

Impact of HIV and AIDS on education in the Greater Mekong Sub-Region

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Impact of HIV and AIDS on education

Addressing the impact of HIV and AIDS on education can present a complex challenge for governments. It remains an area that is under-represented in national strategic responses (Kelly, 2000).

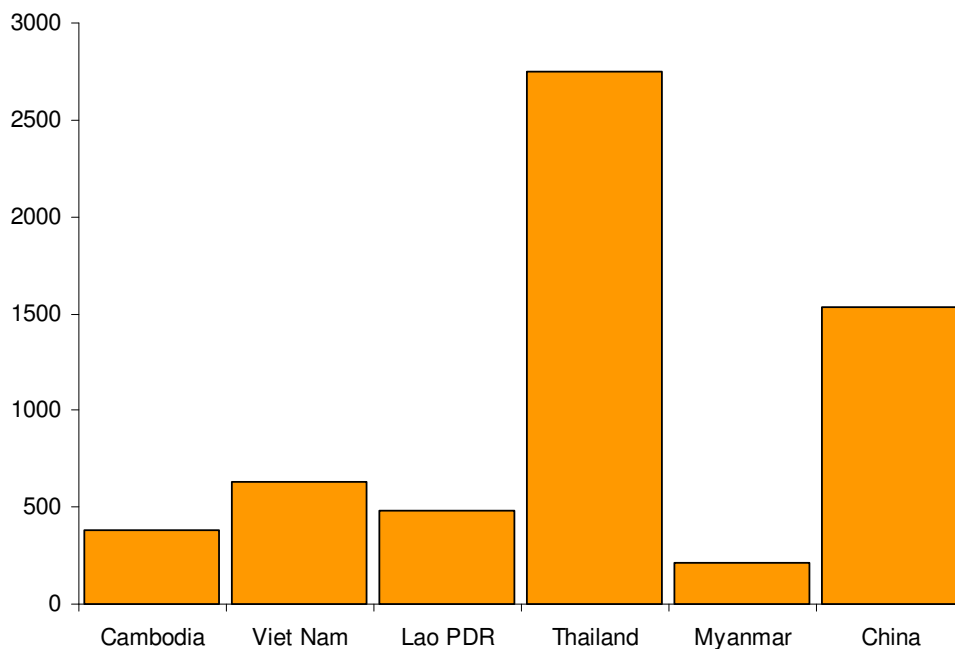
The effects of the epidemic on social institutions, such as schools, are initially sporadic or hard to detect. However, as the epidemic progresses, the impact becomes more pronounced. For example, many sub-Saharan African countries are experiencing high levels of illness and death, orphaning and loss of key household and community members. In these contexts, the impact of HIV and AIDS on the functioning of the education system is considerable. The HIV epidemic in GMSR not as well-established as in sub-Saharan Africa, but prevalence in some areas is increasing rapidly.

