

**Summary report of the**

**Seventh  
Summer  
Seminar  
in  
Population**



EAST-WEST POPULATION INSTITUTE  
EAST-WEST CENTER  
HONOLULU HAWAII



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**Seventh**

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**Population**

**14 June - 16 July 1976**

EAST-WEST POPULATION INSTITUTE • EAST-WEST CENTER • HONOLULU HAWAII

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## Contents

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Preface	v
Agenda, Honolulu portion of Seminar	7
Abstracts of papers and summary of discussion	5
Workshop summaries	27
Agenda, Seoul portion of Seminar	25
Participants	29
Resource persons, Honolulu portion of Seminar	35



## Preface

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The Seventh Summer Seminar in Population was held from 12 June to 16 July 1976 at the East-West Center in Honolulu, Hawaii, and at the Korean Institute for Family Planning and the Korea Development Institute in Seoul, Republic of Korea. The Seminar brought together 95 participants from 19 countries to discuss past, current, and potential research related to the demographic transition in Asia and the Pacific.

Held annually since 1970, the Summer Seminar provides an opportunity for mid-level professionals in population-related fields to gain expertise in specific aspects of population problems and demographic techniques. The 1976 Seminar began with a one-week conference at which invited research papers were presented, followed by three weeks of work on individual research proposals in six interdisciplinary workshops. Specific workshop themes were: demographic trends and socioeconomic correlates, individual-level linkages between demographic and socioeconomic changes, societal-level linkages between demographic and socioeconomic changes, spatial aspects of the demographic transition, the role of policy in the demographic transition, and census and survey measurement. The final week of the Seminar, in Seoul, focused on the Korean demographic transition.

This report summarizes the academic portion of the Seminar held in Honolulu and also includes the agenda for the Korean program. Papers presented in Korea have been published separately by the Korean Institute for Family Planning and the Korea Development Institute.



# Agenda, Honolulu portion of Seminar

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MONDAY, JUNE 14

## MORNING SESSION

**Chair:** James A. Palmore

**Presenter:** Robert Retherford

**Discussants:** Carl Mosk  
Peter Kunstadter

**Rapporteur:** Kevin Palmer

**Introductory Remarks:** Everett Kleinjans, President of the East-West Center; Lee-Jay Cho; Robert Retherford

**Demographic Transition Theory Re-examined**

"Demographic Transition Theory Re-examined"

## AFTERNOON SESSION

**Chair:** Wasim Alimuz Zaman

**Presenters:** Kazumasa Kobayashi

Chen-Tung Chang\*

Peter N.D. Pirie

**Discussant:** Lee-Jay Cho

**Rapporteur:** Michael Levin

**Demographic Trends and Socioeconomic Correlates: Regional and Country Summaries**

"Regional Summary of Demographic Changes and Socioeconomic Correlates in East Asia: Hong Kong, Japan, Korea, and Taiwan"

"Demographic Changes and Socioeconomic Correlates in Southeast Asia" (read by Shui-meng Ng)

"Regional Summary of Demographic Changes and Socioeconomic Correlates in the Pacific Islands"

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\* Absent.

## TUESDAY, JUNE 15

## MORNING SESSION

**Demographic Trends and Socioeconomic Correlates: Regional and Country Summaries (continued)***Chair:* Chan Onn Fong*Presenters:* Joginder Kumar

Nibhon Debavalya

*Discussants:* Wasim Alimuz Zaman  
Wilawan Kanjanapan*Rapporteur:* Robert Retherford

"Recent Demographic Transition in India and a Viable Population Policy"

"Fertility Transition in Thailand"

## AFTERNOON SESSION

**Demographic Trends and Socioeconomic Correlates: Comparative and Case Studies***Chair:* Zenaida Zruy Uy*Presenters:* Samuel Preston and  
Robert Gardner

John Knodel

*Discussants:* Peter McDonald  
Linda Martin*Rapporteur:* Peter C. Smith

"Factors Influencing Mortality Levels in Asia: International Comparisons and a Japanese Case Study"

"Age Patterns of Fertility and Fertility Decline: A Comparison of Historical Europe and Contemporary Asia"

## WEDNESDAY, JUNE 16

## MORNING SESSION

**Demographic Trends and Socioeconomic Correlates: Comparative and Case Studies (continued)***Chair:* Silvia Pedraza*Presenters:* Mohammad Hemmasi

Tieng Pardthaisong

*Discussants:* Prasert Bhandhachat  
Mehtab Karim

Peter C. Smith

"Emerging Fertility and Nuptiality Trends in Iran"

"Analysis of Recent Fertility Decline in the Chiang Mai Region of Thailand: Preliminary Results"

"Asian Nuptiality in Transition"

*Rapporteur:* Andrew Mason

AFTERNOON (free)

THURSDAY, JUNE 17

MORNING SESSION

**Individual-Level and Societal-Level Linkages between Demographic and Socioeconomic Changes**

*Chair:* Sang Ho Chang

*Presenters:* Vicente Paqueo

"Family Decisions and Fertility Behavior: The Impact of Public Education and Health Expenditures"

Geoffrey McNicoll

"Notes on Demographic Transition from a Transfer Perspective"

Naohiro Ogawa and Robert Retherford

"Decomposition of the Change in the Total Fertility Rate in the Republic of Korea, 1966-70"

*Discussants:* Leonardo Sta. Romana  
Andrew Mason

*Rapporteur:* Dennis Chao

AFTERNOON SESSION

**Spatial Aspects of the Demographic Transition**

*Chair:* Imelda Zosa

*Presenters:* Ernesto M. Pernia

"Urban Transition in Southeast and East Asia"

Gary Fuller

"On the Spatial Diffusion Paradigm in Geography"

Ta-Chou Huang

"Spatial Component of Socioeconomic and Demographic Transition in the Communities of Taiwan"

*Discussants:* Apichat Chamratrithirong  
Forrest Pitts

*Rapporteur:* Robert Gardner

FRIDAY, JUNE 18

MORNING SESSION

**The Role of Policy in the Demographic Transition**

*Chair:* Wasim Alimuz Zaman

- Presenters:** Albert I. Hermalin "Spatial Analysis of Family Planning Program Effects in Taiwan"  
 Iqbal Alam "Fertility Differentials in Pakistan: A Preliminary Analysis of 19 Districts" (originally scheduled for Tuesday morning, June 18)
- Discussants:** Chitra Sundaram  
 James A. Palmore
- Rapporteur:** Alice Harris

