EAST-WEST CENTER

AIDS in Asia: The Gathering Storm

TIM BROWN
PETER XENOS

AsiaPacific

ISSUES

Analysis from the East-West Center
No. 16
August 1994

SUMMARY Asia, with more than half of the world's population, is in the early phases of an explosive HIV/AIDS epidemic. While AIDS became a significant factor in the Western Hemisphere and in Africa in the early 1980s, the disease received little attention in most of Asia before the early 1990s. Today the World Health Organization (WHO) estimates that there are more than 1.5 million HIV infections in Asia, yet rarely have more than a handful of AIDS cases been reported in most Asian countries. Although Asia has only 10 percent of the total 15 million HIV infections estimated for the world as a whole, WHO projects that by the turn of the century, more new HIV infections will occur in Asia than in all the rest of the world combined. If the spread of HIV began so late in Asia, how does the Asian AIDS epidemic threaten to become worse than the epidemics seen in other parts of the world? The answer lies in the nature of the Asian epidemic and in the region's huge population. For a number of reasons the epidemic is following a pattern very different from those seen in the United States, Europe, and Africa.

Patterns in the Epidemic

While people often refer to a global AIDS "pandemic," it is, in reality, a collection of distinct regional epidemics. In the mid-1980s, researchers tried to describe these regional epidemics in terms of three patterns. Though these patterns are considered by many to be too broad for detailed analysis of HIV transmission in a given country, they are useful for regionwide comparisons and for explaining the seriousness of the Asian AIDS epidemic.

Pattern I: The United States and Europe. Extensive spread of HIV in the United States and Europe began in homosexual men in the late 1970s and then jumped to intravenous (I.V.) drug users. Spread into the heterosexual population remained extremely limited. For example, in the early to mid-1980s, studies in the United States of female sex workers, one of the most sexually active segments of the female population, usually failed to find a correlation between levels of sexual activity (number of clients) and HIV infection. For these women, I.V. drug use rather than vaginal intercourse appeared to be the dominant route of transmission. This suggested that heterosexual transmission of HIV in Pattern I countries was at extremely low levels.

Every Asian country has an HIV/AIDS problem

Support for this view came from studies of couples in which only one partner was infected. Only a small percentage of the HIV-positive men eventually infected their female partners, and almost no women passed the virus to their male partners. These low heterosexual transmission rates, coupled with the high transmission rates among homosexual men and I.V. drug users, led to infected males outnumbering infected females by more than 10 to 1 in the 1980s.

Because I.V. drug use and male-male sexual activity tended to cluster in urban centers, the epidemic in Pattern I countries remained largely an urban phenomenon, only recently spreading significantly into rural areas. Further, because homosexual men and I.V. drug users represent only a small portion of the total population, the extent of the epidemic remained limited. Current estimates are that less than one-half of 1 percent of the U.S. population is infected with HIV, even after a decade and a half of HIV spread.

Pattern II: Sub-Saharan Africa. Low levels of heterosexual transmission were not, however, characteristic of Pattern II countries, e.g., the Sub-Saharan African nations. Here I.V. drug use and homosexuality were not common behaviors; they played little role in the epidemic. Instead, almost all HIV transmission was heterosexual in origin. But while repeated studies showed that male-to-female transmission occurred more easily than female-to-male, the number of infected males and females was approximately equal. Today, this rough male-female equality is believed to result from two factors: sexual behavior patterns that allow men more sexual freedom than women and higher levels of other sexually transmitted diseases (STDs) in the general population, which increase the chances of transmitting HIV.

In many Pattern II societies, a significant fraction of men have multiple, simultaneous sex partners (partnerships that have a duration of months or years). This results in a higher rate of partner exchange than in the Pattern I countries of the United States and Europe where the typical pattern is one of serial monogamy. In many urban areas, commercial sex is also common. These factors have combined to produce urban HIV levels of 20 to 30 percent and rural levels of 5 to 10 percent in some countries after two decades or so of transmission. (The lower infection level in rural areas has been attributed to the clustering of female sex workers in urban areas and the relative difficulty of urban-rural travel.)

The overall high level of infection is believed to be the result of higher heterosexual transmission rates (enhanced by STDs), the size of the heterosexual population engaging in risk behaviors (unprotected vaginal, anal, or oral sex), higher rates of partner exchange, and a much earlier start to the epidemic. Indeed, evidence for HIV exists in blood samples from Zaire as early as 1959.

Pattern III: Asia? HIV was introduced into Asia much later than in the rest of the world. Through

June 1993 only a few cases of symptomatic AIDS had been reported in most Asian countries. These low case loads, together with the limited information on transmission, led researchers to label Asia as Pattern III in their early classification of the international geography of HIV/AIDS. This indicated that the epidemic in the region was young and that the dominant modes of transmission were unclear. Since only a handful of AIDS cases had been seen and many of these early cases were in homosexual or bisexual men and I.V. drug users, many assumed the Asian epidemic eventually would resemble Pattern I. Thus, HIV surveillance (systematic testing), in those few Asian countries where it was carried out, was targeted largely at these populations, especially in international tourist areas where HIV was expected to make its entry.

Scientists have described four "waves" of the Thai epidemic

A New Pattern?

Over the past five years it has become clear that the AIDS situation in Asia will be different—not characterized by the patterns observed in other regions of the world. To gain a clearer understanding of the factors that may control the Asian AIDS epidemic, it pays to look closely at the experience of one country: Thailand.

Pattern IV in Thailand: A model for Asia? Thailand has documented the earliest and most explosive growth of HIV in the region. Thailand's epidemic has received the most coverage in the international press, and much of that visibility is due to the country's openness in admitting the problem, its success in monitoring it, and its willingness to address it. Every Asian country has an HIV/AIDS problem to one degree or another, but until systematic testing is conducted throughout the region, it will be difficult to compare the relative magnitudes of the national epidemics. Because Thailand has monitored extensively for HIV since 1985, a clear picture of the spread of HIV there has been obtained, and concrete efforts to slow the epidemic have been implemented.

The Thai epidemic began in 1984 with the first documented AIDS case in Bangkok: a student returning from study in the United States. Over the next two years, the majority of early AIDS cases detected were among bisexual and homosexual men, many of whom had had contact with foreigners or had traveled overseas. Many studies were conducted among female sex workers, but little HIV infection was found in this group. Then, in late 1987, methadone treatment clinics in Bangkok noted a rapid rise in the presence of HIV in blood serum samples taken from their clients. Infections among I.V. drug users skyrocketed from 0 to 30 percent between November 1987 and August 1988. Infection levels continued to rise, finally stabilizing at 35 percent in 1988.

