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The AIDS Prevention Dilemma in Thailand

Acquired immune deficiency syndrome (AIDS) and its causative human immunodeficiency virus (HIV) have become a rapidly spreading menace in Asia as elsewhere. This article summarizes the current status of the AIDS epidemic in Thailand, identifies the patterns of HIV transmission through Thai society, describes governmental and private responses to the epidemic, and suggests further countermeasures.

The number of HIV positive cases has risen dramatically since 1988. By September 1990 the Ministry of Public Health estimated 100,000 Thais to be HIV positive, a figure thought by other observers to be conservative. Until recently intravenous drug use and sexual contact among male homosexuals accounted for nearly all cases, but a new pattern of transmission—through heterosexual contact between female prostitutes and their male clients—is emerging, particularly in Northern Thailand. Through such casual, unprotected sex, the virus is now entering the general Thai population.

It is strongly recommended that every effort, public and private, be undertaken to educate the public about ways to avoid contracting and transmitting HIV, and to facilitate the widespread use of AIDS-preventive measures. A recently announced national policy to prevent AIDS represents a hopeful step in this direction.

ASIAN AND PACIFIC POPULATION FORUM

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The EAST-WEST CENTER is a public, nonprofit educational institution established in Hawaii in 1960 by the United States Congress with a mandate "to promote better relations and understanding among the nations of Asia, the Pacific, and the United States through cooperative study, training, and research." Some 2,000 research fellows, graduate students, and professionals in business and government each year work with the Center's international staff on major Asia-Pacific issues relating to population, economic and trade policies, resources and development, the environment, culture and communication, and international relations. Since 1960, more than 25,000 men and women from the region have participated in the Center's cooperative programs. Principal funding for the Center comes from the United States Congress. Support also comes from more than 20 Asian and Pacific governments, as well as private agencies and corporations. The center has an international board of governors.

by Marjorie A. Muecke

EXPERIENCE with the unrelenting spread of the human immunodeficiency virus (HIV) in Sub-Saharan Africa indicates that, in the absence of a cure or vaccine for acquired immune deficiency syndrome (AIDS), the disease will create a major social crisis wherever it takes hold. The countries of Asia are only beginning to recognize the AIDS pandemic as a threat to themselves (Karel and Robey 1988: 2-4, 18).

Thailand is more advanced than its neighbors in recognizing AIDS as a threat of major proportions. It has a sentinel surveillance program to track the diffusion of HIV in the Thai population, and the proportion of its citizens who have heard about the disease is greater than in other countries of Southeast Asia.

However, many Thais who have heard of AIDS know little about it. Eighty-eight percent of a stratified random sample of 1,500 people in Bangkok knew that AIDS is a dangerous and contagious disease; but fewer than half knew that use of condoms can reduce the spread of HIV, more than one-third thought they could not be infected by people who look healthy, and another third did not know that AIDS is a fatal disease (Somchai Durongdej 1990).

Until recently the AIDS risk in Thailand has been associated

primarily with intravenous drug use. Most estimates of the number of intravenous drug users in the country range between 100,000 and 200,000, the majority of users living in Bangkok. Other risk factors are high levels of population mobility and return migration from abroad, sexual mores that endorse male sexual freedom and restrict it for women who are not prostitutes, the large scale of its tourist and night entertainment industry, nonuse of condoms, and an uncircumcised male population (Fink 1989; Waugh and Spicer 1990). (See box on page 3.)

All these sociocultural characteristics bring people intimately together, providing the necessary environment for extensive HIV transmission. For these reasons, Thailand is selected for a case study AIDS update in the *Asian and Pacific Population Forum*.

It is characteristic of epidemics to begin quietly and capriciously, as depicted by Albert Camus in his novel *The Plague* (1948). In its early phase of surreptitious spread, few realize their vulnerability to AIDS. In Asia the epidemic is still invisible. In Thailand, with fewer than 200 persons known to be symptomatic out of a population of 56 million, hardly anyone feels vulnerable. The Thais have an aphorism: "*Mai ben long sop mai lang naamtaa*" (If you don't see the corpse in the coffin, you don't shed a tear).

Some government officials, health care providers, and nongovernmental organizations (NGOs) are profoundly aware of the dangers that AIDS poses to the Thai population at large. But other officials, the mass media, and the majority of

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their audiences still associate AIDS with foreign male tourists and social deviants—intravenous drug users, homosexuals, and female prostitutes—not with high-risk sexual behavior that may be widespread among the general population.

Most Thais misleadingly associate AIDS with male tourists from abroad, intravenous drug users, homosexuals, and female prostitutes rather than with high-risk sexual behavior that may be widespread among the general population.

Attempts to control AIDS by associating it only with foreigners and “undesirables” are common national responses, particularly in countries where HIV prevalence rates are still low. Nevertheless, where AIDS is concerned such defenses of denial and displacement can be suicidal because they reinforce the false notion of personal safety among the general populace.

This approach also encourages a disease-based xenophobia. The Thai government's prohibition (until 1991) of known HIV carriers from entering the country and its concentration of HIV screening efforts on intravenous drug users, prostitutes, and clients of sexually transmitted disease (STD) clinics misleadingly suggest that Thais who are not prostitutes and do not abuse drugs or have an active STD are safe from AIDS. Anonymous random testing of other population segments at risk, such as military personnel, male youths, and truck

drivers, would yield more valid information on the prevalence of the disease while still economizing resources.

Selective targeting of prostitutes and intravenous drug users for HIV testing reinforces negative attitudes toward these high-risk groups, as has happened in the United States, thus legitimating an inadequate

governmental and public response to the problem of AIDS.

What Bateson and Goldsby (1988:134) argue in the case of the United States holds equally for countries such as Thailand: “If the population at large does not alter its sexual behavior until it has experienced the depth of loss and direct contact with suffering that

Survey of Foreign Tourists in Thailand Reveals Majority Experience Night Life

In mid-1990 a self-administered questionnaire gathered information from 1,200 foreign tourists in Bangkok and Pattaya, Thailand's two major tourist cities, about their sexual experiences and use of condoms while in Thailand. The survey, conducted by the Program on AIDS of the Thai Red Cross Society, also asked respondents about their demographic characteristics, knowledge of and attitudes toward AIDS, awareness of the AIDS situation in Thailand, and opinions about the possible impact of AIDS information campaigns on tourism.

Preliminary results indicate that 63 percent of those surveyed had experienced Thai night life (e.g., had patronized bars, clubs, or massage parlors). Among the Bangkok tourists, 40 percent of men and 5 percent of women said they had already had or were planning to have sex with a Thai person. Only 40 percent of the tourists interviewed were married. Of those 40 percent, 25 percent were traveling alone.

The research team included Werastit Sittitrit, deputy director of the Thai Red Cross Society's Program on AIDS and assistant professor at the Institute of Population Studies, Chulalongkorn University; Praphan Phanuphak, director of the Program on AIDS; and Charlotte Shum and Dominique Michaud, undergraduate students from the University of Pennsylvania. A complete report on the survey will be available in June 1991 from the Thai Red Cross Society. Requests for copies should be directed to:

Director of Program on AIDS
Thai Red Cross Society
1871 Rama 4 Road
Bangkok 10330, Thailand
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—by Werastit Sittitrit

[accompanies death from AIDS], . . . it will be too late to change."

Like other government officials around the world, Thai officials face a difficult set of challenges: Even if they have the vision to foresee the epidemic in its maturity, how are they to contain the spread of AIDS, when change in individual behavior is what is essential to stem the tide? (Rosenberg 1989:10) How can they protect the health of the public without discriminating against certain individuals or groups? How can they orchestrate change in social norms to reduce high-risk behavior without appearing to condone such behavior and without upsetting the political and economic stability of their nations?

Even if government officials have the vision to foresee the AIDS epidemic in its maturity, they face the dilemma of having to orchestrate change in social norms to reduce high-risk behavior without appearing to condone such behavior and without upsetting the nation's political and economic stability.

This report reviews the epidemiologic development of the HIV epidemic in Thailand, describes the Royal Thai Government's dilemma and its response to the epidemic, and discusses the implications of the government's actions, offering suggestions for improving the efficacy of AIDS preventive work in Thailand. Unless otherwise stated,

Table 1. Known numbers of new cases of HIV infection, ARC, and AIDS, by year: Thailand, 1984-90

Type of case	1984	1985	1986	1987	1988	1989	1990	Total
HIV	0	5	10	171	5,045	10,648	11,151	27,030
ARC ^a	0	5	8	13	22	90	105	243
AIDS	1	1	0	7	5	29	48	91

Source: Thailand, Department of Epidemiology (1990b).

a. AIDS-related complex (ARC) is a combination of physical symptoms and signs, existing over time, that indicate infection of a person with HIV. In the United States it is now referred to as "constitutional disease."

all statistics cited herein, including those reported in the news media, are from the Department of Communicable Diseases Control (CDC), Ministry of Public Health, Bangkok.

■ The epidemiologic pattern of HIV infection in Thailand

The AIDS pandemic has crept into Thai society covertly, and official response has been equally quiet. The first case was diagnosed in 1984. By 1988 there were only 10 known cases; most were among gay (homosexual) men, who were said to have contracted the disease from foreigners.

Rapid rise in cases. Initially the small number of cases and their apparently foreign origin permitted complacency. But in 1988 Thailand experienced a sudden escalation of known HIV prevalence (Smith 1990). The rise evidently reflects actual seroconversion rather than more adequate screening because HIV screening began prior to the surge in prevalence. By the beginning of 1988, 186 asymptomatic

persons had been found to be HIV positive (Table 1). Jonathan Mann, director of WHO's Global Programme on AIDS, was quoted in the *New York Times* (Altman 1988:12), "This Thai experience shows very clearly that Asia is just as vulnerable to an explosion of HIV infection as any other part of the world."

A sudden escalation of known HIV cases in 1988 appears to reflect actual seroconversion rather than more adequate screening. By mid-January 1991 the number of known cases had reached 27,030.

Within two years, the cumulative number of HIV positive cases shot up to 15,879; and just 10 months later, in October 1990, the Department of CDC reported a total of 23,279 known HIV cases, 200 AIDS-related complex (ARC) cases, and 69 cases of active AIDS. By 15 January 1991 the number of known HIV cases had risen to 27,030.

These figures, alarming as they are, probably indicate only the tip of the iceberg. The Department of Epidemiology in the Ministry of Public Health reported in September 1990 that an estimated 100,000 cases were HIV positive, but estimates by nongovernmental observers are much higher. Jon Ungphakorn, director of the Thai Volunteer Service, has estimated at least 200,000 are HIV infected. Mechai Viravaidya, secretary general of the Population and Community Development Association, estimated that in October 1990 between 300,000 and 400,000 Thais were infected with HIV, and some insurance companies' estimates at that time were as high as 800,000.

