

Indonesia: Analysis of Conflicting Crisis-related Research Results

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TABLE OF CONTENTS

| | |
|---|-----------|
| SUMMARY..... | i |
| LIST OF TABLES | iv |
| LIST OF FIGURES | iv |
| LIST OF ABBREVIATIONS | v |
| ACKNOWLEDGEMENTS | vi |
| 1. INTRODUCTION..... | 1 |
| 2. OBJECTIVES | 2 |
| 3. DATA SOURCES | 2 |
| 3.1 THE NATIONAL SOCIAL AND ECONOMIC SURVEY (SUSENAS)..... | 2 |
| 3.2 THE INDONESIAN FAMILY LIFE SURVEYS (IFLS) | 3 |
| 3.3 100 VILLAGES SURVEY (SSD)..... | 3 |
| 3.3.1 <i>Participatory Assessment Study</i> | 3 |
| 3.4 DRUG TRACKING SURVEY..... | 4 |
| 3.5 COMMUNITY HEALTH AND NUTRITION RESEARCH LABORATORY (CHN-RL) | 4 |
| 3.6 HELEN KELLER CENTRAL JAVA STUDY..... | 5 |
| 3.7 MINISTRY OF HEALTH HIV SURVEILLANCE | 5 |
| 3.8 SEX WORKER STUDY..... | 5 |
| 3.9 INDONESIAN DEMOGRAPHIC AND HEALTH SURVEY (IDHS) | 6 |
| 3.10 EAST JAVA SURVEY OF POOR FAMILIES | 6 |
| 4. FAMILY PLANNING | 7 |
| 4.1 CONTRACEPTIVE USE..... | 7 |
| 4.2 AVAILABILITY OF CONTRACEPTIVE SERVICES | 9 |
| 4.2.1 <i>Provision Of Contraceptive Services</i> | 9 |
| 4.2.2 <i>Stockouts</i> | 10 |
| 4.3 COST OF FAMILY PLANNING METHODS | 12 |
| 4.4 USE OF CONTRACEPTIVE SERVICES | 13 |
| 5. SEXUALLY TRANSMITTED INFECTIONS | 17 |
| 6. MATERNAL HEALTH | 18 |
| 6.1 ASSISTED DELIVERIES | 18 |
| 7. CHILD HEALTH..... | 20 |
| 7.1 IMMUNIZATION | 20 |
| 7.2 NUTRITION | 21 |
| 7.3 USE OF HEALTH SERVICES BY CHILDREN | 24 |
| 8. OTHER HEALTH ISSUES | 25 |
| 8.1 USE OF HEALTH SERVICES BY ADULTS | 25 |
| 8.2 ADULT NUTRITIONAL STATUS | 27 |
| 9. CONCLUSIONS AND RECOMMENDATIONS | 29 |
| 9.1 DIVERSITY OF IMPACT | 29 |
| 9.2 THE IMPORTANCE OF TIMING..... | 30 |
| 9.3 LINK TO THE CRISIS | 30 |
| 9.4 METHODOLOGICAL ISSUES..... | 31 |

INDONESIA: AN ANALYSIS OF CONFLICTING CRISIS-RELATED RESEARCH RESULTS

SUMMARY

In mid-1997 Indonesia entered a period of sustained economic insecurity. The value of the Rupiah began to depreciate after being relatively stable over the previous five years. The instability within the economy has affected both macro- and microeconomic conditions. Several studies have been undertaken in an attempt to assess the social and health impact of the economic crisis. However, these studies have reported conflicting findings in many areas. This report aims to explain the discrepancies in crisis-related research results and to recommend methodologies to enhance future crisis-related monitoring and surveillance.

This report is based on a review of the reports from key data collection activities conducted from the beginning of the crisis in July 1997 until mid-1999. Nine reports with a “crisis” focus or with data comparable across the crisis period were reviewed, as well as two post-July 1997 surveys. Our discussion aims to identify where the discrepancies are in the readily available data, and how these discrepancies can be explained. We do not attempt to clarify the impact that the economic crisis is having on the health status of women and children in Indonesia. Following is a summary of key findings and recommendations:

Aggregation of data may hide important crisis impacts.

The impact of the economic crisis on the health of women and children in Indonesia varied among regions, area types, age groups and sex. Many studies, however, present only aggregate data, which may mask important changes in health status. Many examples of such aggregation are presented in this report. One key example is information on the effects of the crisis on family planning use. It is well documented that both supply and demand for contraception vary considerably by province in Indonesia, and even by district or regency. However, data from the Indonesian Family Life Survey (IFLS) to date have only been presented in the aggregate across seven provinces. Other examples involve the presentation of nutritional data, in which data on men and women or children with a large range of ages have been combined, possibly masking problems among women or a specific age group of children.

Recommendation: As far as the data will allow, investigators should be encouraged to disaggregate data by region, area type, age and sex, in order to identify the truly vulnerable populations.

Attribution of identified changes to the economic crisis may be misleading.

Many of the studies reviewed concluded that the changes identified in health-related indicators were a result of the economic crisis, yet little attempt was made to link these two phenomena. Differences in health status and other social indicators can occur over time and between geographical regions as a result of other factors, in non-crisis situations.

Recommendation: Investigators need to ensure that biases resulting from the assumption that all changes are crisis-related are not introduced into the research process. In addition, health planners must consider and address factors that may be influencing health and social status that are not crisis-related.

Studies covering the crisis period have identified a deterioration in some health areas, but such deterioration may be a continuation of trends occurring before the economic crisis. Child nutrition appears to be one of these areas. A recent analysis of data from the National Social and Economic Survey (Susenas) found that there had been a worsening of the nutritional situation of urban children aged six to 17 months since 1992, thus beginning long before the crisis. While the crisis may be exacerbating the situation, it cannot necessarily be identified as the cause.

Recommendation: A more complete analysis of the impact of the economic crisis can be made by considering data from a longer period of time pre-crisis and evaluating whether or not trends were already developing.

Differences in the timing of data collection are a key reason for differences in findings.

There have been considerable fluctuations over time in many of the measures of women's and children's health. Thus, the exact timing of field research may influence both the magnitude and the direction of changes identified. For example, The Futures Group International's Drug Tracking Survey, which has collected data quarterly since the beginning of the economic crisis, has identified fluctuations in the percentage of service providers experiencing stockouts of various contraceptive products. Stockouts would certainly have an influence on data collected regarding contraceptive use or contraceptive supply. Also, as with any macro-level changes, there is likely to be a time lag before the effects of the economic crisis are wholly measurable in terms of women's and children's health. Data from Susenas regarding child immunization compared between early 1997 and 1998 indicate a rise in the use of most vaccinations. However, IFLS data comparing late-1997 with late-1998 find a fall in the coverage of most immunizations. It is possible to hypothesize that the Susenas data are showing a continuation of pre-crisis increases in coverage, whereas IFLS captures the beginning of a decline.

Recommendation: When reviewing crisis-related research, planners and program managers should consider the timing of research, and the impact that continuous fluctuations could have had on findings. Linking health indicators to economic trends would be improved if investigators included a discussion of more macro-level events when discussing research findings. The analysis of at least three data points and the use of trend analysis techniques would also be an asset when differentiating real changes in health and social status from short-term fluctuations.

Differences in methodologies limit the comparability of data.

Variations in data collection techniques and in geographic coverage of many of the crisis-related studies make comparison difficult. The IFLS and the Participatory Assessment Study found very different results about the use of health services among adults. The qualitative Participatory Assessment Study reports that people have opted for cheaper health services, such as public services or traditional healers, as a result of price increases. On the other hand, the quantitative IFLS finds a decrease in the use of public facilities since the beginning of the crisis. Both methodologies produced valuable results but it is not possible to compare the findings.

Recommendation: Program managers and decision-makers should be aware of the advantages and disadvantages of different data collection methods and should bear in mind the limitations of data that are not nationally representative.

The studies included in this review had varying sample sizes. The statistical significance of the changes identified in each of these studies will be, to a large extent, dependent on the size of the sample. In many reports, sample sizes were not presented, and only one of the reports reviewed conducted any statistical analysis. For example, IFLS found a small rise in the proportion of women using pills and a slight fall in those using injectables. However, since the sample for this analysis was relatively small (approximately 1,500 women), when statistical analysis was conducted these changes were not found to be significant. Susenas, on the other hand, is a national sample of approximately 200,000 households. This study found a slight decrease in the proportion of women currently using pills and a slight increase in the proportion using injectables. Unfortunately, information regarding the number of women included in this sample is not presented in the reports reviewed, nor is a statistical analysis conducted. It is therefore difficult to determine if these changes have more significance than those identified in IFLS.

Recommendation: It is essential that statistical analysis be conducted to accurately analyse changes in various health-related indicators over time.

Indicators of crisis impact are not always comparable or relevant.

Differences in crisis-related research results may be a consequence of differing definitions of indicators being measured in each study. For example, the two studies that collected information on the use of health services by adults categorized health services in different ways, thus making comparison difficult. There were also cases where indicators differed between rounds of the same study. The Drug Tracking Survey collected information on the availability of contraceptives and essential drugs in selected service delivery points every three months since October 1998. In the first four Waves, data were collected from hospitals, primary health centers, drug stores, pharmacies and midwives. However, between Wave IV and Wave V, drug stores and pharmacies were substituted by sub-primary health centers and lower-level service delivery points, making aggregate data difficult to compare between rounds. Instances were also identified where the indicators presented were found to be of little value for program planning. One such case is the observation of several studies that the price of contraceptive commodities increased after the Rupiah initially fell in value and that there have been ongoing fluctuations since that time. The utility of such data for program planners is questionable without considering contextual factors such as income or expenditure on other products.

Recommendation: There needs to be significant coordination between donor agencies, government agencies, non-governmental organizations, international organizations and researchers to ensure that comparable and useful measures are developed. Research results should be fed back to all relevant actors and stakeholders.

