



**SAARC Tuberculosis and HIV/AIDS Centre**

**HIV/AIDS in the SAARC Region  
An Update 2007**

**SAARC Tuberculosis and HIV/AIDS Centre (STC)**

(Thimi, Bhaktapur)

P. O. Box No. 9517, Kathmandu, Nepal

Tel: 00977-1-6631048, 6632477, 6632601

Fax: 00977-1-6634379

E-mail: [saarctb@mos.com.np](mailto:saarctb@mos.com.np)

Website: [www.saarctb.com.np](http://www.saarctb.com.np)

# 1. HIV and AIDS IN THE SAARC REGION-

## An Update 2007

### Introduction

The South Asian Association for Regional Cooperation (SAARC) comprises Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka. SAARC is a manifestation of the determination of the people of South Asia to work together towards finding solutions to their common problems in a spirit of friendship, trust and understanding and to create an order based on mutual respect, equity and shared benefits.

SAARC Tuberculosis (TB) and HIV/AIDS Centre (STC) is one of the Regional Centres of SAARC, located in Kathmandu, Nepal. The Heads of State or Government of Member Countries of SAARC at their Fifth Summit held in Male from 22 to 23 November 1990 decided that SAARC Tuberculosis Centre would be set up in Nepal. It was established in 1992 and became fully functional in 1994. The initial mandate of the centre was to work for prevention and control of TB & HIV related TB in the Region. But later on its mandate has been extended to work for prevention & control of HIV/AIDS and TB/HIV co infection in the Region. Now, the centre has been working for prevention and control of TB and HIV/AIDS in the Region by coordinating the efforts of the National Tuberculosis Control Programs (NTPs) and National AIDS Control Programs (NACPs) of Member States. The Centre has been renamed as **SAARC TB & HIV/AIDS centre** in November 2005.

One of the main functions of this centre is to collect, collate, analyze and disseminate latest relevant information in the field of TB and HIV/AIDS control in the region and elsewhere. In this regard the Centre has started to prepare and publish annual **SAARC Regional Epidemiological Reports on HIV/AIDS (& TB)** since 2003. This particular report is on the HIV & AIDS situation in the SAARC region and is the fourth one of its kind.

The global HIV epidemic has emerged as a formidable challenge to public health, development and human rights. Sub-Saharan Africa continues to bear the burnt of the global epidemic. South –East Asia with an estimated 7.2 million PLHIV has the second highest burden of HIV in the world following sub-Saharan Africa. SAARC member states bear the problem most. (Source: Global-AIDS epidemic, update Dec 2006 UNAIDS)

The SAARC Member States with varied epidemiological patterns of human immunodeficiency virus (HIV) infection and acquired immunodeficiency syndrome (AIDS). In spite of different predominant HIV risk behaviors in the region, it has extremely diverse capabilities to develop and support public health prevention and control programmes. In reviewing the current epidemiology of HIV and AIDS within the SAARC region, this diversity needs to be fully addressed and defined. Despite of these diversities, Member States are committed to take joint actions and contain HIV and AIDS epidemic.

The HIV epidemic has had a variable impact in countries in the region. HIV epidemic is in different stages in each country. Six states of India reporting generalized HIV epidemics, Nepal reporting concentrated epidemics. In other countries HIV epidemic reported to be low. Given the large numbers of HIV infected persons and high rates of TB transmission and latent TB infection, HIV related TB is a major concern for the Region.

Through implementation of pilot basis surveillance systems for HIV prevalence, as well as sexual and injecting risk behaviors study by some Member States, understanding of the many diverse HIV epidemics and their determinants in this region has improved substantially. Still now overall HIV prevalence in the SAARC Member States remains low, but there are major public health concerns regarding the future growth potential of HIV epidemic within the region.

The HIV epidemic is heterogeneously distributed within the region and within countries. Some countries are more affected than others and at country level there are variations in infection levels between different provinces, states or districts and between urban and rural areas. Actually the national picture is made up of a series of epidemics with their own characteristics and dynamics.<sup>1</sup> However, in last two years, the most striking increases have occurred in East Asia as well as in Central Asia with new HIV infections concentrated among young people (15-24 years). Therefore, the future course of this epidemic hinges on the behaviors of young people. (Source: Global-AIDS epidemic, update Dec 2006 UNAIDS)

This report presents an overview of the HIV pandemic and a more detailed description of its epidemiology within the SAARC region. In addition, this report also contains Progress in HIV/AIDS control in the region, impact of HIV and AIDS and contribution of STC towards control of HIV/AIDS in the region.

## 2. Global and Regional Situation of HIV and AIDS

### 2.1. Global HIV Epidemic

The global HIV epidemic has emerged as a formidable challenge to public health, development and human rights. In most of the countries affected by HIV, it has eroded improvements in life expectancy and mortality. In just 25 years, HIV has spread relentlessly from a few widely scattered "hot spots" to virtually every country in the world, infecting 65 million people and killing 25 million. Nearly twenty-five years of experience with HIV prevention and ten years of experience with effective antiretroviral therapy have produced mountains of evidence about how to prevent and treat HIV.

At end of 2006, an estimated 39.5 (34.1-47.1) million people around the world were living with HIV. The highest burden was in Sub Saharan Africa followed by South and South East Asia. An estimated 4.3 (3.4-6.2) million people acquired the HIV virus (infection) in 2006. More than 95% of these were in low and middle income countries. Of the estimated 37 million adults living with HIV worldwide nearly 18 million were women. Each day 11000 persons become newly infected. At end of 2006 an estimated 2.3 million children under 15 years were living with HIV. Cumulatively there are 16 million children orphaned world wide due to AIDS. More than 25 million people have died of AIDS since 1981.

(Source: HIV/AIDS in the South-East Asia region March 2007, WHO)

In many regions of the world, new HIV infections are heavily concentrated among young people (15-24 years of age). Among adults 15 and older young people accounted for 40% of new infections in 2006.

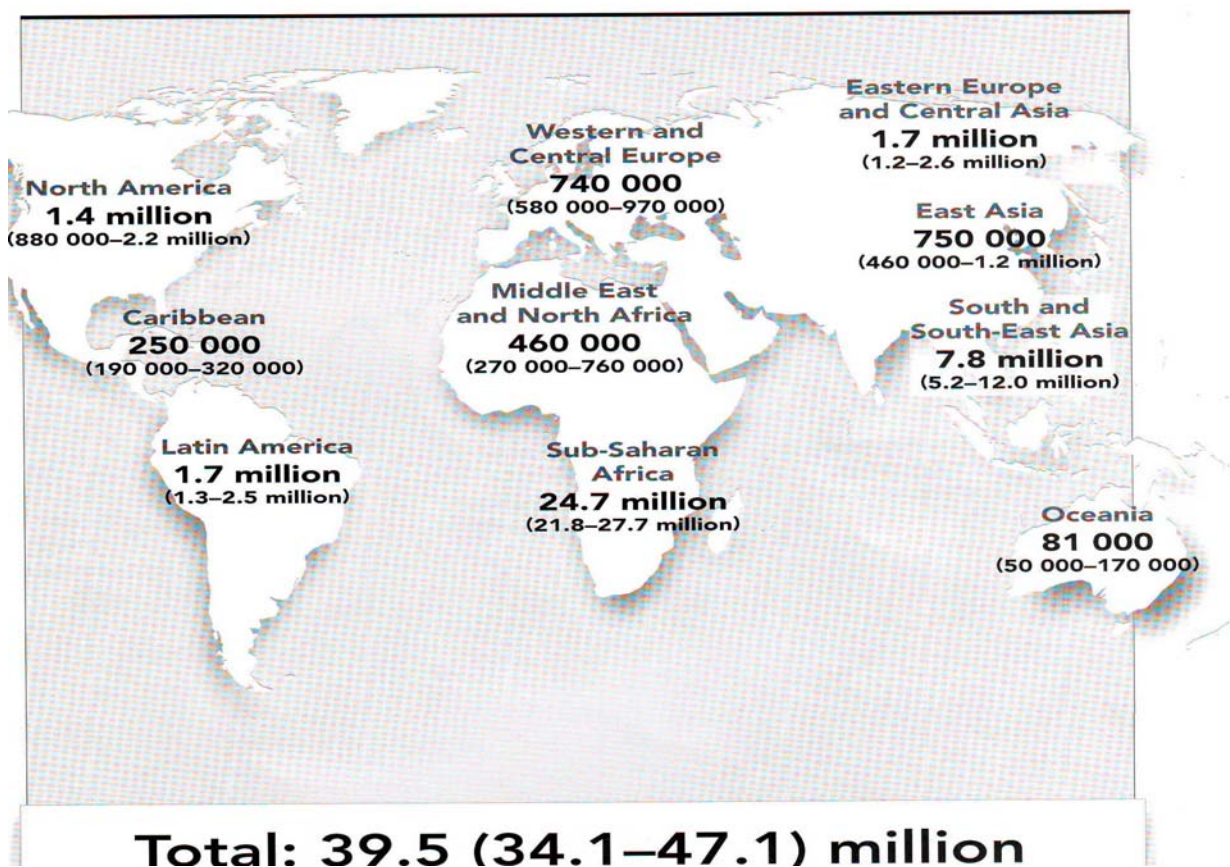
In most countries with generalized epidemics and repeated surveys there are some positive trends in young people's sexual behaviors. The future course of world's epidemic hinges in many respects on the behaviors young people adopt and contextual factors that affect those choices.

(Source: Global-AIDS epidemic, update Dec 2006, UNAIDS)

The epidemic remains extremely dynamic, growing and changing character as the virus exploits new opportunities for transmission. There is no room for complacency anywhere. Virtually no country in the world remains unaffected. Overall, the HIV incidence rate (the proportion of people who have become infected with HIV) is believed to have peaked in the late 1990s and to have stabilized subsequently, notwithstanding increasing incidence in several countries.

The number of people living with HIV continues to rise, despite the fact that effective prevention exists. All the estimates using the following table and also in this report are based on updated estimation methodologies and the latest available data unless otherwise mentioned. According to latest estimates the total number of people living with HIV, globally, are shown in table 1.

## ADULTS AND CHILDREN ESTIMATED TO BE LIVING WITH HIV IN 2006



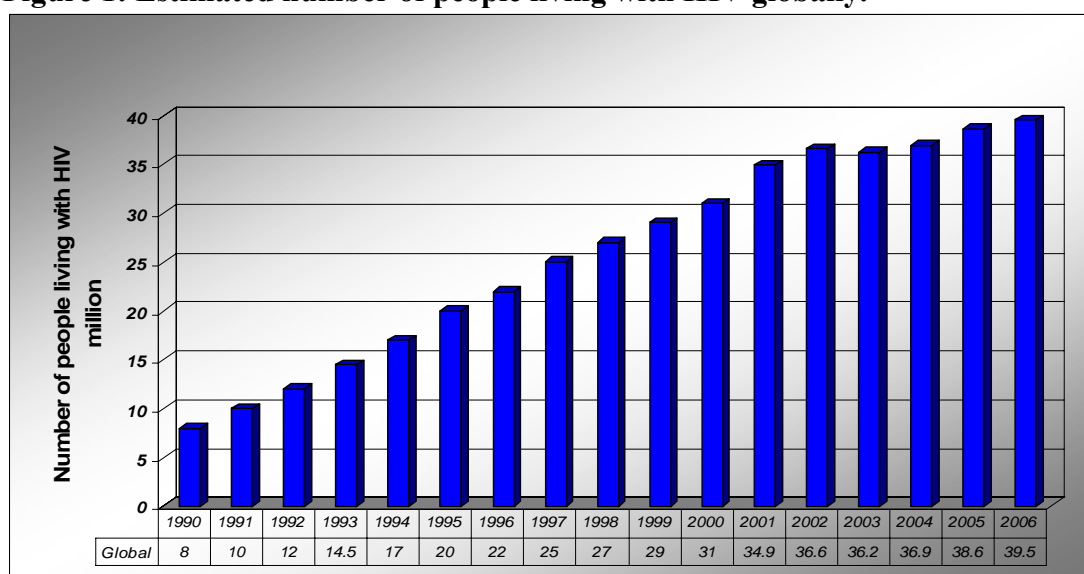
**Table 1: Global HIV/AIDS estimates, end of 2006**

<b>People living with HIV/AIDS in 2006</b>	39.5 million	34.1-47.1 million
<b>Adults living with HIV/AIDS in 2006</b>	37.2 million	32.1-44.5 million
<b>Women living with HIV/AIDS in 2006</b>	17.7 million	15.1-20.9 million
<b>Children living with HIV/AIDS in 2006</b>	2.3 million	1.7-3.5 million
<b>People newly infected with HIV in 2006</b>	4.3 million	3.6-6.6 million
<b>Adults newly infected with HIV in 2006</b>	3.8 million	3.2-5.7 million
<b>Children newly infected with HIV in 2006</b>	0.53 million	0.41-0.66 million
<b>AIDS deaths in 2006</b>	2.9 million	2.5-3.5 million
<b>Adult AIDS deaths in 2006</b>	2.6 million	2.2-3.0 million
<b>Child AIDS deaths in 2006</b>	0.38 million	0.29-0.50 million

(Source: Global-AIDS epidemic, update Dec 2006 UNAIDS)

More than 25 million people have died of AIDS since 1981.

**Figure 1: Estimated number of people living with HIV globally.**



(Source: Global-AIDS epidemic, update Dec 2006 UNAIDS)

## 2.2 Regional Variations:

Almost 25 million people are living with HIV in Sub Saharan Africa-63% of all persons with HIV globally. The epicenter of HIV epidemic is southern Africa accounting for one third of people living with HIV globally.

In Asia national HIV infection levels are highest in South-East Asia with an estimated 7.2 million PLHIV the second highest burden of HIV in the world following Sub-Saharan Africa (Table 2)

In the Middle East and North Africa region, Sudan has the largest epidemic. In the Caribbean Region HIV prevalence has either stable or is decreasing.

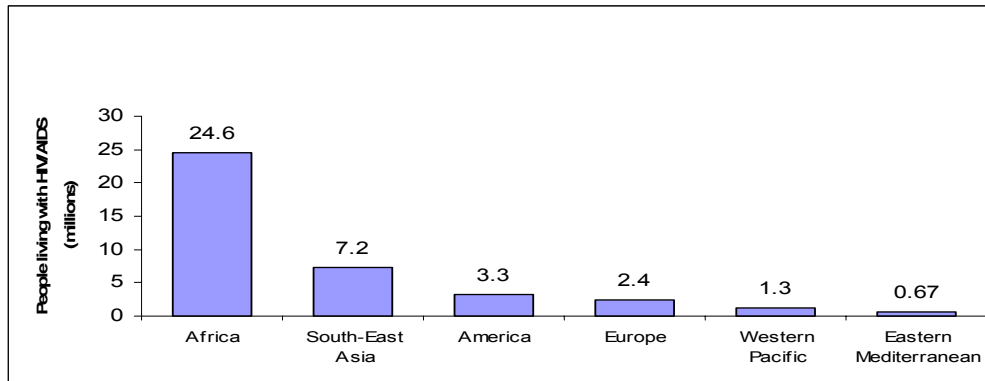
In Latin America HIV Epidemic has remained essentially stable.

The HIV epidemic in Eastern Europe and Central Asia region though relatively young continues to grow.

In Oceania Region three quarters of the infected persons live in Papua New Guinea.

In North America racial and ethnic minorities continue to be disproportionately affected by the HIV epidemic.

**Figure 2: Estimated Number of people living with HIV/AIDS, by Region, 2006**



Source: HIV/AIDS in South East Asia region March 2007, WHO

## Global summary of the AIDS epidemic December 2007:

### Number of people living with HIV in 2007

Total	33.2 million [30.6–36.1 million]
Adults	30.8 million [28.2–33.6 million]
Women	15.4 million [13.9–16.6 million]
Children under 15 years	2.5 million [2.2–2.6 million]

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### People newly infected with HIV in 2007

Total	2.5 million [1.8–4.1 million]
Adults	2.1 million [1.4–3.6 million]
Children under 15 years	420 000 [350 000–540 000]

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### AIDS deaths in 2007

Total	2.1 million [1.9–2.4 million]
Adults	1.7 million [1.6–2.1 million]
Children under 15 years	330 000 [310 000–380 000]

## 2.3 HIV and AIDS in Asia

In relation to HIV/AIDS, now Asia is second hardest hit after Africa. Although overall national HIV infection levels in Asia are low compared with some other continents, notably Africa, but the populations of many Asian nations are so large that even low national HIV prevalence means large number of people are living with HIV.

An estimated 8.6 million [6.0 million –13.0 million] people were living with HIV in Asia at the end of 2006. An estimated 960 000 [640000 –2.5 million] people were newly infected with HIV in 2006, while AIDS claimed approximately 630 000 [430000 –900 000] lives. The number of people receiving antiretroviral therapy has increased more than threefold since 2003 and reached an estimated 235000 by June 2006. (Source: 2006 Report on the Global AIDS Epidemic)

The highest national HIV infection levels in Asia continue to be found in South East Asia, where combinations of unprotected paid sex and sex between men, along with unsafe injecting drug use are sustaining the epidemics.

In addition there is considerable speculation about the impact of large scale migration and population movements on the evolution of current HIV epidemic of Asia.

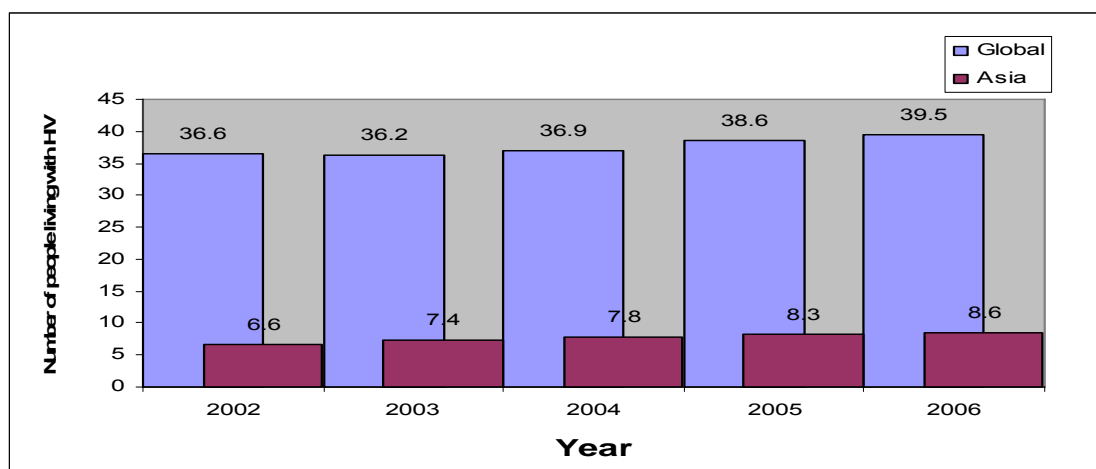
**Table 3: HIV & AIDS Estimates in Asia, 2004, 2005 & 2006**

Year	Adults(15+)and children living with HIV	Adults (15-49) prevalence (%)	Adults(15+)and children newly infected with HIV	Adults(15+) & child deaths due to AIDS
2006	8.6million(6.0-13.0million)	0.7(0.4-1.0)	0.96 million (0.64-2.5million)	0.63million (0.43-0.90million)
2005	8.3(5.7-12.5million)	0.4(0.3-0.6)	0.93million (0.62-2.4million)	0.60 (0.40-0.85million)
2004	7.6(5.2-11.3 million)	0.4(0.2-0.6)	0.86million (0.56-2.3million)	0.50million (0.34-0.71million)

(Source: Global-AIDS epidemic, update Dec 2006 UNAIDS)

HIV epidemic in this region remains largely concentrated among injecting drug users, sex workers, men who have sex with men, clients of sex workers and their sexual partners. But the region is also under threat of generalization of the epidemic. Figure 3 showed there is increasing trend of HIV infection globally as well as in Asia.

**Figure 3: Estimated Number of People living with HIV (Global & Asia).**



Source: Global-AIDS epidemic, update Dec 2006 UNAIDS

## 2.4 HIV and AIDS in the South East Asia

At the end of 2006, an estimated 7.2 million people were infected with HIV in South –East Asia region which included 0.77 million new infections. Approximately 550000 people died of AIDS during 2006. The overall adult HIV prevalence in South and South East Asia (0.7%) regions is relatively much lower than that in sub-Saharan Africa. However due to the large population in these regions, even a low HIV prevalence means that a large number of people are infected.

(Source: HIV/AIDS in South East Asia region March 2007, WHO)



HIV epidemic in South East Asia has grown massively and is still evolving. Currently South East Asia faces multiple and diverse epidemics occurring in different population groups and in different geographical areas at varying rates. The majority of HIV infections concentrated in five countries- India, Indonesia, Myanmar, Nepal and Thailand.

## 2.5 HIV and AIDS in the SAARC Region

All the SAARC countries are reporting cases of HIV and AIDS and the epidemic is spreading rapidly in most. On the basis of available information recently it can be assumed that around 2.6 million estimated HIV infected people are living within the region.

The new 2006 estimates released by the National AIDS Control Organization (NACO), India on 6<sup>th</sup> July 2007, indicate that national adult HIV prevalence in India is approximately 0.36% which corresponds to an estimated 2-3.1 million people living with HIV in the country. This new estimate is based on modified enhanced methodology of estimation. Due to this update the figure of HIV/AIDS problem in SAARC region, have decreased compared to previous years.

The danger for SAARC region rests in the low ‘general population’ prevalence rates, which may be undermining the gravity of the situation. Such low rates conceal dangerously elevated ‘concentrated’ infection rates within high-risk groups such as CSW, MSM, IDU etc. The fact is that despite the low prevalence rates within this region, the factors are in place to spread HIV epidemic farther and faster than in any other region globally.

The existence of high-risk behaviors, migrant workers, truckers, mobile populations in search of sexual pleasure, drugs, and commerce, the unequal status of women, the lack of population awareness of ‘basic’ risks and prevention strategies, the trafficking of women and young girls within the sex trade, the high rates of STIs etc., all make for an explosion of HIV epidemic within the region.

HIV outbreaks among men who have sex with men are now becoming evident in India, Nepal and Pakistan. HIV outbreaks particularly among injecting drug users are being found in Afghanistan and Pakistan currently.

The country specific HIV/AIDS estimates are given in Table 4

**Table 4: Estimated number of people living with HIV in SAARC Region, end 2005**

Country	Estimated Population (Approximately)	HIV Prevalence Rate (%) among Adults	Estimated No. of PLWH	Adult (15+) PLWH	Women (15+) PLWH
Afghanistan	29863000	<0.1	1000	<1000	<100
Bangladesh	141822000	<0.1	11000(6400– 18000)	10000 (6400– 18000)	1400 (710– 2500)
Bhutan	672425	<0.1	500	400 (<2000)	100 (<200)
India	1114200000	0.36	2.47 million		
Maldives	298968	<0.1	52		
Nepal	25266209	0.55(0.3– 1.3)	70256(40000– 1680000)	54000	16000

<b>Pakistan</b>	161164000	0.1(0.1– 0.2)	84000(46000– 150000)	67200	16800
<b>Sri- Lanka</b>	195000000	<0.1	5000 (3000–8300)	5000 (3000– 8300)	<1000
<b>Regional</b>	<b>1493038826</b>		<b>2641808</b>		

Source: National HIV/AIDS Report 2006

## 2.6 Reported HIV and AIDS Cases by SAARC Member Countries

In the SAARC region first HIV/AIDS cases were reported in 1986 by India and Pakistan and by 1993 all SAARC countries started reporting these cases. Update available information on cumulative number of reported HIV and AIDS cases by SAARC countries is given in Table 5.

**Table 5: Cumulative No. of Reported HIV & AIDS Cases by SAARC Member States**

Country	HIV positive including AIDS	AIDS out of total HIV+	Death due to AIDS	As of	1st case detected
Afghanistan	184	-	-	July/2007	NA
Bangladesh	465	87	44	Dec. 2004	1989 (HIV +)
<b>Bhutan</b>	103	09	23	Feb 2007	1993 (AIDS)
<b>India</b>	-	165,000	-	March 2007#	1986 (AIDS)
<b>Maldives</b>	13	10	12	March 2007	1991 (AIDS)
<b>Nepal</b>	9756	1454	406	July 2007	1988 (AIDS)
<b>Pakistan</b>	3753	372	-	Dec 2006	1986 (AIDS)
Sri Lanka	862	232	161	March 2007	1987 (HIV +)*

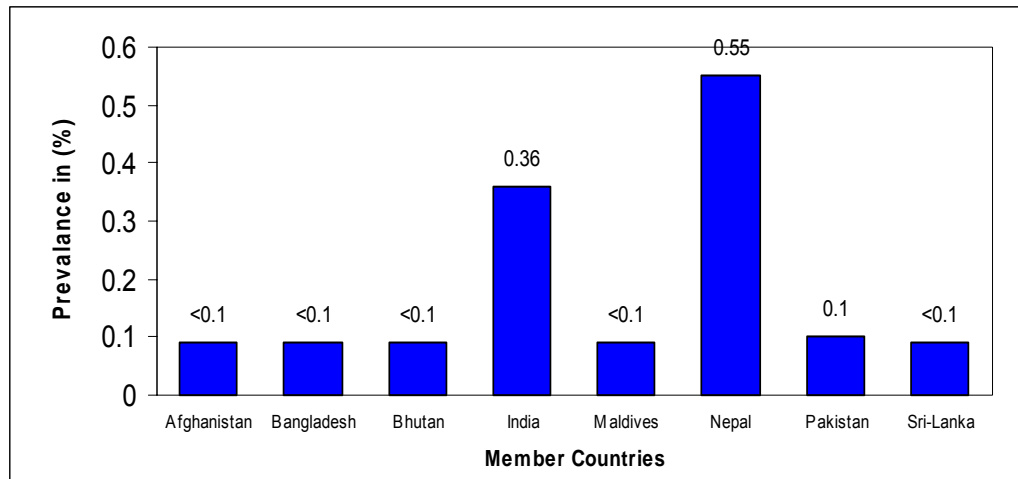
# Total HIV infected (June 2006) Maldivian 13 and Expatriates 188

\*HIV first reported in a foreigner in 1986; First Sri Lankan with HIV detected in 1987

(Source: country report on HIV/AIDS)

Figure 4 shows that among the SAARC member countries Nepal faces highest prevalence rate among adults (0.55 %) followed by India (0.36) on the basis of recent data. The HIV prevalence in India has come down and became second highest member country in relation to HIV prevalence rate in adult population. This was based on the information provided by National AIDS Control Organization, (NACO), India on 6<sup>th</sup> July 2007. Though in other remaining member countries prevalence seems to be relatively low, however problem seems hidden and on the way of spreading towards general population as risk factors are lying with the community of all countries.

