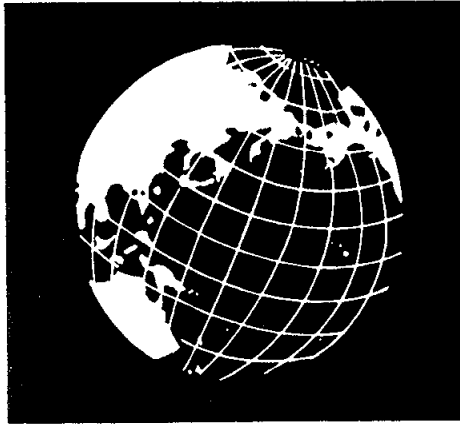


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Saudi Demand for Filipino Workers: Labor Migration Issues in the Middle East

by John E. Smart

The 1973 oil price increase, and subsequent increase in oil revenues, prompted the capital-rich, oil-exporting countries of the Middle East to embark on enormous industrial and social welfare programs. As highlighted by Birks and Sinclair (1980), the main obstacle to the ambitious plans of these countries was the small size and lack of technical skills of their indigenous populations. Consequently, large numbers of skilled and unskilled workers were imported to construct and staff the development projects. At present, there may be as many as

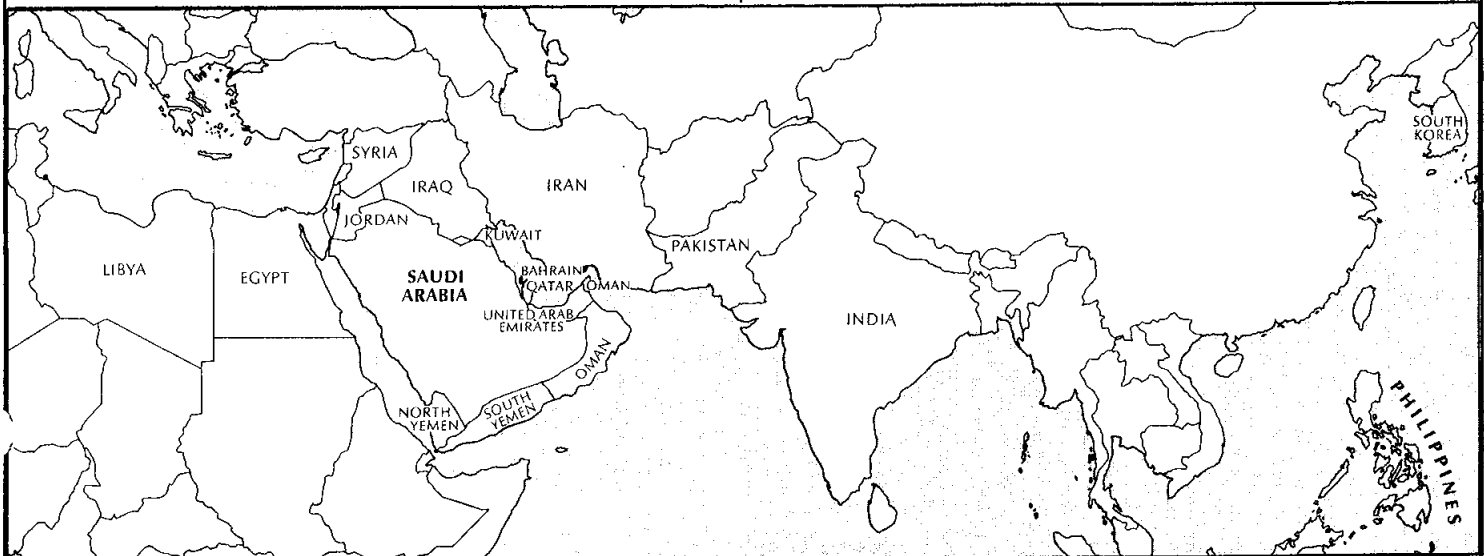
three and a quarter million foreign workers employed in the Middle East. Over 40 percent of these recruits are in Saudi Arabia.

This article focuses on the large number of Filipinos presently employed in the Middle East. In 1981 the Philippine Ministry of Labor and Employment processed over 183,000 Middle East workers. Such numbers lead to the question: why are Filipinos, workers from a great distance and from a strikingly different linguistic, religious, and cultural background, in such demand? This question is addressed here in reference to structural features of the Middle East, labor markets generally, and the political economy of Saudi Arabia specifically.

The presentation moves from a brief consideration of the Philippines as a supplier of foreign labor to an enumeration of those social, political, and economic features of Saudi Arabian development that make Filipino workers particularly attractive. This emphasis on labor demand, as opposed to labor supply, reflects a general theoretical priority. As W. R. Böhning expresses it:

Speaking of the essence of the determinants of temporary economic migration, it is evident that there cannot be any emigration without

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immigration opportunities elsewhere—the intending immigrants . . . will not be admitted or employed unless there is an explicit demand for their labor or unless their presence due to lax controls is taken to reflect a genuine economic demand. . . . It therefore follows that international economic migration is, explicitly or implicitly, determined by the economic demand for foreigners (Böhning 1981:32).

Philippine Overview

While the Philippines has a long history of permanent emigration, particularly to the United States, involvement in temporary labor circulation started after the Second World War. At the time, the American military, as well as independent contractors, hired Filipinos for work on Pacific islands like Wake, Guam, and Okinawa. As with Middle East development, this participation was necessitated by the small size of the local populations and their lack of relevant skills.

When the Korean War broke out, the American military again recruited Filipino workers whose construction skills and fluency in English made them preferable to Korean labor. This pattern surfaced again, only more dramatically, in the Vietnam War. In this case, the demand was so great that American contractors set up recruitment offices in Manila. The subsequent exodus of skilled labor drew complaints from local employers and stimulated the government to formulate a specific policy about overseas remittances.

In the course of the last decade, the Philippines has become a temporary labor exporter par excellence. Unemployment, underemployment, and low wage levels have conjoined with aspirations of affluence to create a surplus of workers ready and willing to seek temporary employment overseas. Wages five to ten times greater than those earned in equivalent Philippine positions are a major incentive. High levels of educational attainment, as well as modern- and productive-sector experience, prepare Filipinos for all types of overseas skill demand.

Importantly, for the purposes of generating foreign exchange, propping up an ailing construction sector, and easing the burdens of unemployment, the Philippine government is

committed to labor export. Government agencies like the Overseas Employment Development Board (OEDB), the Bureau of Employment Services (BES), and the National Seamen Board (NSB) were specifically empowered to process overseas contracts, license recruitment agencies, seek new labor markets, and protect workers' interests. Recently, the functions of these separate offices have been subsumed within a single body, the Philippine Overseas Employment Authority (POEA). In summary, the conditions and ambitions of Filipino workers, in conjunction with the active support of their government, have enabled a massive numerical response to overseas demand despite the very long distances to labor markets.

Filipino workers are found in almost every country in the world. There are large numbers of construction workers in Saudi Arabia, lumbermen in Indonesia, domestic helpers in Hong Kong and Italy, hotel workers in England, doctors and nurses in the United States, school teachers in Nigeria, and entertainers in Japan. During the period 1975 to 1981, the number of overseas contract workers processed through the Philippine Ministry of Labor and Employment increased from 36,022 per year to 266,243, an average annual growth rate of 40 percent.

Any estimates of overseas worker stocks must be calculated relative to outflow figures. This is because there is no monitoring of return rates. While outflow figures include an increasing pool of workers who have only been promised overseas positions by labor recruiters, as well as a number of rehires, it is known that many workers renew their overseas jobs informally and are not necessarily counted in the statistics. Furthermore, these statistics do not include Filipino workers who obtain permanent residence visas in the country of employment or the very substantial number of workers who go abroad unofficially or on tourist visas. For these reasons, there is considerable divergence in official estimates of overseas stocks of temporary workers.

In an earlier description of Filipino manpower export, Abella (1979:55-6) suggested a stock estimation formula in which it was assumed that workers stay abroad for a maximum of five years and the return flow is spread evenly over this period. In other words, there is a 20 percent per year rate of permanent return. Applying this formula to official placement figures produces an estimate of approximately 475,000 Filipinos in temporary employment overseas. (This figure includes sea-based workers placed by the NSB.)

The most notable feature of the growth of overseas employment is the increasing dominance of the Middle East market. Whereas Middle East recruits accounted for 40.6 percent of the 1976 land-based worker placements, they comprised 87.0 percent of the 1981 total. Table 1 shows the distribution of these workers. Each Middle East country has a different history involving a different set of circumstances with respect to the employment of Filipinos. For example, while only 582 workers were sent to Iran in 1981, this country was one of the first in the Middle East to hire substantial numbers of Filipinos. Despite political turmoil and the consequent need to evacuate many workers, a stock of 3,000 Filipinos is still believed to be

(continued on page 10)

IN THIS ISSUE

Working from the incomplete and sometimes conflicting data available, **John Smart**, in **Saudi Demand for Filipino Workers**, presents some important issues in labor migration to the Middle East. Page 1.