Researcher Bruce Weniger of the U.S. Centers for Disease Control and his colleagues described this as the first wave of the Thai epidemic. A nationwide system for periodically determining HIV prevalence in various populations in every province was established in 1989. Through this system (known as Sentinel Surveillance), a steady rise in infection levels among sex workers was observed over the next several years, reaching an average of 30 percent of brothel workers by December 1993. This was the second wave. At the same time, HIV infection levels in males attending STD clinics began to increase, signaling that a third wave had formed among male clients of sex workers. A fourth wave can be clearly seen today among the wives and girlfriends of the men who visit sex workers. Its growing magnitude is tragically reflected in the fact that 1.8 percent of women going to prenatal care clinics in June 1993 tested HIV positive, and, at several maternity hospitals where infection levels are monitored, the percentage of infected mothers has been doubling every year. A fifth wave is becoming visible now: increasing numbers of HIV-infected infants are being cared for in Thai hospitals, having contracted the infection from their mothers.

Weniger and his colleagues have proposed that this pattern represents a distinctive Asian pattern of HIV transmission and that it may be repeating itself in many other Asian countries. They have tentatively termed it Pattern IV (replacing the earlier Pattern III designation for Asia). In categorizing the

HIV epidemic in Asia, two questions must be answered: What are the distinctive characteristics of a Pattern IV epidemic? Will the rest of Asia follow the pattern that has been observed in Thailand?

Characteristics of the Pattern IV epidemic. If Thailand is taken as the prototypical Pattern IV country, what are the major features that distinguish Pattern IV from Patterns I and II? In particular, what makes this pattern more devastating than what has been seen in the United States, Europe, and Africa? The answer lies in the three factors that control the severity and growth rate of infection in any country's HIV epidemic: the probability of transmission from one person to another; the size of the populations engaging in risk behaviors; and the rate of partner exchange, referring either to sexual partners or needle-sharing partners. (See table 1.)

In Pattern I countries, despite 15 years of spread, the growth of the epidemic has been restrained because the infection has remained largely confined to homosexual men and I.V. drug users, spreading only slightly into the general population. Risk behaviors are often high among homosexuals and I.V. drug users, transmission rates by needle sharing and anal sex are substantial, and the rate of partner exchange can be high. Thus, infections in these groups may grow rapidly. But as a percentage of the total population they are relatively small groups of individuals. In the much larger heterosexual population, transmission happens at extremely low rates.

In Pattern II countries, HIV transmission has occurred for more than two decades. The epidemic has been more severe because the probability of heterosexual transmission is high, the proportion of the heterosexual population practicing risk behaviors is large, and the rates of partner exchange are higher than in Pattern I countries. This has resulted in the 20- to 30-percent levels of infection in urban areas described earlier, but only after two decades of epidemic spread.

By contrast, the epidemic in Thailand is still young. Widespread transmission only began in late 1987, yet in some northern provinces in Thailand, infection levels among 21-year-old males in the general population are already at the 20-percent

Table 1. Global Patterns and the Factors Controlling the Severity of the Epidemics

Factors	Pattern I: U.S., Europe	Pattern II: Sub-Saharan Africa	Pattern IV: Thailand, possibly Asia
Probability of transmission per exposure (sexual or needle sharing)	High in homosexuals practicing anal sex and in I.V. drug users sharing needles; comparatively low in heterosexuals	High because of high incidence of sexually transmitted diseases (STDs), which enhance ability to give and get the virus	High because of high incidence of STDs, particularly among sex workers, who are often infected with more than one STD
Partner exchange rate	Frequently high among homosexuals and I.V. drug users; lower among heterosexuals, where serial, monogamous relations are most common	High among the significant fraction of men who have multiple, overlapping relations of moderate to long duration; also, commercial sex is common in urban areas	Very high among the significant number of men who regularly frequent sex workers and also have casual partners
Size of population engaging in risk behaviors	Small: homosexuals and I.V. drug users, a small proportion of the population	Large: a significant proportion of both the male and female heterosexual population is engaging in risk behaviors	Large: a significant proportion of the male heterosexual population is engaging in risk behaviors; a much smaller proportion of the female heterosexual population is doing so
Balance of male-to-female transmission in different phases of the epidemic	Early: male Late: male	Early: male = female Late: male = female	Early: male Late: male = female

level. Only six years into the epidemic, nationwide infection levels have already approached 2 percent of the reproductive-age population, a rate of epidemic growth even faster than that seen in Sub-Saharan Africa. *This is the first characteristic of the Pattern IV epidemic: faster spread of HIV than in the other patterns.*

The role of sexual inequality. What has contributed to this extremely rapid growth of the epidemic in Thailand? Clearly, I.V. drug use played a major role in the early stages of the epidemic. While not representing a large percentage of the population, needle sharing among I.V. drug users readily transmitted the virus among this group, seeding the epidemic with an initial reservoir of infection. But over the course of the epidemic, it has been widespread behavioral patterns in Thai society that have been more important. In particular, patterns of sexuality and gender relations have enhanced HIV transmission. In Thai society, as in many Asian cultures, men are granted wide latitude in sexual activities both premaritally and extramaritally, and few societal limitations exist on males visiting sex workers.

A reservoir of infected sex workers and clients fuels the epidemic

But, while Thai men have great freedom in their sexual activities, Thai women are expected to be virgins at marriage and to refrain from extramarital affairs. This creates a sexual imbalance in which large numbers of males are seeking casual sexual contact, but few females are available. The resulting active and well-attended commercial sex industry, catering largely to indigenous demand, has created a reservoir of infected sex workers and clients that continues to fuel the rapid growth of the Thai epidemic. A 1988 survey of Thailand showed some 65 percent of rural young men had visited a sex worker by age 20, and more than half had also had sexual relations with other partners as well.[1]

Similarly, in the 1992 Survey of Partner Relations,[2] Thai researcher Werasit Sittitrai and his colleagues found that 46.6 percent of single males reported sexual activity in the previous 12 months, while 30.6 percent of urban and 12.4 percent of rural married males reported extramarital sexual activities. Close to 80 percent of the men who had nonmarital sexual encounters reported paying for sex.

The high levels of other sexually transmitted diseases among the sex workers they frequented greatly enhanced the probability of HIV transmission. One study in Northern Thailand estimated a dramatically high 3- to 8-percent chance of a sex worker transmitting HIV to her client in a single unprotected sexual act.[3] Since most Thai males visit sex workers at one time or another, the population at risk is a major fraction of the total population and many "low risk" females are subsequently exposed to HIV by sex with their current or future husbands. Finally, because most men change sex workers frequently, and the infection levels in sex workers are substantial, the rate of acquiring new, potentially HIV-infected partners is high.

