



The Socio-Economic Impact of HIV at the Household Level in Asia:

A REGIONAL ANALYSIS OF THE IMPACT ON WOMEN AND GIRLS



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Resilient nations.*

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HIV, Health and Development Programme for Asia and the Pacific
UNDP Asia-Pacific Regional Centre
United Nations Service Building, 3rd Floor Rajdamnern Nok Ave.
Bangkok, Thailand 10200
Email: aprc@undp.org
Tel: +66 (2) 304-9100
Fax: +66 (2) 280-2700
Web: <http://asia-pacific.undp.org/practices/hivaid/>

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Foreword

Discussion regarding the vulnerability of women and girls to HIV in Asia and the Pacific is too often grounded in ideologies, as well as too often based on weak or biased analysis of available data. However, we do know that HIV among women and girls has seemingly reached a plateau of approximately 35% of all people living with HIV or AIDS for the region as a whole; with some countries experiencing significant percentages of their new cases among women whose only risk factor is being the spouse or girlfriend of a man who engages in high-risk behavior (injecting drug use and/or multiple concurrent sexual partnerships without correct and consistent condom use with sex workers and/or with other men).

Equally revealing is the disproportionate social and economic impacts of the epidemic on women and girls. This manifests in the form of a range of socio-economic burdens on women and girls within HIV-affected households and their constrained access to services. The socio-economic impact studies conducted by UNDP between 2005 and 2010 in Cambodia, China, Indonesia, India and Viet Nam provide considerable empirical evidence that opens a window into the actual and relevant HIV challenges that women and girls face.

Until now, the attempts to measure the specific impact of HIV on women and girls, and use this information to formulate policies and programmes for impact mitigation, have been very limited in Asia and the Pacific. To address this gap, the HIV, Health and Development Practice Team of UNDP's Asia Pacific Regional Centre has undertaken a regional analysis of the socio-economic impact of HIV on women and girls at the household level using the sex-disaggregated data from the national studies. This report presents in detail the findings and recommendations of this analysis.

The report outlines the specific impacts that women and girls face on a daily basis that range from employment and household burden to discrimination and access to treatment. By comparing across countries in the region, and across HIV-affected and non-affected households, the analysis provides unique insights into the dynamics of the epidemic and improved understanding of the specific impact HIV has on women and girls. It highlights the many differences between countries in the region, but also the numerous similarities, and therefore how they might learn from one another.

I hope the findings and recommendations of this report will help governments and other stakeholders in strengthening policies and programmes to address the disproportionate social and economic impact of HIV on women and girls in our region.



Clifton Cortez
Practice Leader
HIV, Health and Development
UNDP Asia-Pacific Regional Centre

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Acronyms and Abbreviations

AIDS	Acquired immune deficiency syndrome
ART	Antiretroviral therapy
EMS	Extramarital sex
FSW	Female sex worker
HBC	Home-Based Care
HIV	Human immunodeficiency virus
HH	Household
HIV-HH	HIV-affected household
HoH	Head of household
IDU	Injecting drug use
MSM	Men who have sex with men
MTCT	Mother-to-child transmission
NACO	National AIDS Control Organisation
NA-HH	Non-affected household
NCAER	National Council of Applied Economic Research
NCAIDS	National Centre for AIDS/STD Control and Prevention
OI	Opportunistic Infection
OVC	Orphans and vulnerable children
PLHIV	People Living with HIV
PMTCT	Prevention of mother-to-child transmission
PWID	Person who injects drugs
SACS	State AIDS Control Societies
UNDP	United Nations Development Programme
VCCT	Voluntary Confidential Counselling and Testing
VCTC	Voluntary Counselling and Testing Centre
YOA	Years of age

Executive Summary

It is widely acknowledged that HIV severely impacts the economic and social spheres of all societies. Over the past several years, governments in Asia have made important advances in the introduction of new policies and programmes aimed at mitigating the socio-economic impact of HIV on individuals living with HIV and their households. Despite these advances, there have only been limited attempts to measure the specific impact of HIV on women and girls and use this information for evidence-based policy interventions.

An important element of the socio-economic impact of HIV is how it disproportionately affects women and girls, in terms of their vulnerability to infection, constrained access to services and the additional household burden and care responsibility among others. The attempts to measure the specific impact of HIV on women and girls, and use this information to sharpen the policies that are developed to address the epidemic, particularly impact mitigation, have been very limited in Asia. This analysis of the socio-economic impact of HIV in selected countries in Asia was prompted by the need to address this information gap and to determine the potential impact of the region's HIV epidemic through better understanding of the dynamics of the epidemic at the individual and household levels. Improved understanding of the epidemic – of how it is experienced by women and girls at the individual and household levels – will support the development of targeted, evidence-informed impact mitigation policies and programs.

The report utilises data from five country reports (Cambodia, China, India, Indonesia and Viet Nam) covering more than 72,000 household members in over 17,000 households. The analyses focus on comparisons between HIV-affected and non-affected households for impacts on women and girls regarding key socio-economic issues: income, employment, revenues, expenditures, coping mechanisms, health, education, food security, family composition, pregnancy and stigma and discrimination. At the level of the dimensions of analysis, the study highlights: country differences; HIV-affected versus non-affected households; people living with HIV (PLHIV) versus non-PLHIV; women (and girls) versus men (and boys); urban versus rural household location; and Quintile of consumption (poorest versus richest). New data analyses were conducted on the survey databases from Cambodia, Indonesia and Viet Nam, while secondary data analyses were conducted for China and India, using previously published reports. Each country study, and thus this analysis, had limitations due to differences in methodology, timing and execution of each survey.

The report has five chapters, beginning with an introduction and overview of HIV in the region.

- **Chapter Two** covers the methodology and data analysis used within this regional analysis.
- **Chapter Three** details the key findings of the report, viz. the impact of HIV on women and girls in key socio-economic areas: employment; coping mechanisms, including migration, asset liquidation, and debt; education and human capital accumulation for children in HIV-affected households; health factors including utilisation of services, antiretroviral therapy (ART) utilisation by PLHIV, and transmission and diagnosis; knowledge and awareness of HIV; food support; stigma and discrimination; pregnancy; widow property rights and intimate partner transmission.
- **Chapter Four** outlines recommendations based on this report's results.

- The **final chapter** contains a list of references used throughout the report.

Key Findings

HIV contributes to significant gender differences in asset accumulation.

- Female-headed (non-widowed) HIV-HHs in Cambodia and Indonesia were less likely to own their home than male-headed (non-widowed) HIV-HHs. They were also less likely to own a motor-vehicle, and in Indonesia, less likely to own a non-motor vehicle.
- Female-headed HIV-HHs in Indonesia were more likely to be in debt than male-headed HIV-HHs.
- The majority of female widows in HIV-HHs in Indonesia and Viet Nam reported being denied a share in their deceased husband's property and assets. In India, the overwhelming majority (79%) of widows living with HIV were denied such rights.

Girls and female PLHIV were more likely to be employed, and girls in HIV-HHs are less likely to attend school, thereby pointing to the reduction in human capital accumulation among women and contributing to a growing divide.

- Male PLHIV in Cambodia, China, Indonesia and Viet Nam had lower employment levels than males in non-affected households (NA-HHs), but female PLHIV in Cambodia and Indonesia were more likely to be employed than females in NA-HHs. Additionally, female PLHIV in China were more likely to be employed than male PLHIV, while females in NA-HHs were less likely to be employed than males in NA-HHs, suggesting that more women than men are employed, when they get sick.
- Girls in HIV-affected households (HIV-HHs) in Cambodia, China and India were more likely to be employed than either boys in HIV-HHs or girls or boys in NA-HHs. However, boys in HIV-HHs in Viet Nam were more likely than girls to be involved in child labour.
- Across the region, girls in HIV-HHs were the least likely to be attending school, and the most likely to have dropped-out.

HIV has important effects on households, ranging from migration to increased incidence of disease, lower self-esteem and greater discrimination.

- Cambodia, male-headed HIV-HHs were more likely to have migrated, but in Indonesia, female-headed HIV-HHs were more likely to have migrated, and female-widow-headed (38%) were even more likely than widower headed (20%).
- In India, female PLHIV were more likely than male PLHIV to report having been sick, but not having sought care. They were also more likely than males to state the reason for not having sought care was due to financial reasons.

- In both Cambodia and India, female PLHIV were more likely to have been diagnosed through voluntary confidential counselling and testing (VCCT) than males. This may reflect the higher numbers of females who reported their transmission was from their partners, and therefore were told to go for testing. In all countries, females were much more likely than males to report their transmission was through heterosexual sex with their intimate partner.
- Female PLHIV in Cambodia and Viet Nam were more likely to report having low self-esteem and more likely to have had suicidal thoughts than male PLHIV.
- In most countries, female PLHIV were more likely to have immediately disclosed their status to their spouse or intimate partner than male PLHIV. However, this may be partially reflective of the high male to female intimate partner transmission rate.
- Female PLHIV reported either higher or the same levels of spousal support upon initial disclosure of status. However, at the time of the survey female PLHIV were either equally likely or less likely to report a supportive spouse.
- Responses from NA-HHs in China and India showed high levels of discriminatory attitudes towards PLHIV and their families. In India, more women held discriminatory attitudes than males, while the reverse was true in China.
- In general, female PLHIV were more likely than male PLHIV to have been discriminated against: in Viet Nam they were more likely to have reported discrimination in health facilities and rights abuses; in Indonesia and Viet Nam they were more likely to have reported social isolation and neglect in their communities; in Cambodia female PLHIV were more likely to have reported verbal abuse, physical harassment and physical abuse.

Knowledge and access for women is lower across the region, pointing to the need to improve mechanisms to divulge best practices and to actively target women for prevention activities.

- Women in Viet Nam had relatively low levels of knowledge about mother-to-child transmission (MTCT) of HIV and in Indonesia and Viet Nam, low levels of prevention of mother-to-child transmission (PMTCT). In Indonesia, less than two-thirds of pregnant HIV-positive women told their health provider of their status.
- In both Cambodia and Indonesia, the levels of HIV-positive women who were on ART and who breastfed their babies were lower than recommended.
- In Cambodia, India and Indonesia, women were less likely to have knowledge of condoms for HIV prevention.

It should be noted that in conducting this analysis, it became clear that there are still a number of areas which require further research in the region, including studies on the dynamics of the specific issues facing widows and the children orphaned by AIDS, who are most affected by HIV; how best the negative impacts on girls can be addressed, as they are clearly most likely to have reduced educational opportunities and increased presence in the labour market; and the social conditions that have led to the increase in intimate-partner transmission throughout the region. However, with the caveat on future research, this study is a valuable tool in its regional analysis of the impacts of HIV on women and girls across Asia. It highlights the many country differences in impacts, but also the numerous similarities, and therefore how policies that have been successfully implemented in one region could be incorporated into the mitigation policies of another.

1

Introduction

Chapter Summary

- The report is an analysis of five socio-economic impact studies in Asia: Cambodia, China, India, Indonesia and Viet Nam;
- The report systematically address information gaps regarding the socio-economic impacts of HIV on women and girls in the region;
- In Cambodia, China, India and Viet Nam, the HIV epidemic is concentrated and prevalences have either remained steady or decreased in recent years. However, in Indonesia, prevalence has increased, and certain parts of the country are experiencing a generalized epidemic.
- The report focuses on impacts on employment; coping mechanisms such as debt, asset liquidation and migration; educational impacts; health utilisation; knowledge and awareness regarding HIV; food security; stigma and discrimination; pregnancy; intimate partner transmission; widowhood; and policy recommendations.

1.1 Background

This regional analysis of the socio-economic impact of HIV in selected countries in Asia was prompted by the need to determine the potential impact of the region's HIV epidemic on women and girls, through better understanding the dynamics of the epidemic at the individual and household levels. Improved understanding of the epidemic – particularly of how it is experienced by women and girls – will support the development of targeted, evidence-informed impact mitigation policies and programs. Over the last six years, independent studies, commissioned by the United Nations Development Programme (UNDP) in partnership with national institutions, were conducted in five countries within the region: Cambodia (2010), China (2009), India (2006), Indonesia (2010) and Viet Nam (2009). The studies all involved surveys of HIV-affected households (HIV-HHs) and non-affected households (NA-HHs) and examined a variety of socio-economic issues: income, employment, revenues, expenditures, coping mechanisms, health, education, food security, family composition, gender considerations and stigma and discrimination. While the survey instruments used in the various studies were adapted to meet the specific needs and circumstances of each country, they followed a broad common methodology that allowed for inter-country comparisons. Using the data provided by those studies, this report seeks to analyse the socio-economic impact of the HIV on women and girls in Asia and offers policy recommendations for impact mitigation.

Overall, gender inequality remains an issue in the countries featured in this report. In Cambodia, the adult literacy rate for women is 64% compared to 85% for men (United Nations, 2011). In India, the difference is even greater (48% versus 74%). In China, the under-five mortality rate for girls (2000-2005) is 38 deaths per 1000 live births, compared to 27 for boys. In Viet Nam, the percentage of underweight girls is 35%, compared to 31% for boys. It is presumed that the presence of HIV will even further impact these and other inequalities, but the question is, to what extent? Due to the increasing proportion of women living with HIV in the region (35% in 2011, up from 21% in 1990), it is critical to attain a better understanding of the specific issues affecting women and girls in HIV-affected households (UNAIDS, 2011).

The report has five chapters, beginning with an introduction and overview of HIV in the region. Chapter Two covers the methodology and data analysis used within this regional analysis. The third chapter details the key findings of the report, including the impact of HIV on women and girls in key socio-economic areas: employment; coping mechanisms, including migration, asset liquidation, and debt; education and human capital accumulation for children in HIV-affected households; health factors including utilisation of services, antiretroviral therapy (ART) utilisation by people living with HIV (PLHIV), and transmission and diagnosis; food support; stigma and discrimination; pregnancy; widow

property rights; intimate partner transmission and knowledge and awareness of HIV. Chapter Four outlines recommendations based on this report's results. The final chapter contains a list of references used throughout the report. There is an Annex which contains summaries of the methodologies used in the individual country studies.

1.2 Overview of HIV in Asia

Globally, in 2009, 33.3 million people were estimated to be living with HIV. In the same year, 1.8 million people died from the disease – almost 260,000 of them children, and HIV was identified as the leading cause of death and disease among women 15-49 years of age (UNAIDS and WHO, 2009). Regionally, Asia accounted for the second highest number of worldwide AIDS-related deaths (300,000), the second highest number of new infections (360,000) and the second highest number of PLHIV (4.9 million)(UNAIDS, 2010b)¹. It is calculated that in Asia, HIV will cause a total loss of 180 million years of healthy and productive life between 2002 and 2020, a number higher than that of any other disease (Commission on AIDS in Asia, 2008).

For the most part, the countries featured in this report have concentrated HIV epidemics, with adult prevalence below 1% in the general population, but significantly higher HIV prevalence among key populations² such as people who inject drugs (PWID), female sex workers (FSWs), and men who have sex with men (MSM). In four of the five countries featured in this report, HIV prevalence has declined or remained steady over the last five years. However, Indonesia has seen a rapid increase in prevalence. Additionally, there are often large regional differences in HIV prevalence within countries – for example, in China, over half the country's PLHIV reside within just five of the 22 provinces (UNAIDS, 2010b), and in India, 60% of PLHIV live in six of its 28 states (NACO, 2010).

ART coverage, voluntary confidential counselling and testing (VCCT) centres, and support services for PLHIV all require substantial financial and political commitment from governments. UNAIDS has attempted to measure the degree of investment priority that governments have given to support their national AIDS responses through the "Domestic Investment Priority Index" (DIPI) (UNAIDS, 2010). It is calculated by dividing the percentage of government revenue directed to the AIDS response by the country's HIV prevalence:

¹ Sub-Saharan Africa is the highest in all three counts.

² Key populations = "key populations at higher risk of HIV exposure" (UNAIDS, 2011)

TABLE 1 Comparison of Selected Indicators for the Countries in the Study

	Cambodia	China	India	Indonesia	Viet Nam
Population (millions) ¹	14.562 (2008)	1,344.920 (2008)	1,181.412 (2008)	227.345 (2008)	87.096 (2008)
% population living on <\$1/day (PPP int \$) ¹	40.2% (2000–2007)	15.9% (2000–2007)	41.6% (2000–2007)	n/a (2000–2007)	21.5% (2000–2007)
% population below national poverty line ²	30.1% (2007)	2.8% (2004)	28.6% (2000)	16.7% (2004)	28.9% (2002)
HIV prevalence (adults 15–49) ³	0.5% (2009)	0.1% (2006)	0.3% (2009)	0.2% (2009)	0.4% (2009)
Approximate number of PLHIV ³	63,000 (2009)	740,000 (2009)	2,400,000 (2009)	310,000 (2009)	280,000 (2009)
Approximate number of female PLHIV	35,000 (2009)	230,000 (2009)	880,000 (2009)	88,000 (2009)	81,000 (2009)
Approximate % of PLHIV are female	55.6% (2009)	31.1% (2009)	36.7% (2009)	28.4% (2009)	28.9% (2009)
ART coverage rate of adults in need ^{3*}	94% (2009)	19–38% (2009)	23–28% (2009)	21% (2009)	34% (2009)
% of PLHIV receiving ART who are women ^{3*}	52% (2009)	41% (2009)	41% (2009)	25% (2009)	28% (2009)
VCCT centres / 100,000 population ³	2.9	1.0	0.8	0.4	0.2
DIPI ³	1.35	0.69	0.07	0.29	0.05

¹United Nations (2011). ²World Bank, 2010. ³UNAIDS (2010) *Based on 2010 WHO Guidelines

$$\text{DIPI} = \frac{\text{Public expenditure on AIDS response}}{\text{Government revenue}} \times \frac{\text{National population}}{\text{PLHIV}}$$

A higher DIPI figure usually means a higher priority, with the global mean value of 0.35. A comparison of their DIPI and other basic indicators for the included countries is shown above in Table 1. The percentage of PLHIV who are women, ranges from a high of 56% in Cambodia (35,000 of 63,000 PLHIV) to a low of 28% in Indonesia (88,000 of 310,000 PLHIV). The table also displays that the percentage of PLHIV receiving ART generally mirrors the percentage of female PLHIV, from a high of 52% in Cambodia to a low of 25% in Indonesia.

The size of the countries varies from the two largest in the world - China and India - with over a billion people each, to Cambodia with less than 15 million people. The smallest of the countries is also the poorest - Cambodia is considered a low-income country by the World Bank, while the others are considered lower middle-income countries. The prevalence ranges, low overall, range from a high of 0.5% in Cambodia to a low of 0.1% in China. However, due to China and India's large populations, the estimated number of PLHIV is still very high in those countries – almost 2.5 million in India and 750,000 in China. As discussed earlier, the ART coverage rates in the countries, also varies significantly, from the high of 94% in Cambodia, to a low of 21% in Indonesia, using the WHO 2010 guidelines. Finally, the level of VCCT centres throughout the countries ranges from a high of 2.9 / 100,000 population in Cambodia to a low of 0.2 in Viet Nam.

The percentage of pregnant women who received an HIV test in East, South and South East Asia increased from 2% in 2005 to 17% in 2009, but is still much lower than the 26% 2009 global average for low and middle-income countries (WHO, 2010).

1.3 Overview of HIV and Women in Cambodia

More than 35,000 women are currently living with HIV in Cambodia. While national HIV prevalence is relatively low (calculated at 0.9% in 2006 and estimated at 0.5% in 2011 by UNAIDS), prevalence is still unacceptably high in certain female sub-populations, such as female sex workers (14.7% in 2006) and indirect female sex workers (9.4% in 2006) (NCHADS, 2007; NAA, 2010).

Heterosexual transmission outside of brothels continues to be a problem, and while the actual number of women living with HIV is decreasing, women comprise an increasing proportion of all people living with HIV. In 1997, only 37% of all people living with HIV were women. However, the Asian Epidemic Model projects that, by 2012, 52% of all people living with HIV in Cambodia will be women. Conversely, by 2012, it is projected that women will only account for 43% of new infections, down from 53% in 2006.

HIV infection among women has serious consequences for child health. The prevention of Mother-To-Child-Transmission (PMTCT) program tested 18.8% of pregnant women and provided prophylaxis for 10.7% of exposed neonates (UNAIDS 2008). As of 2009, 32.3% of HIV positive women received ART to prevent mother-to-child-transmission. Despite these efforts, concern still exists regarding the number of new infections among newborns (UNAIDS 2008).

While access to treatment has improved, Cambodia still faces challenges in relation to the promotion of VCCT. Despite an increase in the number of testing centres (from 12 in 2001 to 233 in 2009, or 2.9 centres / 100,000 population), levels of voluntary counselling and test are still low. According to the 2005 Cambodia Demographic Health Survey, only 10% of women and 15% of men had been tested for HIV (United Nations, 2010), although the number of VCCT sites in Cambodia has more than doubled since then (from 109 in 2005).

1.4 Overview of HIV and Women in China

China has a very low prevalence of HIV (0.1%), but due to its large population, there are still approximately 740,000 (560,000-920,000) adults and children living with HIV, of which over 230,000 are women (UNAIDS, 2010). HIV is still largely localised within specific key populations and within specific regions. However, as in Cambodia, intimate partner transmission has become an increasing problem, as the percentage of intimate partner transmissions increased from 6% in 2005 to 12% in 2009. Overall, 30% of all reported HIV cases are female. (Ministry of Health of the People's Republic of China, 2010)

Since 2003, with the implementation of the "Four Frees and One Care" policy, China has considerably stepped up its HIV prevention and treatment. The new policy provided for free ART to rural PLHIV or low income urban PLHIV, free VCCT, free PMTCT to pregnant HIV-positive women, free schooling to children orphaned by HIV and economic assistance to the households of PLHIV through the Minimum Living Standard Allowance. However, these programs are not yet functioning as desired. For example, according to WHO, in 2009, of the estimated 2,000 – 11,000 women who were pregnant and in need of ART for PMTCT only 1,554 of them received the therapy (between 14-59%) (WHO, 2010). However, it should be noted that according to the 2010 UNGASS report, 75% of HIV-positive pregnant women received ART (Ministry of Health of the People's Republic of China, 2010).

A step-up in PMTCT was outlined in the 2008 "Prevention of Mother-to-Child Transmission Work Implementation Procedures", and coverage increased from 271 counties in 2007 to almost twice that number (453) in 2009. As a result, the number of pregnant women screened for HIV doubled from just less than two million in 2007 to over four million in 2009 (Ministry of Health of the People's Republic of China, 2010).