Stoto, de León, and Ewbank give us special **Plotting Paper for Brass Life Table Analysis**. More than a technical note about the paper, the article provides samples that readers can duplicate on a copier and use to test their own life tables. Page 5.

Alice Harris devotes **Publications That Count** to a review of **Lawrence A. Brown's** study of *Innovation Diffusion*. Page 15.

On page 16, we have a report by **Chi-Hsien Tuan** on the largest census in history—**Counting China's Billion People**.

ENUMERATIONS

INDIA

The following is a condensed version of a report on India's PEC sent to the Census Forum by P. Padmanabha, Registrar General and Census Commissioner.

□ A Post Enumeration Check (PEC) was conducted soon after the 1981 census to assess the extent of omission and duplication in the census. Fourteen major states and the Union Territory of Delhi, which together accounted for 97 percent of the censused population, were covered in this survey.

The objective of the PEC was to determine the coverage error and the content error; that is, how accurate was the census count and how precisely were the important characteristics of individuals recorded?

Four thousand enumeration blocks were systematically selected for the PEC from the frame of enumeration blocks prepared for the national census. These were allocated to the various states in proportion to the projected population on the census date (1 March 1981). The PEC was not conducted in Assam, where disturbed conditions had prevented the census from being taken. Thus the effective sample size was 3,862 enumeration blocks.

The coverage error was of two types: omission or duplication of persons due to omission or duplication of entire households (type I error); and omission or duplication of individuals in a censused household (type II error). For measuring type I error, all households in the sample block were relisted. A 10 percent subsample was selected from each block for checking type II coverage error. For content error, a 10 percent subsample of households in 50 blocks in each state was canvassed.

The PEC proceeded in three stages: listing and enumeration, desk match between PEC and the corresponding census records, and field reconciliation. In the first stage, all the houses in the selected enumeration block were listed and members of the 10 percent subsample of households were reenumerated. The particulars collected regarding each household were matched with those in the corresponding abridged houselist of the enumeration block. A match was established if house number, the use to which the house is put, and the name of the head of household tallied. The particulars of the individuals in the selected household were compared with the corresponding census records entry by entry to see if name, relationship to head of household, and marital status tallied. Wherever the particulars did not match, a fresh team revisited the enumeration block to reconcile the discrepancies. After this stage, every household and person was classified as enumerated in the census, omitted in the census, or duplicated in the census.

Most of the supervisors and enumerators were drawn from the office of the state Director of Census Operations. This core group was supplemented by fresh recruits wherever needed. In a few states, experienced investigators of other agencies, such as the Bureau of Economics and Statistics, were also involved. On the basis of work norms and available resources, it was decided that each enumerator would canvass the schedules in two enumeration blocks. To ensure independence of operations, enumerators were interchanged in such a manner that

persons doing basic relisting and reenumeration did not do desk match or field reconciliation of the same block.

The salient results of the PEC show a net undercount in the census. The net omission rate is 17.95 persons per thousand with a percentage relative standard error (PRSE) of 4.69. The difference between the net omission rates for males and females is not significant: for males the rate is 17.10 per thousand, and for females 18.85 per thousand. The rural-urban difference, however, is significant. In the rural areas, the net omission rate is 15.0 per thousand, while in the urban areas it is 27.6 per thousand.

Omission rates by age groups were derived from the PEC and show that they are highest for the 0-4 age group (26.98 per thousand). Omission rates do not differ significantly by literacy: they are 17.75 per thousand for literates and 18.06 for illiterates. The omission rate is 11.53 per thousand in the case of members of nuclear families and 39.86 per thousand for others. (A nuclear family is defined as consisting of the head of a household, the wife or husband, and sons and daughters.)

The accompanying tables show omission rates for five zones of the country and omission rates by marital status.

Omission Rates by Zone for the 1981 Census of India (per thousand)

	Female	Male	Total
Central	28.64	22.66	25.50
Northern	23.20	19.70	21.81
Western	16.95	17.09	17.03
Southern	14.71	15.55	15.14
Eastern	11.95	11.52	11.72
All India	18.85	17.10	17.95

Central Zone: Madhya Pradesh and Uttar Pradesh
 Northern Zone: Delhi, Haryana, Punjab, and Rajasthan
 Western Zone: Maharashtra and Gujarat
 Southern Zone: Andhra Pradesh, Karnataka, Kerala, and Tamil Nadu
 Eastern Zone: Bihar, Orissa, and West Bengal

Omission Rates by Marital Status for the 1981 Census of India (per thousand)

	Female	Male	Total
Widowed, divorced, or separated	25.51	17.92	23.64
Never married	19.85	20.51	20.20
Married	16.65	12.53	14.65

SRI LANKA

□ The Census and Statistics Department has been commissioned to undertake a contraceptive prevalence survey in a major effort to build a new data bank for family planning policy-makers and administrators. The survey will interview 6,500 ever-married women 15-49 years old.

Female interviewers who have been specially trained for this survey will ask questions on the children these women al-

ready have, their desire for more children, their knowledge and use of contraceptives, and the availability and proximity of sources of supply.

The Census Department previously carried out assignments like the World Fertility Survey in 1975 and the World Bank fertility survey in 1979.

The 1975 fertility survey indicated that the use of modern contraceptive methods was low compared with the level of contraceptive knowledge and the desire to cease child-bearing. In that year as many as 75 percent of the women sampled had heard of the pill and 82 percent had heard of female sterilization. In spite of these high figures, only 2 percent of the then-married, nonpregnant women were pill users and only 13 percent had undergone sterilization.

According to the Director of Census and Statistics, Mr. W. A. S. Pieris, the data from the new survey, which commenced in March, will indicate the extent of contraceptive use in the country and help to evaluate family planning programs, check service statistics, and identify areas where such services are necessary. The data will be analyzed with the following aims in view:

- To measure the knowledge and current use of contraceptives in the urban, rural, and estate sector;
- To describe the choice of contraceptive method, source of contraception and access to services, and to determine the reasons for women not using a contraceptive method;
- To identify the reasons that facilitate or hinder contraceptive use such as knowledge of source of supply, travel time, etc.;
- To validate program service statistics on the number of contraceptive users;
- To determine for non-users who want to space or limit the number of their children what contraceptive method they prefer and their access to the method;
- To estimate fertility levels in the urban, rural, and estate sector.

[Daily News in Asia-Pacific Population Programme News]

INDONESIA

□ The Government of Indonesia has appointed Azwar Rasjid Director General of the Central Bureau of Statistics. He succeeds Abdulmadjid, who retired in May. The *Census Forum* congratulates Mr. Rasjid on his appointment and wishes Mr. Abdulmadjid a very pleasant retirement.

□ A new modular approach to population and family planning research will be conducted throughout Indonesia starting in July 1982. The project is funded by the National Family Planning Coordinating Board (NFPCB) and consists of five packages—socioeconomic characteristics of the population; contraceptive participation; contraceptive continuation; nutrition, morbidity, and mortality; and fertility. At the provincial level, the local NFPCB and the local university will work together in implementing the project. The data sample from South Sumatra, one of the largest provinces, will be approximately 4,000 respondents, larger than the samples from other provinces. Implementation of the project in South Sumatra will be carried out by the Population Research Centre, Srisijaya University, headed by Dr. Siti Zainab Bakir. [Imron Husin in *Population Headliners*]

AUSTRALIA

□ Preliminary results of the 1981 Census of Population and Housing were published on 1 April 1982 by the Australian Bureau of Statistics (ABS). The results showed a total population of 14,926,800 with an increase of 893,700 between 1976 and 1981. This represents an average annual growth rate of 1.24 percent. [Orlando B. Di Iulio in ESCAP's *Population Headliners*]

REPUBLIC OF KOREA

□ The Korea Institute for Population and Health (KIPH), in an effort to contribute to the policy making process of the government, has decided to undertake 19 research projects, one demonstration project, and training programs as its major activities for 1982. In the area of population, the main activities will include a study on population distribution in large cities, a study on population quality and health, evaluation and development of population policy, and collection of raw data through surveys. Activities in the area of health services include a study on regionalization of the nationwide health care delivery system, a survey of health and medical utilization in high risk areas, a study on management of health and medical systems, studies on health education and medical insurance, and improving the information flow system. [KIPH *Bulletin* reported in *Population Headliners*]

UNITED STATES

□ At the Population Association of America's 51st annual meeting held in San Diego last Spring, Robert Warren of the U.S. Census Bureau put forward a new method of estimating the number of illegal aliens residing in the U.S. The method compares the legally admitted U.S. alien population, based on Immigration and Naturalization Service (INS) statistics, with Current Population Survey (CPS) estimates of the foreign-born and alien population. Employing this method, Warren found that the CPS estimated some 1.1 million more aliens than INS in 1970 and 1.2 million more in 1979. Further, the age distribution of the surplus is in the younger ages and tends to come from Mexico (3/4 million). None seem to be from Canada. Warren calls the over 1 million illegals believed to be counted by this method from the November 1979 CPS a minimum estimate. The method is exploratory, but refinements are underway. That such data can be culled from the CPS highlights the utility of periodically collecting data of foreign-born population via the CPS, and could provide a means for monitoring the illegal population in the future. [Intercom]

MALAYSIA

□ A study of Malaysian culture and fertility conducted by the National Family Planning Board (NFPB) concluded that investing in a wife's education would go a long way towards bringing the national growth rate down to the target of 2 percent by 1985. The study indicated that the number of children in a family is governed mainly by the wife's education, and couples with the highest educational attainment have fewer children.