The HIV epidemic in the GMSR

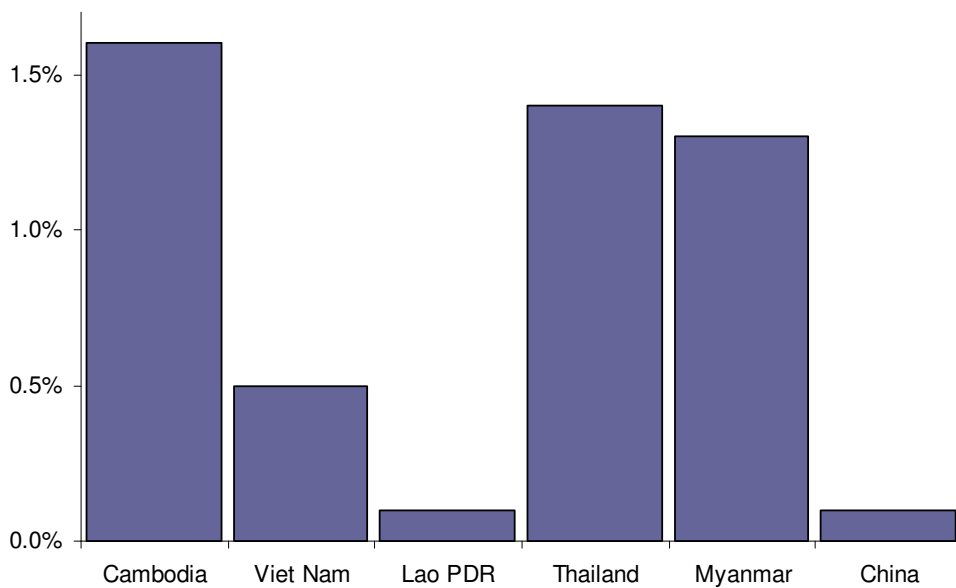
The GMSR region is epidemiologically and sociodemographically diverse, with large disparities in both per capita GDP and HIV prevalence by country (figure 1). More men than women are infected in this region (figure 2), reflecting that the spread of the disease is still largely confined to high-risk groups which in total comprise more of men than of women (sex workers and their clients; intravenous drug users (IDU); and men who have sex with men (MSM)). In Cambodia, Myanmar, Viet Nam and Thailand, HIV is transmitted primarily through heterosexual contact largely between sex workers and their clients. In Thailand, it is thought that MSM were an important initiator of the epidemic, whereas in most other countries, the epidemic was probably initiated by IDU.

HIV infection is exceptionally low in Lao PDR and China, although Yunnan has one of the highest prevalences in the country. It is believed that IDU are exceptionally rare in Lao PDR and that most infections are acquired from heterosexual contact abroad. Yunnan was the site of the first major Chinese HIV outbreak, and infections here and throughout China are increasing rapidly from a low level. These outbreaks first occurred among IDU, who may also have been sex workers, from whom the infection spread into sex workers' clients and then to other sex workers (figure 3).

GDP per capita (2005)¹



b. Adult (15-49) HIV prevalence (2005)²



¹ Source: UN Statistics Division (accessed 3/3/2007)

² Source: UNAIDS (2006 revision)

Figure 1 a. GDP per capita and b. HIV prevalence in 2005 in the six countries which comprise the Greater Mekong Subregion.

Estimated HIV Prevalence in 2007 by gender in higher prevalence GMSR countries

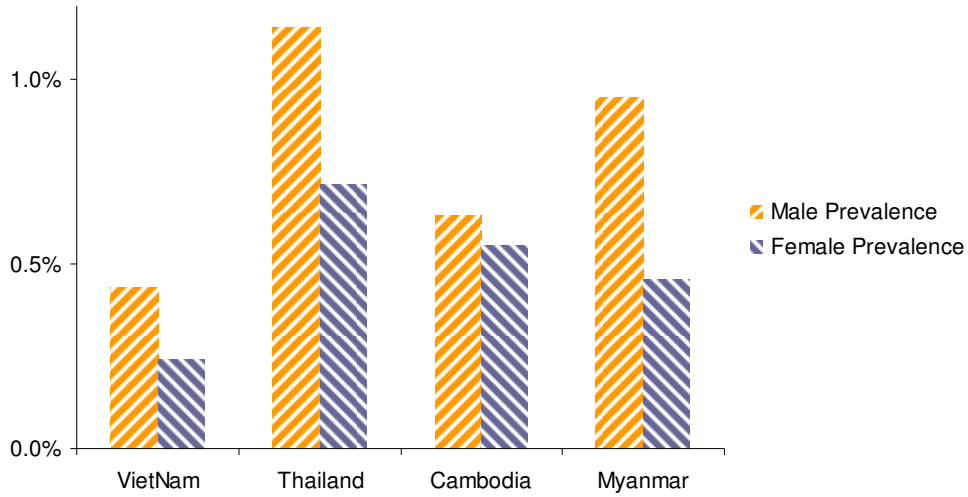


Figure 2. 2007 population prevalence by gender in Cambodia, Viet Nam, Myanmar and Thailand (estimated using UNAIDS methods)

