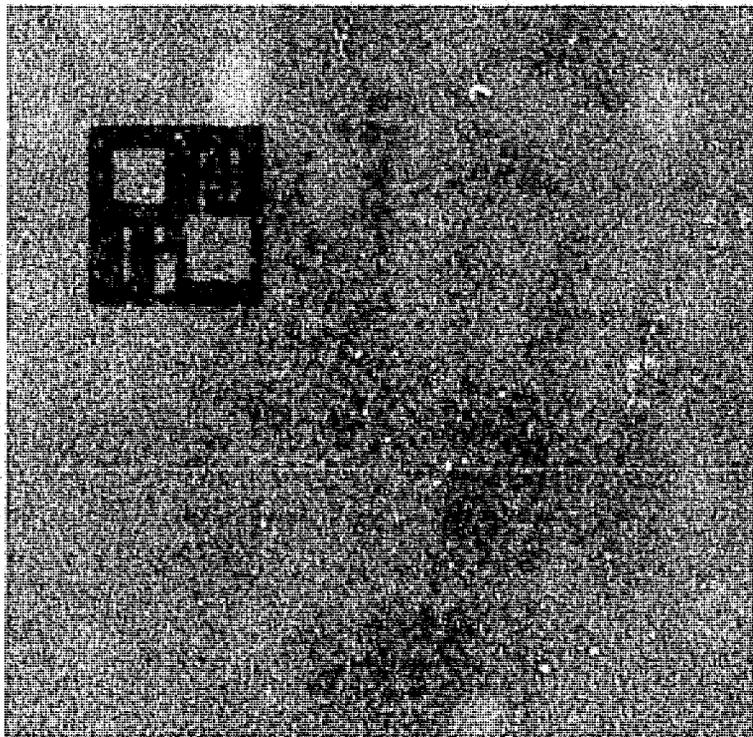


Laboratory for Population Statistics  
Summary Series No. 8  
February 1984

PN-AAQ-528

## The Third Round (1982) of the East Java (Indonesia) Population Survey: A Summary of Results



The International Program of Laboratories for Population Statistics (POPLAB) of the University of North Carolina at Chapel Hill, is involved in a project entitled "Birth and Death Data Collection" sponsored by the United States Agency for International Development. The basic objective of this project is to assist developing countries in collecting and analyzing data on levels and trends in fertility and mortality through the use of sample surveys. These surveys are of three types: (1) add-on, adding fertility/mortality questions to existing household surveys, (2) new, initiating new fertility/mortality surveys, and (3) broad surveys, new or add-on, which include collection and analysis of data on variables such as socioeconomic status, labor force participation, migration, use of family planning, as well as basic fertility/mortality questions. POPLAB provides technical and financial assistance in the design, organization, implementation, and analysis of all three types of surveys.

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The Third Round (1982) of the East Java (Indonesia)  
Population Survey: A Summary of Results

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Stephen E. Wilson and Arjun L. Adlakha

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International Program of Laboratories for Population Statistics  
Arjun L. Adlakha, Director

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The University of North Carolina at Chapel Hill  
Chapel Hill, North Carolina 27514

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March 7, 1984

MEMORANDUM

TO : Distribution

FROM : ST/POP/R, John E. Lawson,

SUBJECT : POPLAB Demographic Report - East Java (Indonesia), Third Round

The attached report, prepared by the International Program of Laboratories for Population Statistics (POPLAB) of the University of North Carolina, is the eighth in a series presenting the major findings of surveys conducted in countries participating in the POPLAB program. This report summarizes the findings of the third round (1982) of the East Java Population Survey, a longitudinal survey designed to estimate demographic parameters of the East Java population. The survey consisted of three rounds of fieldwork, each round approximately one year apart. Essentially the same households were interviewed in each round of the survey.