In addition to wife's education, other factors affecting the

(continued on page 14)

Plotting Paper for Brass Life Table Analysis

by Michael A. Stoto, José Gómez de León, and Douglas C. Ewbank

Demographers have generally taken one of three approaches to developing mortality models. The first (mathematical) approach attempts to find a mathematical formula to adequately describe some life table function, usually the force of mortality, μ_t . Examples of this approach are the Makeham and Gompertz curves, which usually work well over age 30 but not at younger ages. Recently, Heligman and Pollard (1980) developed a six-parameter model for the complete age span, but no simpler version seems adequate.

The second (empirical) approach attempts to statistically develop a set of numerical life tables that cover the range of observed tables. For many populations, the United Nations (1955), Coale and Demeny (1966), and Clarin et al. (1980) models are quite successful, but the numerical form constrains the flexibility and ease of application of these systems.

The third (relational) approach was proposed by Brass (1975) and is based on the fact that many human life tables can be related to a standard life table by an appropriate linear transformation. Let l_x and l_x^s represent the proportion surviving to exact age x in the observed and the standard life tables respectively, and $\text{logit}(p) = 0.5 \ln[p/(1-p)]$. Then Brass's model is

$$\text{logit}(1 - l_x) = a + b \text{logit}(1 - l_x^s) \quad (1)$$

Brass has developed two standard life tables, l_x^s , one for general application, and another specifically for African data. The two standards, which differ only under age 10, appear in the accompanying table. The linearity of the relationship leads to two results: First, it allows us to describe life tables with two simple and interpretable parameters (a corresponding to level of mortality, and b to the relation between rates of younger and older ages), and offers more flexibility than model life tables. Second, it leads to an informative visual test of adequacy of the model for a particular life table by plotting $\text{logit}(1 - l_x)$ versus $\text{logit}(1 - l_x^s)$. This plot is not difficult to make with regular graph paper and a hand calculator, but we present a special paper in this article that greatly simplifies the process.

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Checking for Linearity

Figure 1, a blank graph, is similar to normal probability plotting paper. The vertical lines on the graph correspond to values of $\text{logit}(l_x^s)$ for Brass's general and African standards for ages 1, 2, 5, 10, 15, . . . , 75. The diagonal lines correspond to values of $\text{logit}(1 - l_x)$ for the life table to be plotted. Values are given on the left and right vertical axes.

To plot a point, say $l_{10} = 0.955$, first locate the vertical line for age 10. Then mark the intersection of this vertical line and the diagonal line corresponding to $l_x = .955$. For values of l_x less than 0.7, the diagonal lines are indexed on the inner right vertical axis. For l_x values that do not exactly correspond to a diagonal line, interpolation should suffice. Since the vertical lines are set at the exact values of l_x^s , interpolation is not necessary. To plot an entire life table, simply work from left to right, plotting each succeeding l_x value on the next vertical line.

The amount of work involved in plotting is reduced for two reasons. First, ruling the vertical axis in terms of l_x rather than $\text{logit}(1 - l_x)$ saves calculating that function. Second, since the values of $\text{logit}(1 - l_x^s)$ are the same in every plot, vertical rulings corresponding exactly to these values reduce the work of interpolation and searching for the proper value along the x -axis.

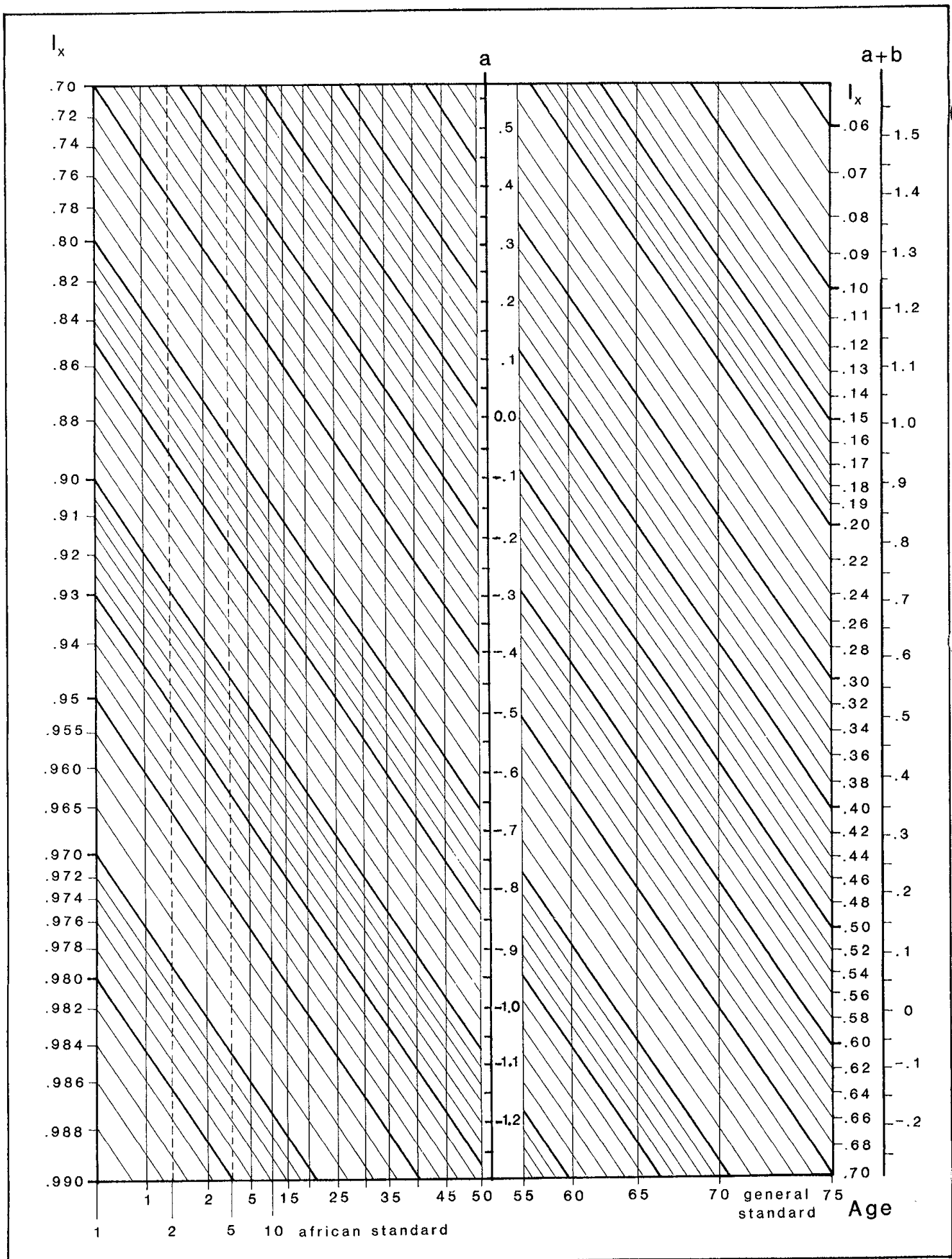
Each of the four vertical axes in Figure 1 has a special interpretation, but the actual vertical dimension in our graph, although it is not calculated explicitly, is $\text{logit}(1 - l_x) - \text{logit}(1 - l_x^s)$ minus a constant. Because the horizontal axis is spaced according to $\text{logit}(1 - l_x^s)$ rather than x , the points

(text continues on page 8)

Brass Standard Life Tables

Age x	General standard		African standard	
	l_x	$\text{logit}(1 - l_x)$	l_x	$\text{logit}(1 - l_x)$
1	0.8499	-0.8670	0.8802	-0.9972
2	0.8070	-0.7152	0.8335	-0.8053
5	0.7691	-0.6015	0.7863	-0.6514
10	0.7502	-0.5498	Same as general standard	
15	0.7362	-0.5131		
20	0.7130	-0.4551	↓	
25	0.6826	-0.3829		
30	0.6525	-0.3150		
35	0.6223	-0.2496		
40	0.5898	-0.1816		
45	0.5534	-0.1073		
50	0.5106	-0.0212		
55	0.4590	0.0821		
60	0.3965	0.2100		
65	0.3221	0.3721		
70	0.2380	0.5818		
75	0.1521	0.8591		
80	0.0776	1.2377		
85	0.0281	1.7717		

SOURCES: B. Zaba, The Four-Parameter Logit Life Table Systems, *Population Studies*, 1980, pp. 79-100; and W. Brass and A. J. Coale, Methods of Analysis and Estimation, in *The Demography of Tropical Africa*, W. Brass, ed. (Princeton: Princeton University Press, 1968).



