Double Orphans and Total Orphans, 1992 and 2000

| Sub-Regions | 1992 (DHS) (N = 15,068) | | 2000 (DHS) (N = 20,898) | |
|-------------------------|----------------------------|-------------------|----------------------------|-------------------|
| | Double Orphans (%) | Total Orphans (%) | Double Orphans (%) | Total Orphans (%) |
| National Average | 0.7 | 9.5 | 5.2 | 27.6 |
| Kigali | 0.9 | 10.7 | 5.9 | 28.4 |
| Northwest | 0.5 | 7.8 | 6.2 | 31.2 |
| Southwest | 0.5 | 8.6 | 3.7 | 20.5 |
| Central-South | 0.9 | 12.3 | 4.6 | 28.5 |
| Northeast | 0.7 | 9.1 | 4.2 | 25.0 |

Table 1 Data Sources

Children on the Brink 2002: A Joint Report on Orphan Estimates and Program Strategies. New York: UNICEF, November 2002: National estimates and projections for the number of orphans by country, type (whether the orphan has lost mother, father, or both parents), and cause (AIDS and non-AIDS) are provided for five-year periods between 1990 and 2010. This report is a collaborative effort of USAID, UNAIDS, and UNICEF to produce estimates and projections specifically related to the orphan population, such as child mortality rates with and without AIDS and the number of children orphaned by AIDS and other causes.

Multiple Indicator Cluster Survey (MICS). New York: UNICEF, 2000. Household survey interviews provided information on children under 15 with a deceased parent or parents.

Rwanda Demographic and Health Survey (DHS), 1992; 2000. Calverton, Maryland, USA: Office National de la Population [Rwanda], and Macro International, Inc. This household survey provides orphan estimates.

Report on the Global HIV/AIDS Epidemic. July 2002. Geneva: UNAIDS, July 2002: The models for the estimates take into consideration HIV/AIDS prevalence in special populations, AIDS deaths, and HIV/AIDS knowledge and behavior.

Table 2 Data Sources

Rwanda Demographic and Health Survey (DHS). Calverton, Maryland, USA: Office National de la Population [Rwanda], and Macro International, Inc., 2000:

Nyangara, F. and P. McDermott. 2003 (unpublished). "Sub-National Distribution and Situation of Orphans: Countries Targeted by the President's Emergency Plan for AIDS Relief." Washington, D.C.: Population, Health and Nutrition Information Project/USAID. National-level statistics and sub-national orphan percentages using 2000 DHS data.

Table 3 Data Sources

Rwanda Demographic and Health Survey (DHS), 1992; 2000. Calverton, Maryland, USA: Office National de la Population [Rwanda], and Macro International, Inc.

Nyangara, F. and P. McDermott. 2003 (unpublished). "Sub-National Distribution and Situation of Orphans: Countries Targeted by the President's Emergency Plan for AIDS Relief." Washington, D.C.: Population, Health and Nutrition Information Project/USAID. National-level statistics and sub-national orphan percentages using 1992 and 2000 DHS data.

Other Data Sources

State of the World's Children 2003. New York: UNICEF. This source provides infant mortality and under-five mortality statistics.

United States Census Bureau (BUCEN), International Programs Center. Washington, D.C.: BUCEN International Programs Center, International Database (<http://www.census.gov/ipc/www/world.html>), accessed October 2003: The source provides the total number of children under 15.

Definitions by Data Source

Children on the Brink 2002

(The following definitions refer to the data in the *Children on the Brink 2002* final report. Estimates in table 1 differ from those found in the final report as maternal and paternal estimates were recalculated to allow for comparability with DHS and MICS data.)

Maternal Orphans: Estimated percent of children under age 15 whose mothers, and perhaps fathers, have died (includes double orphans).

Paternal Orphans: Estimated percent of children under age 15 whose fathers, and perhaps mothers, have died (includes double orphans).

Double Orphans: Estimated percent of children under age 15 whose mother, father, or both parents have died.

Total Orphans: Estimated number of children under age 15 whose mother, father, or both parents have died regardless of parental cause of death. The total number of orphans is equal to the sum of the maternal and paternal, minus double orphans, because they are counted in both the maternal and paternal category.

Total Orphans Due to AIDS: Estimated number of children under age 15 whose mother, father, or both parents have died due to AIDS.

Orphans Due to AIDS as a Percentage of Total Orphans: Estimated percent of children under age 15 who have lost at least one parent due to AIDS as a percent of all children who have been orphaned, regardless of parental cause of death.

UNAIDS

Number of People Living with HIV/AIDS: Estimated number of adults and children living with HIV/AIDS at the end of 2001. Children are defined as those aged 0-14.

Number of Children Living with HIV/AIDS: Estimated number of children aged 0-14 living with HIV/AIDS at the end of 2001.

Number of Adults Living with HIV/AIDS: Estimated number of adults living with HIV/AIDS at the end of 2001. Adults are females and males aged 15-49, or those in their sexually active years.

Adults HIV Prevalence Rate: To calculate the adult HIV prevalence rate, the estimated number of adults living with HIV/AIDS at the end of 2001 was divided by the 2001 adult population (aged 15-49).

Country Data Profile: Orphans

Countries Targeted by the Emergency Plan for AIDS Relief



SOUTH AFRICA

South Africa has a population of 42.8 million, 12.8 million of whom are children under the age of 15 years (BUCEN, 2003). Infant mortality in 2001 stood at 56 deaths per 1,000 live births and under-five mortality at 71 deaths per 1,000 live births (UNICEF, 2003). It is one of the sub-Saharan African countries most severely affected by HIV/AIDS and is also one of the 14 African and Caribbean countries selected for assistance by the President's Emergency Plan for AIDS Relief. UNAIDS estimates that adult HIV prevalence was 20.1 percent in 2001 and that 250,000 children aged 0 to 14 were living with HIV/AIDS.