Highlights:

1. Sample Size: 20,110 households interviewed.
2. Population Characteristics: Since essentially the same population was enumerated in each survey round, there were only slight variations in the characteristics of the population from round to round. The data show that the population of East Java is relatively young, with about 35% under age 15 and less than four percent 65 or older. Marriage is virtually universal for both males and females; less than one percent remain single until age 50. Males marry at older ages than females, urban males and females marry at older ages than rural males and females.
3. Fertility: The estimated crude birth rate (CBR) for Round 3 was 23.7, down from 25.9 reported in Round 1 of the survey and 24.6 reported in Round 2. The CBR for urban areas (22.9) was slightly lower than that for rural areas (23.9). These urban-rural rates are slightly lower than those reported for Rounds 1 and 2. The total fertility rate (TFR) estimated for Round 3 (2.8) was slightly lower than the TFRs reported for Rounds 1 (3.2) and 2 (3.0). Similarly, the age-specific fertility rates generally were lower for Round 3 than for Rounds 1 and 2. In summary, these data provide further support for the finding of Round 1 that fertility levels in East Java declined about 40% in the 1970s.
4. Contraceptive Knowledge and Use: Almost 95% of currently married women in the childbearing ages reported having knowledge of some birth control method (up from 89% in Round 1 and 92% in Round 2). This percentage varied slightly with age and between urban and rural areas. However, although knowledge is virtually universal, slightly less than 40% of the women reported that they were current users (down from 42% in Round 1 and about the same as Round 2).

The percent using contraception varied by age with use rates lowest in the youngest and oldest age groups and highest in the 30-34 age group. The most frequently used methods were the pill (22%) and the IUD (13%). All other methods combined comprised about five percent. Contraceptive use was slightly lower in urban (38%) than in rural areas (40%). Also, the method mix differed. In rural areas, there was greater reliance on the pill (23%, compared to 18% for urban areas) and IUD (14%, compared to 9% for urban areas). In urban areas, there was greater reliance on methods other than the pill and IUD (11%, compared to 4% for rural areas). The decline in use rates from 42% in 1980 to 39% in 1981 and 1982 reflects primarily a decline in pill usage, which fell two to three percentage points in both urban and rural areas. This decline occurred in all age groups. Between Rounds 2 and 3 the proportion of users in each category remained relatively stable.

5. Mortality: The estimated crude death rate for Round 3 was 8.5 (5.9 for urban areas; 9.1 for rural areas) down from the 9.6 estimated for Round 2. Mortality was generally higher for males than for females. The apparent drop in mortality is probably too large to represent a secular trend and may represent fluctuations within the sample population and/or differential coverage in the follow-up rounds.

Attachment: as stated

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# THE THIRD ROUND (1982) OF THE EAST JAVA (INDONESIA) POPULATION SURVEY: A SUMMARY OF RESULTS\*

*POPLAB Staff*

## BACKGROUND

Indonesia, with a population of more than 150 million persons, is the fifth most populated nation in the world. It is a country composed of more than 13,000 islands, straddling the equator from the Malay Peninsula to Australia. The island of Java, containing more than 60 percent of Indonesia's population, is among the most densely settled areas of the world.

The decade of the 1970's witnessed an increase in the pace of economic development in Indonesia and in the importance of population and development policy for the nation. Information collected in recent censuses and surveys has provided estimates of levels and trends of fertility, mortality, and population growth. Most notable among the sources of demographic data were the 1961, 1971 and 1980 Population Censuses, the 1973 Fertility-Mortality Survey and the 1976 Indonesian Fertility Survey. The 1980-82 East Java Population Survey (EJPS) was designed to continue this flow of demographic information. The EJPS used a multiround approach with a baseline survey in 1980 and two follow-up rounds in 1981 and 1982. The results of the 1980 baseline and the 1981 follow-up round of the survey have been reported elsewhere (Sullivan and Wilson, 1982, 1983; International Program of Laboratories for Population Statistics, 1981, 1983). The results of the third round of the EJPS are summarized in this report

## THE SURVEY

The East Java Population Survey (EJPS) was a longitudinal survey designed to estimate demographic parameters of East Java's population, with special emphasis on the estimation of fertility and mortality rates. The survey consisted of three rounds of fieldwork, each round separated by a period of approximately one year. In each round, persons living in a sample of approximately 20,000 households were interviewed. Basically, the same households were involved in each round of the survey.