The meaning of the dramatic increase in HIV cases has not been widely reported in the Thai media, however. The director-general of the Department of CDC recently told the *Bangkok Post* (Ampa and Veera 1990) that the government strategy is to release AIDS data gradually to prevent panic and protect the tourist industry.

This restriction of information on the AIDS pandemic's emergence in Thailand is the continuation of a policy expressed as early as 1987. It was reiterated by the director-general of the Corrections Department when he recently declined to disclose the number of HIV carriers in prisons on the grounds that the figure is "alarming and might cause panic" (*The Nation* 29 November 1990). Nevertheless, the policy has allowed for full reporting of AIDS cases to the World Health Organization (WHO) since 1987 (*Bangkok Post* 28 November 1987; see also Truong 1990:158-191).

Patterns of transmission. The routes of transmission in Thailand initially appeared to conform to the pattern in developed countries, through male homosexual practices and intravenous drug use, with a consequent sex ratio strongly favoring males (May et al. 1989:166-167). In May 1990, 84 percent of the known living 17,328 cases were among males (*Bangkok Post* 17 June 1990).

At the beginning of 1988, fewer than 1 percent of intravenous drug users at Bangkok detoxification clinics were HIV positive; nine months later, over 40 percent were. As of 15 October 1990, 61.3 percent of known HIV-positive persons were male intravenous drug users and 2.5 percent were female intravenous drug users (Thailand, Department of Epidemiology, 1990a). Similar rapid rises and sex ratios of HIV prevalence among intravenous drug users have been reported for American and European cities such as New York and Edinburgh.

The government estimates there to be 80,000 to 100,000 intravenous drug users in Thailand, 75-80 percent of them in Bangkok (Thailand, Dept. of CDC, 1988:11). Until 1990, more than 75 percent of the known HIV positive cases were among intravenous drug users. The proportion is in a progressive decline owing to the increase in sexual transmission of HIV (Table 2).

Recent regional surveillance has identified another pattern, one more like that in Sub-Saharan Africa, where the sex ratio of AIDS cases is close to one female for every male (Quinn et al. 1989). Heterosexual behavior is now the paramount route of transmission in Northern Thailand, and it may soon become so for the nation. Nationally, the ratio of male to female HIV-infected persons was 8 to 1 in 1989, but by October 1990 it had dropped to 4 to 1 (*The Nation* 9 November 1990).

Because prostitutes have a high rate of change in sex partners and

Table 2. Sources of HIV transmission among known HIV positive persons: Thailand, various dates, December 1988 to October 1990 (percentage distribution)

Source	December 1988	June 1989	December 1989	October 1990
Intravenous drug use	91	84	78	64
Sexual contact	4	10	14	27
Blood transfusion	u	u	u	0.2
Maternal	u	u	u	0.0
Unknown	5	6	8	9.3
All sources	100	100	100	100

Sources: Vicharn (1990:24); Thailand, Department of Epidemiology (1990b:545).

Note: Percentages may not sum exactly to 100 because of rounding.

u—unknown.

are highly mobile, female prostitutes have been designated the major vector of HIV transmission into the general population (Sombat 1990: 535).¹ Estimates of the number of female prostitutes in Thailand range from more than one-half million to one million (Mattani 1984; Khin 1983). These numbers are equivalent to 2–4 percent of the total female population.² The National Commission of Women's Affairs estimated in 1990 that some 100,000 prostitutes were girls of ages 15 and under (Mayuree 1990).

Corresponding numbers of male prostitutes are not known, although the Department of CDC estimated the number at 5,000 in 1988 and the rate of HIV infection to be higher among them: 1.28 percent versus 0.09 percent for female prostitutes (Thailand, Dept. of CDC, 1988:9,18). HIV prevalence among three types of prostitute have been reported for Chiang Mai Province as of December 1990: undisguised female prostitutes, 23.2 percent; disguised or "hidden" female prostitutes (those working in nightclubs, bars, escort services, massage parlors, and the like), 8.4 percent; and male prostitutes, 14.0 percent



Nightclub floor shows such as the one shown here are one aspect of Thailand's large entertainment industry. Prostitution is an integral part of that industry, and sexual intercourse between prostitutes and male clients who do not use condoms is thought to be the main source of HIV transmission to the general population.

(Chiang Mai Provincial Health Office).

The Thai government and non-governmental organizations have mounted a variety of programs targeted to female prostitutes in cities that have large numbers of prostitutes in an effort to contain the spread of HIV infection. Worldwide, prostitutes are the focus of AIDS-prevention education programs for several reasons. They are more easily identified than the larger and more dispersed circle of their clients. They are also integrated with a broad spectrum of society. (WHO 1989:2)

Although prostitution is illegal in Thailand, Thai society is sexually permissive and the laws against it are seldom enforced. Werasit (1990) reports that over half of the mar-

ried men interviewed in a recent study had up to five sex partners other than their wives in a 12-month period. (See shaded box on page 7.)

Most patrons of prostitutes are not foreign visitors, but rather Thais. It is widely accepted as normal for teenage boys to have their first sexual experiences with prostitutes, and for any men (except monks and royalty) to visit prostitutes. The greater need for men than for women to demonstrate sexual prowess may be associated with the Thai tolerance of both prostitution and polygyny, even though both practices are illegal (Khin 1980).

High concentration of cases among prostitutes in North. The highest HIV prevalence rates reported in Thailand to date—over 70 percent and in some areas up to 100 percent—are among low-priced female prostitutes in some northern provinces (Vicharn 1990:30). (See Table 3.) This high range appears not to be an artifact of reporting.

STD clinics in Chiang Mai, the capital province of the Northern Region, began testing for HIV in

Table 3. Percentage of female prostitutes HIV positive, by price of service: Chiang Mai, June 1990

Price (U.S. \$)	Number tested	Percentage HIV+
> \$4	12	17
\$2–4	52	31
< \$2	36	72

Source: Vicharn (1990:30).

1. Female prostitutes are thus viewed as vectors of the HIV, but not as recipients of it. This view is contrary to medical evidence that HIV is more concentrated in semen than in vaginal fluids, and so more readily transmitted by men than by women; and it is contrary to evidence that prostitutes become HIV infected from male clients, particularly from men who are intravenous drug users.

2. Government figures for numbers of prostitutes are consistently many times lower than those of other observers. The government estimates the total number of women in the "entertainment" services to be approximately 100,000 (Thailand, CDC, 1988:18).

January 1988. No HIV tests were positive until the seventh month of testing, when 447 cases were recorded (mean of 371 prostitutes tested per month for the first six months). The proportion testing positive increased monthly thereafter, to 44 percent by June 1989 (Vicharn 1990:28). By the same date the HIV prevalence among prostitutes in two other northern provinces was 54 and 59 percent (Vicharn 1990:27); one year later, analogous rates had risen to 62 and 64 percent, respectively (Kampol 1990).

Chiang Mai Province has the highest reported HIV prevalence rates in the nation among female service workers (prostitutes), male STD clinic clients, and blood donors (Vicharn 1990:29). Data-based explanations for the concentration of heterosexual transmission in the Northern Region are yet to come. One likely explanation is that the North is the home base of the majority of prostitutes who work in cities where intravenous drug users also congregate. It is not yet known whether the women contract HIV from clients who use intravenous drugs, as occurs among street prostitutes in the United States (Cohen et al. 1988), or whether the chronic poverty of lower-priced prostitutes is a cofactor for AIDS, the associated poor nutrition and untreated STDs contributing to their excess vulnerability (Cates 1990; Latif et al. 1989).

Vulnerability of teenage girls in poverty. Low-priced prostitutes, many of them teenagers, have the greatest numbers of customers. A sizable proportion of their customers may be teenage boys. A re-

Survey of Partner Relations Finds Many at Risk of AIDS in Thailand

Preliminary analysis of data from a 1990 nationwide survey in Thailand, soon to be published, indicates that Thai men, both married and unmarried, are engaging in high levels of casual sexual behavior that carry the risk of HIV infection. Although the survey finds low levels of casual sexual behavior by Thai women, many women may be placed at risk of contracting the AIDS virus by their sexually more active husbands and boyfriends.

The study, called the Survey of Partner Relations and Risk of HIV Infection in Thailand, collected information from 2,801 Thai men and women through interviews, using an anonymous structured questionnaire. Respondents ranged in age from 15 to 49 and were drawn from both rural and urban areas of Thailand, including Bangkok. Questions asked about respondents' demographic characteristics, types and frequency of sexual behavior, choice of sexual partners, alcohol and drug use, knowledge of and attitudes toward AIDS, knowledge of and history of other sexually transmitted diseases, first sexual experience, and their definitions of "having sex" and virginity.

The study was conducted by the Thai Red Cross Society Program on AIDS and the Institute of Population Studies of Chulalongkorn University with financial support from the Global Programme on AIDS of the World Health Organization. The project coordinator was Werasit Sittitrat. Other researchers included Praphan Phanuphak, director of the Red Cross Society's Program on AIDS; Jean Barry of the Department of Psychology, Chulalongkorn University; and Tim Brown of the Department of Electrical Engineering, University of Hawaii.

The investigators have presented preliminary results to policymakers and planners, focusing on implications of the findings for policy. For example, information from the survey on the early sexual behavior of youths suggests there is a need for a sex education curriculum in primary schools. Other results are being used to develop projections of the AIDS epidemic's spread in Thailand.

The Thai Red Cross Society will publish the results of the survey in the form of two major reports, the first of which will be available in June 1991. A series of journal and newspaper articles presenting further analyses of the data will follow.

Copies of the initial report can be ordered from:

Director of Program on AIDS
Thai Red Cross Society
1871 Rama 4 Road
Bangkok 10330, Thailand
Fax: (662) 255 3727

—by Werasit Sittitrat and Tim Brown

cent study of 400 males, ages 15 to 24, found that 46 percent had had their first experience of sexual intercourse between ages 15 and 17, most of them with prostitutes (Wer-asit 1990).

The highest HIV prevalence rates reported in Thailand are among low-priced female prostitutes in Northern Thailand, many of whom are teenagers.

The prostitutes whom teenagers are most likely to patronize are those who charge the least for their services—girls from rural, poor Thai families, from indigenous Hill People villages, and from poverty-stricken areas of neighboring Laos and Burma. The girls and their families are lured by the financial rewards promised for working in Thailand (Somchai Hareuthaihansa 1986).

Because they are young, may not speak standard Thai, and are poorly educated, they are easily exploited and not reached by AIDS education campaigns. They are least likely to know how AIDS is transmitted, least likely to be successful in convincing clients to use condoms, and least likely to have access to or to use STD clinic services. Some, perhaps a majority, are elusive to even government program intervention because they are in debt bondage to their procurers or brothel owners. Owners rarely permit HIV testing of "their girls" until the girls have paid off their purchase price in service.