HIV prevalence among risk groups in Yunnan

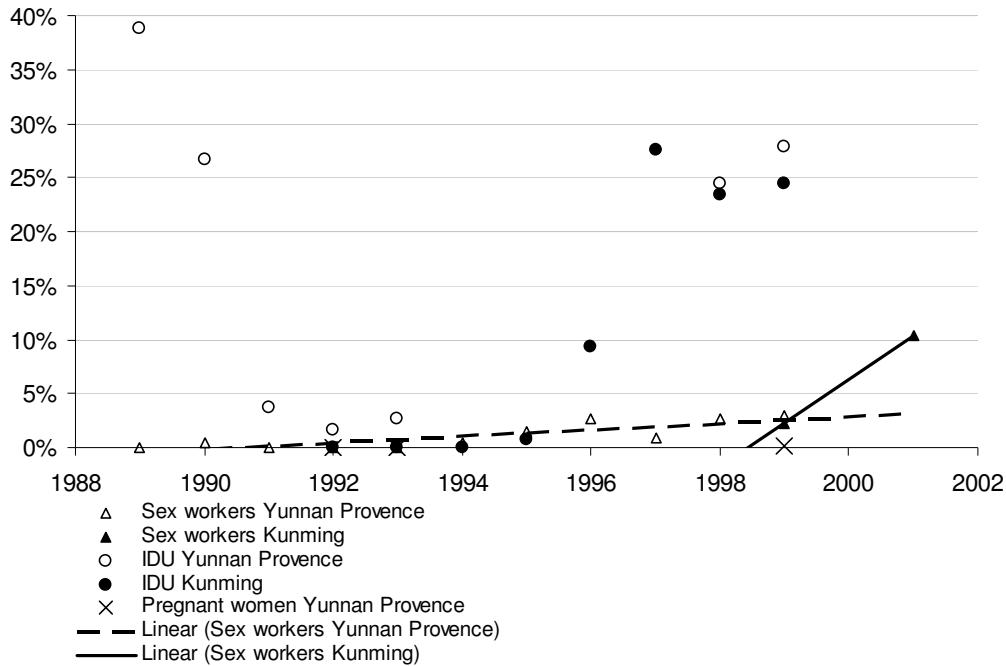


Figure 3. Increasing Prevalence in Yunnan Province, China among sex workers and pregnant women, seeded by early outbreaks among IDU. Data from UNAIDS/WHO epidemiological fact sheets on HIV/AIDS and Sexually Transmitted Infections, 2004 Update.

The interaction between HIV and education

The response to HIV and AIDS has often been considered to be the sole preserve of the health sector. Nowadays, the education sector is recognized to have a major role to play in efforts to control the disease. School children are perceived as the “window of hope” (World Bank, 2002) for the future because they have the lowest rate of infection of any age group and can be kept free of infection by the “social vaccine” of a good education. On the other hand, the HIV epidemic is damaging the education systems, which can provide the “social vaccine” and promote good health and nutrition of school age children. In countries with generalised epidemics, AIDS kills teachers, increases rates of teacher absenteeism, and increases the numbers of orphans and vulnerable children who are less likely to attend school and more likely to drop out. Girls are especially at risk from becoming infected and affected by HIV because of their socio-economic and physiological situation. Thus a paradox is apparent: education can prevent HIV infection, but HIV and AIDS damages, and has the potential to destroy, the system delivering this prevention. Understanding the likely consequences of HIV infection and AIDS on the education sector is a critical first step towards planning for and thereby mitigating their impact.

Impact of HIV on education in the GMSR

Profile of teachers and pupils in the GMSR

Little information is known about the age of teachers in the GMSR region. In two countries (Cambodia and Lao PDR), there is a preponderance of male teachers, while in three (Vietnam, Thailand, and Myanmar), teachers are mostly female. China as a whole has approximately the same number of male and female teachers. Given the greater prevalence of HIV among males than among females in the region, the countries with an excess of male teachers may be more vulnerable to HIV's impact on education.