LIST OF TABLES

| | | |
|-----------|--|----|
| Table 1. | Women currently using contraception, Susenas, IFLS and SSD (percent) | 7 |
| Table 2. | Facilities providing various contraceptive services, IFLS and Drug Tracking Survey (percent)..... | 9 |
| Table 3. | Facilities experiencing stock-outages of contraceptive products in the previous six months, IFLS (percent) | 11 |
| Table 4. | Facilities currently experiencing stock-outages of National Family Planning Program contraceptive products, Drug Tracking Survey (percent) | 11 |
| Table 5. | Average price of various contraceptive services, IFLS (Rupiah) | 12 |
| Table 6. | Most recent source of supply of contraceptives by current pill and injectable users, IFLS (percent) | 14 |
| Table 7. | Service delivery points reporting a decline in contraceptive clients in the preceding six months, Drug Tracking Survey (percent)..... | 15 |
| Table 8. | Providers experiencing a decline in contraceptive clients by the reason for decline, Drug Tracking Survey (percent) | 15 |
| Table 9. | Prevalence of sexually transmitted infections among sex workers in three Indonesian towns, Sex Worker Study (percent) | 17 |
| Table 10. | Under-fives by birth attendant, Susenas and IDHS (percent)..... | 18 |
| Table 11. | Children having receiving selected immunizations, Susenas, IDHS, IFLS (percent)..... | 20 |
| Table 12. | Nutritional status of children under-nine years of age in 1997, IFLS (percent) | 22 |
| Table 13. | Nutritional status of children, Susenas (percent) | 22 |
| Table 14. | Use of health services by children in the month preceding the survey, IFLS (percent)..... | 24 |
| Table 15. | Use of out-patient health services by adults in the month preceding the survey, IFLS (percent)..... | 25 |
| Table 16. | Use of out-patient health services by adults in the month preceding the survey, Susenas (percent) | 26 |
| Table 17. | Adult nutritional status, IFLS (percent) | 27 |

LIST OF FIGURES

| | | |
|-----------|---|----|
| Figure 1. | Prevalence of low weight-for-age among children aged 6 to 17 months, 1989 to 1998, Susenas (percent)..... | 23 |
|-----------|---|----|

LIST OF ABBREVIATIONS

| | |
|------------------|--|
| BAPPENAS | Badan Perencana Pembangunan Nasional (National Development Planning Board) |
| BCG | Bacillus Calmette Guerin |
| BKKBN | Badan Koordinasi Keluarga Berencana Nasional (National Family Planning Coordinating Board) |
| BMI | Body Mass Index |
| BPS | Biro Pusat Statistik (Central Bureau of Statistics) |
| CHN-RL | Community Health and Nutrition Research Laboratory |
| DPT | Diphtheria, Pertussis and Tetanus |
| ECD Group | Early Childhood Development Group |
| HIV/AIDS | Human Immunodeficiency Virus/Acquired Immuno-Deficiency Syndrome |
| IDHS | Indonesian Demographic and Health Survey |
| IFLS | Indonesian Family Life Survey |
| JPS | Jaring Pengaman Sosial (Social Safety Net) |
| MCH | Maternal and Child Health |
| <i>Polindes</i> | Pos Bersalin Desa (Maternity Post) |
| <i>Posyandu</i> | Pos Pelayanan Terpadu (Health Post) |
| <i>Puskesmas</i> | Pusat Kesehatan Masyarakat (Primary Health Centre) |
| SDP | Service Delivery Point |
| SSD | Survey Seratus Desa (100 Village Survey) |
| Susenas | Survei Sosial dan Ekonomi Nasional (National Social and Economic Survey) |
| UNFPA | United Nations Population Fund |
| UNICEF | United Nations Children Fund |
| USAID | United States Agency for International Development |

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INDONESIA: EXPLAINING DIFFERENCES IN FINDINGS ON WOMEN'S AND CHILDREN'S HEALTH

1. INTRODUCTION

In mid-1997, Indonesia entered a period of economic insecurity. In late July 1997, the Rupiah, the national currency, began to lose value, after being relatively stable over the previous five years. In January 1998, the Government of Indonesia officially acknowledged that the country had been hit by a severe monetary crisis. The monthly inflation rate had reached 6.9 percent, compared with an average of below 1 percent per month in the preceding years. In February 1998, the Rupiah fell to 15,000 Rupiah per U.S. dollar – a decrease in value of more than 80 percent since July 1997. By March 1998, the Central Bureau of Statistics (BPS) announced an annual inflation rate of 34.2 percent for the 1997/98 fiscal year. Conditions continued to worsen when inflation reached 47 percent in April 1998 and 59 percent in July 1998. Devaluation continued through July 1998. By early 1999, the Rupiah had stabilized somewhat, at around 8,000 to the U.S. dollar. However, fluctuations continue to be common.

The instability within the economy affected both macro- and microeconomic conditions. Economic growth saw a sharp fall from a growth rate of 7.9 percent in 1996 and 4.7 percent in 1997 to a decrease of 13.7 percent in 1998.¹ BAPPENAS (National Development Planning Board) predicts a growth rate of 2 to 4 percent in the 1999/2000 fiscal year.² As a direct result of this decrease in economic activity, unemployment has increased and there has been an increase in the number of families living in poverty. Based on a survey conducted by BPS with the United Nations Development Programme and UNSFIR, 49.5 million people were identified as living in poverty in Indonesia at the end of 1998, or 24.2 percent of the population.³ A World Bank analysis calculated that 18 to 20 percent of the population were living in poverty in February 1999.⁴

While the macro-level economic situation appears to be stabilizing, the effects that the economic instability has had on the Government and at the individual, household and community levels are far from over. Several studies have been undertaken in an attempt to assess the social and health impacts of the economic crisis. In many areas, however, these studies have reported conflicting findings. If programs and projects are to be appropriately designed to respond to the crisis, it is important to understand why these studies have produced conflicting findings and to consider what the implications are for program planning and future data collection activities.

¹ Jurnal Pasar Modal Indonesia (1999) *Indikator Ekonomi dan Keuangan Indonesia*. April, Jakarta, Indonesia.

² BAPPENAS (1999) *Menatap ke Depan Perekonomian Nasional Tahun 1999*. Jakarta, Indonesia.

³ BPS (1999) *Penduduk Miskin, Berita Resmi Statistik*. Jakarta, Indonesia: July.

⁴ Hull, T and Iskandar, MB (1999) *Indonesia's Reproductive Health Program: Swept aside in a Deluge? Or Drowned in a Swamp?* Paper presented at the Population Association of America meeting, 26 March.

2. OBJECTIVES

The objectives of this report are:

- to explain the discrepancies in crisis-related research results available from mid-1997 to mid-1999 in order to enhance crisis monitoring and surveillance efforts; and
- to recommend methodologies to enhance future crisis-related monitoring and surveillance.

3. DATA SOURCES

This report was prepared based on a review of the reports from a number of key data collection activities conducted from the beginning of the crisis (July 1997) until mid-1999. Only those with a “crisis” focus or with data comparable across the “crisis” period have been included. Several other post-July 1997 surveys and studies that do not have a relevant base for crisis analysis are also mentioned where there is comparability with other studies. The focus of this review is on the health of women and children, with a particular focus on reproductive health. No attempt has been made to access the original data for these studies, nor to conduct any further statistical analysis of the results. Our discussion aims to identify where the discrepancies are in the readily available data, and how these discrepancies can be explained. We do not attempt to clarify the impact that the economic crisis is having on the health status of women and children in Indonesia. Many of the reports were still in draft form at the time of our review, and we recognize that there may be some changes to the data as the analysis from these studies is finalized. Data are presented when two or more studies have attempted to measure similar indicators of health.

Brief descriptions of the main reports and data sources reviewed for this paper are presented below. These are also summarized in tabular form in Annex I.

3.1 The National Social and Economic Survey (Susenas)

The National Social and Economic Survey (Susenas) is a household survey conducted by BPS covering topics such as consumption, education, family planning, health and nutrition, and housing. The survey includes a short core module that is conducted every year, and a separate, detailed consumption module that is carried out every three years. The core sample is approximately 208,000 households and covers all 27 provinces of Indonesia. The areas for inclusion in the sample are systematically chosen, half from each of the two previous years' Susenas. Villages are then selected by a probability proportionate to size method and all urban areas are included in the sample. Sixteen households in each of these villages and urban areas are then selected based on an assessment of expenditure per month. Data are collected during January and February. This report examines data from 1997 and 1998; 1999 data were not yet available for review.

Badan Pusat Statistik (BPS) (1998) *Statistik Kesejahteraan Rakyat 1998*, Jakarta, Indonesia.

Badan Pusat Statistik (BPS) (1997) *Statistik Kesejahteraan Rakyat 1997*, Jakarta, Indonesia.

Jahari A, Sandjaja, Sudima H, Jus'at I, Jalal F and Minarto (1999) *Nutritional Status of Underfives in Indonesia During the Period of 1989 to 1998* (draft), Jakarta, Indonesia.

Early Childhood Development (ECD) Group (1999) *Secondary Data Analysis of National Socio-Economic Survey 1998. Conducted for Nutrition Department Ministry of Health* (draft), Jakarta, Indonesia.

3.2 The Indonesian Family Life Surveys (IFLS)

The Indonesian Family Life Survey (IFLS) is an ongoing longitudinal study of issues related to health and nutrition, family planning, expenditure and poverty, and education carried out by the RAND Corporation, in collaboration with the University of California, Los Angeles, and the Demographic Institute of the University of Indonesia (LDFEUI). Data were collected in 13 provinces in 1993 (IFLS 1) and again in late 1997 (IFLS 2). To assess the impact of the crisis, a subsample of 25 percent of the full longitudinal population was interviewed again between August and December 1998 (IFLS 2+). This subsample was identified from seven of the original 13 provinces (West Nusa Tenggara, Central Java, Jakarta, West Java, South Kalimantan, South Sumatra and North Sumatra). These provinces were selected to include the full range of socio-economic status and economic activity represented by the larger IFLS sample. Within these provinces, 80 communities were purposively selected with weighted probabilities to match the full sample as closely as possible. Over 98 percent of the original households within this subsample were re-interviewed, totaling 1,903 households. In addition, a community-facility survey re-interviewed community leaders and facilities in the selected areas who had participated in the 1997 survey. Respondents consisted of 219 public providers and 387 private providers. The latest round of data collection was supported by the United States Agency for International Development (USAID) through The Futures Group International's POLICY Project, the World Bank and the United Nations Population Fund (UNFPA).

Frankenberg M, D Thomas and K Beegle (1999) *The Real Costs of Indonesia's Economic Crisis: Preliminary Findings from the Indonesia Family Life Surveys*.

