CHAPTER I
INTRODUCTION

I-BACKROUND IN CAMBODIA

The Kingdom of Cambodia is a small country in the western pacific region, comprising a total territory of 181035 square kilometers, bordered by Thailand to the west and northwest, Lao PDR to the north, Vietnam to the east and southeast, and the Gulf of Thailand to the Southwest. There are 24 provinces, 183 districts, 1,609 communes and 13,406 villages in the country [1]. The total population was 11.4million in 1998 with a growth rate of 2.49 % [1] and a crude birth rate3.8% per year. The total fertility rate was 5.3 %[1] in 1998. Approximately 43% of population is under 15 years of age and 3.5% over the age of 64[1]. 84.3% of all inhabitants live in rural areas. Approximately 95% of all population is Khmer origin, while the remaining is composed of around 30 minority ethic groups including Chinese, Vietnamese and Islamic Khmer. The official language of Cambodia is Khmer. The religion is Buddhism, which is observed by 95% of population. Other important religions are Islam and Christianity.

Before 1970, the Cambodian economy was believed to be comparable to those of neighboring countries. However, about three decades of prolonged civil war and a period of international isolation, since 1970, resulted in little and sometimes negative socioeconomic development. The GDP per capita was US$ 250$ in 1999[2] and almost 40 percent of population lives below the poverty line, with rural households accounting for almost 90 percent of total poor. Male and female literacy rates stand at 79 to 57 percent respectively. Forty-two percent of women have never attended school.

II- HEALTH STATUS

Although in recent year Cambodian health status has improved, it is still among the lowest in the western Pacific Region. The infant Mortality Rate was as high as 89.4 per 1000 live births in 1998[3] compared to the regional average of 38 per 1000 live births in the same period [4]. The under-five mortality rate is 115 per 1,000 live births [3]. The leading causes of infant and child mortality and morbidity in Cambodia are acute respiratory infections, diarrhea diseases, and dengue fever.

The maternal mortality ratio was 473 per 100,000 live births in 1998[4], the major causes of which are mainly problems related to pregnancy and delivery such as abortion, infections, eclampsia and hemorrhage.

Cambodia remains a country with high burden of communicable diseases. HIV/ADS, STD, malaria and tuberculosis continue to be the major causes of morbidity and mortality. It is also facing non-communicable disease and life style related health problems. These include traffic accidents, mental health problems, chronic diseases such as alcohol and tobacco related disease like cancer and cardio vascular illnesses.

III- HIV/AIDS AND STD SITUATION IN CAMBODIA

There has been a rapid increase in incidence of HIV/AID and STD since the first case of HIV infection was reported in 1991. Cambodia has the fastest growing HIV/AIDS epidemic in Asia. In 1998 almost four percent of the sexually active adult populations (15- 49 years) were estimated to be HIV positive. According to the 1998 surveillance survey approximately 180,000 people are infected with HIV. The highest prevalence rates are in the southeast and in the central provinces and along the Thai border. HIV infection appears to be concentrated in urban areas. In Cambodia HIV/STD is transmitted primarily through heterosexual sex. The spread of HIV/STD is driven by norm of premarital and extramarital sex for men, usually with women who are paid. A regular Behavioral Surveillance System (BSS) that covers Cambodian's five main urban centers has shown that visiting sex workers is the norm among men in some occupational groups, including soldiers, policemen, fish men, and motorcycle taxi drivers, all of whom are relatively mobile and have ready cash, and many of whom are married. It also showed, however, that condom use is relatively low. The perception in Cambodia is that men are serving as a bridge between sex workers and married women, who then pass HIV/STD on to their newly born. There is tendency to put sexually active women into these two categories, since sex outside marriage is not deemed acceptable and is generally not acknowledged. An estimated one third of HIV/AIDS cases are among women of childbearing age. High infection rates among prostitutes and their male clients have been accompanied by increasing number of married women becoming infected.

The 1999 HIV Sentinel Surveillance (HSS) survey found that average of 33.6 percent of direct female sex workers, 18.7 percent of indirect sex workers, 4.7 percent of policemen, and 2.6 percent of women in antenatal care are infected with HIV.