The sample of households was selected in such a way as to be representative of the population of East Java, excluding the population who were homeless, living on boats, or residing in institutions. The sample design was a three-stage area sample with stratification in the first selection stage. In the first stage of the design, the Central Bureau of Statistics (CBS) selected 1,238 villages from a stratified listing of all villages in East Java. In the second stage, one census block was selected from each

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\*This is a summary of the report prepared by S. E. Wilson, J. M. Sullivan and D. Fugate, The Third Round (1982) of the East Java Population Survey: A Final Report, Central Bureau of Statistics, Jakarta, Indonesia, 1984.

village. In the third stage, households were systematically selected from listings of all the households within selected census blocks.

The sample design was not self-weighting. All substantive results shown in this report are, therefore, based on weighted data.

Round I of EJPS was carried out in May-June 1980, and collected information on characteristics of the survey population, including age, sex and marital status. In addition, for women, data was collected on selected aspects of childbearing history, and on their knowledge and use of contraception. Data were also collected on mortality of children ever born and survivorship status of respondents' mothers.

The two subsequent rounds of the EJPS, Rounds II and III, were conducted in June-July 1981 and June-July 1982, approximately 12 months apart. The primary objective of each of the two follow-up rounds was to collect information on vital events occurring in the intervals between rounds, and on characteristics of the population present in each round. In Round III all households interviewed in Round II still residing in sample census blocks, and a sample of households which had moved into the census blocks between rounds, were interviewed. Based on sample updating procedures, 871 new households were added to the sample, while 567 households, interviewed in Round II, migrated from the sample census blocks prior to Round III. This report is based on data from 20,110 households present at Round III.

The Central Bureau of Statistics (CBS) was responsible for the planning and execution of the survey, analysis and publication of results. Within CBS, responsibility for conducting the survey was shared between the Central Bureau of Statistics in Jakarta and the East Java Provincial Statistics Office in Surabaya. Technical assistance was provided at all stages of the survey by the International Program of Laboratories for Population Statistics (POPLAB) of the University of North Carolina at Chapel Hill.

## FINDINGS

### *Age and Sex Distribution*

Since basically the same population was enumerated in each round of the EJPS, only slight changes would be expected in data relating to the characteristics of the survey populations described in the Round I and Round II reports. However, for the sake of completeness, Round III data on age and sex distribution of the population are presented in Tables 1 and 2.

A total of 92,755 persons were enumerated in the 20,110 households interviewed in Round III. As shown in Table 2, overall the East Java population is relatively young with approximately 35 percent under age 15 and less than 4 percent aged 65 and over.

Sex ratios (ratio of males to 100 females) for five-year age groups are presented in Table 2 for East Java and by area of residence. In general, ratios indicate that there are approximately 96 males for every 100 females. Sex ratios vary by age and show that males are predominant at ages under 20,

TABLE 1. Percent Distribution of the Population Present at Round III, EJPS, by Age Group, Sex and Area of Residence, East Java, 1982

Age Group	East Java		Urban		Rural	
	Males	Females	Males	Females	Males	Females
0-4	5.60	5.36	5.62	5.48	5.60	5.33
5-9	6.21	5.98	5.92	5.74	6.28	6.04
10-14	6.22	5.98	6.10	5.73	6.26	6.04
15-19	5.22	5.26	5.63	5.94	5.12	5.09
20-24	4.04	4.75	4.77	5.16	3.86	4.64
25-29	3.92	4.37	4.05	4.65	3.89	4.30
30-34	3.12	3.14	3.04	3.18	3.15	3.13
35-39	2.83	3.02	2.72	3.00	2.85	3.02
40-44	2.79	3.17	2.67	2.72	2.81	3.28
45-49	2.47	2.60	2.07	2.49	2.57	2.62
50-54	2.12	2.29	2.02	2.40	2.14	2.27
55-59	1.55	1.50	1.56	1.53	1.55	1.50
60-64	1.20	1.40	1.22	1.36	1.20	1.42
65-69	0.61	0.83	0.56	0.67	0.62	0.87
70-74	0.55	0.72	0.52	0.50	0.56	0.77
75+	0.46	0.72	0.34	0.64	0.49	0.74
<b>TOTAL</b>	<b>48.91</b>	<b>51.09</b>	<b>48.80</b>	<b>51.20</b>	<b>48.95</b>	<b>51.05</b>
Persons in Sample	45,368	47,387	8,939	9,380	36,429	38,007