Finally, stigma and discrimination towards PLHIV have been documented as a large problem within China, with a 2008 survey of 6,000 people living in six Chinese cities revealing that 41% of respondents were unwilling to work in the same place as a PLHIV, 48% were unwilling to eat food in the same place as a PLHIV, and 64% were unwilling to receive services from a PLHIV. Additionally, the 2009 China Stigma Index survey found HIV positive women in China face additional pressure: 12% of those who reported being pregnant stated that they had been pressured into terminating pregnancy by health facility staff.

1.5 Overview of HIV and Women in India

As with China, India has a relatively low adult HIV prevalence of 0.3%. Yet due to its large population, over 2.4 million Indians, 880,000 of them women, are estimated to be living with HIV - the third largest number in the world, after South Africa and Nigeria (NACO, 2010). Nationally, heterosexual sex is the main form of transmission (87%), followed by mother-to-child transmission (MTCT) (5%), homosexual transmission and transmission through injecting drug use (IDU) (both 2%) and blood transfusions (1%). FSW are a key population in India, as over 2% of adult males in 2006 reported they had paid for sex in the previous year. While HIV incidence among sex workers in the southern states has been declining, there has been a simultaneous increase in the North East. There are currently eight districts where FSW have a prevalence greater than 15%, and even in generally low prevalence states, there are 15 districts where the prevalence is over 5%. Overall, 39% of PLHIV in India are female, and of them, 90% are estimated to have acquired the infection from their husband or partner.

Since 2002, India's policy framework has focused on (i) prevention (67% of budget) (ii) provision of care and support to PLHIV (17% of budget) (iii) strengthening infrastructure, and human resources for programmes (8%) and (iv) strengthening the nationwide information management system (3%). Under the Prevention of Parent to Child Transmission, there has been an increase in the number of pregnant women tested for HIV from 3 million in 2007 to 5.5 million in 2009. However, only 20% of an estimated 27 million pregnancies were tested in 2009, and only 30% of an estimated 65,000 HIV positive pregnant women were identified. As such, only approximately 17% of pregnant HIV positive women received ART in 2009. This is partially due to the large percentage of women not attending a facility for their birth (60% of babies are not born in a health institution), so community based HIV screening for women who do not attend an antenatal clinic is scheduled to begin in the future.

1.6 Overview of HIV and Women in Indonesia

Indonesia a growing HIV epidemic, with the number of reported cases rising from less than 3,000 in 2004 to 20,000 in 2009, and the estimated number of adult PLHIV almost doubling from 170,000 in 2005 to more than 300,000 in 2009, of which 88,000 are women. The epidemic has also spread regionally, from reports of HIV in only 16 provinces in 2004 to 32 of the 33 provinces in 2009. HIV is still largely concentrated within key populations, with the 2007 IBBS survey (IBBS 2007) reporting HIV prevalences of 10% among direct sex workers, 5% among indirect sex workers, and 24% among transgenders. These figures are in comparison to the national HIV prevalence of around 0.2%. In 2009, females represented 25% of all PLHIV, up from 21% in 2006, indicating increasing vulnerability. The Asia Epidemic Model forecasts a rapid increase - almost a doubling - in the prevalence of HIV in Indonesia to 0.4% in 2014, tied to an increase in new infections, particularly among women, children, MSM, and intimate partners of PLHIV.

1.7 Overview of HIV and Women in Viet Nam

The prevalence of HIV in Viet Nam was estimated to be 0.4% in 2009 - the second highest of the countries featured in this study (Ministry of Health, 2009a). Females account for less than a third of all PLHIV, but still count at more than 81,000. Like other countries in the region, Viet Nam's HIV epidemic is largely concentrated within key sub-populations. The 2009 HIV prevalence for FSWs was 9%, ranging from <1% to 23% by region. (Viet Nam Administration of AIDS Control, 2009).

Viet Nam's current HIV strategy calls for harm reduction interventions to reduce HIV transmission through behaviour change within key populations, and includes a Needle and Syringe Program (NSP), Condom Use Program (CUP) and opioid substitution therapy (Methadone Maintenance Therapy, MMT). In 2009, 57 provinces dispensed 24.8 million condoms free of charge, and 78% of FSWs reported they used a condom with their most recent client (Ministry of Health, 2009b).

There are currently 223 facilities providing PMTCT services in Viet Nam (96 are comprehensive), up from 107 facilities in 2006. However, in 2009 only 25% of pregnant women were tested for HIV, and only an estimated 32% of HIV-positive pregnant women received ART to reduce the risk of MTCT, although this is a substantial increase from 14% in 2006.

2

Data and Methodology

Chapter Summary

- This report utilises data from five country socio-economic impact studies (Cambodia, China, India, Indonesia and Viet Nam) covering more than 72,000 household members in over 17,000 households;
- Analyses focus on comparisons between HIV-affected and non-affected households for impacts on women and girls regarding key socio-economic issues: income, employment, revenues, expenditures, coping mechanisms, health, education, food security, family composition, pregnancy and stigma and discrimination;
- This study included the following main dimensions of analysis: country; HIV-affected versus non-affected households; PLHIV versus non-PLHIV; men (and boys) versus women (and girls); urban versus rural household location; and quintile of consumption (poorest versus richest);
- New data analyses were conducted on the survey databases from Cambodia, Indonesia and Viet Nam;
- Secondary data analyses were conducted for China and India, using previously published reports;
- Each country study, and thus this analysis, had limitations due to differences in methodology, timing and execution of each survey.

This analysis is based on studies undertaken by UNDP to assess the socio-economic impact of HIV at the household level in five Asian countries, Cambodia, China, India, Indonesia and Vietnam³, and additional sources of information⁴. In addition to using existing data from the published reports on China and India, new analyses were conducted using the data collected for Cambodia, Indonesia, and Viet Nam, as described below in Section 2.2.

The country level studies were conducted over a period of six years, starting with India in 2004 and ending with Cambodia in 2010. In total, over 17,000 households were included in the surveys, compiling data on over 72,000 household members. The studies surveyed households with people living with HIV (sample households) as well as households from the same socio-economic background without people living with HIV (control households) in each country.

The regional analysis focussed on how the socio-economic issues specifically impacted women and girls in HIV-HHs (including issues such as income, employment, revenues, expenditures, coping mechanisms, health, education, food security, family composition, pregnancy, and stigma and discrimination).

The dimensions of socio-economic impact analysed are similar across the five country studies analysed and this study focuses on comparisons with the following main dimensions of analysis:

- Country
- HIV-affected versus non-affected households
- PLHIV versus non-PLHIV
- Men (and boys) versus women (and girls)
- Urban location for household versus rural location
- Quintile of consumption (poorest versus richest)

This section outlines the key data and methodology of this study and highlights some of its limitations.

2.1 Sample Population

The surveys ranged in size, from the smallest in Viet Nam (904 households, 3,630 household members), to the largest in India (8,292 households and 35,758 members). In general, demographically the studies had fairly similar overall populations, although there were some differences. Household size varied by country and HIV status from the smallest with an average size of 3.4 members in NA-HHs of Indonesia to the largest of 4.6 members in Cambodia. Households also varied by their urban and rural locations. There were similar ratios of the sexes found throughout the household members, but varied for PLHIV.

Table 2 summarizes the number of households and household members included in each study, as well as the year the study was conducted. Detailed tables of sample profiles by country are available in Annex I.

2.2 Data Analysis

The analyses presented in this report followed two main methodologies:

- (1) Utilisation of data from published reports on China and India;
- (2) New analysis of databases from Cambodia, Indonesia and Viet Nam.

New analyses were not conducted for the China and India studies due to confidentiality considerations restricting access to the databases. Instead, regionally comparable statistics were gathered from the published country reports.

For the three countries where new analyses were conducted, the original databases were recoded, cleaned and new categorical variables created to increase comparability between the countries. All analyses were conducted in STATA and SPSS.

Specific analyses were restricted to certain populations (for example, based on age, marital status, HIV-status) as outlined in the detailed results sections.

For Indonesia and Viet Nam, which included data on household members who had passed away in the previous year, deceased members were removed from the databases.

3 UNDP (2006) Socio-Economic Impact of HIV and AIDS in India; UNDP (2006b) Gender Impact of HIV and AIDS in India; UNDP (2009a) The Socio-Economic Impact of HIV/AIDS at Individual and Household Levels in China; UNDP (2009b). Impact of HIV/AIDS on Household Vulnerability and Poverty in Viet Nam; United Nations (2010) The Socio-Economic Impact of HIV at the Household Level in Cambodia; UNDP (2011) Socio-economic impact of HIV at the individual and household levels in Indonesia.

4 Additional data sources included the country-specific UNGASS reports, UNAIDS Annual Global Reports, the Commission on AIDS' reports and various IBBS and other national surveys.

TABLE 2 Number of Households and Household Members

Country	Year of Survey	Total # HIV-HHs	Total # NA-HHs	Total # HIV-HH Members	Total # NA-HH Members
Cambodia	2009-2010	2,623	1,349	11,566	6,129
China	2008	931	995	3,724*	4,378*
India	2004-2005	2,068	6,224	8,252	27,506
Indonesia	2009	996	996	3,653	3,481
Viet Nam	2008	452	452	1,889	1,741
Total		7,070	10,016	29,084	43,235

*Estimate based on HIV-HH and NA-HH average size

2.3 Relative and Absolute Differences

The results in this report are discussed using two methodologies:

(1) Absolute differences between comparison groups⁵:

For these analyses, simple subtractions were conducted to provide the results:

$$\text{AbsoluteDifference} = \text{RateGroup1} - \text{RateGroup2}$$

For example, if 58% of HIV-HHs owned their homes and 77% of NA-HHs owned their homes, the absolute difference was reported as 77%-58% = 19%.

"HIV-HHs were less likely to own their home than NA-HHs (absolute difference of 19%)."

(2) Relative difference between comparison groups:

For these analyses, the relative difference between the two groups rates was calculated:

$$\text{RelativeDifference} = \frac{\text{RateGroup1} - \text{RateGroup2}}{\text{RateGroup1}}$$

For example, again, if 58% of HIV-HHs owned their homes and 77% of NA-HHs owned their homes, the relative difference was reported as:

$$\frac{77-58}{77} = 25\%$$

"HIV-HHs were 25% less likely to own their home than NA-HHs."

2.4 Limitations

The key limitations are as follows:

- Primary databases from China and India were not accessible for confidentiality reasons, limiting the possibility to include dimensions of analysis that were possible in the other three countries.
- Because of the local adaptation of the methodology and questionnaire, there are some limitations on the availability of comparable indicators across all countries.
- Non-probability sampling in Viet Nam, India, Indonesia, and China data does not allow for statistical inferences on population parameters or other estimates.

In addition, since this Asia Regional Analysis depends on the individual country studies and data, the limitations of the individuals studies, outlined in Annex I, contribute to the limitations of this study.

5 Comparison groups include HIV-HHs and NA-HHs; boys and girls; males and females; PLHIV before diagnosis and after diagnosis.

3

Key Findings



Chapter Summary

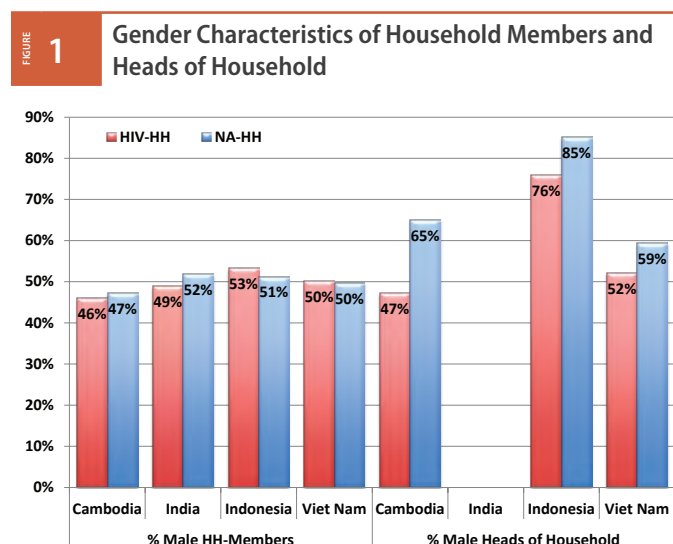
- Household compositions for the sexes were found to be between 46% male in HIV-HHs in Cambodia to 53% in HIV-HHs in Indonesia. Levels varied more for PLHIV (29% males in Cambodia to 70% males in Indonesia).
- Male PLHIV in Cambodia, China, Indonesia and Viet Nam had lower employment levels than males in NA-HHs, but female PLHIV in Cambodia and Indonesia were more likely to be employed than females in NA-HHs.
- Many HIV-HHs in China pointed to the need for their female spouses to join the workforce as a coping mechanism in response to HIV, possibly explaining that result.
- Girls in HIV-HHs in Cambodia, China and India were more likely to be employed than either boys in HIV-HHs or girls or boys in NA-HHs.
- Female-headed (non-widowed) HIV-HHs in Cambodia and Indonesia were less likely to own their home than male-headed (non-widowed) HIV-HHs. They were also less likely to own a motor-vehicle, and in Indonesia, less likely to own a non-motor vehicle.
- In Cambodia, male-headed HIV-HHs were more likely to have migrated, but in Indonesia, female-headed HIV-HHs were more likely to have migrated, and female-widow-headed households (38%) were even more likely than widower headed households (20%).
- Female-headed HIV-HHs in Indonesia were more likely to be in debt than male-headed HIV-HHs.
- Across the region, girls in HIV-HHs were the least likely to be attending school, and the most likely to have dropped-out. In Cambodia and Viet Nam, females in HIV-HHs reported the lowest levels of educational attainment, and in all countries, female PLHIV were more likely to have attained a lower education level than male PLHIV.
- In both Cambodia and India, female PLHIV were more likely to have been diagnosed through VCCT than males. In all countries, females were much more likely than males to report their transmission was through heterosexual sex with their intimate partner.
- In Cambodia, India and Indonesia, females were less likely to have knowledge of condoms for HIV prevention.
- Female PLHIV in Cambodia and Viet Nam were more likely to report having low self-esteem and more likely to have had suicidal thoughts than male PLHIV.
- In most countries, female PLHIV were more likely to have immediately disclosed their status to their spouse or intimate partner than male PLHIV.
- Female PLHIV reported either higher or the same levels of spousal support upon initial disclosure of status.
- Responses from the respondents in NA-HHs in China and India showed high levels of discriminatory attitudes towards PLHIV and their families.
- In general, female PLHIV were more likely than male PLHIV to have been discriminated against.
- Females in Viet Nam had relatively low levels of knowledge about MTCT and in Indonesia and Viet Nam, low levels of PMTCT. In Indonesia, less than two-thirds of pregnant HIV-positive women told their health provider of their HIV status.

3.1 Profile of Sample Households

This section of the report provides a profile analysis of the surveyed households in the various countries, highlighting both the similarities and principal socio-economic and demographic differences between the case and control households in each country, with a focus on gender. This provides a guideline for the comparability and interpretation of results with regard to HIV-affected and non-affected households throughout the region, and insight into how differences in the household gender ratio may partially explain differences in socio-economic impacts.

Figure 1 shows that, in the four countries for which data was analysed, there were only small differences in the average ratio of males to females within the households. However, females were more likely to be the head of household in HIV-affected households, than in non-affected households (data available for Cambodia, Indonesia and Viet Nam). As discussed in more detail in the section on widowship, this is likely due to the large number of widowed females in the HIV-affected households. The largest difference was seen in Cambodia where only 47% of heads of households (HoHs) were male in HIV-HHs, compared to 65% in NA-HHs. In Indonesia, it was 76% and 85% and in Viet Nam it was 52% and 59%, respectively. Given the difference in the income-earning potential between the sexes, and that many of those

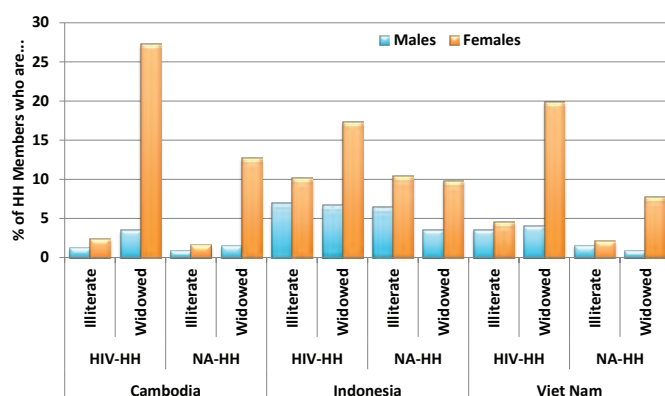
female-headed households will be led by widows, indicating a single-income household, many of the female-headed households would be expected to experience more significant socio-economic impacts from HIV.



With regards to educational attainment of household members, differences are seen between types of household, gender, and country. However, as shown in Figure 2, in all countries, females were more likely than males to be illiterate, in both HIV-HHs and NA-HHs. Additionally, in both Cambodia and Viet Nam, females in HIV-HHs reported the lowest levels of educational attainment: in Cambodia, 71% of females in HIV-HHs reported an educational level of only primary school or less, compared to 60% of females in NA-HHs, while in Viet Nam the respective percentages were 25% compared to 21%. In Indonesia, females in both households reported similar educational levels (30% of HIV-HH females at primary level or less, versus 31% in NA-HHs). It should be noted, however, that females in HIV-HHs did not report greater differences in educational levels than males, as all members of HIV-HHs were impacted to a similar extent.

In contrast, with marital status, not only were there differences between HIV-HHs and NA-HHs across countries, but females in HIV-HHs were significantly more impacted than males in HIV-HHs, especially with regards to being widowed. The most striking differences were seen in Cambodia, where 4% of males in HIV-HHs and 2% in NA-HHs were widowed, compared to 27% of females in HIV-HHs and 13% in NA-HHs. In Indonesia, 7% (HIV-HHs) and 4% (NA-HHs) of males were widowed compared to 17% (HIV-HHs) and 10% (NA-HHs) of females. In Viet Nam, 4% (HIV-HHs) and 1% (NA-HHs) of males were widowed compared to 20% (HIV-HHs) and 8% (NA-HHs) of females.

FIGURE 2 Basic Socio-Economic and Demographic Characteristics of Sample Households

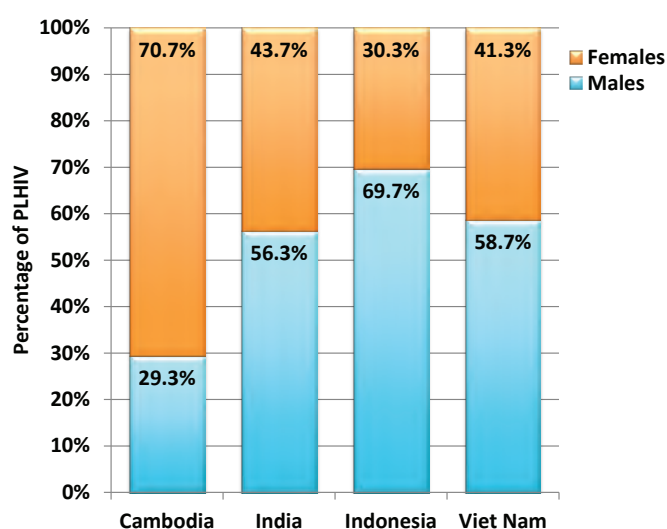


Cambodia: Education restricted to members ≥ 10 years of age (YOA). Marital Status restricted to members ≥ 15 YOA. Excludes respondents who answered "don't know". **Indonesia:** Education restricted to members ≥ 10 YOA: Highest education finished. Not finished (Illiterate), SD (Primary), SLTP (Secondary), SLTA (Upper Secondary), DI/DII (Upper secondary), Academy/DIII, DIV/S1/S2/S3 (Bach & master). Marital Status restricted to members ≥ 15 YOA. **Viet Nam:** only analysed household members alive at the time of the survey (excluded 45 dead HIV-HH members and 9 NA-HH members). Education restricted to members ≥ 10 YOA. 212 households have no information on HoH.

3.2 Profile of People Living with HIV

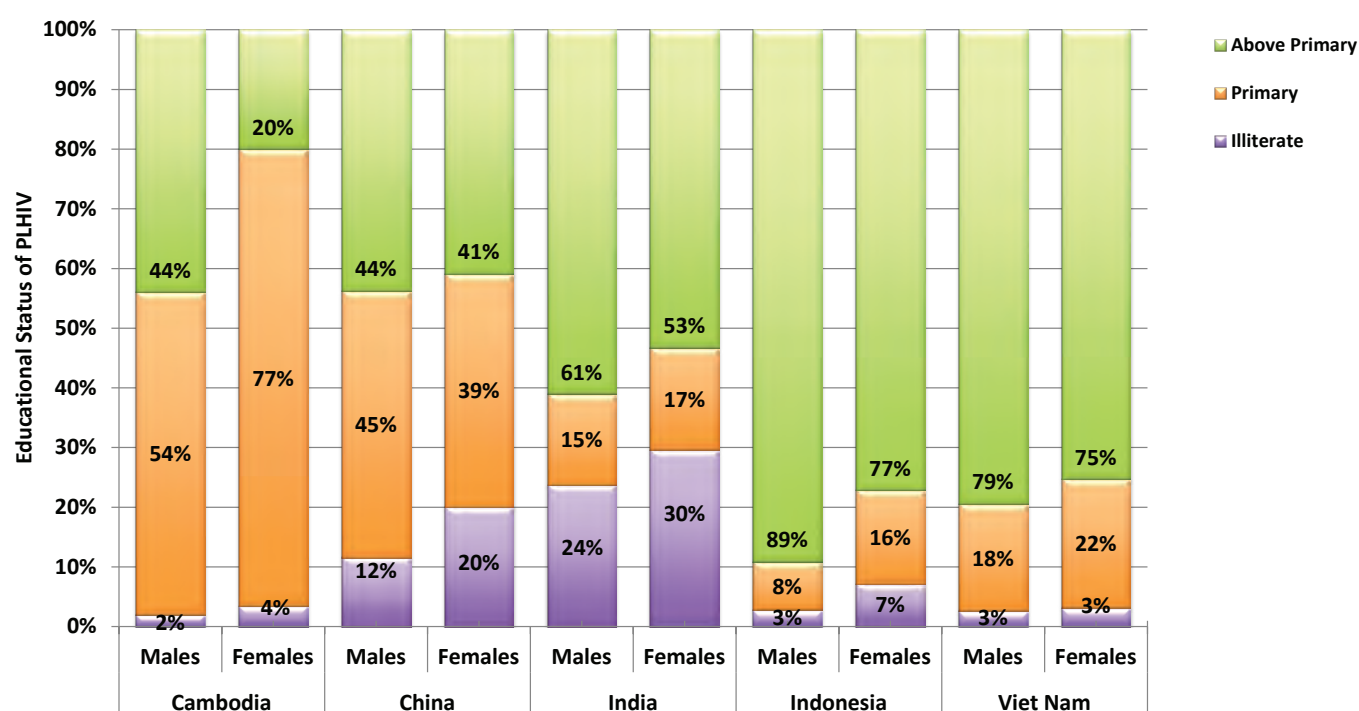
Figure 3 shows that the gender ratio of interviewed PLHIV was different throughout the countries. In Cambodia, significantly more females than males were surveyed (71% versus 29%), while the opposite was true in Indonesia (30% females, 70% males), India (44% females, 56% males) and Viet Nam (41% females, 59% males). While this may be mostly attributable to the differences in sample populations and survey methods, the differences are an important consideration when considering the results and the design of impact mitigation strategies. For example the higher proportion of IDU in Indonesia might point to the differences in the specific key populations sampled rather than the overall perspective of the epidemic nationally.