**Figure 4: HIV Prevalence in member Countries of SAARC, 2006**



### 3. Progress in HIV/AIDS Control

Progress in HIV/AIDS control could be measured by the achievements in following components of the programme.

1. HIV Prevention
2. HIV Testing and Counseling
3. Treatment, Care and Support
4. Strategic Information
5. Programme management

#### 3.1 HIV Prevention

All member countries are committed for HIV prevention. In all countries different effective interventions as mentioned below were on place, which help to decrease the burden from the ground level.

- I Control of sexually transmitted infections
- II Condom use
- III Prevention of mother to child transmission
- IV Harm reduction
- V Safe Blood supply
- VI Infection Prevention and Post exposure prophylaxis
- VII Advocacy and awareness

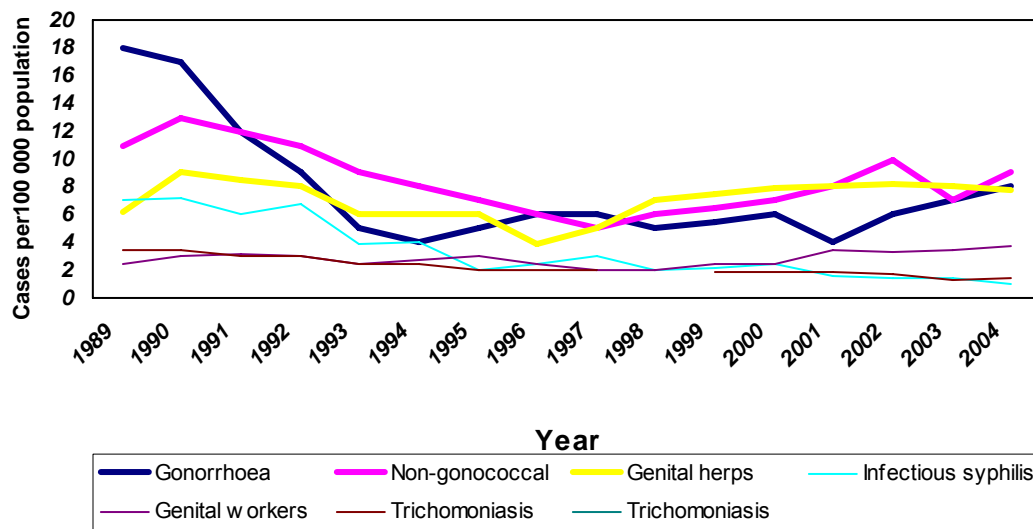
#### **1. Control of sexually transmitted infections**

To control sexually transmitted infections and prevention of its transmission both as an important public health issue in its own right and as part of efforts to reduce the HIV transmission, National HIV/AIDS strategic framework of all member states has given priority to control this infection to control HIV/AIDS problem.

For example in Pakistan, one of the components of expanded NACP programme is the statement that focused on excess use of high quality STI services from adult populations.

In India, during 2005 annual sentinel surveillance was conducted at STD clinic attendees, 5.6% of STD patient were found to be infected with HIV. India has begun to report a decrease in STIs since they began the scale up of STI interventions among sex workers and migrants. Similarly, in Sri-Lanka data from sentinel STI clinics showed a steady decrease in infectious syphilis despite increase in clinic attendance (figure 5).

**Figure 5: Incidence of Sexually Transmitted Infections, Sri-Lanka**



Available evidence from countries of the SAARC suggest that STIs can be controlled using a combination of approaches. These include scaling-up clinical services for the management of STIs, promoting 100% condom use in commercial networks and the involvement of targeted population in the implementation of the programme.

**Promotion of 100% condom use**

To decrease the transmission of HIV among commercial sex Networks, it is imperative to achieve high rates of condom use among client of sex workers. When condom usages rates among clients of sex workers reach >80%, transmission of STIs and HIV decreases markedly. For example, 100% Condom use Programme in Thailand. There is limited data available regarding condom use in different member countries of the region.

## **Empowerment of targeted populations**

It is important to engage sex workers, IDUs, MSM in outreach and other activities to build a sense of common norms and behaviors. In Sonagachi, one of the oldest and largest "red light" areas of Kolkata, India empowerment of sex workers has made a difference.

## **Prevention of mother-to child transmission**

Pregnant women infected with HIV are likely to transmit HIV to their infants during pregnancy, birth, or while breast feeding without interventions 20-45% of infants born to HIV-infected women may become infected. To reach the ultimate goal of eliminating HIV infection in infants and young children, a standard package of services is required. These include HIV primary prevention services, prevention of unintended pregnancies among HIV infected women, antiretroviral drugs for prevention of mother – to-child transmission (PMTCT), safer delivery practices, infant feeding counseling and support, sexual and reproductive health services for HIV-infected women and linkages with ongoing care and support services.

The coverage of PMTCT programmes in the SAARC region is very low; overall, less than 5% of pregnant women are offered HIV counseling and testing of an estimated 67 million births annually.

In India and in Nepal, the PMTCT programme includes HIV testing and counseling, administration of a single dose of Nevirapine to the mother and the baby, safe delivery practices as well as infant feeding and counseling.

By the end of 2006, in India PMTCT services were being offered at 2,433 health facilities in India. Every district in the six high-HIV burden states and >90% district in the low-HIV burden states have at least one PMTCT centre.

In Nepal, in 2006, there are 6 PMTCT sites were established. In these sites, of 29477 women who delivered, 81.47% received HIV counseling and testing; of 54 women found to be positive, 42.60% received antiretroviral therapy.

In Bangladesh, Bhutan, Srilanka and Maldives have started PMTCT programmes on a smaller scale. In Bhutan there are 3 pregnant women who are positive till 16<sup>th</sup> July 2007.

## **Harm reduction**

Harm reduction programme is the essential programme to control HIV infection among Intravenous Drug users (IDUs). Majority of the harm reduction programmes in these regions have had limited impact because they were implemented on a small scale.

Since 1998 Care, Bangladesh, a nongovernmental organization (NGO), began harm reduction programmes including needle/ syringe exchange, condom distribution, abscess management and advocacy. By the end of 2004, the needle/syringe exchange programme covered 3900 IDUs in 19 districts of Bangladesh. However, this programme had little impact at the national level, as HIV seroprevalence continued to increase among IDUs from 1.4% in 1999 to 4.0% in 2002 to 4.9% in 2005.

Similarly, in Manipur, India the coverage of the needle/ syringe programme and the retention of IDUs on a Buprenorphine substitution programme are very low to make any impact on the transmission of HIV.

In Nepal, harm reduction has remained the mainstay of the national programme for IDUs. However, the coverage of the programme is very low. The composite programme reach index for IDUs is only about 8.6% indicating that the programme is not reaching the larger population of IDUs scattered throughout the country. According to an NGO working on harm reduction in Kathmandu valley, approximately 200 (<30%) of the 6500 IDUs made use of the needle/syringe exchange programme. However HIV prevalence among IDUs was estimated to be 40% in 1999 and after four years it was found to have declined to 38.4%. By 2005 it further declined to 32.7%.

## **Prevention of HIV in health care settings including blood safety and post exposure prophylaxis for accidental occupational exposure**

### **Safe blood supply**

Safe blood supply is also one of the important interventions to prevent the transmission of HIV. Two-thirds of the population of South-East Asia resides in India where 6 million units of blood are collected, 50 percent of the collection is from voluntary blood donors. Bangladesh is the only country in this Region that still permits professional blood donors. With the improvement in blood safety intervention in the Region, there has been a steady decrease in HIV in screened blood units.

Red Cross societies manage national blood transfusion services in Nepal, Sri-Lanka. Blood transfusion services lack adequate resources to update their technology. Moreover, they need to increase their reach to enhance their donor base.

**Table 6: Status of Blood Transfusion services in SAARC Member Countries, 2004**

Services	Country					
	Bangladesh	Bhutan	India	Maldives	Nepal	Sri-Lanka
Number of blood banks	98	29	1854	21	55	64
Number of blood units collected per year	160 000	6000	6 million	6200	74 000	170 000
% voluntary donors	27	30	50	20	90	60
% replacement donors	56	70	50	80	10	40
% paid donors	18	0	0	0	0	0
% used as whole blood	90	45	80	30	90	5
% screened for HIV	100	100	100	100	100	100
% screened for HBV	100	100	100	100	100	100
% screened for HCV	100	100	100	100	100	40
Prevalence of HIV in donors(%)	0.002	0	0.5	0	0.4	0.0002
Prevalence of HBV in donors(%)	1.48	1.6	1.4	0.8	1.2	0.03
Prevalence of HCV in donors(%)	0.14	0.15	0.4	0.001	0.57	NA

Source: HIV/AIDS in the South East Asia Region, WHO, 2007

### **HIV Prevention and Post-exposure prophylaxis**

Infection control has received considerable attention during recent years. The majority of large hospitals in the region have developed infection control teams. Clean needles, syringes, gloves and sharp containers are available in most of the health care facilities. However, only few countries such as Bhutan, Maldives have

considerably provided these commodities at all levels of the health care system. Several countries such as India, Nepal, Bhutan have introduced antiretroviral post exposure prophylaxis for accidental occupational exposure.

### **3.2 HIV Testing and Counseling**

HIV testing and counseling is an essential service for both prevention and treatment. Early detection of HIV status allows the health system to provide appropriate information, care support and treatment to the individual; this not only improves the quality of the life and longevity of the individual but also decrease further spread of infection from this individual to his/her partner(s). HIV testing and counseling is also an entry point for preventing mother to child transmission of HIV. Due to the HIV associated stigma and limited access to HIV testing and counseling services, population coverage of HIV testing and counseling services remains very low in SAARC region.

Most countries in the region are providing client initiated HIV counseling and testing. There is an need of scaling up of access to HIV counseling and testing in the countries of the region as a means of enhancing access to comprehensive HIV prevention, care and treatment. Now in the world concept of provider initiated HIV counseling and testing is coming forward and most other countries had implemented this approach also.

India has made considerable progress since it started scaling-up voluntary counseling and testing (VCT) services in the late 1990s. The number of VCT centers rapidly expanded from 79 in 1998 to more than 3000 by end 2006. Every district in the country has at least one VCT centre. In Nepal, private and public VCT are 80 as of April 2007. In Bhutan, in 2007, national strategic plan had explained an objective as to expand HIV counseling and testing to all 20 districts by end of 2007 and till date health workers counselors are present at the hospital level. In Pakistan, 16 VCT centers nationwide are operational for general and bridging populations, situated within or near existing public sector testing facilities and are operated through local NGOs. In Bhutan there are 29 VCT centers.

### **3.3 Treatment, Care and Support**

#### **Antiretroviral Treatment**

Remarkable progress has been made in the region on scaling up HIV antiretroviral treatment since November 2003 when the WHO '3 by 5' initiative was launched. Over three years, the number of people started on treatment increased from 18000 to 178000; almost a ten fold increase. However, there are wide variations in coverage rates among member countries.

With full political and administrative commitment, the Government of India launched the free antiretroviral treatment programme in April 2004 in eight antiretroviral treatment centres; by December 2006, antiretroviral treatment delivery was scaled up to 101 public sector health facilities in 28 of 35 states in the country. Currently, one first-line antiretroviral is being used in the national programme. In all 55473 patients (62% male, 32% female, 6% children) have been placed on the government's free antiretroviral treatment programme; and approximately 10 000 patients are receiving free antiretroviral from non governmental centers. In addition, a large and unknown

number of patients are being treated in the private sector. Operational research is planned to better understand the quantity and quality of antiretroviral treatment in the private sector. India's National Programme has been highly effective so far and analysis of treatment outcomes of a cohort of patients in the initial period of the programme showed high survival rates.

In Nepal, Government of Nepal had launched the free antiretroviral treatment programme in 2004 in one Infectious disease Hospital in Kathmandu. Till April 2007 there are 10 ART treatment centers in Nepal and 722 people receiving ART treatment.

In Pakistan since January 2006 there are five ART treatment centers operational and providing HIV care services including ART to PLWHA.

In Maldives one HIV positive receive ART treatment at central hospital of Male.

In Srilanka till July 2006 free ARVs are provided by STD clinic of Colombo to selected 50 HIV positives under the national HIV/AIDS control programme.

In Bhutan, there are 3 ART sites established in 3 regional hospitals. Number of HIV positives on ART treatment are 19.

### 3.4 Strategic Information

Strategic information is the information and knowledge to influence policy making, programme development and action. Strategic information is required for advocacy and resource mobilization, targeting resources to vulnerable population groups and high transmission geographical areas, measuring progress against planned programme objectives, measuring the impact of interventions and for being accountable to the donors, policy makers and the civil society.

Key components of strategic information include the following priority interventions:

- Second generation surveillance including surveillance of HIV/AIDS, STIs and risk behaviors
- HIV drug resistance surveillance
- Monitoring and evaluation
- Operational research

### **Second generation HIV/AIDS, STI surveillance and behavioral surveillance:**

Data generated through systematic collection of behavioral and serological information, including STI surveillance, is the basis for estimating the burden of HIV/AIDS in the country and track the impact of the national response to HIV/AIDS. For much of the yearly part of the epidemic, HIV surveillance consisted mainly of case reporting and, in some areas, unlinked anonymous sero-surveys. The status of implementation of second generation surveillance systems in the Region is given in Table below:

**Table7: Status of Implementation of second generation surveillance in SAARC region, 2006**

Country	HIV/AIDS Cases reporting	HIV sentinel Surveillance	STI surveillance	Behaviour surveillance	HIV incidence surveillance
Bangladesh	Under reporting	√	Weak	√	NA



Bhutan	√	√	Weak	Planned	NA
India	Under reporting	√	Weak	√	Planned
Maldives	√	√	Weak	Planned	NA
Nepal	Under reporting	Patchy	Weak	√	NA
Pakistan	Under reporting	√	Weak	√	NA
Sri-lanka	Under reporting	√	Weak	Planned	NA

Source: HIV/AIDS in South East Asia region March 2007, WHO

## **HIV drug resistance surveillance and monitoring**

HIV drug resistance is the ability of HIV to enter human cells and multiply in the presence of antiretroviral drugs. HIV drug resistance (HIVDR) will inevitable emerge as seen with scale-up of antiretroviral treatment programmes and because HIV treatment must be lifelong, and there is no cure, as seen in countries where antiretroviral treatment is already widely available.

While HIV drug resistance cannot be avoided, it can be contained with adopting different elements under National programme as national HIV drug resistance prevention programme. Different programme activities need to be undertaken by all member country HIV/AIDS control programme in planning and implementation of HIVDR activities. In India, HIV drug resistance national working groups have been established.

## **Monitoring and evaluation**

Comprehensive monitoring and evaluation of modalities to address the epidemic, and tracking the impact of activities implemented by National AIDS programmes is imperative for a country to understand, mitigate and control its HIV/AIDS epidemic.

Monitoring and evaluation are often cited as weak elements of the health sector that need strengthening.

Some essential elements of a functioning monitoring and evaluation system, include monitoring and evaluation plans and guidelines related to health sector; data collection tools, such as registers, cards, and other forms; a system for reporting relevant data; equipment necessary to store and manage data; capacity to analyze data and evaluate the health sector response to HIV/AIDS; as well as appropriate human resources and capacity strength thing.

Major regional activities during 2005-2006 include: developing recording and reporting tools as well training materials for antiretroviral treatment ; developing recording and reporting tools for VCT; advocating for and facilitating harmonization of national and international indicators; helping countries in the developing national guidelines and training related to monitoring and evaluation; reporting on national/regional antiretroviral treatment progress.

At the national level, there has been a concerted effort to strengthen the monitoring and evaluation system by harmonizing information needs of various partners, improving the collection of data, up gradation of hardware and software for data processing and use and dissemination of data.

## **Operational research**

Operational research comprises the use of analytical techniques to define optimal processes of delivery, to achieve better outcomes through evidence-based approaches, and to provide more cost-effective care.

Operational research needs to firmly root in multi-disciplinary approaches and build on ownership by local partners, especially national control programmes who ensure its sustainability and integrate its results into policies and programs.

Limited progress has been made in this area due to competing priorities. Moreover, there is lack of harmonization of research activities among independent researchers and academia and national programmes.

### **3.5 Programme Management**

To implement effective strategies in HIV/AIDS prevention, care and treatment, governments need to draw up a national HIV/AIDS strategic plan, including the health-sector response. The strategic planning and policy dialogue should be carried out with full participation of all stakeholders, including PLHIV and other vulnerable populations.

The strategic plan serves as guide to government ministers and agencies and all partners involved in leadership, roles and responsibilities, principles, goals and targets, priorities, programme intervention to be put in place, mechanism for acceptability, monitoring and evaluation, as well as resourcing and budgeting.

Most of the Countries in the Region have developed a mid-term strategic plan on HIV/AIDS. However, some of these need to be revised or re-developed as shown in table below:

**Table 8: Status of Implementation of strategic Planning and Review Activities in the SAARC Region, 2005 (WHO 2007)**

<b>Country</b>	<b>Existing National Strategic Plan (NSP)</b>	<b>Operational Plan</b>
Bangladesh	NSP 2004-2010 developed	A consolidated and budgeted Operational Plan 2006-2010 is intended
Bhutan	NSP 2007-2011 developed	A consolidated and budgeted Operational Plan 2007-2011 is intended
India	NSP 2006-2011 developed	
Maldives	NSP 2007-2011 developed	
Nepal	NSP 2006-2011	
Pakistan	National Strategic Framework 2007	

Sri-Lanka	NSP to be revised	To be developed
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Source: HIV/AIDS in South East Asia region March 2007

#### References:

1. Country report of National TB control programme and National AIDS control programme of member countries of SAARC
2. HIV/AIDS in South East Asia region March 2007
3. Report of Joint WHO/UNICEF/UNAIDS Technical consultation on scaling up HIV counseling and testing in Asia and the Pacific

## 4. TB/HIV Co-infection

The South-east Asia Region carries the highest burden of tuberculosis and the second highest burden of HIV in the world. TB is the most common opportunistic infection among HIV infected cases and a leading cause of death among AIDS patients. The proportion of TB patients infected with HIV varies between districts within each country.

With the large number of HIV infected persons and high rates of TB transmission and latent TB infection, the HIV epidemic could cause a substantial impact on TB control in the Region which can be observed by increasing case fatality rates among TB patients in many areas. However, in only few countries in the Region, National HIV/AIDS control programmes and National TB control programmes have the capacity to offer a wide range of interventions addressing TB/HIV.

### **India- National Framework for joint TB/HIV Collaborative activities (May 2007)**

Active TB disease is the commonest opportunistic infection amongst HIV-infected individuals. A low cost and high quality cure for TB is provided under the Revised National TB Control Programme (RNTCP), which is implementing the DOTS strategy of diagnosis and treatment for TB nationwide. Standard short-course anti-TB regimens have been shown to be effective in TB patients with or without HIV infection.

By the end of 2006, the TB/HIV collaborative activities were implemented in 14 states of the country. The collaborative activities started initially in the year 2001, in the six states with high prevalence of HIV/AIDS i.e. Andhra Pradesh, Karnataka, Maharashtra, Manipur, Nagaland and Tamil Nadu. The collaborative activities were extended to eight additional States of Delhi, Gujarat, Himanchal Pradesh, Kerala, Orissa, Punjab, Rajasthan and West Bengal in the year 2004. With effect from 2007, the collaborative activities are to be extended to the entire country and have been included as an integral part of joint TB/HIV collaborative activities of NACP III and RNTCP II.

**Key activities identified under TB/HIV coordination include:**

1. Establishment of coordination mechanisms at national, state and district level.
2. Service delivery coordination and cross-referrals, through training of the programme officials and the field staff and establishment of linkages between service delivery sites of NACP i.e. ART centres, ICTCs, care and support centers and RNTCP diagnostic and treatment services.]
3. Involvement of NGOs working in NACP and RNTCP in TB/HIV collaborative activities.
4. Operational research to improve the implemented of TB/HIV collaborative activities.
5. Implementation of feasible and effective infection control measures.
6. CPT for TB/HIV patients.

**Status of activities on TB/HIV collaboration:**

Routine training of programme staff in both TB and HIV/AIDS programmes has been implemented since 2002, using jointly developed training modules. As of September 2006, cross referral mechanisms have been established between health facilities providing TB programme services and 1143 functional VCT centres in 14 states. In these states, all VCT centre clients are questioned by the VCT centre counselors for the presence of the symptoms of TB disease. Regardless of the HIV test results, clients who have symptoms or signs of TB disease are referred to the nearest facility providing TB diagnosis and treatment services. This is often located within the same facility. The current national policy in India regarding referral of TB patients for HIV counseling and testing is known as “selective referral”. Patients with TB who give a history of behaviors placing them at high risk for HIV and a history of present or past STI, and/or signs and symptoms suggestive of other opportunistic infections, are offered referral for VCT. HIV status is not shared with the referring provider or TB programme to preserve confidentiality.

TB/HIV collaboration is rapidly growing in India. From January to June 2006, of the 29491 patients selectively referred to VCT centres, 4842 (17%) were diagnosed as HIV-infected. Over the same time period, of the 25799 patients referred from VCT centres as TB suspects, 6200 (33%) were diagnosed as TB cases. The number of persons referred as TB suspects from VCT centres to the TB programme increased by 250% compared to the same six month period in 2005.

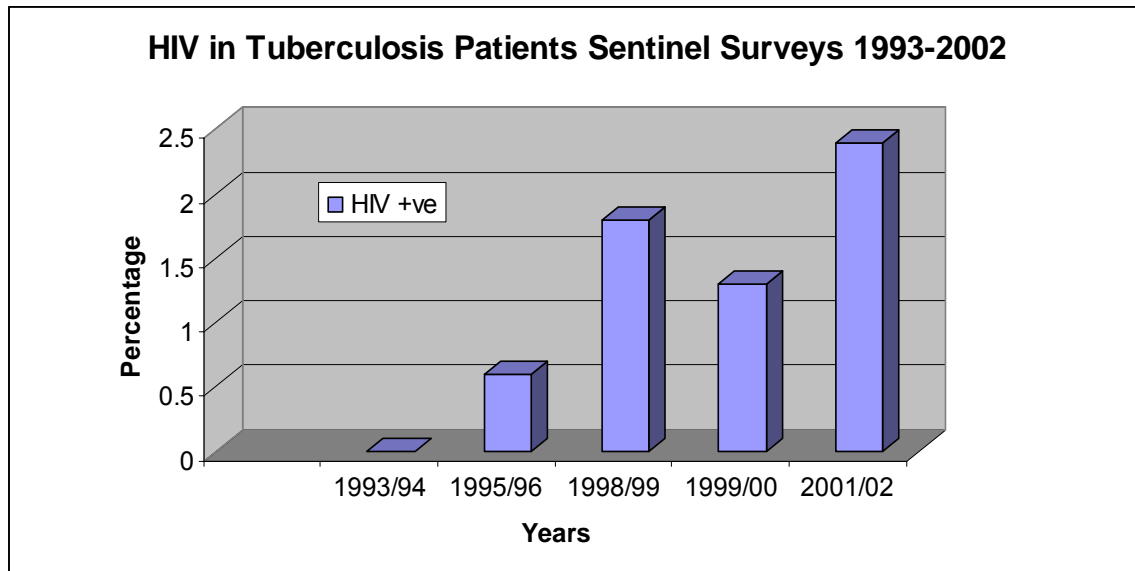
**Bangladesh:**

Although the overall prevalence of HIV infection is very low, HIV surveillance among high-risk groups has reported pockets of rapidly increasing HIV prevalence. The National Tuberculosis Programme of Bangladesh is engaged in many partnerships with NGOs who are becoming increasingly involved in implementing TB/HIV collaborative activities. A survey of HIV infection among TB patients has been recently completed by the International Centre for Diarrhea Disease Research, Bangladesh. A national TB and HIV coordinating body has been established and national policy to link the NTP and NAP for collaborative TB/HIV activities under process to formulate.

## Nepal:

Establish TB/HIV technical working team comprising senior staffs from both TB/HIV programmes, major partner agencies at national level during 2006. Completed situation analysis on TB/HIV collaborative activities under National HIV/AIDS control programme. HIV Surveillance among TB patients is going on since 1993 at 5 sentinel sites under National Tuberculosis control programme. In 2004, sentinel surveys shows 2.4% of tuberculosis patients had HIV infection. Findings are shown in bar diagram below.

Figure 6:



Source: Annual report: National Tuberculosis Control Programme, Nepal; 2005/06

## Pakistan:

Established collaborative TB/HIV board at federal level.

## Afghanistan:

HIV/TB services for the period 2007-2010 is to decrease the burden of TB in the persons at greatest risk for HIV-TB co-infection, including TB patients in Grade 1 TB Provinces (Kabul, Ghazni, Kandahar, Herat, Mazari Sharif, Kunduz, Badakhshan and Nangarhar) with access to VCT center (Kabul, Herat, Mazari Sharif, Badakhshan and Nangarhar) and the people in contained setting, such as prisons.

Preparatory work for a TB/HIV action plan and task force have been carried out.

### Bhutan:

Number of HIV infected persons reported to have Pulmonary TB disease are 5 cases.