All three of the factors contributing to severity and rate of growth of the epidemic are at their maximum here, producing a prescription for an epidemic affecting a major portion of the population and growing with extreme speed. *This might be considered the second characteristic of the Pattern IV epidemic: more rapid and widespread transmission of HIV into the general population than in Pattern I and Pattern II countries.*

This extremely rapid growth has another consequence: many infections but few visible AIDS cases. After infection with HIV, it takes on average eight to 10 years for an individual to become symptomatic with the opportunistic diseases that define AIDS, such as tuberculosis or pneumocystis pneumonia. But for the first two years after infection, almost nobody actually develops AIDS. When an epidemic grows rapidly, as the Thai epidemic has, this means infection can reach a high level while clinical AIDS cases remain small in number. *This is a third characteristic of the Pattern IV epidemic: The exceptionally rapid spread makes for a large infected but not actively sick population—a tip of the iceberg that is smaller, while the iceberg itself is larger, than in other patterns.*

The problem is compounded by the inability of many doctors in the region to diagnose AIDS. As many as 750,000 people[4] were infected in Thailand

Table 2. The Current HIV/AIDS Situation in Asia

Country	Primary risk behaviors	Reported AIDS cases[a]	Sampling of HIV seroprevalences[b] and year of study	Current assessment
Bangladesh	Heterosexual	1	None available	Unknown
Cambodia	Heterosexual	0	0.8% of blood donors (1992) 9.2% of sex workers (1992) 4.2% of sexually transmitted disease (STD) patients (1992)	Rapidly increasing
China	Intravenous drug user(IVDU)/ heterosexual	36	12.5% of IVDUs in Yunnan (1991)	Increasing, especially in Southern provinces
Hong Kong	Homosexual/heterosexual	99	1.8% of homosexual/bisexual Chinese (1989) 39.4% of hemophiliacs (1987)	Increasing
India	Heterosexual/IVDU	713	39.1% of IVDUs (1986–91) 41.2% of sex workers in Bombay (1992) 1.4% of pregnant women in Manipur (1986–92) 7.8% of STD patients in Tamil Nadu (1991)	Rapidly increasing
Indonesia	Heterosexual/homosexual	49	0.6% of transvestites (1989–90) 0.1% of overseas workers (1988)	Early epidemic, potential for rapid increase
Japan	Heterosexual/homosexual	713	2.0% of homosexuals/bisexuals (1988) 36.8% of hemophiliacs (1985)	Increasing
Laos	Heterosexual	14	0.8% of blood donors (1993)	Increasing
Malaysia	Heterosexual/IVDU	107	6.9% of IVDUs (1991) 1.4% of sex workers (1991)	Early epidemic, potential for rapid increase
Myanmar	Heterosexual/IVDU	261	0.3% of blood donors (1991) 1.0% of pregnant women (1990) 11.0% of sex workers (1991) 76.5% of IVDUs (1991)	Rapidly increasing
Nepal	Heterosexual/IVDU	24	0.8% of sex workers/STD patients (1993) 1.6% of IVDUs (1992)	Increasing
North Korea	Unknown	0	None available	Unknown
Pakistan	Heterosexual	41	4.4% of sexually active (1990) 0.8% of paid blood donors (1986)	Increasing
Philippines	Heterosexual/homosexual	136	0.1% of sex workers (1992) 0.3% of homosexuals (1988)	Increasing
South Korea	Heterosexual	19	0.1% of sex workers (1988) 0.3% of hemophiliacs (1985–90)	Increasing
Singapore	Heterosexual/homosexual	75	3.6% of homosexuals/bisexuals (1992) 0.5% of STD patients (1993)	Increasing
Sri Lanka[c]	Heterosexual/homosexual	37	0.5% of sex workers in Colombo (1993)	Increasing
Taiwan	Heterosexual/IVDU	48	2.2% of homosexuals (1988) 0.3% of STD patients (1991) 0.4% of IVDUs (1988–90)	Increasing
Thailand[d]	Heterosexual/IVDU	5,654	1.8% of antenatal clinics (1993) 33.0% of IVDUs (1993) 29.8% of sex workers (1993) 8.7% of STD patients (1993)	Rapidly increasing
Vietnam	Heterosexual/IVDU	107	8.7% of IVDUs (1993)	Early epidemic, but rapidly increasing

Sources:

a. World Health Organization, Global Programme on AIDS, AIDS cases reported through 30 June 1994.

b. Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Database, 1994 (except for Sri Lanka and Thailand—see c and d below). It should be noted that these are a selected subset of seroprevalence studies for illustrative purposes, showing where high levels of infection have been observed in some studies. They are not an accurate indication of overall population or subpopulation seroprevalence levels. The studies were conducted between 1988 and 1993.

c. Sri Lanka data based on Sri Lankan Sentinel Surveillance system.

d. Thailand data based on Thai Ministry of Public Health's Sentinel Surveillance system.