FIGURE 3 Distribution of PLHIV, by Sex



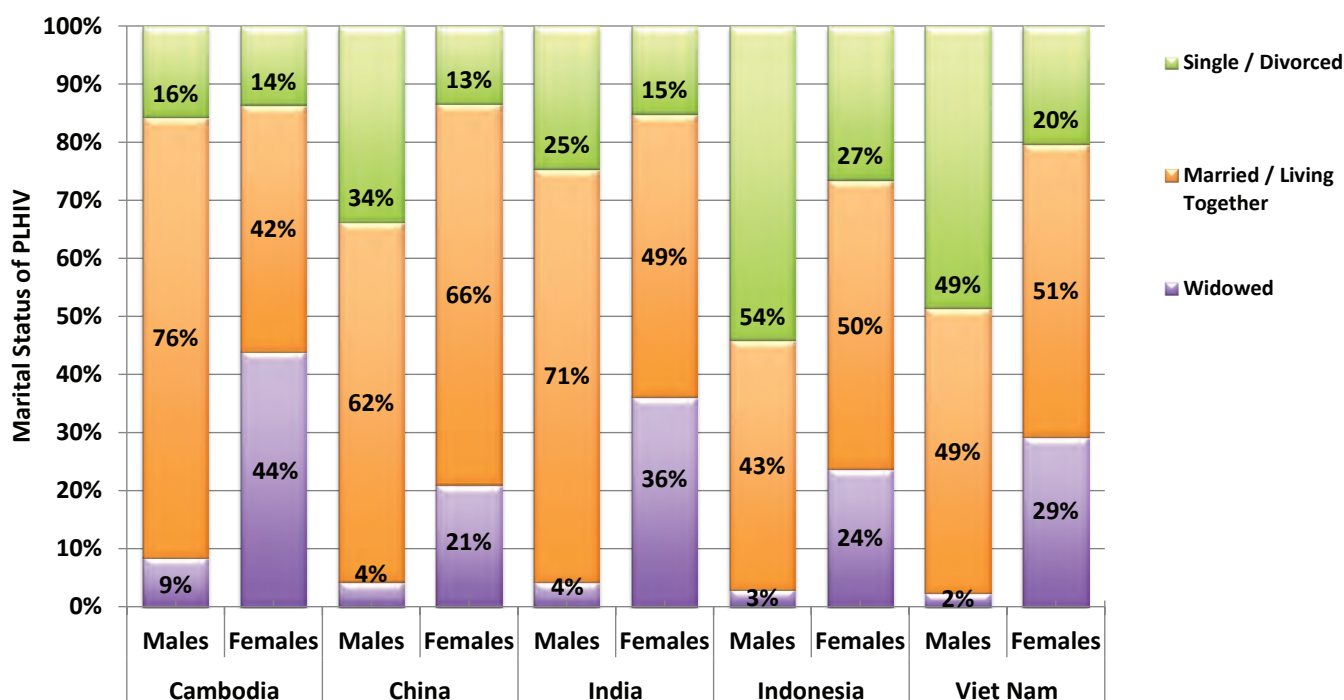
As with the overall household members, Figure 4 displays the differences in the educational attainment of males and females, with female PLHIV in all countries more likely to be less educated than male PLHIV. In Cambodia, 80% of female PLHIV had only achieved a primary school education or lower, compared to 56% of males. That compares to 55% of all non-PLHIV males and 63% of non-PLHIV females (data not displayed), indicating the increased vulnerability of females. It should be noted that the results do not necessarily indicate that HIV has negatively impacted the educational levels of female PLHIV, but do imply correlation between lower levels of education and female PLHIV. In China, the overall educational levels of male and female PLHIV were fairly similar, with 56% of males and 59% of females only having a primary school education or lower. However, it should be noted that female PLHIV were more likely to be illiterate (20%) than males (12%). In India, large differences were noted: 39% of males had a primary school level of education or lower, compared to 47% of females. In Indonesia, overall higher levels of educational attainment were reported than in the other countries, but twice as many females reported only having a primary school or lower level of education (23%) as males (11%). In Viet Nam, as with China, overall levels were fairly similar between males and females, with 21% of males having a primary level or less, compared to 25% of females.

FIGURE 4 Levels of Educational Attainment for PLHIV, by Sex



Cambodia: Restricted to 1,986 PLHIV ≥10YOA. No school (Illiterate), At least some primary school (Primary), At least some secondary school (Secondary), More than secondary school (Upper secondary). **China:** ≥10YOA. **Indonesia:** Restricted to 1,081 PLHIV ≥10YOA still alive at time of the survey. Not attended school / not finished primary school (Illiterate), SD (Primary), SLTP (Secondary), SLTA (Upper Secondary), DI/DII (Upper secondary), Academy/ DIII /DIV /S1 /S2 /S3 (College / Higher ed.). **Viet Nam:** Restricted to 525 PLHIV ≥10YOA still alive at time of the survey.

FIGURE 5 Marital Status of PLHIV, by Sex



Marital status limited to members ≥15 YOA

Figure 5 shows that while the marital status of the PLHIV differed by country, all showed that female PLHIV more frequently reported being widowed than male PLHIV. In Cambodia, 44% of female PLHIV and 9% of male PLHIV were widowed, compared to 14% of female non-PLHIV and 2% of male non-PLHIV. Given the known socio-economic vulnerabilities of widows, this extra impact on females is of importance for policy-makers. In China, 4% of male PLHIV were widowed compared to 21% of females, and in India, 4% of males and 36% of females. In Indonesia, large differences were also seen, with 3% of males compared to 24% of females being widowed, as in Viet Nam, with 2% of males and 29% of females reporting being widowed. Additionally, in China, India, Indonesia and Viet Nam, large gender differences were seen in the percentage of PLHIV who were single or divorced, with men considerably more likely to be single or divorced than women.

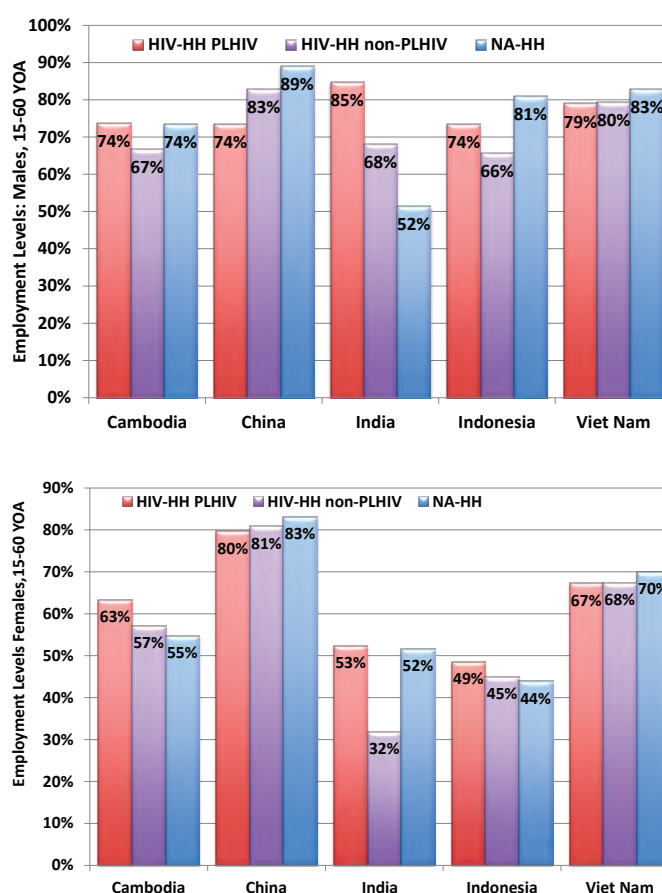
3.3 Employment

3.3.1 Changes in Employment for Adults

HIV has a dramatic effect on the dynamic for employment in households across all countries. The impact on the labour market is channelled through an increase in the overall level of unemployment for HIV-affected households as well as increased absenteeism and decreased productivity. Figure 6 shows the differences in employment levels for males and females in the different countries, stratified by the HIV status of both the household and the household members⁶. In China, Indonesia, and Viet Nam, male PLHIV and non-PLHIV in HIV-HHs both had lower participation in the workforce than those in NA-HHs. In Cambodia, male PLHIV and males in NA-HHs had the same employment levels, but male non-PLHIV in HIV-HHs had lower employment levels. Interestingly, the non-PLHIV males in Indonesia also had the lowest employment levels, and those in India had significantly lower levels than the male PLHIV, possibly due to the general older age of the non-PLHIV than the PLHIV.

Other than for Chinese PLHIV, females had lower employment levels than males. Many HIV-HHs in China pointed to the need for their spouses to join the workforce as a coping mechanism in response to HIV, possibly explaining that result. Additionally, in Cambodia, and Indonesia, female PLHIV and non-PLHIV in HIV-HHs had higher employment levels than females in NA-HHs, again likely due to the increased need for additional financing caused by HIV. The different results seen across the countries in the region may also be partly due to differences in urban / rural strata within the studies, as well as differences in the male to female ratios of PLHIV, HoHs and household members. For example, in Cambodia, there were many widowed female heads of HIV-HHs. These women were therefore more likely to be responsible for procuring the household finances than females in NA-HHs. Clearly, HIV has a large impact on the roles and employment opportunities of different household members across the region.

FIGURE 6 Employment rates for household members, 15-60 YOA, by sex



Some of the reports indicated they were displaying Workforce Participation Rates, but due to lack of detailed methodology descriptions, it was unclear that strict WFPRs had been created. As such, the term employment is used throughout this section. **China:** WFPR for members 15-59. **India:** WFPR for members 15-60. Data was not available for NA-HHs by sex. **Indonesia:** Alive HH-members between the ages of 15-60. **Viet Nam:** Alive HH-members between the ages of 15-60 in an income-earning position (housewives and peer educators excluded).

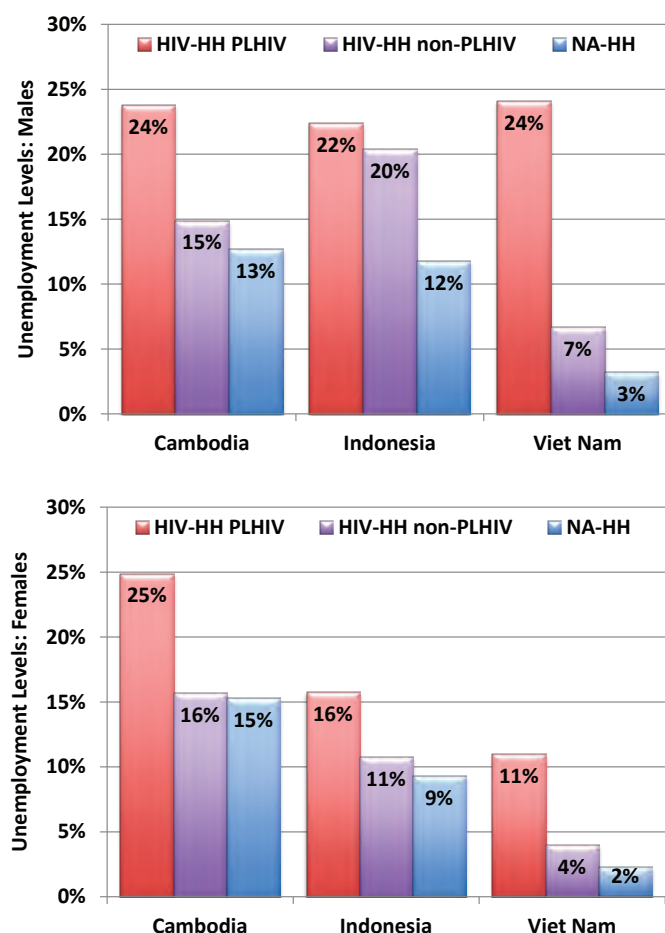
Figure 7 shows unemployment levels for PLHIV, non-PLHIV members of HIV-HHs and members of NA-HHs (the percentage of 15 to 60 year olds not working, performing housework or attending school), by sex. Across all countries, unemployment levels are substantially higher for PLHIV than non-PLHIV. However, additional impacts on the employment of HIV-HH members are also seen, with non-PLHIV members of HIV-HHs in China and Indonesia having substantially higher unemployment rates than members of NA-HHs (those in Cambodia and Viet Nam showed only small increases in unemployment rates). This impact is likely due to the need for caregiving by household members, as discussed in the following section.

The figure also highlights the additional gender impacts of HIV. While in Cambodia male and female PLHIV have similar unemployment levels, females in Indonesia and Viet Nam were less likely to be unemployed, pointing to their need to continue to work regardless of their health status. The same situation was true for India (which only had sex-segregated data for PLHIV), where 14% of male PLHIV versus 5% of female PLHIV reported being unemployed. Female non-PLHIV members of HIV-HHs in Indonesia and Viet Nam also had much lower unemployment levels, possibly partially due to the need for caregiving by household members, as discussed in the following section

⁶ India's data for NA-HHs is not disaggregated by gender, so the overall employment level is used for both figures.

In addition to the burden borne by HIV-positive women, all women and girls in HIV-HHs (regardless of their HIV status) are likely to be disproportionately affected by HIV. For example, in Cambodia, the majority of caregivers in HIV-HHs (who assumed additional duties) were women. Additionally, in China, a comparison of the total productive time for women in NA-HHs was 0.7 hours per day more than for men, while females in HIV-HHs worked 2.2 hours more per day than males, providing insight into the additional burdens HIV places on women in HIV-HHs.

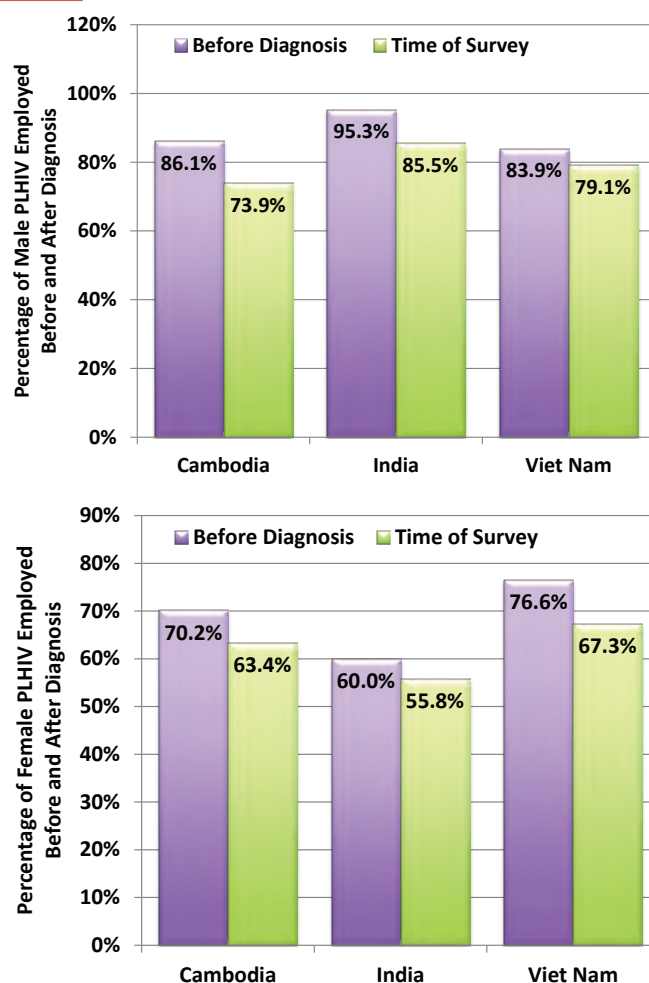
FIGURE 7 Unemployment Levels, by Sex



Cambodia: Percentage of members 15-60 YOA not working, not performing housework, nor attending school. **Indonesia:** Percentage of members 15-60 YOA not working, not performing housework, nor attending school. **Viet Nam:** Alive HH-members between the ages of 15-60 not in an income-earning position (housewives and peer educators excluded).

Figure 8 shows the clear impact of an HIV diagnosis on an individual's employment status. All countries for which data were available showed a decrease in employment after HIV diagnosis. In both Cambodia and India, there was a bigger drop in employment for males than females (Cambodia: 12% absolute difference decrease for males and 7% absolute difference decrease drop for females; India: 10% absolute difference decrease for males and 4% absolute difference decrease for females), while in Viet Nam the reverse was true (9% absolute difference decrease for females, 5% absolute difference decrease for males).

FIGURE 8 Change in Employment Status after Diagnosis of HIV



Cambodia: percentage of PLHIV 15-60 YOA⁷. **India:** Employed PLHIV between 18-60 YOA. **Viet Nam:** Alive PLHIV between the ages of 15-60 in an income-earning position (housewives and peer educators excluded).

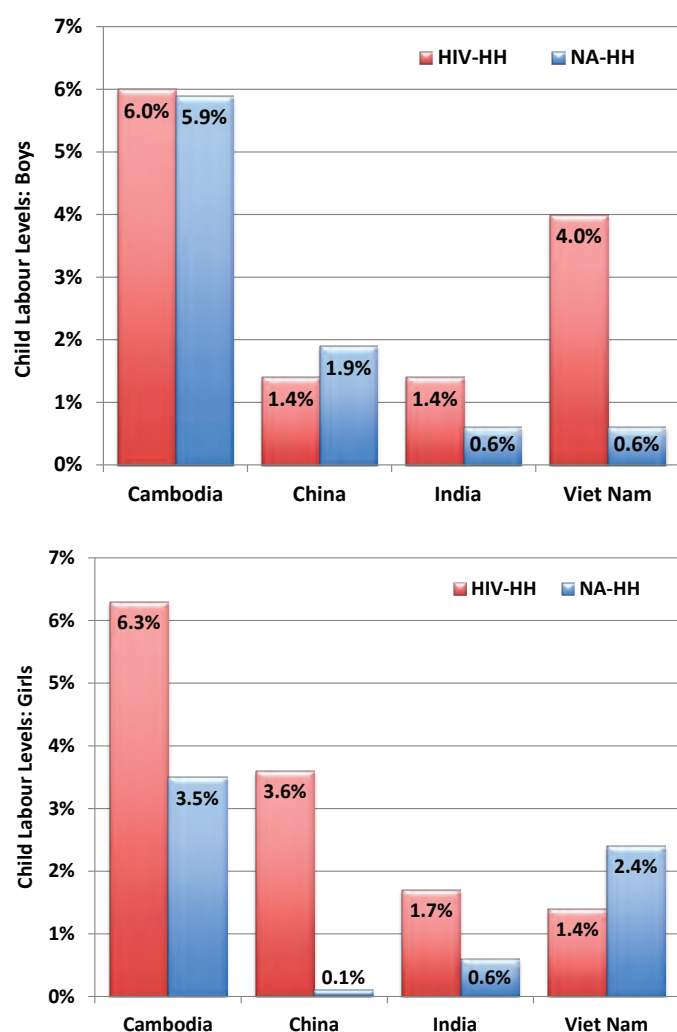
3.3.2 Child Labour

In addition to the effects on adult employment, HIV also has an important impact on child labour force participation. The effect appears particularly acute for girls in HIV-affected households. In Cambodia, girls are nearly twice as likely to be working in an HIV-affected household, pointing to the negative effects on human capital accumulation, as girls are withdrawn from school to support the household. Nonetheless, the impact is not limited to girls; in Vietnam and India the effect on boys is more than double, when comparing HIV-HHs and NA-HHs. Figure 9 shows the impact of HIV on child labour. It should be noted that the data for Cambodia was restricted to the age range of 10-14 only, while for other countries a larger age range (including younger children) was included, likely explaining the higher rates in Cambodia. For all countries where quantifiable data were available, children in HIV-HHs were more likely to have entered the workforce than children in non-affected households. In both Cambodia and China, the impact on girls was substantially greater than that for boys (for whom the impact was either small or non-existent). In Viet Nam, while little difference was seen for girls, a much larger percentage of boys in HIV-HHs had entered the workforce than boys in NA-HHs. India did not have data on children in NA-HHs by gender, but clearly,

⁷ India: Different age range than for WFPR.

the employment rates for both boys and girls was between two to three times higher in HIV-HHs, and overall girls in HIV-HHs had the highest rates.

FIGURE 9 Child Labour, by Sex



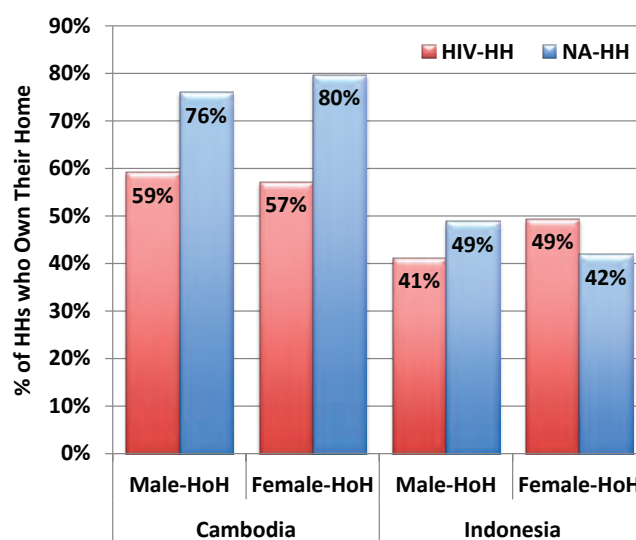
Cambodia: data includes children 10-14 only. **India:** The 0.6% represents total percentage of children in the workforce. Data by gender were not available for NA-HH. **Indonesia:** Only three child workers were found during the Indonesia survey. All three children were in DKI Jakarta. Two of the three children (one boy and one girl) were living in a HIV-HH. The other child was in a NA-HH.