National Orphan Population. As seen in table 1, various estimates and projections of the percentage of children who are orphans (losing one or both parents due to all causes, including HIV/AIDS) are high – 7.5 percent (1995), 10.3 percent (2001), and 15.8 percent (2010, projected) by *Children on the Brink 2002*; and 10.1 percent (1998) by the Demographic and Health Survey (DHS). The data support the consensus that the number of orphans in South Africa is likely to increase throughout the decade and surpass 2 million by 2010 (*Children on the Brink 2002*).

Orphans Due to AIDS. The estimated percentage of children orphaned by AIDS, as opposed to other causes, increased from 5.6 percent of all orphans in 1995 to 43.3 percent in 2001. If current trends continue, it is projected that by 2010 nearly three-quarters of South Africa's orphans will have been orphaned by AIDS.

Table 1: Orphan Estimates as a Percent of All Children Under Age 15

| Factors | Source Name/Year | | | | | | | | |
|---|---|-----------|-----------------------|---|-----------|-------------------------|-----------|---|-----------|
| | Children on the Brink 2002 (1995 estimates) | | South Africa DHS 1998 | Children on the Brink 2002 (2001 estimates) | | UNAIDS 2002 (2001 data) | | Children on the Brink 2002 (2010 projections) | |
| | % | # (000's) | % | % | # (000's) | % | # (000's) | % | # (000's) |
| HIV/AIDS Prevalence (Adults and Children) | | | | | | | 5,000 | | |
| Adult HIV Prevalence | | | | | | 20.1 | 4,700 | | |
| Total Orphans | 7.5 | 1,087 | 10.1 | 10.3 | 1,528 | | | 15.8 | 2,303 |
| Maternal Orphans | 1.9 | 274 | 1.4 | 2.4 | 355 | | | 2.7 | 397 |
| Paternal Orphans | 4.9 | 705 | 7.6 | 6.1 | 906 | | | 4.8 | 699 |
| Double Orphans | 0.7 | 108 | 0.8 | 1.8 | 267 | | | 8.3 | 1,207 |
| Orphans due to HIV/AIDS as a Percentage of Total Orphans | 5.6 | 61 | | 43.3 | 662 | | | 73.8 | 1,700 |

Sub-National Orphan Populations. The percentages of orphaned children in South Africa's sub-regions range from 7.6 percent of all children in the Mpumalanga region to 12.5 percent in the Eastern Cape region, as shown in table 2. The percentage of children whose fathers have died (paternal orphans) is higher in all regions than the percentage of children who are maternal orphans.



Methodologies for Estimating Orphans. Differences among the orphan estimates and projections of various organizations occur due to differences in methodologies, definitions (of “orphan,” for example), and demographic and epidemiological assumptions. On the one hand, *Children on the Brink* and UNAIDS estimate the number of orphans using mathematical models, estimations, and projections based on certain assumptions about the impact of HIV/AIDS on adult mortality, fertility, and child survival. These assumptions are likely to lead to overestimations of female HIV prevalence and mortality. Surveys such as DHS and the Multiple Indicator Cluster Survey (MICS) (not available for South Africa), on the other hand, are based on data gathered through household surveys of representative samples of the national population. These surveys may underestimate the number of orphans because they fail to count orphans in institutions or on the street. In addition, surveys may underestimate the number of orphans if parental survival status is unknown.

Table 2. Sub-National Estimates of Orphans as a Percent of All Children Under Age 15, 1998

| Factors | Sub-National Regions (South Africa DHS, 1998) | | | | | | | | | |
|--|---|--------------|--------------|---------------|------------|---------------|-----------|---------|------------|-------------------|
| | National | Western Cape | Eastern Cape | Northern Cape | Free State | KwaZulu Natal | Northwest | Gauteng | Mpumalanga | Northern Province |
| Total Number Children Under 15 Surveyed | 18,865 | 1,453 | 3,427 | 366 | 1,114 | 4,243 | 1,452 | 2,736 | 1,348 | 2,726 |
| Total Orphans | 10.3 | 9.4 | 12.5 | 9.6 | 10.5 | 11.7 | 8.3 | 8.6 | 7.6 | 9.8 |
| Maternal Orphans | 1.5 | 2.1 | 1.5 | 1.9 | 2.2 | 1.8 | 0.9 | 1.3 | 2.1 | 0.6 |
| Paternal Orphans | 8.0 | 6.5 | 9.8 | 7.1 | 7.6 | 8.9 | 6.4 | 7.1 | 4.7 | 8.6 |
| Double Orphans | 0.8 | 0.8 | 1.1 | 0.5 | 0.7 | 1.0 | 1.0 | 0.3 | 0.8 | 0.6 |

Table 1 Data Sources

Children on the Brink 2002: A Joint Report on Orphan Estimates and Program Strategies. New York: UNICEF, November 2002: National estimates and projections for the number of orphans by country, type (whether the orphan has lost mother, father, or both parents), and cause (AIDS and non-AIDS) are provided for five-year periods between 1990 and 2010. This report is a collaborative effort of USAID, UNAIDS, and UNICEF to produce estimates and projections specifically related to the orphan population, such as child mortality rates with and without AIDS and the number of children orphaned by AIDS and other causes.

South Africa Demographic and Health Survey (DHS), 1998. Calverton, Maryland, USA: Central Statistical Office and Department of Health [South Africa], and Macro International, Inc.

Report on the Global HIV/AIDS Epidemic. July 2002. Geneva: UNAIDS, July 2002: The models for the estimates take into consideration HIV/AIDS prevalence in special populations, AIDS deaths, and HIV/AIDS knowledge and behavior.

Table 2 Data Sources

South Africa Demographic and Health Survey (DHS), 1998. Calverton, Maryland, USA: Central Statistical Office and Department of Health [South Africa], and Macro International, Inc.

Nyangara, F. and P. McDermott. 2003 (unpublished). “Sub-National Distribution and Situation of Orphans: Countries Targeted by the President’s Emergency Plan for AIDS Relief.” Washington, D.C.: Population, Health and Nutrition Information Project/USAID. National-level statistics and sub-national orphan percentages using 1998 DHS data.

