RAND

Demographic Institute

Faculty of Economics, University of Indonesia

The 1993 Indonesian Family Life Survey: Overview and Field Report

Elizabeth Frankenberg and Lynn A. Karoly

with

Paul Gertler, Sulistinah Achmad, I.G.N. Agung, Sri Harijati Hatmadji, and Paramita Sudharto

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PREFACE

The 1993 Indonesia Family Life Survey (IFLS) provides data at the individual and family level on fertility, health, education, migration, and employment. Extensive community and facility data accompany the household data. The survey was a collaborative effort of *Lembaga Demografi* of the University of Indonesia and RAND, with support from the National Institute of Child Health and Human Development, USAID, Ford Foundation, and the World Health Organization. In Indonesia, the 1993 IFLS is also referred to as SAKERTI 93 (Survai Aspek Kehidupan Rumah Tangga Indonesia).

The IFLS covers a sample of 7,224 households spread across 13 provinces on the islands of Java, Sumatra, Bali, West Nusa Tenggara, Kalimantan, and Sulawesi. Together these provinces encompass approximately 83 percent of the Indonesian population and much of its heterogeneity. The survey brings an interdisciplinary perspective to four broad topic areas:

- fertility, family planning, and contraception
- infant and child health and survival
- education, migration and employment
- the social, economic, and health status of adults, young and old

Additionally, extensive community and facility data accompany the household data. Village leaders and heads of the village women's group provided information in each of the 321 enumeration areas from which households were drawn, and data were collected from 6,385 schools and health facilities serving community residents.

This overview and technical report describes the main features of the IFLS Household and Community-Facility Surveys. The sampling plans for the Household and Community-Facility components of the survey are described, along with response rates, sample composition, and analytical weights. The content of the questionnaire instruments are also summarized. Finally, the document provides details on the field operations for both components of the IFLS.

The complete public use file documentation consists of the following publications:

DRU-1195/1-NICHD/AID, *The 1993 Indonesian Family Life Survey: Overview and Field Report.* This report describes the purpose, design, field work and response rates for both the household and the facility components of the IFLS.

DRU-1195/2-NICHD/AID, *The 1993 Indonesian Family Life Survey: Appendix A, Household Questionnaires and Interviewer Manual.* This document provides the English translation of the questionnaires used during the household and individual interviews, as well as the interviewers' instructions.

DRU-1195/3-NICHD/AID, *The 1993 Indonesian Family Life Survey: Appendix B, Community-Facility Questionnaires and Interviewer Manual.* This document provides the English translation of the questionnaires used during the community leader and facility interviews, as well as the interviewers' instructions.

DRU-1195/4-NICHD/AID, *The 1993 Indonesian Family Life Survey: Appendix C, Household Codebook.* The codebook provides descriptions of all variables and their and locations in the IFLS data files. The codebook also presents information on cases that are known anomalies.

DRU-1195/5-NICHD/AID, *The 1993 Indonesian Family Life Survey: Appendix D, Community-Facility Codebook.* The codebook provides descriptions of all variables and their and locations in the IFLS data files. The codebook also presents information on cases that are known anomalies.

DRU-1195/6-NICHD/AID, *The 1993 Indonesian Family Life Survey: Appendix E, Users' Guide.* This report document provides descriptions of the IFLS data format and data files. Guidelines for data use are provided, with special emphasis on working with the household, individual, and facility IDs and making links across different parts of the survey.

Subsequent announcements regarding the 1993 IFLS database can be found on the Family Life Surveys Home Page under the Labor and Population Program Home Page on RAND's external World Wide Web server: *http://www.rand.org*. Users should check this page periodically for updated information on the 1993 IFLS. The FLS Home Page also contains information on the First and Second Malaysian Family Life Surveys conducted in 1976-1977 and in 1988-1989.

Subsequent information about the 1993 IFLS will also appear in the *FLS Newsletter*. The *FLS Newsletter*, meant to serve all FLS data users and interested parties, is a free occasional publication of the RAND Center for the Study of the Family in Economic Development and the RAND Population Research Center. The newsletter disseminates information about surveys fielded by RAND in developing countries. Those who are not already subscribers may either subscribe via the FLS Home Page above or by sending electronic mail to the FLS subscription alias *fls-sub@rand.org*.

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The 1993 Indonesia Family Life Survey (IFLS) provides data at the individual and family level on fertility, health, education, migration, and employment. Extensive community and facility data accompany the household data. The survey was a collaborative effort of *Lembaga Demografi* (LD) of the University of Indonesia and RAND, with support from the National Institute of Child Health and Human Development, USAID, Ford Foundation, and the World Health Organization.

The IFLS questionnaire development, fieldwork, and public use file creation represent the combined efforts of social scientists in Indonesia and the United States. At RAND, Paul Gertler served as Principal Investigator, with Elizabeth Frankenberg and Lynn Karoly as co-Principal Investigators. Sulistinah Achmad was the LD Project Director, with co-Directors I.G.N. Agung and Sri Harijati Hatmadji. In addition, Susan Butler, Theo Downes-LeGuin, Christine Peterson, Polly Phipps, and Paramita Sudharto were instrumental to the survey effort.

A number of other researchers at RAND contributed to the design of the questionnaire and implementation of the survey. In particular, Julie DaVanzo, Reta Hendratidewi, Jacob Klerman, Lee Lillard, Jack Molyneaux, Bob Schoeni, James P. Smith, and Duncan Thomas contributed tremendously to questionnaire development. John Adams and Dan McCaffrey developed procedures for sampling and for constructing weights. RAND staff Kim Linton, Nick Murray, Caron Murray, Joanna Nelsen, Judy Perlman, and Carl Serrato played key roles in the logistics of questionnaire production and editing, fieldwork, and data entry. We would also like to acknowledge the input of Angus Deaton (Princeton University), T. Paul Schultz (Yale University), and John Strauss (Michigan State University).

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1. INTRODUCTION

The Indonesian Family Life Survey (IFLS) is a major household survey conducted in Indonesia in 1993 by RAND and *Lembaga Demografi* (LD), the Demographic Institute at the University of Indonesia. The survey focuses on four broad topic areas: fertility, family planning and contraception; infant and child health and survival; migration and employment; and, the health, economic and social functioning of the older population. The IFLS covers a sample of approximately 7200 households across 13 provinces in Java, Sumatra, Bali, West Nusa Tenggara, Kalimantan and Sulawesi, which together encompass approximately 83 percent of the Indonesian population and much of its heterogeneity (see Figure 1.1). In addition to the Household Survey, the IFLS also included a separate Community-Facility Survey (CFS) with information that can be linked to all households.

This overview and technical report describes the main features of the IFLS Household and Community-Facility Surveys. As part of the household survey, detailed data were collected at the household level on household composition, consumption, income and assets. Detailed contemporaneous and retrospective data were collected for selected adult respondents on education; labor force participation; marriage; migration; health status and provider utilization; individual assets; fertility and contraception; and infant feeding practices. The questionnaire also collected detailed data on the characteristics of parents, siblings and children residing outside the household, as well as transfers of income, goods and services to and from these individuals. Data were collected for household members through direct interviews (for adults) and proxy interviews (for children, infants and temporarily absent household members). Adult respondents and children in each household were weighed and measured by an anthropometrist.

The CFS measured infrastructure quality and availability of services, including retrospective data, for schools and health facilities and for a sample of communities as a whole. The CFS collected data from a variety of respondents including: the village leader and his staff and the leader of the village women's group; Ministry of Health clinics and sub-clinics; private practices of doctors, midwives, nurses, and paramedics; community-based health posts and contraceptive distribution centers; public, private, and religious elementary schools; public, private, and religious junior high schools; public, private, and religious senior high schools. Unlike many other surveys, the sample frame for the survey of facilities was drawn from the list of facilities used by household survey respondents in the area.

THE SETTING: INDONESIA

Indonesia provides an extremely interesting setting for the data collection effort undertaken in the IFLS, both in its own right and for comparative purposes with other developing countries. Most notably, Indonesia exhibits rich temporal and spatial variation in demographic, economic, and health outcomes as the result of two factors. First, the archipelago exhibits considerable variation in culture, geography, and environment, diversity

which will be captured in the 13 provinces included in the IFLS. Second, government development policies and macroeconomic shocks have combined to produce considerable regional and temporal differences in economic growth and in the expansion of government services from health and family planning services to schools.

Indonesia is currently the fourth most populous country in the world, with a population of approximately 181 million in 1990 (World Bank, 1993). Indonesia's motto of "Unity in Diversity" reflects the heterogeneous makeup of the approximately 13,000 islands that form the archipelago; roughly 300 distinct ethnolinguistic groups are scattered across the country's 27 provinces (Hugo, et al., 1987). Population densities range from less than 20 people per square kilometer in Kalimantan and Irian Jaya to over 700 people per square kilometer in Yogyakarta. There are also a variety of types of social organizations, from the land-based hierarchical systems of Java to individualistic, kinship-oriented patterns of Sumatra and the Outer Islands (Peacock 1973; Geertz 1963).

Over the last twenty years, Indonesia has experienced rapid demographic and economic change. Total fertility rates (TFR) have fallen from about 5.6 in the early-1970s to about 3.0 in 1990 (Central Bureau of Statistics, 1992). In 1991, Indonesia had the lowest TFR among all the countries classified as "low income" by the World Bank, except for Sri Lanka (2.5) and China (2.4) (World Bank, 1993). The national trends mask the substantial regional differences that persist. In 1982 TFRs on Java and Bali stood at 3.8. In contrast, TFRs were over five for most of the outer islands (Central Bureau of Statistics, 1987). By 1991 fertility had declined to 2.7 on Java and Bali, and to around 3.6 for the outer islands. The declining fertility rate has been accompanied by a dramatic increase in the use of modern contraceptive methods. In 1970, contraceptive prevalence among married women aged 15 to 49 was below 5 percent; by 1991, it reached 50 percent (McNicoll and Singarimbun, 1987; Central Bureau of Statistics, 1992). At the same time, the mean age of marriage rose from 19.3 in 1971 to 21.1 in 1985 (Hull and Hatmadji, 1990).

Over this same period, infant mortality rates have fallen at a rapid rate, declining from 159 infant deaths per 1000 live births in 1960 to about 68 in 1991 (Central Bureau of Statistics, 1992; World Bank, 1994). Despite this impressive decline, the infant mortality rate in Indonesia is still high compared to other Southeast Asian countries such as Malaysia, the Philippines, and Sri Lanka (whose rates were 16, 41 and 19, respectively in 1990) (World Bank, 1994). Between 1977-1987 and 1986-1991 rates fell in most regions (in some provinces by more than 25 percent), but actually rose in West Java (from 95 to 111 per thousand). Similar variation exists with respect to mothers' health behaviors. Between 1982-1987 and 1986-1991 the proportion of births delivered at home declined from around 54 percent to 35 percent in Bali but remained relatively constant (at about 87 percent) in West Java (Central Bureau of Statistics, 1992).

Changes in demographic behaviors have been accompanied by greater investment in education. Primary education is nearly universal in Indonesia; secondary enrollment rates, equal to about 48 percent, increased 8 fold since 1960. Today, there is nearly equal representation of girls and boys at primary and secondary levels (World Bank, 1994). Increases in enrollment over time are evident in cohort differences in educational

attainment. In the 1989 National Labor Force survey the proportion of males with completed junior secondary school was 50 percent higher in the 20 to 24 age group than in the 25 to 29 age group (Cobbe and Boediono, 1993).

Indonesia's rapid demographic change has been accompanied by strong economic growth, again with considerable regional variation. The 1970s were marked by growth rates averaging 8 percent per annum, reflecting the extent to which Indonesia benefited from the oil boom that characterized the decade. Although subsequent oil price shocks reduced growth rates to around 4 percent per year through the mid-1980s, the economy recovered substantially by the end of the decade. Recent estimates place annual growth rates at about 7 percent per year between 1988 and 1991 (World Bank, 1994). Wage survey data reveal that hourly wages in the formal sector grew rapidly during these periods as well (Ananta, et al., 1989).

In recent decades, Indonesia has made substantial investments in infrastructure, particularly in the areas of health and education. The 1970s saw a dramatic expansion in the number of government health clinics, from 1,637 to 4,353 nationwide. Between 1980 and 1987 the number of doctors in Indonesia doubled, increasing from 11,681 to over 23,000 (Hugo et al., 1987; USAID, 1988). Priorities in the 1980s included establishing the immunization program, developing community health activities, and supporting personnel training. Between 1979 and 1985 the number of health clinics offering vaccination services more than doubled (World Health Organization, 1987).

Similar changes have occurred in the availability of family planning services, due to the efforts of the National Family Planning Coordinating Board (BKKBN). Starting in 1970, BKKBN sequentially introduced family planning (through clinics and community distribution posts) across the archipelago. By 1991 BKKBN had been active for 20 years on Java and Bali, for 15 years in the provinces of the Outer Islands 1 group, and for 10 years in the provinces of the Outer Islands 2 group. Provincial contraceptive prevalence rates ranged from 50 percent to 72 percent on Java and Bali, from 29 percent to 69 percent for the Outer Islands 1 group, and from 21 percent to 58 percent for the Outer Islands 2 group (Central Bureau of Statistics, 1992).

Finally, education has long been an important priority in Indonesia. Six years of primary schooling have been mandatory since 1954, although enrollment rates exceeding 90 percent were not attained until the mid-1980s. As the availability of primary schools has increased, attention has shifted toward improving the quality of primary education and the availability of secondary education. In 1992 the average distance to a junior secondary school was about 4 kilometers, but ranged up to 25 kilometers for rural populations in West Kalimantan (SUSENAS data, 1992).

CONTRIBUTION OF THE IFLS

Since the early 1970s, a number of population surveys have been conducted in Indonesia. These data have provided an important source of information for analyzing demographic and economic trends in Indonesia, as well as behavioral studies of individual

and family decisionmaking. The IFLS complements and extends these other surveys in a number of ways.

First, the IFLS is a multi-purpose survey, collecting a broad array of demographic, health, and economic information on individuals, households and communities in the same survey. By simultaneously collecting data on a wide range of topics, we can broaden the scope of analyses that can be conducted, allowing analyses of interrelated issues not possible in other single-purpose surveys.

Second, current as well as retrospective information is collected for most topics in the survey. As a result of the longer recall periods for many life events, the data allow researchers to study the effects of changes over time in both government programs and household decisions during a period of rapid demographic and economic change.

Third, the IFLS is especially well-suited for studies of the health and well-being of the older population. Several dimensions of well-being are included, such as health, economic status, and family support networks including transfers. Building on our research experience in the U.S. and previous survey research in Indonesia, we adapted indices of health and functional status that have proved to have desirable psychometric properties in other settings. Data on the topics covered by the survey are collected for younger, middle-aged and older respondents in the same survey and often in the same households. This collection of intergenerational data allows for analyses of the relations between generations.

Finally, the survey links household-level data to community-level data on public services and economic infrastructure collected as part of the IFLS Community-Facility Survey. The CFS has several unique features. First, the data on community characteristics are obtained in two interviews: one with the village leader and a group of his or her staff, and the other with the head of the village women's group. Information obtained in these interviews is supplemented with data from village administrative records and by observations of the community team supervisor on village socioeconomic conditions. Second, the sampling frame for the health and school facilities that were interviewed was based on household respondent's answers to questions about their knowledge of schools and health care facilities. This linking of individual, family, and community data will enable researchers to better understand how surrounding conditions influence family behavior. Furthermore, these community-level variables are often the factors most susceptible to influence by policy.

The remainder of this document is organized as follows. The next section describes the features of the Household Survey, specifically the household and within-household sampling plan, response rates, and sample composition; the questionnaire instruments; interview times and respondent burden; and analytical weights. Section 3 presents parallel information for the Community-Facility Survey. The details of the field operations are provided in Section 4.