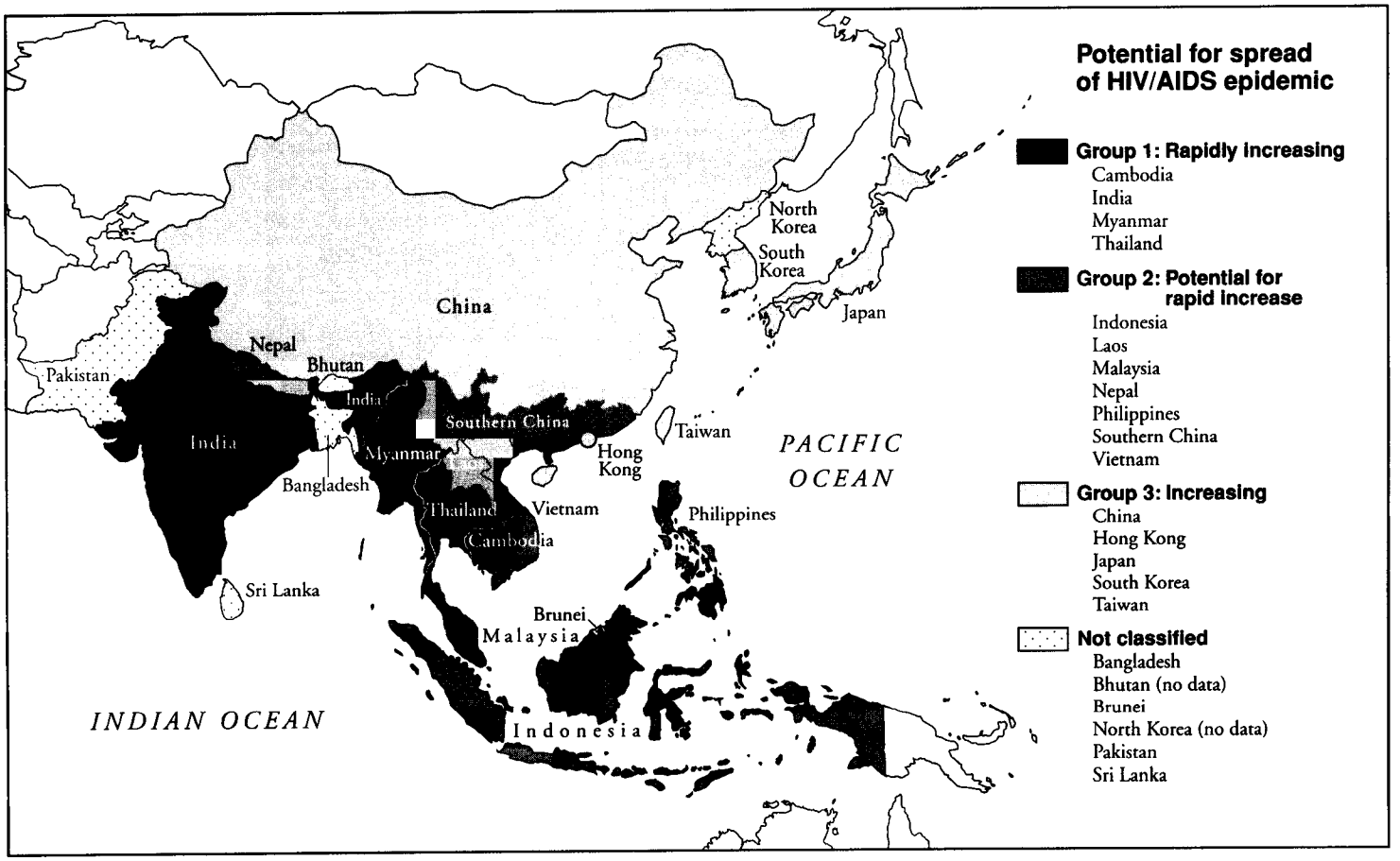
by mid-1993, but only 1,569 AIDS cases had been reported to WHO. This makes it extremely difficult to convince policymakers of the severity of the problem they face.

Forces Driving the Epidemic

Is the Thai epidemic unique and of a severity that will not be repeated in other parts of Asia, or does it represent a general pattern for the region? Will there be explosive HIV growth and spread to large segments of the populations of other Asian countries? To answer these questions two kinds of data are needed: current levels of HIV infection and the levels of various kinds of risk behavior in each country.

How is HIV/AIDS spreading in Asia? Since 1989, Thailand has established an extensive surveillance system that performs hundreds of thousands of HIV tests each year, covering every province in the country. Other countries, such as the Philippines and Myanmar, have established monitoring systems within the last two years, but they are less comprehensive in terms of the geographic area covered and the number of groups examined. Most other countries, Japan and Cambodia, for instance, do not yet do systematic testing for HIV. In a few countries, sporadic testing has been conducted in certain groups perceived as being at risk, but this has been neither systematic nor extensive. Thus it is difficult to accurately estimate the extent of HIV infection and to determine trends in those countries. Nevertheless, it is possible to identify three groups of countries based on seroprevalence (evidence for HIV in blood samples) in various populations, reported AIDS cases, and perceived levels of risk behavior. These divisions should be taken as tentative and subject to revision as further data become available and as the epidemic progresses. (See map.)

The first group consists of Thailand, Myanmar, India, and Cambodia. These countries represent the epicenter of the Asian HIV/AIDS epidemic. Each



has detected substantial levels of HIV infection in one or more groups with epidemic spread starting in the mid-1980s. Intravenous drug use has played an important early role in their epidemics. Each also shows high HIV-infection levels among sex workers—evidence of substantial levels of heterosexual risk behavior.

Southern China, Vietnam, Indonesia, Malaysia, Laos, Nepal, and the Philippines constitute the second group. In these countries, HIV testing has not been extensive, but the preliminary indications are that current infection levels are comparatively low. At the same time, limited evidence does suggest that risk behaviors in the populations may create the potential for HIV spread. In Southern China, Malaysia, and Vietnam, I.V. drug users have been testing positive. In Indonesia and the Philippines, the commercial sex industry may be a potential avenue of spread, although the spot-testing done to date indicates that HIV infection levels in sex workers are low.

Many believe that risk behaviors 'don't happen here'

The third group comprises Singapore, Japan, South Korea, Hong Kong, Taiwan, and China, excluding the Southern provinces. In these countries HIV testing has not been extensive, but the AIDS cases observed have been predominantly in blood product recipients, homosexual men, and I.V. drug users. Some would take this to indicate that HIV spread in these countries will follow Pattern I, but there is evidence that heterosexual risk behaviors may be high enough to present a problem (although perhaps at lower levels than in other parts of the region). For example, Japan has observed a rapid increase in HIV in heterosexual men over the last few years.

Understanding the role of behavior. To determine whether other countries will follow Pattern IV, it will be necessary to obtain information on sexual and drug-using risk behaviors, including such factors as the number of sex workers, the percentage of the male population that utilizes their services, the levels of noncommercial premarital and extramarital sex, the prevalence of other sexually transmitted diseases, the number of I.V. drug users, and the levels of condom use. Particularly important is the extent to which commercial and noncommercial sexual activity is linked through sexual networks, as, for example, when married men frequent commercial sex workers. At present most of these determinants are poorly known in most Asian countries, and there is evidence that they vary widely.

Commercial and casual sex. Research projects in Hong Kong and Thailand permit a comparison of the relative prevalence of commercial and casual sex engaged in by males.[5] The differences between men in Thailand and Hong Kong are striking. Compared with the 65 percent of Thai rural men visiting a commercial sex worker by age 20, no more than 10 percent of Hong Kong males reported having done so by that age. The overall prevalence of sexual experience by age 20 is much lower in Hong Kong (30 percent versus 80 percent), and Hong Kong males who did report sexual experience were much more likely to have engaged exclusively in casual, as opposed to commercial, sexual relations. (See box 1.)