TABLE 2. Sex Ratios of the Population Present at Round III, EJPS, by Age Group and Area of Residence, East Java, 1982\*

Age Group	East Java	Urban	Rural
0-4	104	102	105
5-9	104	103	104
10-14	104	106	104
15-19	99	95	100
20-24	85	92	83
25-29	90	87	91
30-34	99	95	101
35-39	94	91	94
40-44	88	98	86
45-49	95	83	98
50-54	92	84	94
55-59	103	102	103
50-64	85	90	85
65+	72	83	70
TOTAL	96	95	96

\*Sex ratio = number of males per 100 females.

while females predominate at most other ages.

#### *Marital Status*

Based on information collected in Round III of the EJPS, each member of the sample population was classified according to the current marital status. Table 3 presents percent distribution of population by marital status.

The data in Table 3 indicate that marriage is virtually universal for both males and females in East Java. Nearly all men and women in the 45-49 age group either are married or have been married; less than one percent of both males and females in this age group remain single.

There are, of course, important differences in marital status

TABLE 3. Percent Distributions of the Male and Female Population Present at Round III, EJPS, by Marital Status, Age and Area of Residence, East Java, 1982

Age Group	Percent of Male Population				Percent of Female Population			
	Single	Married	Divorced	Widowed	Single	Married	Divorced	Widowed
<u>East Java</u>								
10-14	99.7	.1	.3	.0	98.9	.9	.2	.0
15-19	97.1	2.3	.6	.1	67.5	29.4	2.9	.1
20-24	62.8	35.1	1.9	.2	21.8	71.0	6.3	.9
25-29	19.3	77.4	2.9	.3	6.2	86.0	5.8	1.9
30-34	5.5	91.9	2.2	.4	2.5	87.0	6.9	3.7
35-39	1.7	95.3	1.8	1.2	1.5	87.3	5.1	6.0
40-44	1.2	96.1	1.2	1.5	.9	80.1	6.3	12.7
45-49	.7	95.9	1.7	1.7	.7	73.0	6.7	19.5
<u>Urban</u>								
10-14	99.7	.2	.2	.0	99.8	.1	.2	.0
15-19	98.3	1.6	.2	.1	81.8	16.6	1.5	.2
20-24	76.0	23.2	.7	.1	41.2	54.6	3.2	1.1
25-29	30.1	67.8	2.0	.1	14.9	77.8	5.2	2.0
30-34	10.3	87.8	1.6	.2	4.8	85.1	6.0	4.1
35-39	2.6	94.8	1.6	1.0	4.5	83.5	6.0	6.0
49-44	2.2	95.9	1.2	.8	3.0	79.8	5.2	12.0
45-49	.8	94.7	2.6	2.1	1.3	73.5	5.7	19.7
<u>Rural</u>								
10-14	99.6	.1	.3	.0	98.7	1.1	.2	.0
15-19	96.8	2.4	.7	.1	63.4	33.1	3.3	.1
20-24	58.8	38.8	2.3	.2	16.5	75.5	7.1	.8
25-29	16.5	79.9	3.2	.4	3.9	88.2	6.0	1.9
30-34	4.4	92.8	2.4	.4	1.9	87.4	7.1	3.6
35-39	1.6	95.4	1.8	1.3	.8	88.3	4.9	6.1
40-44	.9	96.2	1.2	1.7	.4	80.2	6.5	12.8
45-49	.6	96.2	1.5	1.7	.6	73.0	7.0	19.5

distribution by sex. Males tend to marry later than females with the result that while 63 percent of males are single at age 20-24, only 22 percent of females are single by this age. With regard to divorce, a relatively higher percentage of females than males report themselves as currently divorced. With respect to widowhood, as expected, percentages increase with age for both men (with one exception) and women. However, increase in the percentage is substantially greater for females (from 1 percent at ages 20-24 to 19.5 percent at ages 45-49) than for males (from 1 percent at ages 20-24 to 1.7 percent at ages 45-49).