With the exception of Cambodia, with a 2004 pupil-teacher ratio (PTR) of 55, GMSR regions have exceptionally low PTRs, ranging from 21-32 (table 1). If a PTR increase is allowable, countries can achieve 100% enrolment (which they are currently not far from) and absorb any losses of teachers due to HIV without training additional teachers. The analyses which follow assume that teacher numbers are maintained; i.e. teachers lost due to AIDS deaths and other causes are replaced by newly trained teachers.

	Pupil-teacher ratio (2004)	% teachers who are female (2004)	Enrolment
Cambodia	55	41%	98 (2004)
Viet Nam	23	78%	93 (2002)
Lao PDR	31	45%	84 (2004)
Thailand	21*	58%*	97 ⁺
Myanmar	32	80%	87 (2004)
China	21	53%	99 (1997)

Table 1. Educational indicators of GMSR countries. Source: UNESCO Institute for Statistics. *data for 2003 ⁺2005 Gross enrolment. Gross enrolment typically 10-20% higher than net enrolment in other GMSR countries.

The impact of HIV and AIDS on education

The impact of HIV and AIDS is currently divided into three interrelated categories (Kelly, 2000). These are the impact on:

- the demand for education;
- the supply of education; and
- the quality of education.

The demand for education

A significant impact is evidenced in the increase of child vulnerability in terms of those orphaned and affected by HIV and AIDS. In the GMSR, the estimated number of AIDS orphans in 2007 is 674,300, while by 2015, the total is projected to increase to 712,700 in Cambodia, Lao PDR, Myanmar, Viet Nam and Thailand (source: UNAIDS projections). An increasing number of children are becoming infected by HIV, many of whom will have also experienced orphaning.

Additionally, the socio-economic impacts of HIV and AIDS include increases in household poverty that result in financial barriers to education (inability to pay fees, purchase uniforms, school materials and books, etc.) and opportunity costs when children may be called on to support household livelihoods; attitudinal impacts on participation in education, especially of those affected by HIV-related stigma and discrimination; and increased gender inequalities as girls are required to take on the responsibility for care of infected adults and affected siblings in the household.

The supply of education

The impact can be separated into quantity and quality effects (Figure 4).

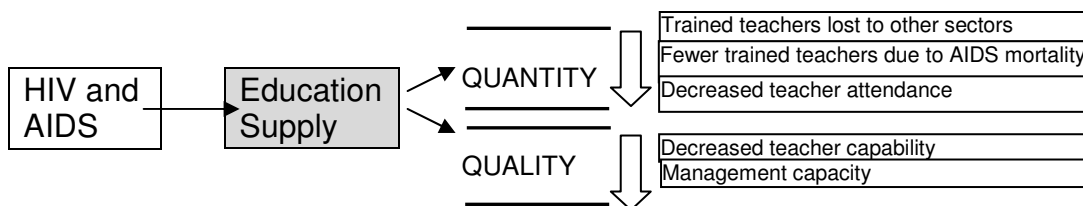


Figure 4 Quantity and quality effects of HIV and AIDS on education supply

The most crucial effect on the supply of education is the decreased availability of experienced teachers. Two key questions are, therefore: how vulnerable teachers are to HIV infection and what steps need to be taken to support prevention at all stages

Results of the estimation of the impact of HIV on education in the GMSR

Impact analyses were carried out using the Ed-SIDA model of the impact of AIDS on education (Grassly et al. 2003; World Bank/PCD 2006). The Ed-SIDA model was developed as a combination of standard education forecasting models and

best practice UNAIDS models for projecting the HIV/AIDS epidemic. It has been applied in some 20 countries in sub-Saharan Africa since 2001.