3.4 Household Living Conditions and Assets

One of the most critical components of economic security is ownership of the household's dwelling. Additionally, the basic amenities of a household, as well as asset accumulation, are often used as indicators of economic status, as during times of economic hardship, the sale of a family's house or their assets is often turned to as a coping mechanism. Figure 10 shows the differences in home-ownership in Cambodia and Indonesia for those households with a female head of household compared to a male head of household. In Cambodia, there is little difference between ownership levels across the sexes, when overall comparisons are made (although NA-HHs are more likely to own their home regardless of the gender of the HoH). However, if the analysis of household ownership is restricted to only non-

widowed household heads, 720 of the 1,216 male headed HIV-HHs owned their house (59%) compared to only 266 of the 536 female headed HIV-HHs (49%). While this may positively indicate that asset transfer may be occurring after the death of a spouse in a HIV-HH, it points to the differences in home ownership between male and female headed households, if death has not occurred. In Indonesia, overall, female headed HIV-HHs are more likely to own their house than male-headed HIV-HHs (49% versus 41%) while the reverse is seen in NA-HHs (42% for female headed NA-HHs versus 49% for male-headed). However, again if the analysis is restricted to only non-widowed household heads, the situation for HIV-HHs changes, with 40% of male-headed HIV-HHs owning their homes, compared to only 34% of female-headed households.

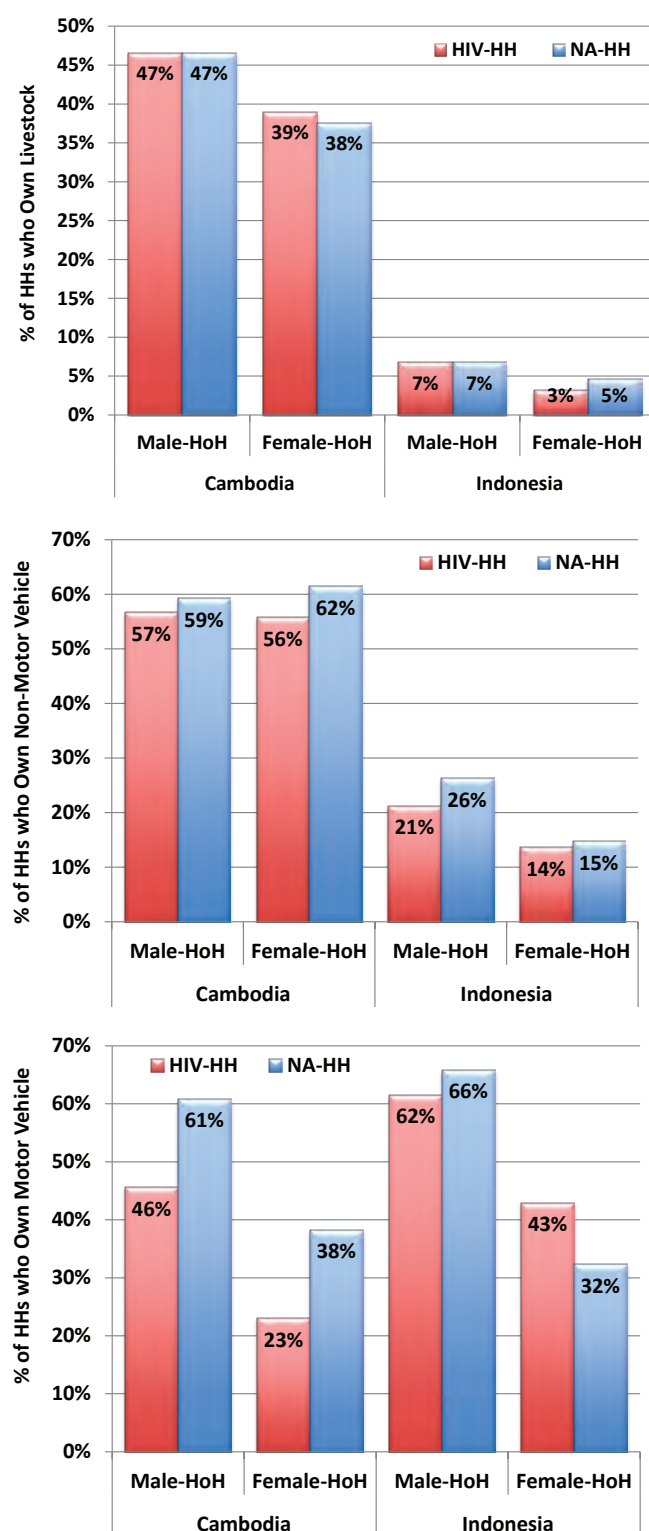
FIGURE 10 Home Ownership, by Head of Household, by Sex



Additional analyses were conducted on ownership of certain assets, including livestock, motorized vehicles and non-motorized vehicles, as shown in Figure 11. In Cambodia, overall similar levels of HIV-HHs and NA-HHs owned livestock (43% and 44%). However, in both households, female-headed households were less likely to own livestock than male-headed households, but no differences were seen between the disparities for HIV-HHs and NA-HHs. In Indonesia, perhaps reflecting the greater urbanicity of the survey participants, ownership of livestock was considerably lower (6% for HIV-HHs and 7% for NA-HHs). No differences between ownership by male-headed HHs (7%), and only small differences for female-headed HHs (3% for HIV-HHs versus 5% for NA-HHs). For non-motorized vehicles, in Cambodia, overall differences were seen (56% of HIV-HHs reported owning a form of non-motorized transport, compared to 60% for NA-HHs), and there were only minor differences between the sexes. However, in Indonesia, not only were differences seen between the types of households (19% of HIV-HHs owned a non-motorised form of transport; 25% of NA-HHs), but female-headed households (14% of HIV-HHs, 15% of NA-HHs) were less likely than male-headed HHs to own such an asset (21% of HIV-HHs, 26% of NA-HHs). In Indonesia, small differences were seen in the levels of HIV-HHs and NA-HHs who reported owning a motor vehicle (57% compared to 61%). Female-headed households were less likely in both situations to own such a vehicle, but surprisingly female-headed HIV-HHs fared better NA-HHs (43% compared to 32%). However, HIV-HHs in Cambodia were significantly less likely to own a motorised vehicle (34%) than NA-HHs (53%), and female headed-households fared

much worse than males. In HIV-HHs, only 23% of female-headed household owned a motorized vehicle, versus 38% of female-headed NA-HHs. These differences in asset accumulation have important implications for mobility, food security, employment and educational opportunities, reducing the ability of female-headed HIV-affected households to escape the poverty cycle.

FIGURE 11 Asset Ownership, by Head of Household, by Sex

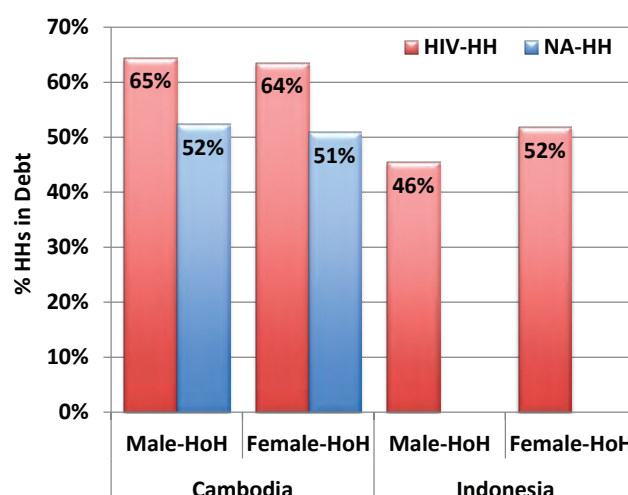


Cambodia: Non-motor vehicles include a bicycle, non-motorized boat, and / or animal pulled cart.

3.5 Debt

Figure 12 shows the impact of HIV on household debt for Cambodia and Indonesia, by the sex of the head of household. In Cambodia, there is very little difference between the percentage of households that reported being in debt, by sex, for either HIV-HHs or NA-HHs. However, in Indonesia (where data on debt was only available for HIV-HHs) more female-headed households (52%) had turned to debt as a coping mechanism than male-headed households (46%).

FIGURE 12 Impact of HIV on Household Debt

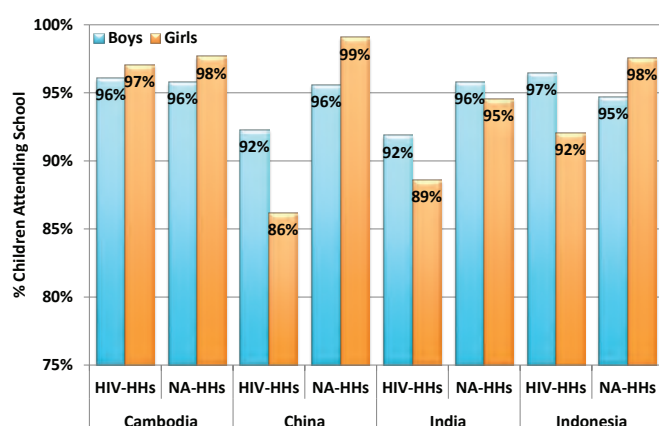


3.6 Education

3.6.1 School attendance

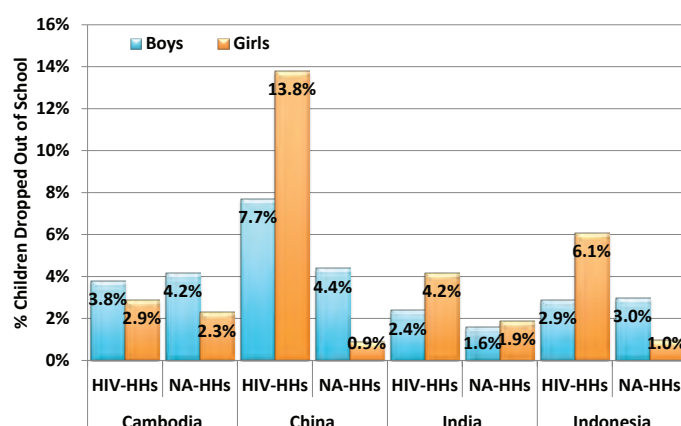
Figure 13 highlights the impact of HIV on school attendance levels among children across the region, by sex. In all countries, with the exception of Cambodia, attendance levels were reported to be lower for children in HIV-HHs than for children in NA-HHs, with the largest differences in China. In Cambodia, however, the reported attendance levels were equal for children in HIV-affected and non-affected households. The data shows how the impact of HIV on girls' attendance rates was generally more severe than for boys' rates. Again, other than in Cambodia, which showed only minor differences in the attendance rates of girls in HIV-affected compared to non-affected households, girls in HIV-HHs generally saw almost three times the drop in attendance rates as did boys in HIV-HHs. The most extreme differences were observed in China, where only 86% of girls in HIV-HHs were attending school, compared to 99% of girls in NA-HHs. In contrast the difference between boys in HIV-HHs and NA-HHs was much smaller (92% attendance versus 96%). Additionally, in NA-HHs in China and Indonesia girls actually had higher attendance rates than boys, the situation was reversed for children in HIV-HHs.

FIGURE 13 Impact of HIV on Attendance Levels, by Sex



Cambodia: The information belongs to children's between 6-14 YOA. School attendance, currently enrolled. **China:** Enrolment ratio of children aged 10-14 (still eligible for free education). **India:** The information in the table belongs to current enrolment of children's between 6-14. **Indonesia:** Number of School age children by school status of children's between 7-15.YOA.

FIGURE 14 Impact of HIV on Drop-out Rates, by Sex



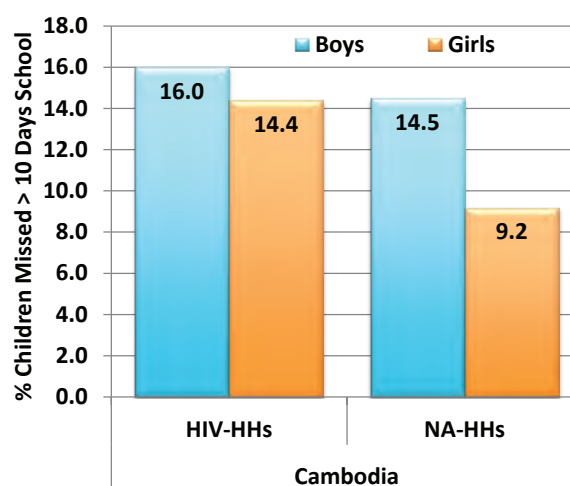
Cambodia: % of children 6-14 YOA not currently in school who ever attended school. **China:** % of children 10-14 YOA reported to have dropped out of school. **India:** % of children 6-14 YOA who dropped out from school. **Indonesia:** Children who do not attend school anymore 7-15 YOA. Children who "often do not attend school".

3.7 Drop-out Rates and Absenteeism

While the negative effect on attendance will contribute to lower human capital accumulation, potentially the greatest effect of HIV will be on the tendency for children of HIV affected households to drop-out of school. Figure 14 shows the impact of HIV on drop-out rates for children in HIV-HHs and NA-HHs in Cambodia, China, India and Indonesia. In all countries, children in HIV-HHs were more likely to have dropped out of school than the children in the NA-HHs, although there was only a slight difference in Cambodia. The general trend of increased drop-out rates in HIV-HHs is likely due to the need for those children to either take on income-earning positions, or to take over for household chores that the PLHIV were no longer able to perform. The table also highlights the specific vulnerabilities of girls in relation to school drop-out rates. Specifically, drop-out rates for boys were either equal or only slightly higher in HIV-HHs than NA-HHs across the region, while girls saw a much larger increase in drop-out rates (the largest being in China and Indonesia, where differences between drop-out rates for girls in HIV-affected and non-affected households were 13.8% to 0.9% and 6.1% to 1.0, respectively).

Additionally, the Cambodia study investigated the average number of school days missed, and found that children in HIV-HHs were more likely to have missed 10 or more days of school in the previous school year than children in NA-HHs (15% compared to 12%). However, there were differences in how the impact affected girls and boys. Boys in HIV-HHs were the most likely to have missed more than 10 days of school (16%), but only slightly more likely than boys in NA-HHs (15%). However, 14% of girls in HIV-HHs missed more than 10 days of school, compared to only 9% of girls in NA-HHs. These educational disparities have negative consequences, for both the total human capital accumulation of the household, and for future economic opportunities for the females in the household.

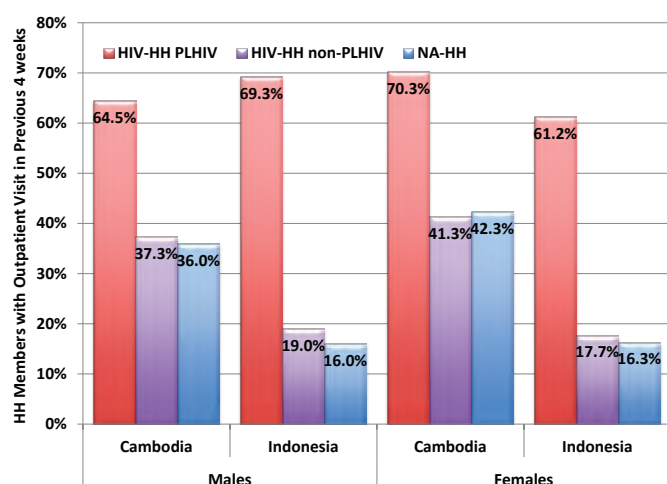
FIGURE 15 School Absenteeism, by Sex



3.8 Health Utilisation

The data displayed in Figure 16 and Figure 17 show the impact of HIV on health care utilisation rates. As expected, the members of HIV-HHs (and PLHIV in particular) had higher utilisation rates than both non-PLHIV members of HIV-HHs and NA-HHs. Additionally, also as expected, in Cambodia females reported higher overall utilisation rates than males. In Cambodia, 70% of female PLHIV reported an outpatient visit in the previous four weeks, compared to 65% of male PLHIV, and 42% of females in NA-HHs. In Indonesia, there was no difference seen in outpatient utilisation levels between males and females within NA-HHs (16% for both), and only a small difference seen for non-PLHIV members of HIV-HHs (19% males; 18% females). However, for PLHIV, males were more likely to have had an outpatient visit (69%) than females (61%). That may be an indicator of differences in the stage of infection between the genders, but may also point to underutilisation by female PLHIV as a result of greater barriers to care.

FIGURE 16 Impact of HIV on Outpatient Utilisation, by Sex



Cambodia: Outpatient includes visits to any medical professionals / facilities, including traditional healers, pharmacies and diagnostic facilities. **Indonesia:** Only members alive at the time of the survey. Outpatient includes visits to any medical professionals / facilities, including traditional healers, pharmacies and diagnostic facilities.

Regarding inpatient care in Cambodia, again more females than males reported having a hospitalisation. 19% of female PLHIV indicated they had been hospitalised within the previous 12 months, 17% of male PLHIV, and 8% of females in NA-HHs and 5% of males in NA-HHs. In Indonesia, female PLHIV had similar inpatient utilisation levels (12.2% of female PLHIV reported an inpatient admission within the previous year) as male PLHIV (11.7%), similar to females and males in NA-HHs (3.3% versus 3.7%). Male non-PLHIV members of HIV-HHs had higher levels of inpatient utilisation (6%) than males in NA-HHs (4%), possibly due to undiagnosed or undisclosed HIV status, or differences in other factors such as age.

FIGURE 17 Impact of HIV on Inpatient Utilisation, by Sex

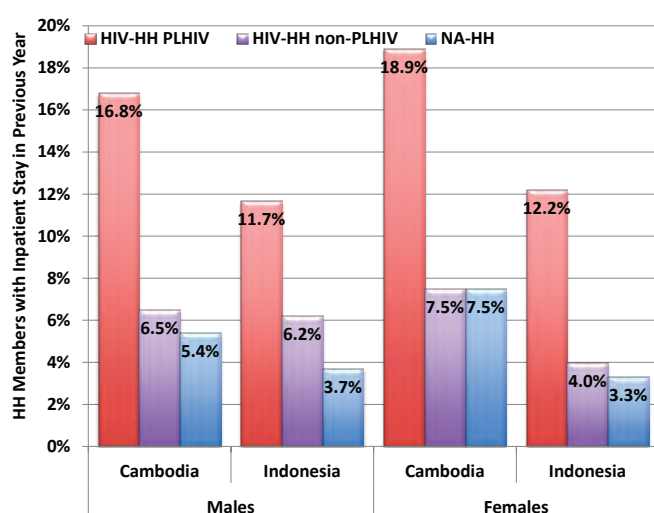
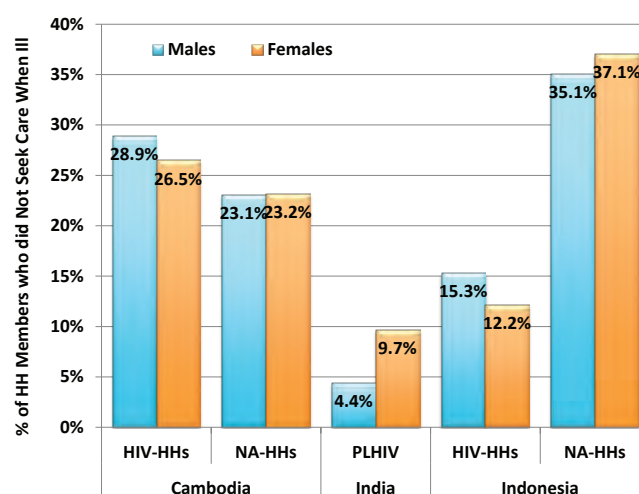


Figure 18 shows the percentage of household members who reported being sick, but did not seek care. Differences were seen both between the countries (highest non-seeking in Indonesia, lowest in India), and within countries between HIV-HHs and NA-HHs. However, only small differences were seen in Cambodia and Indonesia between the percentage of males and females not seeking care when sick (with females less likely to report not seeking care). However, in India, twice as many female PLHIV as male PLHIV indicated they did not seek care when they were sick. It should be noted that in Indonesia, the timeframe for the question was asked differently for PLHIV (sick in last year and did not seek care) and members of NA-HHs (sick in previous four weeks and did not seek care).

FIGURE 18 Impact of HIV on Household Members Not Seeking Care When Ill, by Sex

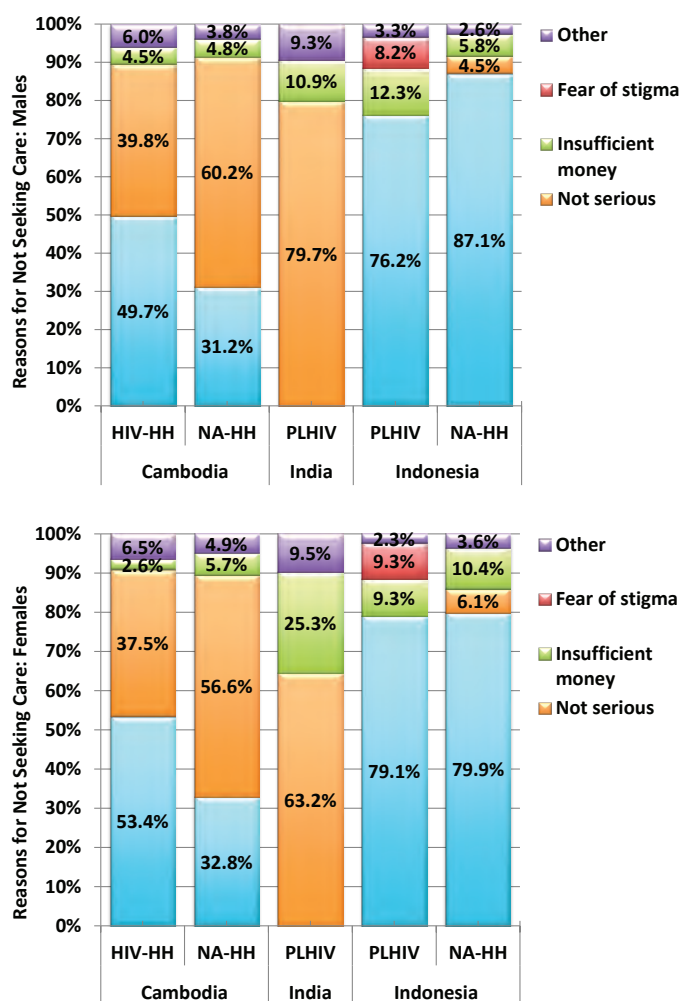


India: PLHIV only. **Indonesia:** PLHIV who were sick within last year and did not receive care. NA-HH members who were sick in previous 4 weeks and did not seek care.