### Sri-Lanka:

HIV Surveillance among TB patients started from 1993 in few districts, and since 2000 it started in 8 districts annually under National Tuberculosis control programme and report is shown as below:

**Table 9: Results of HIV Sentinel survey 2000 - 2006 for TB Patients**

**Number tested and number positive (rate), Sri-Lanka**

Places	2000	2001	2002	2003	2004	2005	2006
Colombo (WP)	0/223	0/276	0/287	1/282 (0.3%)	0/256	1/259 (0.4%)	1/238 (0.4%)
Kandy (CP)	0/269	1/363 (0.3%)	0/324	0/282	0/304	0/258	0/234
Galle (SP)	0/174	0/250	0/289	0/143	0/152	1/109 (0.9%)	0/221
Rathanpura (Sab.P)	0/94	-	0/242	0/254	0/212	0/196	0/248 (0%)
Anuradhapura (NCP)	0/165	-	0/194	0/220	0/275	0/234	0/219
Kurunegala (NWP)	0/75	-	0/199	0/167	0/216	0/256	0/162
Badulla (UP)	0/111	-	0/187	0/152	0/77	0/152	0/59
N & E P	-	-	0/2	0/66	0/164	0/64	0/41
<b>Total</b>	<b>0/901</b>	<b>1/889</b>	<b>0/1724</b>	<b>1/1556</b>	<b>0/1456</b>	<b>2/1538</b>	<b>1/1392</b>
				<b>0.06%</b>		<b>0.13%</b>	<b>0.07%</b>

To Address the issues of TB/HIV in a comprehensive way, NTP, Srilanka had reflected the need of development of policies /strategies and implementation of activities linked to those, to effectively address TB/HIV in the Strategic Plan (2006-2015) of NTP and following are the key proposed interventions:

- establishment of a formal mechanism for collaboration at the central level and at other levels, where appropriate;
- support by NPTCCD for the HIV programme in its campaigns to prevent HIV;
- continuation of the periodic surveillance activities for HIV among TB patients and monitoring of trends in the years ahead;
- intensification of efforts to diagnose TB in people known to be HIV-positive;

- ensuring TB infection control in all health care and congregate settings;
- designation of the district chest clinics as focal place for the management of HIV-positive TB patients; this includes training of core team members in TB/HIV and establish a referral system to voluntary counseling and testing(VCT) centers, as well as centers for HIV/AIDS care and support;
- formulation of a policy for the treatment of TB in HIV-positive patients, and especially when treated concomitantly with anti-retroviral drugs, based on evidence made available at the international level;
- providing isoniazid preventive therapy to known HIV-positive people, who are infected with TB;
- Referring TB patients at risk of HIV, to VCT services.

*Several countries are now embarking on regular surveillance for HIV infection among TB patients and more precise data will be available in the coming years. However, according to WHO Global report on tuberculosis 2007, findings of SAARC countries is given in table below.*

Table 10: Prevalence of HIV infection among tuberculosis Cases

Country	Prevalence of HIV among new adult TB Cases
<i>Afghanistan</i>	<i>&lt;0.05</i>
<i>Bangladesh</i>	<i>0.1</i>
<i>Bhutan</i>	<i>0.2</i>
<i>India</i>	<i>5.2</i>
<i>Maldives</i>	<i>-</i>
<i>Nepal</i>	<i>2.4</i>
<i>Pakistan</i>	<i>0.6</i>
<i>Sri Lanka</i>	<i>0.2</i>

*Source: WHO Global Report on TB 2007*

#### References:

1. National Framework for joint TB/HIV Collaborative activities, India, May 2007
2. Country presentation by Nepal, Bhutan, Maldives and Srilanka in Workshop to develop SAARC Regional Guideline for Diagnosis and treatment of MDR-TB, in Bhutan on September 2007.

## 5. STC support to HIV control in the Region

SAARC TB and HIV/AIDS center is the nodal regional center to coordinate, collaborate and implement the response for HIV/AIDS control. Since its inception It has been actively involved in coordinating the efforts of national HIV/AIDS control programme of the region and also implements the activities in relation to HIV control in the region.

It has continued to focus on different issues relevant to better implementation of HIV control in the region.

STC is contributing the support in following components in relation to HIV control in region:

- 5.1 Coordination and collaboration
- 5.2 Advocacy and planning
- 5.3 Capacity building
- 5.4 Technical support
- 5.5 Research activities
- 5.6 Epidemiological Networking
- 5.7 TB/HIV Collaborative efforts

### 5.1 Coordination and Collaboration

STC is coordinating with National HIV/AIDS control programmes of member countries for Information collection and sharing, also in collaboration with these programmes conducting different activities to support in enhancing the response of national programme towards HIV/AIDS epidemic. It has been conducting meetings and seminars for HIV/AIDS Programme managers which continue to provide a very useful forum for exchange of information and sharing of experiences with member countries.

The great achievement after renaming the center was development of the SAARC regional strategy on HIV/AIDS, which was developed through an extensive consultative process, taking into consideration the uniqueness of the SAARC region including lessons learnt from countries that have halted the epidemic, in April 2005 in the joint SAARC-UNAIDS Expert Group meeting of National HIV/AIDS Programme Managers and endorsed by Thirteen SAARC Summit (Dhaka, 12-13 November 2005). This strategy helps to



strengthen work at the regional level through improved coordination, collaboration and partnership between regional organization and national programmes. The strength of this strategy is not only judged by its breadth of reach but also its conduciveness to timely implementation.

The collaboration of this regional center on TB and HIV/AIDS was strengthened and through various activities conducted as shown in table below in different member countries involving TB and HIV/AIDS programme managers.

**Table 11: Workshop, Meetings and Seminar conducted by STC:**

<b>Title of Activity</b>	<b>Date &amp; Duration</b>	<b>Venue</b>	<b>Level of Participation</b>
<b>Workshop</b>			
SAARC-CIDA workshop on TB & HIV/AIDS control	Mar. 1999, three days	Kathmandu	National level TB programme managers
Regional Workshop to Develop SAARC Regional TB/HIV Co-infection Strategy	Oct. 2003, Two days	Kathmandu	National Level NTP Managers
<b>Meetings</b>			
SAARC consultative meeting on TB & HIV/AIDS	Sept. 1996, two days	Kathmandu	National level TB and HIV/AIDS programme managers
SAARC consultative meeting for TB & HIV/AIDS programme Managers	Nov. 2002, one day	Kathmandu	National Level Programme Managers
Joint SAARC-UNAIDS Regional Expert Group Meeting to Develop SAARC Regional Strategy on HIV/AIDS	April 2005 three days	<b>Dhaka</b>	National level managers from NACP
SAARC Regional Meeting of National HIV/AIDS Control Programme Managers	April 2005 One day	<b>Dhaka</b>	National level managers from NACP
<b>Seminar</b>			
SAARC seminar on compilation and updating advocacy and IEC materials related to TB and HIV/AIDS	Sept. 2000, two days	Kathmandu	National level TB and HIV/AIDS programme managers

## 5.2 Advocacy and planning

Advocacy is the main focused and important areas for increasing the awareness about TB and HIV/AIDS, which will help to implement the programme activities. Through advocacy, publication, and social mobilization activities the messages on Tuberculosis and HIV/AIDS can spread/propagate and its control and prevention among peer groups, families and community at large and mobilize demand for TB and HIV/AIDS services.

With this background STC is focusing on partnership developments with different target groups through which it aims to advocate to the people in relation to TB and HIV/AIDS. In this regard STC had developed different guidelines for partnership developments like Guidelines for partnership programmes with Media, school and pharmacist. These guidelines covered not only TB but in detail about HIV/AIDS also. With the view of advocacy, STC has been conducting **Partnership Programmes** with different target groups as orientation on TB and HIV/AIDS in the member countries based on the demand. This programme will help to

facilitate political, legal and social changes for better care of all TB and HIV/AIDS patients under the health facilities within the communities in member states.

Information sharing was also supported through the publication and dissemination of various technical and advocacy materials. These included guidelines for partnership programmes, World AIDS Day report, HIV/AIDS update, IEC materials and articles in STC journal.

### **5.3 Capacity building**

Human resource development is one of the important areas where STC is contributing since long back by conducting trainings on different areas of HIV/AIDS control.

### **5.4 Technical support**

STC continues to work closely with national HIV/AIDS control programmes of all member countries to provide technical assistance as required. Though STC is not providing technical support by recruiting the staff at national programs, but it is supporting indirectly through workshop, seminars and meetings by sharing the information of different member countries. While for national programmes of Nepal technical support is provided directly by involving in different programme activities. National workshops and trainings in Nepal were supported technically.

### **5.5 Research activities**

In collaboration with TB and HIV/AIDS national programmes, STC supports to undertake specific research activities in different member countries, reflecting programme priorities.

### **5.6 Epidemiological Networking**

To promote regional cooperation in the area of prevention and control of TB and HIV/AIDS, epidemiological networking plays a vital role. The strong epidemiological networking can ensure collection of good quality data in time and thereby compilation and preparation of quality regional epidemiological reports that can support advocacy, planning, and policy development for the control and prevention of TB and HIV/AIDS in the region.

In this regard STC is on the process for strengthening SAARC Regional Epidemiological Networking by developing software for TB & HIV/AIDS data management which would help to improve information sharing, support regional analysis and provide effective support from the STC to regional advocacy and policy development with respect to TB and HIV/AIDS.

In addition to this, STC has been developing TB and HIV/AIDS Update document annually since 2004 and distributing these to all TB and HIV/AIDS programme of member countries.

### **5.7 TB/HIV Collaborative efforts**

HIV epidemic has started affecting the global tuberculosis burden and hence, STC focused attention on the need to strengthen links between TB and HIV/AIDS programmes in order to tackle these public health emergencies more effectively.

In relation to initiation of TB/HIV collaborative efforts the first **SAARC Regional workshop to develop SAARC Regional Strategy for TB/HIV co-infection** was held in October 2003, Kathmandu & developed SAARC Regional Strategy on TB/HV Co-infection.

**Second SAARC Regional Workshop on TB/HIV Co-infection to identify research areas & to develop research protocol on the identified areas & study visit to TB/HIV programme implementation sites** was organised in Pune, India, 28-31 December 2005. and developed research protocols on identified priority areas.

**Third SAARC Regional Workshop on TB/HIV Co-infection** organized from 5-6 th Sept/2007 in Bangalore, India to discuss about emerging issues in this area and participants were acquainted with emerging issues in relation TB/HIV co infection, got to know about collaborative approach to tackle the dual epidemic. Also-new research areas pertaining to TB/HIV co infection identify based on the common issues of SAARC region.

## *Country profiles*

## Afghanistan

Afghanistan is among the countries of central and south Asia, bounded by Pakistan, Iran. Country population is 29863000. (WHO, Global Report on TB- 07) Almost 23 million people in Afghanistan suffered 25 years of war, conflict, displacement, tremendous human loss and severe impoverishment.

Despite the reported low HIV Prevalence it faces serious threat of HIV epidemic mainly due to most at incidence of injecting drug use (IDU) that partially intersects with sex work (SW). The absence of surveillance system on HIV and STIs, and therefore, current reliance on sporadic and unsystematic data available for some of the most at risk groups makes it difficult to:

- a) determining the magnitude of the actual epidemic,
- b) understand the dynamics of transmission, and
- c) Asses the potential for its further diffusion.

To date, the official reported number of HIV cases is believed to be 184, including both women and men. UNAIDS and WHO estimate at least 1,000 to 2,000 HIV positive cases

Variety of other structural determinants of amplifiers of HIV has been also reported in Afghanistan, such as:

- a) limited blood safety,
- b) unsafe surgical practices and basic physical care
- c) limited awareness and correct knowledge about HIV/AIDS among the general population
- d) almost no use of preventive measures, including condoms
- e) extreme poverty
- f) most at level of illiteracy, especially among women
- g) prevalence of TB, malaria, Hepatitis A, B, C in context of
- h) limited health care services and competing health priorities
- i) serious deterioration of key human development indicators, Additionally, lack of income-generating opportunity

In the absence of an effective surveillance system and robust prevention programmes, the transmission of HIV may become a serious threat among the country's most at risk groups such as i) injecting drug users (IDUs) ii) sex workers (SWs) iii) men who have sex with men iv) prisoners and v) sexual partners/clients of these population

Afghanistan has expressed its intention to act early through facilitating a rigorous and comprehensive multi-sector response under Afghanistan National AIDS Strategic framework (2006). The goal of the strategy is prevent the transmission of HIV within most at risk groups, to

vulnerable groups, and the general population while avoiding stigmatization of the most at risk groups and people living with HIV

One study among IDUs in Kabul indicates HIV prevalence of 3% (2006). Another study among TB patients indicates HIV prevalence 0.2% (Final Report, MOPH, 2006).

## Bangladesh

Bangladesh is a relatively small coastal country in south central Asia. To the South, Bangladesh has an irregular coastline fronting the Bay of Bengal and shares land borders with India and Myanmar. It is one of the most densely populated countries in the world, with the highest densities occurring in and around the capital city of Dhaka. It is also a predominantly rural country, with only about one-quarter of the population living in urban areas. The estimated total population of the country in 2007 was about 141.822 million. (Source: Global TB Report – WHO 2007)

*Although national HIV prevalence remains under 1%, there are risk factors that could fuel the spread of HIV among high-risk groups. Prevalence is higher in risk groups such as sex workers, injecting drug users and men having sex with men. Prompt and vigorous action is needed to strengthen the quality and coverage of HIV prevention programs and prevent the virus from taking hold.*

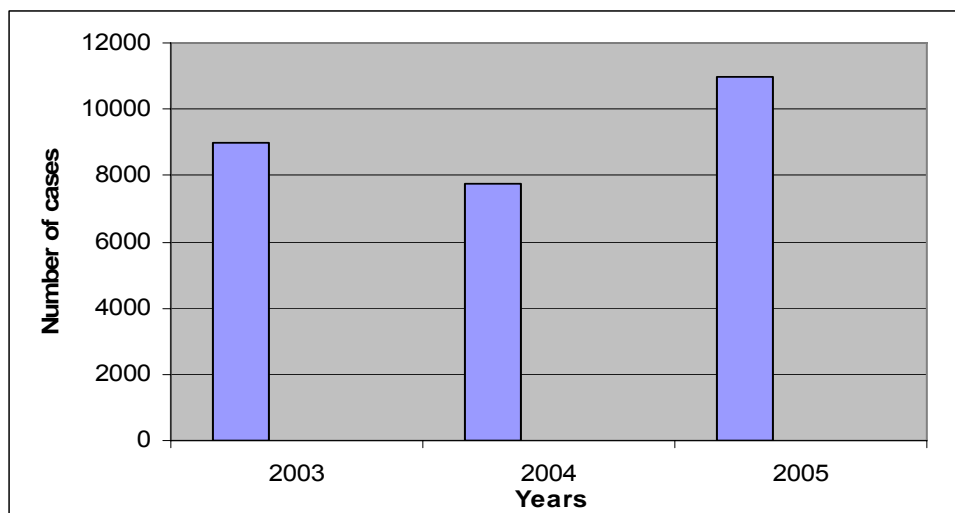
### *State of the epidemic on HIV/AIDS*

The first HIV positive case in this country was detected in 1989.

Latest estimates, using sentinel surveillance data, suggest that as of end-2005, the estimated number of people living with HIV was 11000 (6400-18000). Bangladesh's sixth round of sentinel surveillance (2004-2005) showed an overall prevalence of 0.6% in all risk groups. Significant underreporting of cases occurs due to the country's limited voluntary testing and counseling capacity, and the social stigma attached to HIV and AIDS. (Source: 6<sup>th</sup> round National HIV Serological Surveillance)

Figure 7 showed that estimated number of HIV/AIDS is increased in 2005 though there was drop in 2004 compared to 2003.

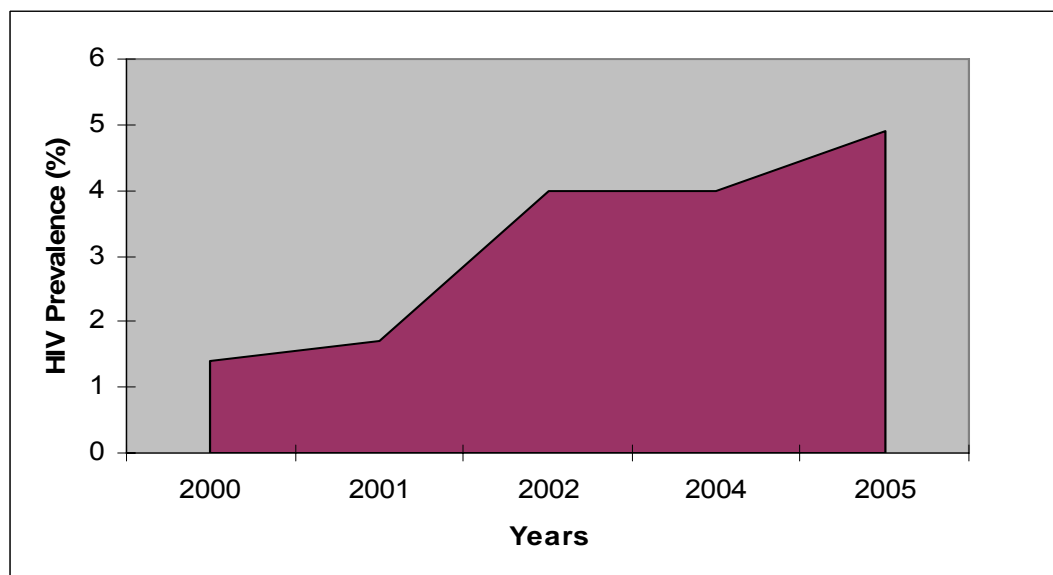
### **Figure 7. Estimated number of HIV/AIDS in Bangladesh**



While overall HIV prevalence is still low, less than 1%, prevalence is higher in risk groups such as female sex workers and injecting drug users.

Unsafe injecting drug practices have caused HIV infection levels in injecting drug users to increase from 1.7% to 4.9% during the period 2001–2005, shown in figure 8 below. A large proportion of injecting drug users (as many as one in five in some regions) report buying sex and among them, fewer than one in ten consistently used a condom during commercial sex in the previous year (Ministry of Health and Family Welfare Bangladesh, 2005). This level of infection among IDUs poses a significant risk as the infection can spread rapidly – and is spreading - within the group, then through their sexual partners and their clients into the general population. Another concern is the significant number of IDUs in the country who sell their blood professionally.

**Figure 8: Percentage of IDUs who are HIV infected 2000-2005**



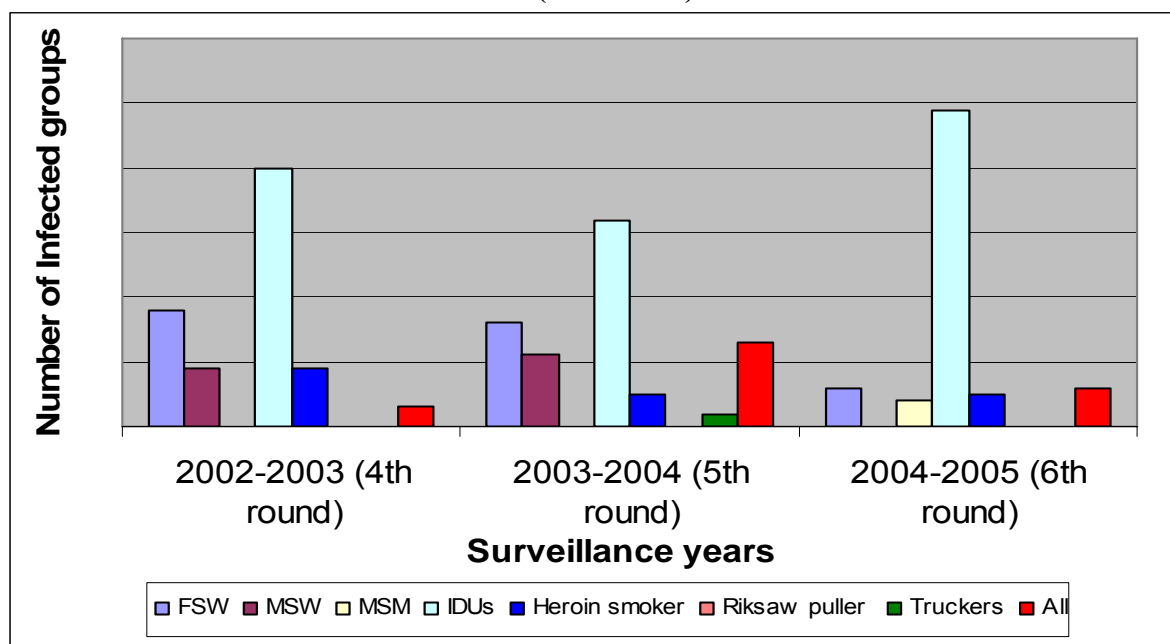
(Source: National HIV serological surveillance, 2004-2005, national AIDS/STD control program, ministry of health and Family welfare , Bangladesh)

In series of surveillance, it can be seen that though overall HIV prevalence came down from 1.3% (2003/04) to 0.6% (2004/05), prevalence is increasing consistently among IDUs, while decreasing among FSW. (Table12 and Fig 9) (Source: 4<sup>th</sup>, 5<sup>th</sup> and 6<sup>th</sup> round National HIV serological surveillance)

Table 12: Percentage of most at risk population who are HIV infected in series of surveillance (2002-2005)

Surveillance years	FSW	MSW	MSM	IDUs	Heroin smoker	Rikshaw puller	Truckers	All
2002-2003 (4th round)	1.8	0.9	0	4	0.9	0	0	0.3
2003-2004 (5th round)	1.6	1.1	0	3.2	0.5	0	0.2	1.3
2004-2005 (6th round)	0.6	0	0.4	4.9	0.5	0	0	0.6

Figure 9: Percentage of most at risk population who are HIV infected in series of Surveillance (2002-2005)

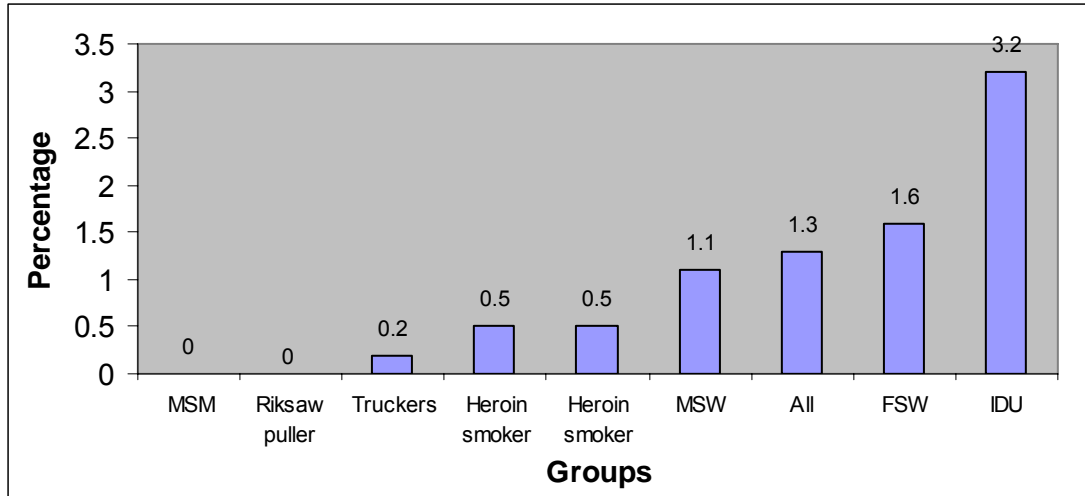


#### Analysis of Findings of 5<sup>th</sup> round (2003/04) National HIV and behavioural surveillance:

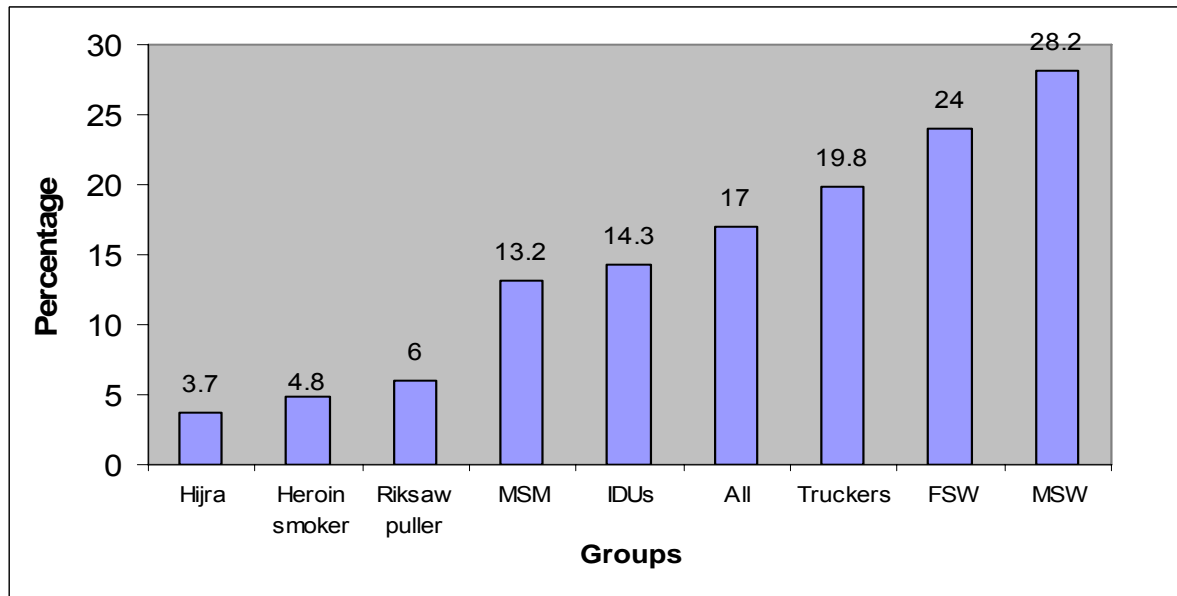
Bangladesh is undertaking surveillance yearly since 1998/99 for HIV infection through its National AIDS and Sexually Transmitted Disease Programme (NASP). The surveillance covers FSWs, STI patients, truck drivers, IDUs, MSM, and to a lesser extent the general population (NASP,2004). Bangladesh has completed six rounds of behavioral surveillance. Here the findings are of 5<sup>th</sup> round surveillance.