Other Data Sources

State of the World’s Children 2003. New York: UNICEF. This source provides infant mortality and under-five mortality statistics.

United States Census Bureau (BUCEN), International Programs Center. Washington, D.C.: BUCEN International Programs Center, International Database (<http://www.census.gov/ipc/www/world.html>), accessed October 2003: The source provides the total number of children under 15.

Definitions by Data Source

Children on the Brink 2002

(The following definitions refer to the data in the *Children on the Brink 2002* final report. Estimates in table 1 differ from those found in the final report as maternal and paternal estimates were recalculated to allow for comparability with DHS and MICS data.)

Maternal Orphans: Estimated percent of children under age 15 whose mothers, and perhaps fathers, have died (includes double orphans).

Paternal Orphans: Estimated percent of children under age 15 whose fathers, and perhaps mothers, have died (includes double orphans).

Double Orphans: Estimated percent of children under age 15 whose mother, father, or both parents have died.

Total Orphans: Estimated number of children under age 15 whose mother, father, or both parents have died regardless of parental cause of death. The total number of orphans is equal to the sum of the maternal and paternal, minus double orphans, because they are counted in both the maternal and paternal category.

Total Orphans Due to AIDS: Estimated number of children under age 15 whose mother, father, or both parents have died due to AIDS.

Orphans Due to AIDS as a Percentage of Total Orphans: Estimated percent of children under age 15 who have lost at least one parent due to AIDS as a percent of all children who have been orphaned, regardless of parental cause of death.

UNAIDS

Number of People Living with HIV/AIDS: Estimated number of adults and children living with HIV/AIDS at the end of 2001. Children are defined as those aged 0-14.

Number of Children Living with HIV/AIDS: Estimated number of children aged 0-14 living with HIV/AIDS at the end of 2001.

Number of Adults Living with HIV/AIDS: Estimated number of adults living with HIV/AIDS at the end of 2001. Adults are females and males aged 15-49, or those in their sexually active years.

Adults HIV Prevalence Rate: To calculate the adult HIV prevalence rate, the estimated number of adults living with HIV/AIDS at the end of 2001 was divided by the 2001 adult population (aged 15-49).

Country Data Profile: Orphans

Countries Targeted by the Emergency Plan for AIDS Relief



TANZANIA

Tanzania has a population of 35.9 million, 15.9 million of whom are children under the age of 15 years (BUCEN, 2003). Child health remains poor in the country. UNICEF estimates that infant mortality stood at 104 deaths per 1,000 live births in 2001 and under-five mortality at 165 deaths per 1,000 live births. In 2001, approximately 170,000 Tanzanian children were living with HIV/AIDS. With an adult HIV/AIDS prevalence rate of 7.8 percent in 2001 (UNAIDS 2002), Tanzania is one of the 14 African and Caribbean countries selected for assistance by the President's Emergency Plan for AIDS Relief.

National Orphan Population. As seen in table 1, estimates and projections of the percentage of children who are orphans (losing one or both parents due to all causes, including HIV/AIDS) are high – 10.1 percent (1995), 12.0 percent (2001), and 11.6 percent (2010, projected) by *Children on the Brink 2002*; 8.5 percent (1996) by the Demographic and Health Survey (DHS); and 8.7 percent (1999) by the Reproductive Health Survey (RHS). Despite a slight decrease in the percent of children projected to be orphaned between 2001 and 2010, the number of orphans in Tanzania is likely to increase throughout the decade and surpass 2 million by 2010 (*Children on the Brink 2002*).

Orphans Due to AIDS. The estimated percentage of children orphaned by AIDS, as opposed to other causes, increased from 18.8 percent of all orphans in 1995 to 42.3 percent in 2001. If current trends continue, it is projected that by 2010 more than half of Tanzania's orphans will have been orphaned by AIDS.

Table 1: Orphan Estimates as a Percent of All Children Under Age 15

| Factors | Source Name/Year | | | | | | | | | |
|---|--|-----------|-------------------|-------------------|--|-----------|-------------------------|-----------|--|-----------|
| | <i>Children on the Brink 2002</i> (1995 estimates) | | Tanzania DHS 1996 | Tanzania RHS 1999 | <i>Children on the Brink 2002</i> (2001 estimates) | | UNAIDS 2002 (2001 data) | | <i>Children on the Brink 2002</i> (2010 projections) | |
| | % | # (000's) | % | % | % | # (000's) | % | # (000's) | % | # (000's) |
| HIV/AIDS Prevalence (Adults and Children) | | | | | | | | 1,500 | | |
| Adult HIV Prevalence | | | | | | | 7.8 | 1,300 | | |
| Total Orphans | 10.1 | 1,436 | 8.5 | 8.7 | 12 | 1,928 | | | 11.6 | 2,152 |
| Maternal Orphans | 3.3 | 465 | 2.3 | 2.2 | 3.9 | 629 | | | 4.0 | 736 |
| Paternal Orphans | 5.7 | 813 | 5.5 | 5.3 | 6.3 | 1,011 | | | 6.0 | 1,116 |
| Double Orphans | 1.1 | 159 | 0.6 | 1.1 | 1.8 | 288 | | | 1.6 | 301 |
| Orphans due to HIV/AIDS as a Percentage of Total Orphans | 18.8 | 271 | | | 42.3 | 815 | | | 54.2 | 1,167 |

Sub-National Orphan Populations. According to the 1999 RHS, at least 6 percent of children are orphaned in all regions of Tanzania. As seen in table 2, the percent of orphaned children is especially high in the Southern Highlands region, where 14.3 percent of children have lost at least one parent. For the country as a whole, 5.4 percent of children are paternal orphans (having lost their father), and 2.4 percent of children are maternal orphans



(having lost their mother). Table 3 shows changes in sub-national orphan estimates from 1992 to 1999. During the 1990s, the national percent of double orphans (children who have lost both parents) more than doubled from 0.5 percent of children to 1.1 percent of children. The majority of this increase can be attributed to the substantial increase in double orphans in the Southern Highlands region, where the percent of double orphans increased from 0.3 percent in 1992 to 2.8 percent in 1999. Throughout the decade, the percent of total orphans increased in all regions except the Northern Highlands, which experienced a decrease in total orphans from 7.3 to 6.1 percent of children between 1992 and 1999.