The reasons given for not seeking care varied widely by country, household and sex, as shown in Figure 19. In Cambodia, males in HIV-HHs were more likely to report they did not seek care because they already had the medicine at home (50%), 40% because they did not think it was serious enough and 5% because of financial constraints. Females in HIV-HHs were slightly less likely to state they did not seek care for financial reasons (3%), but overall responded similarly to the males. However, they had very different responses from the females in NA-HHs, who were the most likely group to state they did not seek care for financial reasons (6%). They reported that the illness was not serious to require care the majority of the time (57%), and reported self-medicating (33%) less frequently than the females in HIV-HHs (53%).

The overall pattern of responses was quite different in India, where 25% of female PLHIV reported not seeking care for financial reasons, compared to only 10% of male PLHIV. In Indonesia, male PLHIV were much more likely to cite financial constraints (12%) than males in NA-HHs (6%), while similar levels of females reported gave financial constraints as the reasons (9% for PLHIV and 10% in NA-HHs). Additionally, slightly more female (9%) than male (8%) PLHIV reported they did not seek care due to fear of stigma or discrimination. At the time of the survey in India, only very limited financial assistance to PLHIV was available, compared to the universal ART program in Cambodia, which appears to be effective at reducing financial barriers to accessing care, for both men and women.

19 Reasons for Not Seeking Care When Ill, by Sex



3.9 ART Utilisation

Continued access to ART is a core goal of all programs reviewed in the study. The impact of ART on reducing morbidity and mortality in PLHIV, and improving their quality of life, has been well documented (Beard et al, 2009; Mahy et al, 2010). Evolving research into the positive impacts of ART, and how to best acquire those benefits, lead to continually changing recommendations for care. The most recent guidelines issued by WHO as to which PLHIV should be receiving ART in 2010, stated:

"All adolescents and adults including pregnant women with HIV infection and CD4 counts of ≤ 350 cells/mm³, should start ART, regardless of the presence or absence of clinical symptoms. Those with severe or advanced clinical disease (WHO clinical stage 3 or 4) should start ART irrespective of their CD4 cell count."

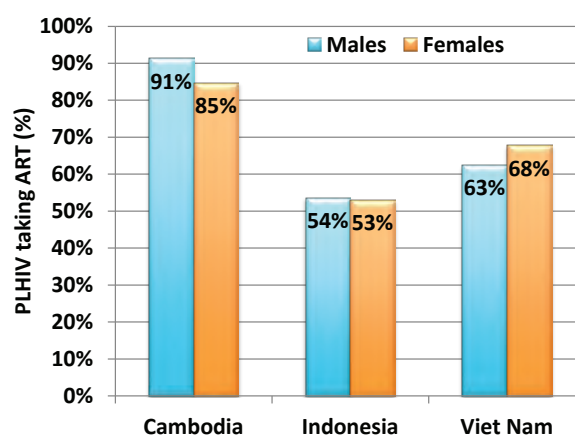
Given the time-range of the study, it would be therefore be expected that lower percentages of the PLHIV interviewed in India in 2004 would be on ART when recommendations for ART in resource-limited settings recommended ART for:

"WHO Stage IV HIV disease, irrespective of the CD4 cell count; WHO Stage III disease with consideration of using CD4 cell counts < 350 /mm³ to assist decision-making; and otherwise WHO Stage I or II HIV disease with CD4 cell counts < 200 /mm³."

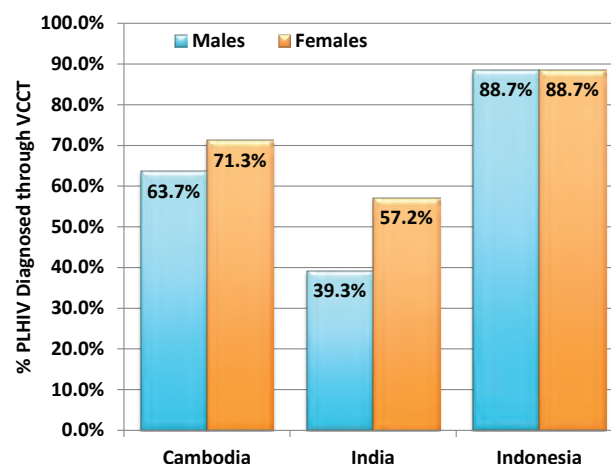
Figure 20 displays the percentage of PLHIV who reported they were taking ART at the time of the interview, by sex. Overall, the percentages vary widely by country, from a high of 91% for males in Cambodia to a low of 53% for females in Indonesia. In Cambodia, most of the gender differences in ART usage were due to differences in stage of infection between males and females, and that may be the case for Viet Nam as well. However, it should be noted that the Viet Nam study reported that, in their qualitative interviews, female PLHIV indicated that they would often share their ART with their HIV-positive male spouses, *"It's not easy to get the medicine; both my husband and I got them from the project. Sometimes, when medicine for my husband ran out, I let him use mine. There's no problem if I miss one time."*

Overall, as seen with some of the other data on the impact of health expenditures and financial barriers to care, it appears that while Cambodia, Indonesia and Viet Nam all have some form of government policy providing access to free ART treatment for PLHIV, it appears to have been most effective in Cambodia, at the time of the surveys. This has important impacts not only on the health and well-being of the PLHIV, and their households, as ART usage has been shown to have a strong impact on reducing transmission rate (HIV Prevention Trials Network, 2011).

20 Percentage of PLHIV Taking ART, by Sex



21 Percentage of PLHIV Diagnosed through VCCT



The number for Indonesia is surprisingly high given that 55.6% of PLHIV reported they had been diagnosed with an opportunistic infection (OI) before HIV diagnosis. It is possible that a different definition of VCCT was used in the survey that is not described.

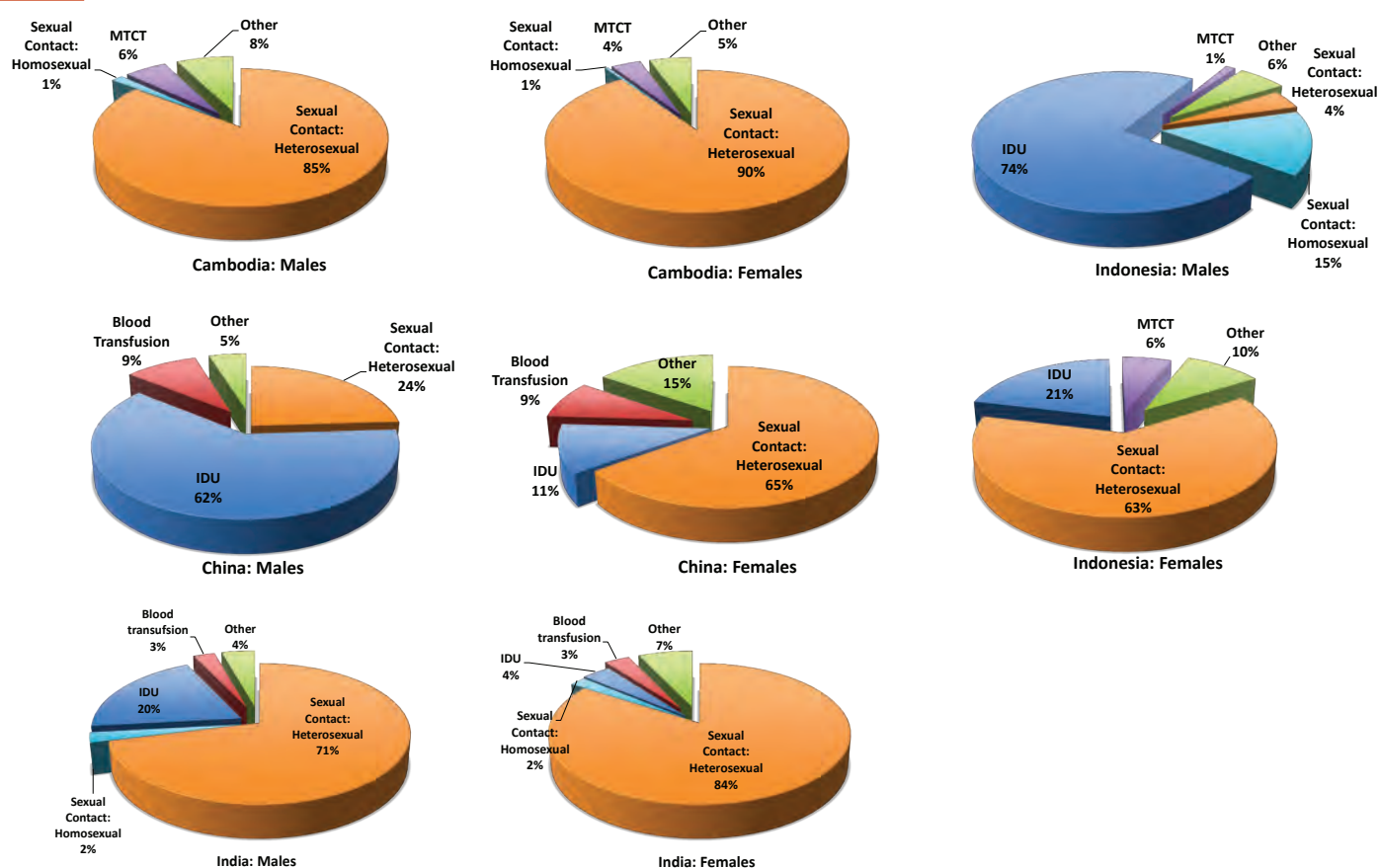
3.10 Transmission and Diagnosis

The percentage of PLHIV who discovered their status through VCCT (rather than after a prolonged illness, pregnancy test, or other form of diagnosis) is reported in Figure 21. There were varying levels reported across the countries – from a low of 39% for males in India to a high of 89% (for both males and females⁸) in Indonesia. This may be partially due to overall access to VCCT centres in the different countries, as well as differences in the demographics of the surveyed populations (i.e., almost all of Indonesia's surveyed PLHIV were located in urban areas, where it may be assumed access to VCCT facilities is easier). The comparatively low rate of diagnosis by VCCT in India is surprising given the methodological design of the survey that involved using the VCCT centre counsellors to create the sample of PLHIV. In both India and Cambodia, however, males were significantly less likely to have been diagnosed through VCCT than females, indicating a greater need for providing education and awareness activities to men within those countries. This has important consequences for transmission, especially for those undiagnosed PLHIV with intimate partners, as the longer a PLHIV is unaware of their status, the greater the chances of them unknowingly passing HIV onto their partner. By increasing VCCT levels in specific key populations, transmission can be reduced. Additionally, the Cambodia Study

(United Nations, 2010) showed that there are often very high health expenditures associated with the care of opportunistic infections a person living with undiagnosed HIV must pay for, especially as they are not eligible for free care under government programs. Increasing levels of early diagnosis through VCCT can therefore have a positive impact on reducing the coping mechanisms used by HIV-HHs.

Only Cambodia reported details about whether respondents were associated with a key population, so it was not possible to draw conclusions about regional similarities or differences regarding HIV and key populations. However, data were available on the mode of transmission reported by the surveyed PLHIV, as shown in Figure 22. Differences in survey methodology may partially explain differences seen in the various countries. For example, in China, the survey focused on poor rural areas, and specifically on PLHIV who were infected through IDU, commercial blood donation and heterosexual sex between spouses, so other significant groups of PLHIV, such as sex workers, men who have sex with men and people who inject drugs (PWID) in large cities were not included. However, these differences (and similarities) are important for drawing conclusions from the other findings in this report. While all countries reported differences in the main modes of transmission between males and females, overall,

FIGURE 22 Mode of HIV Transmission, by Sex



China: no data to differentiate between heterosexual and homosexual contact. ALL sexual contact was indicated as being with the spouse.

⁸ In Indonesia, there were identical levels of reported VCCT diagnosis in both males and females, with only 85 of 771 male PLHIV stating they were not diagnosed via VCCT (2 did not know) and only 34 of 335 female PLHIV (4 did not know).

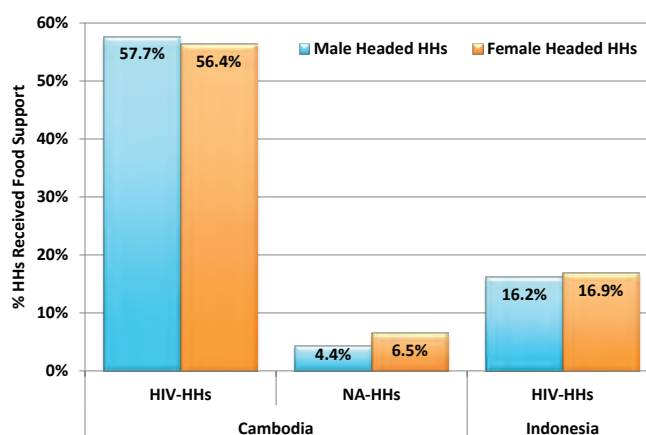
Cambodia and India reported that sexual contact was the primary mode of transmission, in contrast to China and Indonesia where IDU was the main mode of transmission. When broken down by sex, it is clear that for females across Asia, heterosexual contact is the main mode of transmission: 90% of female PLHIV in Cambodia, 88% in India, 65% in China and 63% in Indonesia. That contrasts with males, for whom heterosexual contact was reported as the mode of transmission at a lower rate, in every country: 85% in Cambodia, 71% in India, 24% in China and only 4% in Indonesia. In Cambodia and Indonesia, PLHIV were specifically asked about spousal transmission, and again, sex-specific differences are seen in the responses, with significantly more females indicating they contracted HIV from their husbands than male PLHIV indicating they contracted HIV from their wives (in Indonesia, 77% of women indicated they had contracted HIV from their spouses, while 23% of men indicated the same). This has strong implications for the unequal impact of HIV on females, as discussed throughout this report. While the China study focused on particular modes of HIV transmission, the results were very similar to that found in the 2007 Joint Assessment of HIV/AIDS Prevention, Treatment and Care in China (SCAWCO et al, 2007). The largest difference seen between China and other countries in the region was the higher rate of transmission through blood donation (9% overall). The survey also showed that, in specific provinces (Hubei and Shanxi), over 70% of PLHIV indicated that commercial blood donation was the main mode of transmission (and over 80% for males). Importantly, those results reflect the pattern of transmission from several years before the survey occurred, and it is believed that the issues with commercial donation and HIV have been largely solved.

Risk factors associated with injecting drug use are noted in several country studies, especially in males in China (62% of transmission) and Indonesia (73%). In Indonesia, the survey data were different from overall national averages, where heterosexual contact was reported as the main source of transmission (<http://www.aidsindonesia.or.id>), possibly due to the specific regions that the survey targeted. However, all data from Indonesia do suggest that HIV transmission through unsafe injecting practices is increasing, especially among males, and points to the need for additional education and awareness among people who inject drugs (Ministry of Health et al, 2007).

3.11 Food Support

Due to the vulnerability of HIV-HHs to food insecurity (UNAIDS, 2008b), a number of countries asked households whether or not they were specifically receiving food support at the time of the survey. Sex-differentiated data is only available for Cambodia and Indonesia, and in both countries there were no significant differences between the percentage of HIV-affected households receiving food support, when analysing between male and female-headed households. In Cambodia, however, regardless of the sex of the HoH, HIV-HHs were more likely to have received food support than NA-HHs.

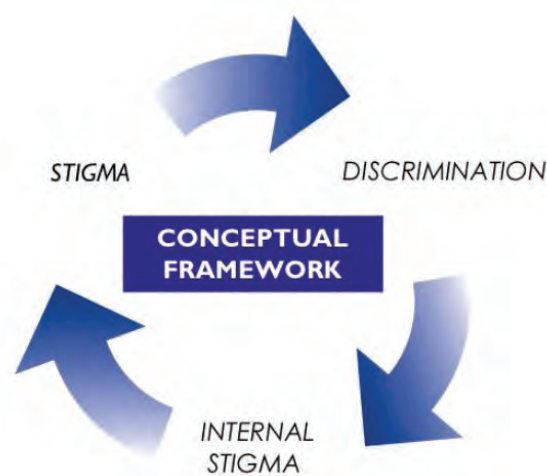
FIGURE 23 Households Receiving Food Support, by Sex of HoH



3.12 Stigma and Discrimination

HIV can have a traumatic impact on an individual's sense of self-worth, personal security and their social standing within the household and community (USAID, 2006). Emotional, mental and sometimes physical manifestations of stigma and discrimination are not only personally damaging, but are often correlated with other medical co-morbidities, and can further reduce an individual's capacity to engage in productive economic activities. Internal stigma, stigma and discrimination can also reduce the likelihood of an individual accessing HIV testing, seeking treatment, or sharing their diagnosis and taking action to protect others. Figure 24 diagrams the inter-relationship between how the three different aspects of HIV-related stigma and discrimination (internal stigma, stigma and discrimination) can escalate one another and lead to a cycle that is difficult to break. Stigma within the community leads to discriminatory actions against the person living with HIV, which in turn leads to increased levels of internal stigma within the PLHIV, creating reduced socialisation, which can lead to further stigma in the community.

FIGURE 24 Conceptual Framework for Stigma, Discrimination and Internal Stigma



Source: USAID, *Breaking the Cycle: Stigma, Discrimination, Internal Stigma and HIV*, 2006.

The data displayed in Figure 25 and Figure 26 quantify the internal stigma experienced by the PLHIV in Cambodia and Viet Nam, by sex. In Cambodia, high levels of PLHIV reported having experienced shame, with women reporting it slightly more than men (48% versus 43%), but there were lower levels in Viet Nam (26% females, 25% males). High levels of both males and females in Cambodia (62% males; 66% females) and Viet Nam (62% males; 70% females) reported low self-esteem, though females in both countries reported higher levels than males. Of great concern were the high levels of PLHIV in Cambodia reporting suicidal thoughts in the previous year, due to their status (16% versus 7% in Viet Nam). Additionally, the greater psychological toll that HIV may be having on females is noted, with females in both countries having reporting higher levels of suicidal thoughts than males (18% of females versus 10% of males in Cambodia and 6% of males in Viet Nam compared to 9% of females). In Cambodia, possibly due to the high levels of intimate partner transmission from men to women, women were more likely to blame others for their status (27% versus 9%), and less likely to feel guilty (43% versus 65%). However, the guilt levels are very high, considering that 90% of female PLHIV surveyed were infected through sexual contact with their intimate partner. The results indicate a need for targeted psychosocial support for women and girls living with HIV.

HIV prevention testing and counselling programmes promote the importance of status disclosure, especially to the PLHIV's intimate partner. However, in developing countries, stigma, discrimination, abuse and violence towards women are often a consequence of HIV disclosure (11% in developing countries, Maman, S. et al, 2004). Understanding how the PLHIV in these studies disclosed their status, and the reactions that resulted, are important for improved prevention and education activities.

Many countries asked PLHIV at what point they disclosed their status to their sexual partner and/or spouse, and their responses are summarised in Figure 27. There are clear regional differences with regard to status disclosure, although potential observational bias exists in some of these results - for example, in Cambodia, bias due to the methodology used to locate PLHIV in the survey, as PLHIV known to home-based care teams are more likely to have disclosed their status than those not receiving home-based care. Overall, the highest levels of non-disclosure were reported in Indonesia (13% overall), followed by India (7%), China (7%) and Cambodia (1%). The rate of disclosure in Indonesia is important as it points to the need for greater education of PLHIV, and the general population, on the importance of sharing their status with their sexual partner. The data show that in China, India and Indonesia there were strong differences (and minor differences in Cambodia) in the percentage of men who immediately reported their status to their wife and the percentage of women who immediately reported their status to their husband (more female PLHIV reported immediately in both China and India, the reverse in Indonesia). The situation in India and China may be partially a reflection of culture, but also a reflection of patterns of intimate partner transmission (i.e., if the husband transmitted to the wife, he was already aware of her status, and vice versa), and may indicate higher levels of male to female transmission. In Indonesia, responses by sex were only available for PLHIV who were also responding as the heads of their household, so present a small, particular segment of men and women. However, for those particular PLHIV, women were considerably less likely to have disclosed their status to their intimate partner (26% had not revealed their status, compared to 11% of men). Based on other data in the Indonesia analysis, it is likely this is due to fear of discrimination and / or abuse (16% of female PLHIV who were once married reported their husband left them and no longer supported them and 10% of female PLHIV reported they had been physically abused for trying to refuse sex with their husband).

FIGURE 25 PLHIV in Cambodia who Reported Internal Stigma, by Sex

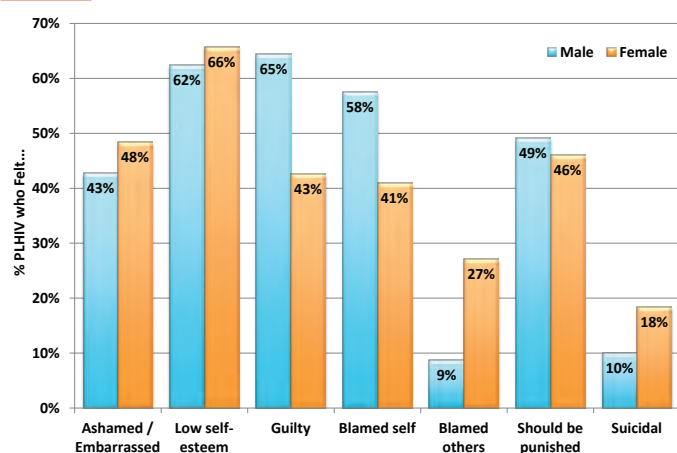
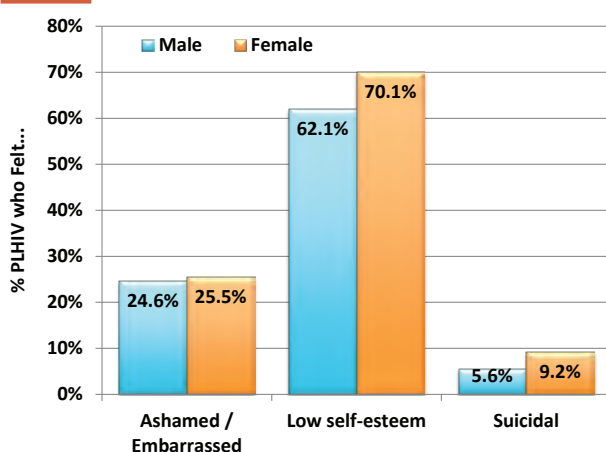
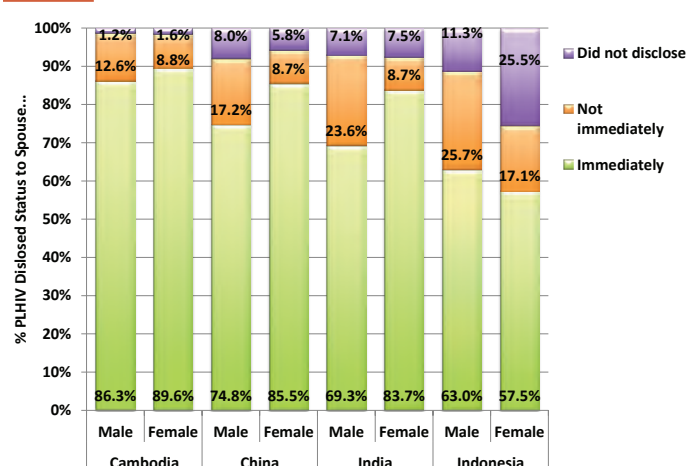


FIGURE 26 PLHIV in Viet Nam who Reported Internal Stigma, by Sex



Viet Nam: Low self-esteem = overall percentage having "negative self-perception".