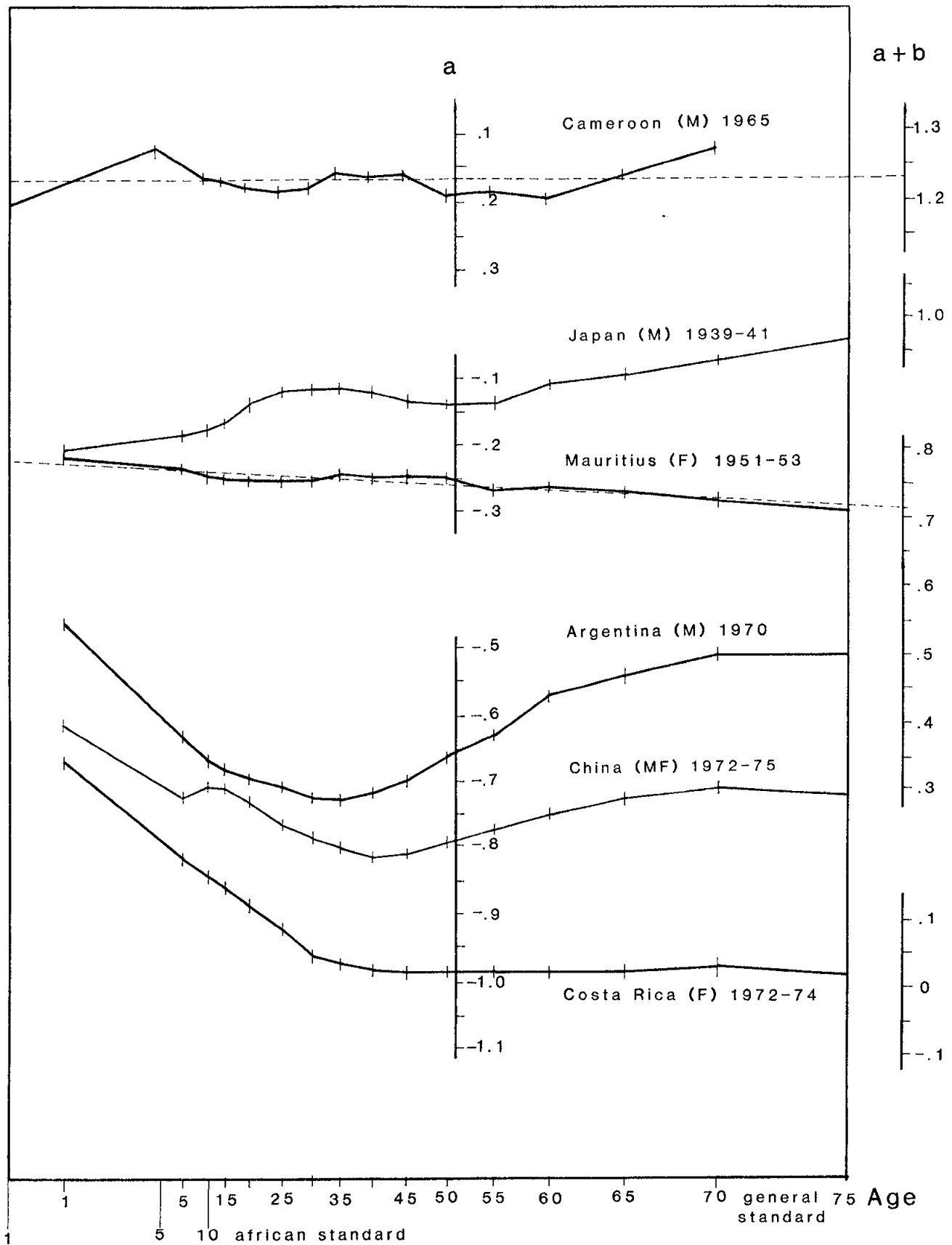


Figure 1 Graph Paper Based on Brass General and African Standards (facing page)
 Figure 2 Plots of Six Life Tables (above)

corresponding to $\ell_x = 0.7$ fall on a diagonal line. (If the vertical and horizontal scales were the same, the lines would be at an angle of 45 degrees.) If a life table exactly follows the Brass model (Equation 1), and b equals 1.0, then $\logit(1 - \ell_x) - \logit(1 - \ell_x^s) = a$ for all ages, and a horizontal line results. If b is not equal to 1.0, $\logit(1 - \ell_x) - \logit(1 - \ell_x^s)$ is

$$a + b \logit(1 - \ell_x^s) - \logit(1 - \ell_x^s) = a + (b - 1) \logit(1 - \ell_x^s) \quad (2)$$

a line with slope $(b - 1)$ in terms of the underlying dimensions, $\logit(1 - \ell_x) - \logit(1 - \ell_x^s)$, and $\logit(1 - \ell_x^s)$. The result of the choice of axes, then, is to emphasize residual differences of empirical life tables from Brass's standard.

Using diagonal lines for the ℓ_x values serves two functions. First, since many life tables have b close to 1, plotted lines are frequently nearly horizontal and thus discrepancies are relatively easy to detect. Second, orienting the axes in this way eliminates the necessity for points for ℓ_1 values of less than 0.7 (very unusual values). We are thus able to expand the vertical scale for higher resolution. Note that only values of ℓ_1 greater than 0.7 and ℓ_{75} less than 0.7 appear on the graph. We chose this range to maximize the vertical scale, yet it allows us to plot most observed human life tables.

Since we are frequently interested in checking for linearity, once the data are plotted only the axes are necessary. In fact, Tukey (1977) suggests that the graph-paper rulings may even confuse the eye. To remedy this, we suggest the use of tracing paper. Slip a copy of Figure 1 under the top sheet of a pad of tracing paper, and transfer the vertical and horizontal axes and enough tick marks to keep track of a , b , and the ages. Then plot the ℓ_x points. The resulting plot is undisturbed by unnecessary vertical, horizontal, and diagonal rulings and is thus easy to examine for linearity.

The linearity of Brass's relation between observed and standard life tables leads to simple visual diagnostics of lack-of-fit. If one or a few points are off the line, a plot of $\logit(1 - \ell_x)$ versus $\logit(1 - \ell_x^s)$ helps to identify them for more detailed examination. Curvature in the plot indicates more basic lack of fit.

Figure 2 shows five life tables selected from the OECD collection of Clarin et al. (1980) and the "unadjusted" China life table from Banister and Preston (1981). The life table for Mauritius females in 1951-53, when compared to the general standard rather than the African standard, yields a virtually straight line, indicating an exceptionally good fit. The life table for Cameroon males in 1965 is reasonably straight, but shows fluctuations that could possibly reflect reporting errors rather than systematic differences from the Brass African standard. Japan also shows a reasonably straight line with minor departures from the general standard. In contrast, the remaining three graphs exhibit strong systematic departures from linearity, indicating the inappropriateness of Brass's standards.

Ewbank, Gómez de León, and Stoto (1981) have developed a general four-parameter extension of Brass's relational model which can represent upward or downward twists at either end of the plotted line. For instance, one of the additional parameters describes curvature at the young ages, such as we see in

the graph for Costa Rica. The Argentina and China data would require the full four-parameter model.

Visual Estimates of Parameters

The markings on the central and right-hand vertical axes allow quick visual estimates of the parameters a and b . One must first fit a line by eye to the plotted points. If the plotted points are close to linear, fitting by eye is quite accurate. More precise values can be calculated by least squares regression, or by putting a line through the means of the upper and lower halves of the data.

The central vertical scale is located at age 51 where $\logit(1 - \ell_x^s) = 0$, so according to Equation 2 the height of the fitted line at this point is a . Thus, read off the value of a at the intersection of the fitted line and the central scale.