Figure 10: Percentage of most at risk population groups who are HIV infected

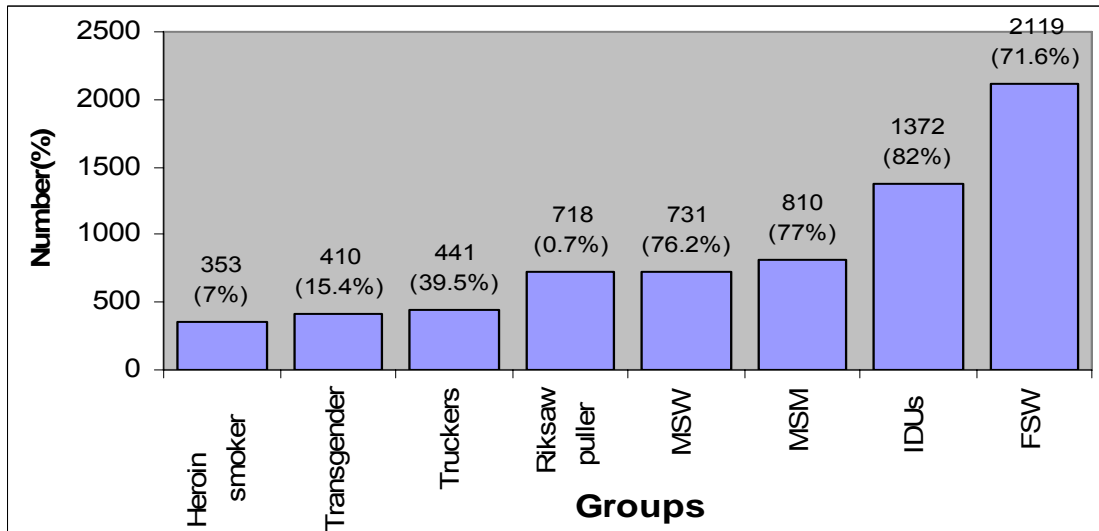




**Figure 11: Percentage of most-at-risk population who both correctly identify ways of Preventing the sexual transmission of HIV**



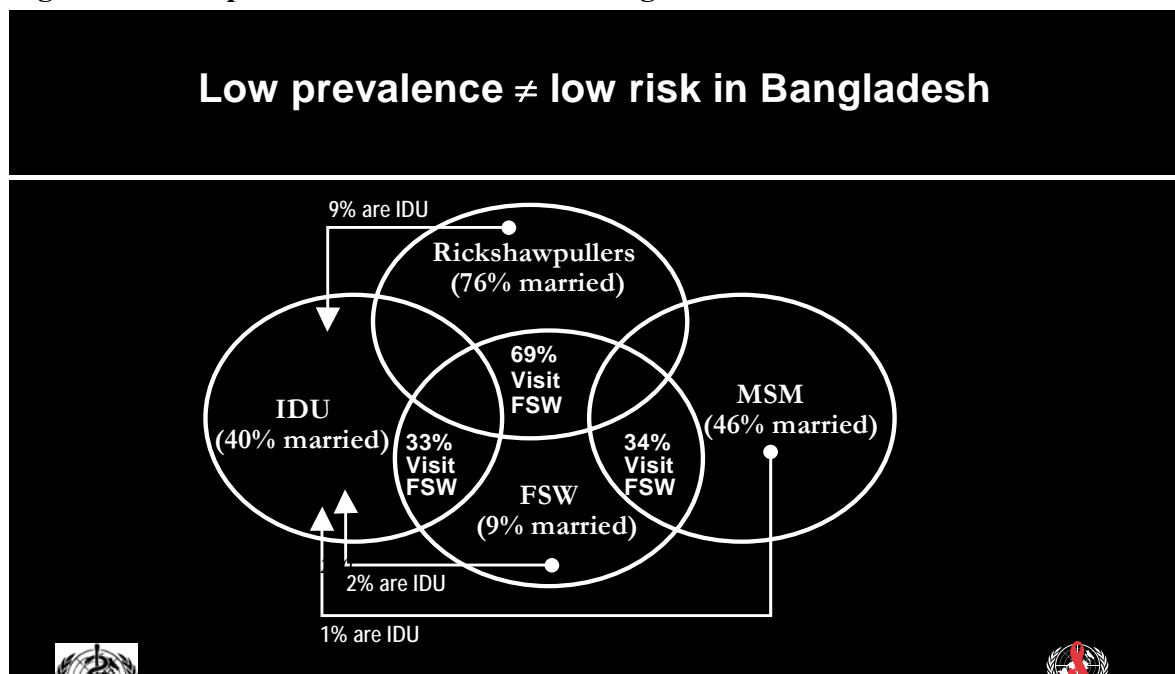
**Figure 12: Most-at-risk population reached by prevention programs**



Above Fig 10, 11, 12 showed the findings of 5<sup>th</sup> round behavioral surveillance. It showed that among the most at risk populations, prevention programme reached maximum to IDUs, FSW, MSW and MSM. As an impact of this programme, 28.2% of MSW and 24% of FSW correctly identify the ways of preventing the transmission, whereas only 14.3% of IDUs and 13.2% of MSM correctly identify the similar ways. As a result we can see that among the most at risk population groups, maximum proportion found to be infected with HIV lies within IDUs group. This showed that the quality and coverage of prevention initiatives aimed at reducing transmission through injecting drug use require strengthening to contain the problems in country.

All of the known HIV risk behaviors and factors are acknowledged to be present in Bangladesh. As a result, there is increasing concern that marked epidemic spread of HIV might occur in a manner similar to that documented in several neighboring countries (parts of India, Myanmar, and Thailand). Hence though it is considered as low prevalence country, it couldn't put this country in low risk of developing expanded epidemic due to interlinking of different high risk groups as shown in Fig 13.

**Figure 13: Low prevalence ≠ Low risks in Bangladesh**



Predictions that HIV would reach epidemic proportions in Bangladesh if the high risk behaviour continued have come true.

It is crucial to head the lessons and the best practices from the rest of the world. The quality and coverage of prevention initiatives aimed at reducing transmission through injecting drug use and commercial sex require strengthening. Given the high risk behavior in the country, HIV doesn't remain only within the drug injecting community, it had entered other risk groups and endanger of invading in general population.

### Reported HIV positive cases with epidemiological analysis

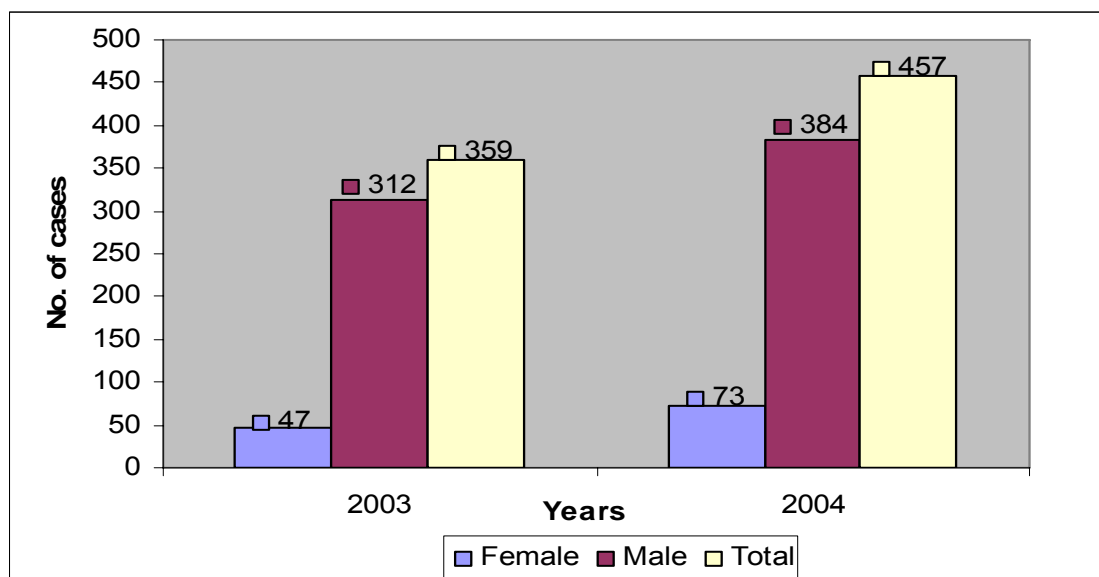
According to country report of National AIDS and STD control Programme, Bangladesh, as of December 2004 the cumulative number of reported HIV positive cases became 465 in which male population predominates, M:F= 5.3:1 (Table 13). Eighty-seven HIV infected persons developed AIDS of which 44 died.

**Table 13: Cumulative No. of reported HIV positive cases as of December, 2004, Bangladesh**

Sex	Cumulative no. of reported HIV + cases	
	Number	(%)
Male	384	82.6
Female	73	15.7
Sex unknown	8	1.7
Total	465	100

1. **Source:** Country Report (Bangladesh ), on HIV/AIDS presented in the work shop for development of SAARC regional strategy on HIV/AIDS in Dhaka, Bangladesh on 4-6 April 2005.

### Figure 14: Reported HIV/AIDS cases in Bangladesh



Above fig14 showed that reported number of male HIV positives in both years (2003, 2004) is higher than female HIV positives. Male to female ratio is higher in 2003 than in 2004.

## RISK AND VULNERABILITY

Bangladesh is vulnerable to an expanded HIV/AIDS epidemic due to the prevalence of behavior patterns and risk factors that facilitate the rapid spread of HIV. Risk factors include:

**Large Commercial Sex Industry:** There are over 105,000 male and female sex workers in Bangladesh. Brothel-based female sex workers reportedly see around 18 clients per week, while street-based and hotel-based workers see an average of 17 and 44 clients per week respectively.

**Low Levels of Consistent Condom Use:** 5<sup>th</sup> round BSS (2003-2004) data indicate that between 24 percent (street based) – 40 percent (brothel based) of sex workers reported using a condom with their most recent (during past one week) clients. The rate of condom use is even lower with regular clients. MSW showed the highest rate of condom use (44 percent), and transgender showed the lowest rate of condom use (15.6 percent).

**Sexually Transmitted Infections:** Syphilis rates have shown marginal decline over recent years. However recent surveillance data shows 44 percent of the female IDUs are also sex workers and have a higher prevalence of syphilis (9.2% prevalence compared with 2.9% of male IDUs). The high rates of syphilis and other STIs confirm the low level of condom use and the presence of other risky sexual behaviors that facilitate the spread of the HIV infection.

**Needle-sharing among Injecting Drug Users:** The six round sentinel surveillance data show that there is a concentrated epidemic among IDUs in one neighborhood of Dhaka with an HIV prevalence of 7.1 percent. This level of infection among IDUs poses a significant risk as the infection can spread rapidly – and is spreading – within the group, then through their sexual partners and their clients into the general population.

Lack of Knowledge among General Population: Data on knowledge and behavior indicates that only 17 percent of the most-at-risk populations have correct knowledge about prevention and misconceptions on HIV/AIDS. Furthermore, a 2005 population-based survey among adolescents and young people (15-24 years) indicated that only one out of three males in urban and one out of four in rural areas had correct knowledge of HIV and AIDS. Hence knowledge of HIV is low among sex workers and their clients; it is inadequate among the general population.

High level of stigma associated with people living with HIV and AIDS.

References:

1. Bangladesh's sixth round of sentinel surveillance (2004-2005)
2. National HIV Serological and Behavioral Surveillance, third round report, 2000-2001, Bangladesh
3. Background documents for the dissemination of the fourth round(2002) of national HIV and behavioral surveillance
4. Bangladesh's fifth round of sentinel surveillance (2003-2004)
5. Country Report (Bangladesh ), on HIV/AIDS presented in the work shop for development of SAARC regional strategy on HIV/AIDS in Dhaka,Bangladesh on 4-6 April 2005.
6. Global TB Report - WHO 2007
7. UNGASS shadow reports 2006, PANOS, Bangladesh
8. World bank Report on HIV/AIDS, Bangladesh (updated 2007-08-15)
9. HIV and AIDS in SAARC Region, an Update of 2004, 2005 and 2006 of SAARC TB and HIV/AIDS Center

# Bhutan

The Kingdom of Bhutan is a sovereign kingdom in the Himalayas, bounded by India, Tibet, and China. Bhutan's rugged mountains and dense forests long rendered it inaccessible to the outside world until well into the 20th century. The building of a road network connecting Bhutan with India in the 1960s finally brought to an end Bhutan's historic isolation. From that time, Bhutan embarked on Programmes to build roads and hospitals and to create a system of secular education. Its governmental institutions were also modernized.<sup>9</sup> Its estimated total population was 672425 according to National, Health Bulletin – 2006.

*The Himalayan Kingdom of Bhutan, though isolated geographically, is not impervious to HIV/AIDS. Increasing cross-border migration and international travel, combined with behavioral risk factors of the population, mean Bhutan could face rapid growth of HIV. As the epidemic is at a very early stage, there is still time for vigorous action to stop its spread.*

## State of the epidemic on HIV/AIDS

The first case of HIV in Bhutan was reported in 1993.

UNAIDS estimates that about 500 people were living with HIV/AIDS at the end of 2005, which would amount to a prevalence of less than 0.1 percent of the population (WB). Though the country is in low prevalence at present, it is under stage of moving towards generalized epidemic as data on reported cases shows that there are increasing numbers of housewives and children are getting infection year-wise.

### Reported HIV Positive cases

As of December 2006 – a total of 105 cases have been detected and confirmed, among them 55 were males and 50 were females with male to female ratio is 1.1:1. Out of the reported cases 20 have died. (Table 14)

**Table 14: Cumulative No. of Reported HIV positive cases, as of Dec. 2006**

Condition	Male	Female	Total
HIV positives (including AIDS)	55	50	105
AIDS (out of total HIV)	06	03	09
Deaths	16	04	20

Fig 15 shows that there is gradual increase in reported cases of HIV after its first detection. The number of HIV cases added in each year from 2001 as shown in figure are almost similar. Since there increasing trends in HIV cases, it alerts the country to take the steps ahead for the control of spread of HIV.

**Figure 15: Cumulative Number of Reported HIV Cases, 1993-2006**

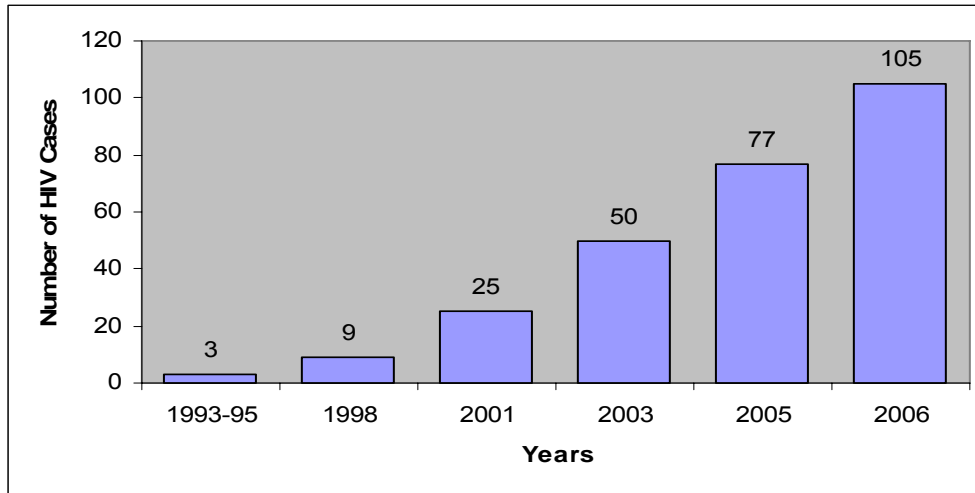


Fig 16 shows that maximum HIV infected persons in age from 25 to 39 years, with men slightly outnumbering women after 24 years whereas below 24 years females outnumber men. The average age of infected women is about 23 years which is lower than the average age for infected men, which is 32 years.

**Figure 16: Age and sex distribution of Reported HIV cases in 2006**

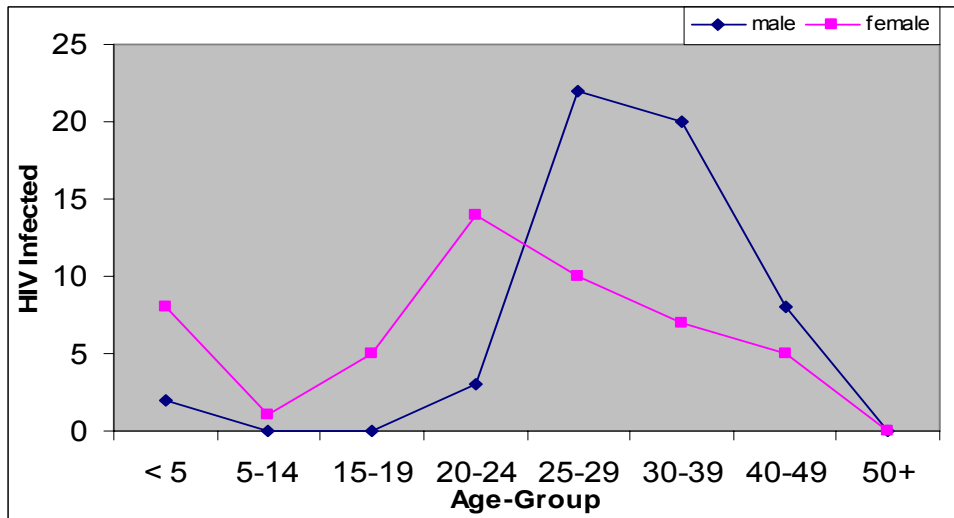


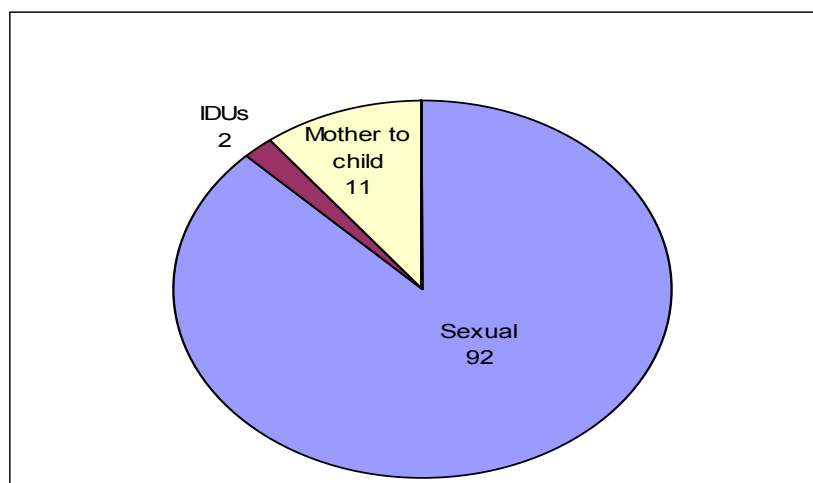
Table 15 shows that among the sub groups of population it can be seen that 22.8 % of reported cases are housewives and 16.2% are uniformed services. 10.4% are children and only 6.6 % are Sex workers. In previous year also among the same subgroups housewife and uniformed services were found to be more infected than others.

Table 15: Cumulative HIV infection by sub-groups and sex as of 2006

Sub-groups	Female	Male	Total (%)
Pregnant women	7	-	7(6.6)
SW	7	-	7(6.6)
TB patient	1	6	7(6.6)
Others	2	21	23(21.9)
Children	9	2	11(10.4)
House wives	24	NA	24(22.8)
Blood donors	-	9	9(8.5)
Uniformed Services	-	17	17(16.2)
Total	50	55	105

Heterosexual route is the primary mode of transmission among reported cases as shown in Figure 17. Interestingly only 2 are IDUs and 11 children got infection from infected mother.

Figure 17: Cumulative HIV infection by Mode of Transmission and sex, till 2005



People living with HIV in Bhutan come from diverse occupational backgrounds. They are farmers, government servants, and female sex workers, in addition to those returning from other countries. Half the infections are reported from Thimphu, the capital, and Phuentsholing, a bustling commercial town bordering the Indian state of West Bengal.

Among the reported HIV cases, HIV infected with pulmonary TB found to be 7 cases and extra pulmonary TB cases nil.

#### RISK AND VULNERABILITY

Despite Bhutan's low HIV prevalence, a number of factors give rise for concern:

- **Prevalence of Sexually Transmitted Infections (STIs):** The presence of STIs among the population increases the risk of HIV infection. Although the exact magnitude of STIs in the country is not known, gonorrhoea, the most common, has an estimated annual incidence of



about 2% among the adult population. Syphilis, on the other hand, for which all blood donors and pregnant women are screened, shows a slightly lower rate. Despite this, 72% of a sample of sex workers in Phuentsholing tested positive for syphilis infection.

- **Spread of Commercial Sex Work:** While the border town of Phuentsholing, with its thriving commercial sex, remains a high-transmission zone, sex work is perceived to be spreading to Bhutan's interior districts of Paro, Tongsa, and Mongar. The construction of hydropower plants and the expansion of road networks has led to a growing number of migrant laborers, truckers, and transport workers whose living conditions are often conducive to commercial and casual sex.
- **Risk of Substance Abuse:** Substance abuse is also associated with a higher risk of HIV infection as certain drugs can increase HIV transmission due to their impact on sexual risk-taking behavior. Although there are no studies on substance abuse in Bhutan, alcohol consumption in the country is extensive, and there are indications of the growing use of amphetamines, particularly among young people.
- **Less Rigid Sexual Norms:** Sexual norms for both men and women are perceived to be less stringent in Bhutan than in other South Asian countries. Multiple concurrent relationships and casual sexual encounters are thought to be common among the general population. On the other hand, the Bhutanese Government's open discussion of sexual health issues, unlike in other countries of the region, is a positive factor.
- **High Mobility:** Mobility, especially of unattached men, leads to increased risks for HIV transmission through commercial and casual sex. Four groups of mobile populations are the focus of HIV-prevention efforts. These include international travelers, such as students and businessmen; military personnel; migrant workers from neighboring countries; and mobile professionals, such as truck drivers and traders. However, the extent to which these groups engage in risky behavior and their level of exposure to HIV is unknown and requires further study.
- **Porous Borders:** Although Bhutan is geographically isolated, its growing trade with neighboring China, northeastern India, Nepal, and Bangladesh has rendered its borders increasingly porous. The high levels of mobility across these borders point to an urgent need for the countries to share information and collaborate on HIV/AIDS prevention efforts.

#### References:

1. Country presentation in SAARC regional workshop among HIV/AIDS control managers in Maldives
2. Country report on HIV/AIDS provided by National HIV/AIDS Control Programme of Bhutan to STC on 16<sup>th</sup> July 2007
3. National, Health Bulletin, Bhutan – 2006.
4. World Bank Report on HIV/AIDS, Bhutan (Updated August 2006)
5. Global TB Report – WHO 2007
6. HIV and AIDS in SAARC Region, an Update of 2004, 2005 and 2006 of SAARC TB and HIV/AIDS Center

# India

India is one of the largest countries in southern Asia. Geographically it is the seventh largest and second most populous nation in the world. Its estimated total population in 2006 was 1114200000 (RNTCP report, 2006) with over half a billion in the 15-49 year-old age group. India shares land borders with Bangladesh, Bhutan, China, Myanmar, Nepal, and Pakistan. The shift of population from rural to urban areas is slower in India than in most developing countries, but one-fourth of the total population is in urban areas.

*The surveillance data shows that there is multiple and diverse HIV sub-epidemics in the country. Heterosexual route is the predominant mode of transmission, followed by injecting drug use. A significant proportion of new infections are occurring in women who are married and who have been infected by husbands. A major challenge is to strengthen and decentralize the program to the state and district levels to enhance commitment, coverage and effectiveness of program for sex workers and their clients, men who have sex with men and injecting drug users. Based on recent information it could be said that only by controlling the epidemic among the vulnerable groups can the dynamic of the epidemic be broken.*

## State of the epidemic on HIV/AIDS

The evidence of HIV was first documented in Chennai in southern India in 1986. From then, by the end of 2006, there were an estimated 2.47 million (2.0-3.1 million) people living with HIV in the country. The highest number of PLHA are in Andhra Pradesh and Maharashtra with nearly 0.5 million PLHA each.

India, the world's second most populous country, has multiple and diverse HIV epidemics with an adult prevalence rate of 0.36% according to HIV Sentinel Surveillance and HIV estimation, 2006 report. This information highlights the following components:

1. HIV prevalence shows signs of slight decline among general population: Though overall HIV epidemic shows a stable trend in the recent years, there is variation between states and population groups. In Tamil Nadu and southern states with high HIV burden, where effective interventions have been in place for several years, HIV prevalence has begun to decline or stabilize.
2. New pockets of high HIV prevalence identified: HIV continue to emerge in new areas. The 2006 surveillance data has identified selected pockets of high prevalence in the northern states. There are 29 districts with high prevalence, particularly in the states of West Bengal, Orissa, Rajasthan and Bihar.
3. The overall HIV Prevalence among different population groups in 2006 continues to portray the concentrated epidemic in India, with a very high prevalence among High risk groups-IDU, MSM, FSW, and STD clinic attendees and very low prevalence (1%) among ANC clinic attendees.