In 1996 the sexually transmitted disease (STD) is also marked by high prevalence among sex workers and their clients compared to women of the general population in the study by Ryan CA. in three locations [5], 22.4% of sex workers had Chlamydia infection, 35% had gonorrhea, 14% were syphilis sero-reactive, and 5.4% had trichomonasis. Among men, 2.1% had chlamydia, 17% had gonorrhoea and 6.6% were syphilis sero-active. As for women seeking care at reproductive health clinics, 3.1% were infected with Chlamydia infection, 3.0% had gonorrhoea, 4.0% were syphilis sero-active and 1% had trichomonasis. Sexually transmitted infections (STIs) cause genital inflammation, increasing the efficiency of Human Immunodeficiency Virus (HIV) transmission approximately 5 fold. Interrupting HIV transmission at these initial points of spread, by condom promotion and STI treatment, is by far the most feasible and cost effective way to prevent epidemic HIV spread.

The eventual goal of interventions program would be to decrease HIV transmission by early detection and treatment of STIs along with patient education and condom promotion. Before such as a program can be initiated it is imperative to understand the nature and magnitude of the HIV/STD problem and it related behaviors.

IV- SEX WORKERS IN CAMBODIA

Sex work is primarily female. Male sex workers and transvestites are known to sell sex in Phnom Penh, but their numbers are small compared with women selling sexual services. In Cambodia two different types of sex workers have been defined and used for designing prevention and control activities: Female sex workers are called either "direct" or "indirect". 'Direct sex workers' refers to women working full time in brothel [5, 6]. Sex establishments are easily identified. They are usually found in groups, scattered across city and provincial towns. 'Indirect sex workers', refers to young women with formal job, usually in the thriving entrainment business night clubs, bar, Karaoke lounges, massage parlors, in restaurants as waitresses, and billiard clubs as servers. Some are working for beer companies as "beer promotion", which sells sex on a casual basis to supplement their regular income.

Sex work is illegal in Cambodia [7]. Due to the illegal status and different ways sex workers operate, it is difficult to get the exact number of sex workers in Cambodia. Data collected by National Center For HIV/AIDS Dermatology and STD (NCHADS) from provincial network in October 1999 gave a total number of 12290 direct sex workers working in 2356 entertainment establishments throughout the country and 6119 indirect sex workers [8]. According to a census done by the Population Service International (PSI) in 1998, there were 7346 Sex workers working in three populated urban areas. Around 70% of sex workers are Cambodian and Cambodians and 30% are Vietnamese [9]. The median age is 20 years for Cambodian, and 22 years for the Vietnamese. They serve about three clients per day and 93% meet their clients at the brothel itself. Commercial sex is inexpensive, and prices have remained stable since 1997. A single session typically costs the equivalent two dollars slightly more than a meal at the market $ 10 to 20 are charged for a whole night. Money goes to the girl or to the manager, depending on the girl's status.

V- FACTORS AFFECTING THE HIV/STDs EPIDEMIC IN CAMBODIA

Several factors probably facilitated the spread of HIV/STDs throughout the country. According to the World Bank, 36% of the Cambodian population lives blow the poverty line. Widespread poverty, low incomes and high unemployment are often associated with high-risk sexual behavior and the spread of HIV/STD. In its worst form, women and girls exchange sex for money or other gifts as a means of economic survival. But poverty and lack of awareness make all poor people less concerned about the dangers and consequences of high-risk sexual behavior. High prevalence of others sexually transmitted diseases. The probability of transmitting HIV during unprotected sex rises dramatically if either partner is infected with another sexually transmitted disease (STD), such as syphilis, or gonorrhoea. These infections form ulcers and sores that facilitate the transfer of the virus. STD levels are high in Cambodia. One working estimate indicated 650, 000 combined cases of syphilis, gonorrhoea and Chlamydia among the sexually active population in 1998. In Cambodia, there is also a severe chronic shortage of STD drugs, ineffective implementation of syndromic management programs. In additions, many women may have STDs without noticeable symptoms

and do not seek treatment for long periods of time, further increasing the risk of HIV transmission.