We have designed the paper so that life tables with $b = 1.0$ relative to Brass's standard appear as horizontal straight lines. The extreme right vertical axis is located at age 77 where $\logit(1 - \ell_x^s) = 1.0$. From Equation (2), the height at the point is $a + (b - 1)1 = a + b - 1$. The scale on the axis is offset by 1, so the fitted line intersects the rightmost vertical axis at the value $(a + b)$. To estimate b , read off the estimate of $(a + b)$, then subtract the estimate of a .

As an example, consider the Mauritius life table in Figure 2. The figure includes an eyefitted line that intersects the central axis at $a = -0.26$. The line also intersects the right vertical axis at 0.72, so the estimate of b is 0.98. A similar procedure for Cameroon yields $a = 0.23$ and $(a + b) = 1.23$, therefore $b = 1.00$.

Other Standards

Similar graph paper can of course be constructed for any standard life table. The diagonal lines would be the same and only the spacing of the vertical lines would change. Figure 3 provides graph paper with diagonal lines as in Figure 1, but evenly spaced tick marks on the horizontal axis. To use this paper, first calculate $\logit(1 - \ell_x^s)$ for the new standard, then use these values for the horizontal plotting locations. Vertical lines can be drawn at the appropriate locations to simplify the identification of points to be plotted.

Conclusions

The Brass graph paper in Figures 1 and 3 simplifies the evaluation of whether a particular life table resembles a Brass standard. The comparison is direct and informative, and leads to sensible choices about the use of Brass's relational system. Furthermore, direct visual estimates of the parameters can be obtained. □

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I_x

I_x

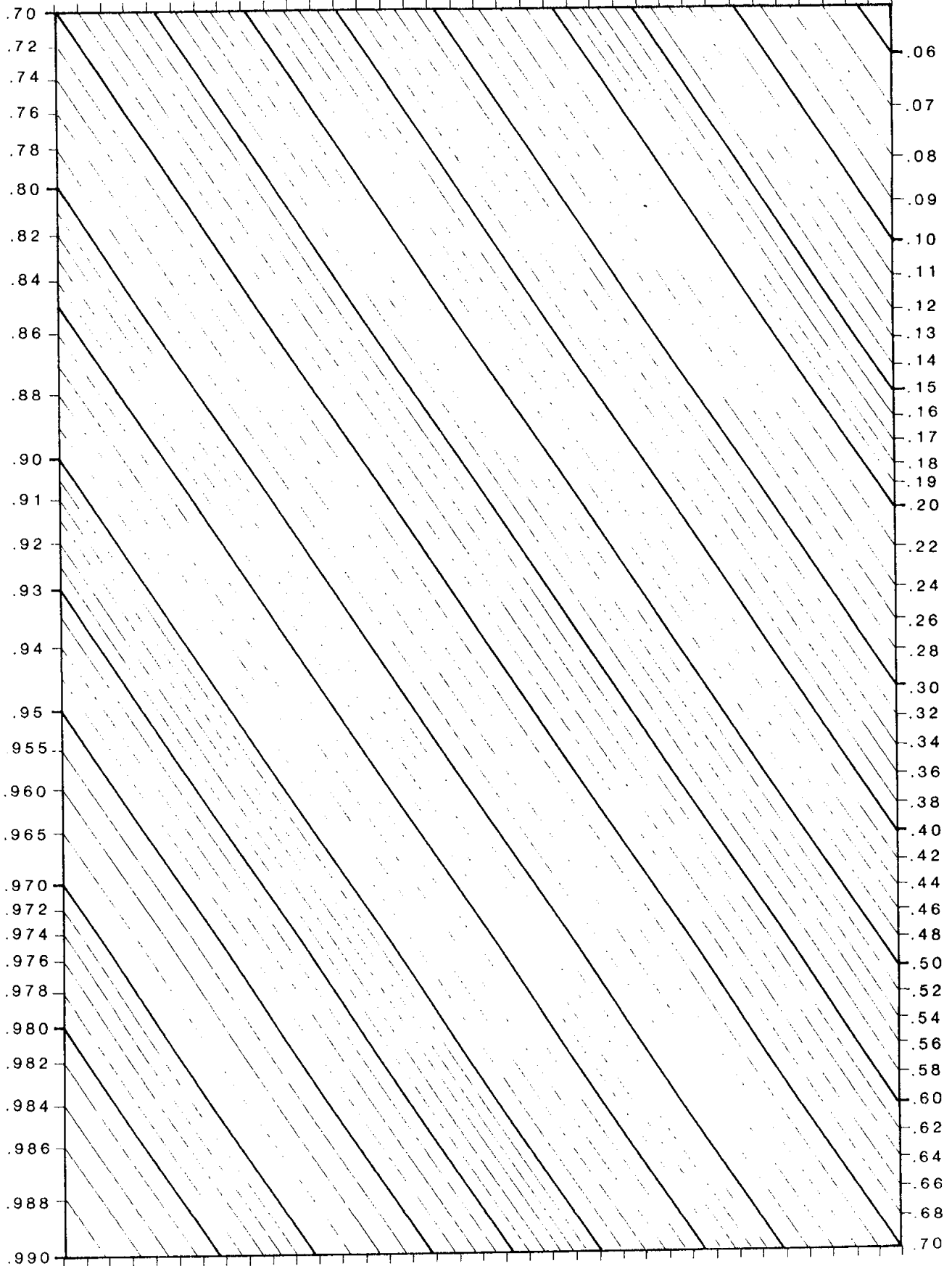


Figure 3 Graph Paper for an Arbitrary Standard

veloping Countries. Tome III (Vols. V and VI) of *Mortality in Developing Countries*. Paris: Development Centre of the Organization for Economic Co-operation and Development.

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SAUDI DEMAND FOR FILIPINO LABOR (continued)

in Iran. By contrast, the Iraq market only recently opened up and 1981 figures represent a 311 percent increase from 1980. As shown in Table 1, Saudi Arabia holds a position of central importance as a country of employment. In terms of all overseas worker placements for 1981, Saudi Arabia accounts for 53.2 percent of the total.

Middle East Overview

In the early years of the Middle East boom, bordering Arab countries answered the call for labor and skills. These capital-poor countries had, in most cases, high levels of unemployment and underemployment, and worker remittances promised to improve foreign exchange levels. Government support, proximity, and a common language and cultural heritage ensured an immediate and massive response to employment opportunities. Birks and Sinclair (1980:114) predicted that migrant labor from poor Arab countries would peak at 1.7 million in

Table 1 Middle East Placements of Filipino Workers by Country of Employment (1981)

Country	Number	Percentage
Bahrain	2,600	1.4
Iran	582	0.3
Iraq	20,317	11.1
Jordan	799	0.4
Kuwait	3,347	1.8
Libya	4,584	2.5
Oman	937	0.5
Qatar	625	0.3
Saudi Arabia	141,678	77.2
United Arab Emirates	6,538	3.6
Other Middle East countries	1,583	0.9
Total	183,590	100.0

SOURCE: Unpublished data held at the Labor Statistics Service (LSS) of the Philippine Ministry of Labor and Employment. Seamen or placements from the National Seamen Board are not included in this table.

1980. This estimate does not, of course, include the large number of dependents accompanying the workers.

In time, particular stresses and strains made further reliance on Arab labor less attractive. Seasonal agricultural commitments in the country of origin, as well as family responsibilities, created a high labor turnover. In addition, labor-sending countries, like Egypt, Jordan, Syria, and Yemen, experienced debilitating shortages of skilled labor and these governments came to look less favorably on labor export. Such issues, in conjunction with the almost insatiable labor appetite of the development projects, prompted oil-exporting governments to look further afield. The labor vacuum was almost immediately filled by very large numbers of workers from Pakistan, India, and Bangladesh. In the later-developing Gulf States, like Bahrain, Kuwait, and the United Arab Emirates (UAE), such workers now dominate the labor force. The size of the stock of Middle East workers from the Indian subcontinent is underlined in a 1981 report by the Pakistan Institute of Development Economics in which the number of Pakistani workers alone is estimated at almost one and a quarter million (Gilani, Khan, and Iqbal 1981:10).

Over the past few years, labor preferences in the Middle East have shifted again. Relatively large numbers of workers are now employed from South Korea, the Philippines, and to a lesser extent, from Thailand, Indonesia, and Malaysia. Korean workers are a somewhat special case in that their presence follows from successful bidding by Korean companies for major development projects. Government assistance, in conjunction with the low cost and high productivity of Korean labor, enabled Korean firms to penetrate the very competitive Middle East construction market. At the same time, the continued deployment of skilled workers to the Middle East has been slowed by passport restrictions designed to protect the Korean home economy. It is reported that Korean firms are now seeking the services of Filipino labor. While statistics about Korean labor participation are difficult to obtain, reports by recruiters in Manila suggest that Filipinos in the Middle East now outnumber their Korean counterparts.