Methodologies for Estimating Orphans. Differences among the orphan estimates and projections of various organizations occur due to differences in methodologies, definitions (of “orphan,” for example), and demographic and epidemiological assumptions. On the one hand, *Children on the Brink* and UNAIDS estimate the number of orphans using mathematical models, estimations, and projections based on certain assumptions about the impact of HIV/AIDS on adult mortality, fertility, and child survival. These assumptions are likely to lead to overestimations of female HIV prevalence and mortality. Surveys such as DHS/RHS and the Multiple Indicator Cluster Survey (MICS) (not available for Tanzania), on the other hand, are based on data gathered through household surveys of representative samples of the national population. These surveys may underestimate the number of orphans because they fail to count orphans in institutions or on the street. In addition, surveys may underestimate the number of orphans if parental survival status is unknown.

Table 2. Sub-National Estimates of Orphans as a Percent of All Children Under Age 15, 1999

| Factors | Sub-Regions (Tanzania RHS, 1999) | | | | | | |
|--|----------------------------------|---------|--------------|-------|---------|--------------|----------|
| | National | Coastal | N. Highlands | Lake | Central | S. Highlands | Southern |
| Total Number of Children Under 15 Surveyed | 8,465 | 1,691 | 1,420 | 2,915 | 687 | 1,066 | 686 |
| Total Orphans | 8.8 | 8.0 | 6.1 | 8.6 | 9.3 | 14.3 | 8.3 |
| Maternal Orphans | 2.4 | 3.4 | 1.1 | 2.2 | 2.3 | 3.5 | 1.9 |
| Paternal Orphans | 5.4 | 4.0 | 4.2 | 5.6 | 6.4 | 8.0 | 5.1 |
| Double Orphans | 1.1 | 0.6 | 0.9 | 0.9 | 0.6 | 2.8 | 1.5 |

Table 3. Sub-National Estimates of Double Orphans and Total Orphans, 1992 and 1999

| Sub-Regions | 1992 (DHS) (N = 20,299) | | 1999 (RHS) (N = 8,465) | |
|------------------|----------------------------|-------------------|---------------------------|-------------------|
| | Double Orphans (%) | Total Orphans (%) | Double Orphans (%) | Total Orphans (%) |
| National Average | 0.5 | 7.0 | 1.1 | 8.8 |
| Coastal | 0.5 | 7.5 | 0.6 | 8.0 |
| N. Highlands | 0.6 | 7.3 | 0.9 | 6.1 |
| Lake | 0.5 | 7.8 | 0.9 | 8.6 |
| Central | 0.3 | 6.0 | 0.6 | 9.3 |
| S. Highlands | 0.3 | 6.5 | 2.8 | 14.3 |
| Southern | 0.3 | 6.6 | 1.5 | 8.3 |

Table 1 Data Sources

Children on the Brink 2002: A Joint Report on Orphan Estimates and Program Strategies. New York: UNICEF, November 2002: National estimates and projections for the number of orphans by country, type (whether the orphan has lost mother, father, or both parents), and cause (AIDS and non-AIDS) are provided for five-year periods between 1990 and 2010. This report is a collaborative effort of USAID, UNAIDS, and UNICEF to produce estimates and projections specifically related to the orphan population, such as child mortality rates with and without AIDS and the number of children orphaned by AIDS and other causes.

Tanzania Demographic and Health Survey (DHS), 1996; and Tanzania Reproductive Health Survey (RHS) 1999. Calverton, Maryland, USA: National Bureau of Statistics Planning Commission [Tanzania], and Macro International, Inc. This household survey provides orphan estimates.

Report on the Global HIV/AIDS Epidemic. July 2002. Geneva: UNAIDS, July 2002: The models for the estimates take into consideration HIV/AIDS prevalence in special populations, AIDS deaths, and HIV/AIDS knowledge and behavior.

Table 2 Data Sources

Tanzania Reproductive Health Survey (RHS) 1999. Calverton, Maryland, USA: National Bureau of Statistics Planning Commission [Tanzania]], and Macro International, Inc. This household survey provides orphan estimates.

Nyangara, F. and P. McDermott. 2003 (unpublished). "Sub-National Distribution and Situation of Orphans: Countries Targeted by the President's Emergency Plan for AIDS Relief." Washington, D.C.: Population, Health and Nutrition Information Project/USAID. National-level statistics and sub-national orphan percentages using 1999 RHS data.

Table 3 Data Sources

Tanzania Demographic and Health Survey (DHS), 1992; and Tanzania Reproductive Health Survey (RHS) 1999. Calverton, Maryland, USA: National Bureau of Statistics Planning Commission [Tanzania], and Macro International, Inc. This household survey provides orphan estimates.

Nyangara, F. and P. McDermott. 2003 (unpublished). "Sub-National Distribution and Situation of Orphans: Countries Targeted by the President's Emergency Plan for AIDS Relief." Washington, DC: Population, Health and Nutrition Information Project/USAID. National-level statistics and sub-national orphan percentages using 1992 DHS and 1999 RHS data.

Other Data Sources

State of the World's Children 2003. New York: UNICEF. This source provides infant mortality and under-five mortality statistics.

United States Census Bureau (BUCEN), International Programs Center. Washington, D.C.: BUCEN International Programs Center, International Database (<http://www.census.gov/ipc/www/world.html>), accessed October 2003: The source provides the total number of children under 15.

Definitions by Data Source

Children on the Brink 2002

(The following definitions refer to the data in the *Children on the Brink 2002* final report. Figures in table 1 differ from those found in the final report as double orphans were subtracted from the maternal and paternal estimates to allow for comparability with DHS and MICS data.)

Maternal Orphans: Estimated percent of children under age 15 whose mothers, and perhaps fathers, have died (includes double orphans).

Paternal Orphans: Estimated percent of children under age 15 whose fathers, and perhaps mothers, have died (includes double orphans).