Table 4. Percentage of HIV positive persons among blood donors: Nakhorn Chiang Mai Hospital of Chiang Mai University, 1988 and 1989

Type of donor	1988		1989	
	Number tested	% HIV+	Number tested	% HIV+
Voluntary	14,755	0.6	5,978	2.1
Exchange ^a	3,576	0.6	5,339	2.2
Commercial	6,747	1.6	3,293	6.0

Source: Vicharn (1990:33–34).

a. An exchange donor is one who donates blood to replace that used by a specific patient in order to defray charges for the blood used.

For these reasons, low-priced prostitutes and intravenous drug users are currently the highest-risk sector of the population. This positive association between low socioeconomic status and HIV susceptibility is also found in the United States and other countries (Curran et al. 1988).

Not only does the prevalence of HIV infection among prostitutes vary inversely by cost of service in Northern Thailand (Table 3), but also studies of blood donors at the Nakhorn Chiang Mai Hospital Blood Bank reveal an inverse relation between socioeconomic status and HIV infection rates (Table 4). Prevalence rates among commercial donors were substantially higher among volunteer donors, and the difference between the two types of donor increased between 1988 and 1989.

The heterosexual pattern of HIV transmission preeminent in the Northern Region (Table 5) has affected young women there disproportionately. July 1990 figures from HIV surveillance in Chiangrai Province, bordering Laos, show that females are the primary carriers, ac-

Table 5. Sources of HIV transmission among known HIV positive persons: Three Northern provinces of Thailand, September 1989 (percentage distribution)

Source	Province		
	A	B	C
Intravenous drug use	17	11	7
Sexual contact	59	83	91
Unknown	23	6	1
All sources	100	100	100

Source: Vicharn (1990:25).

Note: Percentages may not sum exactly to 100 because of rounding.

counting for 64 percent of the total, compared with 15.9 nationally. The age distribution found in the Chiangrai study is particularly worrisome: over half (53 percent) of the HIV-infected females were teenagers, whereas most HIV-infected males were older, only 4

(continued on page 21)

Comments on Wardlow Friesen's "Economic Activity and Occupation in the Pacific Islands: Issues of Census Classification and Analysis"

by Eivind Hoffmann

IN HIS recent *Forum* article (Volume 4, No. 2, Summer 1990) Wardlow Friesen gives an overview of two statistical instruments developed by the International Labour Organisation (ILO) for the measurement of the economically active population, employment, unemployment and underemployment, and the occupations of the economically active population. The purpose of these comments is, on the basis of the more complete documentation now available in Hussmanns et al. (1990) and ILO (1990), to discuss further some of the issues raised in the article in order to avoid misunderstandings with respect to the appropriateness of applying these instruments in the Pacific region.

Who is "economically active"?

Friesen (1990:13) states that in the context of the Pacific Islands it is an anomaly to consider that "a woman who sells cooked food in the local market is performing an

economic task in cooking for her own household, whereas her neighbors, who do similar work, are not." Several comments are in order:

In the present framework of both the United Nations System of National Accounts (SNA) and the International Labour Organisation (ILO) only a part of the woman's cooking for her own and her household's consumption is considered economic activity to be included in an estimate of the number of hours worked and the value of goods and services produced (in addition to the cooking she does for the market and for any hired workers engaged in the production activities of, say, the farm). This part refers to the preparation of foodstuffs that are identical to the items produced for the market but are prepared or retained for consumption by the household. It should be noted that the consideration of this part of cooking as economic activity has no effect on *head counts* of economically active persons.

It is useful, as Friesen recognizes, to distinguish between the concept of "economic activity" and other, perhaps wider, concepts of "work" and "useful activity." The production boundary of the revised SNA is likely to be extended to include more nonmarket activities than at present. The ILO concept of "economic activity" will be adapted to these changes.

There is nothing in the interna-

tional guidelines or recommendations to prevent or discourage countries from applying several work-related concepts in their population censuses or household surveys, as long as such different concepts can be clearly distinguished from one another. Friesen's review of the census practices in the region demonstrates that this has in fact been recognized by some countries.

In a number of cases in the past the actual census measurement of "economic activity" has been more limited in scope than that of the SNA or ILO framework. The main reason is that the borderline cases for the concept of "economic activity" are difficult to handle in a population census when just one or two questions can be used and enumerators can be given little or no special training. As a consequence the questions (and the instructions to enumerators) have resulted in a substantial underestimation of the economically active population, in particular of economically active women. However, this problem must be blamed on census practices and limited resources, not on the underlying concepts.

What is ISCO-88?

ISCO-88 consists of a classification structure and a dictionary. A proper description of the classification structure will consist of three components: first, that the *primary*

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unit of observation to be classified is a "job" (defined as a set of tasks carried out by one person, but not necessarily the set of all tasks carried out by that person during the reference period); second, that the *aspect (variable) being measured* is "the type of work performed" in the job (and not "working conditions" or "pay," for example); and third, that "skill level" and "skill specialization" are the main *similarity criteria* used to define groups in ISCO-88.

In reference to the differences between ISCO-68 and ISCO-88 discussed by Friesen (1990:17, col. 1), three points should be added. It was never intended that ISCO-68 should be used by any government without modification to fit national circumstances. The ISCO-68 publication did include more detailed occupational (group) descriptions than the ISCO-88 publication does. And various countries have used the ISCO-68 virtually without modification because they lacked the necessary resources and expertise to make appropriate adjustments.

Applying ISCO-88 in the Pacific

There is no problem in principle in extending the coverage of ISCO-88 to "job" covered by a broader concept of "work" than the SNA and ILO concept of "economic activity" (cf. Friesen 1990:18, col. 1). However, some practical work may be needed to determine whether the additional activities can be classified under any of the existing ISCO-88 groups or whether some new groups will need to be created at the lowest level in the classification.

The work started by the South

Pacific Commission (SPC) to adapt ISCO-88 major group 6, "skilled agricultural and fishery workers," and in particular submajor group 62, "subsistence agricultural and fishery workers," to the circumstances of the Pacific (SPC 1990) is welcome. It would be best, however, if this could be done in a way that makes it possible to create, from the most detailed groups, alternative aggregate structures—either that of the ISCO-88 or one focusing on "broad agricultural system types" if that is seen as the major distinction to be made.

The problem raised by Friesen (1990:18, col. 2) with respect to "tasks that are performed by groups" refers to a "job" concept different from the one used by ISCO-88. To classify by occupation the members of the group, one must shift the focus from the group to the tasks of its members. If all members of a group (e.g., all crew members of a fishing boat) carry out the same tasks, then they all should be given the same code. If there is a division of labor between the group members, however, this may mean that their tasks are sufficiently different to warrant that they be given different codes. The correct code to be given to the group as a unit is that of *industry*, as the group must be considered to be a type of establishment.

With reference to the point made by Friesen (1990:18, col. 3) about persons undertaking different types of activities and the example in Table 3, it should be emphasized that the person who during the reference week works 40 hours as a cocoa producer and one hour as a builder should be considered as having *two* jobs, both of which can

be given an occupational code. The *main* job should be selected on the basis of numbers of hours worked or size of income generated. The priority rules specified for ISCO-88 coding do not apply to these situations; they apply only when the combination of tasks *in the same job* is such that they cut across the dividing lines of the classification. The point that "a great deal of significant information will be lost if only a single job description is applied to each person" (Friesen 1990:29) is important, and all jobs of a person should be recorded and coded if resources permit.

The ILO has recommended asking about "main tasks and duties" in addition to occupational title because such information gives the best basis for the coding of occupation. The idea that all tasks could be coded and the computer asked to apply priority rules to them to derive an occupation code (Friesen 1990:29, col. 1) may be feasible, but this approach has not been tested or implemented in any of the existing computer-assisted coding systems that we know about.

It is slightly misleading to state that "the new ISCO standard has been adopted by . . . Australia and New Zealand" (Friesen 1990:11) inasmuch as during the last 10 years Australia, in particular, has been the world's pioneering country in its work on occupational classifications, both with regard to clarifying underlying principles and with regard to statistical implementation and computer-assisted coding. The development of ISCO-88 benefited from the Australian work more than the Australians have benefited from ISCO-88. One can say, however, that the main principles of ISCO-88

have been adopted already, not only by Australia and New Zealand, but also by a large number of countries in Africa, Asia, the Caribbean, and Europe. It should also be mentioned that the ILO instruments have been discussed not only at the SPC 1989 Working Group's meeting, but also at two workshops sponsored by the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) in 1989 and 1990, in which officials from the statistical organizations of the Pacific Island countries participated.

Within the limits set by the resources available the ILO can provide advice and guidance on both the measurement of the economically active population, employment, unemployment, and underemployment, and on the development and use of occupational classifications. For further information, interested persons should contact the ILO Area Office in Suva, Fiji (P.O. Box 14500); the ILO Regional Advisor on Labour Statistics and Surveys (ILO Regional Office for Asia and the Pacific, P.O. Box 1759, Bangkok, Thailand); or the ILO Bureau of Statistics (CH-1211 Geneva 22, Switzerland).

Friesen replies

I welcome Eivind Hoffmann's comments on my article "Economic activity and occupation in the Pacific Islands." When I wrote the article the two ILO manuals mentioned by Hoffmann (Husmanns et al. 1990; ILO 1990) were not available to me. Some of the ideas I presented were based therefore on work in progress rather than on the final recommended version of ISCO-88. That explains some of the differences be-

tween us he mentions. Others are due to our different perspectives on the issues discussed.

In response to Hoffmann's comments on market versus subsistence production (in the section "Who is 'economically active?'"), it is true that the SNA convention of including women who cook something for the market and for their own households in the category of "economically active" but of excluding those who cook only for their own households has no effect on the head counts of economically active persons.

As Hoffmann mentions, however, these conventions are also used in some cases to estimate the number of hours worked and the value of "economic" production. It seems misleading to attribute economic value to production for one's own use in the one case but not in the other. It is not clear to me whether this convention has been adopted for ease of enumeration, coding, and analysis or for an underlying theoretical reason. It will be interesting to see how the revised SNA treats this and similar issues.

As for the underlying concepts versus census practices, I agree with Hoffmann that many of the problems of defining economic activity result from inadequate census practices and resources rather than from the underlying concepts used. The problems of enumerator training are very real, and they emphasize the need for a clear and consistent standard that can be used in questionnaire design. Of course, even when there is one, national adaptations of this standard often are not adequately developed and hence lead to underenumeration, ambiguity, etc. The original article dealt mainly

with the ISCO-88 classification structure, and Hoffmann's description of the components of that structure and elaboration about ISCO-68 ("What is ISCO-88?") are useful additions to that discussion.

Hoffmann's comments on a broader concept of "work" ("Applying ISCO-88 in the Pacific"): It seems to me that if the concept of work were expanded beyond the current SNA and ILO concept of "economic activity," one or more new groups might have to be created. But as Hoffmann suggests, this would involve a considerable amount of development work. The great difficulty in devising meaningful classifications for "subsistence agricultural and fishery workers" illustrates this fact. I agree that it would be useful if any modifications made within the detailed levels of this group in the Pacific Islands were designed to allow aggregation to an alternative international system.