Statistics for 1980 released by Saudi Arabia's government labor office and reported by the Economist Intelligence Unit (1981a:6-7) give the following estimates for foreign labor presence in the Saudi workforce: North Yemen, 600,000; Egypt, 250,000; Pakistan, 200,000; South Korea, 80,000; Philippines, 70,000; and United Kingdom plus United States, 30,000. It is believed that these official statistics are underestimates resulting from political sensitivity about the presence of foreign labor. The Economist Intelligence Unit, for example, placed the 1980 total at 1.5 million.

As might be expected, there are varying reports regarding the number of Filipino workers in Saudi Arabia. Applying Abella's formula to official outflow figures leads to an overestimate because adverse work conditions increase the rate of return, the number of undocumented workers is low, and a large pool of processed but still unplaced workers can be presumed to exist. Using a three-year, instead of five-year, maximum period of employment and granting a failure to place 20

percent of the workers processed in 1981, a stock figure of approximately 205,000 is obtained. Even if the foreign workforce figures supplied by the Economist Intelligence Unit are increased by 10 percent, it is estimated that, in 1981, Filipino labor constituted 12.4 percent of the foreign workers in Saudi Arabia.

Issues Affecting the Demand for Filipino Labor

An understanding of the Middle East labor market must make reference to changing social, political, and economic realities. The following description elaborates on eight interdependent issues that have paved the way for increased Filipino participation in Saudi Arabian development.

American Presence

An early factor in the employment of Filipino labor was the long-term presence of American oil companies and construction contractors in Saudi Arabia. When the Saudi government adopted a more culturally open manpower policy, Filipino workers, because of previous ties with the American military and independent construction companies, already had a foot in the door. Of course, since the early seventies, the American business presence in Saudi Arabia has been diluted by the participation of British, Dutch, French, German, Japanese, and Korean companies. At the same time, an awareness of the advantages of Filipino labor has been passed on to these firms. Even with the nationalization of development and the growth of Saudi administration, the hiring of Filipino workers continued unabated.

Workforce Domination

One reason for the relaxation of cultural restrictions in Saudi Arabia's manpower policy was that country's fear that the workforce would be dominated by one group of foreigners. The small indigenous populations of oil-exporting countries, in conjunction with the massive labor requirements of industrial development, have created a context in which foreign workers equal or outnumber national workers. Birks and Sinclair (1980) estimate that the proportion of foreigners in the workforce ranges from 40–50 percent in Saudi Arabia and Bahrain to 70 percent in Kuwait, 80 percent in Qatar, and 85 percent in the UAE. Even these percentages must be analyzed with reference to specific workforce characteristics. For example, while Saudi nationals form a majority of the total workforce, more than 50 percent of Saudi workers are still employed in the traditional sector as farmers and fishermen (Birks and Sinclair 1980: 76). As a result, participation in the productive and modern sectors of the economy is dominated by non-Saudi workers.

In Saudi Arabia, an absolute monarchy, officials are very sensitive to the presence of Palestinians and workers from such left wing regimes as Syria, Iraq, and South Yemen. The numerical dominance of foreign labor has given rise to economic fears of becoming dependent on workers from a single country and political fears about internal security. The example of Iran, where an uprising sponsored by a conservative Islamic sect led to the loss of political control, remains an important point of reference. For the Saudi government, riots in the Eastern provin-

ince and the 1979 siege of the Great Mosque in Mecca highlighted a need to closely monitor foreign labor. In this context, diversification of labor among different countries has been a government policy, and Filipino participation has increased as a result.

Segregation and Control

The size of the foreign workforce has made Saudi officials sensitive about the subversive effects of foreigners on the local population. Their fears of eroding cultural integrity have given rise to a seeming paradox in their attitude toward foreign workers. In part because the most sacred Moslem religious sites, Mecca and Medina, are within its territory, the Saudi monarchy sees itself as the chief protector of Arab and Islamic traditions. This leadership role places considerable pressure on officials to restrict work permits to Arab and Moslem brethren. But the same sense of responsibility makes it more difficult to resist the claims and demands of Arab and Moslem workers. Thus a preference for non-Arab and non-Moslem labor has grown because it is easier to segregate, monitor, and control the activities of these workers. Not only are they more conspicuous, but because of cultural exclusion and their limited numbers, they are far more vulnerable.

The growing presence of Filipino workers in Saudi manpower decisions reflects an attitude also found in systems of plantation labor, caste, and class. Because of cultural differences, it is much easier to treat workers as passive and disposable components of economic enterprise. Their movements can be restricted to project sites purposively located some distance away from the urban settlements, greater demands can be placed on their time, and their claims for compensation can be denied. Filipinos, however, willingly undergo such conditions for the sake of the very considerable monetary rewards.

Temporary Residence

Major cost savings accrue from the importation of temporary workers when the host country does not have to invest in their education, training, or in such continuing support schemes as permanent housing, retirement benefits, and the education and welfare of dependent wives and children. As noted by Birks and Sinclair (1980: 33–4), many foreign workers in the Middle East have been accompanied by dependents. As a consequence, there are large and enduring expatriate communities which greatly increase costs, create congestion, and hinder the transfer of workers to new job sites. For this reason, Saudi officials have not only monitored workers' length of stay, but also prevented the immigration of dependents. There have been a number of attempts at large-scale deportation, but such policies have proved unpopular and difficult to implement, especially in the case of Arab and Moslem workers.

While most Filipino workers in the Middle East are married (ILMS 1982), very few are accompanied by dependents. In cases where a husband and wife are together, it can be assumed they both have jobs; for instance, one may be a medical technologist and the other a nurse. The willingness of Filipinos to undergo long periods of separation from their families is a factor in their popularity with Saudi administrators. Because of

cultural differences, there is little question about their temporary residence. Filipino workers feel extremely restricted by Saudi attitudes condemning their favorite forms of entertainment—alcohol and informal male-female relationships.

Differentiated Skill Requirements

As a consequence of the differentiated skill requirements of development, the occupational profile of workers needed in the Middle East does not conform to the usual stereotype of migrant worker as unskilled laborer. While relatively low-paid workers performing menial and personal-service tasks are found, their presence is counterbalanced by high percentages of workers at semi-skilled, skilled, clerical, technical, administrative, and professional levels.

Educational and on-the-job-training opportunities in the Philippines ensure an availability of workers at almost all skill levels. This supply attribute is an important factor in the ability of the Philippines to meet Middle East demand. Table 2 provides an occupational profile of all land-based Filipino workers processed for overseas employment in 1981. Although Middle East placements dominate these figures, their occupational distribution differs in certain respects. For example, Ministry of Labor and Employment sources suggest that the proportion of professional and technical workers may be as low as 10.7 percent; that of service workers, 12.7 percent; and that of production and construction workers, as high as 70 percent.

Importantly, the number of unskilled Filipino laborers in production and construction is very small. In Saudi Arabia, the bulk of such workers came from neighboring Arab countries and the Indian subcontinent. By contrast, among Filipinos there are large percentages of drivers, heavy equipment operators, mechanics, work supervisors, carpenters, electricians, plumbers, welders, and masons. A majority of these workers have had more than three years experience in the Philippines (ILMS 1982). In the case of the service occupations, relatively large numbers of Filipino hotel workers, security guards, and female domestic helpers are found in Saudi Arabia. Filipinos are found in such professional and technical occupations as architect, engineer, surveyor, draftsman, doctor, nurse, and medical technician. It should be noted that the higher level

Table 2 Occupational Distribution of All Land-Based Overseas Workers Processed through Philippine Government Agencies in 1981

Occupational categories	Number	Percentage
Professional and technical	26,683	12.7
Managerial and administrative	1,812	0.9
Clerical	8,100	3.8
Sales	466	0.2
Service	33,049	15.7
Agriculture	1,322	0.6
Production and construction	139,504	66.1
Total	210,936	100.0

SOURCE: Unpublished data held at the Labor Statistics Service (LSS) of the Philippine Ministry of Labor and Employment. Seamen or placements from the National Seamen Board are not included in this table.

administrative positions tend to be held by Saudi nationals, Americans, and Europeans.

The majority of Filipinos are employed in the construction of roads, mass housing, low- and high-rise buildings, industrial plants, and telecommunications installations. In such cases, the employers are often international companies and placement is arranged through private recruitment agencies in Manila. The Overseas Employment Development Board has placed Filipinos with such Saudi principals as the Saudi Arabian Airlines, the Ministry of Public Works and Housing, the Saudi Ports Authority, the Ministry of Health, the University of Riyadh, the Saline Water Conversion Corporation, and the Saudi Basic Industries Corporation. Sizeable communities of Filipino workers are found in Dhahran, Al Jubail, Riyadh, Damman, Yanbu, and Jeddah.