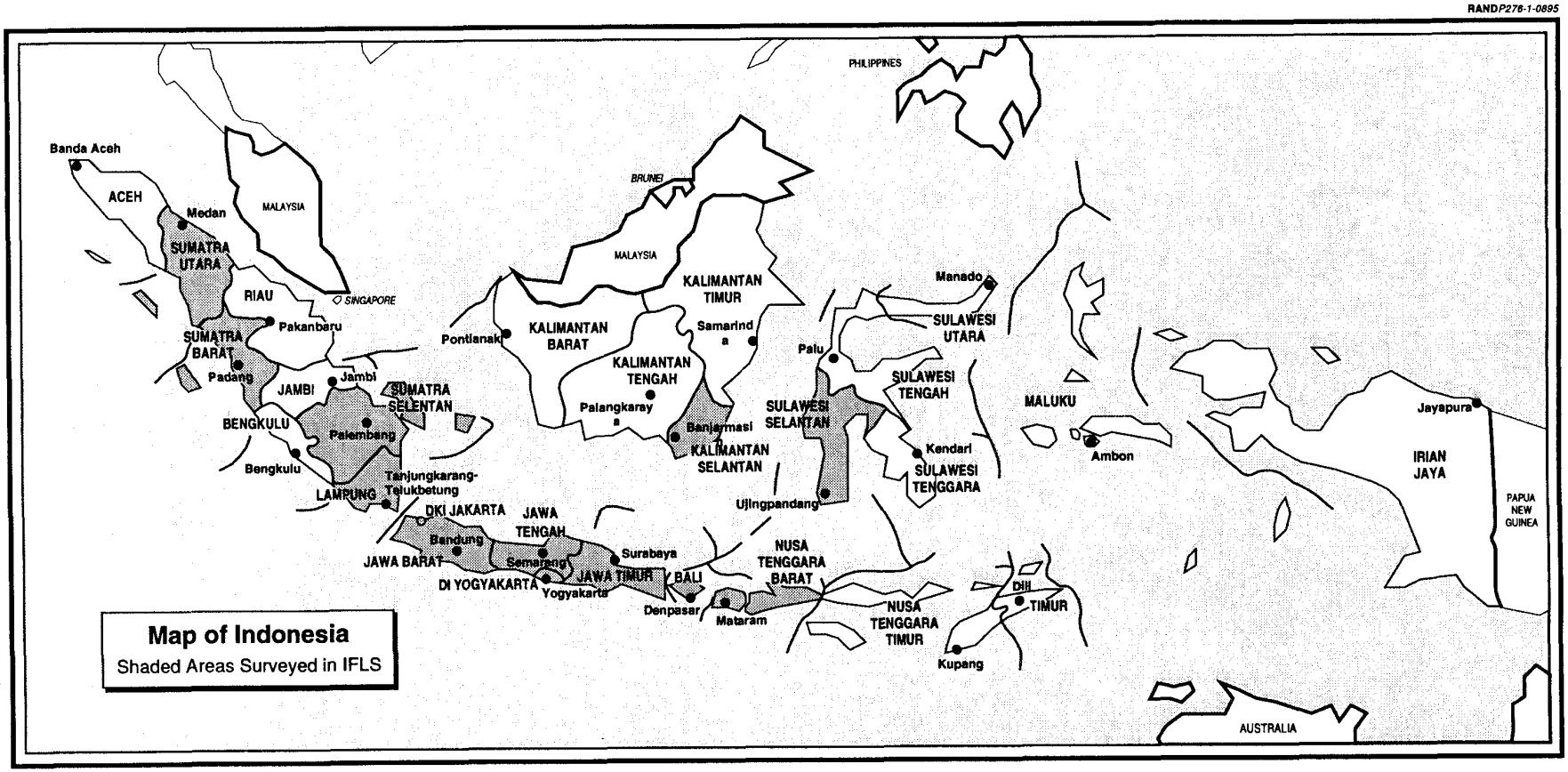

Fig. 1.1—Map of Indonesia

2. HOUSEHOLD SURVEY

The household survey component of the 1993 IFLS was designed to collect contemporaneous and retrospective information on a wide array of family life topics for a representative sample of the Indonesian population. This section describes the important features of the Household Survey, including the household and within household sampling design, survey instruments, and analytical weights. Response rates and interview times are also detailed.

SAMPLE DESIGN AND RESPONSE RATES

Household Selection

The IFLS sampling scheme stratified on provinces, then randomly sampled within provinces. Provinces were selected to maximize representation of the population, capture the cultural and socioeconomic diversity of Indonesia, and be cost effective given the size and terrain of the country. The far eastern provinces of East Nusa Tenggara, East Timor, Maluku and Irian Jaya were readily excluded due to the high costs of preparing for and conducting fieldwork in these more remote provinces. Aceh, Sumatra's most northern province, was deleted out of concern for the area's political violence and the potential risk to interviewers. Finally, due to their relatively higher survey costs, we omitted three provinces on each of the major islands of Sumatra (Riau, Jambi, and Bengkulu), Kalimantan (West, Central, East), and Sulawesi (North, Central, Southeast). The resulting sample consists of 13 of Indonesia's 27 provinces: four on Sumatra (North Sumatra, West Sumatra, South Sumatra, and Lampung), all five of the Javanese provinces (DKI Jakarta, West Java, Central Java, DI Yogyakarta, and East Java), and four provinces covering the remaining major island groups (Bali, West Nusa Tenggara, South Kalimantan, and South Sulawesi). The resulting sample represents 83 percent of the Indonesian population (see Figure 1.1). Table 2.1 shows the distribution of Indonesia's population across the 27 provinces, highlighting the 13 provinces included in the IFLS sample.

The IFLS randomly selected enumeration areas (EAs) within each of the 13 provinces. The EAs were chosen from a nationally representative sample frame used in the 1993 SUSENAS, a socioeconomic survey of about 60,000 households.[1] The SUSENAS frame, designed by the Indonesian Central Bureau of Statistics (BPS), is based on the 1990 census. The IFLS was based on the SUSENAS sample because the BPS had recently listed and mapped each of the SUSENAS EAs (saving us time and money) and because supplementary EA-level information from the resulting 1993 SUSENAS sample could be matched to the IFLS-1 sample areas. Table 2.1 summarizes the distribution of the approximately 9,000

[1]A similar approach was taken by the Demographic and Health Surveys (DHS) fielded in Indonesia in 1987 and 1991.

SUSENAS EAs included in the 13 provinces covered by the IFLS. The SUSENAS EAs each contain some 200 to 300 hundred households, although only a smaller area of about 60 to 70 households was listed by the BPS for purposes of the annual survey.

Using the SUSENAS frame, the IFLS randomly selected 321 enumeration areas in the 13 provinces, over-sampling urban EAs and EAs in smaller provinces to facilitate urban-rural and Javanese-non-Javanese comparisons. A straight proportional sample would likely be dominated by Javanese, who comprise more than 50 percent of the population. A total of 7,730 households were sampled to obtain a final sample size goal of 7,000 completed households. Table 2.1 shows the sampling rates that applied to each province and the resulting distribution of EAs in total, and separately by urban and rural status.

Within a selected EA, households were randomly selected by field teams based upon the 1993 SUSENAS listings obtained from regional offices of the BPS. A household was defined as a group of people whose members reside in the same dwelling and share food from the same cooking pot (the standard BPS definition). Twenty households were selected from each urban EA, while thirty households were selected from each rural EA. This strategy minimizes expensive travel between rural EAs and reduces intra-cluster correlation across urban households, which tend to be more similar to one another than do rural households.

Table 2.2 shows the resulting sample of IFLS households by province, separately by completion status. Of the 7,730 households sampled, a complete interview was obtained for 7,039 households or 91.1 percent of households. A partial interview (i.e., roster-level information was obtained but only a subset of selected household members were interviewed) was obtained for another 185 households (2.4 percent of households), while 506 sampled households (6.5 percent) were not interviewed.[2] The completion rate ranged from a low of 87 percent to a high of 97 percent across the thirteen provinces. The final sample of 7,224 partially or fully completed households consists of 3,436 households in urban areas (90.7 percent partial/full completion rate), and 3,788 households in rural areas (95.9 percent partial/full completion rate).

Selection of Respondents within Households

For each household selected, a representative member provided household-level demographic and economic information. In addition, several household members were randomly selected and asked to provide detailed individual information.[3] The household- and individual-level information collected in the interviews is discussed in the next section.

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[2]In about two-thirds of the cases, no interview was obtained either because the building was vacated (14 percent), the household refused (25 percent), or no one was at home (29 percent). Other households were not interviewed due to a demolished building, illness, or an inability to locate the building.

[3]We initially considered the possibility of conducting detailed interviews with all household members age 15 and above and implemented this approach in the first pretest. However, this strategy proved too costly in terms of the additional time required to schedule interviews with all adults in the household, and the additional interview time required.

The within-household respondent selection rules reflected our interest in sampling both women of reproductive age and older individuals in the same survey. Traditional demographic surveys often collect detailed data only for the first class of respondents (e.g., ever-married women less age 15 to 49), and possibly their younger children. Other surveys with an aging focus may conduct detailed interviews only with older respondents. The IFLS combines both samples into one. In addition, the within-household sampling rules were designed to include never married women or men, a group that is often excluded from detailed study in demographic surveys.

Given this motivation, the IFLS-1 conducted detailed interviews with the following household members:

- The household head and their spouse;
- Two randomly selected children of the head and spouse aged 0 to 14 (interviewed by proxy);
- An individual age 50 and above and their spouse, randomly selected from remaining members;
- For a randomly selected 25 percent of the households, an individual age 15 to 49 and their spouse, randomly selected from remaining members.

With these sampling rules, all adults age 15 and above had a positive probability of being selected for interview. The group of eligible children age 0 to 14 included all biological, step or adopted children of the household head and spouse, as well as any children fostered to any adult in the household. Respondents selected who are over age 50 and not the household head or spouse are labeled the Senior respondent and spouse, while those selected under the final category are labeled the Nonsenior respondent and spouse.[4]

Based on the above sampling rules, the number of adults eligible for interview could have been as high as six per household, but the maximum number actually interviewed was restricted to four for budgetary reasons. Table 2.3 shows the selection rules that were applied when 5 or more adults were selected for interview in the field. If six adults were selected, the Nonsenior respondent and spouse were not interviewed. When five adults were selected to be interviewed, the respondent without a spouse was dropped (retaining the two married couples), unless that individual was the household head. In the latter case, the senior couple was not interviewed. In this way, the household head and spouse were always interviewed, and interviews were always obtained for both individuals in a married couple.

Information from the household roster in the 1991 DHS was used to simulate the effect on the sample sizes of various respondents based on different within household sampling rules, including the final strategy that was adopted. This allowed us to determine expected sample sizes with a high degree of accuracy.

[4]In order to facilitate the process of sampling respondents within households in the field and as a way to reduce the potential for interviewer error, labels were pre-printed for each control book with random numbers to use in implementing the selection rules. Details are provided in Appendix A.

The maximum number of four adults selected for detailed interview was a binding constraint in fewer than one percent of all households.

The distribution of household members by characteristics and interview status for all IFLS households is summarized in Table 2.4. The sample fractions, as would be expected given the above sampling rules, resulted in the highest within-household sampling rates for those 50 and above, and those most likely to be the household head or spouse of the household head. For example, over 95 percent of eligible household members aged 50 and above were selected for detailed interview. Approximately 90 percent of ever married men and women aged 30 to 49 were also selected for interviewed. A smaller fraction, approximately 70 percent, of ever married persons below age 30 were interviewed since they were less likely to be the head or spouse of the head. Among those 15 and above, never married persons were the least likely to be interviewed, from 12 percent for those aged 15 to 19, to 33 percent for those aged 40 to 49. Finally, more than 70 percent of children aged 0 to 14 of the head and spouse (as well as those children without a parent in the household) were selected for detailed interview. Although the remaining 1,134 children of other household members were technically not eligible for interview, it appears that detailed information was collected for a small fraction of these remaining children (typically the grandchildren of the household head and spouse).

Table 2.5 demonstrates the advantages of our approach of sampling both the older and younger generations in the same survey. About three in four of the 7,224 households sampled in the IFLS had an ever-married woman age 15 to 49, while an individual age 50 and above was a member of nearly one in two households in the sample. Rather than conducting detailed interviews in only 50 percent or 75 percent of households, by conducting in-depth interviews with individuals in all households, the IFLS allows analyses of representative samples of both younger and older generations, as well as households where these generations coreside. For example, of the 5,418 households with an ever married woman under age 50, 1,912 households (35 percent) also had a household member age 50 and above. Another 1,571 households had an older adult but no woman of reproductive age. However, because these households were in the same enumeration areas, it was possible to increase the sample of older individuals interviewed for a relatively small increase in field costs.

Note also that a remaining 235 households (3 percent of the total) would typically be excluded from a survey focusing only on women of reproductive age or a survey sampling only the older population. By including this small fraction of remaining households, also in the same survey areas, we maintain the representativeness of the sample for other population groups (e.g., never married women and men) for a small marginal cost. This greatly enhances the research potential of the data.

SURVEY INSTRUMENTS

The IFLS was a comprehensive multipurpose survey that asked both current and retrospective questions at the household and individual levels. The household questionnaire was modeled on other data collection efforts, including the first and second Malaysian Family

Life Surveys (MFLS-1, MFLS-2), the Indonesian Resource Mobilization Study (IRMS) and the Indonesian Demographic and Health Surveys (IDHS). The collection of retrospective information, in particular, was motivated by the success of obtaining this type of data in MFLS-1 and MFLS-2 (Haaga, 1986; Sine and Peterson, 1993).

Table 2.6 summarizes the structure of the questionnaire which was divided into several books, and subdivided within books into modules.[5] Three sections of the questionnaire collected information at the household level: a control book (Book K) completed by the enumerator; and Books I (Household Roster) and II (Household Economy) administered to a knowledgeable household member. The three remaining questionnaire books collected individual level data from adult respondents (Book III), ever-married women respondents (Book IV), and, by proxy, young children (Book V). Finally, individual measures of height and weight were recorded in a single anthropometric record for each household (Book CA). The discussion summarizes the content of each of these questionnaire sections in turn.

Questionnaire Modules

Book K: Control Book. The interviewer completed a control form for each sampled household in the IFLS. The first module in the book provided sample identification while the last module recorded visit information, including reasons for nonresponse. Data from the latter section were used during field work to track progress, and to calculate response rates and interviewer productivity. Another section of the book was used to implement the within-household respondent selection rules, determining which books would be completed by the household head, their spouse, and whether an interview would also be conducted with a Senior respondent (and their spouse), a Nonsenior respondent (and their spouse), and up to two children of the head and spouse. This book was also used to record information that might be used to relocate households at a later date. This included the name of the location they might move to if they expected to move in the future, and the name of a relative or friend who might know there whereabouts if they no longer resided at the current address.

Book I: Household Roster and Characteristics. This questionnaire book was answered by the spouse of the household head or person most knowledgeable about household affairs. The household roster section of the book recorded the basic demographic characteristics of all household members (including gender, age, marital status, religion, relationship to head, education, and main activity). A second module collected information on the characteristics of the housing structure, including size, construction materials, source of drinking water, type of toilet facility, method for disposing of sewage and garbage, and interview observations on other general sanitary conditions. A third section recorded an

[5]In addition to the modules summarized in Table 2.6, each questionnaire book included an interviewer evaluation section at the end. This form was used to record the conditions of the interview (who else was present, whether assistance in answering questions was provided by others), the respondent's level of attention, and any other relevant information about the interview environment.

inventory of household consumption which may be used as a proxy for long-run income.[6] The consumption module listed the value of foods purchased and self-produced in the last week, purchases of personal care and household items during the last month, and purchases of durable goods in the last year. Quantities and purchase prices for a number of frequently purchased staples were also collected. The final module of the book collected information about knowledge of outpatient health care providers (for linkage with the facility data).