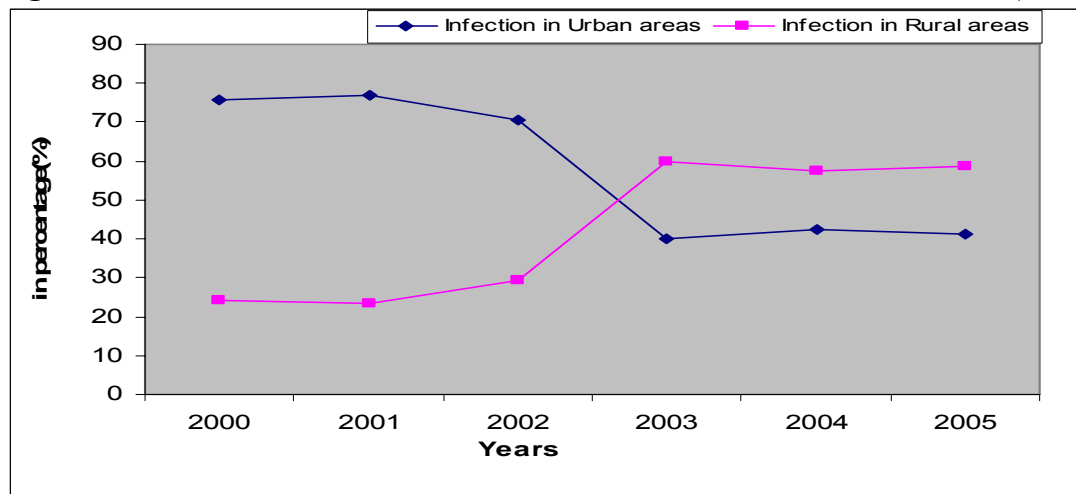
Recent surveillance data suggests there are signs of a decline in HIV prevalence levels among sex workers in areas where focused prevention efforts have been implemented, particularly in the southern states although overall prevalence levels among this group continues to be high.

India's highly heterogeneous epidemic is largely concentrated in six states-in the industrialized south and west, and in the north eastern tip. HIV prevalence is highest in the Mumbai-Karnataka corridor, The Nagpur area of Maharashtra, the Nammakkal district of Tamil Nadu, coastal area of Andhra Pradesh and parts of Manipur and Nagaland.

The Indian epidemic continues to be concentrated in populations with high risk behavior characterized by unprotected paid sex, anal sex and injecting drug use with contaminated injecting equipment. Commercial sex is the major driver of the epidemic in most parts of the country. In addition, in the north-eastern states, injecting drug use is a prominent mode of transmission. Recently, high HIV transmission among MSM is being increasingly recognized in the country. In areas with long standing epidemics in high risk groups, HIV has now penetrated the low risk general population.

Analysis of surveillance data by place of residence indicates that HIV has been spreading to the rural areas as shown in figure 18.

**Figure 18: Estimated Trend of HIV infection in Urban and Rural Areas – (2000-2005)**



Source: HIV/AIDS epidemiological surveillance & Estimation report for the year 2005

According to India's National AIDS Control Organization (NACO), the bulk of HIV infections in India occur during unprotected heterosexual intercourse. Consequently, and as the epidemics has matured, women account for a growing proportion of people living with HIV.

## HIV Estimates

Since 1998, data from the HIV surveillance is used to estimate the number of HIV infections in the country, by taking into account certain assumptions. These assumptions were evolved after a series of consultations with national and international experts.

In 2005, the total number of sentinel sites stands at 703 and this includes 175 STD sites, 391 ANC sites, 30 IDU sites, 18 MSM sites, 83 FSW sites, 4 TB sites and 1 migrant. This was expanded greatly for 2006 surveillance round to a total of 1,122 sites to cover all the districts of the country. (Source: HIV/AIDS epidemiological surveillance & Estimation report for the year 2005, 2006)

The new 2006 estimates released by the National AIDS control Organization as information for media on 6<sup>th</sup> July 2007 showed that 2.47million people living with HIV. These estimates based on an expanded surveillance system and a revised and enhanced methodology. The estimated adult HIV prevalence in the country has declined from 0.45% in 2002 to 0.36% in 2006. The total number of PLHA in the country is also declining from 2.73 million in 2002 to 2.47 million in 2006. The percent of PLHA who are females continues to be around 39%. (Fig 19)

**Figure 19: Trends of Adult HIV prevalence and Number of PLHA, 2002-2006**

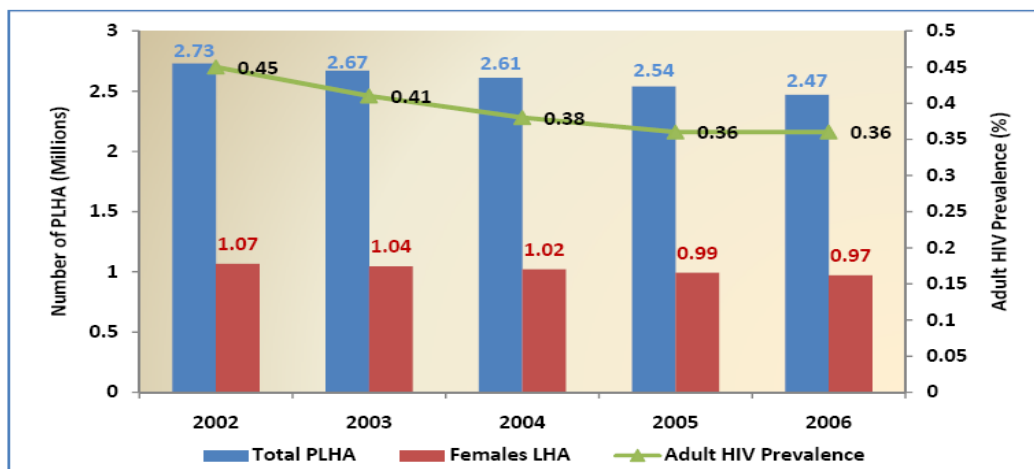
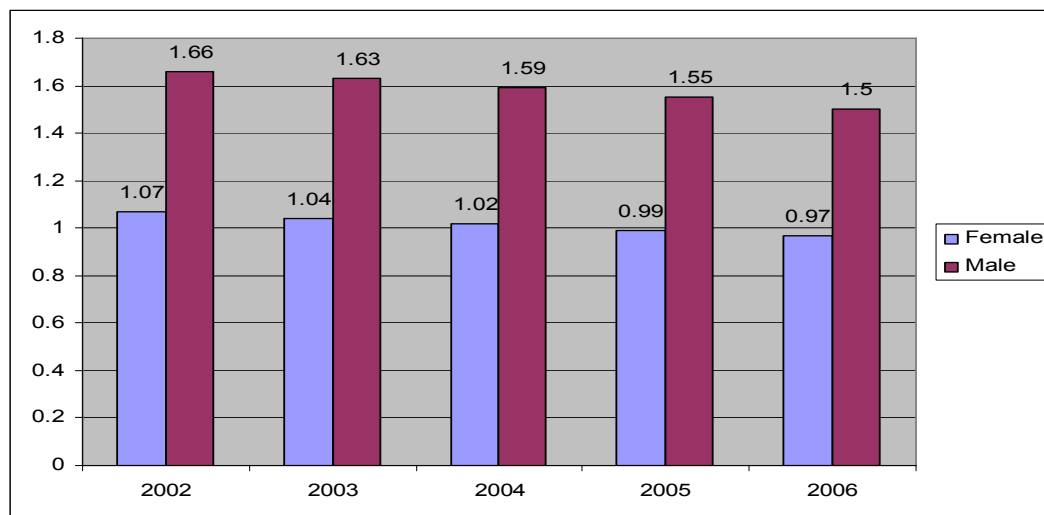


Fig 20 shows that the HIV estimates from 2002-2006 depicts that there is decreasing trend among women as well as men.

**Figure 20: Sex distribution in HIV estimates (2002-2006)**



### Reported HIV cases in India with epidemiological analysis

As reported to the National AIDS control organization (NACO), the cumulative number of HIV cases as of 31 august 2006, was 124995.

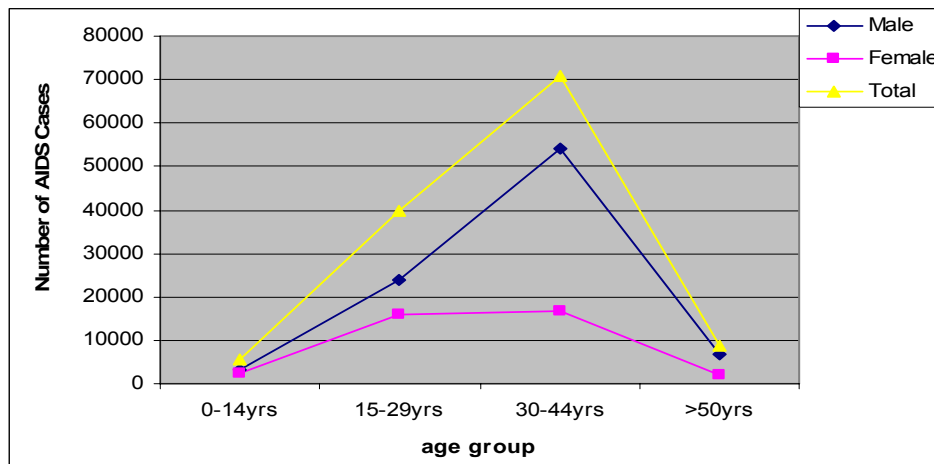
Table 16: Age and sex distribution of reported AIDS cases in India as of 31 August 2006

Age group	Male	Female	Total
0-14yrs	3313	2283	5596
15-29yrs	23905	15876	39781
30-49yrs	54204	16701	70905
>50yrs	6823	1890	8713
<b>Total</b>	<b>88245 (70.6%)</b>	<b>36750(29.4%)</b>	<b>124995</b>

**Epidemiological analysis of reported AIDS cases reveals that:**

- Disease is affecting mainly the people in sexually active age group. About 88.5% of the cases are in the age group of 15-49 years (figure 21).

**Figure 21: Age and sex distribution of reported AIDS cases in India, as of 31 August 2006**



**Figure 22: Year wise trend of Age and Sex distribution of Reported AIDS cases**

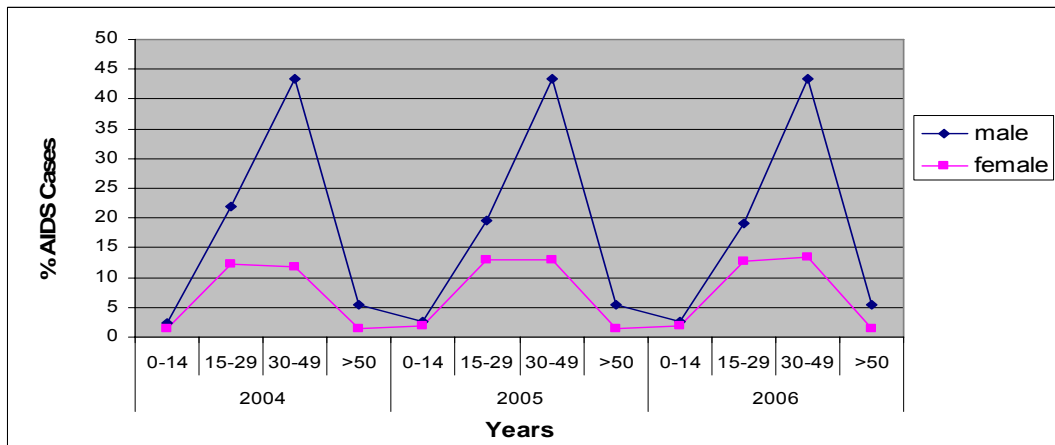
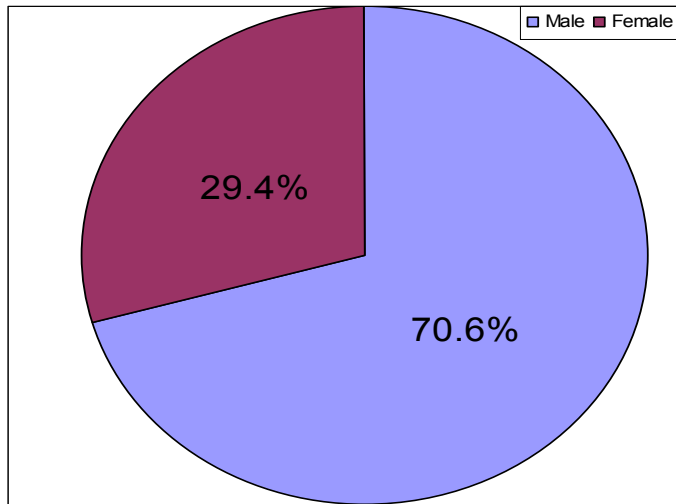


Figure 22 showed that in every year from 2004, maximum females occupied within the age of 15-49 years whereas maximum male cases lies within the age of 30-49 years.

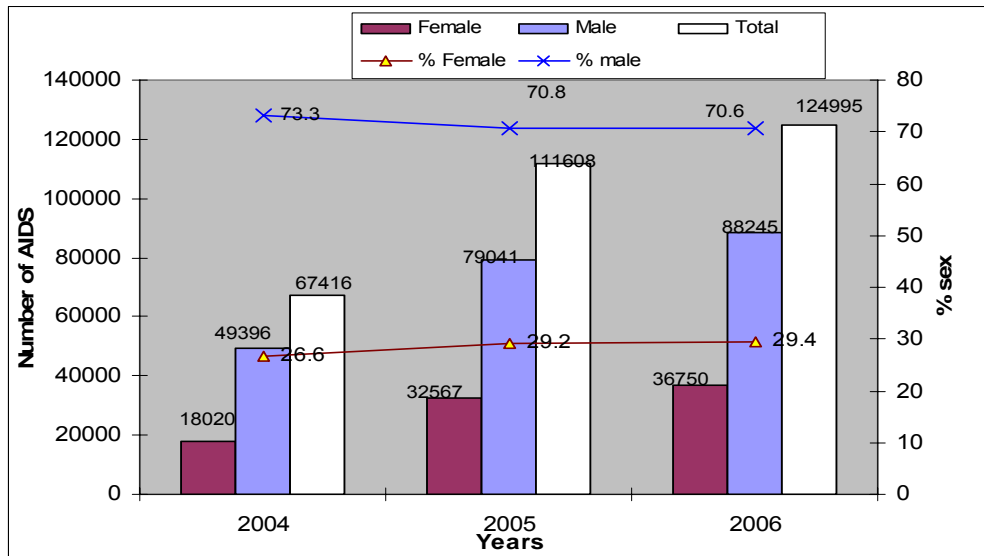
- Males account for 70.6% of AIDS patients and females 29.4%, with the M : F ratio being 2.4:1. (Fig 23.)

**Figure 23: Sex distribution of Reported AIDS cases, India as of 31 August 2006**



The proportion of female cases among reported AIDS cases is increasing (Fig. 24 year wise compare to proportion of male. This may be the consequence of increasing pattern of unprotected heterosexual intercourse, where the regular partners were infected during paid sex. It also shows that epidemic is maturing.

**Figure 24: Year wise sex distribution of cumulative AIDS cases**

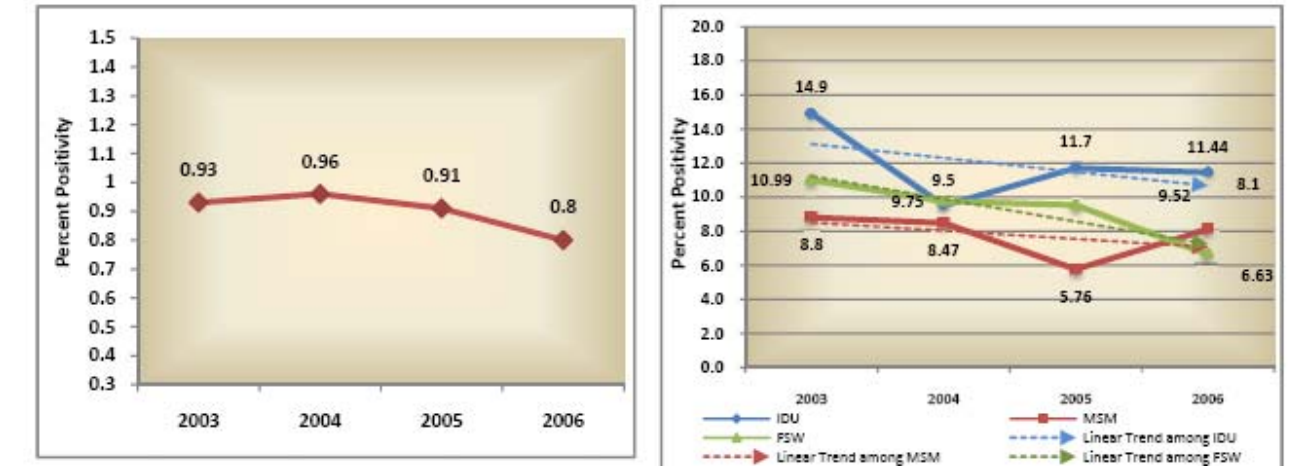


- The most predominant opportunistic infection among AIDS patients is tuberculosis, indicating a potential future high spread of the HIV-TB co-infection.

**HIV Prevalence trend in Different High risk groups:**

Trends among different population group at National as well as state levels are derived based on the HIV prevalence at consistent sites from 2003 to 2006. At all India level the trends of HIV prevalence among ANC clinic attendees as well as among IDU and FSW show a decline, while among MSM, it is stable. (Fig 25)

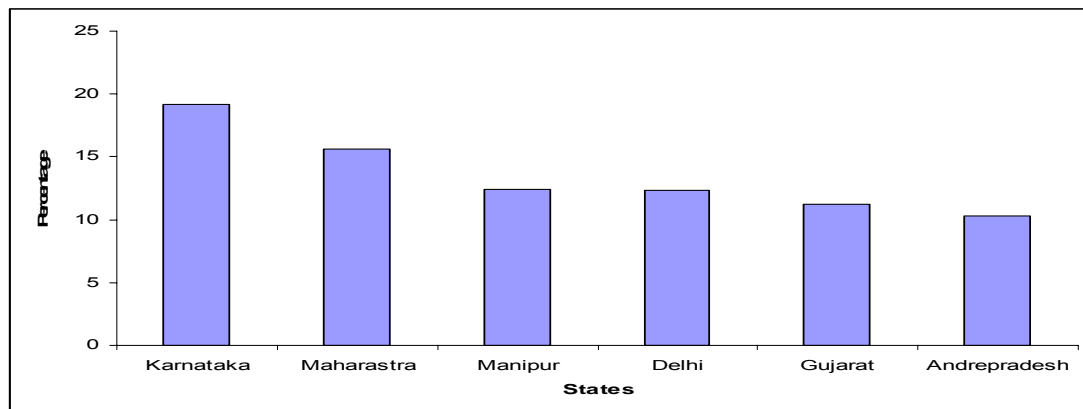
**Figure 25: The Trends among Different Population Groups  
At all India level**



Trends among ANC Clinic attendees, India 2003-2006

Among MSM, high HIV Prevalence is recorded in the states of Karnataka (19.2%), Maharashtra (15.6%), Manipur (12.4%), Delhi (12.3%), Gujarat (11.2%) and Andhra Pradesh (10.3%). Overall, 8 states have shown greater than 5% HIV Prevalence among MSM, while 4 states have HIV Prevalence between 1% and 5%. Remaining states recorded less than 1% prevalence among MSM. Moreover, urban areas of the country such as Delhi, Pune, Bangalore, Surat, Vadodara, Rajkot and Kolkata recorded very high HIV Prevalence among MSM. Fig 26

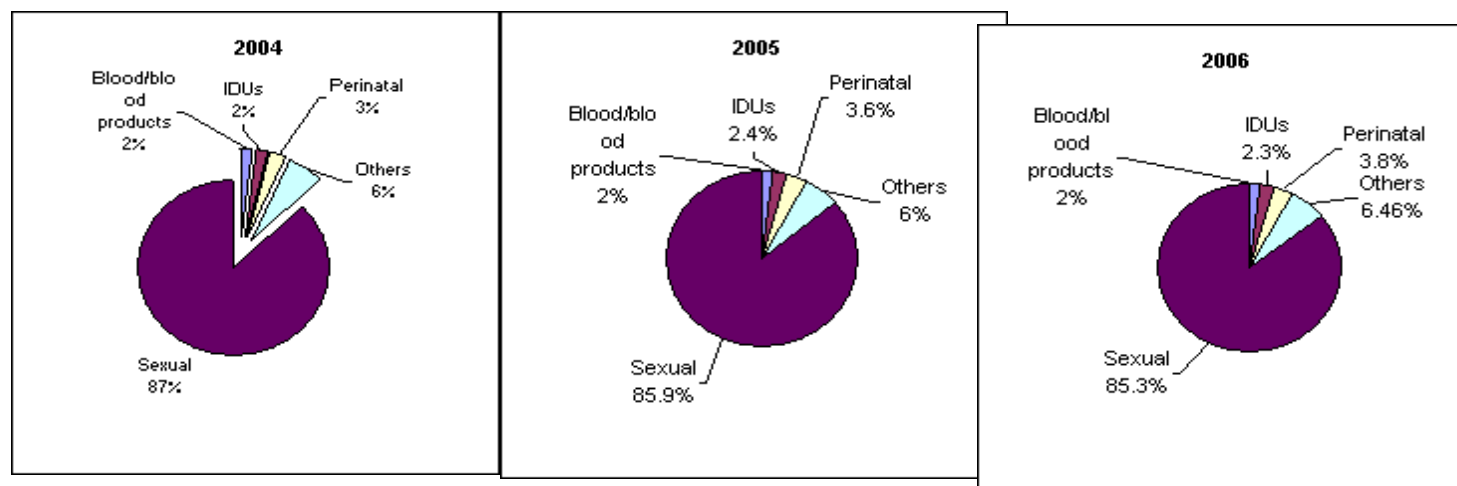
**Fig 26: HIV Prevalence among MSM in selected states of India**



- In each year from 2004, the predominant mode of transmission of infection slightly reported AIDS patients is through heterosexual contact followed by perinatal transmission. There is slightly decreasing trend in

sexual transmission whereas increasing trend in perinatal transmission. This shows implementation of PMTCT program HIV case detection among sexual new newborns is increasing. (Figure 27).

**Figure 27: Year wise Risk/Transmission Categories of AIDS Cases in India**



#### RISK AND VULNERABILITY

Several factors put India in danger of spread of HIV if effective prevention and control measures are not scaled up throughout the country. These risk factors include:

- **Unsafe Sex and Low Condom Use:**

HIV prevention efforts targeted at sex workers are being implemented in India. However, the context of sex work is complex and enforcement of outdated laws often act as a barrier against effective HIV prevention and treatment efforts. Indeed, condom use is limited especially when commercial encounters take place in 'risky' locations with low police tolerance for this activity. In addition, interventions tend to primarily target brothel-based sex workers, who represent a minority of sex workers.

HIV information and awareness among sex workers appears to be low, especially among those working in the streets. Some prevention programs run by sex workers' cooperatives—in Sonagachi, Kolkata, for example—have encouraged safe paid sex practices and have been associated with lower HIV prevalence (Kumar, 1998; Jana et al., 1998).

- **Men Who Have Sex with Men (MSM):**

Relatively little is known about the role of sex between men in India's HIV epidemic, but the few studies that have examined this subject have found that a significant proportion of men in India do have sex with other men and HIV problem found to be increasing. Poor knowledge of HIV has been found in groups of MSM. The extent and effectiveness of India's efforts to increase safe sex practices between MSM (and their other sex partners) will play a significant role in determining the scale and development of India's HIV epidemic.

- **Injecting Drug Use (IDU):**

Injecting drug use is the main risk factor for HIV infection in the north-east (especially in the states of Manipur, Mizoram and Nagaland), and features increasingly in the epidemics of major cities elsewhere, including in Chennai, Mumbai and New Delhi (MAP, 2005; NACO, 2005). Using shared injecting drug



equipment is the main risk factor for HIV infection in the north-east, and features increasingly in the epidemics of cities in other states.

Currently interventions targeting IDU tend to be inconsistent, and too small and infrequent to yield demonstrable results. (Basu and Koliwad, 2006) Harm reduction programs need to be extended and expanded as a matter of urgency in those parts of India with serious drug injecting-related HIV epidemics.

- **Migration and Mobility:**

Migration for work takes people away from the social environment of their families and community. This can lead to an increased likelihood to engage in risky behavior. Concerted efforts are needed to address the vulnerabilities of the large migrant population. Furthermore, a high proportion of female sex workers in India are mobile. The mobility of sex workers is likely a major factor contributing to HIV transmission by connecting high-risk sexual networks.

- **Low Status of Women:**

Infection rates have been on the increase among women and infants in some states as the epidemic spreads through bridging population groups. As in many other countries, unequal power relations and the low status of women, as expressed by limited access to human, financial, and economic assets, weakens the ability of women to protect themselves and negotiate safer sex both within and outside of marriage, thereby increasing their vulnerability.

- **Widespread Stigma:**

Stigma towards people living with HIV is widespread. The misconception that AIDS only affects men who have sex with men, sex workers, and injecting drug users strengthens and perpetuates existing discrimination.

The extent and effectiveness of India's efforts to increase safe sex practices between sex workers and their clients, and between men who have sex with men will likely determine the scale and development of India's HIV epidemic. In addition, more must be done to combat stigma-which remains rife in all walks of Indian society, including health care workers and to reduce the gender and other inequalities that make HIV prevention and treatment such a huge challenge in this country. (Lancet 2006)

Addressing the issue of human rights violations and creating an enabling environment that increases knowledge and encourages behavior change are thus extremely important to the fight against AIDS.