Double Orphans: Estimated percent of children under age 15 whose mother, father, or both parents have died.

Total Orphans: Estimated number of children under age 15 whose mother, father, or both parents have died regardless of parental cause of death. The total number of orphans is equal to the sum of the maternal and paternal, minus double orphans, because they are counted in both the maternal and paternal category.

Total Orphans Due to AIDS: Estimated number of children under age 15 whose mother, father, or both parents have died due to AIDS.

Orphans Due to AIDS as a Percentage of Total Orphans: Estimated percent of children under age 15 who have lost at least one parent due to AIDS as a percent of all children who have been orphaned, regardless of parental cause of death.

UNAIDS

Number of People Living with HIV/AIDS: Estimated number of adults and children living with HIV/AIDS at the end of 2001. Children are defined as those aged 0-14.

Number of Children Living with HIV/AIDS: Estimated number of children aged 0-14 living with HIV/AIDS at the end of 2001.

Number of Adults Living with HIV/AIDS: Estimated number of adults living with HIV/AIDS at the end of 2001. Adults are females and males aged 15-49, or those in their sexually active years.

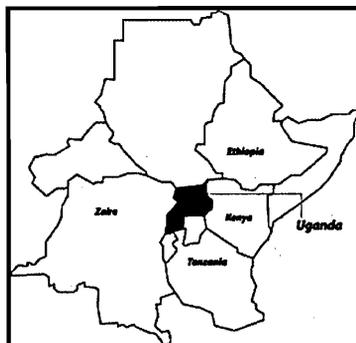
Adults HIV Prevalence Rate: To calculate the adult HIV prevalence rate, the estimated number of adults living with HIV/AIDS at the end of 2001 was divided by the 2001 adult population (aged 15-49).

This Country Data Profile was prepared for the USAID Bureau for Africa, Office of Sustainable Development, by the Population, Health and Nutrition Information (PHNI) Project.

October 2003

Country Data Profile: Orphans

Countries Targeted by the Emergency Plan for AIDS Relief



UGANDA

Uganda has a population of 25.6 million, 13.0 million of whom are children under the age of 15 years (BUCEN, 2003). With an infant mortality rate of 79 deaths per 1,000 live births in 2001 and an under-five mortality rate of 124 deaths per 1,000 live births, Ugandan children face a variety of health challenges (UNICEF 2003). Uganda is one of the sub-Saharan African countries most severely affected by HIV/AIDS and also one of the 14 African and Caribbean countries selected for assistance by the President's Emergency Plan for AIDS Relief. UNAIDS estimates that adult HIV prevalence was 5

percent in 2001, with a total of 600,000 adults and children infected. Approximately 110,000 children between the ages of 0 and 14 were living with HIV/AIDS in 2001.

National Orphan Population. As seen in table 1, various estimates and projections of the percentage of children who are orphans (losing one or both parents due to all causes, including HIV/AIDS) are high – 14.9 percent (1995), 14.6 percent (2001), and 9.6 percent (2010, projected) by *Children on the Brink 2002*, and 13 percent (1995) and 12.5 percent (2000/2001) by the Demographic and Health Surveys (DHS). The number and percent of children orphaned in Uganda is likely to decrease throughout the current decade; nonetheless, the country is projected to have approximately 1.6 million in 2010 (*Children on the Brink 2002*).

Orphans Due to AIDS. The estimated percentage of children orphaned by AIDS, as opposed to other causes, increased from 42.2 percent of all orphans in 1995 to 51.1 percent in 2001. It is projected that by 2010, nearly 39 percent of Uganda's orphans will have been orphaned by AIDS.

Table 1: Orphan Estimates as a Percent of All Children Under Age 15

| Factors | Source Name/ Year | | | | | | | | | |
|---|--|-----------|-----------------|----------------------|--|-----------|-------------------------|-----------|--|-----------|
| | <i>Children on the Brink 2002</i> (1995 estimates) | | Uganda DHS 1995 | Uganda DHS 2000/2001 | <i>Children on the Brink 2002</i> (2001 estimates) | | UNAIDS 2002 (2001 data) | | <i>Children on the Brink 2002</i> (2010 projections) | |
| | % | # (000's) | % | % | % | # (000's) | % | # (000's) | % | # (000's) |
| HIV/AIDS Prevalence (Adults and Children) | | | | | | | | 600 | | |
| Adult HIV Prevalence | | | | | | | 5 | 510 | | |
| Total Orphans | 14.9 | 1,456 | 13 | 12.5 | 14.6 | 1,731 | | | 9.6 | 1,554 |
| Maternal Orphans | 4.5 | 438 | 3.1 | 2.9 | 5.0 | 587 | | | 3.4 | 559 |
| Paternal Orphans | 7.5 | 737 | 8 | 7.3 | 7.0 | 829 | | | 5.2 | 851 |
| Double Orphans | 2.9 | 282 | 1.9 | 2.3 | 2.7 | 315 | | | 0.9 | 144 |
| Orphans Due to HIV/AIDS as a Percentage of Total Orphans | 42.4 | 617 | | | 51.1 | 884 | | | 38.9 | 605 |

Sub-National Orphan Populations. The percent of children orphaned in Uganda differs by sub-region, varying from 8.2 percent of children in the Eastern region to 17.1 percent in the Central region, as shown in table 2. As shown in table 3, the percent of Ugandan children who are double orphans (having lost both parents) increased in all regions except the Western region between 1995 and 2000/2001. For the country as a whole, DHS reports a



decrease in the percent of children losing at least one parent during the later half of the decade, with Eastern and Northern regions experiencing decreases in total orphans from 8.9 to 8.3 percent and 12.9 to 11.8 percent, respectively.