FIGURE 27 Timeframe for Disclosure of HIV Status to Spouse / Partner, by Sex



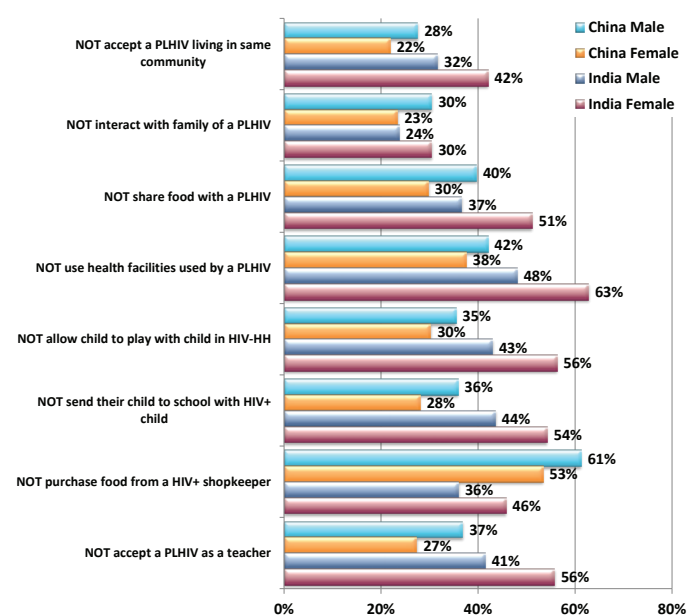
The data shown in Figure 28 indicate both the initial and current attitudes of the PLHIV's spouse towards their HIV status, as reported by the PLHIV. The questions asked, and possible responses, were not the same for all countries: in Cambodia a response of either "supportive" or "very supportive" was included and referred only to the spouse, in China and India only "supportive" was included but responded to both family members and spouses, and in Indonesia, responses of "more attentive" or "showed empathy" were included, and referred to either spouses or heads of household.

In all three analysed countries, female PLHIV reported higher initial levels of support than the male PLHIV. However, that may be possibly due to the fact that many of their spouses were already HIV positive.

The data show how spouses' attitudes changed overtime, as PLHIV also described their spouse's attitude towards them at the time of the survey. The largest change was reported by male PLHIV in China, where more than twice as many male PLHIV indicated spouses were supportive at the time of the interview (74%) in comparison to when they initially disclosed their status (30%) (a larger increase than for female PLHIV, who reported support went from 41% to 76%). As a result, almost equal numbers of male and female PLHIV in China reported their spouses were currently supportive, which was also the situation in Cambodia. In India, however, again male PLHIV reported a greater increase in support (from 42% to 87% compared to 45% to 75% for women), which resulted in more male PLHIV than female PLHIV reporting their spouses were supportive at the time of the survey.

Figure 29 displays information on the attitudes of respondents in NA-HHs towards PLHIV. Data were not available for Cambodia or Viet Nam, and only one question was asked of those in Indonesia, "How is your attitude when interacting or one day interacting with a PLHIV?" In Indonesia, 15% of NA-HH respondents indicated they would either avoid a PLHIV or keep their distance, and the percentage was higher for female respondents (19%) than for male respondents (14%). Similarly, in India females appeared less tolerant towards PLHIV than males: 63% of females indicated they wouldn't use the same health facilities as those used by a PLHIV (48% of males), 57% said they wouldn't allow their child to play with a child from a HIV-positive family (43% of males), and 42% stated they didn't feel their community would accept a PLHIV living within the community (compared to 32% of males). Possible economic repercussions of negative community attitudes towards PLHIV can be seen as 46% of females said they would not make food purchases from an HIV-positive shop-keeper (35% of males) and 56% of females said they would not accept an HIV-positive teacher (41% of males). In China, negative responses were lower for all questions except the one regarding the purchase of food (specifically in China the question was whether the respondent would purchase steamed breads) where 57% of respondents indicated they would not make a purchase from an HIV-positive shopkeeper. However, in China the bias was reversed, with females more likely to report a tolerant attitude than the males. Additionally, in India, people in urban areas were more open and tolerant than those in rural areas (data not shown).

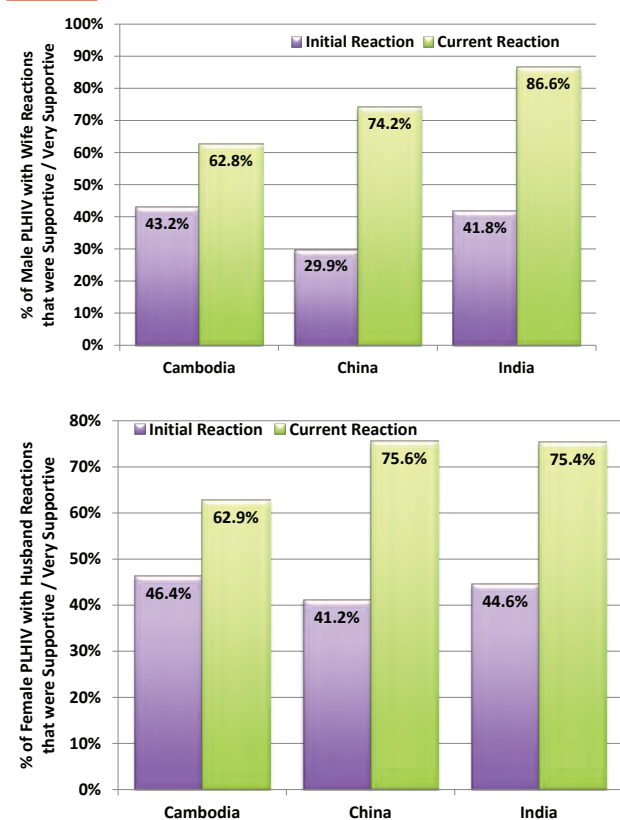
FIGURE 29 Attitudes of NA-HHs towards PLHIV, by Sex



China: Asked of HoHs in NA-HHs; **India:** Asked of all adult members of NA-HHs.

The data in Figure 30 and Figure 31 highlight the percentage of PLHIV who disclosed their status to their community and their health professionals, while the data shown in Figure 33 highlight the main forms of stigma and discrimination those PLHIV faced because of their HIV status. Unfortunately, the same methodology was not used across the five countries, so the results are not directly comparable, but still give a good estimate of how various countries in the region are similar (and different) with regards

FIGURE 28 Spousal Reactions to Disclosure of HIV Status, by Sex



Cambodia: Refers only to spouse. Percentages only include responses of supportive or very supportive. **China:** Includes spouse and family members; multiple responses received. Includes whether the whole family or just the spouse was supportive. **India:** Includes spouse and family members; multiple responses received. Includes whether the whole family or just the spouse was supportive.

to stigma and discrimination against PLHIV. In Cambodia, which used the “People Living with HIV Stigma Index” questionnaire (International Planned Parenthood Federation, 2008), a very high percentage of respondents (equal for males and females) reported they had revealed their status to their health professionals (99%), which is possibly due to observational bias through the use of home-based care teams to identify the PLHIV to be included in the survey. That compares to only 70% of PLHIV in China (again equal disclosure by the sexes) reporting that they revealed their status to their health facility. Additionally, while Indonesia did not ask all PLHIV if they had disclosed their status to their health professionals, only 59% of pregnant HIV positive women reported revealing their status (see Chapter 10). The lower rate of disclosure in China and Indonesia might be partially attributable to the higher rate of discrimination within the health sector reported by PLHIV as only 1% of PLHIV in Cambodia reported discrimination in their health facilities, compared to 13% in China and 30% in Indonesia. A high level of discrimination was also reported in Viet Nam, where 17% of PLHIV reported they had been discriminated against in the health setting, and the situation was worse for females, with 21% of women reporting discrimination in a health facility, compared to 15% of men. These high levels of reported discrimination point to an immediate need to increase sensitization and awareness of HIV in the health facility setting, as many PLHIV are currently not receiving the care they require, and are also unlikely to be receiving adequate education about transmission prevention, and other key support modalities.

26% of PLHIV in India reported they had disclosed their status within the workplace, with little difference seen between males and females. 10% of PLHIV in India indicated they had been discriminated against as a result, similar to 10% in Viet Nam and 4% in China (no significant differences between the genders). In China, levels of workplace-based discrimination are so low due to the largely rural agriculturally-based sector of the population who were interviewed, and for whom their household is the productive unit, so work-based contact with individuals outside the home is limited, and therefore labour-based discrimination is less likely.

In Cambodia, approximately 86% of male PLHIV and 82% of female PLHIV indicated they had disclosed their status to their friends and neighbours, compared to 24% of males and 26% of females in India, and 48% and 51% in China. Again, it must be noted that the PLHIV interviewed in Cambodia were receiving visits from home-based care teams who, as part of their activities, conduct HIV awareness-raising community activities. Perhaps partially due to those activities, only 6% reported having been socially neglected or isolated by their community (no differences between males and females), compared to the high levels of social ostracism by the community in China, India, and Indonesia with 56% of PLHIV in China (no gender difference), 66% in India (no gender difference) and 26% in Indonesia⁹, (large difference between the sexes: 47% of females and 17% of males) reporting that they were either socially isolated or neglected. Levels were lower in Viet Nam (21%), but, like in Indonesia, a larger percentage of females than males reported such social isolation (28% for females, 17% for males). Additionally, high levels of verbal abuse were reported by PLHIV in both India and Viet Nam (37% had experiences such abuse), and while levels were lower, they still raise concern in Cambodia (21%), Indonesia (19%) and China (18%). In some countries, there was little difference between the level of verbal abuse reported by the sexes, but in Cambodia, 23% of females reported verbal abuse, compared to 16% of males and in Indonesia, 29% of females reported such abuse compared to 12% of males. Additionally, an alarming 6% of PLHIV in Cambodia reported they had suffered from physical

abuse due to their HIV status, and almost twice the number of females (7%) as males (4%). Viet Nam was the only country that surveyed whether the PLHIV felt their rights had been diminished due to their positive status (property and asset rights, fertility rights, childcare rights, confidentiality rights), and substantially greater levels of female PLHIV than male PLHIV reported they had suffered rights neglect (26% versus 14%). In China, no large gender differences were seen with regard to discrimination, except for the percentage reporting they use separate chopsticks - males were significantly more likely to use separate food utensils than females (10% versus 3%).

FIGURE 30 PLHIV Disclosed Status to their Community, by Sex

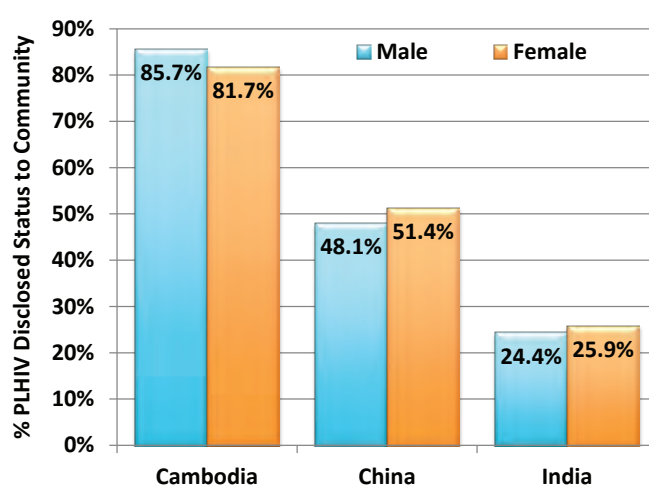
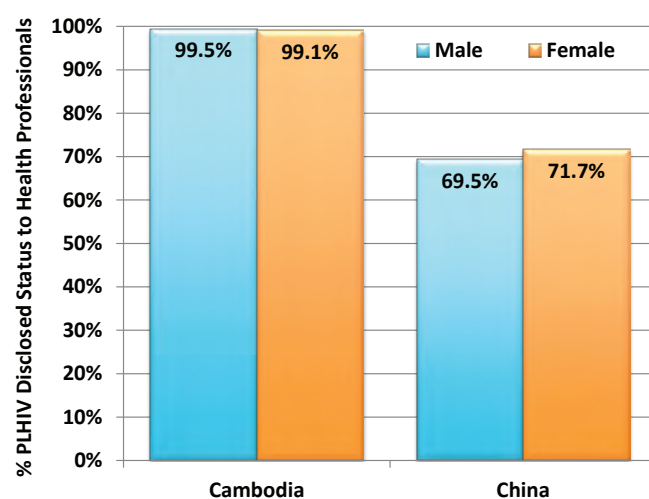
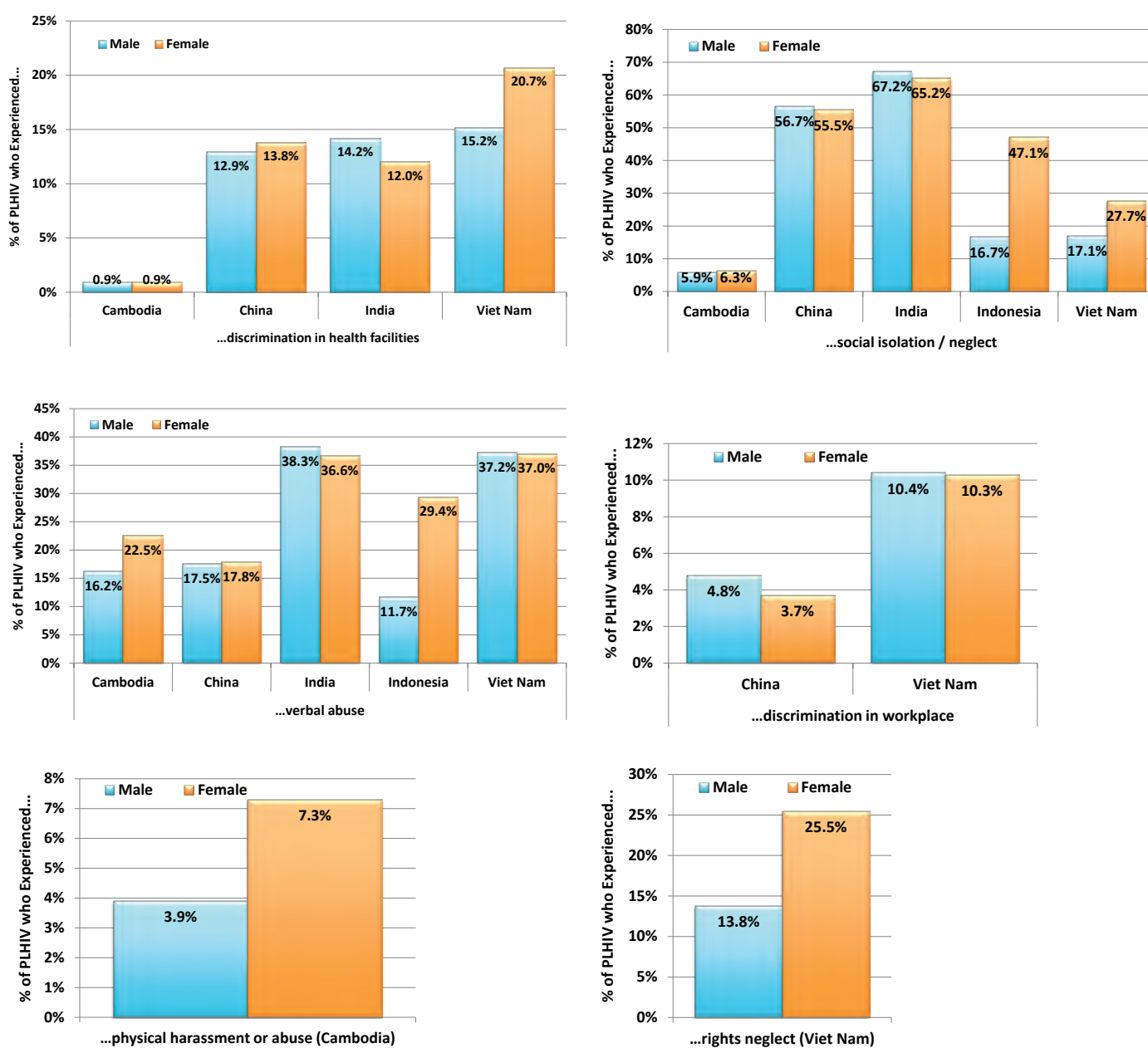


FIGURE 31 PLHIV Disclosed Status to their Health Professional, by Sex



⁹ Analysis was restricted to the subset of PLHIV who were also the HoH and status was known to the community.

PLHIV who Faced Stigma and Discrimination, by Sex



Cambodia: "Socially isolated / neglected" = excluded from social gatherings. **China:** Socially / neglected "community members do not go to their house". 69.5% of males and 71.7% females disclosed status in health care facilities. **Indonesia:** These are restricted to just an analysis of PLHIV who were HoH. For verbal abuse and social isolation, only 15% of PLHIV HoHs reported that their neighbours know they were HIV positive (18% of females, 15% of males), and the percentages shown are for the percentage of those PLHIV reporting discrimination.

3.13 Pregnancy and Prevention of Mother-to-Child Transmission

Three of the five studies featured in this report explored the experiences of women living with HIV with respect to pregnancy and, in particular, the prevention of mother-to-child transmission. Figure 33 provides data on how women in the various countries demonstrated knowledge of mother-to-child transmission of HIV and prevention of mother-to-child-transmission. Overall, less than 50% of all pregnant women were informed of PMTCT, underlining the importance of increasing provider-based programmes for preventing mother-to-child transmission. Responses varied greatly, with nearly all women in NA-HHs (92%) in Indonesia reporting they had heard of MTCT, while less than half that percentage (42%) reporting the same in Viet Nam. The differences were not as great for women in HIV-HHs, but Indonesia still reported higher levels of awareness (88% versus 73% in Viet Nam). In Indonesia, female PLHIV who reported having been pregnant at some point, were asked if they were made aware of PMTCT measures while pregnant. Of the 59% of females who informed their health care provider of their status, 90% were informed of PMTCT measures, so overall 46% of pregnant PLHIV had been informed of PMTCT. In Viet Nam, overall 78% of females in HIV-HHs noted that they were aware of PMTCT medications, but only 2% of those in NA-HHs were aware. These data raise two sets of concerns, the first of which is the high percentage of HIV positive pregnant women in Indonesia who did not inform their health professional of their HIV status (over 40%). As was discussed earlier, high levels of discrimination in health facilities were reported in the Indonesia study (over 30% of PLHIV reported being discriminated against in a health facility), so it is understandable that women are hesitant to disclose their status to health professionals. While levels of PMTCT awareness in NA-HHs in Viet Nam cannot be extrapolated to those in Indonesia, it can be safely assumed that women who do not indicate they are HIV positive are considerably less likely to be informed of PMTCT medicines. As such, the data points to the need for increased sensitization training within the health profession, as the fear of discrimination, and hence reluctance to disclose status, is placing the lives of many unborn babies at risk.

With regards to actual pregnancies, in Cambodia, the survey asked if women (aged 15-45) had given birth within the last year, while in Indonesia, the survey asked whether women (who had

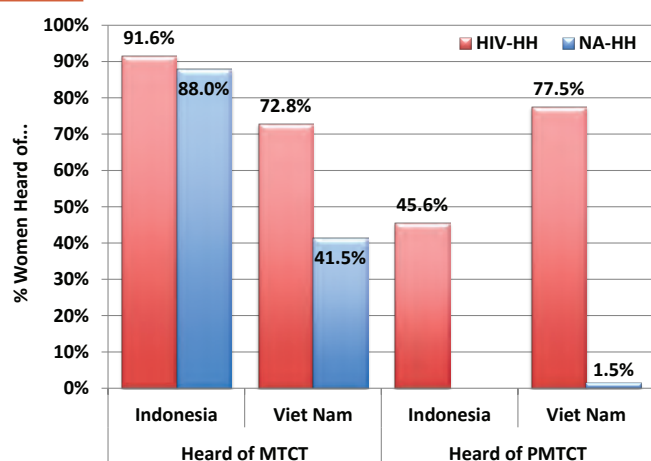
ever been married) had ever been pregnant, so numbers cannot be compared. In Cambodia, twice as many women in NA-HHs (12%) had given birth in the previous year than in HIV-HHs (6%). In Indonesia, 40% of HIV-positive married, divorced or widowed women indicated they had been pregnant or given birth since being diagnosed with HIV.

In Viet Nam, 9% of women in HIV-HHs indicated they had been forced or persuaded to have an abortion, compared to 6% of women in NA-HHs. While data are not available for other countries, the result points to a need for more information on this issue, and for increased education and empowerment activities regarding the sexual and reproductive health rights of HIV positive women.

With regard to PMTCT during pregnancy, it is important to note that all the surveys took place, either concurrently with, or before new WHO recommendations were published in November 2009, that indicate "All HIV-infected pregnant women who are not in need of ART for their own health require an effective ARV prophylaxis strategy to prevent transmission to their infant" (WHO, 2009). This was a change from previous recommendations in 2006 when it was recommended that only populations with advanced clinical staging or low CD4 cell counts should be treated. Since more HIV-positive women who are in Stage I are likely to be pregnant, it would therefore be normal to assume lower ART rates for those women. However, the data provided here should be considered as an important baseline for following how the targets are met in the future. In Cambodia, 78% of pregnant HIV-positive women were on ART, while in Indonesia only 42% reported being on ART at some point during their pregnancy or delivery, as shown in Figure 34.