Table 3 also presents similar data on marital status by area of residence, urban and rural. The data indicate that rural women tend to marry at younger ages than do urban women. For example, over 35 percent of the rural females 15-19 years of age, and nearly 85 percent of those 20-24, are ever married at Round III, compared with fewer than 20 percent and 60 percent of ever married urban females within the same age groups. These differences no doubt affect the urban/rural fertility differentials noted in the following section.

The above findings regarding marital status are virtually identical to the results described in the report for Round I of the EJPS. In that report, estimates of singulate mean age of marriage (SMAM) for females (the mean number of years a woman remains single before marriage for the first time) were 19.9 years for the province, 22.2 years for urban areas and 19.3 for rural areas. Comparable SMAM estimates for males were 24.4 years for East Java, 25.4 years for urban areas, and 24.1 years for rural areas (Sullivan and Wilson, 1982).

### *Fertility*

In each of the two follow-up rounds, Round II and Round III, information was obtained concerning the births occurring within sample households during the interround intervals. These interround births, appropriately weighted, served as the numerators for the estimated fertility rates for Rounds II and III. The denominators for these rates were the interround estimates of person-years of exposure (see Wilson, *et al.*, 1984).

In Round I of the EJPS, fertility data had been collected for the reference period from September 5, 1978 (Lebaran, an Islamic holiday) to May 8, 1980, a period of about 20 months, with the midpoint approximately July 1, 1979. Each woman was asked several questions pertaining to her last live birth, pregnancies after the last reported live birth, if any, and the pregnancy before the last live birth (see Sullivan and Wilson, 1982).

Crude birth rates, age-specific fertility rates and total fertility rates for East Java as a whole and for urban and rural areas, for all three rounds, are shown in Table 4. The midpoints of the three reference periods are approximately July 1979 (Round I), December 1980 (Round II) and December 1981 (Round III).

Crude birth rates for the Round III reference period (December 1981) are estimated to be 23.7 per 1000 population for East Java as a whole, 22.9 for urban areas, and 23.9 for rural areas. These rates are lower than those

TABLE 4. Estimated Crude Birth Rates (CBR), Age-Specific Fertility Rates (ASFR), and Total Fertility Rates (TFR) by Area of Residence, Round I, Round II and Round III Reference Periods, EJPS

Rate*		Round I	Round II	Round III
<u>East Java</u>				
CBR		25.9	24.6	23.7
ASFR	15-19	81	82	79
	20-24	185	171	165
	24-29	161	153	147
	30-34	118	100	89
	35-39	64	55	47
	40-44	27	20	25
	45-49	8	9	9
TFR		3.22	2.95	2.81
<u>Urban Areas</u>				
CBR		24.8	23.1	22.9
ASFR	15-19	64	55	65
	20-24	162	152	145
	25-29	159	154	140
	30-34	114	99	98
	35-39	69	51	40
	40-44	14	16	27
	45-49	9	7	0
TFR		2.96	2.67	2.58
<u>Rural Areas</u>				
CBR		26.2	25.0	23.9
ASFR	15-19	86	88	83
	20-24	191	175	169
	25-29	162	153	148
	30-34	119	101	87
	35-39	63	55	49
	40-44	30	21	25
	45-49	8	9	11
TFR		3.29	3.01	2.86

\*Crude birth rates are per 1,000 population; age-specific fertility rates are per 1,000 women; total fertility rates are per woman.

estimated for the reference periods of Round I (July 1979) and Round II (December 1980). Similarly, estimates of age-specific rates for East Java, for both urban and rural areas, show consistent decline, essentially at all ages, over the time periods referenced by the three rounds. The age-specific fertility rates are generally lower for urban than rural women, the primary difference being in the young age group, 15-24.

In terms of total fertility rate, fertility in East Java declined by about 12 percent between Round I and Round III, an interval of about 30 months, and by about 5 percent between Round II and Round III, an interval of about 12 months. Estimates of TFR from each of the rounds are higher for rural than urban areas.

These data on fertility from Round III tend to further support the conclusion tentatively reached in Round I (Sullivan and Wilson, 1982), that fertility levels in East Java declined about 40 percent during the decade of the 1970's. In addition, they demonstrate that this decline has continued throughout the EJPS coverage period (September 1978-June 1982).