3.3 100 Villages Survey (SSD)

The three rounds of the 100 Village Survey (Survei Seratus Desa or SSD) were conducted by BPS and the United Nations Children's Fund (UNICEF), supported with funds from UNICEF and the Asian Development Bank-BAPPENAS-PT Insan Hitawasana Sejahtera. Data were collected on household expenditure, education, employment, fertility and the utility of the Social Safety Net (JPS). Approximately 100 medium-sized villages were purposively selected in 1994 based on a number of variables including levels of development, urban/rural, coastal/inland, Java-Bali/Outer-Java-Bali, East/West Indonesia. No villages from large cities were included in this survey. A total of 12,000 households were interviewed, 120 in each village. The same sample frame was used to select 12,000 households again for interview in May 1997. 75 percent of these households (9,036) were re-interviewed in August and December 1998. These 100 villages are from 10 districts in eight provinces in Indonesia (Riau, Lampung, West Java, Central Java, Bali, East Nusa Tenggara, East Kalimantan, and Southeast Sulawesi).

Surbakti S. *Survei Seratus Desa*, Jakarta, BPS (draft), n.d.

Badan Pusat Statistik, UNICEF (1999) *Survei Seratus Desa: Suatu Sistem Lokasi Pemantauan Dini Perubahan Fenomena Sosial*, Seri SSD No.1, Jakarta, Indonesia
Surbakti S. *Key Issues: Analisa Cepat Survei 100 Desa*, Jakarta, BPS, n.d.

3.3.1 Participatory Assessment Study

A complementary data collection activity known as the Participatory Assessment Study was conducted by BPS with support from the Asian Development Bank (ADB). This study was

conducted in two rounds, December 1998 and March/April 1999, to identify the crisis impact on health and nutrition, education, crime and employment, and the role of the Social Safety Net. Group discussions, observations and in-depth interviews were conducted in ten different villages in each round. This research was supplemented by data from newspaper clippings and secondary data analysis. In the first round, eight of the villages were chosen from the SSD and the rest from the exploratory study known as the "On the Ground" survey. In the second round, seven villages were selected from SSD and three from the "On the Ground" survey. Data were collected across urban and rural areas in 13 provinces.

Surbakti S (1999) *Social Impact of Financial Crisis in Indonesia: Participatory Assessment Study (Preliminary Findings)*.

3.4 Drug Tracking Survey

Through The Futures Group International's POLICY Project in collaboration with the National Family Planning Coordinating Board (BKKBN) and the Ministry of Health, USAID supported a survey of the availability of contraceptives, essential drugs and other selected medical supplies. Data collection activities were subcontracted to the private company PT Taylor Nelson Sofres. Information was collected in approximately 370 selected service delivery points (SDPs) through face-to-face interviews with the person in charge. Data have been collected from the same SDPs in five rounds between October 1998 and July 1999, with dropouts being substituted. Sampling covers five different types of SDPs. The first four Waves included hospitals, *puskesmas* (primary health center), drug stores, pharmacies and midwives. For Wave V, drug stores and pharmacies were substituted by sub-*puskesmas* and lower SDPs. The sample covers the four largest islands (Java, Kalimantan, Sumatra and Sulawesi) and two small islands (Lombok and Timor).

The Futures Group, BKKBN and the Ministry of Health (1999) *Contraceptive and Essential Drugs Tracking Survey: Wave II*, Jakarta, Indonesia.

The Futures Group, BKKBN and the Ministry of Health (1999) *Contraceptive and Essential Drugs Tracking Survey: Wave V*, Jakarta, Indonesia.

3.5 Community Health and Nutrition Research Laboratory (CHN-RL)

Gadjah Mada University is undertaking a quantitative analysis, collecting data cyclically every three months in Purworejo District in Central Java and Belu District in East Nusa Tenggara. Data are collected primarily on health and nutrition of children and women. The same households are visited every 90 days. Data have been collected from Purworejo since 1993/94 and Belu since 1995/96. A two-stage sampling method was used with stage one being probability proportionate to size to choose enumeration areas and then random sampling to select households. A sample of 12,928 households was selected in Purworejo. Financing for this project is primarily through the Community Health and Nutrition Project of the Ministry of Health using resources from the International Bank for Reconstruction and Development (IBRD).

Wilopo S and CHN-RL Team (1997) *Community Health and Nutrition Research Laboratory (CHN-RL), Faculty of Medicine, Gadjah Mada University: Key Issues on the Research Design, Data Collection and Management*, Yogyakarta, Indonesia.

Sastrowijoto S (1998) *The Impact of Monetary Crisis on Health Status in Purworejo and Belu District*, presentation at Ministry of Health, March 1999.

3.6 Helen Keller Central Java Study

Helen Keller International has undertaken a nutritional surveillance study in largely rural areas of Central Java in collaboration with the University of Diponegoro, the Department of Health and UNICEF. Within each of six ecological zones, 1,200 households were randomly selected using a multi-stage sampling design. All participants were measured for a number of nutritional indicators and blood was collected from the mother and youngest child in all households in six randomly-selected villages per zone. A new sample is selected every three months. In the report reviewed, data from mid-1996 were compared with data from mid-1998. This activity was supported by USAID.

Helen Keller International (1998) Alarming rise of iron deficiency anemia may herald 'lost generation.' Jakarta: HKI, *Indonesia Crisis Bulletin*, October 1(3).

Helen Keller International (1998) Have 30 years of nutritional improvement in Southeast Asia disappeared in one year of the crisis? Jakarta: HKI, *Indonesia Crisis Bulletin*, October 1(4).

Helen Keller International (1999) The importance of accurate anthropometric assessment and defining the 'lost generation'. Jakarta: HKI, *Indonesia Crisis Bulletin*, March 1(5).

3.7 Ministry of Health HIV Surveillance

Since it is difficult to obtain reliable HIV-prevalence data from a representative sample, the Ministry of Health estimates the HIV-prevalence rate in the well-defined population of commercial sex workers based in compounds. This population is then followed longitudinally to survey the sero-prevalence. The Ministry of Health also collates information from all the provinces in Indonesia regarding the number of reported HIV and AIDS cases.

Ministry of Health (1999) *Monthly Report as of June 1*, CDC, Jakarta, Indonesia.

Sujudi, A (1998) *Epidemiologi Penyakit Menular Seksual, HIV/AIDS dan Perkembangan Infeksi HIV/AIDS di Indonesia*, MoH, Jakarta, Indonesia.

3.8 Sex Worker Study

The Indonesian Epidemiology Network has recently conducted the second round of a study of the prevalence of sexually transmitted infections in female commercial sex workers in North Jakarta, Surabaya and Manado/Bitung. In September 1998, approximately 200 commercial sex workers were interviewed and gave urine samples in each of the sites. Similar interviews and infection screening had been conducted between January and February 1997 with approximately 100 sex workers in Jakarta and Surabaya, and 300 in Manado. Data were also collected on risk behaviors. Family Health International supported the study with USAID funding through the Ministry of Health.

Surjadi C et al. (1999) *Second Assessment of Sexually Transmitted Disease (STD) Prevalence Study of Commercial Female Sex Workers in North Jakarta, Surabaya, Manado/Bitung Indonesia*, Jakarta, Indonesia.

3.9 Indonesian Demographic and Health Survey (IDHS)

The Indonesian Demographic and Health Survey (IDHS) does not have data comparable across the crisis-period. Data were collected, however, in late-1997, at the very beginning of the economic crisis. Where relevant, these data are presented for comparison. The IDHS is a nationally representative survey of issues related to population and health conducted in 1987, 1991, 1994 and 1997. All 27 provinces are included in the sample. The 1997 survey was conducted between September and December, and interviews were conducted with a total of 28,810 ever-married women aged 15 to 49, and 34,255 households. The interviewees were selected through a three-stage random sampling process. The IDHS was conducted by BPS in collaboration with BKKBN and the Ministry of Health. The Government of Indonesia supported all in-country costs, and technical assistance was provided by Macro International through the USAID-funded Demographic and Health Survey Program.

Central Bureau of Statistics, Ministry of Population/BKKBN, Ministry of Health and Macro International (1998) *Indonesia Demographic and Health Survey 1997*, Calverton, Maryland.

3.10 East Java Survey of Poor Families

The East Java Survey of Poor Families, conducted by the University of Airlangga with financial support from the Social Safety Net, collected information on the use of health services, nutritional status, poverty and the Social Safety Net. Interviews were conducted with 19,850 men and women in equal proportions between December 1998 and January 1999. This study used a sampling frame specifically constructed from only poor families categorized as “pre-welfare” (*Keluarga Pra-Sejahtera or Pra-S*) and “welfare stage I” (*Keluarga Sejahtera 1 or KS-1*) in East Java province. The study does not attempt to compare data from the same population before mid-1997. Data are presented in this report for reference where appropriate.

JPS and University of Airlangga (1999) *East Java Survey of Poor Families*. Jakarta: JPS and University of Airlangga.

Sevenhuysen, G (1999) *Safeguarding Human Resources: Intervention to Support Children, Families and Future Generations*. Analysis of survey data from East Java by University of Airlangga, draft report.

4. FAMILY PLANNING

4.1 Contraceptive Use

The *Susenas* data show very little change in the overall contraceptive prevalence between the beginning of 1997 and 1998 (Table 1). Small changes were identified in the method mix, with pill use falling from 29.8 to 28.5 percent and IUD use falling 15.6 to 14.3 percent of current users. Injectable use was found to rise from 38.2 to 40.1 percent of current contraceptive users over the same period.