Book II: Household Economy. This section of the questionnaire was answered by the household head or person most knowledgeable about household affairs. The household economy questions in the first two modules focused on the revenue, expenses, and value of assets of household-owned agricultural and non-agricultural businesses. The next section recorded the labor income for all individuals age 10 and above who were not selected for detail interview, as well as household-level aggregate amounts of nonlabor income. Combined with individual-level data on labor and nonlabor income collected in Book III, the information collected in this book can be used to provide a complete picture of current household income resulting from market-wage income, self-employment income, family businesses, informal-sector activities, and unearned income. The fourth module recorded the current value of household nonbusiness assets (e.g., land, livestock, jewelry), as well as asset sales and purchases in the last year. Information on asset ownership and ownership shares was also recorded where relevant. Another module collected information about economic shocks experienced by the household in the last five years, and the household's response to the shock. The last section elicited information about formal and informal health insurance arrangements that cover members of the household.

Book III: Adult Information. The most detailed section of the questionnaire contained current and retrospective questions that were administered to all selected adult respondents age 15 and above. The IFLS collected retrospective histories on many aspects of family life (nuptuality, fertility, migration, labor force participation, wages). Current information was also collected on health status and health care utilization, assets, nonlabor income, and transfers.

Education history. The education history recorded the highest level of education attended and highest grade repeated. For each level of schooling attended (elementary, junior high, senior high and post-secondary) , detailed information collected included the name, location and type of school and whether any grade was repeated. Additional information was collected for the most recent school or current school including the construction materials, class size, travel time, and economic support received. Details about school expenses were collected for those currently enrolled or enrolled in the last year.

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[6]The module used for IFLS was derived from the Indonesian Resource Mobilization Study questionnaire and received extensive pretesting. It is a short consumption module (about 20 minutes). Experimental comparisons with Indonesian Central Bureau of Statistics three-hour budget expenditure survey indicate that the short module accurately measures aggregate food and non-food consumption (Newman, 1993).

Employment history and time allocation. Respondents were asked for extensive current and retrospective information about their labor market experiences. For purposes of the employment module, 'work' was defined broadly to include both formal and informal sector, full-time and part-time, and seasonal and year-round activities. Detailed information, including occupation, industry, type of employer, hours, and wages, for up to two jobs was recorded for those employed at the time of the survey. A nearly identical set of employment information was collected on an annual basis for the last five years, for the first job, and for the job held 10 years age (in 1983) and 20 years ago (in 1973). A brief module followed the employment history which recorded the respondent's time allocation for the past week. Activities included working for wages and other income-generating activities such as working on a family farm or nonfarm business, as well as time spent in school or studying, and performing household chores.

Marriage history and pregnancy summary. A complete marriage history was obtained through a module that asked respondents about the start and end dates of their unions, including characteristics of former or non-coresident spouses, and dowries and marriage arrangements for the first marriage. At the end of this section, a brief pregnancy summary elicited information from ever-married women about all pregnancy events using the standard Brass questions.[7]

Migration and circulatory migration histories. Two modules collected information on the geographic mobility of individuals, as well as the causes and consequences of migratory movements, including short-stay and circulatory migration. The migration module recorded information about the location at birth, age 12, and each subsequent location where a move crossed a *desa* (village) boundary and lasted for 6 months or longer. Information was also recorded for short-term and circulatory moves that took place in the last two years, defined as moves that crossed a *desa* boundary and lasted for at least a month. For each short- and long-term move, the instrument collected data on dates and locations of moves, the motivation for moving, and distance moved. Additional detail was collected for moves that at the time of the respondent's first marriage, as well as the most recent move, including economic support received before and after moving.

Smoking, health status, physical performance, and health care utilization. A series of modules collected information on smoking, physical functioning, acute morbidity, self-treatment, and inpatient and outpatient utilization. Current health status for respondents was assessed as follows: (1) functionally, through self-reported questions about the ability to perform various activities of daily living (ADLs); (2) medically, through questions about the presence of disease symptoms and impairments; and (3) subjectively, through self-assessments. Information on health care utilization included from whom and where medical care was received (e.g., self-treatment, traditional or modern providers), how much it cost, who paid for it, how far the respondent traveled, and whether drugs were purchased.

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[7]Since this module was also included in Book IV which was asked of ever-married women under age 50, only women age 50 and above answered this section in Book III.

Information was collected for self-treatment and outpatient visits that occurred in the last four weeks, while the time frame for inpatient visits covered the previous 12 months.

Noncoresident family roster and transfers. This module recorded detailed information on the location and sociodemographic characteristics of all non-coresident immediate kin (parents, siblings, and children), so that a measure of the complete transfer-choice set is created. The sociodemographic characteristics of non-coresident family members (age, sex, relationship, educational attainment, living arrangements, health status, main activity, occupation, and ages at death if dead) was collected for the respondent's parents, and up to four siblings and four children.[8] At the same time, specific questions about transfers separately for those involving money, goods, and time to and from these noncoresident household members in the last twelve months was recorded. Details about inheritances from parents was also solicited. Finally, a follow-on section recorded transfers to and from other family members, friends, employers, or associations in a similar fashion.

Individual assets and nonlabor income. In addition to the information on labor incomes collected in the labor force participation section, a final module recorded information about nonlabor income and assets at the individual level. The information included details about asset ownership in various categories (land, buildings, other durables, financial instruments, jewelry, etc.), asset values, and sales and purchases in the last year.

Book IV: Ever-Married Woman Information. This section of the questionnaire was administered to all ever-married women 15 to 49 years old. (Book IV respondents also completed Book III.) This book collected retrospective life histories on marriage, children ever born, pregnancy outcomes and infant feeding, and contraceptive use. The marriage and pregnancy summary sections replicated those included in Book III so that women who answered Book IV skipped these modules in Book III. The unique modules in book four are described below.

Pregnancy and infant feeding history. This module enumerated all pregnancy events and recorded the pregnancy outcome and date, and for live birth outcomes, the child's gender and name, whether the child was alive and date of death if the child died, and whether the child was ever breastfed and the length of breastfeeding. For pregnancy events in the last

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[8]Information was recorded for both parents of the respondent regardless of whether they were living or dead. In addition, a complete roster of all noncoresident siblings and children currently alive or who died in the last twelve months was obtained, with basic demographic characteristics recorded for each individual. For those respondents with more than four siblings on this roster, additional detailed information was recorded only for the oldest and youngest sibling, and the two siblings closest to the respondent in birth order. When a respondent had more than four noncoresident children listed on the separate child roster, additional detail was collected for the oldest child and youngest child, and the two children in the middle of the birth order. Details were collected for the complete opportunity set when respondents had four or fewer noncoresident siblings and four or fewer noncoresident children. This limit of four noncoresident siblings and four noncoresident children was imposed to constrain the total length of the interview.

five years, additional information was recorded including whether and where prenatal care was received, and (except for miscarriages) birthweight, and the type of delivery facility and health care provider. In addition, considerable information about breastfeeding and the introduction of other foods was collected for children born in the last five years, with even more detail recorded for children born in the last two years.

Contraceptive knowledge and use, and contraceptive calendar. Information on contraceptive knowledge was assessed in this module by asking respondents whether they had ever heard of a series of modern and traditional contraceptive methods, whether they had ever used the method, and, if appropriate, whether they knew where to obtain the method, the distance and travel costs to the facility, and the price of the method.

The IFLS contraceptive calendar was modeled, in part, on the Indonesian Demographic and Health Survey (DHS). The monthly five-year retrospective contraceptive calendar was administered to women whose first marriage occurred more than 10 years ago (before January 1984), while the contraceptive calendar covered the full period since the first marriage for women whose first marriage occurred since January 1984. The monthly calendar recorded the start and end date of all marriages, pregnancy events, and periods of post-partum amenorhea, abstinence, and contraceptive use. During periods of contraceptive use, months when side effects occurred and type of side effect were recorded. Respondents are also asked to list visits to medical or birth control facilities during the period of use for purposes of resupply, side-effects consultation, or to obtain a new method, and the cost of the visit. Questions on side effects and visits to health care providers related to contraceptive use were only asked for the last two years of the calendar.

Book V: Child Information. This section of the questionnaire was administered by proxy for up to two children under age 15 of the head and spouse (or assignable to the head and spouse). The respondent was the child's mother or female guardian, or the person in the household who takes care of the child. The five modules in this book focused on the child's educational history, morbidities, self-treatment, and inpatient and outpatient utilization ; each module paralleled the one included in the adult questionnaire (discussed above) with some modification to be more appropriate for young children. For example, as with adults, the questionnaire asked about acute morbidities experienced in the last four weeks, self-treatment and outpatient utilization in the past four weeks, and inpatient utilization in the past year. The list of acute health conditions was changed to focus on conditions more relevant for this younger age group. In addition, more detail was included in the education retrospective history which recorded the name and location of the school, type of school, the grade level attended, travel time and costs to reach the school, hours spent in school, characteristics of the school and classroom (e.g., type of flooring, school size, classroom size), whether the child advanced to the next grade, and school expenses and sources of support.

Book CA: Anthropometric Record. This separate recording form was used by a specially trained member of the field team to record measures of height and weight for individual household members. Anthropometric measures were taken of all adults and children selected for detail interview. In addition, the anthropometrists were instructed to measure other children under age 6 who were present in the household at the time of the

interview. The anthropometrist collected height and weight following accepted international standards (United Nations, 1986).[9]

Sample Sizes for Individual Questionnaire Modules

The IFLS within-household sampling plan was designed to ensure that many households would provide individual-level information for multiple respondents. Table 2.7 reflects the extent to which this occurred for Books III, IV and V. The IFLS was designed to obtained interviews with adult respondents (selected for interview either as the household head, selected Senior or selected Nonsenior) as well as their spouses. Thus, nearly 6000 households had at least two adults complete Book III. More than 1100 households had three or more adults interviewed, while four adults were interviewed in only a small fraction of households (164 cases). Multiple detailed interviews with an ever-married woman less than 50 (Book IV) were extremely rare (only 107 cases), as the within-household selection rules favored selecting women from different generations. Finally, detailed education and health information (Book V) was collected for nearly 3000 sibling pairs under age 15.

INTERVIEW TIMES AND RESPONDENT BURDEN

Although the set of questionnaire instruments for IFLS appears extremely long, the average time spent in sample households was about 4 hours. The burden on any individual respondent was, of course, less than this amount as interviewers typically met with multiple respondents in each household. Moreover, many sections of the questionnaire were left blank by respondents because they had no events to report (e.g., no recent inpatient or outpatient utilization), or because their life history of events was comparatively short (e.g., marriages, pregnancies, migrations).

Table 2.8 summarizes the number of respondents by questionnaire books and some key details regarding the time and logistics involved in administering the separate questionnaire sections. The current and retrospective individual-level information collected in Book III was clearly the most time consuming, followed closely by the household roster, Book I (which included the consumption module). Book II required about one half the time needed to administer Book I, while Book IV was about two-thirds the length of Book III. The child-level information in Book V was collected in the shortest time. The fact that many respondents skipped the detailed questions in many of the modules is reflected in the fact

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[9]Measures of weight were taken using Seca Model 770 scales, while recumbent length or standing height measures were taken using Shorr measuring boards. Both of these measuring instruments have been used in survey work in other countries and are suitable for field work given their portability, durability, and accuracy. The Seca Model 770 scales (floor model) have a digital readout and are accurate to the nearest 0.1 kg. Children who were too young or not able to stand on their own were held by a parent and weighed (after the scale had been adjusted to zero with just the parent alone on the scale). Standing height was measured for adults and children over age two, and recumbent length was measured for younger children.

that the median time is always several minutes shorter than the mean time. In 85 to 94 percent of the cases, interviewers were able to completely administer the questionnaire book during one visit to the household A repeat visit was more likely to be necessary for female respondents (Book III, Book IV, and typically Book I), while the need to weigh and measure the designated household members required the anthropometrist to make a repeat visit in 14 percent of the cases.

The respondent burden may be manifested in the difficulty of providing the level of detail specified in the questionnaire, as well as a general lack of interest by the respondent during the interview. The enumerators provided an evaluation, upon completion of Books I through V, that provides some insight into the quality of the interviewer-respondent interaction. Table 2.9 summarizes the distribution of responses to two questions completed by the interviewer at the end of each book: CP2: "What is your evaluation of the accuracy of the respondent's answers?"; and CP3: "What is your evaluation of the seriousness and attentiveness of the respondent?" Interviewers made their evaluation on a five point scale ranging from "excellent" to "very bad." [10]

The tabulations reveal that respondents were typically highly engaged in the interview process: with the exception of Book IV, at least 60 percent of interviewers rated the respondents level of engagement as "excellent" or "good" and the level for Book IV is only slightly lower at 57 percent. By comparison, the interviewer's subjective assessment of the accuracy of the respondent's answers is somewhat attenuated, but still interviewers rated the respondent's accuracy in the top two categories in more than half of all interviewers. The number of cases ranked at the lowest level on either assessment never exceeds 11 for any given book, and the fraction in the next lowest category totals only a few percent. These evaluations suggest that respondents took great care in answering the detailed contemporaneous and retrospective questions contain in the IFLS questionnaire modules. While the quality of the data ultimately rests on an assessment of specific questionnaire items, the interviewer assessments suggest a high level of engagement by respondents during their interviews.

SAMPLING WEIGHTS

The IFLS Household Survey was designed to support a range of analyses based on a smaller, but richly detailed micro-level database covering a wide array of demographic, economic, and health outcomes. The survey was not envisioned as a database to produce national-level or provincial-level estimates of demographic or economic variables. (Other

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[10]A small fraction of cases have missing information for these interviewer evaluations, most likely due to an interruption in the interview so that the full book was not completed. A considerably higher fraction, about 11 percent, of the Book IV interviews have missing interviewer evaluations which may reflect a higher incidence of interruptions or the design of that particular book. The contraceptive calendar, section CX, was the last module in Book IV and was a separate pull-out section. Interviewers may have forgotten to return to section CP to complete their evaluation once the calendar was filled in.

Indonesian surveys such as the SUSENAS are better suited for this purpose.) The public use file does include a series of household and individual analytic weights so that analysts can adjust, when appropriate, for the IFLS household and within-household sampling procedures. The weights are discussed further in *The 1993 Indonesian Family Life Survey: Appendix C, Household Codebook* (DRU-1195/4-NICHD/AID).

Household weights

The household weights are designed to correct for the over-sampling of urban EAs and EAs in smaller provinces discussed above and summarized in Table 2.1, as well as the differential sampling rates in urban and rural EAs. When the household weights are applied to the IFLS household sample, the resulting weighted distribution will reflect the 1993 distribution of households by urban and rural status within each of the 13 Indonesian provinces covered by the IFLS. The 1993 distribution of households by province and urban/rural status was generated from 1993 projected population counts provided by BPS and from average household sizes computed from the 1993 SUSENAS. BPS projected population counts were divided by average household sizes to get an estimate of the number of households in 1993 in each province/urban–rural strata.

Individual weights

There public use file contains three types of individual weights: respondent weights, roster weights, and anthropometry weights.

Respondent weights. The respondent weights are designed to adjust for the within-household sampling scheme used to select respondents for detailed interview. From the household roster, the number of household members eligible to be a Book III, IV or V respondent within each household was determined based on the intra-household sampling rules discussed above. Sampling probabilities were then computed for individuals in each of four sampling groups:

1) household heads and their spouse;
2) among remaining members, individuals age 50 or over and their spouse;
3) among remaining members, individuals age 15-49 and their spouse;
4) children of household head/spouse age 0-14 (includes fostered children).