**AFTERNOON SESSION****Recommendations for Further Research**

- Chair:** Lee-Jay Cho  
**Rapporteur:** Silvia Pedraza

*Between June 21 and July 8, participants met in workshops during weekdays. The following lectures also took place:*

- TUESDAY, JUNE 29** "The Changing Role of Policy in the Demographic Transition," by Philip M. Hauser
- THURSDAY, JULY 1** "Data Collection and Analysis in Small Populations," by Michael Levin
- FRIDAY, JULY 2** "Cost-Benefit Analysis of Family Planning Programs in Korea," by Kee-Chun Han
- TUESDAY, JULY 6** "Population Distribution and Migration in the Context of the Demographic Transition in Japan," by Toshio Kuroda
- THURSDAY, JULY 8** "Population Strategies at the Community Level: Their Role in Demographic Transition," by Peter Kunstadter
- FRIDAY, JULY 9**
- MORNING** Plenary Session and Completion Ceremony

# Abstracts of papers and summary of discussion

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## Demographic Transition Theory Reexamined

Monday, June 14, morning session

*Chair:* James A. Palmore

*Presenter:* Robert Retherford

*Discussants:* Carl Mosk and Peter Kunstadter

*Rapporteur:* Kevin Palmer

### ABSTRACT

#### Demographic Transition Theory Reexamined, *by Robert Retherford*

The classical theory of demographic transition lays heavy emphasis on statistical relationship between demographic and socioeconomic changes associated with modernization, but says little about individual motivation or feedback from population pressure on net fertility. This paper presents a model that broadens the classical approach in two directions. First, it examines systematically the motivational linkages between demographic and socioeconomic changes by means of a decision model adapted from economics. Second, it introduces arguments about population pressure feedback on net fertility, going back to the ideas of Malthus, to explain why the net reproduction rate is close to 1 before and after transition.

### DISCUSSION

Mr. Mosk pointed out what he felt were contradictions in Dr. Retherford's model, primarily in the method of measurement and in some of the basic assumptions. He questioned the use of historical evidence to confirm the impact of population policy and pressure on the rate of population growth as theorized by Malthus, and suggested that economic factors such as per capita income were more important determinants of population growth.

Speaking as an anthropologist, Dr. Kunstadter questioned some of the model's basic assumptions. Some of his main points were that the approach taken in the model ignored most of the recent social research; that there is a major difference between individual ideals and statistical survey data designed to measure such ideals; and that the assumptions made of social stability, homogeneity, and equilibrium did not constitute a firm basis on which to construct a practical model.

The discussion from the floor echoed many of the points raised by the two discussants. Primary concerns centered around the rationality of the individual decision-making process, especially in societies where fatalism is a major factor. Other questions focused on problems of measuring psychic satisfaction, the determination of various costs involved in the model, and in general the practicality of such a model.

In his closing remarks, Dr. Palmore expressed the view that Dr. Retherford's paper represented a good beginning for the Seminar and an excellent point from which to build in future sessions.

## **Demographic Trends and Socioeconomic Correlates: Regional and Country Summaries**

Monday, June 14, afternoon session

*Chair:* Wasim Alimuz Zaman

*Presenters:* Kazumasa Kobayashi; Chen-Tung Chang;\* Peter N.D. Pirie

*Discussant:* Lee-Jay Cho

*Rapporteur:* Michael Levin

### **ABSTRACTS**

#### **Regional Summary of Demographic Changes and Socioeconomic Correlates in East Asia: Hong Kong, Japan, Korea, and Taiwan, by Kazumasa Kobayashi**

A descriptive summary of demographic changes, with special reference to fertility transition, in the four countries examined. Differences in changing patterns of association between selected variables, both demographic and socioeconomic, are compared among the countries. Korea, Taiwan, and Hong Kong, once high-fertility countries, have substantially reduced their overall fertility rates; but a high level of fertility among couples at the prime childbearing ages still exists. How to reduce it to the Japanese level will be an important problem for future fertility policy in these countries.

#### **Demographic Changes and Socioeconomic Correlates in Southeast Asia, by Chen-Tung Chang\***

Postwar changes in size, density, growth, composition, mortality, fertility, and nuptiality of a number of populations in Southeast Asia are described. In addition, their literacy, urbanization, and various economic characteristics are sketched. The purpose is to give an overview of the changes in demographic patterns and their socioeconomic correlates in Southeast Asian countries to serve as background for more intensive discussion of Seminar topics. The lack of quality demographic data of sufficient comprehensiveness is noted as handicapping any attempt at a regional summary that goes beyond the broadest outlines.

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\* Absent.

**Regional Summary of Demographic Changes and Socioeconomic Correlates in the Pacific Islands, by Peter N.D. Pirie**

Changes in the levels of mortality and fertility of the Pacific Island region have usually been rapid, drastic, and externally induced. There is some evidence that at the time of Western contact, the levels probably were lower than those assumed in the traditional theory of the demographic transition. Since the beginning of this century, the control of mortality has been gradually assumed by the governments and has, particularly since World War II, been steadily more effective. Except in a few cases, the decline in fertility is still at an embryonic stage. Perhaps the greatest hope for eventual success in controlling population growth lies in the suspicion that, for the Pacific populations, the control of family size is a return to an ancient tradition obscured in recent years.

**DISCUSSION**

Criticisms of Dr. Kobayashi's paper were that Hong Kong is a city-state, and as such differs from the other countries considered in the paper; that the paper misused the urban/rural dichotomy; and that comparing an economically developed country like Japan with underdeveloped countries entails many problems. Dr. Kobayashi acknowledged that he had skewed some of the data because of time limitations and difficulties in incorporating social data in his paper. He had excluded North Korea, China, and Mongolia owing to insufficient data from those countries. He thought, however, that Hong Kong should be included in the comparison *because* it was a city-state. He had not developed the urban/rural dichotomy because of time limitations, and he had excluded a comparison of age and sex compositions for the same reason.

The following comments were offered from the floor on Dr. Chang's paper: Dr. Chang had shown Thailand's fertility to be increasing, whereas others have shown it to be decreasing; not enough variables were taken into consideration; family structure is related to reproduction, mortality, and migration, and these relationships were not emphasized; too many countries were included in the paper; the author offered no explanation of why rates in Southeast Asia differ from those elsewhere; China should have been considered because it has the largest population and because it may be a major exception; and U.N. data used by the author are not reliable.