While the data might suggest that Thailand's experience with HIV may not be repeated, some data gathered in Japan are more ominous. In the Thai Survey of Partner Relations, 17.2 percent of married males (a combined urban/rural average) reported having sexual relations with someone other than their spouse in the last year. In a similar study in urban Japan, 20 percent of married males reported extramarital activity.[6] While not painting a complete picture of the situation, the number does suggest there may be substantial levels of heterosexual risk behavior in Japan. Another recent study giving further cause for concern examined a group of Thai sex workers in Tokyo[7] and found that they used condoms only about 30 percent of the time.

A handful of studies like these have been executed in the region. Unfortunately for many Asian countries, high-quality data on sexual behavior or drug use are not available. The reluctance in Asian societies to openly discuss sexual behavior has led many to believe it is impossible to gather accurate data from the general population. However, while the experience of researchers has been mixed, it has by no means proven impossible to obtain useful

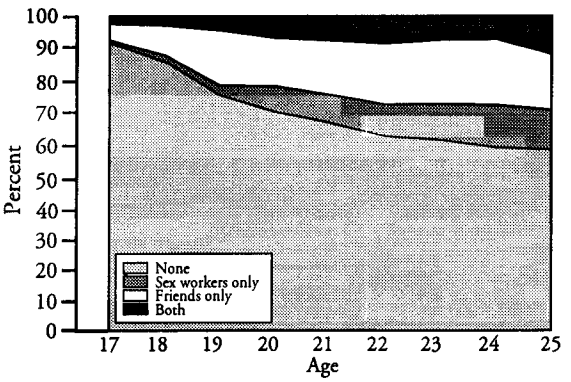
data. Surveys of partner relations, sponsored by WHO, have been conducted in Thailand, Hong Kong, Singapore, and the Philippines. India is now beginning surveys in populations with high rates of risk behavior. A survey of adolescent sexuality that explicitly addresses issues of AIDS risk and knowledge in the Philippines has recently been carried out on a national scale.

There continue to be difficulties in conducting such surveys, as well as questions about their reliability. In Thailand, men talk freely about their sexual activities, but women appear much less willing to discuss theirs. This can add to the disparity between levels of casual sex reported by men and women. In the Philippines, married women report much higher levels of premarital sex than do single women largely because in that society intercourse is often a precursor to marriage. Hence, the pattern revealed by a survey depends very much on how formal one's definition of marriage is.

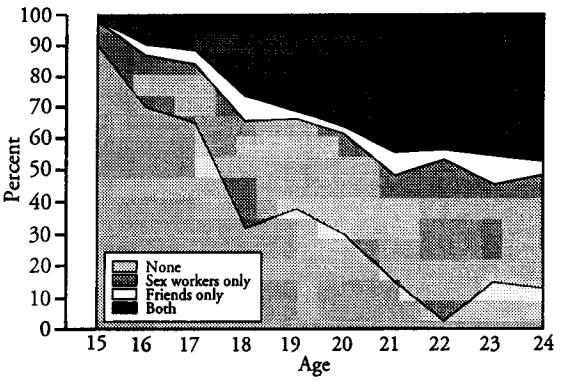
These variations highlight the need for serious methodological work on techniques for collecting and validating behavioral information in each country. Once such methodological work has been completed, more extensive surveys of sexual behavior in the general population are required in all countries. And information on sexual behaviors are only one of the missing pieces in understanding how the epidemic will progress in each country. For much of Asia, information on sexually transmitted diseases, current levels of HIV infection, and I.V. drug use are equally lacking.

When reliable information is not available on sexuality and drug use, public policy decisions are often based on common beliefs about sexual behavior in a population—most often the belief that risk behaviors "don't happen here." This problem is compounded by the fact that publicly expressed beliefs are often at odds with documented or highly visible behavior. In China, for example, where public officials emphatically maintain that commercial sexual activities are both immoral and illegal, 240,000 sex workers and clients were reported arrested in 1992 alone. Recently, there have been extensive anecdotal reports of the development of a widespread commercial sex industry in Southern China, the site of the world's most rapidly growing economy. These facts are clearly at variance with the

The partner patterns of Hong Kong male youth: 1986



The partner patterns of rural Thai male youth: 1988



Box 1. Comparing the Sexual Experience of Young Men in Hong Kong and Thailand

Sexual experience by age 20 is much higher in Thailand than in Hong Kong. In Hong Kong, exclusively casual sexual relations are most common. Among Thai young men, however, nearly all of those who reported having premarital sex with friends also reported having sex with commercial sex workers—a pattern highly conducive to the rapid spread of the AIDS virus into the general population.

Sources: Data on Hong Kong are from Task Force on the Study of Adolescent Sexuality (1986); data on Thailand are from Xenos, Pitaktepsombati, and Sittitrai (1993).

public assessments of many Chinese policymakers.

Social and economic factors. Social and economic changes now sweeping through the region may ultimately facilitate the spread of HIV in Asia. Of particular concern are demographic changes whose impact is most strongly felt by the young, such as rising birth rates, declining death rates (especially drops in infant mortality), and a growing trend toward delaying the age of marriage. In country after country, the young population is growing far more rapidly than the population as a whole, while unmarried youth constitute the fastest growing segment overall.[8] (See box 2.)

Much of this population is urban, because single youth make up such a high proportion of the tide of migrants to the cities. In Manila, for example, about two out of every three migrants is a young, single female. This increase in single youth has been accompanied by decreases in the average age at first intercourse and rising levels of premarital sex. Taken together, these factors increase the size of the youth population at risk for HIV.

Nor do national borders present much of a barrier to HIV spread. Asia's trend toward urbanization and phenomenal economic growth encourages migration, both locally and internationally—and every new migration route is a potential path for HIV transmission. Migration between urban and rural areas in Thailand has given HIV broad geographic reach—no province has remained untouched. Many nations, such as the Philippines and Sri Lanka, export substantial numbers of overseas contract workers, many of whom, away from the constraints of their own societies, turn to commercial sex.

Unmarried youth, urban workers, migrants—all contribute to the spread of HIV/AIDS

Important and unrecorded movements across Asia's rather permeable borders also contribute greatly to the problem. In Vietnam and Cambodia, for example, truckers move freely back and forth, sometimes even bringing sex workers with them as passengers. Fishermen move freely along the coastlines and waterways among the nations of Southeast Asia: infected Thai fishermen have been detected in Indonesia, Malaysia, and Vietnam. Japanese brokers illegally import Filipino and Thai sex workers to work in the Japanese countryside. And sex tourism is a lucrative and thriving business throughout the region.