It assumes that by 2015, net enrolment is 100% and teacher recruitment is such that the pupil-teacher ratio is 40 or less. ART scenario can be varied to assess the impact of treatment on the impact of HIV on education. Unless otherwise stated, ART is kept at 2005 levels between 2006-2015.

The major data inputs into the model are presented in table 2.

Indicator	Country data is taken from for:				Source	Notes
	Cambodia	Vietnam	Thailand	Myanmar		
Teacher Age	East and Southern Africa				SACMEQ 2001	Costs are expressed in US\$ 2007 prices. Where costs are taken from other countries, they are scaled on GDP.
Recruit Age						
Primary school teachers	Cambodia	Vietnam	Thailand	Myanmar	UIS	
% female teachers	Cambodia	Vietnam	Thailand	Myanmar		
Net enrolment	Cambodia	Vietnam	Thailand	Myanmar		
Gross enrollment	Cambodia	Vietnam	Thailand	Myanmar		
Pupil-teacher ratio	Cambodia	Vietnam	Thailand	Myanmar		
School-age population	Cambodia	Vietnam	Thailand	Myanmar	UNPD	
HIV Prevalence by age and gender	Cambodia	Vietnam	Thailand	Myanmar	UNAIDS	
Probability of AIDS deaths in HIV positives	Cambodia	Vietnam	Thailand	Myanmar		
Proportion of HIV positive teachers needing ART	Cambodia	Vietnam	Thailand	Myanmar		
Proportion of teachers needing ART who are receiving it	Cambodia	Vietnam	Thailand	Myanmar		
GDP per Capita(2000\$)	Cambodia	Vietnam	Thailand	Myanmar	UNSD	
Teacher Salary	Cambodia	Vietnam	Thailand	Myanmar	IIEP; other	
Cost of teacher training	Vietnam				IIEP	
Funeral expenses	Thailand				Web source	
Cost of ensuring education for OVC	Calculated cost of ensuring access in any country				Bruns and Mingat (2003)	
Cost of ART	Cambodia	Vietnam	Vietnam	Vietnam	UNAIDS	
Cost of VCT	Cambodia	Cambodia	Thailand	Thailand	FHI	

Table 2 Data inputs into the model by country.

Impacts were calculated on the number of HIV positive teachers and the number of expected AIDS deaths; and costs in 2007 and 2015 for the median prevalence scenario, in Cambodia, Viet Nam, Thailand and Myanmar for a scenario where ART use remains at 2005 levels (Figure 5). It can be seen that although HIV prevalence and AIDS deaths has peaked among teachers in these countries, both the number of cases and the number of deaths is currently rising slowly. In total, AIDS will claim the lives of around 8,000 teachers in the region to 2015, and in 2015, 6000 teachers will be HIV positive. If greater efforts are made to put

teachers on ART, fewer teachers will die and consequently more teachers will be HIV positive.

The potential impact of HIV on education in Yunnan is unknown as the prevalence is rising rapidly from a very low level, and the future of the epidemic is uncertain. The prevalence in Lao PDR remains at low levels and the impacts here are not likely to be great, although with neighbouring countries of high prevalence, vigilance is advised.