Methodologies for Estimating Orphans. Differences among the orphan estimates and projections of various organizations occur due to differences in methodologies, definitions (of “orphan,” for example), and demographic and epidemiological assumptions. On the one hand, *Children on the Brink* and UNAIDS estimate the number of orphans using mathematical models, estimations, and projections based on certain assumptions about the impact of HIV/AIDS on adult mortality, fertility, and child survival. These assumptions are likely to lead to overestimations of female HIV prevalence and mortality. Surveys such as DHS and the Multiple Indicator Cluster Survey (MICS) (not available for Uganda), on the other hand, are based on data gathered through household surveys of representative samples of the national population. These surveys may underestimate the number of orphans because they fail to count orphans in institutions or on the street. In addition, surveys may underestimate the number of orphans if parental survival status is unknown.

Table 2. Sub-National Estimates of Orphans as a Percent of All Children Under Age 15, 2000/2001

| Factors | Sub-Regions (Uganda DHS, 2000-2001) | | | | |
|--|-------------------------------------|---------|---------|----------|---------|
| | Uganda | Central | Eastern | Northern | Western |
| Total number of Children Under 15 Surveyed | 20,944 | 6,332 | 6,091 | 3,330 | 5,191 |
| Total Orphans | 12.6 | 17.1 | 8.2 | 11.2 | 13.5 |
| Maternal Orphans | 2.9 | 4.3 | 1.3 | 1.9 | 3.5 |
| Paternal Orphans | 7.3 | 9.1 | 5 | 7.4 | 8.1 |
| Double Orphans | 2.4 | 3.6 | 1 | 1.8 | 1.9 |

Table 3. Sub-National Estimates of Double Orphans and Total Orphans, 1995 and 2000/2001

| Sub-Regions | 1995 (DHS) (N = 18,495) | | 2000/2001 (DHS) (N = 20,944) | |
|------------------|----------------------------|-------------------|---------------------------------|-------------------|
| | Double Orphans (%) | Total Orphans (%) | Double Orphans (%) | Total Orphans (%) |
| National Average | 1.9 | 12.9 | 2.4 | 12.6 |
| Central | 3.0 | 16.6 | 3.4 | 16.8 |
| Eastern | 1.2 | 8.9 | 2.0 | 8.3 |
| Northern | 1.3 | 12.9 | 1.9 | 11.8 |
| Western | 1.9 | 13.5 | 1.8 | 13.9 |

Table 1 Data Sources

Children on the Brink 2002: A Joint Report on Orphan Estimates and Program Strategies. New York: UNICEF, November 2002: National estimates and projections for the number of orphans by country, type (whether the orphan has lost mother, father, or both parents), and cause (AIDS and non-AIDS) are provided for five-year periods between 1990 and 2010. This report is a collaborative effort of USAID, UNAIDS, and UNICEF to produce estimates and projections specifically related to the orphan population, such as child mortality rates with and without AIDS and the number of children orphaned by AIDS and other causes.

Uganda Demographic and Health Survey (DHS), 1995 and 2000/2001. Calverton, Maryland, USA: Uganda Bureau of Statistics (UBOS), and ORC Macro, 2001. This household survey provides orphan estimates.

Report on the Global HIV/AIDS Epidemic. July 2002. Geneva: UNAIDS, July 2002: The models for the estimates take into consideration HIV/AIDS prevalence in special populations, AIDS deaths, and HIV/AIDS knowledge and behavior.

Table 2 Data Sources

Uganda Demographic and Health Survey (DHS), 2000/2001. Calverton, Maryland, USA: Uganda Bureau of Statistics (UBOS), and ORC Macro, 2001.

Nyangara, F. and P. McDermott. 2003 (unpublished). "Sub-National Distribution and Situation of Orphans: Countries Targeted by the President's Emergency Plan for AIDS Relief." Washington, D.C.: Population, Health and Nutrition Information Project/USAID. National-level statistics and sub-national orphan percentages using 2000/2001 DHS data.

Table 3 Data Sources

Uganda Demographic and Health Survey (DHS), 1995 and 2000/2001. Calverton, Maryland, USA: Uganda Bureau of Statistics (UBOS), and ORC Macro, 2001.

Nyangara, F. and P. McDermott. 2003 (unpublished). "Sub-National Distribution and Situation of Orphans: Countries Targeted by the President's Emergency Plan for AIDS Relief." Washington, D.C.: Population, Health and Nutrition Information Project/USAID. National-level statistics and sub-national orphan percentages using 1995 and 2000/2001 DHS data.

Other Data Sources

State of the World's Children 2003. New York: UNICEF. This source provides infant mortality and under-five mortality statistics.

United States Census Bureau (BUCEN), International Programs Center. Washington, D.C.: BUCEN International Programs Center, International Database (<http://www.census.gov/ipc/www/world.html>), accessed October 2003: The source provides the total number of children under 15.

Definitions by Data Source

Children on the Brink 2002

(The following definitions refer to the data in the Children on the Brink 2002 final report. Figures in table 1 differ from those found in the final report as double orphans were subtracted from the maternal and paternal estimates to allow for comparability with DHS and MICS data.)

Maternal Orphans: Estimated percent of children under age 15 whose mothers, and perhaps fathers, have died (includes double orphans).

Paternal Orphans: Estimated percent of children under age 15 whose fathers, and perhaps mothers, have died (includes double orphans).

Double Orphans: Estimated percent of children under age 15 whose mother, father, or both parents have died.

Total Orphans: Estimated number of children under age 15 whose mother, father, or both parents have died regardless of parental cause of death. The total number of orphans is equal to the sum of the maternal and paternal, minus double orphans, because they are counted in both the maternal and paternal category.

Total Orphans Due to AIDS: Estimated number of children under age 15 whose mother, father, or both parents have died due to AIDS.

Orphans Due to AIDS as a Percentage of Total Orphans: Estimated percent of children under age 15 who have lost at least one parent due to AIDS as a percent of all children who have been orphaned, regardless of parental cause of death.

UNAIDS

Number of People Living with HIV/AIDS: Estimated number of adults and children living with HIV/AIDS at the end of 2001. Children are defined as those aged 0-14.

Number of Children Living with HIV/AIDS: Estimated number of children aged 0-14 living with HIV/AIDS at the end of 2001.