#### References:

1. Global TB Report – WHO 2007
2. World bank Report on HIV/AIDS, India (updated 2007-08-15)
3. HIV and AIDS in SAARC Region, an Update of 2004, 2005 and 2006 of SAARC TB and HIV/AIDS Center
4. HIV/AIDS epidemiological surveillance & Estimation report for the year 2005, April 2006
5. Ministry of Health & Family Welfare. NACO, India. Facts & Figures (HIV Estimates- 2004). Available at: <http://www.naco.nic.in>. Accessed September 01, 2005.
6. Ministry of Health & Family Welfare. NACO. Facts & Figures (HIV Estimates- 2003). Available at: <http://www.naco.nic.in>. Accessed September 01, 2005.
7. Ministry of Health & Family Welfare. NACO, India. Facts & Figures (HIV Estimates- 2005). Available at: <http://www.naco.nic.in>. Accessed 7/4/2007.
8. Country presentation in Joint WHO/UNICEF/UNAIDS Technical Consultation on scale up of HIV testing and counseling, 4-6 June,2007
9. National AIDS Control Organization (NACO), India released news on 6<sup>th</sup> July 2007, New Delhi
10. HIV/AIDS epidemiological surveillance & Estimation report for the year 2006, November 2007

# Maldives

The Maldives is a small independent island nation consisting of a chain of about 1,300 small coral islands and sand banks (roughly 202 of which are inhabited), grouped in clusters, or atolls in the Indian Ocean. Tourism, fisheries, shipping and construction are the major industries. Tourism is a fast growing sector of the economy. Resort islands, and modern hotels in Male attract increasing numbers of tourists during the winter months. Its population was estimated to be about 298968 in 2006.(Country Presentation 2007)

*The Maldives took action against HIV/AIDS before the first domestic case was reported in 1987 and, as a result, has so far kept the threat to a minimum. With few resources currently required for treatment, the Maldives has the opportunity to focus on better understanding risk factors, such as sexual practices and drug use and accessibility to health services, and translating this knowledge into improved action in the ongoing HIV/AIDS program.*

## State of the epidemic on HIV/AIDS

The estimated prevalence among adult population (15-49) was less than 0.1%. This suggests that Maldives is a low HIV prevalence country with a very small magnitude of HIV epidemic. But despite this low level of HIV epidemic the country is not free of risk or vulnerability factors that may worsen the situation if proper attention is not given.

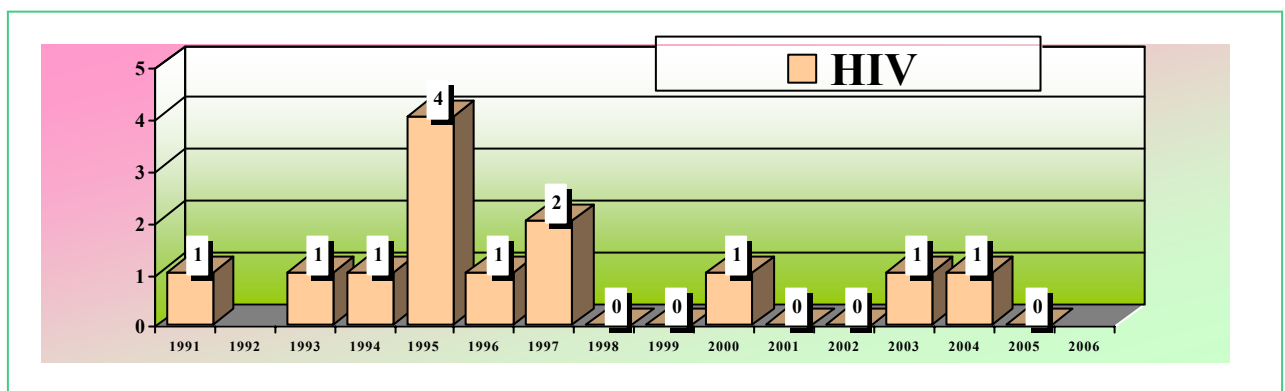
The important risk factors that can worsen the HIV/AIDS situation in Maldives are:

- High mobility of the Maldivian for search of work-both internal and external
- Mobility of students for higher education in abroad
- High proportion (about 1/3rd) of population below 35 years of age
- High level of tourism and large number of expatriate workers
- Presence of High Risk Behavior such as drug abuse and multiple sex partners with low condom use
- High rate of divorce and marriage also indicates increase number of sex partner exchange
- High prevalence of thalassemia requiring frequent blood transfusion
- Prevalence of STI

## Reported HIV positive cases of Maldives

From 1991 to June 2006, 201 HIV positive cases have been documented in Maldives. Expatriate workers account for most of the documented infections. Among 201, expatriate are 188, 13 are Maldivian, 11 male & 2 female till now, 10 have died. All HIV positive cases detected so far were in the age group of 20-45 years.

HIV Positives –Yearly distribution is shown in figure below:



## RISK AND VULNERABILITY

**Mobility:** Many Maldivian citizens go abroad for education and work and are away from their families for long periods of time. More information is needed on the risk behaviors that these citizens may engage in while they are away from the support of their families.

**Sexual Practices:** High rates of divorce and remarriage in the Maldives create exposure to large sexual networks capable of transmitting HIV and other STDs. Since HIV symptoms often do not appear for many years, people who are unaware that they are infected may infect many of their serial spouses and casual sex partners.

**Drug Use:** Drug-related arrests have increased 40 times from 1977 to 1995 in the Maldives, most likely paralleling an increase in drug use. Drug use is a risk factor for HIV/AIDS in Maldives.

**Dispersed Population:** Maldivian inhabit 200 of the 1,200 islands that make up their country. This dispersed population creates barriers to educating people on HIV/AIDS, distributing condoms, and treating people for STDs that increase transmission of AIDS. A UN study in 2000 revealed that in the smaller islands 55 percent of the population has no radio, and 86 percent have no television in the home. Many small islands have no bookstore, and access to newspapers is irregular.

**Tourism Employment:** The Maldivian tourist economy employs about 5,000 immigrant workers, mainly from India and Sri Lanka. These workers, far from their support systems, families, and usual sexual partners, are vulnerable to participating in high-risk behaviors such as sex without a condom and sex with commercial sex workers.

### **External Tourism:**

In 1998, almost 400,000 tourists visited the Maldives, one and a half times the entire population of the Maldives. The great influx of people from all over the world represents a potential route of introduction of HIV and high-risk behaviors such as injecting drug use and unsafe sex.

### **References:**

1. World bank Report on HIV/AIDS, Maldives (updated 2007-08-15)
2. HIV and AIDS in SAARC Region, an Update of 2004, 2005 and 2006 of SAARC TB and HIV/AIDS Center
3. Country presentation in SAARC regional workshop among HIV/AIDS control managers in Maldives, 2007
4. Country report on HIV/AIDS provided by National HIV/AIDS Control Programme of Maldives to STC on July 2007
5. Country Report (Maldives), on HIV/AIDS presented in the work shop for development of SAARC regional strategy on HIV/AIDS in Dhaka, Bangladesh on 4-6 April 2005.
6. STC. 2005. Situation analysis of TB control activities and observation of HIV/AIDS control activities in Maldives, 14-18 Aug 2004.

# Nepal

Nepal is landlocked sharing borders with India and China. It is made up of 75 districts divided into five different development regions (Far- Western, Mid-Western, Western, Central and Eastern). The population of Nepal is 25266209 (NTP Report – 05/06). The urban population in Nepal is mostly concentrated in the Kathmandu valley. Nepal has a market economy largely based on agriculture and tourism.

In Nepal, the topography, environmental degradation, poverty and economic migration are linked and they combine with other factors to increase the vulnerability to HIV.

*Nepal is facing rapid increases in HIV prevalence among high risk groups such as sex workers, injecting drug users and migrants. Nepal's poverty, political instability and gender inequality, combined with low levels of education and literacy make the task all the more challenging, as will the denial, stigma, and discrimination that surround HIV/AIDS.*

## State of the epidemic on HIV/AIDS

The first HIV infection in Nepal was identified in 1988.

During the early 1990s, HIV seroprevalence surveys detected HIV infections among STI patients and FSW throughout most regions in Nepal. IDUs in Nepal were initially believed to share injection equipment in relatively small and isolated networks. However, since the mid-1990s, an explosive increase in HIV infection (infecting about one-half of all IDU throughout the country and near about two-third in the Kathmandu valley) has occurred .

Nepal's HIV epidemic is largely concentrated in high-risk groups, especially sex workers (SW) and IDUs. Injection drug use appears to be extensive in Nepal and to significantly overlap with commercial sex. Another important factor is the high number of sex workers who migrate or are trafficked to Mumbai, India to work, thereby increasing HIV prevalence in the sex workers' network in Nepal more rapidly. There are many risk factors that put Nepal in danger of experiencing a widespread epidemic. Some of these include cultural, social and economic constraints to condom use, especially with commercial sex workers, and large number of internal and external migrants within Nepal and neighboring countries.

At the end of 2005, the number of People Living with HIV/AIDS (PLHA) in Nepal was estimated at 70,256 persons, 46% of them were estimated to be seasonal labour migrants and 20.2% wives or partners of HIV+ men. Estimated mortality among adult and children is 3,800.

**Table 17: National Summary information on HIV/AIDS, as of July 2007 : (NCASC, programme)**

Estimated number of adult living with HIV/AIDS	70,256 (2005)
Estimated number of adult and children mortality	3,800 (2005)
Reported HIV Cases	9756(July-07)
Reported AIDS Cases	1454(July-07)
HIV Prevalence rate in IDUs	32.7%(2005)
HIV Prevalence rate in SW	3.8%(2005)
HIV Prevalence rate in CSW	2.1%(2005)
HIV Prevalence rate in MSM	3.6%(2005)

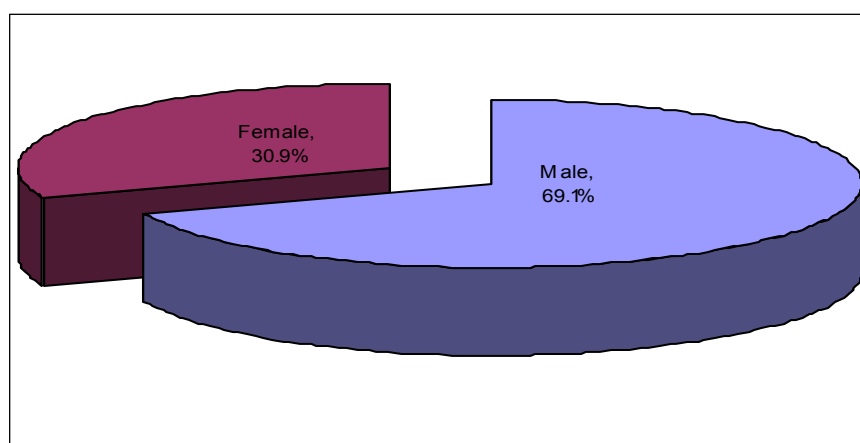
## Reported HIV cases as of July 2007

As reported to the National Centre for AIDS and STD control, Teku, Kathmandu, Nepal, the cumulative number of HIV positive cases including AIDS as of July 2007, was 9756. (Table 18). Among them 69.10% were males and 30.90% were females with a male: female ratio of 2.23:1. (Fig 28) Out of these total HIV positive cases, 1454 were full blown AIDS cases; 72.35% males and 27.64% females, (M: F= 2.61:1). A Total of 423 deaths due to AIDS were reported.

**Table 18: Reported HIV and AIDS cases in Nepal as of July 2007**

Condition	Male	Female	Total	New cases in July 2007
HIV positive including AIDS	6742	3014	9756	224
AIDS out of total HIV+	1052	402	1454	44

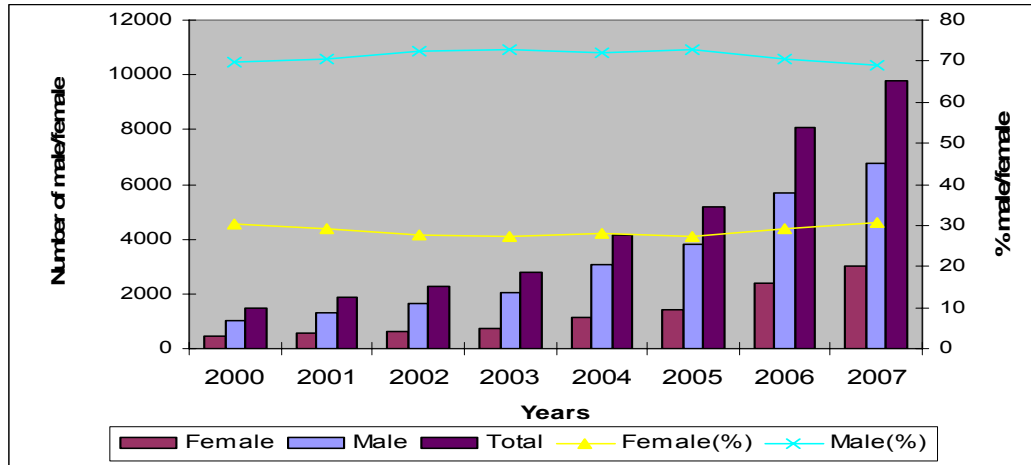
**Figure 28: Sex distribution of Reported HIV+ cases in Nepal, as of July 2007**



*Epidemiological analysis of reported HIV positive cases reveals that:*

- On year wise analysis of data on reported cases of male and female, it reflected to be gradual increasing trend of infection among female along with male. Proportions of male and female among total reported cases increasing till 2005, after this there is decline among male proportion and slightly increase in female proportion. (Fig 29). Proportions of Housewives infected among total HIV infected cases start increasing from 2003 onwards gradually though female proportion among total start increasing from 2005. Similarly proportion of HIV infected children start increasing from 2004 though there was a peak at 2002.( Fig 30)

**Figure 29: Year Wise trend of Sex distribution of Reported HIV+ cases**



**Figure 30: Trend of Proportion of different HIV infected Groups**

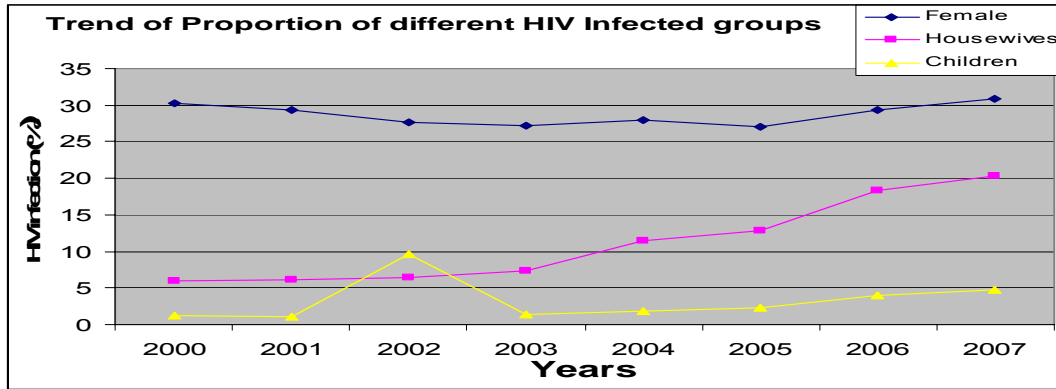
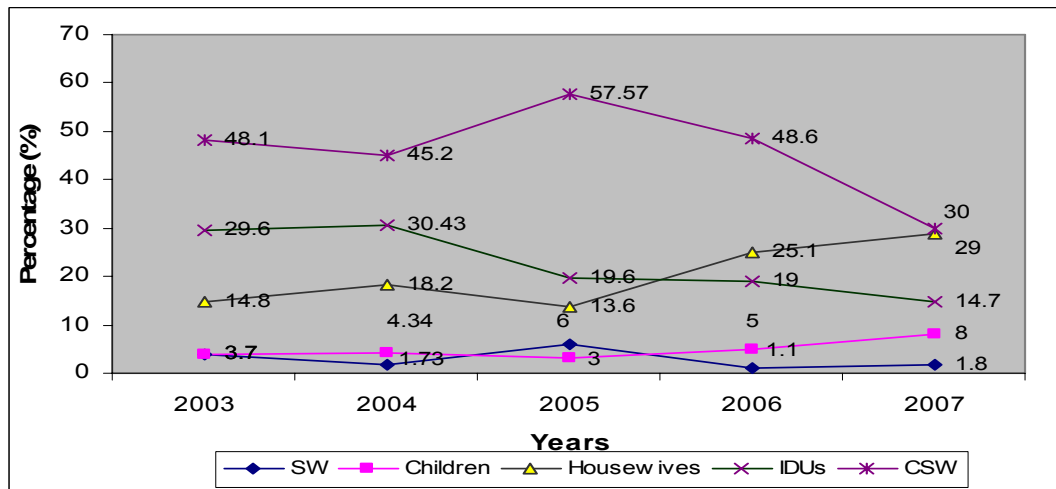


Fig 31 shows that among the reported new cases, proportion of reported CSWs and IDUs cases start decrease from 2005 while increase among housewives and children. Reporting numbers of SWs decrease on 2006 compared to 2005 and again increase on 2007. This reflects the expansion of condom promotion and harm reduction program or possible changes in access to services for SW and IDUs.

**Figure 31: Percentage of HIV infected Subgroups among Reported New Cases**



- Disease is affecting mainly the people in sexually active age group of 15-49 years. Nearly 92 % of the cases are in the age group of 15-49 years (Figure 32). 41 % of men and 51 % of women were 15 to 29 years old, while 50 % of men and 40 % of women were 30 to 49 years old.

**Figure 32: Age and sex distribution of Reported HIV+ cases in Nepal, as of July 2007**

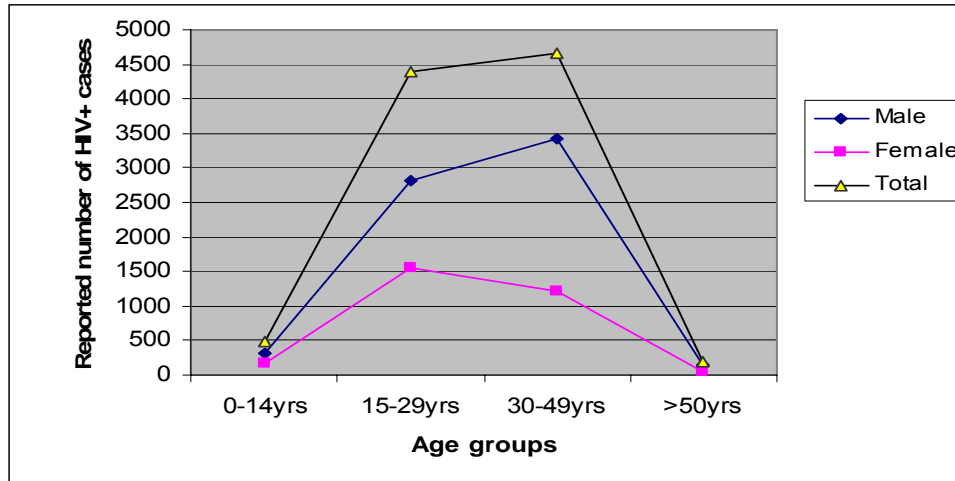
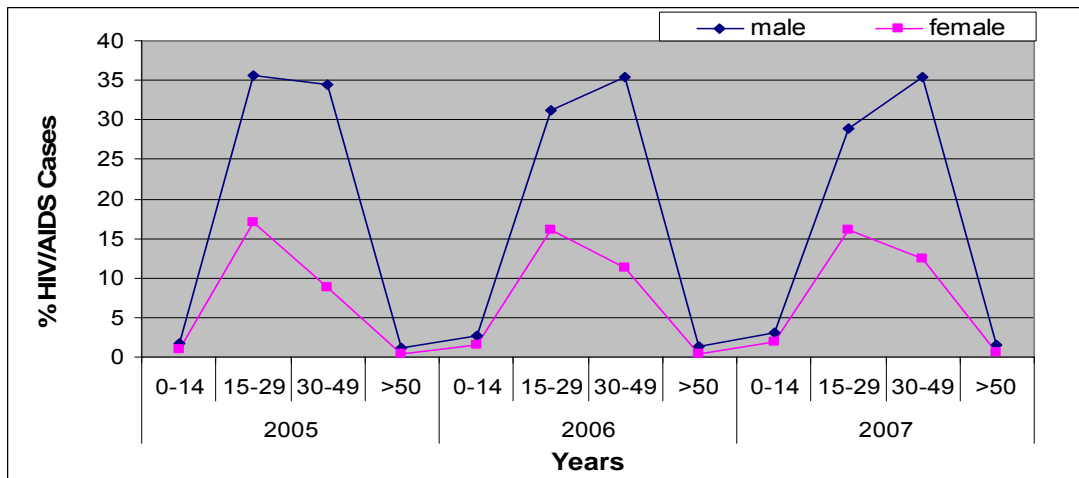


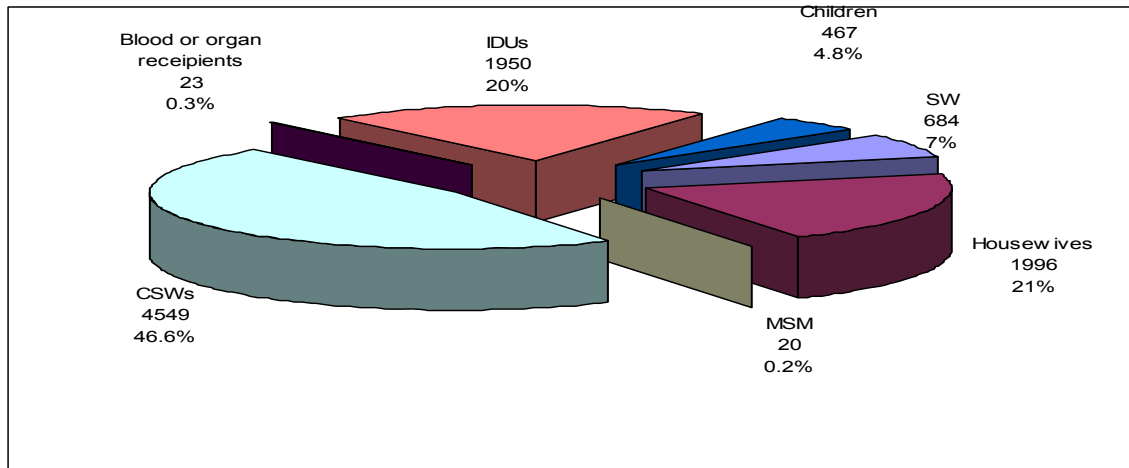
Fig 33 showed that in each years (2005-2007) HIV infection among female decreasing during the older age group and peak among 15-29 years group. While among male, HIV infection after 2005 increase during older age group and peak among 30-39 years group.

**Figure 33: Year wise Age and Sex distribution of Reported HIV/AIDS Cases**



- About 46.6% of the reported HIV positive cases belong to clients of sex workers followed by Housewives (21.0%), IDUs (20.0%) and sex workers (7.0 %). (Figure 34). This shows that the number of infected housewives is about three time higher that the number of sex workers.

**Figure 34: Cumulative HIV positives among Sub group of population, as of July 2007**

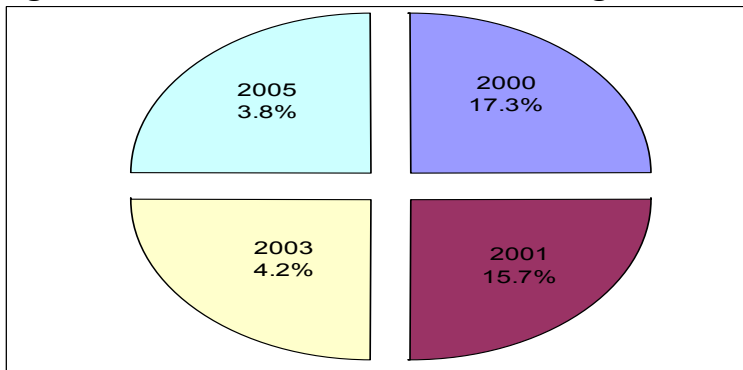


**HIV Prevalence trends in Different risk groups**

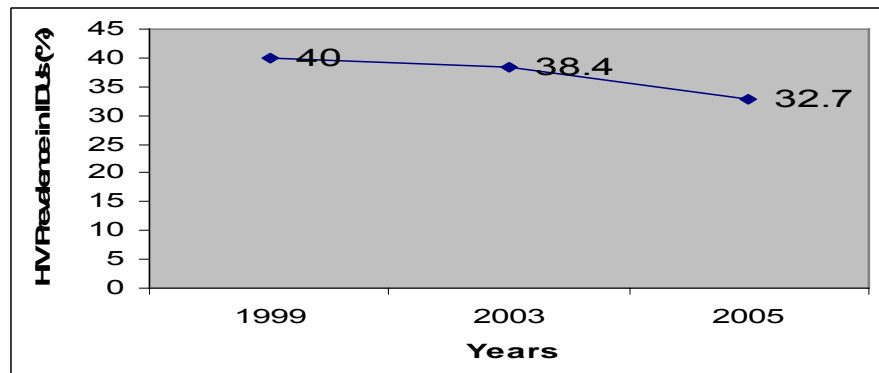
Although the absolute number of HIV infected population has increased over the years, the HIV prevalence has declined among some groups while among others it has increased unabated.