There were no comments on the paper by Dr. Pirie.

**Demographic Trends and Socioeconomic Correlates: Regional and Country Summaries (*continued*)**

Tuesday, June 15, morning session

**Chair:** Chan Onn Fong

**Presenters:** Joginder Kumar; Nibhon Debavalya

**Discussants:** Wasim Alimuz Zaman and Wilawan Kanjanapan

**Rapporteur:** Robert Retherford

## ABSTRACTS

**Recent Demographic Transition in India and a Viable Population Policy, by Joginder Kumar**

The slow decline of fertility in India during recent years is shown to be linked to slow improvements in various indicators of modernization, such as urbanization, labor force structure, and literacy. An explanation of the nearly constant level of fertility is sought in Davis's theory of change and response, according to which the necessary stimuli for fertility decline are a high rate of natural increase and the desire of couples to maximize their gains in a situation of economic growth. Although India has a high rate of natural increase, its relatively slow economic growth does not produce the necessary stimulus for fertility reduction among the great majority of India's population.

It is argued that the existing voluntary family planning program coupled with incentives and disincentives cannot achieve India's goal of reducing the birth rate to 25 or 30 per thousand in the next ten years. Only the use of coercion, such as compulsory sterilization after a certain parity is achieved, can effectively reduce fertility levels. The State of Maharashtra has enacted a law prescribing compulsory sterilization for couples with three children. In view of the prevailing political situation, this law seems to have a fair chance of producing the desired results.

**Fertility Transition in Thailand, by Nibhon Debavalya**

Declining trends in Thai fertility in recent years indicate that Thailand is at the threshold of a demographic transition from high to low fertility. Between 1975 and 1985, the crude birth rate is expected to fall from 37.63 per thousand to 27.54, and the growth rate from 2.86 to 2.00 percent. The transition may be attributed both to modernization and to the national family planning program. Results from two rounds of the Longitudinal Study of Social, Economic, and Demographic Change indicate a substantial increase in family planning practice and a decline in marital fertility during the past few years. The data show that a substantial part of the fertility decline is due to increased use of family planning methods. The evidence also suggests that changes in reproductive behavior may now be part of this process. The urban population is already adopting modern reproductive behavior, as evidenced by lower levels of marital fertility and the substantial proportions of married urban couples who are practicing some form of family planning. The rural population may be about to follow suit.

## DISCUSSION

Much of the discussion of Kumar's paper centered on his proposed population policy measures. The most controversial of these was compulsory sterilization. The discussants suggested that political support for such policies might not be forthcoming. Because of the lack of political support among the masses, the program would involve not only high medical costs, inherent in a sterilization program, but also high administrative and surveillance costs. One discussant suggested that Maharashtra State was not the best test of the program because it already has a relatively successful family planning program.

Regarding Nibhon's paper, it was remarked that until very recently Thailand

had experienced a much sharper mortality transition than India but sustained substantially higher levels of fertility than India. Moreover, the fertility decline since 1971 has been mainly due to reduction of marital fertility. In India, the comparatively small fall in fertility has been strongly influenced by a rise in age at marriage. Thailand seems to fit Kirk's observation about fertility decline: the later in history that the fertility transition commences, the faster it occurs.

It was suggested that the rural-to-urban migration pattern in Thailand might help explain some of the differences between Bangkok and provincial urban fertility patterns. Marital fertility fell sharply in provincial urban centers but rose slightly in the Bangkok metropolitan area between 1969 and 1972. Most of the urbanward migration has been directed toward Bangkok. Since to some extent rural migrants carry over their rural fertility behavior into urban areas, differential rates of in-migration between Bangkok and provincial urban centers might help explain differences in their recent fertility trends.

Another discussant (Kanjanapan) reported that her own unpublished research showed that degree of religiosity among Buddhists had no detectable influence on their fertility. This lack of effect occurred despite occasional statements by respondents that they were reluctant for religious reasons to adopt family planning.

## **Demographic Trends and Socioeconomic Correlates: Comparative and Case Studies**

Tuesday, June 15, afternoon session

*Chair:* Zenaida Zruy Uy

*Presenters:* Samuel Preston and Robert Gardner; John Knodel

*Discussants:* Peter McDonald and Linda Martin

*Rapporteur:* Peter C. Smith

### **ABSTRACTS**

#### **Factors Influencing Mortality Levels in Asia: International Comparisons and a Japanese Case Study, by Samuel Preston and Robert Gardner**

National data on per capita income and life expectancy for 50 nations with populations exceeding 2 million, as well as data from Japanese prefectures, are used to examine the proposition that mortality transition has assumed a somewhat different character in Asia than in other major regions. It was found that, for any given level of income, Asian nations tend to have a higher life expectancy at birth than African and Latin American nations. The pattern may be broadly attributable to superior social organization in the Asian countries. The evidence cited suggests that substantial parts of Asia have achieved higher levels of demographic and social development than of economic development, with these patterns rooted in the region's cultures and histories.

Evidence on causes of death buttresses the hypothesis. Compared with the average national experience at given levels of overall mortality, Asian nations appear to have disproportionately high death rates from causes that are poverty-related, primarily infectious diseases.

At current low levels, Japanese mortality patterns show little deviation from patterns experienced at similar levels by other nations. Yet Japan in transition showed an exceptionally high life expectancy for its level of income. In recent decades, income level has become much more closely associated with life expectancy in Japan, while mortality (which is very low) has become less sensitive to differences in income. The examination of mortality-influencing factors other than income, such as education, medical services, and urbanization, shows them to be losing significance whereas income gains. Thus Japan offers strong evidence that future falls in mortality in the region will not repeat the historical patterns of the now-developed world, and the other nations of the region offer evidence supporting this hypothesis.

**Age Patterns of Fertility and Fertility Decline: A Comparison of Historical Europe and Contemporary Asia, by John Knodel**

The paper examines two questions: Are age patterns of predecline fertility in preindustrial Europe and contemporary Asia similar? Do the age patterns of fertility decline show any systematic differences? To answer the first question we introduced the concept of natural fertility. We found that in both Europe and Asia, age-specific marital fertility prior to or at the very beginning of the transition to modern low levels corresponded fairly closely to the convex shape of a standard natural fertility function as opposed to the concave shape of controlled fertility. In some cases the age pattern could be interpreted as being consistent with a mild degree of parity-specific birth control according to an index of fertility control designed to indicate the extent of birth control from the age structure of marital fertility.