Number of Adults Living with HIV/AIDS: Estimated number of adults living with HIV/AIDS at the end of 2001. Adults are females and males aged 15-49, or those in their sexually active years.

Adults HIV Prevalence Rate: To calculate the adult HIV prevalence rate, the estimated number of adults living with HIV/AIDS at the end of 2001 was divided by the 2001 adult population (aged 15-49).

Country Data Profile: Orphans

Countries Targeted by the Emergency Plan for AIDS Relief



ZAMBIA

Zambia has a population of 10.3 million, 4.8 million of whom are children under the age of 15 years (BUCEN, 2003). Child health indicators remain poor in the country, with infant mortality estimated at 112 deaths per 1,000 live births, and under-five mortality estimated at 202 deaths per 1,000 live births in 2001 (UNICEF 2003). Zambia is one of the sub-Saharan African countries most severely affected by HIV/AIDS and also one of the 14 African and Caribbean countries selected for assistance by the President's Emergency Plan for AIDS Relief. UNAIDS estimates that approximately 150,000 children aged 0 to 14 were living with HIV/AIDS in 2001 and that adult HIV prevalence

was 21.5 percent. The Zambia Demographic and Health Survey (DHS) 2001/2002 estimated adult prevalence at 16 percent.

National Orphan Population. As seen in table 1, various estimates and projections of the percentage of children who are orphans (losing one or both parents due to all causes, including HIV/AIDS) are high – 13.8 percent (1995), 17.6 percent (2001), and 18.4 percent (2010, projected) by *Children on the Brink 2002*; 11.8 percent (1996) and 14.9 percent (2000/2001) by DHS; and 11.7 percent (1999) by the Multiple Indicator Cluster Survey (MICS). All the data support the consensus that the number of orphans in Zambia is likely to increase throughout the decade and surpass 1 million by 2010 (*Children on the Brink 2002*).

Orphans Due to AIDS. The estimated percentage of children orphaned by AIDS, as opposed to other causes, increased from 41.2 percent of all orphans in 1995 to 65.4 percent in 2001. If current trends continue, it is projected that by 2010 more than three-quarters of Zambia's orphans will have been orphaned by AIDS.

Table 1: Orphan Estimates as a Percent of All Children Under Age 15

| Factors | Source Name/Year | | | | | | | | | | |
|--|---|-----------|-----------------|-----------|----------------------|---|-----------|-------------------------|-----------|---|-----------|
| | Children on the Brink 2002 (1995 estimates) | | Zambia DHS 1996 | MICS 1999 | Zambia DHS 2001/2002 | Children on the Brink 2002 (2001 estimates) | | UNAIDS 2002 (2001 data) | | Children on the Brink 2002 (2010 projections) | |
| | % | # (000's) | % | % | % | % | # (000's) | % | # (000's) | % | # (000's) |
| HIV/AIDS Prevalence (Adults and Children) | | | | | | | 1,200 | | | | |
| Adult HIV Prevalence | | | | | 15.6 | | | 21.5 | 1,000 | | |
| Total Orphans | 13.8 | 586 | 11.8 | 11.7 | 14.9 | 17.6 | 874 | | | 18.3 | 1,083 |
| Maternal Orphans | 4.2 | 178 | 2.9 | 2.1 | 3 | 4.6 | 231 | | | 5.6 | 341 |
| Paternal Orphans | 7.3 | 308 | 7.4 | 7.3 | 9 | 6.6 | 327 | | | 6.8 | 399 |
| Double Orphans | 2.4 | 100 | 1.5 | 2.2 | 2.9 | 6.4 | 316 | | | 5.8 | 343 |
| Orphans Due to HIV/AIDS as a Percentage of Total Orphans | 41.2 | 241 | | | | 65.4 | 572 | | | 77.2 | 836 |

Sub-National Orphan Populations. Orphans in Zambia appear to be almost evenly distributed among sub-regions, as shown in table 2. The North-Western region has the lowest percentage of orphaned children (9.6



percent of all children), and Lusaka has the highest at 16.1 percent. As shown in table 3, the percent of total and double orphans increased substantially in some regions during the 1990s. In the Lusaka region, the total percent of children orphaned increased from 8.3 percent to 16.1 percent between 1992 and 1999. The percent of children who lost both parents rose substantially in all regions of the country, increasing at least two percentage points in the Central, Luapula, Lusaka, Northern, and Southern regions.

Methodologies for Estimating Orphans. Differences among the orphan estimates and projections of various organizations occur due to differences in methodologies, definitions (of “orphan,” for example), and demographic and epidemiological assumptions. On the one hand, *Children on the Brink* and UNAIDS estimate the number of orphans using mathematical models, estimations, and projections based on certain assumptions about the impact of HIV/AIDS on adult mortality, fertility, and child survival. These assumptions are likely to lead to overestimations of female HIV prevalence and mortality. DHS and MICS, on the other hand, are based on data gathered through household surveys of representative samples of the national population. These surveys may underestimate the number of orphans because they fail to count orphans in institutions or on the street. In addition, surveys may underestimate the number of orphans if parental survival status is unknown.

Table 2. Sub-National Estimates of Orphans as a Percent of All Children Under Age 15, 1999

| Factors | Sub-Regions (Zambia MICS, 1999) | | | | | | | | | |
|--|---------------------------------|---------|------------|---------|---------|--------|----------|---------------|----------|---------|
| | National | Central | Copperbelt | Eastern | Luapula | Lusaka | Northern | North-Western | Southern | Western |
| Total Number of Children Under 15 Surveyed | 16,946 | 1,766 | 2,549 | 1,779 | 1,456 | 2,417 | 2,084 | 1,316 | 2,085 | 1,494 |
| Total Orphans | 11.9 | 11.7 | 12.4 | 12.1 | 14.4 | 16.1 | 11.9 | 9.6 | 13.7 | 13.9 |
| Maternal Orphans | 2.3 | 2.2 | 1.8 | 2.8 | 2.6 | 2.6 | 1.9 | 2.4 | 2.5 | 2.3 |
| Paternal Orphans | 7.4 | 7.1 | 8.2 | 6.7 | 8.8 | 9.7 | 7.3 | 5.9 | 8.4 | 9.1 |
| Double Orphans | 2.4 | 2.4 | 2.3 | 2.6 | 3.0 | 3.7 | 2.7 | 1.3 | 2.8 | 2.4 |