#### *Knowledge and Use of Contraception*

In each of the three rounds of the EJPS, all currently married women were asked about their knowledge and use of birth control methods. Respondents were first asked, "Have you heard of any methods to control fertility?". Respondents who replied that they had not heard of any methods were not asked any additional questions on the subject. If the woman indicated that she had heard of family planning methods, she was asked if she was using a family planning method. If the answer was affirmative, she was asked to specify the method(s) she was currently using. These data are summarized in Table 5.

With regard to knowledge, 94.6 percent of the married women between 15 and 49 report that they know about family planning. This percentage varies slightly with age and between urban and rural areas. In each of the previous rounds the percentage of currently married women recorded as having knowledge of family planning was slightly lower: 86.9 percent in Round I and 92.5 percent in Round II.

In the third round, 39.7 percent of the eligible respondents report that they currently practice contraception. The percentage varies by age with rates lowest in the 15-19 (18%) and 45-49 (23%) age groups and highest in the 30-34 age group (51%). Among the available methods, the pill, with 22 percent users, and the IUD, with 13 percent users, are the most popular contraceptive methods. All other methods combined are used by only about 5 percent of the women.

Data by area of residence indicate that a smaller percentage of women in urban areas (38%) than in rural areas (40%) use a contraceptive method. There are also differences in the mix of methods preferred. In urban areas only 9 percent of the women are IUD users. In the urban areas 11 percent of the married women use methods other than pills and IUD's, whereas in rural areas only 3.5 percent of the respondents use these other methods.

TABLE 5. Knowledge and Use of Contraception of Currently Married Women in the Surveyed Population by Area of Residence, East Java, 1982

(East Java Population Survey, Round III, 1982)

Age of Women (1)	Number of Currently Married Women Providing Data (2)	PERCENT OF CURRENTLY MARRIED WOMEN									
		With Knowledge of a Birth Control Method (3)	Currently Using a Birth Control Method (4)	CURRENTLY PRACTICING CONTRACEPTION BY METHOD							
				Pill (5)	IUD (6)	Condom (7)	Sterilization (8)	Rhythm (9)	Injection (10)	Withdrawal/Abstinence (11)	Traditional (12)
<u>East Java</u>											
15-19	1370	93.0	18.0	11.7	4.9	.2	.0	.0	.2	.1	.9
20-24	3063	95.6	36.1	22.8	10.3	.3	.1	.2	.8	.2	1.4
25-29	3444	96.9	48.7	29.3	14.7	.5	.5	.3	1.5	.3	1.6
30-34	2507	95.9	50.6	26.7	17.6	1.0	1.4	.4	1.6	.2	1.8
35-39	2416	95.3	48.4	24.1	17.3	1.0	2.1	.6	.8	.3	2.3
40-44	2319	91.2	35.1	16.9	12.9	.8	1.4	.4	.4	.6	1.9
45-49	1731	91.1	22.9	9.1	9.1	.5	1.2	.3	.2	.6	1.8
All Ages	16850	94.6	39.7	21.8	13.1	.6	.9	.4	.9	.3	1.7
<u>Urban Areas</u>											
15-19	170	93.8	16.4	10.0	4.7	1.2	.0	.0	.6	.0	.0
20-24	503	97.5	27.1	16.3	7.0	0.6	.0	.6	1.8	.0	1.0
25-29	656	98.2	41.8	22.4	10.7	1.5	1.5	.9	3.2	.8	.8
30-34	494	96.9	48.9	22.7	12.6	3.0	4.9	1.8	2.6	.2	1.2
35-39	457	98.4	49.0	20.6	11.2	2.8	8.3	2.2	1.5	.4	2.0
40-44	395	93.1	38.4	15.2	7.1	3.8	6.6	1.8	1.5	1.0	1.5
45-49	330	95.8	22.4	7.0	4.8	2.1	5.8	1.2	.0	.6	.9
All Ages	3005	96.7	37.6	17.7	9.0	2.2	3.9	1.3	1.9	.4	1.1
<u>Rural Areas</u>											
15-19	1200	92.9	18.2	11.8	4.9	.1	.0	.0	.2	.1	1.1
20-24	2559	95.3	37.9	24.1	11.0	.2	.1	.2	.7	.2	1.4
25-29	2788	96.6	50.4	30.9	15.7	.3	.3	.2	1.0	.3	1.8
30-34	2013	95.6	51.1	27.8	18.7	.5	.6	.0	1.3	.1	1.9
35-39	1959	94.5	48.3	25.0	18.5	.6	.6	.3	.7	.3	2.3
40-44	1925	90.8	34.5	17.2	14.0	.2	.3	.2	.2	.5	1.9
45-49	1401	90.0	23.1	9.6	10.1	.1	.1	.1	.3	.6	2.0
All Ages	13845	94.1	40.1	22.6	14.0	.3	.3	.1	.7	.3	1.8