To answer the second question we examined both the percentage decline in marital fertility at different ages and the evolution of an index of fertility control based on the age structure of marital fertility during the period of fertility decline. Both in Europe and Asia the age patterns of decline were fairly similar, the largest relative declines occurring at the oldest ages and the smallest declines (or even increases for some Asian countries) at the youngest ages. For the European countries this age differential was more pronounced in the early stage of the fertility transition. In both Asia and Europe the index of fertility control rose fairly steadily during the period of fertility decline, indicating that the age pattern of decline was generally consistent with expected changes associated with increased family limitation. The age pattern of the index of fertility control over much of the fertility transition indicates that the fertility of Asian women in their 30s and European women in the late 20s and early 30s may have been characterized by higher levels of fertility control than would be expected from a standard function of fertility control by age. This finding was interpreted as resulting in part from demographic factors affecting the index and in part from a tendency for younger women to be more receptive to modern ideas and behavior such as family limitation during periods of modernization.

**DISCUSSION**

In discussing the paper by Preston and Gardner, Dr. McDonald noted that a three-phased theory of mortality decline seems to be suggested: In Phase I there is no relation between income and mortality level; in Phase II there is a relationship;

in Phase III the relationship disappears again. This scheme might have been made more explicit.

McDonald noted that, since the paper examines cross-sectional data, the authors might have given more attention to cultural factors as compared with socio-economic ones. He also pointed out that the beneficial colonial impact on public health in many countries is assumed in the paper, whereas, for example, the impact of the Dutch in Java is being reexamined (e.g., by Peper and Widjojo).

Concerning the paper by Dr. Knodel, Dr. McDonald pointed out that the natural fertility model does not allow for increases in fecundity over time induced, say, by improved nutrition. Nor does the model allow for polygyny and various kinds of marital disruption. Lastly, Dr. McDonald noted that age patterns in cross-sections and cohorts may be different under conditions of change.

Ms. Martin had reservations regarding the accuracy of Knodel's data and noted his failure to secure pretransition historical data. She felt that greater accuracy could be realized by tabulating *duration* of marriage rather than *age*, to take advantage of respondents' generally more accurate recall of the former.

She pointed out that Preston and Gardner's paper was based on data from generally unrepresentative countries, and she expressed the view that income is an inadequate measure of economic level.

Commenting from the floor on Preston and Gardner's paper, Dr. Kobayashi described a long-standing northeast-southwest gradient in Japanese mortality and fertility. Both fertility and mortality levels tend to be highest in the northeast, and neither correlates with economic level. Mr. Paqueo emphasized that there tend to be severe distortions in mortality data, and apropos the paper by Preston and Gardner he suggested that unmeasured interactions may exist between mortality and fertility; mortality may not be entirely *exogenous* in a fertility equation. Dr. Kunstadter expressed surprise that Asian causes of death could be similar to those in Europe, observing that Asia is faced with chronic malnutrition which was not found in Europe in the 18th and 19th centuries.

Responding to the comments, Dr. Preston noted that the authors' results agreed with those of Brass regarding an Asian-African age pattern of mortality. Noting also that the Asian data fit Coale's 'West' model quite closely, he concluded that there does not seem to be a unique age pattern for Asia. Dr. Knodel agreed with the thrust of Dr. McDonald's points concerning fecundity, and noted that *marital disruption* might also sometimes be important, though not in the European period in question.

## Demographic Trends and Socioeconomic Correlates: Comparative and Case Studies (*continued*)

Wednesday, June 16, morning session

**Chair:** Silvia Pedraza

**Presenters:** Mohammad Hemmasi; Tieng Pardthaisong; Peter C. Smith

**Discussants:** Prasert Bhandhachat and Mehtab Karim

**Rapporteur:** Andrew Mason

## ABSTRACTS

**Emerging Fertility and Nuptiality Trends in Iran, by Mohammad Hemmasi**

The hypothesis of an inverse relationship between the modernization process and fertility was examined using provincial data for 1956, 1966, and 1972. Results of regression analysis suggest that significant relationships have existed between fertility and modernization at least since the mid-1950s. Similar relationships between modernization and nuptiality were not in evidence until the mid-1960s, during which fundamental changes in secular laws concerning the family were introduced and significant improvements in the status of women were achieved. A downward trend in fertility and an upward trend in mean age at first marriage has been found in the urban areas of Iran, but both fertility and nuptiality have remained at traditional levels in the rural areas. The advantages of bearing a small number of children have been recognized by the educated middle- and upper-class population; and the availability of family planning services has facilitated the adoption of birth control, particularly among those already inclined to use it. The paper concludes that fertility will continue to fall and age at marriage to rise as a result of programs of socioeconomic development in Iranian cities. The emergence of similar demographic responses in rural areas depends on the success of future developmental projects in raising the general standard of living at the village level.

**Analysis of Recent Fertility Decline in the Chiang Mai Region of Thailand: Preliminary Results, by Tieng Pardthaisong**

Using birth registration data and the population censuses of 1960 and 1970, this study found differences between the patterns of fertility decline in Chiang Mai Province, the three provinces adjacent to Chiang Mai (Lamphun, Lampang, and Chiang Rai), and Thailand as a whole during the period 1960–1972. In Chiang Mai Province the fertility level showed a definite and rapid decline after 1964, the total fertility dropping from 6.5 in 1964 to 2.8 in 1972. In Lamphun Province the fertility level showed almost the same trend, whereas in Lampang Province the fertility decline did not occur until after 1968, and in Chiang Rai Province there was no definite fertility decline throughout the 1960–1972 period. There was a slight drop in fertility for the population of Thailand as a whole between 1968 and 1970, and a definite decline thereafter.

The fertility decline in Chiang Mai and Lamphun Provinces occurred two years after family planning clinics were opened in 1963. The proportion of eligible women who ever used clinic methods was the same for the two provinces, and in both fertility declined by more than 50 percent in eight years. This decline was probably due, in large measure, to acceptance by eligible women of the family planning program.

**Asian Nuptiality in Transition, by Peter C. Smith**

A significant transition in Asian marriage patterns is documented using national and regional data on marital status from 14 countries. Important determinants of variations in marriage timing and prevalence across the region are identified and the literature on these determinants is reviewed.