Table 3. Sub-National Estimates of Double Orphans and Total Orphans, 1992 and 1999

| Sub-Regions | 1992 (DHS) (N = 16,481) | | 1999 (MICS) (N = 16,946) | |
|------------------|----------------------------|-------------------|-----------------------------|-------------------|
| | Double Orphans (%) | Total Orphans (%) | Double Orphans (%) | Total Orphans (%) |
| National Average | 0.6 | 7.7 | 2.6 | 12.9 |
| Central | 0.0 | 5.7 | 2.4 | 11.7 |
| Copperbelt | 0.6 | 6.1 | 2.3 | 12.4 |
| Eastern | 1.1 | 10.5 | 2.6 | 12.1 |
| Luapula | 0.8 | 7.8 | 3.0 | 14.4 |
| Lusaka | 0.4 | 8.3 | 3.7 | 16.1 |
| Northern | 0.2 | 7.0 | 2.7 | 11.9 |
| North-Western | 0.4 | 5.8 | 1.3 | 9.6 |
| Southern | 0.6 | 8.4 | 2.8 | 13.7 |
| Western | 1.1 | 12.8 | 2.4 | 13.9 |

Table 1 Data Sources

Children on the Brink 2002: A Joint Report on Orphan Estimates and Program Strategies. New York: UNICEF, November 2002: National estimates and projections for the number of orphans by country, type (whether the orphan has lost mother, father, or both parents), and cause (AIDS and non-AIDS) are provided for five-year periods between 1990 and 2010. This report is a collaborative effort of USAID, UNAIDS, and UNICEF to produce estimates and projections specifically related to the orphan population, such as child mortality rates with and without AIDS and the number of children orphaned by AIDS and other causes.

Multiple Indicator Cluster Survey (MICS). New York: UNICEF, 1999: Household survey interviews provided information on children under 15 with a deceased parent or parents.

Zambia Demographic and Health Survey (DHS), 1996; 2001-2002. Calverton, Maryland, USA: Central Statistical Office and Ministry of Health [Zambia], and Macro International Inc. This household survey provides HIV prevalence rates and orphan estimates.

Report on the Global HIV/AIDS Epidemic. July 2002. Geneva: UNAIDS, July 2002: The models for the estimates take into consideration HIV/AIDS prevalence in special populations, AIDS deaths, and HIV/AIDS knowledge and behavior.

Table 2 Data Sources

Multiple Cluster Indicator Survey (MICS). New York: UNICEF, 1999.

Nyangara, F. and P. McDermott. 2003 (unpublished). "Sub-National Distribution and Situation of Orphans: Countries Targeted by the President's Emergency Plan for AIDS Relief." Washington, D.C.: Population, Health and Nutrition Information Project/USAID. National-level statistics and sub-national orphan percentages using 1999 MICS data.

Table 3 Data Sources

Multiple Cluster Indicator Survey (MICS). New York: UNICEF, 1999.

Zambia Demographic and Health Survey (DHS), 1992. Calverton, Maryland, USA: Central Statistical Office and Ministry of Health [Zambia], and Macro International Inc.

Nyangara, F. and P. McDermott. 2003 (unpublished). "Sub-National Distribution and Situation of Orphans: Countries Targeted by the President's Emergency Plan for AIDS Relief." Washington, D.C.: Population, Health and Nutrition Information Project/USAID. National-level statistics and sub-national orphan percentages using 1992 DHS data and 1999 MICS data.

Other Data Sources

State of the World's Children 2003. New York: UNICEF. This source provides infant mortality and under-five mortality statistics.

United States Census Bureau (BUCEN), International Programs Center. Washington, D.C.: BUCEN International Programs Center, International Database (<http://www.census.gov/ipc/www/world.html>), accessed October 2003: The source provides the total number of children under 15.

Definitions by Data Source

Children on the Brink 2002

(The following definitions refer to the data in the *Children on the Brink 2002* final report. Estimates in table 1 differ from those found in the final report as maternal and paternal estimates were recalculated to allow for comparability with DHS and MICS data.)

Maternal Orphans: Estimated percent of children under age 15 whose mothers, and perhaps fathers, have died (includes double orphans).

Paternal Orphans: Estimated percent of children under age 15 whose fathers, and perhaps mothers, have died (includes double orphans).

Double Orphans: Estimated percent of children under age 15 whose mother, father, or both parents have died.

Total Orphans: Estimated number of children under age 15 whose mother, father, or both parents have died regardless of parental cause of death. The total number of orphans is equal to the sum of the maternal and paternal, minus double orphans, because they are counted in both the maternal and paternal category.

Total Orphans Due to AIDS: Estimated number of children under age 15 whose mother, father, or both parents have died due to AIDS.

Orphans Due to AIDS as a Percentage of Total Orphans: Estimated percent of children under age 15 who have lost at least one parent due to AIDS as a percent of all children who have been orphaned, regardless of parental cause of death.

DHS

Adult Prevalence Rate: In the Zambia 2001/2002 DHS, the adult HIV prevalence rates are among men and women 15-49 years of age estimated through HIV testing.

UNAIDS

Number of People Living with HIV/AIDS: Estimated number of adults and children living with HIV/AIDS at the end of 2001.

Children are defined as those aged 0-14.

Number of Children Living with HIV/AIDS: Estimated number of children aged 0-14 living with HIV/AIDS at the end of 2001.

Number of Adults Living with HIV/AIDS: Estimated number of adults living with HIV/AIDS at the end of 2001. Adults are females and males aged 15-49, or those in their sexually active years.

Adults HIV Prevalence Rate: To calculate the adult HIV prevalence rate, the estimated number of adults living with HIV/AIDS at the end of 2001 was divided by the 2001 adult population (aged 15-49).