Between Rounds I and II, current use rates recorded by the EJPS declined from 45 to 39 percent. The greater part of the decline occurred in pill usage. Between Rounds II and III the proportions of users in each category remained relatively stable.

### *Mortality*

In each household visited in Round III, data were collected on the number of deaths occurring between Rounds II and III of the EJPS. These tabulated counts of deaths formed the numerators for the mortality rates presented in this summary. The denominators for the rates were estimates of the survey population's person-years of exposure to the risk of dying. A thorough description of the computations used to produce the mortality rates presented here is available in the full report for Round III (Wilson, *et al.* 1984.)

The estimated crude death rates based on Round III data for East Java and for urban and rural areas within the province are presented in Table 6.

TABLE 6. Crude Death Rates by Area of Residence, East Java, Round III, 1981-82

Area	Number of Deaths Between Rounds II and III	Person-Years Lived Between Rounds II and III	Estimated CDR (per 1000 person-years)
East Java	795	93,816	8.5
Urban Areas	109	18,614	5.9
Rural Areas	685	75,202	9.1

The estimated crude death rate for East Java is 8.5 deaths per 1000 person-years, 5.9 in urban areas, and 9.1 in rural areas.

Comparisons of estimates of crude death rates from Round II and Round III by area of residence are presented in Table 7. The estimate of crude death rates for residents of urban and rural areas within East Java from Round III are lower than similar rates based on Round II data. The Round III estimate for urban residents (5.9 deaths per 1000 person-years) is 28 percent lower than the Round II estimate (8.2), while in rural areas the Round III estimate (9.1) is 8 percent below the Round II estimate (9.9).

This observed drop in mortality is too large to represent a sustainable secular trend. It is possible that this difference could be due to a combination of factors, including for example, actual fluctuations in mortality within the sample population and differential coverage of deaths in the two follow-up rounds.

TABLE 7. Crude Death Rates by Area of Residence,  
Round II and Round III, East Java, 1980-82

Area	Round II	Round III
East Java	9.6	8.5
Urban Areas	8.2	5.9
Rural Areas	9.9	9.1

The report of Round I presented indirect estimates of crude death rates for East Java, derived from estimates of childhood and infant mortality that ranged from 7.9 to 11.7 deaths per 1000 population per year. The direct crude death rates from Rounds II and III fall within this range of potential estimates based on indirect procedures.

The number of deaths, estimated person-years, and mortality rates by age and sex for the survey population are presented in Table 8. The estimates for both sexes demonstrated the typical U-shaped mortality pattern:

TABLE 8. Age-Specific Mortality Rates by Sex,  
East Java, 1981-82

Age Group	Number of Deaths		Person Years Lived Between Rounds II & III		Estimated Rates	
	Males	Females	Males	Females	Males	Females
0	59	81	1,028	988	54.1*	75.6*
1-4	28	29	4,302	4,064	6.5	7.1
5-14	26	22	11,652	11,246	2.2	2.0
15-24	17	21	8,864	9,708	1.9	2.2
25-34	13	17	6,558	6,917	2.0	2.5
35-44	32	27	5,266	5,864	6.1	4.6
45-64	108	93	6,752	7,115	16.0	13.1
65+	117	106	1,472	2,022	79.5	52.4
TOTAL	400	396	45,894	47,924	8.7	8.3

\* Infant mortality rates are per 1,000 live births.

relatively high rates in infancy and early childhood, followed by low rates for older children and young adults (ages 5-34), and thereafter rates increase with age. Above 35 years of age mortality rates are generally higher for males than they are for females.