Data from six countries and encompassing 329 areal units are treated in a

Multiple Classification Analysis framework to assess the importance of some of these factors in accounting for areal variation across the region. Regional and urban-rural differences and literacy, education, labor force participation and non-agricultural employment are all found to be important. Despite the growing influence of "modernization" processes, the evidence suggests that traditional dimensions like religious orientation continue to be important. In particular, the data do not indicate a process of convergence in marriage behavior across the cultural areas of Asia.

#### DISCUSSION

Most of the discussion centered on the validity and causes of the fertility decline in Chiang Mai described by Mr. Pardthaisong. Mr. Bhandhachat suggested four reasons for the decline: higher education, improved social status, migration, and rising income. Dr. Kunstadter stressed that family planning programs were not the cause and suggested commercialization of the agricultural sector as a probable cause. Dr. Retherford felt that the cause could be traced to changes in family-size norms.

Discussion of Smith's paper emphasized the need to develop a better theory of nuptiality. Dr. Hermalin mentioned that there is little knowledge about either European or Asian nuptiality. Ms. Pedraza described some of the problems of current theory, particularly the theory of nuclearization. Mr. Karim felt that the decision-making role of the family had changed little in Asia despite changes in family structure.

Hemmasi's paper was well received. Dr. Hermalin commented that some of the decline in rural fertility in Iran could be attributed to diffusion from urban areas rather than modernization.

### Individual-Level and Societal-Level Linkages between Demographic and Socioeconomic Changes

Thursday, June 17, morning session

*Chair:* Sang Ho Chang

*Presenters:* Vicente Paqueo; Geoffrey McNicoll; Naohiro Ogawa and Robert Retherford

*Discussants:* Leonardo Sta. Romana and Andrew Mason

*Rapporteur:* Dennis Chao

#### ABSTRACTS

##### **Family Decisions and Fertility Behavior: The Impact of Public Education and Health Expenditures, by Vicente Paqueo**

An economic analysis of the impact on fertility of public expenditures on health and education in the Philippines is presented. A simple household model is used that focuses attention on decisions regarding family size, child's health, and education. It is shown that child-directed education and health care subsidies may

not have a pronatalist effect; in fact, they may affect fertility negatively. This view is supported by the empirical evidence, but the results are inconclusive because of identification problems.

**Notes on Demographic Transition from a Transfer Perspective, by Geoffrey McNicoll**

The absence of an adequate theory of demographic transition after some three decades of search suggests that whatever uniformities underlie secular demographic trends must lie deep in the socioeconomic system, beyond the grasp of indices constructed from simple vital rates or of aggregate social or economic correlates of those indices. To uncover these uniformities requires shifting the focus of research toward the broad processes of social change of which the changing demographic patterns are reflections. The paper argues that a valuable analytical approach to this new focus lies in exploring the network of transfers among individuals and social groups in the society and the social structure that supports those transfers. Each social group perceives and refracts signals from its environment, which present the group with distinct patterns of incentives favoring certain courses of demographic (and other) behavior. Each also has some system-maintaining qualities providing negative feedback from individual behavior. But any society comprises a complex overlapping array of social groups, all persons being simultaneously members of many. The behavioral outcome is therefore often indeterminate.

The various transition theories in the literature can be usefully assessed within this framework, and it is seen that they differ essentially in which parts of the framework are ignored or subsumed in *ceteris paribus* assumptions. Some encouragement that a more comprehensive attack on the transition problem can soon be mounted is to be found in the beginnings of the development of more appropriate tools of analysis for the investigation of social structure and intergroup transfers.

**Decomposition of the Change in the Total Fertility Rate in the Republic of Korea, 1966–70, by Naohiro Ogawa and Robert Retherford**

This paper decomposes the rapid fall in the Korean total fertility rate between 1966 and 1970 in an attempt to shed light on some of the factors responsible for it. The decomposition specifies two major sets of contributions, the first from changes in the composition of the population by rural-urban residence, education, marital status, and parity, and the second from changes in birth rates specified by these same variables. A salient finding is that when residence and education composition are statistically controlled, changes in marital status composition actually tended to increase the total fertility rate over the period. Without these two variables controlled, in contrast, changes in marital status composition (notably overall decrease in proportions married in the younger age groups) appear spuriously to have contributed substantially to the decline in the total fertility rate over the period.

**DISCUSSION**

Most of the comments of this session concerned Paqueo's paper. Mr. Sta. Romana suggested that Leibenstein's approach to fertility determination might be better

formulated to analyze fertility decisions in a developing country. Dr. Mason pointed out that estimation bias could be minimized if demand for children and demand for education were estimated simultaneously. He attributed the low  $R^2$  of Paqueo's regression analysis to the omission of community income level. Finally, he cautioned against the extrapolation of the infant mortality probability equation beyond the relevant range. Dr. Fong suggested that the element of uncertainty should be incorporated in the model, because the family-size decision, in essence, is a multiperiod decision. Mr. Paqueo replied that he intended to do a simultaneous estimation of the demand for children and the demand for education. He also explained that the infant mortality equation was estimated not to draw policy implications from it, but to indicate the variables that have effects on infant mortality.

## Spatial Aspects of the Demographic Transition

Thursday, June 17, afternoon session

*Chair:* Imelda Zosa

*Presenters:* Ernesto M. Pernia; Gary Fuller; Ta-Chou Huang

*Discussants:* Apichat Chamratrithirong and Forrest Pitts

*Rapporteur:* Robert Gardner

### ABSTRACTS

#### **Urban Transition in Southeast and East Asia, by Ernesto M. Pernia**

The process of urbanization can be seen as a transition of the population from a rural to an urban character, reflecting demographic and socioeconomic changes. Urban transition in Southeast and East Asia has been quite distinct from the historical experience in Western countries. Urbanization and rural-to-urban migration were virtually identical in Western countries, and urban concentration tended to diffuse spatially over time. In Southeast Asian countries the rapid growth of the rural population has dampened the rise in the level of urbanization, although the urban population has also increased markedly because of urban natural increase. In East Asian countries urban reproduction has combined with rural-to-urban migration to produce a resilient urbanization. Urban concentration in the principal cities has been persistent, especially in Southeast Asian countries. Rural areas in Southeast Asia seem to have largely absorbed population increments in the past, but in the near future rural-to-urban population shifts may accelerate as rural density "limits" are reached.