Responses to the Epidemic

Will Thailand's Pattern IV epidemic play itself out in other Asian countries? Certainly in Myanmar, India, and Cambodia, this appears to be the case. In most countries, however, it is still too early to tell; inadequate surveillance has hampered efforts to track epidemic trends. But for those who believe that "It can't happen here," the experiences of Thailand, India, Myanmar, and Cambodia should provide a sobering view of the potential for rapid HIV spread throughout Asia.

Complacency and denial. Yet despite the alarming nature of the HIV/AIDS situation in Asia, nowhere in the world has the sense of complacency been stronger and the consequences of misinformation and inaction more frightening. Conversations with Asians in the 1980s, even with Asian health leaders, revealed a conviction, superficially supported by the limited numbers of AIDS cases at the time, that Asians were essentially immune—behaviorally, biologically perhaps, but somehow immune. One public health minister in China argued that HIV spread in his country was unlikely since homosexuality and casual sexual relations were illegal and widely considered immoral.[9] An Indonesian health minister said that AIDS would not enter Indonesia because his country had no homosexuals.[10] Growing out of popular ideas about "risk groups," these examples illustrate two commonly held misconceptions: first, that AIDS is only a problem for certain marginalized groups, such as homosexuals, I.V. drug users, and sex workers; and second, that levels of HIV risk behavior in Asian populations are extremely low.

In fact, in the Asian countries where the epidemic is most advanced, the concept of "risk groups" has been a public health disaster. Even long after the epidemic was firmly established in the general population, people who did not identify themselves as belonging to a "risk group," but who

continued to practice high-risk behaviors, reassured themselves that they were safe. The concept of "risk groups," highly promoted by the media in the early stages of the epidemic, has been adopted by many as a way of denying their own risk.

The hidden nature of this epidemic, caused by the low numbers of early AIDS cases and the social invisibility of the behaviors that spread it, makes it difficult both to convince policymakers that a problem exists and to persuade them to act. As social policy activist Mechai Viravaidya of Thailand has so elegantly put it: "No coffins, no tears."

Though many countries have AIDS plans, not all fund them

Fighting this inaction has been the World Health Organization's Global Programme on AIDS, which has supported preparation of a detailed National AIDS Prevention and Control Plan for almost every country in Asia, and many individuals, government agencies, and nongovernmental organizations in every country. A few governments have addressed the epidemic openly and have implemented nationwide programs to slow the spread of HIV.

But most leaders have denied the importance of AIDS in their countries and, consequently, have failed to support the funding needed to combat it. India, for instance, can afford to test only a small fraction of blood donations at present. Cambodian health officials recently stated that despite the existence of a national AIDS plan they lack the funds needed to implement it. These funding difficulties will be exacerbated in the future as the need to care for the growing number of people with HIV/AIDS adds to health care costs.

The Thai response. The one Asian country that has mounted a major response to the epidemic is Thailand, building on a nationwide program of public education, condom promotion, and improved STD treatment. Every government ministry has prepared an AIDS plan under the guidance of a five-year National AIDS Prevention and Control Plan. A system of AIDS "peer educators" has been implemented in schools nationwide. Mass media and public education efforts have seen to it that almost every Thai knows of the AIDS problem and how to protect himself or herself. Recently Thai business leaders have organized the Thailand Business Coalition on AIDS to promote workplace education and coherent HIV/AIDS policies. Education programs are being conducted in thousands of factories across the country. And efforts by nongovernmental organizations and international donors have been coordinated to obtain maximum benefits from funds expended. Thus, every sector of society is becoming involved in the battle. As a result, the incidence of new HIV infections in 21-year-old males has been cut in half over the past three years, and other STD rates have fallen.

Perhaps the key to Thailand's success has been the government's willingness to admit that risk behaviors exist in the population and to address them openly. There are few other Asian countries in which Ministry of Public Health officials could work openly with brothel owners in promoting condom use at their sites, but this has been an undeniable element of Thailand's success. Unfortunately, not every nation has recognized the need to work with these marginal groups rather than try to ignore their needs or persecute them. In the Philippines, recent efforts to crack down on commercial sex have only served to drive sex workers underground, making intervention there more difficult. In China, the current approach of having public health officials work with police in AIDS programs is destined to fail, since the very groups that must be reached, i.e., homosexual men, drug users, and sex workers, avoid contact with the system.

But even in Thailand the crisis is far from over. Immense problems remain and complacency will prove disastrous. While condom use in commercial sex is increasing, it is far from universal, and the widespread consumption of alcohol by men before commercial sex makes it that much harder to introduce and enforce condom use. In casual noncommercial sexual encounters, which are becoming increasingly common among young Thais, condom use remains the exception rather than the rule.

One of the biggest problems facing the country is discrimination against the HIV-infected. Disclosure of a positive status usually leads to the loss of employment, isolation from the community, and problems within the family. Widespread HIV

testing is occurring in medical situations because health care professionals fear infection, but the counseling infrastructure required to aid psychosocial adjustment and turn this into an effective prevention measure is not up to the task. To cope with the huge burden of HIV infection in the country, community- and family-based care will be essential. But these approaches cannot work if problems with discrimination are not overcome. A difficult, prolonged battle lies ahead, and the failure to intensify prevention programs and develop humane programs for coping at the individual, family, and community levels will exact a high cost.

What Must Be Done

Asian countries have an unprecedented opportunity to make an impact on this epidemic. The continued spread of HIV in Asia is inevitable. But the pace and the ultimate levels of disease reached will depend significantly on the willingness and ability of Asian opinion makers and political leaders to convince people to modify their behaviors. The spread of HIV/AIDS will be fastest where sex work is extensive; where condom use is uncommon; and where commercial sex is linked closely to sexuality in the society as a whole. By analyzing the behavioral patterns of their populations, and targeting education and intervention programs wisely, it may be possible for Asian policymakers to cut the rate of growth of the HIV epidemic significantly. Programs to reduce the vulnerability of youth and women are of critical importance, as are programs to educate the general population about AIDS risk behaviors. Particularly important will be to increase condom use and improve detection and treatment of other sexually transmitted diseases.