Commercial sex is relatively common in Cambodia and has been a major factor contributing to spread HIV/STD. Cambodia uses a Behavioral Sexual Survey (BSS) to look at sexual practices and changes in sexual behavior overtime. The Behavioral Sexual Survey, 1999 indicated that in a country where 80% of the surveyed men report having their marriage arranged by parents, 13% of (single and married) men have had sex with a direct female sex worker in the past year (19.4% urban, 10.9% rural), and married men report always using condoms with commercial sex workers less than single men do. Other contributing risk factors for men include travel away from home, and alcohol/ drug use. Since sex workers have been important core group, the widespread practice of commercial sex, which is expanding particularly in border towns, has been an important factor contributing to the spread of HIV/STD in the country. And since men almost never use condoms with their wives, it is their condom use with sex workers that influences the possibility of HIV transmission.

Migration, both international and domestic migrations contribute to HIV/STD transmission, as the germs moves along people. For example, the movement of migrant labor, including fishermen and commercial sex workers, back and forth between Cambodia, Thailand and Vietnam, has been one of the factors contributing to the expanding HIV/STD epidemic in country. Seasonal workers living away form home and large numbers of Cambodians traveling to urban areas each year for religious and other festivals can return to transmit the virus to spouses and girl friends. Political conflict in the country has also contributed to the spread of HIV/STD among military and displaced persons. Not only are armies mobile, but they are composed primarily of young men away from families who are living under stressful conditions and who often have the economic means and ready access to commercial sex while on military campaigns.

Low socio economic status of women. Social exclusion, gender discrimination, social norms which perpetuate sexual double standards and violence against women, and the economic vulnerability of women have also contributed to HIV/STD transmission in Cambodia, as elsewhere. The progression of the epidemic is evident in the increasing impact of HIV on women- women represent an increasing proportion of

those infected. The low level of educational opportunities and attainment for women reduces their access to jobs, even when job are available, forcing some women (and children) into direct or indirect commercial sex worker as an alternative. Low educational levels (coupled with norms that make it inappropriate for women to be knowledgeable about sexuality or to suggest condom use) also mean women have less access to reliable information about HIV/AIDS. Even when human sexuality is taught at school, girls are at disadvantage because they are withdrawn from school earlier than boys, by age 18, female enrollment rates in school nationwide is nearly 3 time lower than male enrollment rates. And social norms persist that encourage men in groups to regularly seek many forms of commercial and casual sex, at exactly the same age that they are also marrying.

VI- THE LINK BETWEEN STD AND HIV/AIDS

Human immunodeficiency virus is passed from one person to another more easily when one or both people are infected with another STD. The STDs that are particularly important in this interaction are Chancroid, Chlamydia, Gonorrhoea, Syphilis and Trichomonasis. Depending on which infection it is, these STDs can make it two to nine times more likely that someone will be infected with HIV when exposed to virus (WHO). Even non-ulcerative STD infections can increase the risk of getting infected with HIV. This may be because STD infections increase the number of white blood cells in the genital tract. White blood cells are both targets and sources of HIV. Another reason could be that genital inflammation associated with these STDs can cause microscopic cuts in genital tissues, creating potential sites where HIV can enter the body. The problem of non-ulcerative STDs is thought be important because these STDs are common than ulcerative STDs. and therefore might be associated with more HIV infection. This is of great potential concern in western Pacific region, where non-ulcerative STDs are believed to be quite common. Studies have shown that treating STDs reduces the percentage of men in whom HIV is detected and the amount of HIV in ejaculate, WHO. In a recent community based, randomized trial in the Mwanza district of rural Tanzania, treating STD symptomatic individuals using the WHO recommended syndromic approach, to reduced HIV incidence in the study population 42 percent.

VII. STI SYNDROMIC CASES MANAGEMENT

Sexually transmitted infections are passed between people through sexual contact. Agents of infection include bacteria, viruses, and other microorganisms that enter person's urethra, vagina, womb, or anus. The diagnosis of specific STIs is not easy because different STIs have similar symptoms. Some have no symptoms at all. These reasons often lead to wrong diagnosis and therefore to an inappropriate treatment. The syndromic approach to STI care management has been developed to help health workers quickly, effectively and comprehensively treat patients affected with curable STDs and their partners as well. The syndromic approach is well adapted to settings with limited resources. This approach is based on clinical syndromes rather than formal microbiologic diagnosis. A syndrome is a group of symptoms of which patient complaints and the signs observed during examination. There are five sets of syndromes such as vaginal discharge, urethral discharge, Genital ulcer, and Lower abdominal pain, Genital warts. The syndromic approach includes an opportunity for educating patients, offering condoms, regarding partner referral, and prevention of future STD episodes. In Cambodia, STI syndromic case management is now being integrated at all levels of public health system.