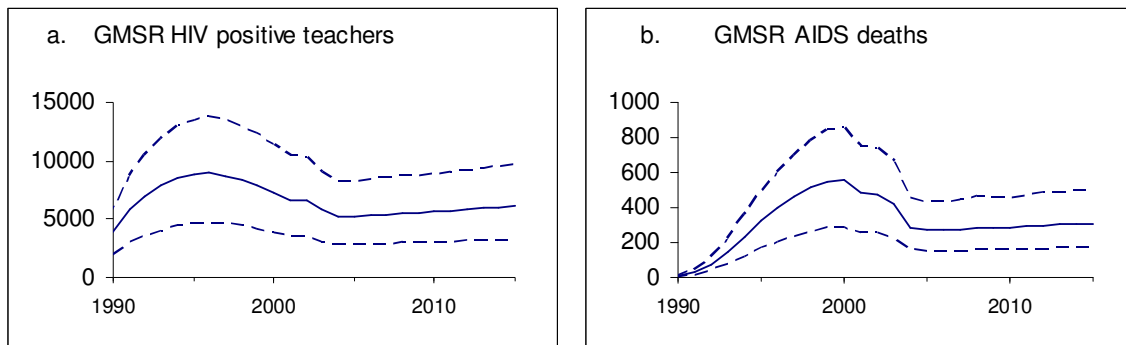


Figure 5 a. Projected HIV positive teachers and b. teacher AIDS deaths in Cambodia, Viet Nam, Thailand and Myanmar from 1990 – 2015 (data are combined). Solid line represents median prevalence scenario; dotted lines represent high and low prevalence scenarios.

Some costs of HIV to education that are or could be borne by the ministries of education in GMSR countries in 2007 and 2015 are presented in figure 6. The overall cost in 2015 (9.6 Million US\$, 2007 prices), is greater than that in 2007 (\$5.8 Million) mainly due to the increased prevalence and AIDS deaths in 2015.

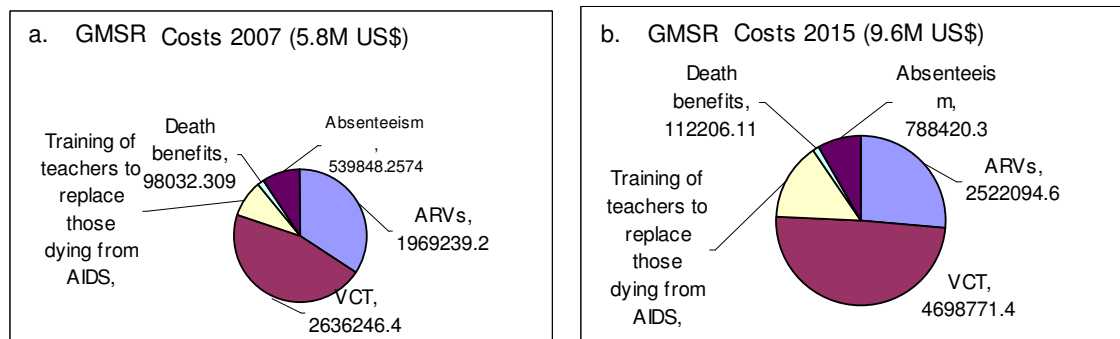


Figure 6. Projected costs of AIDS of education supply in a. 2007 and b. 2015 to the Ministries of Education in Cambodia, Viet Nam, Thailand and Myanmar for a median prevalence scenario. (US\$; 2007 prices). Costs enumerated: Costs of training new teachers to replace those dying of AIDS; Death benefits (cost of funeral grants to families of deceased teachers); Costs of absenteeism (costs of paying supply teachers an average teacher salary to cover for a teachers absent due to AIDS); ARVs for teachers maintained at 2005 levels of coverage and VCT for teachers annually at the same level of coverage as for VCT.

Conclusion

HIV and AIDS might have a noticeable impact on the supply of education in the GMSR, particularly in terms of cost if ministries have a responsibility to train new teachers and provide care and support for teachers infected with HIV. It is critical that a thorough analysis is made at the country level to allow disparities between countries to be accounted for. Multisectoral strategies need to be developed that support the three pillars of an effective response: 1) prevention of HIV transmission; 2) care and support for those who are infected or affected (including provision of ART); and 3) management of the systemic and institutional impacts so as to mitigate negative effects. It is time to make a comprehensive impact assessment in order to mitigate the negative effects on education delivery in the future.

Abbreviations

ART:	Antiretroviral Therapy
IIEP:	International Institute for Educational Planning
FHI:	Family Health International
IDU:	Intravenous Drug Users
MSM:	Men who have Sex with Men
PCD:	Partnership for Child Development
UIS:	UNESCO Institute for statistics
UNDP:	United Nations Population Division
UNSD:	United Nations Statistics Division
VCT:	Voluntary Counselling and Testing

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