Individuals in the third group were eligible for interview in one out of every four households, so individuals in that group had only a 25 percent probability of selection in addition to their probability of selection within that group. Furthermore, a household could have a maximum of four Book III respondents (see the earlier discussion of the within household sampling rules)/ Because only 13 households had more than 4 selected respondents, no additional adjustment was made to the weights for these cases.

The computed sampling probability for the individual respondent was then inverted to create a respondent weight for that person. Only eligible respondents of Books III, IV or V were given a respondent weight; respondents for those books who were incorrectly chosen by interviewers were given a respondent weight of zero. Examples of such "ineligible" respondents are children age 0-14 who are not biological or adopted children of the household

head and spouse but who have a parent in the household, and individuals in the third group who were interviewed even though the household was not in the 25 percent of the sample where such respondents were eligible for interview.

The respondent weight (i.e., the inverted sampling probability) was then normalized within each of the sampling groups above. By construction, this normalized weight sums to the number of eligible respondents within the respondent's sampling group across the 7,224 households where a Book I was completed. Finally, the normalized respondent weight was capped at a value of 3 (99 percent had a weight of 3 or less) to adjust for outliers: individuals with tiny probabilities of selection and thus given very large weights could distort weighted tabulations.

Roster weights. The roster weights are designed so that the weighted age and sex distribution of individuals in the IFLS-HH roster data will reflect the 1993 population age and sex distribution by urban and rural strata within the 13 provinces covered by the survey. Five-year age groupings were used, where individuals age 75 and older were treated as one group. The population distribution was based on data from the 1993 SUSENAS. The roster weight is the ratio of the 1993 SUSENAS population proportion to the IFLS-HH household roster proportion for the given province/urban-rural/sex/age group strata into which the individual falls. A roster weight was calculated for all household members listed in the roster (Book I, section AR). If the individual's age was missing, an age group for the individual was imputed. The imputation involved examining the age of the individual's spouse and children; if the individual was a Book III, IV or V respondent, dates and ages provided in those sections were used as part of the imputation.

Anthropometry weights. The anthropometry weights are designed to account for the intra-household sampling scheme used to select the respondents who were weighed and measured. All respondents of Books III, IV or V and any additional children under age 6 living in the household were eligible for anthropometric measurement. Respondents of Books III, IV and V who were measured were given an anthropometry weight equal to their respondent weight (unnormed and uncapped); other children under age 6 were given the household weight (based on the 7,224 household sample). Household members who were measured but not eligible (i.e., they did not fit the selection criteria) were given an anthropometry weight of zero. The initial anthropometry weight was then normalized to sum to the number of those across all households who were eligible to be measured, to account for the fact that not all household members eligible for anthropometric measurement were actually measured. Finally, as with the respondent weight, the anthropometry weight was capped at 3 to control for those with very small probabilities of selection.

Table 2.1

1993 IFLS Household Sampling Parameters
(IFLS Provinces in italics)

Province	Census code	1990 Population			IFLS Provinces		IFLS Sample EAs		
		N (1,000)	%	% Urban	1993 SUSENAS EAs	Sampling rate	Total	Urban	Rural
Aceh	11	3,476	1.9	16					
North Sumatra	12	10,391	5.7	35	732	2:1	26	16	10
West Sumatra	13	4,041	2.2	20	502	3:1	14	6	8
Riau	14	3,372	1.9	31					
Jambi	15	2,059	1.1	20					
South Sumatra	16	6,403	3.5	29	428	2:1	15	8	7
Bengkulu	17	1,213	0.7	21					
Lampung	18	6,108	3.4	12	244	2:1	11	3	8
DKI Jakarta	31	8,352	4.6	100	380	2:1	40	40	0
West Java	32	35,973	19.8	33	1282	1:1	52	31	21
Central Java	33	28,733	15.8	26	1578	1:1	37	19	18
DI Yogyakarta	34	2,923	1.6	48	216	4:1	22	16	6
East Java	35	32,713	18.0	26	1814	1:1	45	23	22
Bali	51	2,798	1.5	27	320	4:1	14	7	7
West Nusa Tenggara	52	3,416	1.9	17	244	4:1	16	6	10
East Nusa Tenggara	53	3,306	1.8	19					
East Timur	54	762	0.4	18					
West Kalimantan	61	3,292	1.8	48					
Central Kalimantan	62	1,431	0.8	26					
South Kalimantan	63	2,636	1.5	23	380	4:1	13	6	7
East Kalimantan	64	1,930	1.1	16					
North Sulawesi	71	2,504	1.4	23					
Central Sulawesi	72	1,735	1.0	17					
South Sulawesi	73	7,045	3.9	24	912	2:1	16	8	8
Southeast Sulawesi	74	1,382	0.8	17					
Maluku	81	1,885	1.0	19					
Irian Jaya	82	1,671	0.9	24					
TOTAL		181,548	100.0		9,032		321	189	132

SOURCE: 1990 population data and 1993 SUSENAS sample frame provided by the Indonesian Central Bureau of Statistics.

Table 2.2

Sample Sizes for 1993 IFLS Household Survey by Interview Status

Province	Number of EAs	Number of Households				Percent		
		Complete	Partial	None	Total	Complete	Partial	None
North Sumatra	26	543	20	57	620	87.6	3.2	9.2
West Sumatra	14	335	15	10	360	93.1	4.2	2.8
South Sumatra	15	340	8	22	370	91.9	2.2	5.9
Lampung	11	269	5	26	300	89.7	1.7	8.7
DKI Jakarta	40	724	7	69	800	90.5	0.9	8.6
West Java	52	1084	27	139	1250	86.7	2.2	11.1
Central Java	37	858	21	41	920	93.3	2.3	4.5
DI Yogyakarta	22	438	40	22	500	87.6	8.0	4.4
East Java	45	1032	13	75	1120	92.1	1.2	6.7
Bali	14	340	0	10	350	97.1	0.0	2.9
West Nusa Tenggara	16	402	5	13	420	95.7	1.2	3.1
South Kalimantan	13	312	11	7	330	94.5	3.3	2.1
South Sulawesi	16	362	13	15	390	92.8	3.3	3.8
TOTAL	321	7039	185	506	7730	91.1	2.4	6.5

SOURCE: Indonesia Family Life Survey, 1993.

Table 2.3

1993 IFLS Within-Household Respondent Selection Rules to Limit Adult Respondents to a Maximum of Four

Respondent						
Household head	Spouse of household head	Senior respondent	Spouse of senior respondent	Nonsenior respondent	Spouse of nonsenior respondent	Drop
[1]	[2]	[3]	[4]	[5]	[6]	
[X]	[X]	[X]	[X]	X	X	[5], [6]
[X]	[X]	[X]	[X]	X		[5]
[X]	[X]	X		[X]	[X]	[3]
[X]		X	X	[X]	[X]	[3], [4]

NOTE: [X] = Respondent selected for interview and retained.
X = Respondent selected for interview but dropped due to four adult limit.

Table 2.4

Within-Household Sample Sizes for 1993 IFLS by Interview Status

	Total			Males			Females		
		Interviewed			Interviewed			Interviewed	
	N	N	Percent	N	N	Percent	N	N	Percent
Children of head/spouse:									
0 – 5	3545	2686	75.8	1843	1428	77.5	1702	1258	73.9
6 – 10	3624	2647	73.0	1812	1316	72.6	1812	1331	73.5
11 – 14	3140	2272	72.4	1573	1140	72.5	1567	1132	72.2
Other children:									
0 – 5	686	81	11.8	353	45	12.7	333	36	10.8
6 – 10	270	35	13.0	125	20	16.0	145	15	10.3
11 – 14	178	27	15.2	92	15	16.3	86	12	14.0
Ever married:									
15 – 19	319	149	46.7	38	9	23.7	281	140	49.8
20 – 29	3128	2246	71.8	1126	709	63.0	2002	1537	76.8
30 – 39	4288	3850	89.8	2016	1787	88.6	2272	2063	90.8
40 – 49	2849	2649	93.0	1445	1362	94.3	1404	1287	91.7
Never married:									
15 – 19	3315	382	11.5	1738	206	11.9	1577	176	11.2
20 – 29	2286	280	12.2	1403	182	13.0	883	98	11.1
30 – 39	246	47	19.1	123	20	16.2	123	27	22.0
40 – 49	54	18	33.3	21	6	28.6	33	12	36.4
Any marital status:									
50 – 59	2485	2433	97.9	1117	1098	98.3	1368	1335	97.6
60 – 69	1612	1570	97.4	773	758	98.1	839	812	96.8
70 – 79	718	686	95.5	334	318	95.2	384	368	95.8
80 and above	283	269	95.1	104	101	97.1	179	168	93.9

SOURCE: Indonesia Family Life Survey, 1993.

NOTE: Respondents where the age is unknown are excluded from the tabulation.

Table 2.5

Distribution of 1993 IFLS Households

Household status:	Senior 50+	No senior 50+	Total
Ever married woman 15-49	1912	3506	5418
No ever married woman 15-49	1571	235	1806
TOTAL	3483	3741	7224

SOURCE: Indonesia Family Life Survey, 1993.

Table 2.6

1993 IFLS Household Questionnaire Books and Modules

Book		Respondent	Module	
K	Control Book	Interviewer and wife of household head or household head	SC	Sampling and enumeration record
			IK	Recontact information
			PS	Within-household sample selection
			FP	Questionnaire tracking form
I	Household Roster and Characteristics	Wife of household head or household head	AR	Household member roster
			KR	Household characteristics
			KS	Consumption
			PP	Outpatient care provider knowledge
II	Household Economy	Household head	UT	Farm business
			NT	Nonfarm business
			PH	Labor and nonlabor income
			HR	Household assets
			GE	Household economic shocks
			AK	Health insurance
III	Adult Information	Each selected respondent age 15 and above	DL	Education history
			TK	Employment history
			AW	Time allocation
			KW	Marital history
			BR	Pregnancy summary (women 50+)
			MG	Migration history
			SR	Circular migration history
			KM	Tobacco smoking
			KK	Health condition
			MA	Acute morbidity
			PS	Self-treatment
			RJ	Outpatient utilization
			RN	Inpatient utilization
			BA	Noncoresident family roster and transfers
			TF	Other transfers
			HI	Individual assets & nonlabor income
IV	EMW Information	Each selected ever-married women age 15 to 49	KW	Marital history
			BR	Pregnancy summary
			CH	Pregnancy and infant feeding history
			CX	Contraceptive knowledge and use
			KL	Contraceptive calendar
V	Child Information	Each selected child 0 to 14 (by proxy, usually mother of child)	DLA	Child education history
			MAA	Child acute morbidity
			PSA	Child self-treatment
			RJA	Child outpatient utilization
			RNA	Child inpatient utilization
CA	Anthropometric Record	One per HH; record for selected adults and children < 14	CA	Anthropometric Measurements

Table 2.7

1993 IFLS Household Questionnaire Instruments: Multiple Respondents for Individual Questionnaires

Number of respondents per household	Individual questionnaire book		
	III Adult Information	IV EMW Information	V Child Information
None	55	2351	2463
One	1223	4766	1771
Two	4807	106	2990
Three	975	1	0
Four	164	0	0
Total respondents	14418	4981	7751

SOURCE: Indonesia Family Life Survey, 1993.

Table 2.8

1993 IFLS Household Questionnaire Instruments: Respondents and Administration Times

Questionnaire book		Number of Respondents	Time to complete (minutes)		Number of visits to complete (percent distribution)		
			Mean	Median	1	2	3
K	Control book	7730	11	6	94.2	5.1	0.7
I	Household roster	7224	47	42	84.8	14.7	0.5
II	Household economy	7185	25	20	92.0	7.9	0.1
III	Adult information	14418	53	45	86.0	13.5	0.6
IV	EMW information	4981	36	30	89.3	10.5	0.2
V	Child information	7751	13	10	93.5	6.5	0.0
CA	Anthropometric record	7167	10	7	84.3	14.0	1.7

SOURCE: Indonesia Family Life Survey, 1993.

Table 2.9

1993 IFLS Household Questionnaire Interviewer Evaluations
(percent distribution)

	Book				
	I	II	III	IV	V
Accuracy of respondent's answers (CP2):					
Excellent	6.5	6.8	6.1	6.4	6.9
Good	49.7	50.6	49.8	46.4	52.4
Fair	40.4	38.9	39.3	34.3	38.3
Not good	2.8	2.5	2.6	2.0	1.0
Very bad	0.1	0.1	0.1	0.0	0.0
Missing	0.5	1.2	2.1	10.9	1.4
Seriousness and attentiveness of respondent (CP3):					
Excellent	9.6	9.9	9.2	8.6	8.8
Good	52.5	53.7	52.9	48.3	54.0
Fair	35.6	33.9	34.4	31.2	35.1
Not good	1.7	1.4	1.4	1.1	0.6
Very bad	0.1	0.1	0.0	0.0	0.1
Missing	0.6	1.2	2.1	10.9	1.4
N	7224	7185	14418	4981	7751

SOURCE: Indonesia Family Life Survey, 1993.

3. COMMUNITY-FACILITY SURVEY

Although characteristics of communities are often hypothesized to affect individual behaviors and outcomes, rarely are household survey data accompanied by detailed data about the communities from which households are sampled. The IFLS is an exception. For each of the 321 communities in which we interviewed households, extensive information was collected from community leaders and through visits to the schools and health facilities available to community members.

SAMPLE DESIGN AND RESPONSE RATES

The goal of the CFS was to collect information about the communities of respondents to the household questionnaire. The information was solicited in two ways. First, the village leader of each community was interviewed about a variety of aspects of village life (the content of this questionnaire is described in the next section).[11] Information from the village leader was supplemented by interviewing the head of the village women's group, who was asked questions regarding the availability of health facilities and schools in the area, as well as more general questions about family health in the community.[12] In addition to the information on community characteristics provided by the two representatives of the village leadership, we visited a sample of schools and health facilities, in which we conducted detailed interviews regarding the institution's activities.

A priori we wanted data on the major sources of outpatient health care, public and private, and on elementary, junior secondary, and senior secondary schools. We defined eight strata of facilities/institutions from which we wanted data. Different types of health providers make up five of the strata, while schools account for the other three. The five strata of health care providers are: government health centers and subcenters (*puskesmas, puskesmas pembantu*); private doctors and clinics (*praktek umum/klinik*); the private practices of midwives, nurses, and paramedics (*perawats, bidans, paramedis, mantri*); traditional practitioners (*dukun, sinshe, tabib, orang pintar*); and community health posts (*posyandu, PPKBD*).[13] The three strata of schools are elementary, junior secondary, and

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[11]In Indonesia, village leaders are typically elected. Most village leaders become members of the Indonesian civil service upon their election.

[12]In addition to having an elected village leader, villages in Indonesia have a Family Welfare Group (PKK). Generally the head of the PKK is the wife of the village leader. The PKK is responsible for implementing a 10-point program. Most of the goals of the program relate to family health. Although the village leader is nominally responsible for family health, activities related to family health are almost always sponsored by the PKK.

[13]We did not visit hospitals for several reasons. For the majority of the Indonesian population hospitals are not a common source of outpatient care. In rural areas hospitals are

senior secondary. Private, public, religious, vocational, and general schools are all eligible as long as they provide schooling at one of the three levels.

Our protocol for selecting specific schools and health facilities for detailed interview reflects our desire that selected facilities represent the facilities available to members of the communities from which household survey respondents were drawn. For that reason we were hesitant to select facilities based solely either on information from the village leader or on proximity to the village center. The option we selected instead was to sample schools and health care providers from lists provided by respondents to the household survey.