Table 1. Women currently using contraception, Susenas, IFLS and SSD (percent)*

| | Susenas | | IFLS (same communities) | | SSD | |
|------------------|--------------|--------------|-------------------------|--------------|-------------|--------------|
| | Jan-Feb 1997 | Jan-Feb 1998 | Aug-Dec 1997 | Aug-Dec 1998 | May 1997 | Aug/Dec 1998 |
| Pill | 16.5(29.8) | 15.8(28.5) | 18.0(33.8) | 18.2(34.3) | - | - |
| Injection | 21.1(38.2) | 22.2(40.1) | 20.6(38.6) | 19.0(35.8) | - | - |
| Condom | 0.4(0.8) | 0.4(0.7) | 0.5(0.9) | 0.4(0.8) | - | - |
| IUD | 8.6(15.6) | 7.9(14.3) | 3.8(7.2) | 4.7(8.8) | - | - |
| Norplant/implant | 5.0(9.1) | 5.4(9.8) | 5.4(10.1) | 5.5(10.4) | - | - |
| Sterilization | 2.7(4.8) | 2.7(4.8) | 3.4(6.4) | 3.7(6.9) | - | - |
| Intra-vaginal | - | - | 0.2(0.3) | 0.1(0.1) | - | - |
| Other | 0.4(0.7) | 0.3(0.6) | - | - | - | - |
| Traditional | 0.5(1.0) | 0.7(1.3) | 1.4(2.7) | 1.5(2.9) | - | - |
| Total | 55.3 | 55.4 | 53.4 | 53.1 | 51.9 | 51.6 |
| <i>n</i> = | <i>n/a</i> | <i>n/a</i> | <i>1,407</i> | <i>1,688</i> | <i>n/a</i> | <i>n/a</i> |

(figures in parentheses indicate the percent of current contraceptive users currently using particular methods)

* Susenas data refer to married women aged 15 to 49 years; IFLS data refer to currently married women aged 15 years and over; and SSD data refer to ever married women aged 10 to 49 years.

n/a = data not available

The *IFLS* also shows very little change in the total proportion of married women in the same communities currently using contraception between the end of 1997 and the end of 1998 (Table 1). Changes in the method mix included a fall in injectable use of 2.8 percentage points, which was the greatest change reported between 1997 and 1998, and an increase in IUD use by 1.6 percentage points. The IFLS report indicates that none of these changes were statistically significant. The report conducted some further analysis and found that region, area type, education and economic status were not predictive values for contraceptive adoption or discontinuation between late-1997 and late-1998.

The *SSD* report reviewed for this paper does not present aggregate figures of use of each contraceptive method. Total use was found to have declined slightly from 51.9 to 51.6 percent of ever-married women between May 1997 and August/December 1998 (Table 1). The report states, however, that there has been a move to less effective and cheaper methods, although these data are not presented. No differences were found between area types or levels of economic status.

IDHS data from the latter part of 1997 found a higher contraceptive prevalence rate among currently married women than both the 1997 IFLS (which was conducted at the same time), and the 1998 Susenas study (which was in the field very early in 1998). IDHS reported 57.4 percent of currently married women aged 15 to 49 years currently using contraceptives.

Susenas, IFLS and SSD all show very little change in total contraceptive use between their two data collection points, with Susenas showing a very slight rise, and IFLS and SSD showing a very slight fall. Changes in use of specific methods were also small, but tended to be in opposite directions between Susenas and IFLS. For example, pill use rises in IFLS and falls in Susenas, and injectable use rises in Susenas and falls in IFLS. There are greater differences between the proportion of women reported to be using specific methods. In particular, IUD use is twice as high in Susenas as it is in IFLS.

The importance of the changes indicated by the data is unclear, since only the IFLS report included an analysis of statistical significance. In that study, none of the changes were found to be statistically significant. To assess the importance of the changes indicated by the Susenas and SSD studies, a statistical analysis should be conducted. Knowledge of the sample sizes is essential to conduct such an analysis. Sample size data were not available in the reports reviewed for this report.

Recommendation: Statistical analysis must be conducted to truly analyze changes in various health-related indicators over time. Analysis is particularly important when comparing data from studies with considerably different sample sizes.

When comparing different studies of the trends in contraceptive use by method, it is important to take into consideration the provinces included in each of the studies being compared. Supply and demand for contraceptives are known to vary considerably by province, or even by district or regency, and are often influenced by socio-economic or cultural factors. If the provinces selected as samples vary, the trends in contraceptive use by method reported in the different studies are likely to be misleading. A review of province-level Susenas data reveals that the differences in method mix between the IFLS and Susenas could be attributed to the more limited scope of the IFLS.

Recommendation: The impact of the economic crisis on the health of women and children in Indonesia has been highly heterogeneous. Aggregation of data across provinces and/or districts, or even by combining urban and rural areas, may mask important changes in health status. Investigators should be encouraged to disaggregate data by province/district or type of area as far as the data will allow.

Caution needs to be taken in comparing findings when each study uses a different denominator. Differences between the three studies in terms of the age and marital status of women who were asked about current contraceptive use, will certainly influence levels of contraceptive use, and may also influence trends identified in use over time.

4.2 Availability of Contraceptive Services

4.2.1 Provision of Contraceptive Services

The *IFLS* presents data that compares the proportion of health care facilities that reported currently providing various contraceptive services in two time periods (Table 2). Small increases in the proportion of facilities providing each method other than oral pills are seen for private providers, with the greatest increase being for IUDs. A 2.3 percentage point decrease was identified in the proportion of private facilities providing oral pills. Practically no change was seen in the public sector for the provision of pills and injectables, although there was a fall in the provision of IUDs and a rise in the provision of implants. None of these differences were found to be statistically significant.

The *Drug Tracking Survey* collected similar data, presented here for *puskesmas* and midwives as an example of one public and one private provider (Table 2). These data represent only the provision of *National Family Planning Program* methods. For both sets of providers, the Drug Tracking Survey shows an increase in the proportion of all methods provided between October 1998 and July 1999, with a proportionally greater increase for midwives.

Table 2. Facilities providing various contraceptive services, IFLS and Drug Tracking Survey (percent)

| | IFLS (same facilities) | | | | Drug Tracking Survey* | | | |
|---------------------------|------------------------|-----------------|-----------------|-----------------|-----------------------|--------------|-------------|--------------|
| | Public | | Private | | <i>Puskesmas</i> | | Midwives | |
| | Aug-Dec 1997 | Aug-Dec 1998 | Aug-Dec 1997 | Aug-Dec 1998 | Oct 1998 | July 1999 | Oct 1998 | July 1999 |
| IUD | 86.3 | 81.7 | 26.6 | 32.6 | 90 | 97 | 32 | 58 |
| Injection | 84.9 | 84.5 | 77.2 | 78.5 | 77 | 94 | 37 | 62 |
| Oral | 82.2 | 82.2 | 57.0 | 54.7 | 89 | 99 | 56 | 85 |
| Implants | 69.0 | 74.4 | | | 43 | 54 | 18 | 22 |
| <i>Norplant insertion</i> | 60.7 | 58.0 | 16.4 | 17.1 | | | | |
| <i>Norplant removal</i> | 59.6 | 58.5 | 17.4 | 18.1 | | | | |
| Condoms | | 69.9 | | 0.8 | 84 | 96 | 32 | 52 |
| <i>n =</i> | 219 | 219 | 387 | 387 | 81 | 84 | 62 | 63 |

* *National Family Planning Program* methods only

While there appears to have been an increase in the provision of family planning methods by private facilities in both studies, the increases identified by the Drug Tracking Survey tend to be much greater than those in the IFLS. No statistical analysis has been conducted on the Drug Tracking data so it is unclear how significant these increases are. Conflicting results are seen as the IFLS indicates a decrease in the provision of some methods in the public sector, while there is an increase for all methods in the Drug Tracking Survey. Also, the proportion of facilities providing each method does not seem to always be of the same magnitude between the two studies, particularly in the private sector.

Differences in the way the data are presented in the available reports affect our interpretation. The definition of the type of services is one example: while it is likely that the difference between addressing just *puskesmas* and all public services will be small, private services clearly include many providers other than midwives. Another important difference is that the Drug Tracking Survey data presented here only applies to contraceptive methods provided

through the *National Family Planning Program*, whereas the IFLS data are for all types of methods. The Drug Tracking Survey has collected data on other methods; however, aggregate data are not presented, thus limiting the comparability of the two studies.

Recommendation: Differences in crisis-related research results may be a consequence of differing definitions of indicators being measured. If data from future research are to be comparable, it is essential that investigators coordinate to identify standard definitions for the key indicators being used by policymakers for decision-making.

Other factors influencing the difference between the data from IFLS and the Drug Tracking Survey in regard to contraceptive provision, include the differing provinces sampled and differences in the timing of the studies.

4.2.2 *Stockouts*

Providers need to have a method in stock to be able to satisfy user demands for that particular method. Therefore, data regarding stockouts were also collected during the IFLS and Drug Tracking Surveys.

The *IFLS* in 1998 asked providers if they had experienced a change in the availability of family planning methods in the previous six months. At that time, 48.6 percent of public service providers reported changes, of whom 71.7 percent felt that it was affecting the services they provided. Corresponding figures for the private sector were 35.3 percent and 63.7 percent respectively. These data imply that changes in the availability of contraception were affecting public health services more than private services. The IFLS also collected data regarding stockouts. In the 1997 survey, these data were very limited, but showed that 11.1 percent of public facilities were out of stock of Depo-Provera some time in the preceding six months, and 10.7 percent had been out of stock of Depo-Progestin. For private facilities, the data available are for total injectables and show 6.3 percent of facilities reported having had a stockout in the preceding six months. In 1998, data were collected on the full range of contraceptive methods (Table 3). At that time, 45.6 percent of public facilities reported having experienced stockouts of Depo-Provera, compared to 20.7 percent of private facilities. Data on other methods from 1998 indicate more private-sector facilities with stockouts of IUDs, and public facilities experiencing more stockouts of all other methods. Where data are available for both 1997 and 1998, the changes were found to be statistically significant.

Table 3. Facilities experiencing stockouts of contraceptive products in the previous six months, IFLS (percent)

| | Aug-Dec 1998 | |
|-----------------------|----------------|---------|
| | Public | Private |
| IUD | | |
| <i>Lippes loop</i> | 4.6 | 13.4 |
| <i>Copper T</i> | 12.2 | 15.5 |
| Injection | | |
| <i>Depo-provera</i> | 45.6 | 20.7 |
| <i>Depo-progestin</i> | 28.3 | 15.9 |
| Oral | | |
| <i>Mycrogynon</i> | 39.7 | 26.6 |
| <i>Marvalon 28</i> | 39.5 | 18.7 |
| Implants | | |
| <i>Norplant</i> | 20.2 | 19.3 |
| <i>Implanon</i> | 22.1 | 16.4 |
| Condoms | 6.7 | 5.6 |
| | <i>n</i> = 219 | 387 |

The *Drug Tracking Survey* measured the proportion of facilities currently out of stock of specific methods and found that *puskesmas* experienced more stockouts of *National Family Planning Program* methods than midwives in October 1998, but by July 1999, both types of facilities had a high proportion of stockouts (Table 4).