The more urbanized countries in the two regions appear to be more advanced economically and demographically. But China and North Korea, at comparatively low levels of urbanization, seem to exhibit relatively low mortality and fertility. An implication is that urban or economic transition (in the conventional sense) may not be a *sine qua non* for a demographic transition and that population policy can be made more effective in the less developed countries.

**On the Spatial Diffusion Paradigm in Geography, by Gary Fuller**

Future developments in the spatial diffusion field face a dilemma. On one hand, virtually all spatial diffusion methodology has been developed in North America and Europe; on the other, the non-Western world is undergoing a prolonged effort to uproot traditional life styles and to bring about transition as rapidly as possible. Western tools may be inappropriate to the task. Three directions for future research are needed: first, an alteration in the pedigree of spatial diffusion scholars; second, the development of a classification of innovation processes; and third, the testing of spatial diffusion hypotheses in the non-Western world which aim at uncovering the value of existing findings in different cultural contexts.

**Spatial Component of Socioeconomic and Demographic Transition in the Communities of Taiwan, by Ta-Chou Huang**

A preliminary report on a study of spatial diffusion of socioeconomic and demographic change in the communities of Taiwan. Longitudinal changes of demographic characteristics between 1961 and 1969 and the interplay between demographic systems and socioeconomic variables during that period are examined. Empirical evidence shows that there have been significant socioeconomic and demographic changes in Taiwan during the past 25 years. In general, the greatest declines in fertility and mortality have occurred in urban areas and diffused to rural areas with varying rapidity. The socioeconomic characteristics most closely associated with these changes appear to be the level of educational attainment and the proportion employed in nonagricultural industries.

**DISCUSSION**

Mr. Chamrathirong said he liked Pernia's use of the logistic curve for making projections of urbanization, and inquired as to the policy implications of the projections. He thought Fuller's paper was too theoretical, although he did like the discussion of "premature innovation." The paper by Huang he found useful and well organized, although it did not adequately discuss the relationships among the demographic variables and between them and socioeconomic variables.

Commenting on Pernia's paper, Dr. Pitts observed that in Japan the definition of "urban" is quite broad, and that the Japanese have accordingly adopted the concept of Densely Inhabited District (DID). He suggested that Pernia's figures for percentage urban for Japan, the Republic of China, and the Republic of Korea might have been significantly lower if a better definition of "urban" had been used. He agreed with much of Fuller's paper, although he considered the explanation for program failure to be inconsistent. Huang's paper he found to be a good progress report on an enormous and challenging set of data. He expressed the wish that the cartography had been more creative, and also suggested the use of canonical correlation of the data after breaking them down into two sets of demographic variables and modernity variables.

In his reply, Dr. Pernia noted that, if Asia follows the European experience, rapid urbanization will take place as more and more rural areas reach their density limits. His definitions were those of the United Nations. He observed that there is no policy-making body for the East and Southeast Asian region, although ASEAN may move in that direction.

Responding to a remark by Dr. Pitts concerning data imperialism, Dr. Fuller said he hoped the international community of scholars would work together and transcend national boundaries.

Dr. Huang acknowledged that more controls on his data should be introduced, but explained that his study was still in an early stage. Exploration of the relationships among the variables would be the next step.

## The Role of Policy in the Demographic Transition

Friday, June 18, morning session

*Chair:* Wasim Alimuz Zaman

*Presenters:* Albert I. Hermalin; Iqbal Alam

*Discussants:* Chitra Sundaram and James A. Palmore

*Rapporteur:* Alice Harris

### ABSTRACTS

#### **Spatial Analysis of Family Planning Program Effects in Taiwan, by Albert I. Hermalin**

The paper reviews the advantages and limitations of using multiple regression analysis of areal data to investigate the effect of a family planning program on fertility. This technique requires data for each areal unit on the socioeconomic factors thought to influence fertility, as well as one or more measures of family planning program input, and, as the dependent variable, a measure of fertility.

After a review of the relevant demographic and family planning history of Taiwan, a series of different models is tested for the period 1966–1972. In most cases, the results indicate that the program had a significant negative effect on fertility over this period, after other factors that also influenced fertility are taken into account. In addition to the usual sources of areal data, responses from surveys were aggregated to develop measures not otherwise available, like the extent of nonprogram contraception use and the duration of breastfeeding.

#### **Fertility Differentials in Pakistan: A Preliminary Analysis of 19 Districts, by Iqbal Alam**

Data from 19 districts of Pakistan were analyzed to determine the sources of fertility differentials and to explore the lag effect of 1961 socioeconomic conditions on 1972 fertility. It is shown that the proportion of the population living in urban areas is negatively related to the fertility level. An inverse relationship between female labor force participation and fertility rates is observed. Female literacy has a positive effect on the child-woman ratio.

### DISCUSSION

Ms. Sundaram complimented Dr. Hermalin on his use of multivariate areal analysis to examine the effects of Taiwan's family planning program on fertility. She noted that with the increasing emphasis placed on the implementation of family planning

programs the international funding agencies would welcome a method for evaluating program effectiveness. She then made several specific observations about the paper. In the first place, she noted the absence of paths leading from the percentage married to the cumulative acceptance rate, although proportion married should affect it. Moreover, female adult education was presented as affecting the total fertility rate indirectly through the percentage married and the cumulative acceptance rate, but evidence from other countries indicates that women with higher education tend to limit their fertility through private means rather than through official programs. When female adult education is presented as acting only through the program, it inflates the program effects. Calculations are needed that would estimate the effect of female adult education on nonprogram contraceptive use.

Dr. Palmore commented on the use of demographic models, on significance testing, and on the need for more coherent statements of policy relevance in both papers. He noted that the use of observational data for regression analysis can be treacherous, illustrating this with an equation, and mentioned problems that Dr. Hermalin might have with linearity and interaction among the variables. Dr. Palmore also noted that diffusion from one area to another might complicate the analysis.

Responding to Dr. Palmore's concept of the "omitted variable," Dr. Chakraborty said that the researcher must be parsimonious; a catalog of all variables does not imply theory; theory is built by proposing models. He disagreed with Dr. Palmore's comment that no gains are accomplished through the use of observational data, asserting that policymakers need all the information they can get.