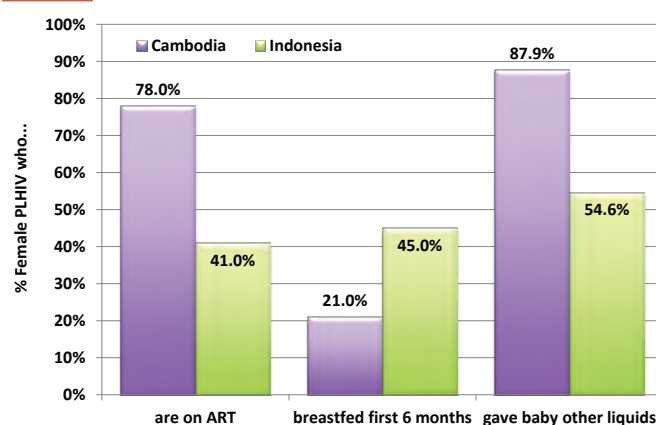
The figure also shows data from Cambodia and Indonesia regarding breastfeeding practices, which similarly saw a recent change in guidelines at the time the surveys were being conducted. The recommendations were changed to "Mothers known to be HIV-infected (and whose infants are HIV uninfected or of unknown HIV status) should exclusively breastfeed their infants for the first 6 months of life, introducing appropriate complementary foods thereafter, and continue breast-feeding for the first 12 months of life." However, the data clearly indicates that HIV-positive women in Cambodia and Indonesia will need additional education to change their current practices - in Cambodia only 21% of women in HIV-HHs reported they breastfed their baby in the first six months, while 93% of

FIGURE 33 Female Knowledge of MTCT and PMTCT



Indonesia: Of HIV+ women only 59.2% told their health care provider of their HIV status. 94.8% of those whose health provider knew of their status were informed of the risk of MTCT, and 89.7% were informed about PMTCT techniques.

FIGURE 34 HIV, Pregnancy and Breastfeeding



women in NA-HHs reported breastfeeding. In Indonesia, 45% of HIV-positive women reported breastfeeding their baby, which is surprisingly high, and perhaps due to the low percentage who informed their health provider of their status, and were therefore not informed of the previous recommendations to not breastfeed. Regardless, in both countries, additional education is required to inform HIV-positive women of the new recommendations to exclusively breastfeed for the first six months.

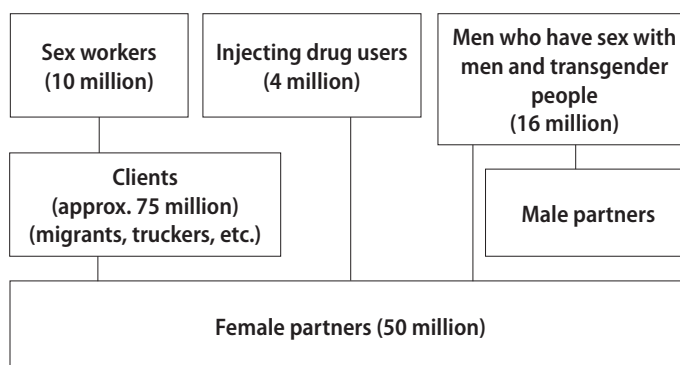
3.14 Widows

Of the 245 million widows worldwide, almost 50% live in devastating poverty, and China, India and Indonesia alone account for over one third of these vulnerable women (Loomba Foundation, 2010). That vulnerability is even more pronounced for those who are HIV positive, whose deceased spouse was HIV positive, and elderly widows caring for grandchildren orphaned by HIV (Loomba Foundation 2010). The studies in Cambodia, India, Indonesia and Viet Nam looked at how HIV-positive status impacted the inheritance rights of widows. In Cambodia, widows in both HIV-HHs (regardless of the widow's HIV status) and NA-HHs were asked if they inherited their deceased husband's assets after he passed away, and significant differences were seen between households - widows in HIV-HHs were more likely (15%) to have been denied their rightful inheritance than those in NA-HHs (9%). Figure 35 shows that in India, Indonesia and Viet Nam, widows in NA-HHs were not asked that question, but the percentages of HIV-affected widows being denied access to their husband's property was substantially higher than in Cambodia (79% of widows in India, 71% in Indonesia and 62% in Viet Nam). Additionally, in Viet Nam, 33% of HIV positive widows were asked to leave the household after their husband's death, while in India, more than 90% of HIV positive widows reported that they had stopped living in their marital homes following their husband's death. In both Cambodia and Viet Nam, the negative impact of HIV was much more pronounced in rural areas than in urban areas (data not shown).

3.15 Intimate Partner Transmission

Concerns in relation to the transmission of HIV by intimate partners have been raised throughout Asia in recent years (UNAIDS, 2009). This is due to the fact that men who buy sex constitute one of the largest groups of PLHIV, and they are often married, or will become married. Their wives, often believing they are at low risk due to their sexual interaction with only partner, are in fact vulnerable to infection. Figure 36 diagrams how an estimated 50 million women in Asia are at risk of acquiring HIV from their intimate partner relationships.

FIGURE 36 Dynamics of HIV Transmission in Intimate Partners

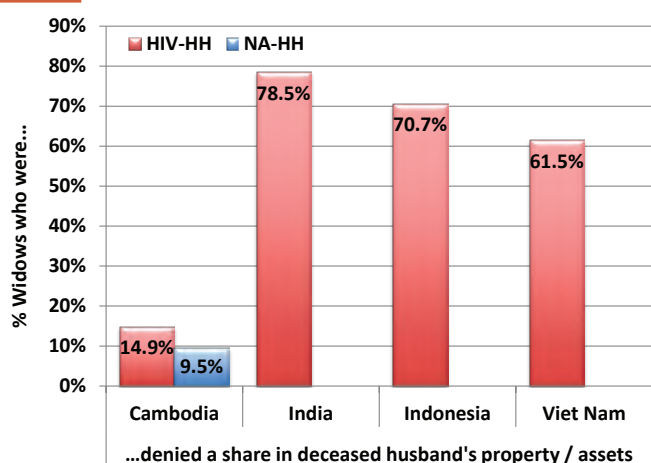


Source: UNAIDS (2009)

In India, a recent report on HIV and intimate partners showed that, while 22% of surveyed men reported having extramarital sex (EMS), only 40% reported using a condom in the EMS encounter (UNAIDS, 2009b). In contrast, only 6% of surveyed wives reported they thought their husband might be engaged in EMS. Globally, more than four-fifths of new HIV infections in women occur in marriage or in long-term relationships with primary partners (UNFPA, 2005) and in Asia, it has been estimated that over 90% of women living with HIV acquired the virus from their intimate partners (Silverman et al., 2008) but there is still fairly limited data on the subject. The data provided by these surveys, especially in Cambodia and Indonesia, which specifically asked about intimate partner transmission, provide new and significant insight into the situation.

As reported in Section 3.11, the percentage of female PLHIV reporting that they acquired their infection through heterosexual contact was higher than that for males, in all countries providing data. The largest difference was seen in Indonesia, where only 4% of men but 63% of women indicated heterosexual sex as the mode of transmission. In Cambodia, 80% of men who stated they contracted HIV through heterosexual sex reported that the source of their infection was their spouse or intimate partner, while 98% of women indicated the same. In Indonesia, only 23% of men who reported heterosexual sex as the mode of transmission stated that they contracted HIV from their intimate partner, compared to 77% of women. Additionally, while it cannot be assumed what percentage of the transmissions were from their intimate partners, the large percentage of women in India (88%) and China (65%) indicating that their transmission was via heterosexual contact, and given the nature of the household-based surveys used, it is likely that the majority of those infections, as in Cambodia and Indonesia, were also through sexual contact with intimate partners.

FIGURE 35 Widow Inheritance Rights



Cambodia: % of widows, regardless of their HIV status whose husbands had assets to be inherited. **India:** % of HIV-positive widows. **Indonesia:** % of HIV-positive widows. **Viet Nam:** % of widows or separated HIV-positive women.

The data therefore validate previous studies concerned with this issue (UNAIDS, 2009; Saggurti et al 2009) which have highlighted the need for increased empowerment of wives, increased education to men on the risks of EMS, and the importance of condom usage, and increased awareness of the impact of STIs and their connection with HIV. In order to be effective, such interventions will need to challenge traditional gender norms that intensify HIV vulnerability among women and girls (as well as men who have sex with men and transgender people).

3.16 Knowledge and Awareness

Figure 37 shows the percentage of respondents in the various countries who had knowledge of HIV, by sex. Different questions in relation to basic knowledge of HIV were asked in each country, but of concern is that only 73% of respondents in NA-HHs in Indonesia had even heard of HIV (almost equal levels of male and female respondents), and only 70% in China (again almost equal levels of knowledge between males and females).

FIGURE 38 NA-HH Respondents' Knowledge of VCCT Facilities

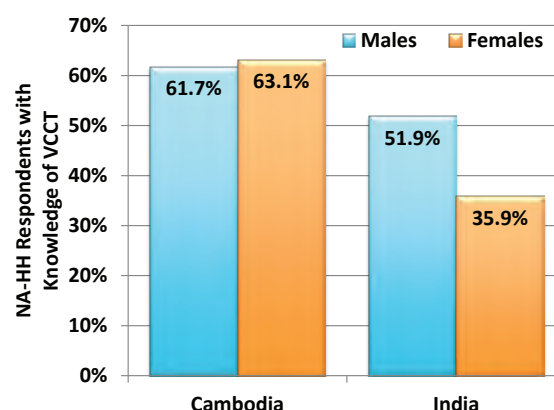
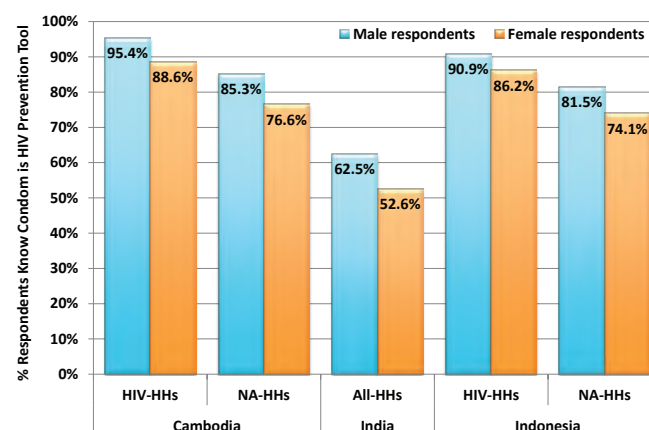
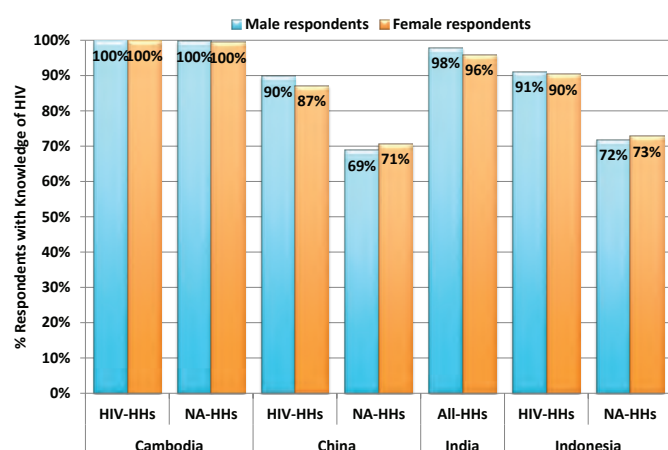


FIGURE 39 Respondents' Knowledge of HIV Prevention: Condoms, by Sex



Additionally, there were differences in knowledge levels between Cambodia and Indonesia regarding two other dimensions of HIV knowledge: the number of sexual partners and IDU. In Cambodia NA-HHs, males were more likely to report that having limiting their number of sexual partners was a form of HIV prevention (27% versus 20% of females). In Indonesia, 78% of men reported limited sexual partners, while only 67% of women did. In Cambodia, almost equal numbers of females and males in NA-HHs (23% and 25%) knew about the risk for HIV associated with IDU, and similar numbers were also reported in Indonesia (91% and 93%). Some of these differences between the countries may be due to how survey questions were asked – in Cambodia, respondents were not specifically asked if something was a form of prevention, but the respondents had to name as many options as possible, while in Indonesia, it is unclear how the question was asked.

FIGURE 37 Respondents with Knowledge of HIV



China: % heard of HIV = "awareness of HIV" **India:** All respondents 20-60 YOA asked.

With regard to the percentage of respondents in NA-HHs who knew where they could go for VCCT, there is clearly room for improvement, with only 44% of those in India and 61% of those in Cambodia responding in the positive. In Cambodia, equal numbers of male and female respondents knew where to go for VCCT, but in India, women had much lower levels of knowledge than men (36% versus 52%). Given the higher numbers of female PLHIV who reported they were diagnosed through VCCT, this may indicate that VCCT knowledge is low in the general population, but since many females were infected by their partners or spouses, they were more likely to have gone for testing than male PLHIV. While the data from India are from 2004 / 2005, they point to a need for continued education on VCCT.

While the majority of respondents in Cambodia, India and Indonesia reported they knew that condoms could be a form of prevention against HIV, results ranged from only 53% of women in India to 96% of men in HIV-HHs in Cambodia. Of concern was the finding that in all countries, females had lower knowledge levels regarding the use of condoms as a form of HIV prevention than males.

4 Policy Conclusions



The findings of this report of the multi-country studies call for urgent policy action. They demonstrate that as the epidemic matures it has significant and lasting impact on the ability of households to cope with the loss of family members, the loss of income, and the loss of educational opportunities, particularly for girls who are pulled out of school to care for sick and dying family members. Moreover, the study points to the fact that even concentrated epidemics have wide ranging impacts on PLHIV and their households, effectively multiplying the socioeconomic effect as it erodes the fabric of HIV-affected households.

Equally they point to the positive impact that targeted interventions, such as government commitments to universal coverage and welfare programs, can have on the health, nutrition, well-being and quality of life of women and girls in HIV-affected households. Most importantly, they provide further empirical evidence of the effects of HIV on the household that can be used to better prioritize interventions in the region.

The studies in all five countries were taken at different times of economic growth and prosperity, spanning from the growth of 2004 to the downturn at the end of the decade. Nonetheless, the studies show that HIV households are disproportionately impacted, even in good times, and that women and girls within those households even more so. Their extremely vulnerable state underscores the need for them to be prioritized for social protection with concerted actions to mitigate the impact of the disease.

Specific recommendations based on the studies are as follows:

1. **Prioritize women and girls in HIV-affected households in various social protection schemes, by making necessary changes in eligibility criteria so that they become eligible.** For example, pension schemes for widows have minimum age eligibilities, which can be above 40 or 50. Many women widowed by AIDS may not be able to access such schemes, as they tend to be young. Under such circumstances, the age restriction can be relaxed to extend coverage to them. In the Indian state of Rajasthan, a special provision was made for HIV widows where the minimum age eligibility for widow pension was lowered from 40 to 16, resulting in the additional coverage of 1000 HIV widows.¹⁰
2. **Maximize women's and widows' access to credit and income-generating opportunities** by generating options for sustainable livelihoods, such as the provision of vocational skills, start up funds for micro-enterprise, partnerships with the private sector, and linkages with the market, among other initiatives. It is particularly important, in the context of targeted poverty reduction efforts, to focus on the most vulnerable groups.
3. **Increase caregiving support systems to PLHIV and their households.** The studies pointed out how women in HIV-HHs often become caregivers to the PLHIV members of their households, reducing their employment opportunities and the income generation of the households. Support for the capacity building of groups and networks of women living with HIV can be a key step towards reducing burdens on women in affected households.
4. **Increase healthcare utilisation among female PLHIV** by reducing social, physical, financial and other barriers, which will help maintain good health and reduce mother-to-child transmission of HIV.

5. **Create more opportunities for girls and women to learn about HIV and its prevention in school, community, and health setting.** The studies showed that knowledge of HIV was low for women in China (31% had not heard of HIV) and Indonesia (28%), knowledge of condom usage for HIV prevention was low, and knowledge of VCT sites also low. Given the high levels of intimate partner transmission that were reported in the studies, better educating women on their vulnerability to HIV if their husband has multiple sexual partners, and on condom usage, may help to further reduce transmission in this vulnerable group.
6. **Prioritize efforts to keep children from HIV-affected households in school, especially girls, by targeting them in conditional cash transfer programmes.** Additional interventions are needed to ensure that children from HIV-affected households receive the same level of education as children from non-affected households, and do not drop out in order to work or become caregivers. Conditional cash transfers should be explored, specifically targeting girls, to ensure increased enrolment and retention rates for HIV-affected children, thereby reducing the negative impact on human capital accumulation.
7. **Strengthen legal empowerment measures for women living with and affected by HIV.** Legal reforms should be stressed to improve women's equal rights to inheritance and property ownership, especially widows. These assets are critically needed, following the death of a spouse, to provide women and children with shelter and economic assets so they are better able to cope with the impact of the death of their family member.
8. **Targeted interventions in health facilities to reduce stigma and discrimination against PLHIV.** A key finding of the study was the high levels of PLHIV reporting stigma and discrimination within health facilities, and high levels of pregnant PLHIV who did not disclose their status within the health facilities. Policies should seek to change the attitudes of health workers, in order to avoid the dangerous consequences that may result from the discriminatory practices.
9. **Strengthen mental health and psychosocial support services for PLHIV, especially women.** PLHIV should be explicitly integrated into National Mental Health Strategic Plans. The study identified significant mental health issues among PLHIV, including widespread depression, anxiety and suicidal tendencies, as well as reduced quality of life, and pervasive stigma and discrimination at the community level. Training and employment of PLHIV as counsellors can greatly contribute to reducing the mental distress experienced by people living with HIV.
10. **Targeted interventions should be developed to address the negative self-esteem experienced by PLHIV and their family members.** Continued community outreach and other programmes to reduce stigma and discrimination should be strengthened, and tools should be developed to measure home-based care's effectiveness in this area. This would include specific activities related to volunteer counselling services at the point of testing and notification.

¹⁰ Johri, A. and Narang, A. (2011) Presentation given at the High-Level Technical Consultation on HIV-sensitive Social Protection for Impact Mitigation in Asia and the Pacific, 27-29 2011, Siem Reap, Cambodia.

11. Increase awareness of the importance of status disclosure to intimate partners. The studies showed that up to 13% of PLHIV in Indonesia had never disclosed their status to their spouses or intimate partners. Increasing disclosure, in conjunction with increased ART coverage and condom usage will help in reducing the transmission of HIV between intimate partners.

While several countries have already scaled up social protection programmes for PLHIV since their studies were completed, continued evolution of those programmes is required to support the people, households and communities that are hardest hit by the economic crisis and the epidemic. The studies also point to the deleterious effect of HIV on the reduction of human capital not only due to death and morbidity of PLHIV but also due to reduced investment in the education of children.

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Annex 1: Overviews of the Data and Methodology of the Studies

Cambodia

The study on the *Socio-economic Impact of HIV at the Household Level in Cambodia* (UN, 2010) aimed to detail the socio-economic impact of HIV at the household level in order to provide a basis from which to design mitigation strategies. The survey was administered between December 2009 and February 2010 by Sanigest Internacional and the Centre for Advanced Study (CAS), and included a total of 3,972 households.

Methodology Details

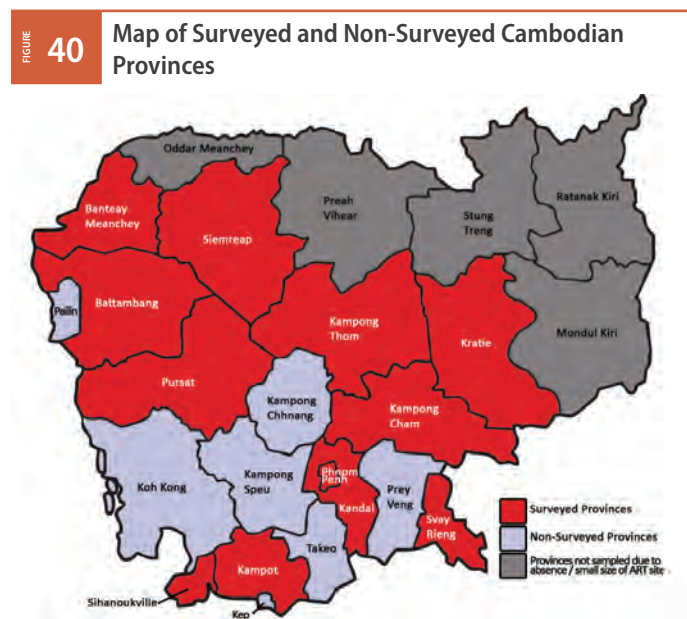
The study surveyed 2,623 households containing a person living with HIV and 1,349 control households, with more than 17,000 total individuals (11,566 within HIV-affected households and 6,129 in non-affected households). The sample selected was representative at the national level, within the context of all HIV-affected households enrolled in an HIV support program, and stratified for representativeness at the urban and rural levels.

This study used a two stage sampling methodology and the sampling consisted of three primary sampling units:

- Provinces (first level cluster)
- HIV-HH (second level cluster)
- NA-HH (second level cluster)

Within this context, HIV-HH refers to households with at least one member currently living with HIV. NA-HH refers to households where no family members have HIV.

A list of 51 health facilities providing ART and OI services in 20 provinces¹¹ as of December 2008 (National Center for HIV/AIDS, Dermatology and STD, 2008) provided the site-based frame for the first cluster-based level of sampling. A list of provinces was selected, based on composition of urban and rural districts and how many PLHIV attended each health facility. Figure 41 identifies which provinces were sampled, and randomized as locations for the study.