HIV Prevalence was 17.1% among sex workers in 2000 and over the years it has gradually declined to 3.8% by 2005. (Fig 35) HIV prevalence among Intravenous drug users was 40% in 1999, 38.4% in 2003 and declined to 32.7% in 2005. (Fig 36)

**Figure 35: Year wise HIV Prevalence among FSWs:**



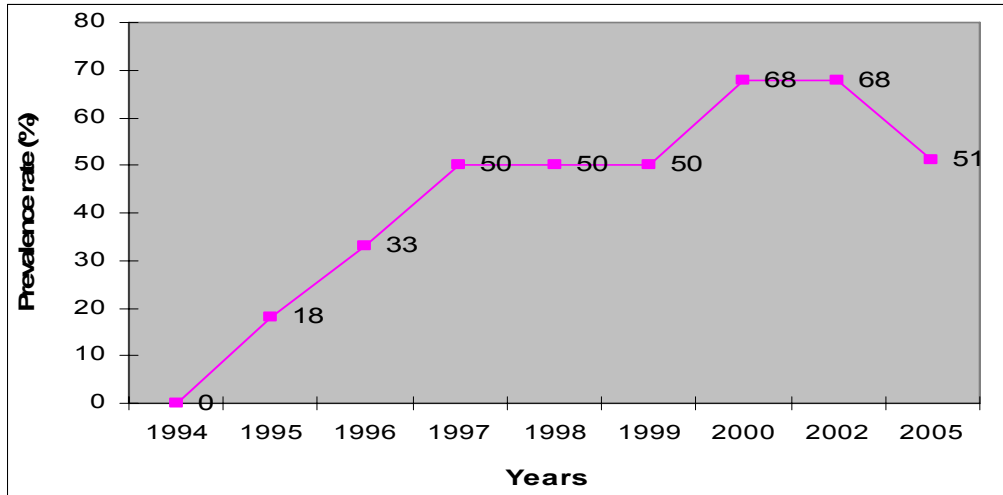
**Figure 36: HIV Prevalence among IDUs, Nepal**





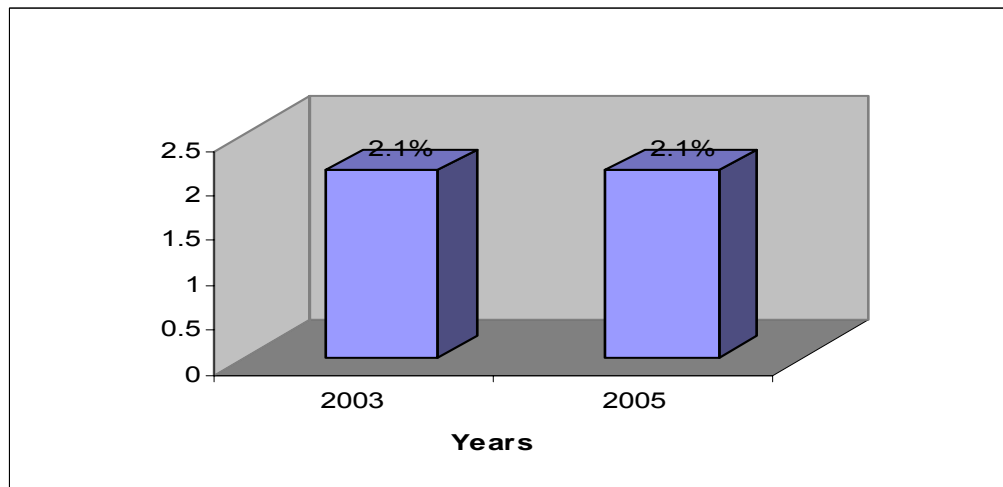
The surveys carried out in different years among IDUs in Kathmandu showed prevalence rates ranging from 18% in 1995 to 51% in 2005. During 2000-2002 periods, the prevalence was peak at 68%, then decline in 2005. (Fig 37) Though national figure showed declining as years past while in Kathmandu only found to be decreased on 2005.

**Figure 37: HIV Prevalence among IDUs in Kathmandu**



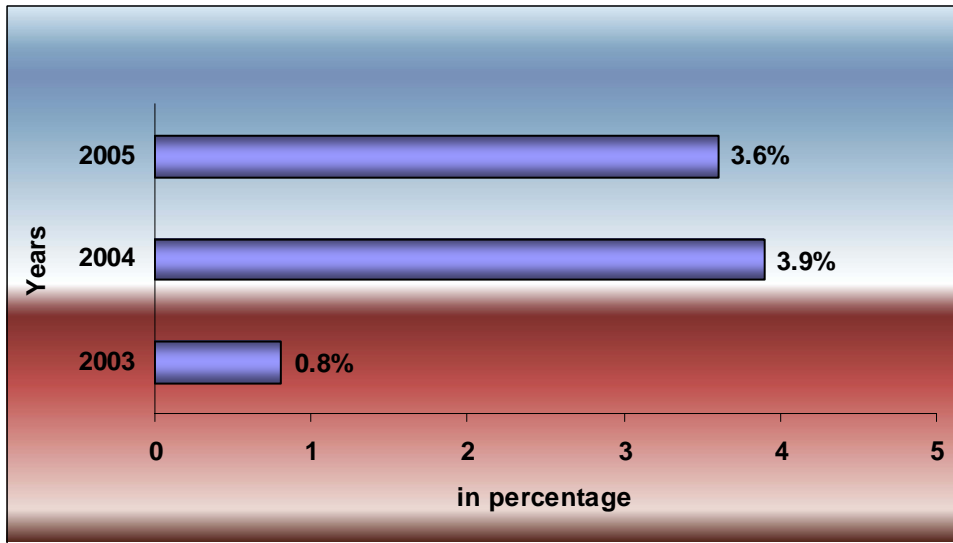
HIV prevalence among Clients of Sex workers (CSWs) was not encouraging. In 2003 HIV prevalence among CSWs was 2.1 % and even after 2 years found to be same. Fig 38

**Figure 38: HIV Prevalence among CSW, Nepal**

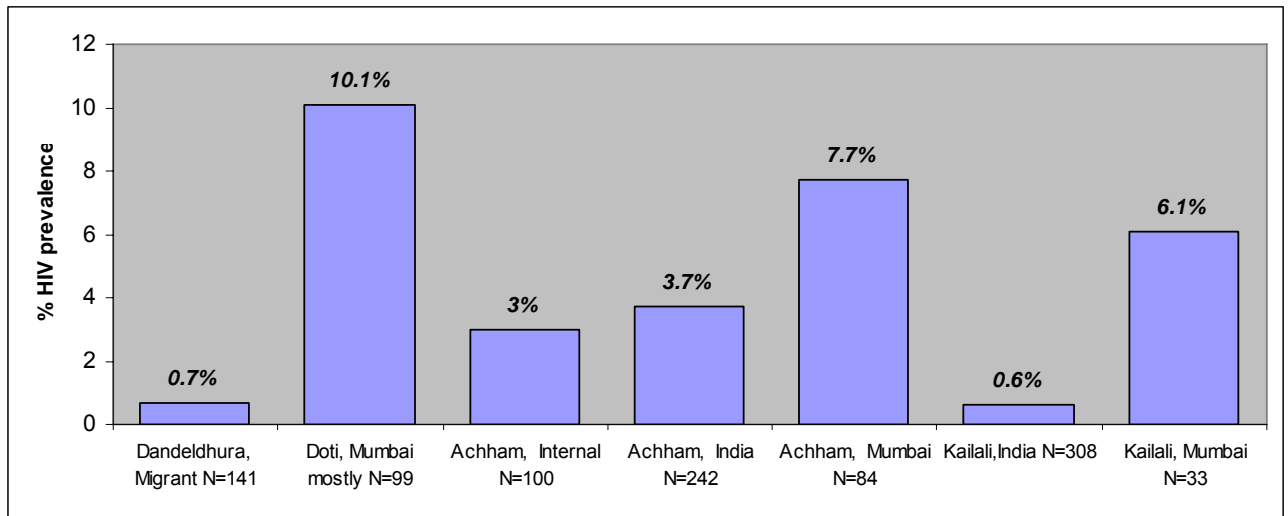


The surveys carried out in different years in Kathmandu showed HIV prevalence among Men who have sex with men was worse over the years. It was 0.8% in 2003 and over two years it shot up to 3.6%. Fig 39

**Figure 39: HIV Prevalence among MSM, Kathmandu, Nepal**



**Figure 40: HIV Prevalence among Migrants in Far Western Districts of Nepal, 2001**



Survey carried out in 2001 in different randomly selected far western districts of Nepal, regarding HIV prevalence in migrants showed prevalence rates ranging from 0.6% in Kailali to 10.1% in Doti. In this survey in Achham found to be with in the range of 3%-7.7%, (Fig 40) while survey carried out in Achham in 2002 among labour migrants showed high prevalence reaching 8%. There are maximum migratory populations in this region compare to other region, hence survey concentrated in this region. Since migration internal as well as external especially to India is increasing in all regions of Nepal and in addition HIV prevalence among migrants found to be increasing, there is a need of broad scientific study among this group to get the clear picture of distribution of HIV.

Among the subgroups the proportion of children and housewives are in increasing trends, indicating the spread of HIV infection from high-risk groups to general population. The clients of sex workers comprising bigger proportion of the HIV infected people are the major contributors in transmitting the infection from sex workers to

house wives (mothers) and then to children. Fortunately, the proportion of IDU, the most badly affected high-risk group in Nepal is showing decreasing trend. These IDUs some of whom visits sex workers and also lead conjugal lives are the substantial transmitter of HIV infection to mother & children.

Since Migrants constitute the bigger proportion of CSWs, there might be increase in HIV prevalence among CWSs. This might be the reason for increasing trend among housewives and children.

Based on this background, It can be seen that Nepal is experiencing transition of HIV epidemic from a high risk behavior groups to low risk behavior population. Current report shows that housewives have acquired HIV three times more than the female sex workers in absolute numbers. It can be seen that the concern need to be raised from all those working in HIV/AIDS.

## **Risk and Vulnerability**

Nepal's epidemic will continue to grow if immediate and vigorous action is not taken and will be largely driven by injection drug use, sex work and migration. Major risk factors are as follows:

### **Continued Spread among Injecting Drug Users:**

In most Asian countries, IDUs are the first community to be affected by HIV. Nepal was the first developing country to establish a Harm Reduction Program with needle exchange for IDUs. However, due to the program's limited coverage, the impact on HIV spread among this group is also limited.

### **Trafficking of Female Sex Workers:**

Due to their highly marginalized status in society, female sex workers in Nepal have limited access to proper information about reproductive health and safe sex practices. Cultural, social, and economic constraints bar them from negotiating condom use with their clients or obtaining legal protection and medical services. Almost 60 percent of their clients, who are mainly transport workers, members of the police or military, wage earners, and migrant workers, do not use condoms.

A major challenge to HIV control in the country is the trafficking of Nepalese girls and women into commercial sex work in India, and their return to Nepal. About 50 percent of Nepal's FSWs previously worked in Mumbai, India, and some 100,000 Nepalese women continue to engage in the practice there.

### **Changing Values among Young People:**

Young people are increasingly vulnerable to HIV due to changing values, group norms, and independence. Girls, even if they have knowledge about HIV/AIDS and other Sexually Transmitted Infections (STIs), do not have the means of protecting themselves due to their traditionally lower social status. Teenagers, although apparently highly aware of the HIV risk (based on behavioral surveys), do not necessarily translate this awareness into safe sex practices. A high prevalence of premarital sex exists, with 20 percent of teenagers considering it acceptable among young people.

### **High Rates of Migration and Mobility:**

Estimates of internal and external migration for seasonal and long-term labor range from 1.5 to 2 million people. It is necessary for the economic survival of many households in both rural and urban areas. Removal from traditional social structures, such as family, has been shown to promote unsafe sexual practices, such as having multiple sexual partners and engaging in commercial sex.

Studies carried out in far western districts neighboring India have revealed that 3 to 10 percent of male migrants are HIV positive. Since HIV prevalence among CSWs is static till 2005 and we can think that major proportion of them will be migrant workers, there is creating of good source of transmitting the infection to low risk population.

### **Low Awareness among Men Who Have Sex with Men (MSM):**

A recent report suggests that MSM activity in Nepal is not different from the MSM activities of the rest of the South Asia region. The knowledge of safe sex and condom use is low among this community. Furthermore, many men who have sex with men are also married, which puts their spouses at risk of becoming infected with HIV. Survey in Kathmandu in different years showed HIV prevalence in this group is increasing. The Blue Diamond Society is a Non-governmental Organization (NGO) founded in 2001 to address the needs of Nepal's sexual minorities. It provides community-based sexual health, HIV/AIDS, and advocacy services for local networks of sexual minorities.

(Source; World Bank report - April 2006 )

### **References:**

1. Country report on HIV/AIDS provided by National Centre for AIDS and STD control to STC on July 2007
2. World Bank Report on HIV/AIDS, Nepal, April 2006
3. HIV and AIDS in SAARC Region, an Update of 2004, 2005 and 2006 of SAARC TB and HIV/AIDS Center
4. HIV Prevalence among Diagnosed TB Patients – A cross Sectional Study in Nepal – 2005 by SAARC TB and HIV/AIDS Centre.
5. STC. 2006. Situation analysis of TB control activities and observation of HIV/AIDS control activities in Nepal, Aug 2006.
6. National HIV/AIDS strategy (2006-2011), Nepal , HMG Nepal, MoH, National Centre for AIDS & STD Control, August 2006.
7. A Rapid Assessment on HIV/AIDS Related Community Coping mechanisms with a Focus on Children and Families Affected by HIV/AIDS in Selected Districts in Nepal April 15 2007

# Pakistan

Pakistan is Asia's seventh largest country occupying the northwestern portion of the Indian subcontinent. It is bounded to the west by Iran, to the north by Afghanistan, to the northeast by China, to the east and southeast by India, and to the south by the Arabian Sea. The estimated population is 158004000 (NTP, Report - 2005).

*While Pakistan does not yet have a high number of reported HIV/AIDS cases, a number of vulnerabilities and pattern of risky behaviors signal the need to take action now. Pakistan's HIV epidemic is concentrated among a few population subgroups and has a low prevalence among the general population.*

## State of the epidemic on HIV/AIDS

The evidence of HIV was first documented in Pakistan in 1986.

As of end 2005, UNAIDS had an estimated 85000 people (adults and children) living with HIV with 0.1% HIV prevalence level that can be considered low. (UNAIDS 2006 report)

Until recently, Pakistan was classified as a low-prevalence country with many risk factors that could lead to the rapid development of an epidemic. In 2004, a concentrated outbreak of HIV was found among Injecting Drug Users (IDUs) in Karachi, where over 20 percent (one in four) of those tested were found to be infected. High levels of HIV infection - 7 percent - were also found among men who have sex with men (MSM) in this city in 2005. In addition based on the report recent study conducted among high risk groups in all provinces under National AIDS Control Programme, Pakistan, it can be said that although the estimated HIV burden is still low-around 0.1 percent of the adult population-the country is facing a concentrated epidemic among injecting drug users with HIV prevalence above 5 percent among IDUs in five provinces of six provinces.

Given the linkages between IDUs and other high risk populations including male and female sex workers, Pakistan needs to scale up targeted intervention urgently to prevent rapid increase in HIV among vulnerable groups and also to prevent the spills over to general population. The combination of high levels of risk behavior and limited knowledge about HIV among injecting drug users and sex workers could lead to the rapid spread of HIV.

## Reported HIV cases as of 2006 with epidemiological analysis:

By 2006, the cumulative number of total reported HIV/AIDS cases was 3753 among them 372 were AIDS cases and HIV positive cases were 3381. (Table 19)

Fig 41 showed that there is increasing trend in cumulative HIV/AIDS reported cases. Although overall HIV prevalence is low in Pakistan, this increasing trend in reported cases shows awareness on HIV/AIDS among general population is increasing.

Based on fig 42 it can be said that proportion of male among reported HIV cases is far more than female proportion and also the trend is increasing year wise in case of male, while decreasing in case of female.

Table 19: Cumulative No. of Reported HIV and AIDS cases, Pakistan, Sept/2000 – 2006

As of	Total HIV+ cases	AIDS cases out of HIV+ cases
6 Sept. 2000 <sup>26</sup>	1 699	Data not available
Dec. 2002 <sup>22</sup>	1 998	233
June 2004 <sup>22</sup>	2 462	286
Dec. 2004 <sup>17</sup>	2 741	310
Sept 2005	3073	332
Dec 2006	3753	372

Figure 41: Cumulative number of Reported HIV/AIDS, 2000-2006

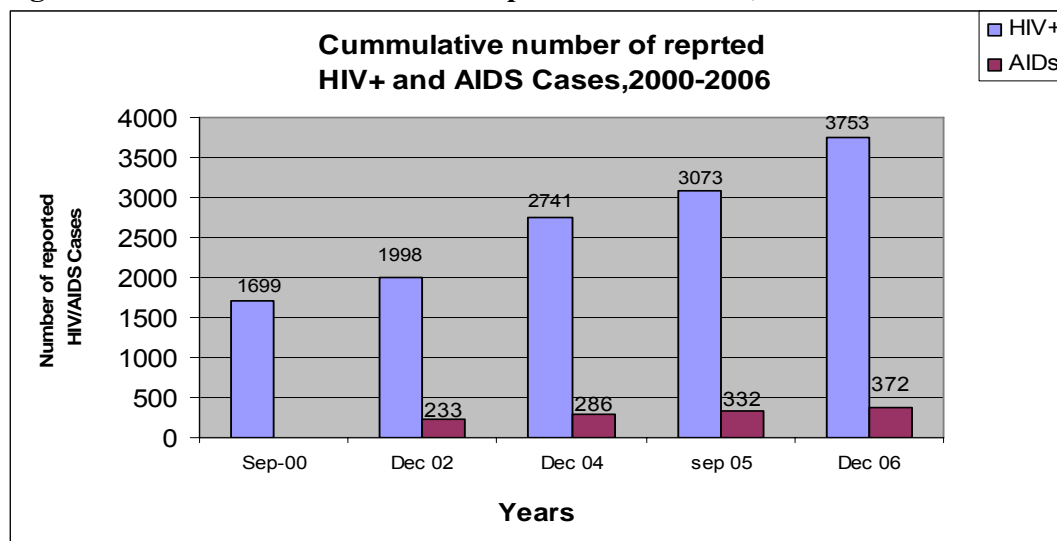
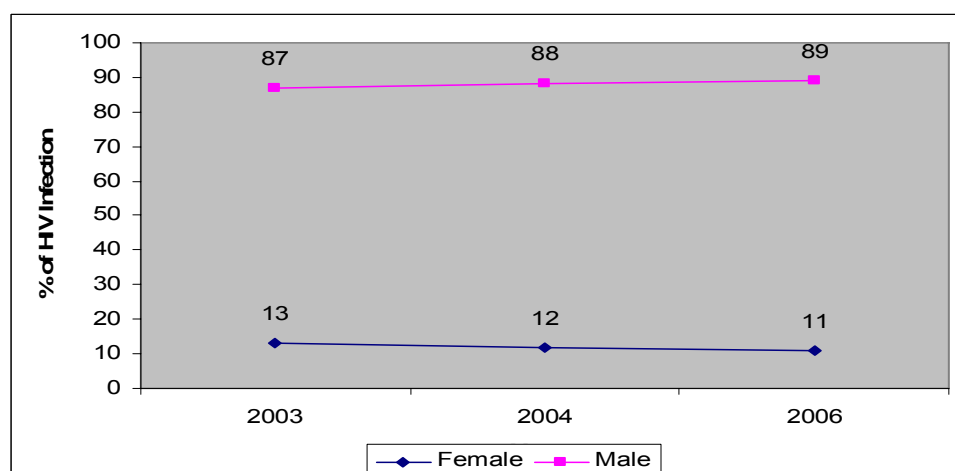


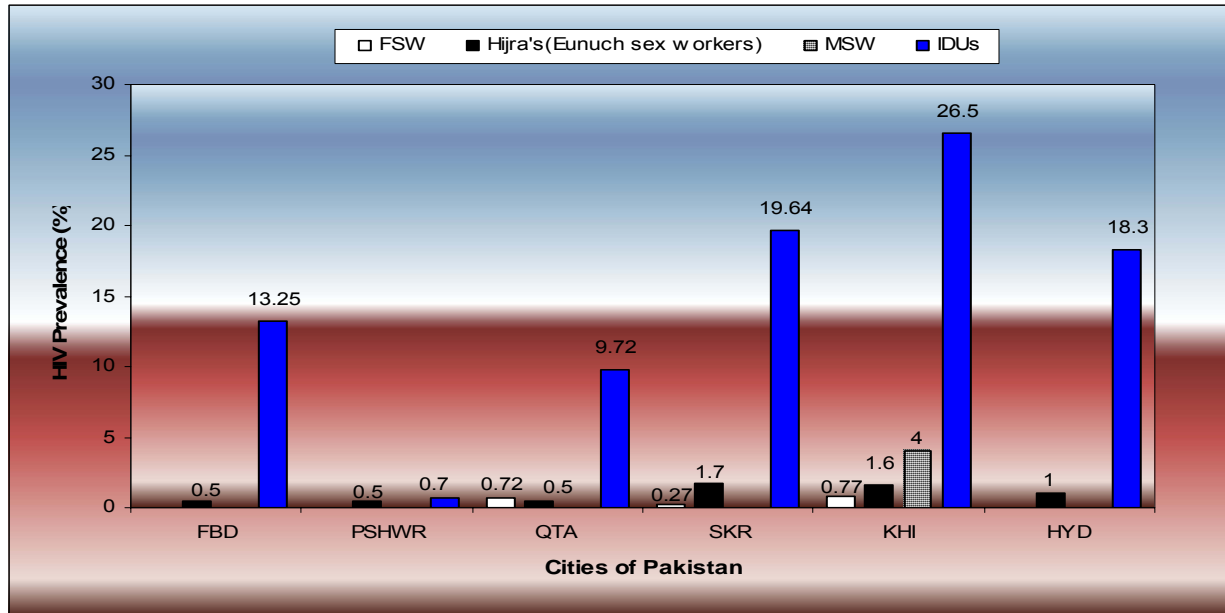
Figure 42: Year wise Gender Distribution of Reported HIV cases in Pakistan



## HIV Infection among High Risk Groups

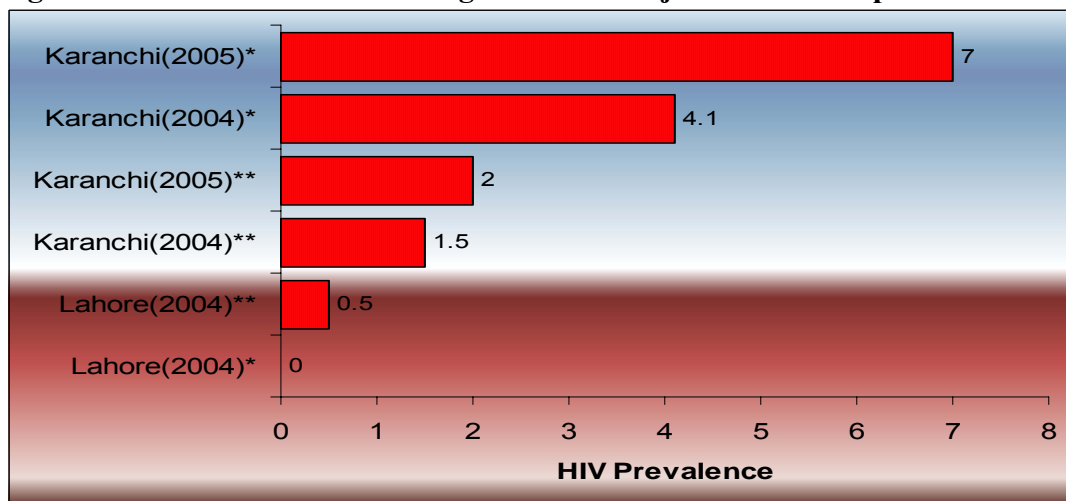
Survey conducted among high risk groups like FSW, Hijra's, MSW and IDUs in 2005 under National AIDS control programme, Pakistan in different cities as shown in fig 3, present the high HIV prevalence ranging from 9.72% to 26.5% among IDUs, among Hijras ranges from 0.5% to 1.7% and among FSWs ranges from 0.27% to 0.77%. This shows that the most high risk group is IDUs followed by Hijras. Fig 43

**Figure 43: Prevalence of HIV among High Risk Groups in Pakistan 2006**



The survey conducted among MSWs and Hijras in Lahore and Karachi in 2005, showed that an HIV problem is more among MSW than in Hijras. Fig 44

**Figure 44: HIV Prevalence among MSM and Hijras in selected parts of Pakistan**



\* Men Sex Workers \*\* Hijras

Source; Survey among High Risk Groups in Lahore and Karachi, NACO, Pakistan -2005

## **RISK FACTORS AND VULNERABILITY**

There are serious risk factors that put Pakistan in danger of facing a rapid spread of the epidemic if immediate and vigorous action is not taken:

### **Outbreaks Among Injecting Drug Users (IDUs):**

The number of drug dependents in Pakistan is currently estimated to be about 500,000, of whom an estimated 60,000 inject drugs. An outbreak of HIV was discovered among injecting drug users in Larkana, Sindh, where, out of 170 people tested, more than 20 were found HIV positive. In Karachi, a 2004 survey of Sexually Transmitted Infections among high risk groups found that more than one in five IDUs was infected with HIV. These represent the first documented epidemics of HIV in well-defined vulnerable populations in Pakistan.

### **HIV Infection Among Men who have Sex with men (MSM):**

Lahore had an estimated 38,000 MSM in 2002. The MSM community is heterogeneous and includes Hijras (biological males who are usually fully castrated), Zenanas (transvestites who usually dress as women) and masseurs. Many sell sex and have multiple sexual partners. The 2004 STI survey found that 4 percent of MSMs in Karachi were infected with HIV, as were 2 percent of the Hijras in the city.

### **Unsafe Practices among Commercial Sex Workers (CSW):**

Commercial sex is prevalent in major cities and on truck routes. Behavioral and mapping studies in three large cities found a CSW population of 100,000 with limited understanding of safe sexual practices. Furthermore, sex workers often lack the power to negotiate safe sex or seek treatment for STIs. Recent findings indicate that although HIV prevalence remains below 1 percent, female sex workers (FSWs) and their clients report low condom use. Less than half the FSWs in Lahore and about a quarter in Karachi had used condoms with their last regular client.

### **Inadequate Blood Transfusion Screening and High Level of Professional Donors:**

It is estimated that 40 percent of the 1.5 million annual blood transfusions in Pakistan are not screened for HIV. In 1998, the AIDS Surveillance Center in Karachi conducted a study of professional blood donors—people who are typically very poor, often drug users, who give blood for money. The study found that 20 percent were infected with Hepatitis C, 10 percent with Hepatitis B, and 1 percent with HIV. About 20 percent of the blood transfused comes from professional donors.

### **Large Numbers of Migrants and Refugees:**

Large numbers of workers leave their villages to seek work in larger cities, in the armed forces, or on industrial sites. A significant number (around 4 million) are employed overseas. Away from their homes for extended periods of time, they become exposed to unprotected sex and are at risk for HIV/AIDS.