For each enumeration area lists of facilities in each of the eight strata were constructed by compiling information provided by the household regarding the names and locations of facilities the household respondent either knew about or used. To generate lists of relevant health and family planning facilities, the CFS drew on two pieces of information from the household survey. The IFLS queried wives of household heads as to whether they, a family member, a friend, or someone else they knew had ever used a particular health facility, such as a health center (section PP of Book I, excerpted in Appendix B). When women responded positively, they were asked to provide the name and location of a facility of that type. When women responded negatively, they were asked if they knew of any facilities of that type, and if so, were asked about the name and location of the facility. These responses provided one source of information regarding health facilities of relevance to community members. Information was collected for four types of facilities/providers: government health centers and subcenters; private clinics; private doctors' practices; the practices of nurses, midwives, and paramedics; and traditional practitioners.

In Indonesia health facilities are also a source of contraceptives. Ever married women between the ages of 15 and 49 were asked whether they knew about various of methods of contraception (Section CX, Book IV, excerpted in Appendix B). When women knew of a method, they were asked to identify the specific facility from which they could obtain that method. For three methods (oral contraceptives, IUDs, and injectables), the name and location of the facility that the woman mentioned was added to the list of health providers if it fell into one of the five strata to be visited by the CFS team. The information from the "knowledge of contraceptive methods" section is the only source of information about the names and locations of community health posts.

The two sources of household information about health facilities are not tied solely to use of those facilities/providers by household members. Though it is possible (and probable) that someone in the household has used the facility that is mentioned, any facility known to the respondent may be mentioned. An alternative procedure would be to base the list on facilities the respondent (or another household member) has actually used in the recent past. We rejected this approach because we felt it would result in a more limited picture of community health care options (since use of health care is sporadic), and possibly be biased by factors such as what illnesses were common around the time of the interview.

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often a long way away and are not easily incorporated into the sampling scheme. Finally, designing an effective hospital questionnaire is quite difficult.

The lists of schools were obtained in a slightly different manner. The respondent to the household roster (Section AR, Book I, excerpted in Appendix B) provided the name and location of all schools currently attended by household members under 25 years of age. Consequently, the lists of schools compiled from household information are all schools attended by at least one member of at least one IFLS household.

For each enumeration area eight lists of facilities (one per strata) were constructed based on the combined household responses from that EA. Tables 3.1 and 3.2 provide the cumulative distributions of the numbers of facilities (by strata) identified within EAs. For example, the combined number of health centers identified was less than six in 80 percent of the 132 rural EAs in which we interviewed. The combined numbers of health centers identified was less than six in 68 percent of the 189 urban EAs in which we interviewed. Thus, on average, the combined household responses in urban EAs generate a longer list of health centers than do the combined responses in rural EAs. On average, the lists are longer in urban areas than in rural areas for doctors/clinics and all levels of schools as well. However, on average, the lists are longer in rural areas than in urban areas for nurses/midwives and for traditional practitioners.

Not all identified facilities are eligible for interview. Facilities were excluded if they had been interviewed in connection with a previous EA, if they were more than a 45 minute motorcycle trip, or if they were located in another province.[14] The facilities on each list were ranked by frequency of mention. These ranked lists provided frames for each stratum from which a sample of two to four facilities was drawn. In all strata, the most frequently mentioned facility was always visited.[15] Additional facilities were randomly selected to fill the quota for that stratum. In each EA, the interview target for health centers and subcenters was four. The target was three for nurse/midwife/paramedic's practices, community health posts, elementary schools, and junior secondary schools. The target was two for senior secondary schools, traditional practitioners, and doctors' practices/clinics.

In some enumeration areas the pooled household responses did not generate a sufficient number of facilities to fill the quota. In these cases information from the village

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[14]It was not feasible to interview facilities that were located in provinces other than those in which the IFLS was conducted because of the difficulty and expense of obtaining the appropriate permissions. The 45-minute rule was made to prevent interviewers from visiting extremely distant facilities. Data from an earlier survey in Indonesia suggested that most outpatient visits are made on foot or using public transportation to providers well within a 45 minute motorcycle trip.

[15]Two forms were used to list the facilities (see Appendix B). The first form, Sample Listing Form I (SDI), provided space to tally up household responses and ascertain whether facilities met the criteria for being visited. Facilities meeting the criteria were listed on the second form, Sample Listing Form II (SDII), in order of frequency of mention. SDII contained a grid with a random priority ordering for all facilities other than the one most frequently mentioned. The priority order in combination with the target number for the particular strata determined which facilities should be interviewed.

leader was used to supplement the sample. The average number of facilities (by strata) interviewed per EA is presented in Table 3.3. Numbers of facilities (by strata) interviewed in each province are presented in Tables 3.4 and 3.5.

SURVEY INSTRUMENTS

Three books constitute the community questionnaire in IFLS-1, while another set of instruments comprise the facility questionnaire. The questionnaire subsections are summarized in Table 3.6.

Community Questionnaires

Two books (Book I and Book II) contain questions for the village leader(s). These questions are asked in a group interview. Ideally the group includes the village leader, one or two of his staff members, and one or two members of the Village Elders Advisory Board, but the composition varies across villages, reflecting who is available and whom the village leader feels is necessary. An additional questionnaire (Book PKK) was administered to the head of the Village Women's Group. In collecting data about the communities of IFLS households, we sought to collect historical as well as contemporaneous information. The modules contained in the books used in the community portion of the CFS are described below. All but section H were included in the questionnaires administered to the village leader and his staff. The questionnaire for the head of the village woman's group consists of Sections H, I, and J.

Control Sheet. The control sheet records basic information on the location of the EA, names of the interviewer, editor, local supervisor, Jakarta supervisor, and field coordinator.

Section A: Transportation. This section determines the location of various institutions (market, bus stop, post office, telephone, administrative cities) relative to the village leader's office, and the mode and time and cost associated with using public transportation to reach these institutions. Additionally, Section A includes questions about the availability of public transportation within the village and the characteristics of and the duration of the year during which the main route to the community is passable.

Section B: Electricity. The questions in this section determine the availability of electricity within the village, the approximate proportion of households using electricity, and the most important sources of electricity (public versus private, individual generator, local community group).

Section C: Water Sources and Sanitation. The first questions in this section determine the primary and secondary sources of water for drinking/cooking and for bathing/laundry. If a piped water system exists, questions are asked regarding: the date of its establishment, the source from which the water is drawn, the frequency of water system disruptions, and the most common source of drinking water prior to the installment of the piped system. Additional questions on water concern the adequacy of the water sources during the dry season and alternative sources should the primary source prove inadequate. The remainder of Section C contains questions about the existence and date of establishment of sewage systems, the most common and other types of toilets, and methods of garbage

disposal. If a garbage collection system exists, questions are asked regarding the start up date and amount of monthly subscription fees.

Section D: Agriculture and Industry. In rural enumeration areas this section identifies the three primary crops grown in the area, the extent of irrigation, whether there are animal husbandry projects, whether the village benefits from agricultural extension projects (and the duration of extension projects), and male, female, and child wage rates for agricultural work. In both rural and urban areas village leaders are queried regarding the presence of cottage industries. The product, location, date of establishment, and wage rates (for males, females, and children) were collected for up to five cottage industries and up to five factories. The remaining questions in the module determine whether the village has a public employment project and if so, the wage rates associated with that project.

Section E: History and Climate. The first questions of Section E record any name changes of the village. Redistricting in Indonesia sometimes results in shifts and splits of administrative boundaries and consequently in name changes of administrative units. Collecting data on the sequence of name changes facilitates matching the IFLS villages to other sources of data on Indonesian communities. The next questions record the typical dates of the rainy season. In the last section the village leader is asked to describe (and date) significant village events since 1980 (e.g., natural disasters, epidemics, crop failures/famines, elections, major changes in infrastructure). The village leader is also asked to estimate the proportion of the population affected by the event.

Section F: Migration. The migration section determines whether, when, and why the village has experienced any significant in- or outmigrations since 1980. An additional set of questions focuses on whether any government projects affecting land use or population size have taken place in or near the village.

Section G: Credit Institutions. The credit module is relatively short, collecting data on the presence, date of establishment, and ownership of formal credit institutions in the village, the distance to the nearest credit institution prior to establishment of a credit source within the village, whether there is an "informal" money lender in the village and if so, the monthly interest rate on a loan of approximately $50.00.

Section H: Price and Availability of Food. Respondents to this section were asked to provide the price (and associated quantity) for a list of 18 commonly purchased food items, such as rice (high, average, and poor quality), cassava, boneless beef, goat, and buffalo, salted fish, sugar, and sweetened condensed milk. Questions were also included regarding food shortages in the 12 months before the interview.

Section I: History of School Availability. This module is designed to collect information on the current and past availability of elementary, junior secondary, and senior secondary schools. For each school listed by the village leader, information was collected about the administration and the location of the school, and the time and transportation costs of reaching the school from the office of the village leader. Additional questions attempted to pinpoint the dates at which elementary, junior secondary, and senior secondary schools first became available to village, and whether there were periods during which schools were not available.

Section J: History of Health Services Availability. This module is similar to Section H, but focuses on health care facilities and providers rather than schools. Questions are also included regarding outreach activities conducted in the village by staff from the area health center (including mass immunization campaigns since 1980), and about health-related volunteer activities in the village.

Section K: Respondent's Identity. This section records the name, age, sex, official position, tenure in position, education level, and length of time living in village for up to six respondents who participated in the interview. The specific sections of the questionnaire in which the respondent participated are also recorded.

Section S: Statistics. This section records miscellaneous characteristics of the village, including topography, altitude, rainfall, number of households, employment structure, conventions of housing construction, and housing prices.

Section OL: Direct Observation. The community interviewer was asked to record observations about the village. Most of these observations serve as indicators of village cleanliness, prosperity, and social cohesion (e.g., do farm animals roam freely in the village, are public areas well-cared for).

Health Facility Questionnaires

Although separate instruments were prepared in IFLS for each of the five types of health facilities, there are strong similarities across the questionnaires for three of the strata: government health centers and subcenters, doctors' practices and clinics, and the practices of paramedics, nurses, and midwives. The similarities maximize comparability, while maintaining distinct questionnaires allows for the fact that different types of facilities provide different types of services. Of the health facility questionnaires, the Government Health Center instrument was the most comprehensive. The modules that comprise this questionnaire are described briefly below. The private practitioner modules were similar in content, although some modules were scaled back to reflect the fact that most private practices offer a less elaborate array of services. Private practitioners were asked to answer the hypothetical patient vignettes (see Sections H, I, J, K below).

Section A: Head of the Facility/Practice. This module is designed to collect information about the director of the health center (who is typically a physician), such as age, tenure in position, education, and ability to speak the local language. The module also attempts to ascertain how much time the director spends examining patients, performing outside administrative duties, and conducting outreach activities. Because the head of the facility bears chief responsibility for prescribing drugs, this respondent is asked a series of questions about prescribing practices with respect to common medications. This section provides information about the quantity and quality of drugs prescribed by the facility, which can be linked to price information collected from the pharmacist.

Section B: Development of the Facility. Administered to the professional staff member with the longest tenure in the facility, questions in this section focus on the historical development of the facility. Questions concern the dates at which certain broad

categories of services (e.g., inpatient, dental, pharmaceutical, laboratory) became available at the facility, as well as current characteristics of the facility's infrastructure.

Section C: Service Availability. Section C collects information about which and how often services are available and prices of these services. The section also includes questions about outreach activities and about referral practices.

Section D: Staff. Numbers and training levels of full and part-time staff are determined in this section. Information on time spent treating patients and on whether staff practice privately is collected for doctors, nurses, and midwives.

Section E: Equipment and Supplies. Section E asks about the availability of various items of basic equipment needed to provide primary health care, such as stethoscopes, thermometers, and suturing material. Limited questions address the availability of basic laboratory materials (e.g., Giemsa dying solutions and centrifuges).

Section F: Direct Observation. Section F provides a format for interviewers to record their observations about the cleanliness of the examination rooms, laboratory, and vaccine storage room. There is also a module to record the current prices and availability of commonly prescribed medications, as well as the number of weeks in the last six months during specific medications were out of stock.

Section G: Family Planning Services. This section is devoted to the center's family planning program and focuses mainly on training levels of family planning providers.

Sections H, I, J, and K: Hypothetical Patient Vignettes. These sections consist of hypothetical patient vignettes designed to test provider knowledge of process. Five patient scenarios were developed on the following topics: provision of IUDs, provision of oral contraceptives, prenatal care, a child with vomiting and diarrhea, and an adult with a respiratory illness. The director of the health center was asked to identify staff members who would typically treat such cases. Those staff members were then asked to describe the procedures they would implement in providing treatment. Interviewers cross-checked the descriptions against a standard set of procedures and queried respondents about procedures they had not mentioned so that procedures mentioned spontaneously were distinguished from those mentioned after prompting from the interviewer.

The instruments administered to volunteers who staff the Community Health and Family Planning Posts and to traditional practitioners reflect the different roles these types of facilities play in providing health services. The Health Post module ascertained the characteristics of the volunteer staff (including general education and training in health), frequency of contact with Health Center outreach workers, services offered at the post, and also asked some general questions regarding health problems in the village. Additionally, the food price module (Section H) of the community questionnaire was included to provide multiple responses to questions on food prices. The traditional practitioner module collects data on basic socioeconomic and demographic characteristics of the providers and characteristics of their practice (e.g., hours open, conditions treated, treatment methods, prices charged). Traditional midwives were asked an additional set of questions regarding pre- and postnatal care and assistance during deliveries.

School Questionnaires

Although we interviewed at three levels of schools (elementary, junior secondary, and senior secondary), the instruments were quite similar across school levels and consisted of the following modules:

Section A. The main point of this section was to learn something about the characteristics of the school principal, such as his or her age, educational level, experience in education, tenure in current job, current activities, and whether he or she holds another position.

Section B. Section B focused on characteristics of the school, such as date of establishment, length of time in session per day and per year, administration and religious orientation, and whether particular facilities (gymnasium, library) are available at the school.

Section C. This section was administered twice, once to the teacher of mathematics and once to the teacher of Indonesian language.[16] The questions ascertain characteristics of the teacher, hours worked and salary at the school, whether other jobs are held simultaneously, what curriculum is used, and the adequacy of books and instructional materials.

Section D. Section D, which is partially direct observation on the part of the interviewer and partially based on questions, is to be administered in the classroom of Grade VI or III, depending on the level of the school. Questions in this section concern the quality of the classroom infrastructure.

Section E. This module has three objectives. The first is to record basic statistics of the school regarding numbers of pupils by grade level and sex and numbers of teachers. The second objective is to record the math and language scores on the EBTANAS tests for a random sample of 25 students.[17] These scores can be used to characterize the achievement levels of students at the school. The third objective is to collect some basic information about revenues flowing into the school from various sources.

LINKING HOUSEHOLD DATA TO FACILITY DATA

Household responses to various questions about health facilities and schools generated the frame from which the CFS teams drew the samples (see Sample Design and Response Rates). Consequently, most of the facilities visited by the CFS teams match the names mentioned by the household respondents in various parts of the questionnaire.[18] To make an explicit link between facilities mentioned in the household survey and facilities visited as

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[16]In elementary schools this section was administered with respect to Grade IV, while in junior secondary and senior secondary schools the designated level was Grade III.

[17]The EBTANAS tests are national achievement tests administered at the end of each school level (e.g.. after Grade VI, for primary school completers).

[18]Because we supplemented the facility sample with facilities mentioned by the village leader, we did interview some facilities that were not mentioned by respondents in the household survey.

part of the CFS, it is necessary to assign each facility a unique code. This unique code is also assigned in the household data files where specific facilities were identified.