In response to Ms. Sundaram's comments on the issue of poverty and fertility, Dr. Alam saw no great impact of rural-to-urban migration in Pakistan on the child-woman ratio.

## Recommendations for Further Research

Friday, June 18, afternoon session

*Chair:* Lee-Jay Cho

*Rapporteur:* Silvia Pedraza

Conference participants decided to confine themselves to general recommendations concerning important directions for future study and barriers to research. Two recommendations were made:

1. More *relevant* data on demographic transition are needed. Relatively little progress has been made on conceptualizing the social system and its inner workings. For example, we still do not know how to conceptualize and measure social class.

2. That Asia probably has greater cultural diversity than any other region needs to be taken into account, particularly given intercommunication problems. Some scholars are highly sensitive to sociocultural variation and see these as crucial determinants of population behavior. Others recognize them but consider them to

be less determinant. Given this tension, scholars should be encouraged to work together from opposite ends of the continuum.

The discussion focused on such questions as what elements are common to the region, whether there are some common stimuli that produce modernization, whether there is a common effect of colonialism, and what are the significant dimensions of social structure in a society. Participants noted that some important topics had not been discussed—for example, food, malnutrition, and subfecundity. Finally, it was agreed that the conference had not dealt systematically with the policy implications of the research findings.



# Workshop summaries

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## Demographic Trends and Socioeconomic Correlates

*Coordinators:* Joginder Kumar and Y. Scott Matsumoto

*Participants:* Robert Bursik, Jong-Hak Chung, Masaaki Endo, Chan Onn Fong, Hallie Kintner, Cheng-hung Liao, L.S. Mangunadikusumo, Motofumi Masaki, Carl Mosk, Satit Niyomyaht, Hironori Ohama, Antonio Pacheco, Paul Perry, Bernice Polemis, Jashwantlal Shah, and Wasim Alimuz Zaman

The workshop focused on a critical assessment of 16 individual research proposals developed by the participants analyzing relationships between major demographic and socioeconomic variables. In discussing the theoretical implications of the topic, several participants stated that the concept of "demographic transition" was a simplistic generalization and may describe only the historical experience of the West. They also viewed such terms as "modernization," "urbanization," "development," as vague and poorly defined. In the methodological discussions, several participants suggested that caution be used when working with data from developing countries because of underreporting and other inadequacies. Others saw the need to study the effects of additional socioeconomic variables not commonly recorded instead of analyzing only the usual quantified data from secondary sources. There was concern about the growing "narrowness of demography," as population studies become increasingly preoccupied with statistical techniques. A heavy reliance on regression-type techniques in the proposals was noted. As for policy issues, if socioeconomic correlates were important, what were the implications for population policies, and how were they communicated to the policy makers? The workshop ended with a greater awareness of the complexity of studying the process and variables involved in "demographic transition." Participants appreciated the perspectives presented by representatives of varying cultural and national viewpoints. The workshop offered an opportunity for intellectual interchange and stimulation among participants from various countries.

## Individual-Level Linkages between Demographic and Socioeconomic Changes

*Coordinators:* James A. Palmore and Andrew Mason

**Participants:** Sang Ho Chang, Sally Fox, Chang-O Hsu, Aquila Kiani, Mohammed Miah, Shyamala Nagaraj, Ruth Olsen, Silvia Pedraza, Maria Ruby Reyes, Elaine Schroeder, Leonardo Sta. Romana, Zenaida Zruy Uy, Daniel Wagner, and Fai-ming Wong

The workshop provided participants with the opportunity to present, discuss, and refine proposals on micro relationships between population and socioeconomic variables. The proposals addressed a variety of issues including the evaluation of family planning programs; the role of women, their labor force participation and fertility; the relationship between family structure and fertility patterns; the basis of pronatalist norms; attitudes toward sexuality and fertility; and the relationship between income distribution and fertility. In addition participants studied research proposals which had been funded and were advised on the existence and nature of funding sources.

### **Societal-Level Linkages between Demographic and Socioeconomic Changes**

**Coordinators:** Peter C. Smith and Peter Kunstadter

**Participants:** Prasert Bhandhachat, Margaret Bigford, John Casterline, Apichat Chamrathirong, Peerasit Kamnuansilpa, Mehtab Karim, Yasmin Kassamali, Alice Cabili-Lim, Kwai-Sim Low, Prapee Makaranond, Peter McDonald, Marjorie Muecke (auditor), Jamshid Momeni, Tieng Pardthaisong, Joseto Reoma (auditor), Deborah Street, and Fernando Zialcita (auditor)

The workshop was divided into two sections, one on nuptiality and the other on demographic strategies at the community level. The first week was devoted to a joint meeting of the two sections, followed by four days in which the coordinators developed the general concepts they expected to employ and discussed research strategies and the writing of research proposals. The final two weeks were devoted to presentations of research proposals by the participants, plus discussion and revision of these proposals. During the final week participants of the two sections met jointly to compare results.

Two themes underlay the discussions and the proposals on community level demographic strategies: documentation and analysis of the decline of fertility in Northern Thailand, with special emphasis on the application of the concepts of community-level demographic strategies; and development of models of community-level demographic strategies wherever they might occur.

The section on Asian marriage patterns examined determinants of nuptiality in the several countries represented, partly through the reports of participants on their individual research projects. In addition, workshop members set themselves three common tasks: (1) to explore a series of topics in the realm of marriage behavior, including the impact on marriage patterns of education, urbanization, traditional inheritance systems, and religious doctrines, among others; (2) to develop an agenda of needed research on questions of Asian nuptiality; and (3) to create a prototype questionnaire specially designed to obtain survey information on the determinants of nuptiality decisions.

## **Spatial Aspects of the Demographic Transition**

*Coordinators:* Gary Fuller, Robert Gardner, Ta-Chou Huang

*Participants:* Debesh Chandra Chakraborty, Kok-Eng Chan, Barbara Dolan, Kangaramullege Gannoruwe, Garimella Giridhar, Ziaush Haq, Nora Huang, Wilawan Kanjanapan, Yu-lung Kiang, M.P. Perera, Foh-Tsrang Tang, and Imelda Zosa

The workshop brought together a varied group of participants with a wide range of interests. This had both positive and negative aspects. Focus on a single topic was not possible, so the workshop produced no statement or synthesis on one particular idea or concept. On the other hand, the workshop members were unanimous in declaring that the input they received from persons and viewpoints they ordinarily would not encounter was of great help to their thinking and the preparation of proposals. Several of the participants were interested in the new Migrants and the City Project at the Institute, and they have been kept informed of the project's activities.