Table 4. Facilities currently experiencing stockouts of *National Family Planning Program* contraceptive products, Drug Tracking Survey (percent)

| | Oct | Dec | Mar | May | July | Oct | Dec | Mar | May | July |
|-----------------------|------------------|------|------|------|------|-----------------|------|------|------|------|
| | 1998 | 1998 | 1999 | 1999 | 1999 | 1998 | 1998 | 1999 | 1999 | 1999 |
| | <i>Puskesmas</i> | | | | | <i>Midwives</i> | | | | |
| IUD | 6 | 3 | 9 | 6 | 7 | 3 | 3 | 16 | 16 | 21 |
| <i>Lippes loop</i> | | | | | | | | | | |
| <i>Copper T</i> | | | | | | | | | | |
| Injection | 23 | 23 | 22 | 23 | 23 | 8 | 11 | 22 | 29 | 27 |
| <i>Depo-provera</i> | | | | | | | | | | |
| <i>Depo-progestin</i> | | | | | | | | | | |
| Oral | 12 | 11 | 11 | 10 | 12 | 8 | 11 | 17 | 18 | 14 |
| <i>Mycrogynon</i> | | | | | | | | | | |
| <i>Marvalon 28</i> | | | | | | | | | | |
| Implants | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Norplant</i> | | | | | | | | | | |
| <i>Implanon</i> | | | | | | | | | | |
| Condoms | 9 | 9 | 14 | 14 | 20 | 5 | 10 | 21 | 15 | 14 |
| | <i>n</i> = 81 | 80 | 81 | 81 | 84 | 62 | 63 | 63 | 62 | 63 |

As with the data on provision of contraceptive services, the data from IFLS and the Drug Tracking Survey are not comparable in terms of their definition of health services or indicators (with IFLS addressing stockouts in the preceding six months, and the Drug Tracking Survey looking at current stockouts). Timing will be another important determinant, as logistics and supply of contraceptive methods may fluctuate over time.

It should also be kept in mind that both surveys are limited in scope. The Drug Tracking Survey purposively selected 84 *puskesmas* and 63 midwives in eight provinces. Although this sample is useful to show changes in the participating facilities, the results are not generalizable to Indonesia as whole. The 1998 IFLS sample was larger, comprised of 219 public and 387 private facilities in seven provinces. While these facilities may be representative of the provinces involved, these provinces are not all the same as those included in the Drug Tracking Survey, and do not represent all of Indonesia.

Recommendation: It is important to clarify which group of the total population the samples represent when comparing crisis-related research results. Presentation of data should be clear regarding the coverage of the study, and therefore the population to which the results pertain.

4.3 Cost of Family Planning Methods

IFLS found that average prices had risen between late-1997 and late-1998 for most services at both public and private facilities (Table 5). In particular, the cost of IUDs and injectables rose substantially. Absolute increases in price in the same facilities in 1997 and 1998 were significantly higher in private facilities, but the proportional increase was greatest in public facilities. Very little change in the price of pills was found in either setting.

Table 5. Average price of various contraceptive services, IFLS (Rupiah)

| | IFLS (same facilities) | | | | |
|--------------------|------------------------|-----------------|-----------------|-----------------|-----|
| | Public | | Private | | |
| | Aug-Dec 1997 | Aug-Dec 1998 | Aug-Dec 1997 | Aug-Dec 1998 | |
| IUD | | | | | |
| Copper T insertion | 1,050 | 2,000 | 20,000 | 25,000 | |
| Copper T removal | 1,000 | 1,000 | 7,500 | 10,000 | |
| Injection | | | | | |
| Depo-Provera | 3,500 | 7,500 | 5,000 | 10,000 | |
| Depo-Progestin | 3,500 | 7,500 | 5,000 | 8,000 | |
| Oral | | | | | |
| Microgynon | 900 | 1,000 | 2,000 | 2,000 | |
| Marvelon 28 | 900 | 900 | 1,500 | 2,000 | |
| Implants | | | | | |
| Norplant insertion | 3,500 | 7,500 | 10,000 | 25,000 | |
| Norplant removal | 3,000 | 5,500 | 10,000 | 20,000 | |
| Condoms | | 900 | | 40,000 | |
| | <i>n</i> = | 219 | 219 | 387 | 387 |

The recent *Drug Tracking Survey* reports a general trend downwards through the period of economic crisis in the proportion of facilities providing *National Family Planning Program* methods free of charge. For injectables, 30 percent of *puskesmas* charged a fee at the end of 1998, but by mid-1999, this figure was down to 15 percent. For hospitals, these figures were 33 percent in October 1998, down to 18 percent in December 1998 and 23 percent in July 1999. The average price for injectables showed a similar pattern, dropping from 6,300 Rupiah in October 1998 to 5,900 Rupiah in December 1998 and rising to 6,424 Rupiah in July 1999. The proportion of hospitals distributing Norplant for free increased from 55 percent to 73 percent between October and December 1998, and 83 percent by July 1999. In *puskesmas*, there was a fall at the end of 1998 from 77 percent to 63 percent distributing Norplant for

free, but rising again by mid-1999 to 86 percent. The average price of Norplant rose as high as 41,600 Rupiah in December 1998, but fell to 29,200 in July 1999. In *puskesmas*, the average price fell between October and December 1998, down to 6,400 Rupiah, and rose to over 13,000 Rupiah in July 1999.

The ongoing *CHN-RL* study in Purworejo reported a sharp increase in household expenditure on contraceptives in the last six months of 1997, from 4,000 to 7,000 Rupiah, although the unit of measurement is unclear. The report reviewed for this paper concludes that this rise is likely to be related to the increased cost of importing contraceptives.

The qualitative *Participatory Assessment Study* reports that the costs of contraceptive commodities and services have both risen, which is making many women change methods or drop out of the family planning program. There were reports of free implant and IUD distribution in several villages. However, in some villages, contraception that was labeled “free” was actually for sale in the private sector, and family planning workers were short of methods for distribution to those who could not afford to pay.

It is clear that there was a rise in the price of contraceptives after the Rupiah initially fell in value between the end of 1997 and the beginning of 1998, and that there has been much fluctuation in price from mid-1998 to the present. However, there are many limitations in the comparison of these data.

Definitions are, again, different between all the studies mentioned here. A variety of measures are used as indicators of the costs of contraception, and the denominators vary considerably. The IFLS and the Drug Tracking Survey both collected price data from providers, whereas the CHN-RL and the Participatory Assessment studies present data given by women regarding the cost of contraception. Also, due to ongoing fluctuations in the price of contraceptives, the exact magnitude of increase found in studies such as the IFLS is somewhat influenced by the timing of the study. The Drug Tracking Survey shows fluctuation in the proportion of facilities reporting providing methods free of charge. As this figure varies, so will the average price, even if the actual price charged by those who do charge does not change.

The interpretation of these data is unclear. Without looking at the macroeconomic situation, and other economic indicators such as income and expenditure on other products, data on the cost of contraceptive methods and services are of limited value in determining the impact of the crisis on the health status of women and children. None of the studies presented above have attempted to broaden their analysis with any rigor.

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| <p>Recommendation: For data to be useful in monitoring and responding to a changing social situation, the indicators and measures presented must be easily interpretable. Investigators should ensure that data collected are appropriate for the needs of program managers and policymakers.</p> |
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4.4 Use of Contraceptive Services

The *IFLS* collected data on the most recent source of supplies of pills and injectables from women currently reporting method use (Table 6). The data indicate that in the same communities, there has been a decrease in the use of *puskesmas* and midwives, and an increase in the use of pharmacies and other community sources for pills, although none of

these changes were found to be statistically significant. For pill-supply, there does not appear to be a shift in the relative use of private and public facilities. For the supply of injectables, there is a significant shift away from *puskesmas* and increases in the use of village midwives and other private providers. These were not statistically significant increases. The IFLS found a statistically significant decrease in the number of women reporting that they are currently using pills but have not received a new supply in the preceding seven months. The report concludes that this decrease could represent a change in the purchasing patterns for pills; i.e. that women would previously stock up on pills, but that now they cannot afford to do this, they buy pills when needed. The data presented in the report also found that 4.0 percent of current injectable users in 1997, and 1.9 percent in 1998 had not had an injection in the preceding seven months. The report does not attempt to explain these results, so it is unclear if the situation reflects a data collection problem or is related to women's understanding of how methods should be used.

Table 6. Most recent source of supply of contraceptives by current pill and injectable users, IFLS (percent)

| | IFLS (same communities) | | | |
|-------------------|-------------------------|-----------------|-----------------|-----------------|
| | Pills | | Injectables | |
| | Aug-Dec 1997 | Aug-Dec 1998 | Aug-Dec 1997 | Aug-Dec 1998 |
| Private midwife | 14.7 | 13.1 | 39.3 | 44.4 |
| Other private | 12.4 | 9.4 | 19.3 | 20.9 |
| <i>Puskesmas</i> | 23.0 | 22.5 | 30.5 | 17.5 |
| Pharmacy | 8.3 | 11.1 | | |
| Village midwife | 3.7 | 5.1 | 5.1 | 11.3 |
| Community sources | 26.3 | 23.9 | 3.3 | 1.9 |
| <i>n</i> = | 256 | 206 | 290 | 209 |

The 1997 *IDHS* collected similar data, which show that 24.3 percent of pill users got their method from *puskesmas*, 18.5 percent from private midwives, and 27.0 percent from either *posyandu* (health posts) or family planning posts (n=4,153). Injectable users are mainly using private midwives (49.9%), followed by *puskesmas* at 29.0 percent (n=5,687).

The *Drug Tracking Survey* also addressed the issue of changes in the use of services for contraception. Providers in a range of service settings were asked if they had experienced a decline in contraceptive clients in the preceding six months (Table 7). These data appear to indicate that between June 1998 and July 1999, a rising number of hospitals experienced a decline in contraceptive clients. A large number (57%) of midwives reported a decline in clients between September 1998 and March 1999, but this figure had decreased to 33 percent by July 1999. The proportion of respondents from *puskesmas* reporting a decline in contraceptive clients also varied significantly, being highest in March 1999.

When a decline was reported, providers were asked for their perception of the reason for the decline (Table 8). Price increases and purchasing power appear to have been particularly important issues at the end of 1998, but changing service providers and the availability of contraceptives had become more important by the mid-1999. The Drug Tracking Survey hypothesizes that people may have gone more to *puskesmas* because of the free service, but the data are unable to show this.