There are nine sections of the household questionnaire in which codes were assigned to link the facility mentioned by the household respondent to a specific facility in the CFS data. These sections are:

1) Book I, AR (for household members under 25 years of age, currently attending an elementary, junior, or senior high school)
2) Book I, PP (for government health centers, private clinics, general practitioners, nurses/paramedics/midwives, and traditional healers).
3) Book III, RJ (for Book III respondents who visited a provider for outpatient care in the month before the interview).
4) Book III, RN (for Book III respondents who visited a provider for inpatient care in the year before the interview).[19]
5) Book IV, CX (for women who knew of supply sources for various contraceptive methods).
6) Book IV, KL (for women who obtained contraceptive supplies, treatment for contraceptive side effects, or prenatal care in the two years before the interview).
7) Book V, DLA (for children in elementary or junior high school)
8) Book V, RJA (for children who visited a provider for outpatient care in the month before the survey)
9) Book V, RNA (for children who visited a provider for inpatient care in the year before the survey, see footnote 19).

Codes were assigned by a combination of manual and computer-assisted matching procedures. Manual procedures were necessary for certain tasks because of the difficulty in using the computer to resolve different spellings and abbreviations of character variables. These variations arise because of differences across households in pronunciation, differences across interviewers in spelling and handwriting, and differences across keypunchers in reading interviewers' handwriting.

In the first step, for each EA, household responses to the PP section (for health facilities) and to the AR section (for schools) were compared to information from the facility data on the name of the facility and the names of the village, subdistrict, and district in which the facility was located. In subsequent steps household/individual responses to other sections of the household questionnaire were compared to the facility data. Because most of the matches were made during the PP- or AR-facility data comparison, we discuss this stage in some detail.

The most straightforward (and most common) match occurs when the facility name and village name provided by a household in a particular EA match a facility name and village name in the facility data collected for that EA (a within-EA one-to-one match on

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[19]There are few matches between the household responses and the CFS data because most people receive inpatient care at hospitals, which were not visited as part of the CF Survey.

facility name and village location). It is also easy to generate a match when there is a within-EA one-to-one match on facility name but the household data omits the village name. There are a number of other possibilities as well.

Sometimes households mentioned facilities that had been interviewed as part of the facility data collection effort in another EA (a cross-EA one-to-one match on the facility name and the village name). Cross-EA matches, which occur predominantly when EAs are geographically near one another, were identified in two ways. First, the SDI worksheet for a particular EA identifies facilities mentioned by households in the current EA but interviewed during data collection in a prior EA.[20] Second, in manually examining the data for each EA sequentially one recognizes names of facilities that repeat across EAs and so recognizes the need to look across EAs.

Sometimes households omitted the name of the facility but mentioned the name of the village or subdistrict in which the facility was located. Whether an explicit link could be made to the facility data in these instances depended on the strata and the number of different providers within the strata identified by households/individuals in that EA (see strata specific information below). Occasionally additional (typically unsolicited) information was available that proved helpful. For example, the data collected from facilities generally included the street address. Households sometimes provided street addresses rather than names. Consequently a household response of "Midwife... Market Street" could be matched to facility data for "Midwife Subri, 15 Market Street". When a household provided a street address but that address did not appear to match any of the facility data, no match was generated.

The facility data contain formal names of the facilities/providers that were interviewed, but do not always contain the full names. The completeness of the data provided by household respondents varies: sometimes full names are specified, sometimes formal names are specified, and sometimes nicknames or shortened versions of the full name are used (the Indonesian equivalents of William/Bill, Victoria/Vicky, etc.). We made a considerable effort to link full names to incomplete names accurately. For a given strata we simultaneously considered all the names of providers mentioned in that EA (so that we could see, for example, that the facility data records an interview with Dr. Michael Smith, while the household respondents mention Dr. Smith, Dr. Michael, and Dr. Michael Smith). We also drew on the information available on the SDI and SDII worksheets. To continue with the example, the SDI and SDII worksheets treat Dr. Smith, Dr. Michael, and Dr. Michael Smith as the same person, recording that Dr. Michael Smith has been mentioned three times.[21] Although the matches were made with considerable attention to detail, it is likely that we missed some matches and made other matches incorrectly.

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[20]The SDI worksheet information does not help when a facility mentioned by a household is interviewed in an EA visited after the current EA.

[21]Although it is possible that the SDI and SDII sheets are inaccurate, the CFS team supervisors were trained to reconcile confusing information with community informants (e.g.. does Dr. Mike=Dr. Smith=Dr. Michael Smith). In many cases the SDI and SDII sheets

Sometimes facilities appear to have two, seemingly unrelated names. Although it is impossible to tell how often this is not detected so that a match goes unmade, we believe that this is a rare occurrence. There are instances where we detect this phenomenon. For example, the facility data may contain information on one provider, named Dr. Eva/Linda, while some households mention Dr. Eva and some mention Dr. Linda. In this instance the same code would be assigned whether the household mentioned Dr. Eva or Dr. Linda. Again, the SDI and SDII worksheets were helpful in identifying occasions when multiple names collapsed to one provider.

Tables 3.7 and 3.8 summarize the proportion of matches between household responses and facilities in which the CF team interviewed, for various sections of the household questionnaire. Match proportions vary by strata, reflecting the numbers of unique facilities identified by household respondents, the proportions of identified facilities eligible for interview, and the target number of facilities per strata. In most cases match rates are quite high (grater than 90 percent) for health centers, and fairly high for nurses/midwives (greater than 60 percent) and elementary and junior secondary schools (approximately 75 percent). Match rates are only moderate for doctors/clinics and traditional practitioners (35 to 45 percent) and for senior secondary schools (48 percent).

Although explicit matches were generated between household responses and community health posts, the location information provided in the household questionnaire is insufficient for confidence in these links. Users are strongly encouraged to match household respondents to average community health post characteristics for the EA as a whole, rather than to a particular post interviewed in that EA.

SAMPLING WEIGHTS

The CFS was designed to provide extensive community and facility information to complement the household data. The CFS was not designed to produce nationally-representative estimates of community and facility distributions or characteristics. The weights are included so that users can adjust for sampling procedures in their analyses. The CFS database has two basic sets of weights: community weights and facility weights.

Community Weights

The community weights are designed to correct for the over-sampling of urban EAs and EAs in smaller provinces. When weighted, the CFS communities reflect the number of EAs in the province/urban-rural strata in which the community lies. The total number of EAs in a given province and urban-rural strata was computed using 1993 SUSENAS sampling frame data from BPS. The community weight variable is the ratio of the number of actual EAs to the number of sampled EAs.

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contain notes with explicit information that certain names were discovered to represent only one provider.

Facility Weights

Ideally a facility should receive a weight that is equal to that facility's sampling probability, where the sampling probability is a function of the sampling scheme and the sampling frame. As discussed in the Sample Design and Response Rates section, the sampling frame for the facility survey is generated by household responses to questions about relevant facilities. This frame is incomplete to the extent that the sample of household respondents fails to identify all facilities of relevance to the population of the EA. The sampling scheme specifies that the probability of being sampled is proportional to market share.

The construction of weights based on sampling probabilities is complicated by the fact that we do not each facility's true market share. Instead, we know the market share that a particular facility captures among the sample of household respondents in the EA. We use a model of market shares to simulate observed market shares, assuming a fixed number of household respondents and multinomial sampling. Comparison of the simulated outcomes to the observed outcomes yields an estimate of the true number facilities in each EA. The estimated number of facilities in each EA specifies the estimated market share and thus the rank for each facility in the EA.

The next step is to determine the place of each observed facility in the estimated distribution of all facilities and their associated market shares. We do not know the true market share (or even the rank) of an observed facility among all facilities. Instead, we observe a facility's rank (as determined by the number of respondents mentioning that facility) among those facilities identified by our sample of EA residents. This observed rank may or may or not be the true rank. For example, the most frequently mentioned facility among sampled EA residents might be only the second or third most frequently mentioned facility if one were to interview all EA residents.

Although the observed rank does not necessarily equal the true rank, it provides information about the true rank. Using the observed rank we make a probabalistic determination of each facility's true rank. We then determine its sampling probability using this model. Our final weight can be summarized as an estimate of the probability that we would sample an observed facility if we conducted another survey using the same sample design.

Table 3.1

1993 IFLS Cumulative Percent Distribution of the Number of Health Facilities Within EAs Identified by Household Respondents (Section PP)

Number of Facilities Identified	Health Center / Auxiliary Center		Private Clinic / Doctor's Practice		Nurse / Paramedic / Midwife		Traditional Practitioner	
	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban
0	0	1	2	1	1	1	1	4
1	8	7	11	1	1	4	2	11
2	29	27	22	3	4	11	2	15
3	48	41	33	6	10	21	3	23
4	64	55	46	11	25	31	8	37
5	80	68	57	17	39	45	15	52
6	90	81	68	22	52	63	19	61
7	98	92	80	29	66	76	33	76
8	98	95	86	40	80	85	45	85
9	98	99	89	49	92	96	55	93
10	99	100	92	59	97	97	73	96
11	100		95	67	99	97	81	97
12			98	76	99	98	89	98
13			98	83	100	99	94	99
14			99	89		100	94	100
15			100	93			95	
16				95			98	
17				96			100	
18				98				
19				99				
20				99				
21				100				

SOURCE: Indonesia Family Life Survey, 1993.
NOTE: N = 132 rural EAs and 189 urban EAs.

Table 3.2

1993 IFLS Cumulative Percent Distribution of the Number of Schools Within EAs Attended by HH Members Under Age 25

Number of Schools Identified	Elementary Schools		Junior High Schools		Senior High Schools	
	Rural	Urban	Rural	Urban	Rural	Urban
0	0	1	8	8	42	6
1	8	7	37	19	61	20
2	35	22	61	37	77	43
3	65	39	80	59	86	61
4	83	59	91	78	91	76
5	92	71	97	88	95	83
6	97	84	98	96	98	90
7	98	92	98	98	99	96
8	100	95	99	99	100	98
9		98	100	100		100
10		99				
11		99				
12		100				

SOURCE: Indonesia Family Life Survey, 1993.
NOTE: N = 132 rural EAs and 189 urban EAs.

Table 3.3

1993 IFLS Community-Facility Survey Summary

Facility strata	Average number of facilities visited per EA		Total number of facilities interviewed
	Urban	Rural	
Health Centers and Auxiliary Centers	3.1	3.1	993
Private Doctors' Practices and Clinics	1.8	1.6	549
Private Nurses', Midwives' and Paramedics' Practices	2.7	2.9	892
Traditional Practitioners	1.9	2.0	624
Community Health and Family Planning Posts	2.8	2.8	899
Senior Secondary Schools	1.9	1.7	944
Junior Secondary Schools	2.8	2.8	900
Primary Schools	2.9	3.0	584

SOURCE: Indonesia Family Life Survey, 1993.

Table 3.4

Number of 1993 IFLS Health Facilities Interviewed by Province

Province	Health Center / Auxil. Ctr.	Clinic / Doctor	Nurse / Paramedic / Midwife	Community Health Post	Traditional Practitioner
North Sumatra	95	44	76	70	54
West Sumatra	47	27	39	35	28
South Sumatra	53	26	48	45	31
Lampung	34	19	33	27	22
DKI Jakarta	97	70	99	118	69
West Java	143	81	147	147	101
Central Java	106	62	99	107	72
DI Yogyakarta	70	41	58	56	43
East Java	161	81	129	128	89
Bali	35	28	39	34	26
West Nusa Tenggara	62	91	48	48	32
South Sulawesi	46	22	39	39	26
South Kalimantan	44	17	38	45	31
TOTAL	993	549	892	899	624

SOURCE: Indonesia Family Life Survey, 1993.

Table 3.5

Number of 1993 IFLS Schools Interviewed by Province

Province	Elementary Schools	Junior Secondary Schools	Senior Secondary Schools
North Sumatra	79	78	52
West Sumatra	42	44	26
South Sumatra	45	45	28
Lampung	32	32	21
DKI Jakarta	117	111	78
West Java	154	143	91
Central Java	107	108	64
DI Yogyakarta	60	58	40
East Java	132	127	84
Bali	42	35	24
West Nusa Tenggara	48	45	29
South Sulawesi	39	34	19
South Kalimantan	47	40	28
TOTAL	944	900	584

SOURCE: Indonesia Family Life Survey, 1993.

Table 3.6

1993 IFLS Community-Facility Questionnaire Books and Modules

Book	Respondent	Module	
Communities:			
I	Village heads	LK	Basic information
		A	Transportation
		B	Electricity
		C	Water sources and sanitation
		D	Agriculture and industry
		E	History and climate
		F	Migration
		G	Credit institutions
		I	History of schools
		J	History of health services availability
		K	Respondents' identities
II	Village records	LK	Basic information
		S	Statistics
		OL	Direct observation
PKK	Women's group	LK	Basic information
		H	Food prices
		I	History of schools
		J	History of health services availability
Health facilities:			
		LK	Basic information
		A	Head of facility
		B	Development of facility
PUSK	Gov't health centers	C	Service availability
DR	Private doctors and clinics	D	Staff
BIDAN	Nurses, midwives, and paramedics	E	Equipment and supplies
PPKB	Community health and FP post	F	Direct observation
TRAD	Traditional healers	G	Family planning services
		H	Family planning vignette
		I	Preg exam vignette
		J	Cough, fever vignette
		K	Vomit, diarrhea vignette
Schools:			
		LK	Basic information
SD	Primary	A	Principal
SMP	Junior Secondary	B	School characteristics
SMA	Senior Secondary	C	Teachers
		D	Classrooms
		E	Test scores, revenues

Table 3.7

1993 IFLS Match Rates Between Household Questionnaire Sections and Health and Family Planning Facilities
(percent)

Facility type	Book I Section PP	Book III Section RJ	Book V Section RJ	Book IV Section CX	Book IV Calendar / Prenatal Care
Health Center / Auxiliary Health Ctr.	92% (6483)	89% (1052)	92% (630)	90% (2787)	92% (470)
Doctor/Clinic	40 (4656)	39 (746)	62 (506)	33 (482)	38 (89)
Nurse / Paramedic / Midwife	65 (4607)	57 (508)	64 (239)	65 (1118)	78 (309)
Traditional Practitioner	41 (4336)	30 (318)	29 (145)	36 (11)	56 (64)

SOURCE: Indonesian Family Life Survey, 1993.
NOTE: Numbers in parentheses are the denominators to which the rates apply. The denominators are based on eligibility for the particular section and question about facility knowledge/use.

Table 3.8

1993 IFLS Match Rates Between HH Questionnaire Sections and School Facilities
(percent)

School level	Book I Section AR	Book V Section DLA
Primary Schools	83% (5160)	79% (4657)
Junior Secondary Schools	72 (1619)	71 (810)
Senior Secondary Schools	48 (1137)	n/a

SOURCE: Indonesian Family Life Survey, 1993.
NOTE: Numbers in parentheses are the denominators to which the rates apply. The denominators are based on eligibility for the particular section and question about facility knowledge/use.

4. SURVEY OPERATIONS

The IFLS was fielded between September 1993 and February 1994 jointly by RAND and LD. This section summarizes the survey operations for the IFLS, including questionnaire development, field staff and supervisory structure, interviewer selection and training, field work, data entry, and data cleaning and public use file creation.

QUESTIONNAIRE DEVELOPMENT

A team of RAND researchers representing a variety of disciplines (e.g., economists, demographers, sociologists, health experts, and survey methodologists), in conjunction with LD research staff, spent nearly 18 months developing the detailed data collection instruments for the household and community-facility components of the IFLS. Other members of the U.S. and Indonesian research community were consulted through a workshop held at RAND in March 1992, and an informal session in Denver at the 1992 annual meetings at the Population Association of America.