As for group work, it was not intended that work done by groups of people should be incorporated within ISCO-88, since it is clear that the ISCO standard should deal with individuals. My intention was to point out that some problems remain in applying the job concept in all cases. That is, there are circumstances in which a "set of tasks" is *not* "performed or designed to be performed by one individual." In the Pacific these activities tend to be sporadic and occupy a small proportion of most individuals' time, so that most individuals have other jobs that can be identified under the ISCO-88 rules.

The issues of main and secondary jobs and priority rules for classify-

(continued on page 27)

News and Announcements

Indonesian Census Records Decline in Population Growth Rate

Soetjipto Wirosardjono, vice director general of Indonesia's Central Bureau of Statistics (CBS), reports that the population of Indonesia grew more slowly during the 1981-90 decade, at 1.97 percent annually, than during the previous decade, when the average annual growth rate was 2.32 percent. This is one of the preliminary results of the 1990 census, which took place on 31 October and recorded a total population of 179,321,641. The sex ratio recorded by the census was 99.53 males per 100 females. Indonesian population and family planning officials are pleased by the slower growth rate and view it as evidence of their programs' success in managing population growth.

For the 1990 census the 27 provinces of Indonesia were divided into 191,004 enumeration areas consisting of 200-300 households each. The general enumeration involved 254,688 enumerators and supervisors, and a more detailed sample enumeration of 2,157,000 households employed 47,933 enumerators and supervisors.

Mapping work for the census took place in 1988 and 1989, and information collected at that stage was used to determine the general and sample enumeration areas. The general enumeration was conducted for the most part on a de jure basis, recording the name, sex, and age of every person at the place where he or she normally lived. The sample enumeration recorded more detailed

demographic information and also social and economic characteristics of household members.

For a small fraction of the population a de facto approach was used, enumerating homeless people in urban areas and boat crews where they happened to be at the time of the census. Although local government officials, including police and harbor authorities, coordinated their efforts to maximize coverage of these mobile population segments, a few misunderstandings about their objectives complicated the task.

Some homeless people in several cities thought that the census teams planned to remove them from their shelters. When the enumerators arrived at the sites where the homeless normally stayed, they found the sites empty and had to track down the residents. In one instance a marketplace known to be the home base of a group of homeless people was empty when the enumerator arrived, not because the homeless were afraid to be found there but because local authorities had placed them in jail.

Boat crews were generally cooperative with the enumerators as long as their ship captains were present and gave them permission to answer the enumerators' questions. One crew from an East Asian country, however, was reluctant to answer the enumerator's questions even though a harbor authority was present. Upon further questioning, census officials learned the reason: a few days earlier men wearing harbor authority uniforms had robbed them.

In general, however, the census operation went smoothly. This was the fourth census conducted by Indonesia since independence in 1945.

Hong Kong's First Self-enumeration Produced a Good Response

Joseph Lee of the Hong Kong Census and Statistics Department reports that the field operation of the 1991 Population Census was completed during 15-24 March. For the six-sevenths of Hong Kong's population enumerated by means of a short questionnaire, a self-enumeration method was adopted for the first time. The questionnaire was posted to householders about seven days before the census, and completed forms were collected by enumerators. About 60-70 percent of householders completed the forms prior to collection, a good response rate for the new method.

The short form contained questions about age, sex, and relationship of household members to the household head. A detailed questionnaire covering a wide range of demographic, social, and economic characteristics was administered to the remaining one-seventh of the population by enumerators in face-to-face interviews.

To encourage full participation in the census, extensive publicity was provided through the mass media and special promotional efforts. A classroom education program was designed to promote the census to families through secondary-school students. The students were shown

a video about the census, which was followed by classroom discussion under a teacher's guidance. They were encouraged to support the census among their relatives and friends. A telephone hotline was established to answer enquiries, enable householders to check the identity of enumerators, and make appointments for home visits.

The 1991 census has also relied extensively on computerization, not only in the data-processing stage but also in the preparation of assignments, deployment of enumerators, and control of field work. Hong Kong maintains a computerized frame of living quarters, which was updated before the census to provide the sampling frame for the operation. From the living-quarters frame an assignment data base was created, taking into consideration geographic variations in workload, travel time, and interviewing time for individual enumerators. An enumerator data base was also created for automating much of the work involved in recruitment, training, and deployment of 15,000 temporary staff who were employed for the field work.

During the census operation a field work control system linked to 52 field centers facilitated the monitoring of progress and the selection of sample returns for quality checks. Progress data from individual enumerators were entered daily into the field-center workstations. The data were then consolidated for review by the various levels of supervisors.

Most of the temporary staff were secondary school seniors, university students and students of post-secondary institutions, and primary and secondary school teachers. So

that the teachers and students could participate in the census, most Hong Kong schools declared census holidays during the 14–26 March census period. Selected school premises were used as field centers for the census.

Processing of the completed questionnaires is now in high gear. Short forms are being scanned by optical character recognition devices and the data from them input into the Census and Statistics Department's computer. Data from the detailed questionnaires are being input by the conventional key-to-disk method. Data editing and validation will be computerized by means of an on-line editing system.

A preliminary count of the population by broad area is being compiled for release at the end of April 1991. The census reports will be produced in several phases during the next two years. Summary results will be published in October 1991. Detailed district tabulations will follow in March 1992, and the main report will be released at the end of 1992.

Philippine Census Counted Nearly 60.7 Million

Tomas P. Africa, administrator of the National Statistics Office of the Philippines, reports that the 1990 Census of Population and Housing, conducted on 1 May, recorded a total population of 60,684,887. This figure was announced by Philippine President Corazon Aquino on 12 February 1991. Population totals by *barangay* (village) are available both on diskette, from which they may be copied without charge, and in printed form for a nominal fee.

The government plans to publish for each province a census volume containing detailed population and housing characteristics. The first of these volumes will be released in the latter half of 1991. Special reports on the homeless population, Filipinos in diplomatic missions abroad, the urban population, and the institutionalized population are also in preparation.

In June 1990 a Census Evaluation Survey (CES) was undertaken in sample areas throughout the country. To ensure the independence of the postenumeration survey, data gathering and processing for the CES was subcontracted to the Philippine Social Science Council, a nongovernmental entity. The results are being processed now (March 1991).

1990 U.S. Census Reveals Slower Population Growth Overall but Rapid Growth in West and South

In an address at the annual meeting of the Population Association of America on 22 March 1991 in Washington, D.C., Barbara Everitt Bryant, director of the U.S. Bureau of the Census, reported that the 1990 U.S. census had enumerated a total population of 249,632,692 and a resident population of 248,709,873 as of 1 April 1990. The Department of Commerce is considering whether a statistical adjustment would improve the accuracy of these figures and, if so, will publish corrected counts by 15 July 1991. The Census Bureau is conducting evaluations of a 167,000 housing unit Post-Enumeration Survey, as well as demographic analysis, to aid that decision.

According to Dr. Bryant, the census recorded the second lowest resident population growth rate in U.S. history: 9.8 percent, or an average annual rate of just 0.98 percent. Only during the decade of the Great Depression in the 1930s was the growth rate lower (7.3 percent). Globally, the U.S. decadal growth rate ranks above the 7 percent average for the more developed regions but well below the 19 percent average for the less developed regions. Numerically, however, the 1980s were the fourth largest decade of U.S. population growth, exceeded only by the 1950s, the 1960s, and the 1970s.

The most dramatic change recorded by the 1990 census is the disproportionate growth during the past decade in the West (22 percent) and South (13 percent), compared with the Northeast (3 percent) and the Midwest (1 percent). More than half of the growth during the past decade occurred in just three states—California, Texas, and Florida. Those states also accounted for more than 40 percent of the population growth between 1970 and 1980 and one-third of the growth in the three prior decades. California, which grew by 6 million persons, now has a population of 29.7 million, more than the 21 least populous states combined.

Because the census count determines the apportionment of representatives to the U.S. House of Representatives, one implication of the disproportionate growth is that the West and South are gaining 15 seats in the House whereas the Northeast and Midwest are losing 15. California (+7), Florida (+4), and Texas (+3) are the biggest gainers; New York (-3), Illinois, Michi-

gan, and Ohio (all -2) are the main losers.

Half of the U.S. population now lives in 39 metropolitan areas with populations of more than 1 million. The number of cities with 1 million or more population increased from six to eight in the decade, San Diego and Dallas having achieved that size since 1980. Los Angeles experienced the greatest growth, 17.4 percent. The largest city, New York, grew by a modest 3.5 percent. Three of the country's large cities—Chicago, Philadelphia, and Detroit—declined in size.

Differential growth of racial and ethnic groups is another of the big stories of the 1990 census, Dr. Bryant stated. The white population grew by 6.0 percent, African Americans by 13.2 percent, Asian/Pacific Islanders by 107.8 percent, Hispanics by 53.0 percent, and Indian/Eskimos/Aleuts by 37.9 percent.

The dramatic growth of Asian/Pacific Islanders and Hispanics outstripped Census Bureau projections. Although Asians and Pacific Islanders together represent a small proportion of the total population, that proportion nearly doubled, growing to nearly 3 percent. Hispanics increased from slightly more than 6 percent to 9 percent of the total population.

The growth of the American Indian/Eskimo/Aleut population is larger than can be accounted for by better census counting and natural increase. Clearly, more persons are identifying themselves as American Indians.

Half of the Asians and Pacific Islanders live in California and New York, and two-thirds live in those states and in Hawaii, Texas, and Illinois. Three-quarters of Hispanics

are concentrated in California, Texas, New York, Florida, and Illinois.

Preliminary analysis of census data and current survey figures indicate that the U.S. population is aging. The median age is now 33. The largest population segment, the Baby Boom generation, is approaching middle age. Moreover, Americans are living longer. Whereas the total population was growing at about 1 percent per year during the past decade, the age group 65 and older grew at about 2.1 percent per year and those 85 and older at about 3.3 percent per year.

Average household size is now the lowest in U.S. history, 2.6 persons. Only 26 percent of households consist of married couples with children under age 18—once considered the typical family. Another 26 percent of households consist of one person, more likely elderly than young. Twenty-eight percent of all family groups with children are maintained by one parent, usually the mother.

Three out of four people 25 years of age or older are high school graduates, and about one in five is a college graduate, reflecting a steady rise in educational levels since data on educational attainment were first collected in the 1940 census. The difference in proportions of whites and African Americans who are high school graduates has decreased, but the proportion of whites who were college graduates in 1988 was twice that of African Americans (21 versus 11 percent).

College enrollment has grown over the decade, from 11.4 million in 1980 to 13.1 million in 1988. Interestingly, most of the growth was

(continued on page 20)

Reviews and Publication Notes

Differential Mortality: Methodological Issues and Biosocial Factors edited by Lado Ruzicka, Guillaume Wunsch, and Penny Kane. Oxford: Clarendon Press, 1989. x, 259 pp. ISBN 0-19-828651-1 (cloth), US \$59.00. Available from Oxford University Press, Walton Street, Oxford OX2 6DP, United Kingdom.