Even as the construction boom slows down, as projected in Saudi Arabia's third Five-Year Development Plan (1980–85) there will be a continuing, if not growing, need for all types of maintenance workers. In other words, the demand will be, not so much for construction workers to build hospitals, but for doctors and nurses to staff them. Again, for reasons outlined above, Filipinos are available to fill such roles.

Wages and Productivity

In the early seventies, Arab administrators were inexperienced in the costing of development projects. Today, for international companies bidding for contracts, the honeymoon is over. Risks are great. The world-wide recession has exacerbated competition and Arab administrators are demanding a greater share of the profits. Stringent penalty clauses are written into time and cost agreements. In the titanic battle for such billion dollar projects as the Bahrain-Saudi Arabian causeway and the Abu-Dhabi onshore gas complex, labor cost and productivity are significant variables. In this respect, international companies are forced to adopt a global approach, and instead of importing high-cost labor from the home country, they seek labor from world regions of lowest cost.

Filipino workers are very competitive in the world labor market. Because real wages in the Philippines are low, Filipinos are willing to accept pay that makes their participation very attractive to international companies. While a survey of foreign labor costs in the Middle East is not available, a report by the British-based Economist Intelligence Unit (1981b:24) suggests that Filipino wages are "the lowest of all the South East Asian expatriate labour groups."

Although worker productivity is difficult to measure, an article in the Harvard Business Review (Apgar 1977:33) says that Middle East contractors employing local labor "should expect productivity to be markedly lower, by as much as half." By contrast, Filipinos rank high in the eyes of Middle East employers. While the disciplined, almost military approach of Korean workers may give them a productivity edge, Filipinos have a reputation for diligence, versatility, fluency in English, and ability to work harmoniously with other nationalities. An important consideration is the high level of educational achievement characteristic of Filipino overseas workers. In the case of those deployed to the Middle East, 30 percent have a

high school diploma, while more than 50 percent have either completed college or had some college training (ILMS 1982).

Labor Packaging

The early Arab response to labor demand in the neighboring oil-exporting countries was basically unorganized. Individual workers crossed the borders and individually secured employment. Birks and Sinclair (1980:108-9) have noted that the movement of labor from India and Pakistan was different because of the role played by recruitment agents, entrepreneurs who secured profits by identifying employer requirements in terms of number and skills and delivering such workers to the job site. The packaging of labor was perfected by the South Korean construction companies who not only brought their workers to the job site, but housed, fed, and catered for their welfare needs as well.

This latter pattern of "enclave" construction is popular with Arab administrators. Projects are sited some distance from the major population centers and foreign workers are expected to live in isolated, self-sufficient camps. This type of development minimizes local social disruption and greatly reduces infrastructure costs. Serageldin et al. (1981:112-16) report that the provision of workers for "enclave" construction is almost entirely in the hands of Southeast Asian labor recruiters.

Recruitment agencies in Manila can be divided into two general types: those who simply deliver workers to foreign principals and those who subcontract to service a company's labor needs. In the latter case, workers usually remain in the employment of the Philippine company, which undertakes responsibility for wage payments, worker replacements, transport costs, and injury compensation. These service contracts have considerable advantages for international companies and Middle East governments without ready access to low-cost labor regions.

Oil Leverage

The Philippines is very dependent on oil imports to meet energy requirements, and Saudi Arabia supplies 37.6 percent of all imported crude oil (NEDA 1981:122). This dependence makes the Philippines vulnerable to Saudi political pressure. For example, a major issue in the southern Philippines has been the struggle by the Moslem minority for greater autonomy, even independence. In the late seventies, Mindanao and the surrounding islands were often the scene of skirmishes between government forces and the Moro National Liberation Front (MNLF). Relative to this rift, Saudi Arabia requested that the Philippines offer its Moslem population more economic and political support. This demand was sanctioned by the suspension of a number of oil supply contracts and subsequently the Philippine government adopted a more moderate attitude toward its Moslem minority.

Such political influence gives the Saudi government greater confidence in its utilization of Filipino labor. There is, for example, less likelihood that the Philippines will recall workers because of political differences. A 1982 state visit by President Marcos to Saudi Arabia symbolized the high point of 18 years

of diplomatic relations. The present political climate suggests little impediment to the continued growth of Filipino participation in Saudi development.

Conclusion

Given the great distances and marked sociocultural differences, the magnitude of the flow of Filipino workers to the Middle East is quite remarkable. As outlined above, an understanding of this phenomenon necessitates a review of a variety of inter-related social, political, and economic issues. In the case of Saudi Arabia, the labor requirements of massive development have conjoined with political sensitivities about the social impact of foreign labor to create an expanding employment niche for Filipinos. It is expected that a continued demand for Filipino workers will build on these same foundations.

While this paper has focused more on labor demand than labor supply, a more comprehensive description of the Philippine context and the socioeconomic consequences of temporary overseas work is forthcoming. The Institute of Labor and Manpower Studies, the research arm of the Philippine Ministry of Labor and Employment, has been funded by the International Development Research Centre to complete a study on this topic. Such research, in conjunction with further reports on Arab utilization of foreign labor, provides a basis for additional insights into the character and future of temporary labor migration from Southeast Asia to the Middle East. □

ACKNOWLEDGMENTS

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ENUMERATIONS (continued)

number of children a family has are the husband's education, ethnicity, and household income. The wife's education has the strongest influence on desired family size for both Malays and Chinese, but husband's education has the strongest influence for Indians.

On the use of contraceptives, the study revealed that the higher a wife's education, the higher the contraceptive use. The higher household income group also had higher contraceptive use.

The report said the proportion of married women aged 15 to 44 who practice family planning in Malaysia has gone up from 6 percent to 36 percent in 10 years. [*Times National in Asian-Pacific Population Programme News*]

WORLD

□ The head of the Food and Agriculture Organization of the United Nations (FAO), Director General Edouard Saouma, said that world food production increased by 2.4 percent in 1981, but with marked regional differences. He told the Committee on Food Aid Policies and Programs, the governing body of the World Food Program (WFP), that Asia and the Far East enjoyed a 6 percent increase in food production and Latin America also had good harvests. In the Near East, however, there was only marginal increase in total production, and a distinct fall in production per capita. In Africa, food production rose by only 2 percent, well below the 3 percent growth in population. [North American Liaison Office of FAO reported in *Intercom*]

Announcements

CALL FOR PROPOSALS FOR VASECTOMY PROJECTS

□ The Association for Voluntary Sterilization (AVS) has announced the establishment of a special program offering funds, equipment, and technical assistance to public or private institutions in the developing countries for vasectomy projects.

The purpose of this program is to make quality sterilization services more widely available to men and to find new and innovative approaches in information and service delivery. Projects designed to initiate male sterilization services, either

through integration with existing health and population programs or as independent facilities in areas where none existed before, are especially welcomed.

AVS is a voluntary, non-profit, membership organization that for 39 years has been dedicated to providing services and information on voluntary sterilization in the United States and at the international level. Last year, AVS supported over one hundred sterilization projects in 37 countries.

All those interested in submitting project proposals on male sterilization programs should write for details to:

Vasectomy Program
International Program Division
Association for Voluntary Sterilization
122 East 42nd Street
New York, NY 10168
U.S.A.

DIRECTORY OF POPULATION GROUPS IN WASHINGTON, D.C. AREA AVAILABLE

□ The Population Reference Bureau, with the assistance of many other population organizations, has prepared a new edition of the *Directory of the Population-Related Community of the Washington, D.C. Area*. Listed are approximately 200 groups and institutions involved in population work with offices in the Washington-Baltimore area. The directory includes many national and international organizations, Congressional committees, universities, and ten United Nations agencies active in population-related issues.

This is the fourth and largest edition of the Directory. It replaces the much-sought-after 1978 edition published by the Washington, D.C. chapter of the World Population Society, which has long been out of print. The fourth edition has been expanded to 120 pages and is replete with essential names, addresses, and phone numbers. For the first time, the Directory includes a subject index by functional area, activities in population, and population resources offered.

Orders should be addressed to:

Circulation Dept. P
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P. O. Box 35012
Washington, D.C. 20013
U.S.A.

Copies are US\$5.00 each (US\$3.00 each for bulk orders of 50 or more), and payment should accompany order.

ESCAP ISSUES PUBLICATION ON 1980-81 CENSUS ROUND

If you are overwhelmed by the number of censuses taken in Asian and Pacific countries recently, you should see the special issue of *Asian-Pacific Population Programme News* titled "1980-1981 Census Round." This special issue, published by the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) contains several good articles on census taking in individual countries, as well as an informative chart showing the population censuses of ESCAP member countries from 1900 to 1980. This special issue is available from the Population Division, ESCAP, United Nations Building, Rajadamnern Road, Bangkok 2, Thailand.