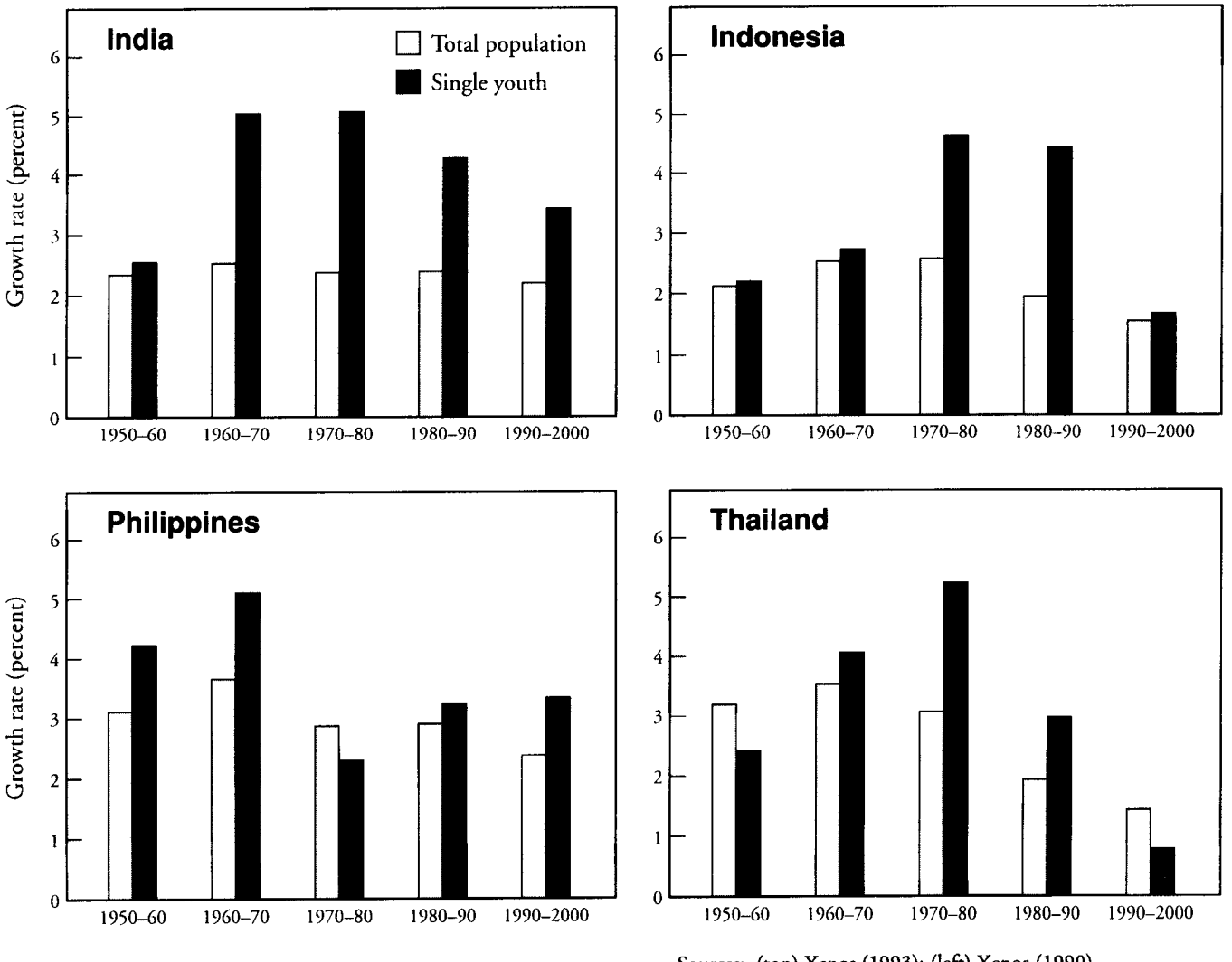
AIDS strikes most heavily at young adults, the most productive age group

Social and behavioral researchers have a major role to play in this effort. At present, the extent and nature of risk behaviors in many Asian populations are unknown or poorly understood. HIV/AIDS is a behaviorially driven disease. Behavioral and epidemiological research is needed to evaluate who is at risk and to design effective interventions. In addition, behavioral researchers must make the results of their work and the extent of risk behaviors in populations known to policymakers and to the public.

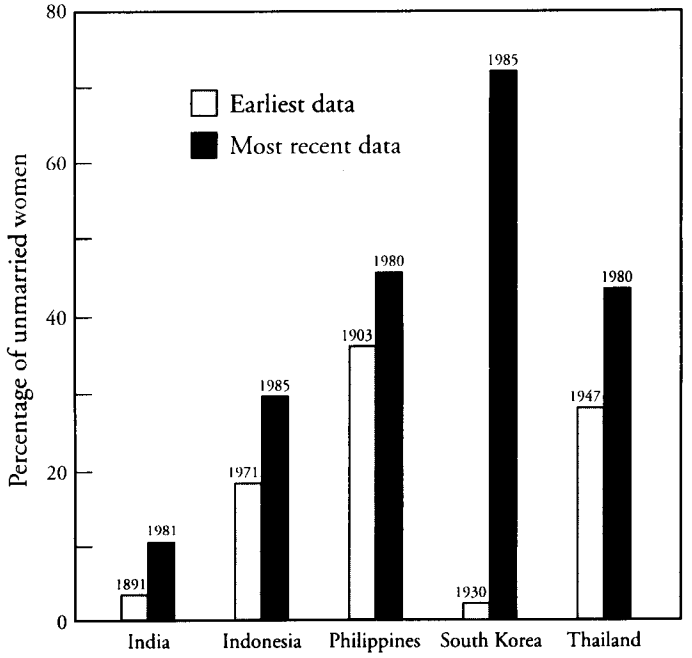
In addition to research and prevention efforts, work must begin now to cope with the coming burden of HIV infection. Programs to assist people with AIDS at the community and family levels must be designed and integrated with existing health, family planning, and maternal and child health services to make the most effective use of available funds and to avoid stigmatizing those who become infected. On the human rights side, societies must address the issue of discrimination against those living with this disease.

In addition to the obvious impacts on health care systems, economic and social shocks from this epidemic may reverberate throughout the region. Unlike most diseases, which generally attack the very young or the aged, AIDS strikes heavily at young adults, generally the most productive age group, very often at people who are parents and breadwinners. Resultant labor shortages may slow or reverse economic development. Economies may be further damaged by declines in foreign investment or a drying up of tourism. In many Asian societies, the elderly are dependent on their working sons and daughters for support. When their children die, not only will the elderly often find themselves unsupported, but they may have to take responsibility for their orphaned grandchildren.

The storm that is AIDS is coming—it is unavoidable. In many Asian countries, it is still early and efforts to divert the storm can be effective in significantly reducing the disease burden. In others, the storm will hit with force and how much damage is done will depend strongly on advance preparations. Governments must anticipate and plan for the possible economic, demographic, and social impacts of AIDS. Cooperation—public, private, and voluntary—will be essential to the success of these efforts. If this is done the damage can be minimized. If reality is ignored until the storm hits, then millions of lives will be lost and the economies of Asia may suffer severe damage.