The length and complexity of the IFLS household (HH) and community-facility (CF) questionnaires required a wide array of development techniques in Indonesia to refine the instrument. Specifically, small pilot surveys and focus groups were used for initial questionnaire development, while larger pretests were employed for refinement of questionnaires and field procedures. Where appropriate, existing survey instruments were used as the basis for the first versions of the instrument. Sources included the Malaysian Family Life Surveys (MFLS-1 and -2), for all sections; the Indonesian Resource Mobilization Study for health status, provider utilization, and time allocation; and the Demographic and Health Surveys for fertility and contraception questions. However, questions adapted from English questionnaires often required significant alteration to make them culturally appropriate. Facility questionnaires were presented to officials at the Ministry of Health and the Ministry of Education. Suggestions received during these briefings were incorporated into revised versions of the questionnaires.

During the 18-month development period, a series of small-scale pilot tests and two full scale pretests were conducted as part of the household questionnaire development process. The first pretest site was in Sukabumi, an area in West Java, while the second took place in the province of Lampung. Each pretest sampled 20 urban households and 30 rural households for interview. The first pretest focused on the questionnaire instrument, while the second also tested the training and field procedures. The first pretest was conducted by LD staff who served as interviewers. This approach provided optimal feedback since these interviewers were intimately familiar with the study objectives and questionnaire content. For the second pretest, a separate field staff was hired and trained, with the LD staff serving as trainers. RAND and LD staff were onsite during the training, fieldwork and debriefing sessions of both pretests. The CFS questionnaires and field procedures were pretested in several sites in Jakarta and West Java.

FIELD STAFF AND SUPERVISORY STRUCTURE

Dr. Sulistinah Achmad was the LD survey director based in Jakarta. She collaborated with a group of seven senior supervisors (*Korlaps*) who were all staff at LD, and a group of six junior supervisors (*Jaksups*) who were employed during the survey period. The *Jaksups* were all recent college graduates, and were teamed with a more senior *Korlap* who supervised and guided their work. The *Korlaps* and *Jaksups* each had overall responsibility for a given province and served as the group of LD field coordinators. Dr. I.G.N. Agung and Dr. Sri Harijati Hatmadji were the LD directors of the CFS. They collaborated with RAND and LD staff in designing and implementing the fieldwork plan. Three CFS *Korlaps* provided supervision for the CFS teams in the field.

The field work in each province was carried out by one to three interviewing teams, depending on the size of the sample; a total of 21 teams covered the 13 provinces. Each household survey team consisted of one team supervisor, six to eight interviewers, one editor and one anthropometrist. CFS teams were composed of one supervisor and three interviewers. This ratio of team supervisors to interviewers allowed proper supervision to insure the quality of the data collected. Teams differed with respect to their ethnic mix and language skills so that they would closely match the language requirements of the region to which they were assigned.

The team supervisor was responsible for contacting the village leader to make preparations for the arrival of the team and to establish a team 'base camp'. The HH team supervisor handled the EA sample materials, assigned the work of each interviewer, and was responsible for all record keeping (e.g., production log). The CF team supervisor was responsible for drawing the sample of facilities to be interviewed, record keeping, interviewing the village leader, arranging transportation to facilities (typically motorbikes were rented) and assigning interviewers to specific facilities. HH and CF supervisors reported to Jakarta every week by telephone or fax and were responsible for shipping the hard copy questionnaires to Jakarta. The supervisor was also responsible for ensuring the high quality of the data collection. In this capacity, he conducted regular observations of his interviewers and verifications. He also performed troubleshooting and retrained individual interviewers as needed.

INTERVIEWER SELECTION AND TRAINING

Approximately 150 field staff were hired to conduct the IFLS Household Survey, while approximately 80 field staff were hired to conduct the Community-Facility Survey. These staff were recruited from the geographic regions in which fieldwork was taking place to ensure fluency in the local languages. Population Center officials, affiliated with universities throughout Indonesia, were instrumental in the recruitment of field staff. Due to the complex nature of the survey, field personnel were required to have completed some college; most, in fact, were young, bright, recent college graduates who were embarking on the first job of their careers.

The IFLS training and field work was conducted in two rounds which overlapped by six weeks; a separate training was held for each round. The first round include the two

provinces of Lampung and West Java; training was conducted centrally in a location outside of Jakarta. The second round include the other eleven provinces and training was conducted concurrently in three sites: Jakarta, Padang (West Sumatra), and Malang (East Java). Each round began with approximately three weeks of training to provide in-depth classroom instruction and field practice with the entire questionnaire. Training consisted of the following components: an overview of the study; introduction to survey research; appropriate techniques for asking questions, recording responses, and probing; procedures for identifying sample households, editing one's own work, quality control, and sample control; and a detailed review of all instruments. In addition to lecture presentations, a variety of teaching aids were used in training. For example, the questionnaire was broken into components and discussed question-by-question. Trainers demonstrated the content and flow of portions of the questionnaire, then used round robin and mock interviewing techniques to familiarize trainees with the questionnaire and interviewing approach. Trainees were also subjected to periodic quizzes. A training manual and manual detailing questions-by-question objectives was provided to support classroom training. Following training, field staff were observed closely in the field for one-week by LD supervisory staff and RAND personnel.

Supervisors and editors were selected from the top performers in the applicant pool. They received additional intensive training during the week of field practice. This program supplemented interviewer training by covering the following topics: assigning workloads to interviewers, sample control, observation and validation, production reporting to Jakarta, assisting anthropometrists, and handling crises.

In addition, a specialized training program was conducted for anthropometrists. These field staff first participated in the general interviewer training so that they were familiar with the study objectives, interviewing techniques, and content of the household questionnaire. They then participated in a separate specialized training program focusing on anthropometric measurement.

CFS training occurred at the same time as household training and covered many of the same topics (study overview, survey research methods, recording responses). Additionally, CFS field staff received training in gaining cooperation from health care providers and health facility and school administrators. Practice interviews were conducted at health facilities and schools near the training site. Supervisors were trained in using the household responses to compile lists of facilities on the SDI and SDII forms and to draw a sample for each facility type.

FIELD WORK

The IFLS field work began once the training was completed and continued for three to four months depending upon the sample size assigned to each team. The first round of field work, for enumeration areas in Lampung and West Java, was launched during the last week of August 1993 and concluded in mid-November. The second round of field work, covering the other eleven provinces, began in mid-September and continued through January 1994.

During the field work, each team was assigned a list of enumeration areas. All households were interviewed in an area before moving on to the next. Field work in each

area was conducted in three to five days. Travel time between enumeration areas took one day on average. Before beginning work in a new area, the Supervisor traveled ahead to the next area, obtained permissions, area lists and maps, and set up the base-camp. He also arranged travel for the team from area to area.

The household sampling plan, described earlier, was implemented in the field by the team supervisor. In each enumeration area (*Wilcah*), a list and map was obtained from the local BPS office by the supervisor. The supervisor reviewed the list with an official at BPS and/or the local village leader for accuracy. Demolished, vacant, non-existent or duplicate structures were removed from the list during this pre-sampling review. In the event that more than 25 percent of the households on the *Wilcah* list were not good, the Supervisor notified the LD project director in Jakarta and replaced the *Wilcah* with the next closest one as assigned by the LD project director.

Using a manual systematic random sampling method, the Supervisor selected the appropriate number of households from the *Wilcah* list: twenty households for an urban area or thirty households for a rural area. An additional ten reserve households were also selected using the same method. These reserve households were available to use to replace households that were discovered to be demolished, vacant , non-existent or duplicate after sampling. Once the sample was drawn, the Supervisor assigned the selected households to his interviewers. Selected households were marked with a special sticker to facilitate identification for return interviews and at a later date, should a second round of data collection take place.

Generally, interviewers worked in pairs so that a household interview could be completely efficiently and so that they could be available to assist one another as needed. This allowed, for example, one interviewer to be with the household head in one room answering Book II, while the spouse of the head was with another interviewer answering Book IV. Each household interviewer completed approximately 1.25 households per day. This included time to make introductions and appointments, conduct the interview, schedule any return visits, and travel to and from households. In extenuating circumstances, it was necessary to take more than the expected amount of time to complete an area. Such circumstances included encountering areas with larger than average household sizes, greater than normal distance between households, and more difficulty in finding respondents at home.

In between interviews, an interviewer conducted a field edit of his/her own work. Following the field edit, the team editor carefully reviewed the completed questionnaire instruments. Following the edit, the editors were instructed to ask the interviewer to clarify any inconsistencies. In some cases, the editor required the interviewer to return to the household to complete sections of the questionnaire that were left missing. Serious interviewer deficiencies were reported to the Supervisor who also edited at least two households per area.

After interviewing had begun in a household, the anthropometrist visited the household to weigh and measure the adult and child respondents and any other children in the household aged 5 or younger who were available. Additional duties of the

anthropometrist included conducting verifications of four households per area and assisting the editor by editing Books II and V.

In addition to the work of the field editor, two other critical quality control functions were implemented, namely observation and verification. Using an observation form which covered key techniques of interviewing, the Supervisor typically observed two different interviewer sessions per area and the *Korlap* or *Jaksup* observed one to two sessions per area. The observers gave feedback to the interviewers, providing correction and instruction if necessary. This feedback also provided an opportunity for the observers to give positive reinforcement to interviewers for good work. Verification was also performed to confirm that a household was visited, to check household composition and to validate interview data. Using a verification form, the supervisor and anthropometrist verified two and four households per area, respectively.

Each HH team had a companion CF team. The CF team followed behind the HH team, typically with a lag of one or two enumeration areas. Messengers were hired to transfer NCR pages from the household questionnaires (on which facility names and locations were recorded) to the CF team supervisor so that the facility sample could be drawn. The messenger also kept the CF and HH teams informed of each other's whereabouts and progress. CF interviewers edited their own work.

SECOND ROUND INTERVIEWER RETRAINING

Early in the second round of field work, RAND staff observing the interviewers in the field concluded that household team supervisors and interviewers demonstrated less proficiency in questionnaire administration and field procedures than was observed for the first round field staff. (This may have been due to the fact that there were more trainees in the second round and that training occurred in three locations rather than one.) Field work was halted and a three-week period of retraining was immediately launched. Several RAND project staff traveled to Jakarta to join in-country RAND staff in planning and implementing the retraining program.

The first week of the retraining period was spent assessing training needs and planning the targeted retraining program with LD staff. The retraining program aimed to clarify sampling procedures, review difficult sections of the questionnaire, review quality control measures, and insure that job descriptions were understood. During the second week, a centralized training program involving the LD field coordinators was conducted in Jakarta. These individuals then served as trainers at the retraining sites during the third week. The field staff were assigned to one of four retraining sites, according to geographic proximity, to participate in the retraining program where they were instructed by the LD field coordinators. RAND staff were also located at each training site for the duration of the retraining to assist as instructors and to insure the quality and completeness of the program. Field work resumed immediately following the retraining period. Careful observation during the first few weeks by RAND and LD staff demonstrated a significant improvement in the field staff's proficiency in questionnaire administration and field operations.

Field work had been conducted in 32 enumeration areas (a total of 720 households) prior to the second-round retraining. These households can be identified as described in *The 1993 Indonesian Family Life Survey: Appendix C, Household Codebook.* (DRU-1195/4-NICHD/AID). The quality of the information collected for these households has not been fully assessed; users may want to examine these cases for problems with data quality.

DATA ENTRY

All data entry was conducted centrally in Jakarta by a staff of data entry personnel. Data entry supervisors were members of LD's permanent staff, while keypunchers were recruited from local universities for the data entry period. Data entry personnel were trained in data entry techniques and in the use of ISSA, a computer-assisted data entry program that allowed immediate checks on data consistency and logic..

Once an enumeration area was completed, the questionnaires were packed and shipped to Jakarta with a packing sheet identifying the enclosed questionnaires by number. Questionnaires were then assigned for data entry in batches by enumeration area. Data were entered using ISSA with 100 percent verification (i.e., double entered). Batch editing programs were used in Indonesia to further check the data for completeness and consistency.

DATA CLEANING AND PUBLIC USE FILE CREATION

Our experiences with the public release of other survey data such as MFLS-1 and MFLS-2 have led us to develop a policy of cleaning -- but not 'overcleaning' -- public use data. In addition, since most researchers will want to construct their own analysis files, merging and selecting from the data in several ways, the public use files are designed to give users the flexibility they need to put together different types of analysis files.

Upon completion of data entry, the keypunched data were shipped to RAND in Santa Monica for data cleaning and public use file preparation. Since all data were 100 percent verified at data entry and the data entry program contained checks on valid ranges and skip patterns, data entry errors were basically nonexistent. Consequently, data cleaning efforts initially focused on those activities which required access to information that was privacy protected, such as individual and facility identifiers. In addition, the principal survey materials such as questionnaires and interviewer manuals were translated from Bahasa Indonesia to English. After the initial public release of the IFLS data, subsequent data cleaning efforts sponsored by RAND projects will continue and results of those efforts will be made available to the IFLS user community through Family Life Surveys Home Page on the World Wide Web (*http://www.rand.org/organization/drd/labor/FLS*) and the *FLS Newsletter*.

Appendix A

WITHIN-HOUSEHOLD SAMPLING

In order to facilitate the process of sampling respondents within households in the field and as a way to reduce the potential for interviewer error, labels were pre-printed for each control book with random numbers to use in implementing the following selection rules (after identifying the household head and their spouse who were always selected for interview):

- Selecting the respondent age 50 and above (Senior respondent)
- In 25 percent of the households, selecting a respondent age 15 to 49 (Nonsenior respondent)
- Selecting the first child of the head/spouse age 0 to 14
- Selecting the second child of the head/spouse age 0 to 14

Section PS in Book K included four columns to implement each of the above selection rules, labeled PS04, PS08, PS11 and PS12 respectively. To implement the first, third and fourth selection process, a random number between 1 and 12 was preprinted on each label. In the case of the second selection process, a random 75 percent of the labels contained the text "TIDAK" (meaning "no" in Bahasa Indonesia) indicating that no respondent in the 15 to 49 age range would be selected even if they existed. The other 25 percent of the labels included a random number between 1 and 12 that was used to select a respondent in the 15 to 49 year old age range. The following examples illustrate the labels that were produced:

PS04	PS08	PS11	PS12
4	TIDAK	7	1

PS04	PS08	PS11	PS12
11	TIDAK	2	6

PS04	PS08	PS11	PS12
2	6	3	12

The random numbers of each control book label were keypunched at the time of data entry and can be used to validate the selection of the respondents in the above categories when the household had more than one respondent of each type.

Appendix B

COMMUNITY-FACILITY SURVEY SAMPLE FORMS

This appendix includes facsimiles of the household survey questionnaire sections that identified health and education facilities that household members used or knew about. Specifically, section AR in Book I lists schools currently attended by household members under age 25, while Section PP in Book I and Section CX of Book IV list health and family planning facilities used or identified by the respondent. These sections of the questionnaire were printed on NCR paper so that a copy could be detached and provided to the CF team linked to the HH team.

The lists of health and education facilities provided by household respondents were used to draw the sample of facilities for interview using two forms also included in this appendix. The first form, Sample Listing Form I (SDI), provided space to tally up household responses and ascertain whether facilities met the criteria for being visited. Facilities meeting the criteria were listed on the second form, Sample Listing Form II (SDII), in order of frequency of mention. SDII contained a grid with a random priority ordering for all facilities other than the one most frequently mentioned. The priority order in combination with the target number for the particular strata determined which facilities should be interviewed.