Topics investigated by the workshop members included regional differentials in population growth in India; determinants of migration in Taiwan; squatter settlements in Kuala Lumpur; population density in Sri Lanka; urbanization in India; determinants of migration in Malaysia; regional differences of urbanization in Thailand; rural-urban differentials in Sri Lanka; family migration patterns in the Philippines; and return migration in Indonesia.

## **The Role of Policy in the Demographic Transition**

*Coordinators:* Lee-Jay Cho, Lyle Saunders, Dennis Chao

*Participants:* Flora Aguinaldo, M. Anwar Chaudry, Colin Goodrich, Muhiuddin Haider, Marjorie Horn, Moon-Kil Hyun, Mohammad Kamiab, Kazuye Kumabe, Donald Lee, Suk-Ryoon Lee, June Misa, Bina Pradhan, Robert Saunders, Chupensri Wongbuddha

The workshop focused on the implications of the demographic transition on population policy in the Asian and Pacific region. The main objective was to identify policies likely to lead to a fertility decline in countries with high birth rates. The first week was devoted to general reading from an extensive bibliography, several lectures by the coordinators on population policy, and the formulation of research topics by the participants. In the following two weeks participants discussed and evaluated the topics and analytic methods planned for the research. In addition, each participant selected an important topic from the bibliography and was responsible for leading a workshop discussion on the topic. The workshop culminated in a final round of reports and submission of a written statement of a possible research project by each participant.

## Census and Survey Measurement

*Coordinator:* Michael Levin

*Participants:* Magdalena Cabaraban, Sant Ram Gupta, Allen William Harden, Jong-kwon Im, Ichiro Iwama, Motahar Hussain, Amorn Kongpun, Linda Martin, Normah Mohd. Aris, Alvin Onaka, Jae Young Park, Forrest Pitts, and Richard Storm

The workshop consisted of presentations and activities on census and survey procedures. The 1974 Census of American Samoa was used as an example. Richard Storm discussed census questionnaires, Philip Hauser described various sampling techniques, Forrest Pitts described techniques for obtaining data for aerial maps, and Minja Choe discussed the application of the own-children method of fertility estimation to American Samoan data. Workshop participants analyzed recent census data compiled in Cho's *Introduction to Censuses of Asia and the Pacific: 1970-74* and worked together to develop an Asia-wide questionnaire and enumerator's manual for the 1980 round of censuses.

# Agenda, Seoul portion of Seminar

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## KOREAN INSTITUTE FOR FAMILY PLANNING

MONDAY, JULY 12

### MORNING SESSION

Dr. D.W. Han, Director  
Korean Institute for Family  
Planning (KIFP)

Dr. S.H. Park, Vice Minister  
Ministry of Health and Social Affairs

Mr. D.P. Barrett, Representative  
USAID/Korea

Dr. Lee-Jay Cho

**Opening Ceremony**

Opening Address

Congratulatory Address

Congratulatory Address

Greeting

### **Lectures and Presentations**

Introduction to the Korean Institute for  
Family Planning

Film Showing: "Toward a Self-Support-  
ing Economy"

Mr. M.S. Hong, KIFP

### AFTERNOON SESSION

Dr. K.H. Han, Director  
Bureau of Maternal and Child Health  
Ministry of Health and Social Affairs

### **Lectures and Presentations (continued)**

The National Family Planning Program  
in Korea

Observation of the Population and Fam-  
ily Planning Exhibit Hall, KIFP

TUESDAY, JULY 13

### MORNING SESSION

Dr. K.C. Han, Professor  
College of Business and Economics  
Yonsei University

### **Lectures and Presentations (continued)**

Population and the Economy

Dr. K.C. Ahn, Director  
KIFP

Induced Abortion and the MCH Law in  
Korea

Dr. S.H. Yun, Director  
Community-Based Distribution  
Project  
Planned Parenthood Federation  
of Korea

Information, Education and Communi-  
cation Activities in Family Planning and  
Mothers' Club Activities in Korea

**AFTERNOON SESSION**

**Lectures and Presentations (continued)**

Dr. S.J. Lee, Director  
Korean Institute for Research in  
the Behavioral Sciences

The Value of Children to Parents: A  
Cross-Cultural Study

Dr. Chai Bin Park

The Fourth Korean Child

*Moderator:* Dr. Chai Bin Park

Panel Discussion on the Policies of  
Family Planning Programs in Asian  
Countries

**WEDNESDAY, JULY 14**

**MORNING AND AFTERNOON**

**Field trip to Demilitarized Zone**

**KOREA DEVELOPMENT INSTITUTE**

**THURSDAY, JULY 15**

**MORNING SESSION**

**Lectures and Presentations**

Mr. J.J. Yoon, Professor  
Seoul Women's College

Characteristics of Rural-Urban Migration  
in Korea

Dr. H. Cho, Professor  
Ehwa Women's University

Women's Labor Force Participation in  
Korea

Mrs. I.S. Han, Visiting Fellow  
Korea Development Institute

Effects of Education and Migration on  
Fertility

**AFTERNOON SESSION**

**Lectures and Presentations (continued)**

Dr. S.J. Lee, Professor  
Seoul National University

Patterns of Population Behavior in  
Korea

Dr. S.U. Kim, Senior Fellow  
Korea Development Institute

Population Policy in Korea

## FRIDAY, JULY 16

## MORNING

**Guided Study Tour to Population-Related Institutes**

Population and Development Studies Center, Seoul National University

Planned Parenthood Federation of Korea

Center for Population and Family Planning, Yonsei University

Institute of Reproductive Medicine and Population, College of Medicine, Seoul National University

Korean Institute for Research in the Behavioral Sciences

Korea Health Development Institute

## AFTERNOON SESSION

**Closing Ceremony**



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# Resource persons, Honolulu portion of Seminar

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**THE EAST-WEST CENTER**—officially known as the Center for Cultural and Technical Interchange Between East and West—is a national educational institution established in Hawaii by the U.S. Congress in 1960 to promote better relations and understanding between the United States and the nations of Asia and the Pacific through cooperative study, training, and research. The Center is administered by a public, nonprofit corporation whose international Board of Governors consists of distinguished scholars, business leaders, and public servants.

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