This book contains a selection of papers originally presented at a joint seminar of the Scientific Committee on Biological and Social Correlates of Mortality of the International Union for the Scientific Study of Population and the National Institute for Research Advancement in Tokyo, held during November 1984 in Tokyo. It is divided into four parts and begins with an introduction by Lado Ruzicka that presents the general problems and issues related to the study of differential mortality and an excellent summary of the papers included in the volume.

Part II consists of four papers on methodological aspects of the study of mortality differentials.

Josianne Duchêne and Guillaume Wunsch explore the passage from a conceptual framework to the analysis of empirical data. Although they use the example of the impact of education on child mortality, after Caldwell, the discussion is largely abstract.

Ronald H. Gray considers issues of mortality and morbidity within the framework for analyzing child survival developed by Mosley and Chen, reviews approaches to field studies of health in developing countries, and suggests alternative study strategies. He offers algorithms for identifying diseases,

especially in surveys, that may be used to indicate the proximate determinants of mortality and discusses the measurement of risk factors by odds ratios.

Concurrent structural changes in the population, Shiro Horiuchi points out, can distort the results of analysis of time trends and mortality differentials. Using post-World War II regional data on life expectancy at birth and the infant mortality rate, he discusses six factors that may lead to an underestimation of mortality decline. They are: interrelationships among fertility, mortality, and population growth; population heterogeneity in frailty; differential changes in the age structure of subpopulations; incomplete registration and retrospective reporting of deaths; inaccuracy of age reporting; and the characteristics of mortality measures themselves.

To measure the potential for mortality reduction, Stan D'Souza attempts to develop an index of "preventable deaths," which is a function of the level of infant mortality, its cause-of-death structure, and the cost-feasibility of preventing disease. The index is then applied to several countries.

Part III contains six papers on biological and social factors in mortality, analyzing empirical data. This part occupies nearly half of the volume.

Using a new methodology for estimating the contribution of mortality change by age and cause of death to life expectation, Eduardo E. Arriaga examines changing trends in mortality decline. He finds diver-

sity in the mortality transition of 11 developing countries and the United States.

Jose Miguel Guzman uses an indirect method to estimate infant mortality based on the proportion of children who died in relation to the total number of children ever born of mothers classified by quinquennial age groups. His analysis reveals that the decline in infant mortality in five Latin American countries is a general phenomenon cutting across socioeconomic subgroups.

Two country reports follow, focusing on infant and child mortality in Indonesia (Budi Utomo and Meiwita Budiharsana Iskandar) and in Turkey (Nusret H. Fisek). Both are reviews of past work based on large-scale surveys. The Indonesian study emphasizes temporal changes and geographic and educational differentials. It also presents principal causes of death by age at death. The Turkish study suggests that differences in the use of health services between urban and rural residents is an important factor in the mortality differential.

The effect of short birth intervals on infant and child mortality is pursued by Alberto Palloni, using data from World Fertility Surveys in 12 Latin American and Caribbean countries. His paper is a significant work, conceptually, methodologically, and substantively. Palloni doubts the role of breastfeeding in childhood mortality; he posits that the birth interval effect probably operates through the breastfeeding mechanism.

George C. Myers discusses the im-

plications of the mortality decline and increased survival for the future. He examines changes in mortality patterns at older ages, drawing upon evidence from developed countries.

Part IV, dealing with crisis mortality resulting from disasters, consists of two papers. Although this topic is important, as seen, for example, in the current Kurdish refugee situation, it is somewhat tangential to the theme of the book, differential mortality.

Andre Bouckaert provides a theoretical framework for the study of disasters in human populations, distinguishing man-made from natural origins. Penny Kane presents a careful case study of the effect of China's famine of 1959-61, discussing demographic and social responses to the famine.

The title of *Differential Mortality: Methodological Issues and Biosocial Factors* suggests a comprehensive treatment of differential mortality, but the book's emphasis is on infant and child mortality in the developing world. Most of the factors discussed are socioeconomic.

"Mortality changes simply do not occur in a mechanistic way, they are the product of complex interplay between biological factors and the environment, mediated by social forces" (Myers, p. 190). Unfortunately, most of the substantive papers in the volume are descriptive, although there are important exceptions, such as the work of Palloni.

Of course, modeling a conceptual framework for mortality is much more complicated than modeling one for fertility. As Ruzicka indicates (p. 17), the task could not be accomplished in the course of a

short meeting or in a score of papers. The papers included in the current volume were selected in "an attempt to promote further investigations of determinants of mortality differentials and to invite discussion about more effective ways of doing so" (Ruzicka, pp. 15-16). In this sense the book is a success: it should stimulate further study of differential mortality, integrating biological and social factors.

—Chai Bin Park
East-West Population Institute
and University of Hawaii

Advances in Regional Demography: Information, Forecasts, Models edited by Peter Congdon and Peter Batey. London and New York: Belhaven Press, 1989. xi, 285 pp. ISBN 1-85293-046-2 (cloth), US \$45.00. Available from Belhaven Press, 25 Floral Street, London WC2E 9DS, United Kingdom.

During the past two decades regional demography has emerged as a new discipline concerned with the structure and evolution of human populations within a broad spatial framework. According to the book's editors, regional demography "goes beyond closed and open single-region models by allowing for gross migration flows both internal to the system and externally (through foreign emigration and immigration), and by including their contribution to the past evolution and future projections of the growth of regional populations" (p. 1).

Advances in Regional Demography investigates recent issues in spatial demography and explores new directions for research. Its purpose, as described by the editors, is to

place regional demography in the broader context of regional science, for example by exploring economic-demographic interactions and their implications for spatial population redistribution. A related purpose is to assess the contribution of demographic research to the formulation of spatial policy.

In their introduction, Peter Congdon and Peter Batey summarize scholarly work done in the field of regional demography in the last 10 years. The organization of the book is intended to represent a "conceptual progression from regional demographic systems, which set the basic parameters for demographic analysis and policy formulation; through sub-national forecasts and projections, which while recognising regional interdependencies, are of necessity goal-orientated and require standardised methods for several regions or localities; to a consideration of a range of models of trends and structure, that provide a broader consideration of underlying processes and assumptions, and thereby provide guidance as to the validity of data on forecast-orientated methods" (p. 5).

Fourteen chapters by mostly British and American authors follow, arranged in four parts focusing on demographic information for spatial planning, demographic forecasts and projections at the subnational level, models for settlement and redistribution, and models for migration in the labor market.

This book is intended for readers having a thorough grounding in demography or regional planning, and some of the chapters require knowledge of model construction. The chapters are well documented, however, and I found all of them

interesting. The book includes a subject index. *Advances in Regional Demography* would be a useful purchase for libraries with collections in the fields of population, economics, and regional science.

—Alice D. Harris
Palm City, Florida

Population Matters: People, Resources, Environment and Immigration by Julian L. Simon. New Brunswick, N.J., and London: Transaction Publishers, 1990. xiv, 577 pp. ISBN 0-88738-300-9 (cloth), US \$34.95. Available from Transaction Publishers, Rutgers—The State University, New Brunswick, NJ 08903, U.S.A.

This collection of previously published articles and reviews by economist Julian L. Simon, like his earlier works—*The Economics of Population Growth* (1977), *The Ultimate Resource* (1981), *The Resourceful Earth* with Herman Kahn (1983), *Theory of Population and Economic Growth* (1986), and *The Economic Consequences of Immigration* (1989)—expounds his views that population growth is a positive phenomenon, that people can invent new resources to replace those running out, and that immigration is good for a country. His unqualified positions on these issues are not shared by mainstream demographers and environmentalists, whom he labels “doomsayers.”

The articles, almost all of which have been written since 1981, have two aims: “to disseminate to the widest possible audience the broad fundamental ideas developed earlier, by writing in as lively a style as possible and using vivid illustra-

tions, and to introduce some new ideas” (p. 2). His two main themes are, first, that the economic and social structure of a country is the central factor in its economic development and, second, that population growth has a positive effect on the overall development of civilization in the long run.

Simon believes that Malthusian ideas are sustained by intellectual weakness, doomsaying by groups with parochial interests, the propensity of many to regard any kind of change as unwelcome, a closed rather than an open vision of the world, people's fascination with disasters, and finally our difficulty with breaking long-held beliefs. Yet he argues that such beliefs can and should be changing.

As evidence that they are, he cites the reversal of U.S. policy toward curbing population growth articulated by U.S. delegates to the 1984 World Population Conference in Mexico City, who asserted that population growth is neutral rather than negative in its effect on economic development. Another sign of change was a report by the National Research Council in 1986 reversing an earlier (1971) report in which it had argued that population growth prevents economic growth.

Part 1 presents an overview, explaining why Simon believes the world situation is improving. In the nine selections in Part 2 he shows why food supplies are increasing and how human ingenuity can overcome the scarcity of natural resources. The next five sections respectively present his view of population growth as a positive phenomenon (Part 3), challenge the governments and nongovernmental groups who advocate population

control (Part 4), advance reasons for allowing more immigration to the United States (Part 5), decry the “prophets of doom” and criticize the *Global 2000 Report* prepared for President Carter by the Council on Environmental Quality and the Department of State (Part 6), and discredit long-term forecasts of raw material availability (Part 7). Finally, in Part 8, “Publication, Funding, and the Population Establishment,” Simon takes aim at the *Population and Development Review* and other advocates of fertility reduction.

The articles contain numerous examples supporting Simon's views and are written in a lively style for a popular audience. It is unfortunate, however, that Simon is so critical of others' work, as he himself admits in the introduction. He protests too much, and his extreme positions weaken his arguments about the relationship between population growth and economic development.

He is better represented in his optimistic mood: “The ultimate resource is people—especially skilled, spirited, and hopeful young people—who will exert their wills and imaginations for their own benefit, and so, inevitably, for the benefit of us all” (p. 12).

The book is provocative and will be challenged by many demographers and environmentalists. Some of its statistics are out of date, and most of the articles lack bibliographical references. Nevertheless, libraries specializing in demography or economics should acquire *Population Matters* so that all sides of the population debate can be represented.

—Alice D. Harris
Palm City, Florida

ALSO NOTED

Census of India 1991. Series-1 India. Paper 1 of 1991, Provisional Population Totals by Amulya Ratna Nanda. New Delhi: Registrar General and Census Commissioner, India. iv, 102 pp. Paper. Available from Registrar General and Census Commissioner, India, Ministry of Home Affairs, 2A, Mansingh Road, New Delhi-110011, India.

The 1991 Census of India, the enumeration portion of which was completed on 5 March 1991, was the thirteenth since 1872 and India's eleventh complete and synchronous decennial census since 1881. This is the first of a series of planned publications that will report on the census results.