PUBLICATIONS THAT COUNT

by Alice D. Harris

Lawrence A. Brown. *Innovation Diffusion: A New Perspective*. New York: Methuen, 1981. ISBN 0-416-74270-X. xx + 325 pp. US\$19.95.

In 1979, Lawrence A. Brown of Ohio State University promised to send me a copy of his book on innovation diffusion when it appeared. He has kindly fulfilled his promise, and it is now my pleasure to review it here.

Brown has been interested in the innovation diffusion process since 1966 when he applied the then-prevailing model of spatial diffusion (developed by Torsten Hagerstrand of Sweden in the early 1950s) to urban systems. Two paragraphs from his dissertation that questioned Hagerstrand's model led him through twelve years of research to the publication of this four hundred page perspective on innovation diffusion.

Brown's book begins where previous diffusion research leaves off. The traditional approach, the adoption perspective, assumed that everyone had an equal opportunity to adopt an innovation and focused on individual characteristics to explain differences in actual times of adoption. Brown, whose interest in and knowledge of the business world comes from his family background, maintains that "opportunity to adopt [an innovation] is egregiously and in many cases purposely unequal." His new perspective—the market and infrastructure perspective—focuses on the process "by which innovations and the conditions for adoption are made available to individuals or households, that is, the supply side of diffusion" (p. 7).

According to Brown, the market and infrastructure perspective conceptualizes diffusion as a process involving three activities. For innovations propagated through a commercial, government, or non-profit organization, the initial activity is the establishment of diffusion agencies through which the innovation will be distributed to the population at large. The strategy implemented by each agency to induce adoption among the population in its service area is the second activity. This, together with actions of other entities that facilitate the adoption, has been termed establishment of the innovation. Adoption of the innovation, then, the focus of most previous research, ranks third in Brown's process.

This new perspective has significance, not only for the commercial world, which seeks to get its new products accepted, but for governments and private agencies attempting to bring about social change and economic development. One example that has particular interest for readers of the *Forum* is the delivery of family planning information and products to Third World countries. Brown uses this as his case in point for the

Alice Harris is Resource Materials Specialist at the East-West Population Institute. She and her staff maintain the Institute's collection of documentation and reference materials, including a sizable body of census publications. Readers and publishers who have new publications of interest to the readers of the Census Forum may send review copies to Ms. Harris at the Resource Materials Collection, East-West Population Institute, 1777 East-West Road, Honolulu, Hawaii 96848.

importance of the marketing and infrastructure perspective to public policy formulation.

In Chapter 2, Brown summarizes past interpretations of diffusion from the early cultural geography of Carl Sauer through Hagerstrand's methodological framework to the mathematical models developed in geography. In Chapter 3, he deals with spatial patterns of diffusion through centralized and decentralized agencies. Chapter 4 is concerned with strategies, such as pricing, communications, and marketing, that are used by agencies to encourage the spread of innovations. The diffusion of innovations among firms, and a model for this diffusion, is presented in Chapter 5.

Brown next shows how the continuity of innovation affects economic history. This leads him in Chapter 7 to the utility of his market and infrastructure framework in economic development. He uses numerous examples, among them commercial dairying in Mexico, to illustrate his thesis. In Chapter 8 he elaborates on the social and economic consequences of innovation diffusion, and the impact of the level of development, or the development process itself, on diffusion.

Brown's concluding chapter presents a summary of the four perspectives addressed in earlier chapters: the adoption perspective, the market and infrastructure perspective, the economic history perspective, and the development perspective.

He says he has understated the adoption perspective because he feels that individuals (adopters) are influenced in their choices by the constraints set by governments and private institutions. "We can account for a great deal of variance in the spatial patterns and temporal rates of diffusion by looking at institutional, rather than individual, behavior" (p. 284). He emphasizes, however, that all of the perspectives listed must be considered in order to understand and use the innovation diffusion process.

Geographers will be happy that Brown's conclusions emphasize the spatial patterns and processes inherent in the diffusion of any new product or idea. Policy-makers should be enthusiastic about the market and infrastructure perspective because it is *person intensive* and allows a greater return per dollar invested. For countries with family planning programs this can be welcome news. In the new perspective, too, the responsibility for non-adoption or lesser levels of diffusion is shifted from the adopter to the diffusion agency or the government. This can lead to changes in programs. New planning tools can be put into effect, among them operations research and management analysis. Finally, Brown's perspective "recognizes and rationalizes the role of public and private infrastructure and other aspects of the general level of development." A program should be formulated in the light of development realities (e.g., a community's readiness to adopt family planning) and should be consistent with a community's level of development.

A valuable addition to population libraries, *Innovation Diffusion* can be ordered through your book dealer, or by writing to Methuen & Co., 733 Third Avenue, New York, N.Y. 10017. □

Counting China's Billion People

EWPI research associate Chi-Hsien Tuan gives us the following report based on accounts in the Hong Kong Ming Pao Daily News (American edition), the Hong Kong Pao (American edition), the Renmin Ribao, and from the Xinhua News Agency.

On the morning of 1 July 1982, four million trained enumerators, supervised by one million instructors and positioned over China's 9.6 million square kilometers, began counting the largest population history has ever recorded. The census was witnessed by diplomats stationed in Beijing and experts from the United Nations Fund for Population Activities (UNFPA), some observing in China's remotest regions. After inspecting four census reporting stations in Beijing on the first day of the census, Rafael M. Salas, executive director of UNFPA, told a press conference that the preparation was "sufficient, very systematic, and we foresee a successful count."

Within four days, 60 percent of the population was counted. In eight days, 950 million people were counted—approximately 98 percent of the total population. The National Office of the Census under the State Council reported that the field inquiry was completed 10 July.

Three methods of enumeration were used. In most cases, respondents visited reporting stations. All working citizens were given time off for this purpose. In Beijing, enumerators distributed draft census forms in mid June, and on census day the respondents brought the forms to the reporting stations along with their household registration booklets. The census schedule was formally filled out only when the enumerator had resolved any discrepancies between the respondent's verbal answers, the answers on his draft form, and his household booklet. The second method of enumeration followed essentially the same procedure, except that an appointment for the interview was set up in advance. The third method was reserved for those who were physically unable to go to the reporting stations. In these cases, the enumerators visited the respondents.

The field check took five days and was completed by 15 July. Enumerators checked their own schedules, exchanged schedules with each other, and checked them again. Finally, they invited local people of long residence to check the information. After this, instructors checked the schedules item by item using "the principle of logic check." Here, specialized groups were organized to look at specific items to see if there was repetition, omission, or inconsistency. Errors had to be resolved by repeat visits with the respondents before they were corrected on the census forms.

Age reporting could have been a problem because of China's traditional use of the lunar calendar. Although the Chinese are an age-conscious people, there was a danger of mixing lunar and Western-calendar ages. The problem was avoided by preparing a conversion table for enumerators. All ages were based on the Western calendar.

In the energetic publicity campaign preceding the census, groups were organized to discuss the importance of the census to the people, and some migrants in urban areas were mobilized to return to their places of usual residence. Commemorative

stamps were issued and publicity match boxes manufactured. Fans, bus tickets, picture books, and pamphlets advertising the census appeared across the country as the campaign gathered momentum. UNFPA experts saw census posters on yurts in Inner Mongolia and walls in the remote province of Qinghai.

The overall preparatory work was checked prior to census day. Urgent measures were taken to make up for any deficiencies. For example, a report from Guangdong province said that the training of enumerators in Doumen County was below par, so on 27 June the whole county was mobilized to reorganize the leadership and put enumerators into intensive training courses again.

Enumerators were required to have at least a junior middle school education, received 7–10 days training, and had to pass two or three tests to get the job. On the average, each enumerator investigated 250 persons over the ten-day field operation. One thousand enumerators in Tibet and six thousand in Xinjiang province set out in early June in order to reach the inhabitants of those regions by the census date. They traveled on horseback, climbed snow-capped mountains, and traversed deserts carrying census schedules printed in five languages. Because of these preparations, the most sparsely populated areas in China were among the first to complete the census. This is the first time Tibet has been included in a national count.

Approximately 100,000 persons were trained for coding and editing, another 4,000 as recorders, and 1,000 were trained with UNFPA assistance as computer experts.

Data will be tabulated at the computer centers that have been installed in each province. UNFPA provided US\$17 million for the purchase of 21 of the 29 computers being used. A total of 360 million RMB, equivalent to US\$200 million, was budgeted for the census. This does not include wages paid to the five million enumerators and instructors.

According to the Office of the Census, the preliminary results from manual tabulations will be available in October 1982, and detailed computer tabulations by June 1984. □

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