The *CHN-RL* longitudinal study in Purworejo found that there was a very slight decrease in the proportion of women using private providers for the provision of IUDs and injectables between June 1997 and February 1998. The authors conclude that although the decline itself is not great, the data point to a greater change in the use of private providers in urban than rural areas. The change may be related to the increased likelihood of stock shortages in the public sector compared with the private sector.

Table 7. Service delivery points reporting a decline in contraceptive clients in the preceding six months, Drug Tracking Survey (percent)

| | Drug Tracking Survey | | | |
|----------------------|----------------------|------------|------------|------------|
| | Wave II | Wave III | Wave IV | Wave V |
| | Dec 1998 | March 1999 | May 1999 | July 1999 |
| Hospitals | 26 | 46 | 39 | 48 |
| <i>Puskemas</i> | 28 | 37 | 22 | 35 |
| Drug store | 34 | 37 | 26 | - |
| Pharmacy | 43 | 41 | 29 | - |
| Sub- <i>puskemas</i> | - | - | - | 26 |
| Lower SDPs | - | - | - | 18 |
| Midwives | 48 | 57 | 42 | 33 |
| Total | 39 | 43 | 30 | 30 |
| <i>n =</i> | <i>365</i> | <i>365</i> | <i>364</i> | <i>368</i> |

Table 8. Providers experiencing a decline in contraceptive clients by the reason for decline, Drug Tracking Survey (percent)

| | Drug Tracking Survey | | | |
|--------------------------------|----------------------|------------|------------|------------|
| | Wave II | Wave III | Wave IV | Wave V |
| | Dec 1998 | March 1999 | May 1999 | July 1999 |
| Price increase | 56 | 39 | 29 | 19 |
| Decrease in purchasing power | 36 | 19 | 15 | 12 |
| Clients went to other SDPs | 21 | 23 | 62 | 31 |
| Availability of contraceptives | 15 | 19 | 11 | 31 |
| <i>n =</i> | <i>142</i> | <i>157</i> | <i>109</i> | <i>110</i> |

Data from the two crisis-related community based studies are somewhat contradictory, with the IFLS finding a shift to private providers for supplies of injectables, and the CHN-RL finding a shift away from private providers. Neither report presents a conclusive argument for the reasons for these shifts.

The timing of these different studies may be key to understanding these differences. There have been fluctuations in the availability and cost of various methods, as shown by the data presented in sections 4.2 and 4.3. It is possible that the supply of injectables in the public sector was sufficient in February 1998, but that by December 1998, women were forced to turn to private providers if they wished to continue to use that method.

Recommendation: There have been considerable fluctuations over time in many measures of women's and children's health. Differences in the timing of research will often be a key reason for differences in findings of various studies.

The conclusion of the CHN-RL study should also be taken with caution, since the decline in use of public facilities was very slight, and the data presented do not allow an assessment of the significance of this decline.

Unlike the other two studies presented, the Drug Tracking Survey looks at the use of services from the providers' perspective. However, these data have little value when determining changes in service use. First, not all types of SDPs are included in the study, thus the data available regarding private services are limited. Second, there is a bias in the question as it was asked to providers. Since no question was asked regarding the increase in contraceptive clients, there is no indication of the absolute change in contraceptive client load. Third, aggregate data presented for the perceived reasons for any decline may mask differences between the different SDPs. The number of each different SDP included in the survey is representative of neither the number of SDPs, nor the client load. It can be therefore misleading to combine these data. It is also important to note that in Waves II to IV, drug stores and pharmacies were included, but were replaced by sub-*puskesmas* and lower SDPs in Wave V. These inconsistencies make the findings difficult to compare.

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| Recommendation: Data that are not comparable between rounds are of little value in determining changes in health indicators over time. Investigators need to ensure that instrument design will allow for data comparison with previously collected data. |
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5. SEXUALLY TRANSMITTED INFECTIONS

There has been very little data collected regarding sexually transmitted infections (STIs). The *Ministry of Health HIV Surveillance* is an ongoing activity with monthly data collected throughout the crisis-period. The June 1999 report indicated that at the end of May 1999, 23 out of 27 provinces had reported totals which add up to 875 HIV-positive individuals (of which, 35 percent are women). This number includes 245 with AIDS (of which, 19 percent are women). Based on findings from the prevalence of HIV among compound-based sex workers, in 1998 the prevalence was found to be 0.06 percent, which is twice as high as the rate of 0.03 percent in 1996 and 1994. However, these rates hide regional differences. For example, prevalence of 3.7 and 1.4 percent were found in Riau and Irian Jaya provinces respectively. Issues related to the underreporting of this type of data must be considered when making conclusions. No other data are available for comparison. It is unclear what, if any, effects the economic crisis has had on the spread of HIV/AIDS in Indonesia. These data simply show what is a predictable increase in the prevalence of HIV.

A recent comparison of the prevalence of sexually transmitted infections from the *Sex Worker Study* in 1997 and late-1998 showed an increase in the prevalence of both gonorrhea and chlamydia (Table 9). As with many of the other studies presented in this report, the investigators attributed the increase in prevalence of sexually transmitted infections directly to the crisis. Such a statement should be assessed cautiously, as it is not possible to clearly identify which effects arose from the economic crisis, and which are related to other factors.

Recommendation: The attribution of changes in health status or other indicators to the economic crisis may be misleading. Differences can occur over time and between geographical regions as a result of other factors, in non-crisis situations. Investigators need to ensure that, during the processes of data collection, data analysis and report writing, biases are not introduced by assuming that all changes are crisis-related.

No other data are currently available regarding the prevalence of sexually transmitted infections that cover both the periods before and after the beginning of the economic crisis.

Table 9. Prevalence of sexually transmitted infections among sex workers in three Indonesian towns, Sex Worker Study (percent)

| | Sex Worker Study | | | | | | | |
|------------|------------------|--------------|-----------------|--------------|-----------------|--------------|-----------------|--------------|
| | Jakarta | | Surabaya | | Manado | | Total | |
| | Jan-Feb 1997 | Sept 1998 | Jan-Feb 1997 | Sept 1998 | Jan-Feb 1997 | Sept 1998 | Jan-Feb 1997 | Sept 1998 |
| Gonorrhea | 14.0 | 26.8 | 28.0 | 40.5 | 11.9 | 20.8 | 15.5 | 27.7 |
| Chlamydia | 18.0 | 29.0 | 16.0 | 47.5 | 20.6 | 20.9 | 19.2 | 30.8 |
| <i>n =</i> | 100 | 190 | 100 | 131 | 311 | 216 | 511 | 537 |

6. MATERNAL HEALTH

6.1 Assisted Deliveries

The 1997 and 1998 *Susenas* data on assistance at delivery are not completely comparable since in 1997, there was no distinction between “first birth attendant” and “last birth attendant” as there was in 1998. There is some indication, however, that there has been a large increase in the proportion of births attended by family members and a decrease in the use of midwives (Table 10). If this change holds true under the scrutiny of more detailed research, it may represent a very serious shift in program priorities.

Table 10. Under-fives by birth attendant, Susenas and IDHS (percent)*

| | Susenas | | | IDHS |
|--------------------|-----------------|-----------------|-----------------|------------------|
| | Jan-Feb 1997 | Jan-Feb 1998 | Jan-Feb 1998 | Sept-Dec 1997 |
| | | first attendant | last attendant | |
| Doctor | 7.3 | 7.0 | 8.3 | 3.2 |
| Midwife | 45.0 | 38.3 | 42.2 | 40.0 |
| Other paramedic | 1.6 | 0.9 | 1.4 | - |
| Traditional healer | 44.0 | 45.2 | 41.2 | 54.0 |
| Family | 1.7 | 7.7 | 6.1 | 2.5 |
| Other | 0.5 | 1.0 | 0.9 | 0.4 |
| <i>n</i> = | <i>n/a</i> | <i>n/a</i> | <i>n/a</i> | 16,217 |

* The Susenas sample is all under-fives; IDHS sample is all live births in the five years preceding the survey. Numbers do not add to 100 percent because of rounding errors.
n/a = data not available

The 1997 *IDHS* also presented data on the use of birth attendants (Table 10). Compared to the 1998 *Susenas* data, the *IDHS* found the use of traditional healers more common, and the use of doctors less common. Definitional issues could account for these differences. When respondents gave multiple responses to this question in the *IDHS*, the least trained attendant was included in this current analysis.

In the villages covered in the *SSD* there were increases in delivery assisted by health providers from 30.3 percent in May 1997 to 34.3 percent in August 1998 and 32.4 percent in December.

Data from the *CHN-RL* longitudinal study in Purworejo showed a gradual fall in the use of traditional birth attendants until April/June 1998, and a rise in the use of midwives and nurses. However, the last data point included in the analysis (July/September 1998) saw a very sharp fall in the use of midwives and a rise in the use of traditional birth attendants. Data from Belu were less consistent, although there was a general trend from January 1997 to March 1999 to shift from traditional birth attendants and others to midwives.

These data show very different patterns for changing providers assisting at births. The *Susenas* data clearly show a decrease in the use of trained attendants, whereas the *SSD* data and *CHN-RL* show a rise. The statistical significance of each of these changes is not clear, since neither statistical calculations nor sample size were presented in their reports. The two studies that appear to show an increase in the use of midwives are of a more limited geographical scope, with the *SSD* covering 100 villages in ten districts, and *CHN-RL*

covering just two districts, one in Central Java and one in East Nusa Tenggara. These differences may well indicate that there have been variable changes in the use of birth attendants between villages, districts and provinces. The total proportion of women reporting use of trained providers is also different between studies, with Susenas in the range of half, and SSD closer to one-third. This difference could be explained by the fact that the SSD sample is not national and does not include any urban areas.

7. CHILD HEALTH

7.1 Immunization

Both IFLS and Susenas presented data on immunization coverage. The trend in the *IFLS* data varied considerably by type of immunization (Table 11). For example, there was a slight rise in the proportion of under-threes receiving polio immunizations at birth and a statistically significant fall in those receiving further polio vaccinations. There was a rise in the coverage of DPT (diphtheria, pertussis and tetanus) and Hepatitis B, and a decrease in coverage of BCG (bacillus calmette guerin) and measles. Of these, the only statistically significant change occurred in Hepatitis B coverage.