The volume contains provisional population totals, describes the planning for the census, briefly analyzes major demographic variables (population size, distribution, and growth rate; population projections; population density; sex composition; literacy), and presents six provisional population tables: (1) distribution of population, sex ratio, density, and population growth rate; (2) population and number of literates in 1991 and literacy rates for 1981 and 1991 by sex; (3) percentage decadal variation in population, 1901-11 to 1981-91; (4) states and union territories arranged in descending order of growth rate of population, 1951-61 to 1981-91; (5) sex ratio, 1901-91; and (6) states and union territories arranged in descending order of sex ratio, 1951-91.

Appendix materials include a list of the tables to be generated from the census data, schedules used in

the census, eight colored maps (including a large foldout map of administrative divisions), and nine graphs and charts illustrating India's population size and growth, sex ratios, and literacy rates.

The 1991 census enumerated 843,930,861 persons (437,597,929 males and 406,332,932 females), representing 16 percent of the world's population and an absolute population increase of 160,606,864 since the 1981 census. Average annual growth during the decade was 2.35 percent, compared with 2.47 percent during the 1971-81 decade and 2.48 percent during 1961-71, when India's growth rate reached a historic peak. Among the states and union territories, Uttar Pradesh, with 16.4 percent of the nation's population, and Bihar, with 10.2 percent, are the most populous.

The sex ratio (number of females per 1,000 males) continued a decline, observed since the beginning of the century, in favor of males. At the time of the 1991 census there were only 929 females for every 1,000 males. Kerala is the only state with a sex ratio favoring females, and there it rose slightly over the past decade to 1,040 females per 1,000 males. The sharpest sex ratio decline occurred in Bihar State (912 females per 1,000 males in 1991). Several social and demographic explanations for India's low sex ratio have been advanced, and the author suggests that a combination of factors may be responsible.

Literacy increased over the decade, rising from 43.56 percent of persons 7 years old and older in 1981 to 52.11 percent in 1991. The literacy gap between males (63.86 percent literate) and females (39.42 percent) had narrowed slightly.

World Population Projections, 1989-90 Edition: Short- and Long-Term Estimates by Rodolfo A. Bulatao, Eduard Bos, Patience W. Stephens, and My T. Vu. Baltimore and London: Johns Hopkins University Press for The World Bank, 1990. lxxiv, 421 pp. ISBN 0-8018-4094-5 (paper), US \$34.95. Available from Publications Sales Unit, Department F, The World Bank, 1818 H Street, N.W., Washington, D.C. 20433, U.S.A., or from Publications, The World Bank, 66 avenue d'Iéna, 75116 Paris, France.

The fourth in a series of population projections for all countries prepared annually by the Population and Human Resources Department of The World Bank, this volume contains detailed tables for countries, regions, and income groups. An introductory section describes the projection methodology and summarizes and interprets the projection results. The projections for the entire world span nearly two centuries, from 1985 to 2150. Separate projections were prepared for 187 countries, economies, territories, and small-country groups with data available as of mid-1989. The length of the projection period was chosen to allow all populations to approach stability. Instead of offering several projections for each country or group, the authors have chosen to present their best estimate of the likely demographic future.

The projections cover total population size and age-sex composition, mortality level and trend, fertility level and trend, and migration level and trend. The authors note that the tables on age structure cover broad age groups (0-14, 15-64, and 65 and over), providing a more convenient summary than in previous editions.

World Population Growth and Aging: Demographic Trends in the Late Twentieth Century by Nathan Keyfitz and Wilhelm Flieger. Chicago and London: University of Chicago Press, 1990. viii, 608 pp. ISBN 0-226-43237-8 (cloth), US \$65.00. Available from The University of Chicago Press, 11030 S. Langley Avenue, Chicago, IL 60637, U.S.A.

This volume is a sequel to *World Population: An Analysis of Vital Data* by the same authors, published in 1968. It incorporates data and estimates from official sources for countries with populations of 300,000 or more in 1985 and regions recognized by the United Nations. The data cover the period from 1950 to 1985, especially the 1970s and early 1980s. United Nations Population Division estimates and projections based on its 1988 round of global demographic assessments are included for 152 countries and for 30 groupings of countries, presented at five-year intervals from 1950 to 2020.

An introductory text is followed by a summary table presenting frequently used demographic indicators for nearly all countries (40 pages), tabulations based on UN data and estimates (190 pages), and detailed country tabulations (292 pages). The data, estimates, and projections are presented in a comparative format for easy reference. More than 800 charts have been included to help the reader visualize demographic trends.

Health and Vital Statistics Abstract, July 1990 published by the Ministry of Health Services, Republic of the Marshall Islands. Majuro, 1990. xii, 44 pp. (paper). Available from The Ministry of Health Services, Planning and Statistics Department, P.O. Box 16, Majuro, MH

96960, Republic of the Marshall Islands.

The Marshall Islands began computerizing its health and vital statistics records in 1988. This publication contains tabulations for births and deaths based on birth and death certificates, Majuro Hospital admissions and out-patient data, national syphilis data, national census data, and special reports on diabetes mellitus, malnutrition, and suicide.

Registered births for the entire country are tabulated for the period 1953-89; more detailed tabulations are for shorter periods. The text notes that, because vital events, particularly births, may not be registered until a family requires proof of an event (to enroll a child in school, for example), and at least 20 percent of birth certificates are issued as "delayed" certificates, tabulations for the three most recent years are considered to be incomplete.

The 1988 census enumerated a total population of 43,380, representing a remarkably high (40.5 percent) increase over the 1980 census population of 30,873. The average annual growth rate during the intercensal period was 4.25 percent. Nearly half (45.3 percent) of the population is on Majuro Atoll, the country's political and economic center.

The Marshall Islands comprises 1,225 islands and islets and a total land area of 179 sq km stretching over 1.28 million sq km in the Pacific Ocean.

Health Care of Women and Children in Developing Countries edited by Helen M. Wallace and Kanti Giri. Oakland, Calif.: Third Party Publishing Company, 1990. xxii, 598 pp. ISBN 0-89914-031-9

(paper), US \$32.95 (\$36.95 for orders originating outside the United States). Available from Third Party Publishing Company, P.O. Box 13306, Montclair Station E, Oakland, CA 94661-0306, U.S.A.

This volume contains 48 papers on topics related to the health care of women and children in the developing world. Contributors are health and medical practitioners and academics from a dozen countries who represent international, national, and nongovernmental organizations and universities. Their aim in this book is to improve the health care of women, infants, children, and youth in developing countries by informing those in leadership positions at all levels of government and community activity about the issues discussed.

The papers are organized into five sections: an introductory section containing 15 papers, maternal health (seven papers), infant and child health (16 papers), adolescent health (four papers), and the delivery of care to women and children (six papers). The volume includes author and subject indexes and an appendix containing definitions used in the text.

Unmet Need and Future Needs for Contraceptives in Sri Lanka by Soma De Silva. Population Information Centre Research Paper Series, No. 4. Colombo: Population Information Centre: July 1990. iv, 32 pp. Available from Population Information Centre, Population Division, Ministry of Health and Women's Affairs, 231 De Saram Place, Colombo 10, Sri Lanka.

In the last two to three decades Sri Lanka's fertility level has declined considerably. The total fertility rate

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News and Announcements

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due to the enrollment of persons 25 years old and older, whose numbers rose from 3.9 to 5.1 million.

Two technological changes are expected to revolutionize user access to U.S. census data. The first is the availability of data on CD-ROMs, laser discs that can be used on personal computers. Anyone with a personal computer (PC) who is willing to spend \$500 for a CD-ROM reader and about \$150 per disc will be able to access the data. For \$500 more the PC owner can acquire menu-driven software making it possible to manipulate the data. This "democratization of the data," Dr. Bryant stated, will permit many new groups to use census results. "If knowledge is power, then a lot more people are going to be empowered," she said.

The second technological breakthrough is the digital, coast-to-coast geographic data base known as TIGER (Topologically Integrated Geographic Encoding and Referencing system). Developed by the Census Bureau and the U.S. Geological Survey, TIGER is a seamless system that maps geographic features and political boundaries for every level at which the census collects data in the United States. It is being used to produce all the maps for data collection, tabulation, and dissemination needs of the 1990 census.

Anyone can purchase TIGER-generated statistical data or TIGER/Line files on tape or CD-ROM at the cost of reproduction. These files can be combined with other files, such as mailing lists, for individual needs. A new technology called GIS (geographic information

system) allows PC users to connect their own files with the TIGER files. The Census Bureau's Data User Services Division (telephone 301 763-1580) can provide those interested with a list of vendors who sell the GIS software.

Korean Central Statistical Agency Is Upgraded from Bureau to Office Status

From Seung-Kon Lim, director of the Statistical Standards Division, National Statistical Office of the Republic of Korea, comes word that The National Bureau of Statistics was reorganized and upgraded to the level of office on 1 January 1991. Now called the National Statistical Office (NSO), it has three bureaus, 14 divisions, and 16 local branch offices.

The reorganization produced several personnel changes. Tai-Hyung Min was inaugurated as the first administrator of NSO. Kang-Woo Lee, former director-general of the National Bureau of Statistics, is now chief secretary for both the deputy prime minister and the minister of the Economic Planning Board. Il-Hyun Kim, former director of the Population Statistics Division, was appointed director-general of the Planning Bureau. Byung-Hak Kim and Hak-Hyung Kim became director-general of the Census and Survey Bureau and director-general of the Data Processing Bureau, respectively.

Preliminary Report on Korea's 1990 Census Available in April

A preliminary report on the 1990 Population and Housing Census of

the Republic of Korea is to be issued on 12 April 1991. Based on control forms completed by enumerators, the report contains provisional counts of the population, households, and housing units classified by local administrative units. The census took place on 1 November 1990.

An advance report based on a 2 percent sample tabulation will be released in June 1991. It will contain tabulations on the main characteristics of the population, including its size and structure, commuting status, migration, fertility, economic activity, households, and housing units.

A report based on a 10 percent sample of the population and the final report will follow. The final report, to be based upon tabulations of basic characteristics for the entire population, will actually consist of several reports—a report for the whole country and separate reports for the 15 provinces and special cities. They and the 10 percent sample report are to be released by December 1991. Three volumes providing information on migration, fertility, and economic activity will be published by February 1993.

Cheung Named to Head Department of Statistics, Singapore

Paul Cheung, former director of the Population Planning Unit, Ministry of Health, Singapore, was appointed chief statistician of Singapore's Department of Statistics, Ministry of Trade and Industry, on 1 March 1991. He succeeds Khoo Chian Kim, who retired from the post. □

THE AIDS PREVENTION DILEMMA . . .

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percent being teenagers. The heterosexual transmission is of particular concern because few brothel patrons use condoms every time they have intercourse with a prostitute.