VIII- GENERAL OBJECTIVE

- To study the effects of interventions to reduce risk of sexually transmitted diseases in female commercial sex workers in Cambodia.

IX-SPECIFIC OBJECTIVES

- To summarize the existing interventions to reduce risk of sexually transmitted diseases in female commercial sex workers in Cambodia.
- To describe in detail the interventions in Sihanoukville (a pilot project on 100% condom use in Cambodia).
- To investigate the effects of this interventions on risk of STD in Sihanoukville female direct sex workers.

X. INTERVENTIONS FOR SEX WORKERS IN CAMBODIA

In Cambodia, many recommendations and plans have been made, for STD control of among both general population and high-risk groups including sex workers [10, 11, and 12]. The most recent National strategic Plan for STD/HIV/AIDS Prevention and Care 1998-2000 [11] recommends a combination of services and activities that have potentially the highest impact in reducing HIV/AIDS infections. It proposes two packages of interventions according to the availability of resources: a minimum and an expanded package. The minimum package, which is the most suitable for the country's present situation, includes four interventions:

- Promotion of 100% condom use in commercial sex venues.
- STD case management services.
- Information, education and communication (IEC) strategies and materials.
- Community participation in prevention, care and support.

To date, STD/HIV prevention and control interventions for sex workers and their clients include health education campaigns, peer education and outreach work, condom distributions and social marketing, and STD care provision at special clinic, by mobile teams. These interventions have been implemented as separate activities or as a package of intervention by government institutions and non-governmental organizations (NGO).

A. Health education

Health education campaigns are implemented by both the public and private non-profit sector since the early stage of epidemic, especially after the National AIDS program was established in 1993[13]. The activities focus on education of the general population about danger of STD/HIV, the transmission and prevention of STD/HIV. They can vary, from the production and distribution of educational materials, such as leaflets, mass media campaigns through radio and television broadcasting during special events such as World AIDS Day, and other national events, to different awareness meetings with high school children, institution-based workers such as government official, military men and police men.

These activities contribute to increase the knowledge about HIV and STD transmission and prevention in the general population, and lead to some extent to

change behavior. Also, sex workers and their clients can benefit from these educational campaigns. However, the educational campaigns mainly aim at providing bio-medical facts about the disease, without focusing on behavioral change [10, 13]. As argued by Donovan et al, "knowledge alone is insufficient for most individuals to change behavior that they value" [14]. In addition, the campaigns met many obstacles due to the lack technical skills to produce adequate messages, to insufficient resources to the low coverage of mass media, and to the low literacy rate of some population groups, particularly sex workers. A survey performed by International service international (PSI) in 1999 showed that information education and information (IEC) materials are available only in 56% of the brothels, and 35% of the guesthouses and hotels [10]. There is also a scarcity of material adapt to the need of special groups. Most have the mass media campaign and IEC material focus on HIV prevention. STD care seeking behavior was not fully addressed.

B- Outreach and Peer education

The outreach program was developed to provide skills for brothel based sex workers. It is a form of educational activity in which health or social workers are trained in STD/HIV prevention to educate high-risk populations at their work place.