The *Susenas* data found a rise in the number of children under-five receiving BCG, the first polio immunization, DPT and measles immunizations, and a fall only in the proportion of under-fives receiving subsequent polio injections (Table 11). The significance of these changes is unclear since no statistical analysis was conducted, and the sample size is not available in the reviewed reports to facilitate such an analysis.

Table 11. Children having received selected immunizations, Susenas, IDHS, IFLS (percent)*

| | Susenas | | IDHS | IFLS (same communities) | |
|----------------|--------------|--------------|---------------|-------------------------|--------------|
| | Jan-Feb 1997 | Jan-Feb 1998 | Sept-Dec 1997 | Aug-Dec 1997 | Aug-Dec 1998 |
| BCG | 79.0 | 85.4 | 85.4 | 74.9 | 73.6 |
| Polio | 87.5 | 89.7 | - | - | - |
| Polio at birth | - | - | 27.9 | 18.6 | 22.5 |
| Polio 1 | (87.5) | (89.7) | 93.1 | 87.0 | 80.1 |
| Polio 2 | (79.7) | (68.1) | 88.5 | 69.5 | 67.5 |
| Polio 3 | (55.4) | (50.5) | 77.1 | 47.4 | 45.2 |
| DPT | 81.0 | 83.0 | - | - | - |
| DPT 1 | (81.0) | (83.0) | 83.2 | 70.4 | 72.1 |
| DPT 2 | (55.5) | (69.2) | 75.7 | 54.5 | 59.7 |
| DPT 3 | (42.1) | (47.1) | 64.9 | 38.7 | 42.2 |
| Measles | 62.9 | 71.5 | 75.9 | 55.1 | 51.7 |
| Hepatitis B | - | - | - | 39.7 | 48.5 |
| N= | n/a | n/a | 12,220 | 430 | 538 |

(Figures in parentheses have been calculated from the data available in the reports)

* Susenas data are for children under-five. IDHS data are for children aged one to five. IFLS data are for children under-three.

n/a = data not available

Data on immunization from the 1997 *IDHS* tend to be higher than the 1997 *IFLS* and 1998 *Susenas* data which were both collected at similar times (Table 11). The difference in population included in this indicator between *IDHS* (one to fives) and *IFLS* (under-threes) may explain some of the variation. The difference between the *IDHS* and *Susenas* data is less easy to explain. They are both nationally representative studies with similar study populations. From the report, it is clear that data for *IFLS* were obtained by combining information from health cards with mother/guardian reports when a card was not available. The source of information for *Susenas* is less clear.

Patterns of immunization coverage in both Purworejo and Belu from the *CHN-RL* study show similar patterns, with a decline in coverage of all vaccinations over the second half of 1997. In Purworejo, coverage began to rise in early 1998 but fell in mid-1998, showing an overall downward trend from the beginning of 1997 to mid-1998. In Belu, the rise began in mid-1998 with a leveling off at the beginning of 1999. The overall trend in Belu appears to be an increasing use of many vaccines, particularly measles. Definitions of the study population are not clear in the report reviewed.

The total number of children that received immunization was reported higher in Susenas than in IFLS. This may indicate that many children receive immunizations at age four or five, who are not included in the IFLS sample. Susenas also found a rise in the proportion of children receiving a number of vaccinations, which is generally not the case for IFLS (DPT vaccination being the main exception). The Susenas 1998 data (collected very early in 1998) may have been showing a continuation of this rise, whereas the IFLS data, collected towards the end of 1998 indicated the first changes in immunization coverage since the beginning of the crisis.

Recommendation: As with any macro-level changes, there is likely to be a time lag before the effect of the economic crisis is felt in terms of the health of women and children. The time lag factor needs to be considered when attempting to interpret “crisis-related” data.

The similarities and differences indicated in the CHN-RL study, which used similar methodologies in two different districts of Indonesia, further highlight the problems of aggregate data as presented by IFLS and Susenas.

7.2 Nutrition

There is a large amount of information available about the nutritional status of children since the start of the crisis. The *IFLS* presented data for the proportion of under-nines with a z-score for height-for-age under -2 , and those with a z-score under -1 and under -2 for weight-for-height. They found a fall in the proportion of children experiencing each of these measures of nutritional deficiency, and concluded that there has been a significant decrease in the proportion of children whose weight-for-height or height-for-age is more than 2 standard deviations below the median (Table 12).

Jahari et al. presented weight-for-age data calculated from *Susenas* (Table 13). Data for under-fives indicated a slight decrease in the proportion with a z-score of under -2 between 1995 and 1998. When only the age group six to 17 months was considered, however, there was an increase from 27.3 to 29.1 percent. Jahari et al. concluded that “the aggregate data might not be able to provide information on the real problem. It is clear ... that there was [a more] serious problem among children in the younger age groups.” Caution needs to be taken when attributing such a change to the crisis, however, particularly considering the large time gap between the two studies’ analyses, and the number of other events occurring over this time period that could have had an influence on nutritional status.

Recommendation: Aggregation of data across age groups may hide those groups who are most vulnerable to the effects of the economic crisis. When conducting analysis of data, it is important to identify the truly vulnerable groups.

Table 12. Nutritional status of children under nine years of age in 1997, IFLS (percent)

| | IFLS | |
|----------------------------------|-----------------|-----------------|
| | Aug-Dec 1997 | Aug-Dec 1998 |
| Height-for-age z score <-2 | 50.7 | 45.7 |
| <i>n</i> = | 951 | 1,395 |
| Weight-for-height z score <-1 | 35.6 | 35.2 |
| z score <-2 | 8.6 | 5.6 |
| <i>n</i> = | 1,591 | 1,949 |

Table 13. Nutritional status of children, Susenas (percent)

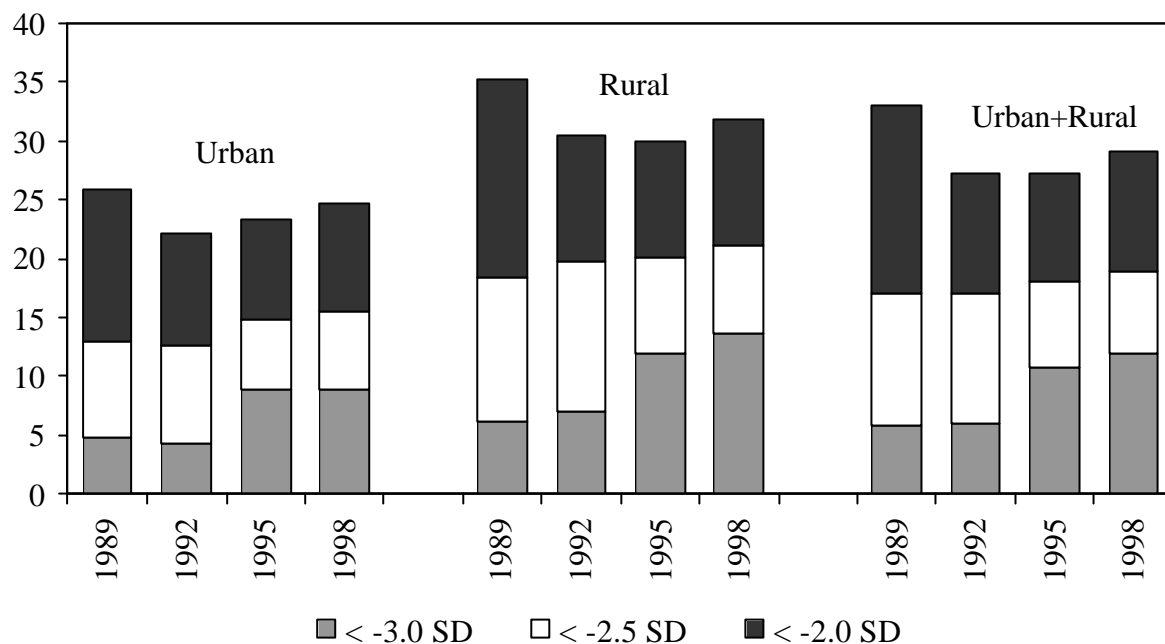
| | Susenas | |
|--|-----------------|-----------------|
| | Jan-Feb 1995 | Jan-Feb 1998 |
| Weight-for-age z score <-2 (<i>under 5s</i>) | 30.5 | 29.7 |
| z score <-2 (<i>6-17 months</i>) | 27.3 | 29.1 |
| Weight-for-age (<i>6-17 months</i>) z score <-3 | 10.7 | 11.9 |
| z score -3 to -2.5 | 7.3 | 7.1 |
| z score -2.5 to -2.0 | 9.3 | 10.2 |
| <i>n</i> = | <i>n/a</i> | <i>n/a</i> |

n/a = data not available

Source: Jahari et al.

The Jahari et al. report also re-analyzed the Susenas data back to 1989, and concluded that the prevalence of underweight among urban children aged 6 to 17 months, as measured by a z-score of weight-for-age of under -2, has been increasing since 1992. This trend was established well before the economic crisis (see Figure 1).

Figure 1. Prevalence of low weight-for-age among children aged 6 to 17 months, 1989 to 1998, Susenas (percent)



Source: Jahari et al., 1999

The recent *East Java Survey of Poor Families* reported very high rates of malnutrition, which were considerably higher than national rates. The prevalence rates of z-scores under -2 for weight-for-age, weight-for-height and height-for-age were 45.0, 24.5, and 48.0 percent respectively, while z-scores below -3 were 15.8, 9.5, and 26.2 percent respectively. This population shows long-standing malnutrition because of the high number of children below the height-for-age standard. The study suggested that nutrition status in urban areas has been deteriorating compared to the situation in rural areas.

Recommendation: The deterioration in health status over the crisis-period identified by many studies may be a continuation of trends that were in place before the economic crisis. While the economic crisis may be exacerbating the situation, it cannot necessarily be identified as the cause.

The conclusion of the *SSD* was that there has been an increase in the proportion of children under-five with “good nutritional status” between August and December 1998.

The *Helen Keller Central Java Study* reported an increase in the prevalence of iron deficiency anemia among children under 36 months from 50 to 65 percent between 1996 and 1998. The study also compared findings from rural Central Java with studies conducted in urban areas of Indonesia, and concluded that there were periods since the beginning of the crisis when improvements were seen in rural areas, possibly due to the harvest, while deterioration was seen in urban areas.