Table 9 presents age-specific mortality rates for broad age groups based on data from Rounds II and III. Though the mortality rates from both rounds exhibit similar patterns, the rates from Round III are generally lower than the rates from the earlier rounds. The comparison of infant mortality rates (IMR's) by sex for each round appears to be particularly unstable, with the third round rate for males (54.1) 33 percent below the second round rate (80.4), while the rate for females (75.6) is 10 percent higher than the second round rate (69.0).

To compare urban and rural age-specific mortality rates, the results from both rounds were combined for broad age groups and are presented in Table 10. With the exception of young women (5-19 years of age) the age-specific mortality rates in rural areas are greater than the corresponding rates estimated for urban areas of East Java.

TABLE 9. Age-Specific Mortality Rates by Sex,  
Round II and Round III, East Java, 1980-82

Rate	Male		Female	
	Round II	Round III	Round II	Round III
CDR	10.5	8.7	8.7	8.3
ASMR				
0	80.4	54.1	69.0	75.6
1-4	9.5	6.5	9.0	7.1
5-14	2.4	2.2	2.3	2.0
15-24	2.4	1.9	2.2	2.2
25-34	3.0	2.0	3.4	2.5
35-44	5.5	6.1	4.5	4.6
45-64	20.6	16.0	12.6	13.1
65+	82.0	79.5	65.2	52.4

TABLE 10. Age-Specific Mortality Rates by Sex  
and Area of Residence, East Java, 1980-82

Age Group	Number of Deaths		Person Years Lived Between Rounds I and III		Estimated Rates*	
	Males	Females	Males	Females	Males	Females
<u>Urban</u>						
0	16	14	415	401	36.8*	34.9*
1-4	13	8	1,758	1,700	7.4	4.7
5-19	13	16	6,742	6,776	1.9	2.4
20-44	16	16	6,474	7,059	2.5	2.3
45-64	44	38	2,550	2,807	17.3	13.5
65+	37	41	502	650	73.7	63.1
<b>TOTAL</b>	<b>139</b>	<b>133</b>	<b>18,441</b>	<b>19,393</b>	<b>7.5</b>	<b>6.9</b>
<u>Rural</u>						
0	135	139	1,834	1,726	71.9*	77.0*
1-4	60	61	7,191	6,722	8.3	9.1
5-19	60	60	27,244	27,026	2.2	2.2
20-44	101	98	25,658	28,400	3.9	3.5
45-64	206	148	11,136	11,520	18.5	12.8
65+	204	193	2,478	3,355	82.3	57.5
<b>TOTAL</b>	<b>766</b>	<b>699</b>	<b>75,541</b>	<b>78,749</b>	<b>10.1</b>	<b>8.9</b>

\* Infant mortality rates are per 1,000 live births; all other rates are per 1,000 person-years.

## Registration of Vital Events

In January of 1980 the East Java Provincial Statistics Office (EJPSO) assumed the responsibility from the provincial government for the tabulation of birth and death certificates.

The crude birth and death rates from the registration system, presented in Table 11, are based on (1) tabulations of certificates for time periods coinciding with the interround intervals of the EJPS, and (2) projected population estimates from the 1980 census. The crude birth rate estimates from the registration system were 28% and 36% of the survey estimates during the two interround intervals, and the crude death rates were 25% and 35% of the survey estimates for the same two periods. Though there appeared to be some improvement in the registration system during this time period, only about one out of every three events occurring within the province was reported to the EJPSO.

TABLE 11. Crude Birth and Death Rates from the Vital Registration System and the EJPS, East Java, Round II and Round III, 1980-82

	Registration	EJPS	Percentage of Events Registered
		<u>Round II</u>	
CBR	6.8	24.6	28%
CDR	2.4	9.6	25%
		<u>Round III</u>	
CBR	8.6	23.7	36%
CDR	3.0	8.5	35%

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