### **Unsafe Medical Injection Practices:**

Pakistan has a high rate of medical injections - around 4.5 per capita per year. Studies indicate that 94 percent of injections are administered with used injection equipment. Use of unsterilized needles at medical facilities is also widespread. According to WHO estimates, unsafe injections account for 62 percent of Hepatitis B, 84 percent of Hepatitis C, and 3 percent of new HIV cases.

### **Low Levels of Literacy and Education:**



Efforts to increase awareness about HIV among the general population are hampered by low literacy levels and cultural influences. In 2001, the illiteracy rate of Pakistani women over 15 years old was 71 percent.

### **Vulnerability Due to Social and Economic Disadvantages:**

Restrictions on women's and girls' mobility limits access to information and preventive and support services. Young people are vulnerable to influence by peers, unemployment frustrations, and the availability of drugs. In addition, some groups of young men are especially vulnerable due to the sexual services they provide, notably in the transport sector. Both men and women from impoverished households may be forced into the sex industry for income.

### **References:**

1. National AIDS Control Programme report retrieved from website: [www.nacp.gov.pk](http://www.nacp.gov.pk) on 7/6/2007
2. World bank Report on HIV/AIDS, Pakistan (updated 2007-08-20)
3. HIV and AIDS in SAARC Region, an Update of 2004, 2005 and 2006 of SAARC TB and HIV/AIDS Center
4. Country presentation in SAARC regional workshop to develop strategy Mechanism for cross border activities in controlling TB and HIV/AIDS, Sept 2007
5. UNAIDS. AIDS epidemic update : December 2006.
6. Integrated Biological and Behavioral surveillance, A Pilot Study in Karachi & Rawalpindi, 2004-05 National AIDS Control Program , Ministry of Health
7. The National Strategic Framework for HIV treatment, care and Support in Pakistan, 2007
8. Country presentation in Joint WHO/UNICEF/UNAIDS Technical Consultation on scale up of HIV testing and counseling, 4-6 June,2007
9. UNGASS shadow reports 2006, PANOS, Pakistan

# Sri-Lanka

Sri-Lanka is an island country in the Indian Ocean, separated from the south- eastern coast of peninsular India. Its estimated population is 19500000 (NTP, Report - 2005), with about 54% within the 15-49 year old age group. The Sinhalese are the predominant ethnic group, constituting about three quarters of the population. Other ethnic groups include the Tamils and the Muslims.

*UNAIDS estimated the number of people living with HIV/AIDS in 2006 to be 5000 and has classified Sri Lanka as a low prevalence country with an estimated adult prevalence rate of less than 0.1%. Heterosexual transmission is the most common mode of transmission (85%) while homosexual/bisexual transmission accounts for 11% of infections.*

## State of the epidemic on HIV/AIDS

In Sri Lanka, HIV infection was first reported in a foreigner in 1986. The first Sri- Lankan infected with HIV was reported in 1987 and the first indigenously transmitted HIV case was reported in 1989.

The estimated number of People Living with HIV/AIDS in Sri Lanka as of 2006 is 5000. (UNAIDS/WHO report, 2006).

## Reported HIV/AIDS cases with epidemiological analysis

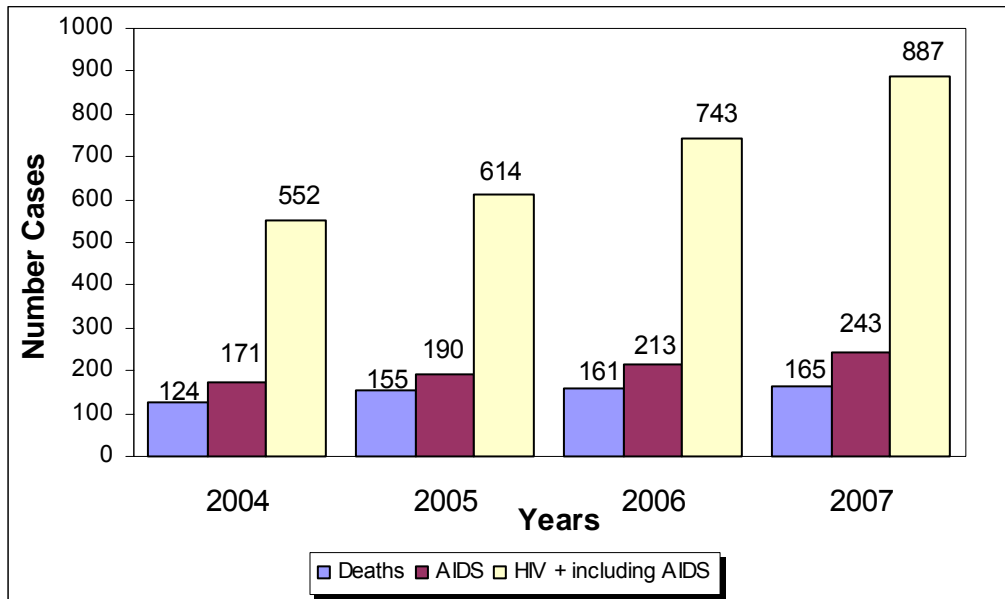
As of mid 2007, the cumulative number of HIV positive cases reported to the National STD/AIDS control Programme (NSACP) was 887; 516 (58.2%) males and 371 (41.8%) females (Table 20). Among them, 243 persons were reported as having AIDS. Reported number of AIDS deaths was 165.

**Table 20: Cumulative No. of reported HIV & AIDS Cases, Sri-Lanka, 2007**

<b>Condition</b>	<b>Male</b>	<b>Female</b>	<b>Total</b>
Cumulative HIV cases	516 (58.2%)	371 (41.8%)	887
AIDS	172 (70.7%)	71 (29.3)	243
Death due to AIDS	-	-	165

The yearly cumulative reported cases on HIV and AIDS including deaths due to AIDS clearly show an increasing trend (Figure 45). Fig 46 indicates a gradual increase in the number of female and male HIV positive cases year wise. Although HIV prevalence among women is lower than men, women are increasingly being infected. The proportion of female among reported HIV/AIDS cases has increased from 40.3% in 2003 to 41.8% in 2007. The increasing trend of female to male ratio shown in fig 47 also supported this issue.

**Figure 45: Year wise Cumulative HIV/AIDS Cases, AIDS deaths**



**Figure 46: Cumulative HIV Cases by Gender, 2004-2007**

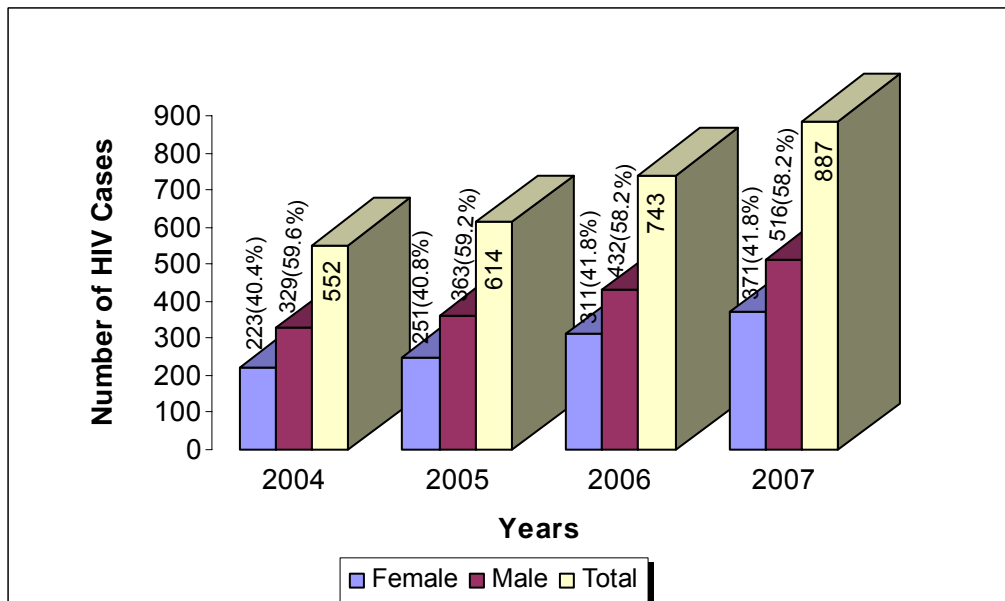
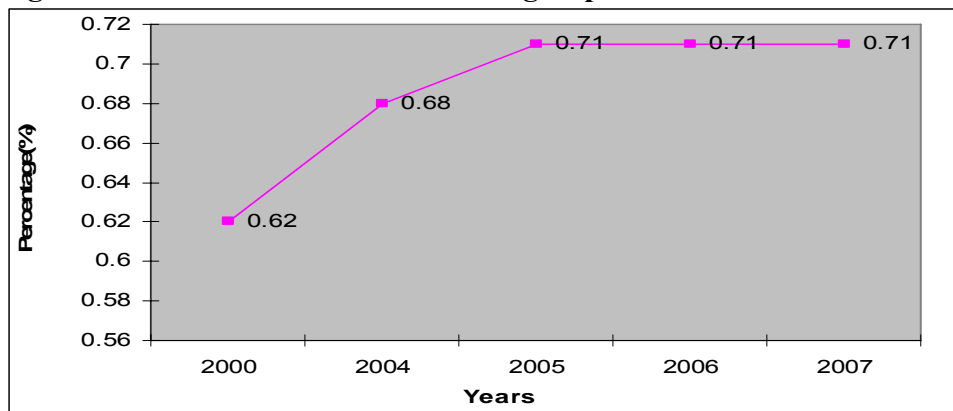
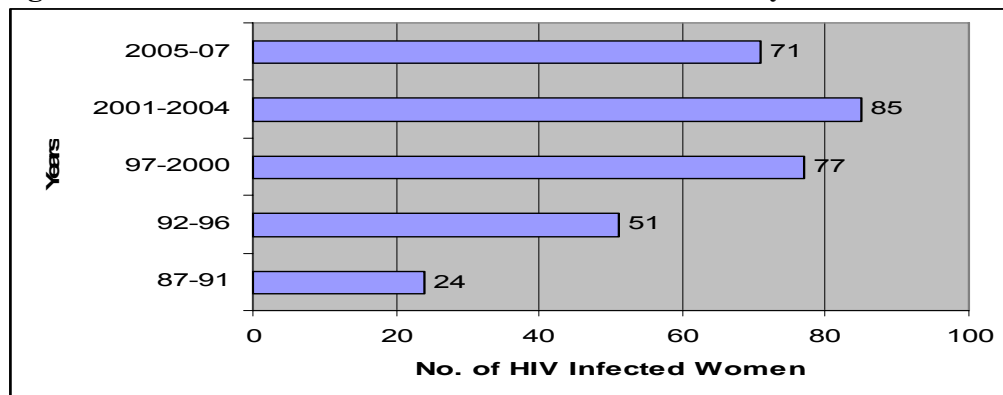


Fig 47 shows that year wise there increasing trend in female to male ratio which indicates that the infection among females increasing along with infection among male. Fig 48 shows the number of women infected with HIV for every 100 HIV infected men by span of time. The increased number of infection in women will lead to increased mother-to-child transmission of the virus.

**Figure 47: Female to male Ratio among Reported HIV/AIDS cases in Sri-Lanka**



**Figure 48: Number of women infected with HIV for every 100 HIV infected men**



### Trend of HIV infection

Though the reported data may suffer from under-reporting, these data do indicate an increasing trend in HIV infection in Sri Lanka and number of female cases is gradually increasing. Although this country is considered a low HIV prevalence country within the South Asia region, there is no room for complacency. Prevention activities have to be intensified and sustained to prevent further spread of HIV.

### References:

1. World bank Report on HIV/AIDS, Srilanka (updated 2007-08-15)
2. HIV and AIDS in SAARC Region, an Update of 2004, 2005 and 2006 of SAARC TB and HIV/AIDS Center
3. Country presentation in SAARC regional workshop among HIV/AIDS control managers in Maldives, 2007
4. Country report on HIV/AIDS provided by National HIV/AIDS Control Programme of Srilanka to STC on July 2007
5. Country presentation in SAARC regional workshop to develop Third SAARC Regional Workshop on TB/HIV Co-infection, Sept 2007
6. UNGASS shadow reports 2006, PANOS, Srilanka

## Impact of HIV

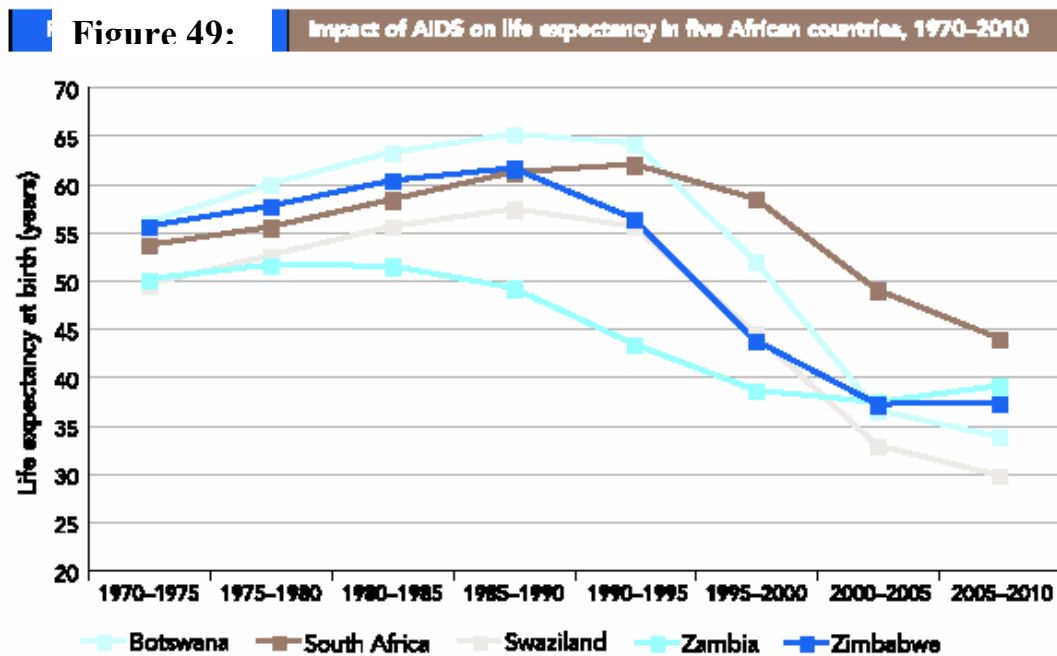
In the approximately 25 years since AIDS emerged as a major health emergency, the epidemic has had a serious, and in many places devastating, effect on human development.

Countries that fail to bring the epidemic under control risk becoming locked in a vicious circle as worsening socioeconomic conditions render people, enterprises and communities even more vulnerable to the epidemic.

The epidemic comes in successive waves, with the first wave being HIV infection, followed several years later by a wave of opportunistic diseases, and later still by a wave of AIDS illness and then death (Barnett and Whiteside, 2002). The final wave affects societies and economies at various levels, from the family and community to the national and international levels. None of the highly affected countries have yet hit the peak of the third wave nor advanced very far into the fourth, and as one study put it (Bell et al., 2003). Below a brief depiction of the impacts of HIV is given.

### Impact on Population and population structure

Current projections suggest that by 2015, in the 60 countries most affected by AIDS, the total population will be 115 million less than it would be in the absence of AIDS. Africa will account for nearly three-quarters of this difference in 2050, and although life expectancy for the entire continent will have risen to 65.4 years from the current 49.1 years, it will still be almost 12 to 17 years less than life expectancy in other regions of the world (UN Population Division, 2005b). The modeled impact on life expectancy in some of the hardest-hit countries can be seen in Figure below.



Source: United Nations Population Division (2004). World Population Prospects: The 2004 Revision, database.

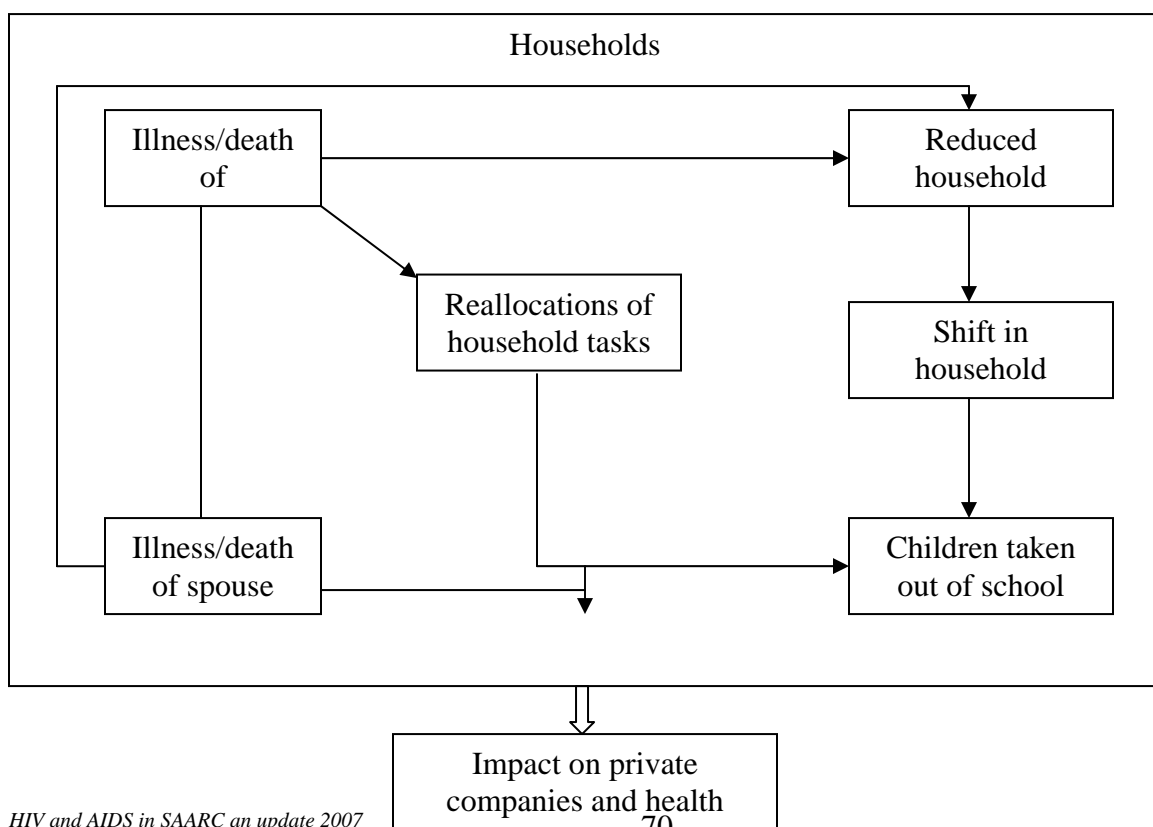
## Impact on household:

Impact of HIV and AIDS on households can be very severe

- a. Presence of HIV and AIDS will dissolve the household - as parents die children are sent to relatives for care and upbringing
- b. Loss of family income
  - i. Affected person cannot earn
  - ii. Other persons also have to direct more time and effort away from income generating activities.
  - iii. Care related expense and
  - iv. Funeral related expense collectively push affected household deeper into poverty
- c. Children especially girls are removed from schools as school uniforms and fees become unaffordable and their (children) labor and income-generating potential are required in the household
- d. Savings are used up or assets are sold
- e. Composition of household tends to change with fewer adults of prime working age

Implications of having 'AIDS in the family' have been documented in many parts of the world. They range from increased medical costs and expenditures on funerals to withdrawal of family members from work or school to look after those who are ill. Research in New Delhi, India, found that average monthly expenditures exceeded income among families of people living with HIV, partly because of a doubling in purchases of medicines. While these families spent less on entertainment and on children's education to cope with rising care, support and treatment costs due to HIV, most were also forced to sell assets and borrow from friends and relatives (ILO, 2003).

**Figure 50: Impact of HIV/AIDS on Rural Households in Asia (UNAIDS - Asia)**



## Impact on household food security:

- HIV/AIDS poses a potentially major threat to food security and nutrition, mainly
- f. By diminishing the availability of food (due to falling production, and loss of family labour, land, live stock and other assets) and
  - g. By reducing access to food as households have less money

## Impact on health sector :

- h. In all affected countries HIV epidemic is bringing additional pressure to bear on the health sector. In countries where per capita health expenditure is low, extending prevention and care for STIs, counseling and testing, prevention of mother-to child transmission services and HIV treatment and care strain health budgets and systems.
- i. Health – care services face different levels of strain, depending on the number of people who seek services, the nature of the demands for health care, and capacity to deliver that care.
  - i. In early stages, HIV infected person (often experiencing common bacterial infections) tend to use primary health care and outpatient services.
  - ii. As HIV infection progresses to AIDS, there is an increase in total hospitalizations related to HIV/AIDS.
  - iii. Demands for community rooted home-based care. This needs also extra training and manpower.

## Impact on Education sector:

Deduction in school enrolment is one of the most visible effects due to

- j. Removal of children from school to care for parents and family members
- k. Inability to afford school fees and other expenses
- l. Increased child mortality due to AIDS
- m. Decreased birth rate due to AIDS related infertility
- n. Less number of teachers due to death of teachers both male and female due to AIDS
- o. Skilled and experienced teachers are not easily replaced
- p. Death of administrator
- q. Demands on the health and welfare services might divert resources from education to other sectors.

The latest UNESCO report on progress towards the EFA goals set at the World Education Forum in Dakar in 2000 indicates that, despite steady improvement, current rates of progress in school enrolments need to quadruple in sub-Saharan Africa and double in south Asia to reach the 2015 goal. Currently, only 64% of children in Africa and 83% of children in south and west Asia are enrolled in primary school (UNESCO, 2006).

## Impact on enterprises and workplaces:

HIV epidemic causes declining profit and productivity in the affected enterprises and workplaces.

## Impact on Women:

Women in sub-Saharan Africa are infected with HIV more often and earlier in their lives than men. Young women aged 15–24 are between two and six times as likely to be HIV-positive than men of a similar age. This evens out in older age groups, but it highlights the vulnerability of young women and girls and unequal power relations in many societies.

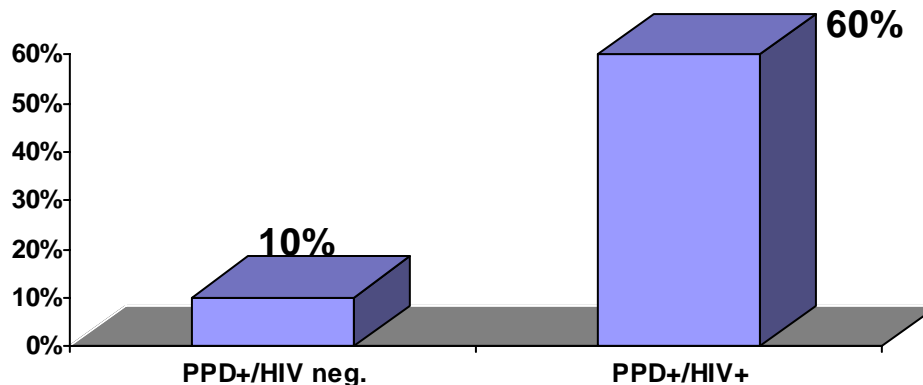
Although in most parts of the world women live longer than men, AIDS has driven female life expectancy below that of men in four countries: Kenya, Malawi, Zambia and Zimbabwe (UN Population Division, 2005b). Empirical evidence supports the existence of gender differences in mortality. For example, a recent three-year study in Zambia, which involved almost 19 000 people between the ages of 15 and 59, found that 61% of all deaths (i.e. for any cause) occurred among women, and that women on average died at younger ages than did men (Chapoto and Jayne, 2005). In addition HIV affects women's fertility, reducing it as much as 25–40%. This may be for a variety of reasons, from co infection with other sexually transmitted infections to increased rates of spontaneous abortion (UN Population Division, 2005a).

## Impact on TB epidemiology and TB control:

HIV drives the TB epidemic in several ways. HIV infection enhances and promotes the progression of both recently acquired and latent TB infection to clinical TB disease. HIV has become the most potent risk factor for reactivation of latent tuberculosis infection to active clinical disease. If HIV status is negative, lifetime risk of developing active TB is 5-10%; but if positive with HIV, then lifetime TB risk may be up to 60% (Figure 51). Consequently the TB control programme has to face the following difficulties:

- Increased case load of active TB attributable to HIV
- High rates of adverse drug reactions during TB treatment
- Higher default rates and lower cure rates
- Increased risk of TB transmission (including nosocomial transmission)
- Increased emergence of drug resistance
- Increased burden on TB services
- Delay of access to health services for TB suspects due to the stigma of HIV & AIDS

**Figure 51: Life time risk of tuberculosis among HIV positive & HIV negative individuals**





TB/HIV co-epidemic exerts negative impact not only on TB control programme but also on existing AIDS control programme; the impacts (on AIDS control programme) are as follows:

- Increased case load of active TB among people living with HIV
- TB may accelerate the progression of HIV-related immuno-suppression.
- Increased morbidity and mortality from TB among PLWH
- Difficulties with diagnosing TB among PLWH owing to the different clinical presentations of HIV related TB
- Increased burden on HIV services.

The fact is that while each infection delivers debilitating impacts, the personal and societal burden of the TB/HIV co-infection surpasses either disease on its own. However, the impact of this co epidemic can be dealt. For this, both programmes need to be keen to cultivate opportunities for collaboration, and a joint effort employing different but complementary strategies.

#### References:

1. UNAIDS. Report on Global HIV/AIDS epidemic, 2002.
2. TB/HIV Strategic Framework to Decrease the Burden of TB/HIV. Stop TB department, WHO, 2002. Maher D, Floyd K, Raviglione M.
3. Tuberculosis Epidemiology and Control. Ed. JP Narain. . World Health Organization, Regional Office for South –East Asia, New Delhi, India, 2002. Ch. 6.
4. Regional strategic plan on HIV/TB. World Health Organization, Regional Office for South –East Asia, October 2003; p11.
5. STC. 2003. TB/HIV Co-epidemic in the SAARC region.