The high rate of HIV infection among teenage girls in the North may be unique. In the United States, although the prevalence of infection among females in that age group is substantially higher in New York City than in other U.S. cities and heterosexual transmission is thought to be a significant factor in that pattern, even in New York City HIV infection is more prevalent among teenage boys than teenage girls (Nicholas et al. 1989:299). Another difference between the Thai and U.S. situations is that in the United States, female prostitutes who are not intravenous drug users have low HIV infection rates (Cohen et al. 1988; Rosenberg and Weiner 1988).

Evidence of HIV diffusion into the general population. The escalation of HIV prevalence rates among Thai prostitutes presages the diffusion of the virus into the general population. Data are beginning to appear that indicate diffusion has already occurred.

A recent national survey of 26,000 men between ages 20 and 22 and eligible for Thai military service found that 2 percent of these young males nationwide, and up to 11.5 percent in Chiang Mai, were HIV positive (*Bangkok Post* 31 August 1990).³ Other studies report that 3 to 10 percent of 20–24 year-old males in the lower and tourist-destination Northern provinces who have been tested are HIV positive

(Usher and Ross 1990).

Researchers at Chiang Mai University Hospital found 1 percent of pregnant women in Chiang Mai Province to be HIV positive (Vicharn 1990). In 1990 there were unofficial reports from reliable sources that over 4 percent of pregnant women seen at certain Bangkok hospitals were found to be HIV positive. But statistics on pediatric AIDS are tentative: it takes up to 18 months to determine whether a newborn's antibodies to HIV are to the virus in its own body (signifying HIV infection), or residual from a response to HIV in its mother (signifying noninfection in the infant).

■ Thailand's response to the evidence

The threat that AIDS poses to societies is not only economic and demographic, involving huge medical costs and the loss of adults in the most productive ages. Because AIDS is transmitted by human behavior, its occurrence also implicates social mores and the institutions that sustain them. In its response to the emerging AIDS epidemic, the Thai government has tended to focus on a medical interpretation of the epidemic rather

than grappling with its social aspects.

A National Advisory Committee was established in 1985, and was reorganized in 1987 (Thailand, Dept. of CDC, 1988:13); it has played a minor role. More important was the Cabinet's approval, in August 1987, of a National Medium Term Programme for the Prevention and Control of AIDS for the period 1988–91 (Thailand, Dept. of CDC, 1988). It created within the Department of CDC a Center for Prevention and Control of AIDS, which serves as the nation's center for AIDS information and programming. In 1990 the name of the center was changed to the AIDS Division.

HIV testing and AIDS education. Major funding for CPCA has come from WHO, the U.S. Agency for International Development (USAID), and the United Nations Development Program (UNDP). Between June 1988 and September 1990, total funding for AIDS control in Thailand from all sources was over \$10.8 million. These funds have been committed largely to HIV testing. They have enabled the government to conduct a national HIV surveillance survey in 14 sentinel areas twice a year since 1988, and in 31 since December 1989. (See also box on page 22.)

There are signs that governmental agencies are beginning to move toward intersectoral collaboration in mounting a defense against the epidemic. Other ministries, such as the Ministry of Education and the large and powerful Ministry of Interior, have begun externally funded AIDS-

3. The 2 percent for young Thai males is considerably higher than the corresponding rate for military recruit applicants in the United States, where several studies report a cumulative seropositive prevalence for ages 17–24 of 1.4 per 1,000, although the monthly rates have progressively dropped to less than 1.0 per 1,000—a phenomenon that researchers suspect reflects self-referral by applicants who believe they may be seropositive (Kelley et al. 1990:405).

Thai and U.S. Researchers Collaborate on Study of HIV's Spread in Thailand

A Thai Working Group on HIV/AIDS Projection was established in March 1991 to work with the U.S. Department of State's Interagency Working Group (IWG) on creating a detailed model for the spread of HIV and AIDS in Thailand. The U.S. team, comprising demographers, mathematicians, and computer programmers, has developed a sophisticated and flexible computer model of the epidemic based on specific behavioral inputs. The Thai team's first task has been to compile and review available data on the demography, sexual behavior, intravenous drug use, and epidemiology of the Thai population, and also blood bank procedures used in Thailand. Thailand is the first country to use input data reflecting the actual AIDS epidemic to run the model, which is referred to as the iwgaIDS model. An initial review of the data indicates that there were between 150,000 and 175,000 HIV infected individuals in Thailand as of mid-1990.

Output from the model will be updated regularly and presented to the Thai Cabinet and health policymakers so that national policies on AIDS can be responsive to the current and future dynamics of the epidemic. The model will also allow AIDS program managers to test the impacts of various interventions. It is flexible enough to incorporate the effects of increased condom use, changing levels of sexually transmitted diseases, and increased blood screening on the epidemic's spread.

The U.S. team is headed by Peter Way of the U.S. Bureau of the Census, who went to Thailand in March at the invitation of the Thai Working Group to install the software, train staff, and review the available data. Besides Dr. Way, the U.S. team includes P. West, E. A. Stanley, and S. T. Seitz.

Copies of the software have now been installed at the Population and Community Development Association (PDA), which functions as the administrative base for the Thai Working Group, and at the Ministry of Public Health.

Werasit Sittitrat of the Thai Red Cross Society and Chulalongkorn University and Stasia Obremeskey of PDA are the coordinators of the Thai Working Group. Other members are Praphan Phanuphak, Suphachai Rerk-Ngarm, Vichai Chokeyvat, Sombat Thanprasertsuk, John Knodel, George Loth, and Tim Brown. Mechai Viravaldya is the adviser to the Thai Working Group.

The Thai Working Group will produce a preliminary report on the results of the model in May 1991. As a consequence of the collaboration, several research studies have been planned to improve the quality of the input data. The results will be incorporated into the model to refine it. Because the model uses data on heterosexual and homosexual behavior and on intravenous drug use as modes of epidemic transmission, the Thai team expects that other countries where the AIDS epidemic is unfolding can use the model and the data-gathering methodology as a valuable tool.

Copies of the preliminary report on the model, which is to be published by the Thai Working Group under the Prime Minister's Office, can be requested from:

Ms. Benjamat Terramatvanit
Population and Development Association
8 Sukhumvit soi 12
Bangkok 10110, Thailand

—by Stasia Obremeskey and Werasit Sittitrat

related activities, including AIDS-prevention education.

Supported activities include the AIDS training of health workers, provincial governors, and district officers; efforts to incorporate AIDS information into the secondary

school curriculum; screening of donated blood; and AIDS education spots on Armed Forces radio stations and commercial television channels. Government television channels began carrying AIDS information in early 1991.

USAID has also provided funding to other Thai programs for AIDS-prevention activities. In 1989 it donated 43 million condoms to the Ministry of Public Health for distribution. Since 1988 it has awarded several small grants to the Program

for Appropriate Technology in Health (PATH) directed toward conveying AIDS-prevention messages to intravenous drug users, their sex partners, and low-priced prostitutes. USAID funds the AIDSTECH and AIDSCOM projects for technological and communications assistance activities related to AIDS, and it supports activities of the CPCA.

The emphasis of the CPCA has been surveillance through blood testing, particularly of high-risk groups, intravenous drug users, and STD clinic clients.

The interest of the two royal princesses in the problem of AIDS has helped to legitimate AIDS-related programs, and private organizations are becoming increasingly involved in AIDS-prevention activities, especially education and training (Table 6). Her Royal Highness (HRH) Maha Chakri Sirindhorn is director of the Thai Red Cross Society, which will begin the first anonymous HIV counseling and testing program in April 1991. The Red Cross is also producing materials for AIDS information, education,

and communication. Until December 1990 HRH Chulabhorn was a special ambassador for the WHO, and in that capacity supported its AIDS-control mission. She continues to head the Chulabhorn Research Institute, which supports AIDS education programs.

Proposed legal controls over suspected HIV carriers. In 1990 the government's AIDS-containment strategies included the introduction of a bill to monitor and control HIV carriers or suspected carriers. Persons targeted were drug addicts, prostitutes, and "promiscuous persons" (including homosexuals). The bill provided for householders to report persons with AIDS to authorities, and for the arrest with up to one year's detention of prostitutes and intravenous drug users if they did not report for regular medical checkups and HIV testing, or if they became HIV positive and did not stop their high-risk practices.

There are several difficulties with the bill. First, the term "promiscuous" fails to capture the dilemmas of persons who resort to prostitution for their livelihood (Farmer and Kleinman 1989:150) or who feel that they are innately homosexual. Second, it would criminalize only selected persons, those of the lowest socioeconomic sector, while overlooking others who are HIV carriers. Third, a negative HIV test result means only that the person tested has not developed antibodies to the virus; it does not necessarily mean that the person is uninfected with the HIV and cannot transmit it to a sex or drug partner. Most medical AIDS experts believe there is a latency period of up to six months between receipt of the virus and

Table 6. AIDS-prevention activities of nongovernmental organizations in Thailand

Organization	Activities
EMPOWER	Provides AIDS education to the 5,000 female bar workers of Patpong (a district of Bangkok), and through them, to their clients and employers
Family Health International	Conducts small-scale studies of AIDS transmission; administers the USAID-funded AIDSTECH program, which supports the Ministry of Public Health's CPCA, and the USAID-funded AIDSCOM program, which supports the ministry's activities in AIDS education and counseling training
Planned Parenthood Association of Thailand (PPAT)	Provides AIDS education to prison officials
Population and Community Development Association (PDA)	Since 1987, has developed a large arsenal of AIDS education materials for schools, businesses, factories, and the general public; has the largest AIDS-prevention education program in the nation
Program for Appropriate Technology in Health (PATH)	Offers training for AIDS counselors working primarily in detoxification and rehabilitation centers, and AIDS education for government officials; produces high-quality condoms; develops and tests AIDS-education materials
Purple String Dancers	Provides AIDS education in Bangkok's gay bars and on television
Thai Red Cross Society	Conducts HIV testing and offers AIDS education
Thai Volunteer Service (TVS)	Trains AIDS program personnel

seroconversion, that is, between having the virus and developing the antibodies to it that can be identified through blood tests.

It is therefore wrong to use HIV test results as a basis for identifying risk-free groups who are "safe" for promiscuity. A coalition of 18 non-governmental organizations protested and halted passage of the bill (Wasant 1990), but as of early January 1991 the bill remained alive.

It is wrong to use HIV test results as a basis for identifying risk-free groups who are "safe" for promiscuity.

Also in 1990 the Ministry of Public Health declared that all (female) prostitutes working in brothels would be required to carry a "health card" (Ampa and Suvit 1990). The requirement targets the lowest-paid prostitutes and excludes those working in nightclubs, bars, private escort services, massage parlors, etc. The health card would include the woman's name, photograph, a code denoting her home district and province, and the date she was last tested for HIV.

Prostitutes testing HIV positive would have their cards seized and be barred from the sex industry; those testing negative could continue to ply their trade. By September the futility of this scheme became clear to the ministry, which announced that the health card program had not succeeded in curtailing the spread of AIDS and could be discontinued (Prakobpong 1990).