Source: Sanigest Internacional

TABLE 3 Distribution of Surveyed Households in Cambodia, by Province and Rural / Urban Status

Province	# of Surveyed Households								
	HIV-HH			NA-HH			Total		
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
Phnom Penh	680	20	700	364	15	379	1,044	35	1,079
Banteay Meanchey	230	147	377	108	81	189	338	228	566
Battambang	69	273	342	44	128	172	113	401	514
Kampong Cham	29	64	93	19	28	47	48	92	140
Kampong Thom	45	61	106	18	37	55	63	98	161
Kampot	38	176	214	17	91	108	55	267	322
Kandal	44	126	170	20	65	85	64	191	255
Kratie	25	13	38	13	9	22	38	22	60
Pursat	65	57	122	49	12	61	114	69	183
Siemreap	163	137	300	83	67	150	246	204	450
Sihanoukville	79	21	100	39	11	50	118	32	150
Svay Rieng	11	50	61	7	24	31	18	74	92
Total All Provinces	1,478	1,145	2,623	781	568	1,349	2,259	1,713	3,972

11 Banteay Meanchey, Battambang, Kampong Cham, Kampong Chhnang, Kampong Speu, Kampong Thom, Kampot, Kandal, Koh Kong, Kratie, Phnom Penh, Prey Veng, Pursat, Siemreap, Sihanouk Ville, Stung Treng, Svay Rieng, Takeo, Oddar Meanchey, Pailin.

As shown in Table 3, randomisation resulted in the selection of 12 provinces, including six provinces with only rural ART sites (Banteay Meanchey, Kampong Cham, Kampong Thom, Kampot, Kratie and Pursat), four provinces with only urban sites (Kandal, Sihanoukville, Svay Rieng and Phnom Penh) and two provinces (Battambang and Siemreap) with both urban and rural sites.

Selection of HIV-affected Households

A simple random sample of PLHIV was drawn from the previously selected sites using lists of PLHIV from home-based care (HBC) networks as the frame. In each household, only the member of the household selected from the sample was interviewed. Additional HIV positive household members were not interviewed.

Selection of Non-affected Households

To maximize the cost-effectiveness of the sample frame, the sample included twice as many HIV-affected households as control households. Weighting was used to normalize the two populations. Non-affected households were selected based on geographic proximity to HIV-affected households (in this case, the third house from every other HIV-affected household interviewed) in order to select households of similar socio-economic context within the community.

Survey Design

Sanigest Internacional, CAS and UNDP designed the household survey. The survey instrument was designed to focus on key socio-economic indicators and to ensure it would provide comparable data with other socio-economic surveys within the regional context (from India, China, Viet Nam and Indonesia). The initial piloting of the instrument occurred in urban areas of Phnom Penh, and was facilitated by an NGO working with low-income and HIV positive families in Boeung Kak and Borei Keila.

Limitations

While the robustness of the study design allows for substantial analysis of the data, it should be noted that there are a number of limitations to the study, including:

- (i) The population of PLHIV randomized for this study contained a higher proportion of women to men than previous data would predict: 71% of 2,623 PLHIV sampled for the survey were female. This may partially reflect enhanced health-seeking behaviour in women, or reduced HIV-status awareness in men, or may reflect an evolving demographic profile within Cambodia. However, it is a possible source of selection bias.
- (ii) Networks from NGOs that provide HBC were used for the second-stage sampling frame, and created a study population that consists of a greater percentage of HIV-HHs receiving HBC than would normally be reflected in the Cambodian population. This is a possible source of selection bias.
- (iii) The sample frame focused on individuals who lived within 20km of an ART / OI site, creating possible selection bias by excluding people with reduced access to healthcare.
- (iv) Only a very small percentage (<1%) of the sampled PLHIV had been diagnosed within the previous year. Given the drop in incidence, low levels would be expected, but some selection bias may be present as a result.

- (v) The survey asked if respondents were members of a key population. These include men who have sex with men, transgender individuals, sex-workers, injecting drug users, migrant workers and prisoners. However, it should be noted that due to the sensitive nature of the questions, it is likely that many individuals would not divulge that they identified with certain key population groups.

China

The Study on the *Socio-Economic Impact of HIV/AIDS at the Individual and Household Level in China* (UNDP, 2009a) aimed to quantify the impact of and response to HIV at the household and individual levels. The study was conducted from February through April 2008 by the Chinese Centre for Disease Control and Prevention, the National Centre for AIDS/STD Control and Prevention (NCAIDS), and the Beijing Institute for Information and Control, and included a total of 1,926 households.

Methodology Details

Data were collected on both the household and individual levels in five high prevalence counties (Yunnan, Guangxi, Sichuan, Hubei and Shanxi). All selected households were in poor rural areas.

In Guangxi, Sichuan, Hubei, and Shanxi, where most of the PLHIV had not disclosed their HIV status, interviews were not carried out in the household. Enumerators and interviewees generally held the interview sessions at the CDC offices or at VCCT clinics. In Yunnan, the survey was conducted in the households, as most PLHIV had disclosed their HIV status. During household-based surveys, the interviewers could directly observe the impact of HIV on living conditions, household facilities, hygiene and other factors.

TABLE 4 Distribution of Surveyed Households in China, by Province

Counties	HIV-HH		People Interviewed		
	HIV-HH	Both spouses HIV+ and interviewed	Total	PLHIV	Non-HIV
Yunnan	230	30	510	260	250
Guangxi	201	9	424	210	214
Sichuan	191	7	377	198	179
Hubei	151	21	341	172	169
Shanxi	158	29	370	187	183
Total	931	96	2,022	1,027	995

Only PLHIV infected through IDU, commercial blood donation, and heterosexual spousal transmission were the focus in the study. Other high-risk groups, such as sex workers and men who have sex with men, as well as people living in urban areas were therefore under-represented.

Of the 9,083 reported cases of PLHIV who were reachable in the selected counties in 2007, 11.3% (1,027 in 931 households) were selected for the survey. In total, 96 of the HIV-HHs were households in which both spouses were living with HIV. A total of 2,022 people were interviewed. Determination of sample size is not discussed in the final report.

Selection of HIV-affected Households

Sample households were selected by using a combination of multi-stage and systematic sampling methods. In cooperation with local health departments and organizations, the field survey was conducted in five high prevalence provinces of China, namely Yunnan, Guangxi, Sichuan, Hubei and Shanxi provinces. The survey included 931 PLHIV households (1027 PLHIV; 654 males and 373 females) and 995 non-PLHIV households (472 males and 523 females). The research methods included quantitative and qualitative analyses, questionnaire surveys, focus group discussions, in-depth interviews and case studies.

Selection of Non-affected Households

Two methods were used to select the non-affected households. In Yunnan, where PLHIV were interviewed in their homes, investigators moved clockwise (i.e. east) and selected non-affected neighbors whose sex and age were similar (less than five years' difference) to the HIV-HH. In counties where PLHIV were interviewed outside the home, investigators identified NA-HHs from the PLHIV's community whose sex and age were similar (less than 5 years' difference) to the HIV-HH.

Selection of PLHIV for Case Studies

As part of the survey, researchers conducted in-depth interviews with some respondents to further investigate the impact of HIV. Some typical cases were identified and summarized.

Survey Design

Quantitative data were collected through household survey questionnaires. UNDP and the Beijing Institute of Information Control jointly developed the questionnaire. Qualitative data were collected through in-depth interviews with select PLHIV as well as focus groups with local leaders and staff associated with HIV prevention programs.

Limitations

- The survey was conducted only in high prevalence, rural, poor provinces. Only PLHIV infected through IDU, commercial blood donation, and heterosexual spousal transmission were included in the study, and as a result, other key populations such as sex workers and MSM.
- Government and NGO support to PLHIV and their households has increased in the three years since the survey was conducted, and it should be noted that the impacts indicated here reflect the situation at that point in time, as opposed to the current situation.

India

The study on the *Socio-Economic Impact of HIV and AIDS in India* (UNDP, 2006) aimed to determine the impact of HIV at the household level with a focus on the relationship between, and distribution of, income and wealth, and changes in the structure of employment and social security. The study on the *Socio-Economic Impact of HIV and AIDS in India* was conducted by the National Council of Applied Economic Research (NCAER) with the sponsorship of UNDP and National AIDS Control Organisation (NACO) from October 2004 through May 2005, and included 8,292 total households.

Methodology Details

Data were collected at both the household and individual levels in six high prevalence states (Andhra Pradesh, Tamil Nadu, Karnataka, Maharashtra, Manipur, and Nagaland). Provinces with the highest HIV prevalence were selected based on the Sentinel Surveillance of the respective State AIDS Control Societies (SACS). Five to seven districts in each state were identified from which to sample the households. The capital of each state was selected, and other districts were chosen based on their prevalence and distribution of PLHIV. Higher prevalence districts were chosen to save time and money. The table below shows the selected states and districts.

TABLE 5 Surveyed states and districts in India

State	Districts
Andhra Pradesh	Hyderabad, Warangal, East Godavari, Guntur, Krishna, Chittoor, Cuddapah
Karnataka	Bangalore, Belgaum, Dharwad, Bellary, Dakshina Kannada, Mysore
Maharashtra	Mumbai, Nagpur, Nashik, Aurangabad, Pune, Satara, Sangli
Manipur	Imphal East and West, Chandel, Thoubal, Bishnupur, Churachandpur
Nagaland	Dimapur, Kohima, Tuensang
Tamil Nadu	Chennai, Namakkal, Tiruchirappalli, Theni, Erode, Tirunelveli

The India study is unique due to its large sample size – over 8,000 households were interviewed. For a state-level analysis, 400 HIV-HHs were required. Households were selected from both rural and urban areas. However, urban HIV-HHs were overrepresented in the sample.

Sampling consisted of two primary sampling units:

- HIV-HH
- NA-HH

Due to confidentiality, a list of PLHIV was not available from which to draw a sample of HIV-HHs. Some HIV-HHs were interviewed in their homes while others were interviewed at alternative locations, such as Voluntary Counselling and Testing Centres (VCTCs). A total of 2,068 HIV-HH and 6,224 NA-HH were surveyed, including 2,386 PLHIV.

TABLE 6 Distribution of Surveyed Households in India, by Province

State	No. of HIV-HH Sampled			No. of NA-HH Sampled		
	Rural	Urban	Total	Rural	Urban	Total
Andhra Pradesh	189	211	400	528	718	1,246
Karnataka	199	202	401	580	622	1,202
Maharashtra	147	256	403	439	769	1,208
Tamil Nadu	223	187	410	650	553	1,203
Manipur	81	173	254	232	529	761
Nagaland	51	149	200	174	430	604
Total no. HH	890	1,178	2,068	2,603	3,621	6,224
No. of PLHIV interviewed	1,045	1,341	2,386	-	-	-

Selection of HIV-affected Households

As a list of PLHIV was not available from which to make a sampling frame, other methods were used to identify HIV-HHs. Investigators enlisted the help of VCTC staff who identified PLHIV through various NGO and government lists for home-based care and support homes, including general hospitals, tuberculosis hospitals, support home care, drop in VCTCs, and Networks of Positive Peoples. Since the majority of these facilities are located in urban areas, urban HIV-HHs are overrepresented in this study. Rural HIV-HHs were also much less likely to give consent for the study, thus increasing the urban bias. A maximum of two PLHIV were interviewed from each HIV-HH.

Selection of Non-affected Households

For every HIV-HH interviewed, three NA-HHs were interviewed. This ratio was used in an effort to reduce variation among NA-HHs as well as to conserve resources. In rural areas, a simple random sample of NA-HH was drawn from a village household list. In urban areas, a simple random sample was drawn from blocks of 100 homes. Matching of NA-HHs to HIV-HHs was done through (1) overall household income and (2) income of the head of household. Respondents were restricted to adults aged 20 to 60.

Selection of PLHIV for Case Studies

For the purpose of the case studies, PLHIV with 'unique/typical' cases were selected for the in-depth interviews. Two or three case studies were conducted in each district and respondents were selected with the help of the investigators, local NGOs, and key informants.

Survey Design

Quantitative data were collected through household surveys using structured interviews. The survey instruments were developed by National Council for Applied Economic Research (NCAER), UNDP and the National AIDS Control Organisation. Qualitative data were collected through case studies and focus groups. Enumerators interviewed PLHIV with semi-structured in-depth interviews designed to allow respondents to speak openly about issues. A total of six focus groups were conducted as part of this study – one in each state. Participants were selected through the Network of Positive Peoples, and discussion encompassed the social and economic problems faced by network members, as well as the legal and other issues. All qualitative data is meant to support the household survey.

Limitations

Difficulty in obtaining a list of PLHIV from which to create a sampling frame was the fundamental weakness of this study. Other limitations are as follows:

- (i) Non-probability sampling of HIV-HHs does not allow for statistical inferences on population parameters or other estimates.
- (ii) HIV-HHs were oversampled in urban areas due to cost-effectiveness – a possible source of selection bias.
- (iii) Since PLHIV were recruited through public health facilities, investigators were not able to sample many middle and upper class HIV-HHs since these facilities typically cater to low-income people.

- (iv) The study was conducted six months after the government began to provide ART services. The data should therefore be interpreted as a baseline for that point in time, and not representative of the current situation in India.

Indonesia

The study on the *Socio-Economic Impact of HIV at the Individual and Household Levels in Indonesia* (UNDP, 2011) aimed to describe the impact of HIV on the socio-economic condition of PLHIV and their households in Indonesia. The study was conducted from April through May 2009 by the Central Bureau of Statistics (BPS) and UNDP in collaboration with the Indonesian Network of People Living with HIV (JOTHI) and included a total of 2,038 households.

Methodology Details

Data were collected at both the household and the individual level in two low prevalence provinces (West Nusa Tenggara and East Nusa Tenggara) and five high prevalence provinces (DKI Jakarta, East Java, Bali, and Papua). With the exception of DKI Jakarta, East Java and Papua, data were collected only in the provincial capitals. The table below shows the selected research location for both the survey and the in-depth interviews and focus groups.

The sample size was determined using the quote method based on the number of estimated HIV cases in each province.

Sampling consisted of three primary sampling units:

- HIV-HH
- NA-HH
- PLHIV

Within this context, HIV-HH refers to households with at least one member living with HIV. NA-HH refers to households where no family members have been diagnosed with HIV. As HIV-HHs were the primary target of the investigation, NA-HHs served as controls. Core questionnaires were administered to all selected households. In addition to the core questionnaire, HIV-HHs also answered the HIV module questionnaire. To gain further insight into socio-economic behaviours associated with HIV, PLHIV provided additional information missing from the core and HIV household questionnaires. Some of the PLHIV from the HIV-HHs were selected to participate in the in-depth interviews.

Selection of HIV-affected Households

A non-probability convenience sample was used to select HIV-HHs. Since a comprehensive list of PLHIV was unavailable, study leaders recruited UN volunteers through JOTHI's networks to identify PLHIV. The PLHIV were then approached to determine if they were willing and able to complete the HIV module questionnaire. If their households were also available and willing to be interviewed with the core questionnaire then the households were selected as samples.

Selection of Non-affected Households

Study leaders aimed to find control households with similar socio-economic characteristics to HIV-HHs. The research team searched for NA-HHs immediately following visits to selected HIV-HHs by observing neighbouring households. Households deemed most similar to the HIV-HH in terms of comparative indicators, including the condition of the homes, were selected as control households.

Selection of PLHIV for In-depth Interviews

Each enumerator was required to conduct at least four in-depth interviews. PLHIV were selected from interviewed HIV-HHs. Interviewers chose their own respondents. However, workers were asked to choose participants based on (1) complexity of their problems; and (2) composition of respondents by gender and high risk groups. An enumerator assessed a respondent's suitability for an in-depth interview immediately after administration of the HIV module questionnaire. Selected PLHIV then continued with the in-depth interview.

Survey Design

Quantitative data were collected through household surveys. The survey consisted of the two parts, and additional qualitative data were collected through in-depth interviews and focus groups. The focus group discussions involved informal discussions with community leaders, members of NGOs, PLHIV groups, officials of government agencies associated with HIV prevention, and other stakeholders. Discussions focused on factors relating to the socio-economic impact of HIV at the household level, including access to health services, stigma and discrimination. BPS and JOTHI jointly designed the survey instruments. The questionnaires were then

field tested in Bandung City, and West Java Province. Collaboration between BPS and JOTHI continued through the finalization of the questionnaires.

Limitations

Difficulties in obtaining a list of PLHIV from which to create a sampling frame was the primary limitation of this study. Other limitations included:

- Non-probability sampling does not allow for statistical inferences on population parameters or other estimates.
- The identification of HIV-HHs through the JOTHI network created a study population that consisted of a greater percentage of HIV-HHs involved in HIV activism than would normally be reflected in the Indonesian population. This is a possible source of selection bias.
- By selecting PLHIV with "complex problems" and association with high risk groups, the data collected through the in-depth interviews may not be representative of the challenges faced by the typical PLHIV in Indonesia.

Viet Nam

The study on the *Socio-economic Impact of HIV and AIDS on Household Vulnerability and Poverty in Viet Nam* aimed to assess the socio-economic impact of HIV and AIDS on households. The study also provides recommendations on how the country should mitigate the impact of HIV at the household level through lessons learned, international best practices, and identifying areas for further research. The study was conducted from November through December 2008 by Strategic Consulting Company in consortium with Medical Committee Netherlands - Viet Nam, and included a total of 904 households.

Methodology Details

Data were collected at both the household and individual levels in six high prevalence provinces (HCMC, Hanoi, Quangninh, Langson, Cao bang and Angiang).

TABLE 7 Survey Locations in Indonesia

Provinces	Selected Locations for the Household Questionnaires	Selected Locations for Activities of In-depth Study and FGD
DKI Jakarta	South Jakarta City	Central Jakarta
	East Jakarta City	
	Central Jakarta City	
	West Jakarta City	
	North Jakarta City	
West Java	Bandung City	Bandung City
East Java	Surabaya City	Surabaya City
	Malang City	
Bali	Denpasar City	Denpasar City
West Nusa Tenggara	Mataram City	Mataram City
East Nusa Tenggara	Kupang City	Kupang City
Papua	Jayapura City	Jayapura City
	Merauke City	

TABLE 8 Distribution of Surveyed Households in Indonesia, by Province

Provinces	Number of Sample Households			
	Number of AIDS Cases	Target Households	Control Households	Total
DKI Jakarta	2,781	280	280	560
West Java	2,888	197	197	394
East Java	2,591	211	211	422
Bali	1,177	56	56	112
NTB	80	25	25	50
NTT	110	25	25	50
Papua	2,382	225	225	450
Total		1,019	1,019	2,038

TABLE 9 Survey Locations in Viet Nam

Province/city	Urban	Sub-urban/rural
Hanoi	Dong Da	Tu Liem
Quangninh	Ha Long	Yen Hung
Langson	TP Lang Son	Cao Loc
HCMC	District 1,8, Binh Thanh and Go Vap	Binh Tan and Thu Duc
Cao Bang	Cao Bang	Hoa An
Angiang	Long Xuyen	Chau Thanh, Chau Phu

This study used a three-stage sampling methodology. First, the provinces were selected. Three of the sites were included in the 2005 HIV study, and additional sites with relatively newer HIV epidemics were added (Langson and Cao Bang) to the 2008 study. In addition to having sites at various stages of the epidemic, the sites represent a mix of rural and urban populations. The second stage involved the selection of urban and rural or sub-urban districts from each province based on high prevalence and diversity of the districts. The third stage involved sampling the households.

TABLE 10 Distribution of Surveyed Households in Viet Nam by Province

Province/city	Reported HIV infections	Sampled HIV-HHs	Sampled NA-HHs
Hanoi	12,628	77	77
Quangninh	6,217	38	38
Langson	2,575	30	30
HCMC	38,245	234	234
Cao Bang	1,928	30	30
Angiang	6,938	43	43
Total	68,531	452	452

The total sample size was calculated using the formula developed for case-control studies by the WHO (SSize software) allowing for sufficient power to detect differences in poverty rate among HIV-HHs and NA-HHs.

Sampling consisted of two primary sampling units:

- HIV-HH
- NA-HH

Here, an HIV-HH was defined as a dwelling in which at least one member was known to have HIV or to have died of AIDS less than a year prior to the start of the study. A NA-HH was defined as a household where, as far as could be determined, no member was known to have HIV, tuberculosis or pneumonia.

Selection of HIV-affected Households

While a list of PLHIV was available at health facilities, the research team did not use the list as a sampling frame due to confidentiality issues. As a result, the study is based on a non-probability sample. The field investigators working with the Viet Nam PLHIV Network and volunteers from GIPA worked with self-help groups to identify PLHIV. Subjects known to be HIV positive were referred by peer groups. Willing participants were asked to take part in the study. Field investigators attempted to include PLHIV at differing stages of infection, as well as match the nationwide 2:1 male to female ratio among PLHIV. Each HIV-HH was limited to two adult PLHIV informants.

Selection of Non-affected Households

For every HIV-affected household selected, one non-affected household was selected as a control - usually the closest neighbour of the HIV-affected household. This method attempted to pair houses with similar characteristics, other than the HIV status of household members. Staff at the commune health station or at the Women's Union at commune level helped to identify households that had similar economic and social status (type/quality of accommodation and number of family members) to the HIV-HH. Heads of non-affected households were restricted to adults aged 20-60 years.

Selection of PLHIV for In-depth Interviews

A total of 36 in-depth interviews were completed nationwide – a total of six per province (one male, one female, and one head of household interview in both rural and urban areas in each province). Semi-structured interviews covered all major themes within the household questionnaire, while allowing for new themes to emerge, based on researcher and/or interviewee input.

Survey Design

Quantitative data were collected through household surveys. Focus group discussions were conducted at national and provincial level. These involved stakeholders in HIV prevention, treatment, care and support, including service providers, program managers, communities and mass organizations, PLHIV, (I)NGO, activists, researchers, and members of the HIV Technical Working Group. The research tools included structured questionnaires for HIV-affected and non-affected households, and guidelines for in-depth interviews and focus group discussions. The household survey instrument was adapted from the survey used in the 2005 study with additional inputs from the questionnaires used in the China and India UNDP HIV studies. The questionnaire was drafted in English, translated into Vietnamese, and piloted for cultural appropriateness.

Limitations

As in other countries, difficulties in obtaining a list of PLHIV from which to create a sampling frame is the primary weakness of this study. Other limitations are as follows:

- (i) Non-probability sampling does not allow for statistical inferences on population parameters or other estimates.
- (ii) Households containing family members who had pneumonia or TB were excluded from NA-HH eligibility. This is a potential source of selection bias.
- (iii) By selecting PLHIV with “complex problems” and association with high risk groups, the data collected through the in-depth interviews is not likely to be representative of the challenges faced by the typical PLHIV in Indonesia.



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HIV, Health and Development Programme for Asia and the Pacific
UNDP Asia-Pacific Regional Centre
United Nations Service Building, 3rd Floor Rajdamnern Nok Ave.
Bangkok 10200, Thailand

Email: aprc@undp.org
Tel: +66 (2) 304-9100
Fax: +66 (2) 280-2700
Web: <http://asia-pacific.undp.org/practices/hivaids/>