Sources: (top) Xenos (1993); (left) Xenos (1990).



(at left) **Change in the percentage of unmarried women age 20–24**

Box 2. The Rise of the Young and Unmarried

Throughout Asia the number of people ages 15–24 is growing more rapidly than the population as a whole. At the same time, the number of single youth is growing much more rapidly than the total youth population. The trend toward delaying marriage means a growing share of all young people will remain single much longer than in the past. By the year 2010, for example, India is projected to have nearly 70 million single teenagers between the ages of 15 and 19, or 188 percent more than in 1980. This increasing proportion of men and women in the age ranges where sexually transmitted diseases are most common creates a formidable challenge for those trying to slow the spread of HIV.

Endnotes

1. Xenos, Pitaktepsombati, and Sittitrai (1993).

2. Sittitrai, Phanuphak, Barry, and Brown (1992).

3. Mastro, Satten, Nopkesorn, Sangkharomya, and Longini (1994).

4. Brown and Sittitrai (1993).

5. Xenos, Pitaktepsombati, and Sittitrai (1993); Task Force on the Study of Adolescent Sexuality (1986).

6. Munakata and Tajima (1992); Munakata and Kazuo (1992).

7. Munakata (1992).

8. Xenos and Gultiano (1992).

9. AIDS: Will it spread in China? (1987).

10. Thurston (1987).

References

AIDS: Will it spread in China? 1987. *Beijing Review* 32 (10 August): 7.

Brown, T., and W. Sittitrai. 1993. Estimates of Recent HIV Infection Levels in Thailand. Research Report No. 9. Bangkok: Program on AIDS, Thai Red Cross Society.

Mastro, T., G. A. Satten, T. Nopkesorn, S. Sangkharomya, and I. M. Longini, Jr. 1994. Probability of female-to-male transmission of HIV-1 in Thailand. Lancet 343 (22 January): 204–207.

Munakata, T. (ed.). 1992. Report on AIDS and Commercial Sex. (In Japanese.) Tokyo: Nihonhyoronsya.

Munakata, T., and T. Kazuo. 1992. The Japanese's risky behavior on HIV infection: A sex partner relation survey. *International Conference on AIDS, July 19–24, 1992.*

Munakata, T., and K. Tajima (eds.). 1992. Report on AIDS and Sex/ Japan. (In Japanese.) Tokyo: Nihonhyoronsya.

Sittitrai, W., P. Phanuphak, J. Barry, and T. Brown. 1992. Thai Sexual Behavior and Risk of HIV Infection: A Report of the 1990 Survey of Partner Relations and Risk Infection in Thailand. Research Report. Bangkok: Program on AIDS, Thai Red Cross Society.

Task Force on the Study of Adolescent Sexuality. 1986. Working Report on Adolescent Sexuality Study (unpublished tables). Hong Kong: Family Planning Association of Hong Kong.

Thurston, D. 1987. Deadly serious. *Asia Magazine* (3 May): 8–15.

Xenos, P. 1990. The social demography of Asian youth populations: An analysis of projections to 2010. In *Analysis of Population Trends and Projections in Asia: 1980–2010.* Honolulu: Population Institute, East-West Center.

Xenos, P. 1993. Extended adolescence and the sexuality of Asian youth: Observations on research and policy. In M. L. Ng and L. S. Lam (eds.), *Sexuality in Asia: Selected Papers from the Conference on Sexuality in Asia, May 1990 Hong Kong.* Hong Kong: Hong Kong College of Psychiatrists.

Xenos, P., and S. A. Gultiano. 1992. *Trends in Female and Male Age at Marriage and Celibacy in Asia.* Papers of the Program on Population, no. 120. Honolulu: East-West Center.

Xenos, P., P. Pitaktepsombati, and W. Sittitrai. 1993. Partner patterns in the sexual behavior of unmarried, rural Thai men. *Asian and Pacific Population Forum* 6, no. 4: 104–117.

About this Publication

For additional copies or other information, please contact the Office of Public Programs, East-West Center, 1777 East-West Road, Honolulu, HI 96848.
Telephone: (808) 944-7197
Facsimile: (808) 944-7376

Series Editor: Elisa W. Johnston

Available AsiaPacific Issues

No. 6, "Dear President Clinton: Voices from Asia and the Pacific," edited by Richard Halloran and John Schidlovsky, June 1993.

No. 7, "The High Costs of Environmental Loans," by Frances F. Korten, September 1993.

No. 8, "America's Trade: Markets Count More Than Deficits," by Bernard K. Gordon, October 1993.

No. 9, "Pacific Summit in Seattle: Testing Clinton's Asia-Pacific Policy," by Richard W. Baker, November 1993.

No. 10, "Looking for Pollution Where the People Are," by Kirk R. Smith, January 1994.

No. 11, "UN Peacekeeping Missions: The Lessons from Cambodia," by Judy L. Ledgerwood, March 1994.

No. 12, "U.S.–Japan Trade: Get Smart, Not Just Tough," by Paula Stern, April 1994.

No. 13, "Marketing the Rainforest: 'Green' Panacea or Red Herring?" by Michael R. Dove, May 1994.

No. 14. "Resource-rich Central Asia Opens to the World" by James P. Dorian, Ian Sheffield Rosi, and Changzoo Song, July 1994.

No. 15. "Do Population Programs Violate Women's Human Rights?" by Karen Oppenheim Mason, August 1994.

About the Authors

***Tim Brown,** a fellow in the East-West Center's Program on Population, has participated in research on the HIV/AIDS epidemic in Thailand since 1989, serving as a Research Associate with the Program on AIDS of the Thai Red Cross Society and as a member of the Thai Working Group on HIV/AIDS Projection. His primary interests are in epidemiology, HIV/AIDS modeling, and risk behavior assessment with an emphasis on their implications for policy development and intervention targeting and design. Recent publications include several articles in a special issue on Asia and the Pacific of the journal* AIDS.
Telephone: (808)944-7476
Facsimile: (808)944-7490
E-mail: tim@wiliki.eng.hawaii.edu

***Peter Xenos,** a senior fellow in the Program on Population, has been at the East-West Center since 1975, before which he was a Ford Foundation population specialist in the Philippines. He has field experience in a number of Asian countries. Recently he has been working with Asian colleagues on major surveys of youth and their sexuality in the Philippines and Thailand.*
Telephone: (808)944-7410
Facsimile: (808)944-7490
E-mail: xenosp@EWC.bitnet