In mid-1990 the government announced a plan to establish a re-

habilitation center for HIV carriers and AIDS patients. It stressed that the site was to be "far from water sources, populated communities and tourist spots." Unfortunately, these site-selection criteria pandered to the irrational fears of the uninformed public because they implied that HIV can be transmitted through the water supply or carried by wind (Ungphakorn 1990b). Designating rehabilitation centers as a primary strategy for dealing with the AIDS epidemic also reinforced the public's belief that people can be protected from AIDS merely by quarantining its victims.

Thailand's use of coercion and legal controls are less stringent than those of some other countries—e.g., Cuba, Czechoslovakia, and the Soviet Union (Bayer and Gostin 1990). It has targeted selected high-risk groups for special restrictive policies. Targeting only high-risk groups overlooks the vulnerability of the general public. It also has the disadvantage of penalizing people instead of promoting changes in social norms that sanction high-risk sexual behavior and drug use.

Such discriminatory public health policies promote intolerance toward the stigmatized groups rather than protect the public's health (Brandt 1988; Sontag 1989). The history of public response to other epidemics indicates that the greater the perceived threat of an epidemic, the greater the attitudes of intolerance (Bateson and Goldsby 1988; Blendon and Donelan 1988). Other, nonstigmatizing policies of informing the public are therefore needed.

■ Discussion and recommendations

The Thai government faces a dilem-

ma of trying to meet incompatible needs: a need to maintain the stability of the economy and a need to contain the spread of HIV infection. Tourism and export labor are major components of the successful economy, yet both are major contributors to the AIDS epidemic. As in most countries, the government has responded to the AIDS threat with a variety of strategies: testing, denial, targeted prevention education, and coercion. The strategies do not add up to a comprehensive attack on the problem, and some are even counterproductive.

In the absence of an HIV vaccine or cure, the only way to prevent its devastating a society is to restrict its interpersonal transmission. Except for maternal transmission (from a mother to her fetus or newborn), all modes of HIV transmission involve voluntary human behaviors, which can be modified by those engaging in them. Therefore, informing the populace about AIDS—its deadliness, the means of transmission, and ways to minimize the risk of getting it—is prerequisite to behavioral change.

AIDS thrives on ignorance. "You cannot make something safe if you pretend it isn't there" (Bateson and Goldsby 1988:128). Programs to prevent the spread of AIDS can be stalemated by policies that prevent it from being mentioned in the mass media, and by government officials' refusal to recognize that casual sex is a regular diversion for a large segment of Thai society, regardless of marital status and laws about monogamy and prostitution.

Currently Thai sexual ideology denies the existence of casual sex. In 1990, for example, an assistant professor at Khon Kaen University

was suspended from her post because her master's degree thesis (Sawangjit 1988) documented sexual activities of students at her university, such as premarital liaisons and the hiring of prostitutes for freshmen hazing.⁴ A 1990 newspaper report that the Army Medical Department had found 512 Army soldiers to be HIV positive and that four of them had developed AIDS was retracted by the Army the next day (*Bangkok Post* 1 June 1990, 2 June 1990.)

The epidemic cannot be stopped in Thailand unless all sexually active Thais, including monogamous women, understand they need to protect themselves from HIV transmission during sexual intercourse (Ungphakorn 1990a). Men especially must take precautions because they generally have more sex partners than women do, and consequently more opportunities to contract HIV and transmit it to their wives, lovers, and recreational sex partners, and through them to their children.

The Ministry of Public Health advocates the use of condoms by (female) prostitutes as an AIDS preventive measure. Condom use is important, even vital, but the emphasis on prostitutes is one-sided. It targets women with responsibility for condom use even though it is men who have control over such use. Programs supporting the use of condoms must also be directed to boys and men (Ngugi et al. 1988; WHO 1989).

4. Excerpts from the thesis were published in the respected newspaper *Maticchon* and prompted a protest demonstration by some 2,000 Khon Kaen University students. The university administration filed a defamation suit against the researcher and her thesis advisor.

To ignore male participation in prostitution—as clients and as male or transvestite prostitutes—is to render ineffective other efforts to contain HIV transmission through prostitution. Unless conception is intended, condom use should be recommended for all sexual activity in which there is a potential for exchange of semen or vaginal fluid between partners. Men who hold positions of leadership in society, the government, the military, and religious organizations could help make condom use respectable by advocating its use.

But advocating condom use is not enough. Condoms must be used correctly in order to be effective barriers to HIV transmission. And people need to understand that some sex practices are safer than others, and to avoid highest-risk sex acts, such as anal intercourse, sex with multiple partners, and sex with persons infected with STDs.

The current illegal status of prostitution in Thailand prevents the government from regulating that industry. If it were legalized, the government could require condoms to be provided in all places of prostitution, and could protect prostitutes from abusive customers and those refusing to use condoms.

Condom use is negatively associated with the use of drugs and alcohol (Stall et al. 1986; Valdiserri et al. 1988). Among the lowland Thai, prostitute visiting is often associated with male drinking parties. Therefore the effectiveness of a condom policy for prostitutes depends upon prostitutes' ability to refuse inebriated clients who resist using condoms.

To reduce the risk of HIV transmission through needle sharing, the

heroin-substitute methadon should continue to be given to all intravenous drug users who test HIV positive.

Perhaps the greatest challenge in AIDS prevention the world over is to reduce the stigma of AIDS. It is particularly difficult to do so in a society where AIDS is equated with moral degradation and stigmatized groups are blamed for its spread (Sontag 1989), and where a double standard exists for male and female sexual behavior (Muecke 1989). AIDS touches on sensitive nerves that only a humane and realistic national policy and an effective mass education program can heal (Bateson and Goldsby 1988).

Perhaps the greatest challenge in AIDS prevention the world over is to reduce the stigma of AIDS.

Denying the sexual mores of the populace and denying the vulnerability of the elite lets AIDS spread from person to person, from intravenous drug user to prostitute to male client to monogamous wife to unborn child. Informing the populace about ways to minimize the risk of contracting AIDS allows choice and retards the epidemic's diffusion.

On 9 January 1991 then Prime Minister Chatichai Choonhaven announced in a statement of health policy to Parliament that official campaigns to control and prevent AIDS would be regarded as national policy. It is to be hoped that the new government will endorse that policy expeditiously.

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COMMENTS . . .

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ing a job epitomize the difficulty of classification within a mixed cash-subsistence economy. Deciding which set of tasks comprises a discrete job is difficult. Hoffmann points out that priority rules are used when there is a combination of tasks within the same job, a point that was not made clear in my article.

Still, the issue of defining job boundaries remains. Should food gardening, copra production, fishing, and house building be considered as separate jobs, or only as the set of tasks within a job done by a typical Pacific Islands villager? Complicating the problem of definition is the fact that there is usually no formal institution of employ-

ment to assist in delineating job boundaries, unless a household can be considered in this way.

Although I was aware of the considerable work done on developing ISCO-88 and computer-assisted coding (CAC) in Australia, I was not aware that that country was "the world's pioneering country in its work on occupational classifications."

The idea in the original article that each task a person did could be coded and that, where necessary, priority rules could be applied with CAC to derive a single occupational code derived mainly from the considerable flexibility displayed by the Australian system (see Embury 1988).

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Reviews and Publication Notes

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dropped from a high of 5 to around 2.7 children per woman during the period 1963–87. Overall contraceptive prevalence increased to an impressive high of 62 percent of currently married women. A characteristic feature of contraceptive use, however, has been a heavy dependence on traditional methods and on female sterilization.

This publication provides two alternative estimates of the current unmet need for contraceptives: a low estimate of 6 percent counting users of traditional methods as having their contraceptive needs met, and a high estimate of 19 percent counting traditional users as those having need of an efficient method. It also presents a set of estimates for the prevalence of future contraceptive use required to reduce Sri Lanka's total fertility rate to replacement level by the year 2001. Contraceptive prevalence would have to rise to 71 percent, a level implying an increase in the number of users from an estimated 1.2 million in 1981 to 2.26 million by 2001.

If one takes into consideration the heavy discontinuation for some methods and replacement for aging, the annual number of new users required is about 74,000 for all methods initially; this figure would gradually decline to 38,000. If a method mixture less weighted toward traditional methods is to be achieved, however, users of all modern methods must continue to increase steadily. User increases required from the year 1981 until 2001 are 60 percent for tubectomy, 200 percent for vasectomy, 50 percent for the IUD (intrauterine device), 100

percent for oral contraceptives, and 400 percent for injectables.

Labour Force and Socio-economic Survey—1985/86, Sri Lanka: Preliminary Report published by the Department of Census and Statistics, Ministry of Plan Implementation, Sri Lanka. Colombo: 1987. viii, 312 pp. (paper). Available from Department of Census and Statistics, Ministry of Plan Implementation, Colombo 7, Sri Lanka.

This report provides preliminary data from the third in a series of surveys conducted by the Department of Census and Statistics under the National Household Survey Capability Programme of the United Nations for the purpose of gathering information on living levels in Sri Lanka. The information is intended for use by economic policymakers, researchers, and the public.

Approximately 25,000 housing units were covered in 12 monthly subrounds beginning in April 1985. A sample of this magnitude was used to permit reasonably accurate estimates at the district level.

The report is based on data collected in the first six months of the survey and contains results of data analysis of some key indicators at the sector and national levels. Subsequent reports based on all 12 rounds of the survey will provide more detailed information and estimates at the district level.

This report is organized into three sections, the first two describing the survey methodology and the results, and the third containing tabulations. Sixteen appendixes document the survey methodology.

Lactation Education for Health Professionals edited by Rosalia Rodriguez-Garcia, Lois A Schaefer, and Joao Yunes. Washington, D.C.: Georgetown University, U.S. Agency for International Development, and Pan American Health Organization, 1990. xii, 213 pp. ISBN 92-75-12024-2 (paper). Available from Institute for International Studies in Natural Family Planning, Georgetown University, Washington, D.C. 20007, U.S.A. (Attention Ms. Lois A. Schaefer, FAX 202 687-6846).

This book is the product of a collaborative effort by nurses, physicians, nutritionists, and other health professionals worldwide to develop a curriculum for teaching students of medical, nursing, and nutrition schools the basic skills necessary to teach and promote breastfeeding. The curriculum is targeted to a mid-level audience: students of basic nursing programs.

The volume includes a teaching module and scientific and support articles. The teaching module consists of breastfeeding curriculum and a teacher's guide. The curriculum includes the core content areas for lactation and breastfeeding education, and includes a unit on the Lactational Amenorrhea Method (LAM) for child spacing. The teacher's guide follows the format of the module, which has been designed to identify easily the objectives, methodologies, and evaluation questions for each topic.

A Spanish-language edition with the title *Educacion en Lactancia para los Profesionales de la Salud* is also available. □