Peer education is defined as the education process in which identified persons in the same groups as the target groups, such as Sex workers and clients, are selected and trained educate their peers. Interventions of this kind have been conduced by some governmental organizations and NGOs among specific target groups such as direct and indirect sex workers and two potential groups of clients, the army and the police. A nationwide outreach and peer education project of direct sex workers have started in 1995 by the NCHADS [7]. The main objectives are to promote behavior change through increasing knowledge of HIV/AIDS/STD and its prevention; to promote self-risk analysis; to promote familiarity, acceptance and skills towards consistent condom use with all casual partners; to promote an early seeking of proper STD treatment; and to promote alternative low-risk social activities besides commercial sex [15]. Throughout the implementation of these activities, some limitations have been observed. The outreach and peer education programs mainly focus on providing basic biomedical facts on STD/HIV transmission, not addressing the social context of risk behavior. This was

due in part to the fact that outreach workers lack adequate understanding of human sexuality and behavior change communication, resulting in a too large focus on knowledge building rather on behavioral change [7, 13]. Despite the nationwide implementation of the SW the outreach and peer education project, the coverage of the intervention is still low and not yet sufficient. The survey performed by PSI in 1998 [8] showed that between 18 and 33% of brothels in three urban areas did not receive a visit from government or NGO outreach workers.

C- Condom promotion and distribution

Condom promotion and distribution started at the same time as the awareness raising campaign for the general population. Condoms are often freely distributed by the National Center for HIV/AIDS STD and Dermatology at the occasion of other activities, such as educational sessions, World AIDS Day activities, peer education and outreach activities and STD case management. Initially their distribution was limited to governmental prevention activities. However, Social marketing of condoms by PSI in Cambodia has been very successful in increasing availability and affordability of condoms and has substantially contributed to the increase of condom use in Cambodia. Condom sales increased from 99 000 in 1994 to 5 032 000 in 1995, 9 516 000 in 1996 and 10.5 million in 1997[13, 16]. PSI estimates that 95% of the sales are used for commercial sex. A behavioral sentinel surveillance survey conducted by NCHADS showed an increase of condom use in both sex workers and targeted male populations [13]. In a recent census conducted in 1999 by PSI [8] in three urban areas, condoms are available free of charge or for sale in most entertainment places: 91% of the brothels and 89% of hotels, with lower percentages in indirect sex establishments such as karaoke bars (9%) and massage parlors (less than 50%). Even though successful in making condoms available at affordable price, condom promotion still meets many challenges. The most important one is the non-consistent use by CSWs with regular partners and to a lesser extent with their clients. About 78 % of the CSWs in the above mentioned PSI survey reported consistent condom use with clients, while only 47% use condom with boyfriends. Some reasons can explain the failure to use condoms consistently: some sex workers are driven by the extra benefit offered by the client in exchange of not using condoms; some may misunderstand that condoms cause

excessive drying or inflammation of the womb [17]; it has been reported that sex workers use condoms with regular partners less than with their clients because they want to distinguish paid from non paid sex [18,19]; and "condoms make commercial sex less than real sex: the latex barrier is also a psychological barrier" [14].

D- STD Care services for sex workers and their clients

STD cares services for both the public and the private provide sex workers profit and non- profit sector. Since 1994, National Center for HIV/AIDS, STD and Dermatology, with support from donors (WHO, FHI), is making efforts to establish STD care services in provincial and district urban areas where there is a high prevalence of STD and HIV, by renovating the existing infrastructure, supplying medical equipment and STD drugs, and by training staff in improved STD case management. At present, 23 STD clinics are available for providing services to clients throughout the country. The STD services are provided in diverse ways: some clinics are integrated in public urban health centers targeting mainly women of the general population, while other specialized services target sex workers and their clients. These specialized public STD services offer only STD care, while NGO clinics include additional services, such family planning, general health care and social support to sex workers. Some NGOs provide mobile STD services for sex workers in areas with difficult access. In general, the public STD services are of poor quality because of the lack of supervision and monitoring mechanism and the lack of motivation of the poorly paid staff, and the poor provision of necessary STD drugs and equipment [20]. Little has been done for clients of sex workers. A family health international (FHI) sponsored project tried to improve STD care for the sex worker by training the medical staff in improved STD case management using the syndromic approach. Innovative approaches in STD care have been piloted by some NGOs. A "Medecins Sans Frontieres" (MSF) project in one province uses pre-packaged therapy in combination with outreach work to provide STD care to soldiers. A large proportion of sex workers and their clients seek care at the informal sector. According to the results of the BSS in 1999, 20.5% of brothel-based sex workers, 55.5 % of military and policemen, and 34.7% of indirect sex workers seek STD care at the pharmacy as a first resort. Over 20% of the clients of the sex workers included in the survey sought care with traditional healers [11].