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SECTION AR (HOUSEHOLDER ROSTER)

IDRT : ☐☐☐☐☐☐☐☐☐

	AR01		AR19	AR20	AR21	AR22
HH Number	NAME OF HOUSEHOLDER	HH Number	What is the name and address of the school? **(Do not forget to enter education level)**	In which village (Desa/Kelurahan) and subdistrict (Kecamatan) is the school located?	In which municipality (Kabupaten) and province is the school located?	What is [...] primary activity during the past week?
01.	.....	01.	1. Name :---------- 8 1. Number :---------- 8 1. Address :---------- 8	1. Village:_____ 8 1. Subdistrict:_____ 8	1. Municipality:_____ 8 1. Province:_____ 8	01 02 03 04 05 96 06----------
02.	.....	02.	1. Name :---------- 8 1. Number :---------- 8 1. Address :---------- 8	1. Village:_____ 8 1. Subdistrict:_____ 8	1. Municipality:_____ 8 1. Province:_____ 8	01 02 03 04 05 96 06----------
03.	.....	03.	1. Name :---------- 8 1. Number :---------- 8 1. Address :---------- 8	1. Village:_____ 8 1. Subdistrict:_____ 8	1. Municipality:_____ 8 1. Province:_____ 8	01 02 03 04 05 96 06----------
04.	.....	04.	1. Name :---------- 8 1. Number :---------- 8 1. Address :---------- 8	1. Village:_____ 8 1. Subdistrict:_____ 8	1. Municipality:_____ 8 1. Province:_____ 8	01 02 03 04 05 96 06----------
05.	.....	05.	1. Name :---------- 8 1. Number :---------- 8 1. Address :---------- 8	1. Village:_____ 8 1. Subdistrict:_____ 8	1. Municipality:_____ 8 1. Province:_____ 8	01 02 03 04 05 96 06----------
06.	.....	06.	1. Name :---------- 8 1. Number :---------- 8 1. Address :---------- 8	1. Village:_____ 8 1. Subdistrict:_____ 8	1. Municipality:_____ 8 1. Province:_____ 8	01 02 03 04 05 96 06----------
07.		07.	1. Name :---------- 8 1. Number :---------- 8 1. Address :---------- 8	1. Village:_____ 8 1. Subdistrict:_____ 8	1. Municipality:_____ 8 1. Province:_____ 8	01 02 03 04 05 96 06----------
08.		08.	1. Name :---------- 8 1. Number :---------- 8 1. Address :---------- 8	1. Village:_____ 8 1. Subdistrict:_____ 8	1. Municipality:_____ 8 1. Province:_____ 8	01 02 03 04 05 96 06----------
09.		09.	1. Name :---------- 8 1. Number :---------- 8 1. Address :---------- 8	1. Village:_____ 8 1. Subdistrict:_____ 8	1. Municipality:_____ 8 1. Province:_____ 8	01 02 03 04 05 96 06----------
10.		10.	1. Name :---------- 8 1. Number :---------- 8 1. Address :---------- 8	1. Village:_____ 8 1. Subdistrict:_____ 8	1. Municipality:_____ 8 1. Province:_____ 8	01 02 03 04 05 96 06----------

Code for AR22: (Only applicable for householders of 10+ years old)

01. Working/trying to work/helping to earn income
02. Job searching
03. Attending school
04. Housekeeping
05. Retired
06. Other, specify: _____
96. NOT APPLICABLE

SECTION PP (OUTPATIENT CARE PROVIDER KNOWLEDGE)

IDRT : [ ][ ][ ][ ][ ][ ][ ][ ][ ]

(NOTE: THIS PAGE WAS PRINTED ON NCR PAPER)

OUT-PATIENT FACILITY	PP1 Have [you] ever visited [...] for outpatient care?	PP2 Do you know where a [...] is located?	PP3 What is the name of the [...]?	PP4 Where is the location of [...]?	PP5 How much time is required to reach [...] (one way trip)?	PP6 Approximate transportation cost from home to [...] one way?	PP7 Approximate cost for one visit at [...]?
C. Public Health Center/ Auxiliary Center (puskesmas/ puskesmas pembantu)	a. 1. Yes ->**PP3** 3. No b. Family 1. Yes ->**PP3** 3. No c. Neighbor 1. Yes ->**PP3** 3. No d. Friend 1. Yes ->**PP3** 3. No->**PP2**	1. Yes --> **GO TO PP3** 3. No -->**GO TO PP1D**	_____ _____ _____ (If more than 1 medical facility choose the closest)	Village (Desa): _____ Subdistrict (Kec): _____ Municipality (Kab): _____ Province : _____	1. [ ][ ] a. Days b. Hours c. Minutes 8. DON'T KNOW	1. [ ][ ][ ] Thou. [ ][ ][ ] Rup. 8. DON'T KNOW	1. [ ][ ][ ] Thou. [ ][ ][ ] Rup. 8. DON'T KNOW
D. Private Clinic	a. 1. Yes ->**PP3** 3. No b. Family 1. Yes ->**PP3** 3. No c. Neighbor 1. Yes ->**PP3** 3. No d. Friend 1. Yes ->**PP3** 3. No->**PP2**	1. Yes --> **GO TO PP3** 3. No -->**GO TO PP1E**	_____ _____ _____ (If more than 1 medical facility choose the closest)	Village (Desa): _____ Subdistrict (Kec): _____ Municipality (Kab): _____ Province : _____	1. [ ][ ] a. Days b. Hours c. Minutes 8. DON'T KNOW	1. [ ][ ][ ] Thou. [ ][ ][ ] Rup. 8. DON'T KNOW	1. [ ][ ][ ] Thou. [ ][ ][ ] Rup. 8. DON'T KNOW
E. Private Physician	a. 1. Yes ->**PP3** 3. No b. Family 1. Yes ->**PP3** 3. No c. Neighbor 1. Yes ->**PP3** 3. No d. Friend 1. Yes ->**PP3** 3. No->**PP2**	1. Yes --> **GO TO PP3** 3. No -->**GO TO PP1F**	_____ _____ _____ (If more than 1 medical facility choose the closest)	Village (Desa): _____ Subdistrict (Kec): _____ Municipality (Kab): _____ Province : _____	1. [ ][ ] a. Days b. Hours c. Minutes 8. DON'T KNOW	1. [ ][ ][ ] Thou. [ ][ ][ ] Rup. 8. DON'T KNOW	1. [ ][ ][ ] Thou. [ ][ ][ ] Rup. 8. DON'T KNOW

SECTION PP (OUTPATIENT CARE PROVIDER KNOWLEDGE)

IDRT : ☐☐☐☐☐☐☐☐☐☐

(NOTE: THIS PAGE WAS PRINTED ON NCR PAPER)

OUT-PATIENT FACILITY	PP1 Have [you] ever visited [...] for outpatient care?	PP2 Do you know where a [...] is located?	PP3 What is the name of the [...]?	PP4 Where is the location of [...]?	PP5 How much time is required to reach [...] (one way trip)?	PP6 Approximate transportation cost from home to [...] one way?	PP7 Approximate cost for one visit at [...]?
F. Nurse/ paramedic/ midwife practitioner	a. 1. Yes ->PP3 3. No b. Family 1. Yes ->PP3 3. No c. Neighbor 1. Yes ->PP3 3. No d. Friend 1. Yes ->PP3 3. No->PP2	1. Yes --> GO TO PP3 3. No -->GO TO PP1G	_____ _____ _____ (If more than 1 medical facility choose the closest)	Village (Desa): _____ Subdistrict (Kec): _____ Municipality (Kab): _____ Province : _____	1. [ ][ ] a. Days b. Hours c. Minutes 8. DON'T KNOW	1. [ ][ ][ ] Thou. [ ][ ][ ] Rup. 8. DON'T KNOW	1. [ ][ ][ ] Thou. [ ][ ][ ] Rup. 8. DON'T KNOW
G. Traditional practitioner (shamans, wisemen, chinese herbalists, acupunc-turists, etc.)	a. 1. Yes ->PP3 3. No b. Family 1. Yes ->PP3 3. No c. Neighbor 1. Yes ->PP3 3. No d. Friend 1. Yes ->PP3 3. No->PP2	1. Yes --> GO TO PP3 3. No -->GO TO OTHER SECTION	_____ _____ _____ (If more than 1 medical facility choose the closest)	Village (Desa): _____ Subdistrict (Kec): _____ Municipality (Kab): _____ Province : _____	1. [ ][ ] a. Days b. Hours c. Minutes 8. DON'T KNOW	1. [ ][ ][ ] Thou. [ ][ ][ ] Rup. 8. DON'T KNOW	1. [ ][ ][ ] Thou. [ ][ ][ ] Rup. 8. DON'T KNOW

SECTION CX (CONTRACEPTIVE USE)

(NOTE: PAGE IV-14 WAS PRINTED ON NCR PAPER)

HOUSEHOLD # : ☐☐☐☐☐☐☐☐☐ HOUSEHOLDER # : ☐☐

SECTION CX (CONTRACEPTIVE USE)

SAKERTI 93

Now we would like to ask about methods/systems to postpone/prevent pregnancy.

No.	BIRTH CONTROL DEVICE/METHOD	CX01 Have you ever heard about [...] to postpone/prevent pregnancy?	CX02 Have you/has your husband ever used [...] ?	CX03 Do you know where to get [...] ?	CX04 What is the name of the medical facility (which provides) [...] ?	CX05 CODE OF FACILITY	CX06 Where is the location of the birth control facility ?
A.	Contraceptive pills A woman can take a contraceptive pill every day	1. Yes ----------- > 3. No --> **GO TO THE NEXT LINE OF CX01**	1. Yes ---------- > 3. No ---------- >	1. Yes ----------- > 3. No --> **GO TO THE NEXT LINE OF CX01**	3	[ ][ ]	Village(Desa)..... Subdistrict (Kec) ..... Mun.(Kab): ..... Prov.: .....
B.	IUD/AKDR/Spiral A woman can have a loop or coil inserted into her uterus by a physician or midwife	1. Yes ----------- > 3. No --> **GO TO THE NEXT LINE OF CX01**	1. Yes ---------- > 3. No ---------- >	1. Yes ----------- > 3. No --> **GO TO THE NEXT LINE OF CX01**	3 ..... 1. Same as [ ] **GO TO CX11B**	[ ][ ]	Village(Desa)..... Subdistrict (Kec) ..... Mun.(Kab): ..... Prov.: .....
C.	Contraceptive injections A woman can be given an injection by a physician or midwife to prevent pregnancy for a few months	1. Yes ----------- > 3. No --> **GO TO THE NEXT LINE OF CX01**	1. Yes ---------- > 3. No ---------- >	1. Yes ----------- > 3. No --> **GO TO THE NEXT LINE OF CX01**	3 ..... 1. Same as [ ] **GO TO CX11C**	[ ][ ]	Village(Desa)..... Subdistrict (Kec) ..... Mun.(Kab): ..... Prov.: .....
D.	Intravag/diaphragm A woman can insert a diaphragm in her vagina before intercourse	1. Yes ----------- > 3. No --> **GO TO THE NEXT LINE OF CX01**	1. Yes ---------- > 3. No ---------- >	1. Yes ----------- > 3. No --> **GO TO THE NEXT LINE OF CX01**	3 ..... 1. Same as [ ] **GO TO CX11D**	[ ][ ]	Village(Desa)..... Subdistrict (Kec) ..... Mun.(Kab): ..... Prov.: .....
E.	Condom A man can wear a condom during intercourse	1. Yes ----------- > 3. No --> **GO TO THE NEXT LINE OF CX01**	1. Yes ---------- > 3. No ---------- >	1. Yes ----------- > 3. No --> **GO TO THE NEXT LINE OF CX01**	3 ..... 1. Same as [ ] **GO TO CX11E**	[ ][ ]	Village(Desa)..... Subdistrict (Kec) ..... Mun.(Kab): ..... Prov.: .....
F.	Contraceptive tubes /Implant/Norplant A woman can have 6 small tubes implanted in her arm to prevent pregnancy	1. Yes ----------- > 3. No --> **GO TO THE NEXT LINE OF CX01**	1. Yes ---------- > 3. No ---------- >	1. Yes ----------- > 3. No --> **GO TO THE NEXT LINE OF CX01**	3 ..... 1. Same as [ ] **GO TO CX11F**	[ ][ ]	Village(Desa)..... Subdistrict (Kec) ..... Mun.(Kab): ..... Prov.: .....
G.	Tubal ligation/female sterilization A woman can undergo surgery to prevent another pregnancy	1. Yes ----------- > 3. No --> **GO TO THE NEXT LINE OF CX01**	1. Yes ---------- > 3. No ---------- >	1. Yes ----------- > 3. No --> **GO TO THE NEXT LINE OF CX01**	3 ..... 1. Same as [ ] **GO TO CX11G**	[ ][ ]	Village(Desa)..... Subdistrict (Kec) ..... Mun.(Kab): ..... Prov.: .....
H.	Vasectomy/male sterilization A man can undergo surgery to prevent having another child	1. Yes ----------- > 3. No --> **GO TO CX12**	1. Yes ---------- > 3. No ---------- >	1. Yes ----------- > 3. No --> **GO TO CX12**	3 ..... 1. Same as [ ] **GO TO CX11H**	[ ][ ]	Village(Desa)..... Subdistrict (Kec) ..... Mun.(Kab): ..... Prov.: .....

CODE FOR 05:

01. Public hospital
02. Private hospital
03. Community Health Center/Branch
04. Private clinic
05. General clinic
06. Birth Control Post/Association
07. Birth Control Training Center
08. TKBK/TMK
09. Pharmacist/drugstore
10. General practitioner
11. Nurse/paramedic
12. Midwife
13. Traditional midwife
14. Friend/family
15. Birth Control Safari
16. Nowhere else

Other, specify:

51 _____

52 _____

53 _____

54 _____

55 _____

56 _____

Sample Listing Form I (SD I)

Province ___ ___
District ___ ___
EA ___ ___ ___

Strata ____ (see code)
1=Govt. Health Center/Subctr.
2=Doctor/Clinic

3=Nurse/Midwife/Paramedic
4=Comm. Hlth or FP Post
5=Traditional Practioner

6=Elementary Sch.
7=Jr. High School
8=Sr. High School

Name of Facility	Village Location	Subdist. Location	District Location	Tally	Is facility less than 45 minutes away and in the province?	Has the facility already been interviewed?	If already interviewed list code.	Rank (exclude if Col 6=N or Col 7=Y)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)

Sample Listing Form II (SD II)

Province ___ ___
District ___ ___
EA ___ ___ ___

Strata ____ (see code)
1=Govt. Health Center/Subctr. (4)
2=Doctor/Clinic (2)
3=Nurse/Midwife/Paramedic (3)
4=Comm. Hlth or FP Post(3)
5=Traditional Practioner (2)
6=Elementary School (3)
7=Jr. High School (3)
8=Sr. High School (2)

(number in parentheses indicates target number to be interviewed, per EA)

No.	Name of Facility	Code of Facility	SS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
01				Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
02					Y	1	1	1	1	5	3	5	4	6	7	6	5	1	2	4	4	9	7
03						Y	Y	2	2	Y	6	1	2	1	3	11	9	7	10	Y	8	6	5
04							2	Y	4	1	5	6	6	4	9	9	3	3	9	9	7	8	2
05								3	3	3	Y	4	1	2	6	Y	10	8	6	13	13	3	16
06									Y	4	4	Y	Y	5	2	7	7	9	5	8	2	1	13
07										2	2	7	3	9	10	10	4	2	14	12	12	11	17
08											1	2	8	7	Y	1	2	10	3	6	15	17	15
09												3	5	Y	5	3	1	4	7	1	16	13	6
10													7	8	8	8	11	Y	1	5	11	Y	1
11														3	1	5	8	12	Y	7	14	5	8
12															4	4	12	5	8	10	1	10	3
13																2	Y	11	4	11	5	12	11
14																	6	6	12	2	3	14	10
15																		13	13	14	10	16	Y
16																			11	3	9	4	18
17																				15	6	15	4
18																					Y	7	12
19																						2	14
20																							9

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