There is considerable contradiction in the available data on nutritional status: the IFLS showed an improvement in nutritional status among under-nines; Jahari’s re-analysis of Susenas data showed a deterioration at younger ages (i.e. six to 17 months); SSD reported an improvement in nutritional status; and Helen Keller’s Central Java study found a rise in the

proportion of children under-36 months with anemia. The East Java study found high rates of undernutrition, but was not able to compare this situation to comparable data from before the crisis.

Until a more detailed analysis of the SSD data is available, it is impossible to draw any conclusions from the statements presented regarding the nutritional status of children. As shown, secondary analysis of the Susenas data by aggregating information across age groups and location (urban vs. rural) is likely to mask changes in nutritional status of the most vulnerable groups. The currently available IFLS data do not allow us to look closer at the differences by age.

7.3 Use of Health Services by Children

IFLS data on the use of services by children show a large drop in the proportion of children using any health service in the month preceding the survey between 1997 and 1998 (from 25.8 percent to 19.9 percent) (Table 14). This fall was characterized almost entirely by a fall in the use of *posyandu* and *puskesmas*. No other data are currently available regarding the use of services by children from which to triangulate these results.

Table 14. Use of health services by children in the month preceding the survey, IFLS (percent)

| | IFLS | |
|-----------------------------|------------------|-----------------|
| | Aug-Dec 1997 | Aug-Dec 1998 |
| Any health service | 25.8 | 19.9 |
| <i>Posyandu</i> | 14.7 | 8.3 |
| <i>Puskesmas</i> | 7.4 | 5.7 |
| Private health service | 7.8 | 7.6 |
| Traditional health services | 0.8 | 0.7 |
| Of users | | |
| <i>Puskesmas</i> | 28.6 | 28.9 |
| <i>Posyandu</i> | 56.8 | 41.6 |
| Private doctor | 12.4 | 17.9 |
| Nurse, midwife, paramedic | 12.7 | 13.0 |
| Traditional | 3.1 | 3.7 |
| | <i>n</i> = 2,746 | 3,098 |
| multiple response possible | | |

8. OTHER HEALTH ISSUES

8.1 Use of Health Services by Adults

Both IFLS and Susenas presented data related to the impact of the economic crisis on the use of health services (other than contraceptive services) by adults.

The *IFLS* indicated that there has been a fall in the use of health services by adults in the same communities between 1997 and 1998 (from 14.4% to 13.3%), caused mainly by a statistically significant reduction in the use of public health services (Table 15).

Table 15. Use of out-patient health services by adults in the month preceding the survey, IFLS (percent)

| | IFLS | |
|-----------------------------|------------------|-----------------|
| | Aug-Dec 1997 | Aug-Dec 1998 |
| Of adults | | |
| Any health service | 14.4 | 13.3 |
| Public health service | 7.2 | 5.4 |
| Private health service | 7.7 | 7.7 |
| Traditional health services | 0.5 | 0.8 |
| Of users | | |
| <i>Puskesmas</i> | 46.4 | 35.0 |
| Private doctor | 20.9 | 25.5 |
| Nurse, midwife, paramedic | 25.1 | 24.6 |
| Traditional | 3.1 | 5.7 |
| | <i>n</i> = 4,861 | 6,640 |

multiple response possible

There are a number of problems with the *Susenas* data presented in the 1997 and 1998 reports. The data appear to indicate a huge increase in the proportion of the population using any health service between 1997 and 1998 (15.3% to 41.9%). However, discussions with staff at the BPS clarified that the denominators used in the two calculations were different. 1997 data included all adults, while 1998 included only those adults who reported a health complaint⁵ (Table 16). The definitions given at the beginning of the *Susenas* report did not make this difference clear.

Recommendations: Inaccuracies in reporting can lead to misinterpretation. It is important that data are presented clearly and accurately if decision-makers are to draw appropriate conclusions.

There are a number of other problems with comparing the data from 1997 and 1998 *Susenas*. Data from 1997 included self-treatment as one of the categories, whereas the 1998 data do not. In addition, it is unclear from the presented data how a multiple response question (i.e. a respondent could have reported visiting more than one health facility in the past month) has been converted into a single response table, with a total of 100 percent. These data should therefore be considered with extreme caution.⁵

⁵ Rizal Asnaf, BPS, direct communication, November 1999.

Table 16. Use of out-patient health services by adults in the month preceding the survey, Susenas (percent)

| | Susenas | |
|--------------------------------|-----------------|-----------------|
| | Jan-Feb 1997 | Jan-Feb 1998 |
| Any health service | 15.3 | 41.9 |
| Of users | | |
| Public hospital | 3.4 | 5.4 |
| Private hospital | 2.3 | 3.4 |
| <i>Puskesmas</i> | 20.2 | 26.3 |
| Subsidiary <i>Puskesmas</i> | 7.6 | 8.4 |
| Private/medical doctor | 15.5 | 23.1 |
| Clinic | 1.9 | 2.7 |
| Nurse, midwife, paramedic | 12.2 | 23.3 |
| Traditional | 2.6 | 4.5 |
| Village birth delivery post | - | 2.2 |
| Integrated health service post | - | 1.0 |
| Other | 1.0 | - |
| Self-treatment | 33.4 | - |
| | <i>n</i> = | <i>n/a</i> |

multiple responses possible

The qualitative *Participatory Assessment Study* found that people were changing to cheaper health services such as public services or traditional healers as a result of the increasing prices of medicines.

SSD reported an increase of 5 percent in the proportion of people seeking treatment who go to *puskesmas* and paramedics and a decrease of 4 percent for traditional and *polindes* (maternity post) services. In every village, the village midwife was found to be used more regularly. Full data are not yet available. The *SSD* reported a large increase in the proportion of people who were sick but did not seek treatment, from 25.8 percent in 1997 to 55.2 percent in August 1998. The *SSD* report presented data similar to *Susenas*, which indicated a similar increase, from 23.5 to 45.9 percent.

The IFLS and the Participatory Assessment Study found contradictory results about the use of health services among adults. However, the qualitative and limited geographic scopes of the Participatory Assessment Study make it impossible to compare its findings with the IFLS data presented above. The Participatory Assessment Study data are specific to the 20 villages included in the study, and should not be assumed to be nationally representative.

Recommendation: The comparison of quantitative with qualitative data needs to be done with caution. Each methodology will give valuable insights into changes in health status and health-seeking behavior over time, but it is important to recognize each methodology's strengths and weaknesses when making interpretations.

Timing of these studies should also be considered. Variations in the availability of supplies and essential drugs may have fluctuated over time, possibly influencing people's choice of health care facility.

8.2 Adult Nutritional Status

Data from the *IFLS* found an increase from 14.1 to 14.7 percent of adults over 18 with a body mass index (BMI) of below 18 kg/m². In contrast, a decrease in the proportion of respondents (aged one year and above) were found with hemoglobin levels below 10 and 12 mg/dl (Table 17).

Table 17. Nutritional status, IFLS (percent)

| | IFLS | |
|---|-----------------|-----------------|
| | Aug-Dec 1997 | Aug-Dec 1998 |
| BMI in adults aged 18 or older in 1997 <18 kg/m ² | 14.1 | 14.7 |
| <i>n</i> = | 4,156 | 5,168 |
| Hemoglobin in those over age 1 in 1997 <10mg/dl | 6.7 | 5.0 |
| <12mg/dl | 34.8 | 30.8 |
| <i>n</i> = | 6,829 | 8,562 |

When data from 1996 were compared to 1998, one year after the crisis began, the mean BMI among women in rural Central Java had decreased from 21.5 kg/m² to 21.0 kg/m².

Consequently, the *Helen Keller Central Java Study* concluded that the prevalence of maternal malnutrition increased from 15.1 to 17.5 percent.

The more recent *East Java Survey of Poor Families* found that 18.4 percent of the women suffered from chronic undernutrition as indicated by an average BMI of less than 18.5 kg/m². This study also found that the average BMI for pregnant women was 21.4 kg/m² and 20.5 kg/m² for lactating women.

The *SSD* report reviewed for this paper reported an improvement in the nutritional status of women of reproductive age between August and December 1998, although no definition of “good nutritional status” was given.

The data from IFLS combined men and women, and in the case of hemoglobin levels, they also included children over the age of one. Data available internationally suggest that food insecurity does not affect men in the same way as women, and the impact will not be the same on adults as it is on children. These differences may explain the lower levels of undernutrition recorded by IFLS compared with the two Java studies that focus on women. It is possible that aggregate figures are hiding any true changes in the nutritional status of adults, particularly women.

Recommendation: As with the problem of not disaggregating data by age, differences in vulnerability may be masked if information from men and women is combined during analysis.

The different geographic and socio-economic coverage will also influence findings. There were many differences between the provinces included in the reviewed studies. In addition,

the SSD included only rural areas and the East Java Study of Poor Families, as the name suggests, included only low-income women.

9. CONCLUSIONS AND RECOMMENDATIONS

The conclusions and recommendations presented here are drawn from an analysis of the data sources reviewed for the current report. They will have relevance for program managers and decision-makers who are in the process of reviewing *any* “crisis-related” research results. Many of the recommendations also have significant relevance for future data collection and crisis-monitoring activities. The conclusions should not be seen as being mutually exclusive. There is much interaction between the key factors affecting the comparability of crisis-related data identified in this review, and these issues should be addressed in their totality when reviewing data or developing monitoring activities.

9.1 Diversity of Impact

The data presented by the various studies suggest that the effects of the economic crisis may be different among different populations. There are a number of dimensions across which variations in crisis-impact have been identified, including sex, area type, region and age. Presentation of aggregate data may well hide true changes in health status and/or crisis impact.

It is essential that decision-makers and program managers are aware that significant differences in health status and crisis-impact may be hidden by the presentation of aggregated figures.

In recognition that changes in the economic situation at the macro level have had diverse impacts on health status and access to services, ongoing and future research should be encouraged to disaggregate results by a number of key variables. These variables should include, but not be limited to, region, area type, sex and age. By disaggregating data, it will be easier to identify the most vulnerable populations, and therefore develop appropriate interventions.

Variations by geographic region are particularly important, especially in view of the government’s recent policy of decentralization. Decision-makers at the district and province levels need to have adequate access to data from their administrative areas if appropriate interventions and responses are to be designed.

Investment should be made in building the data collection and analytical capacities of district- and province-level staff. By doing so, program planners will learn to identify key issues and respond in an effective manner. Capacity building at the district and provincial level will not mean that there will be no research and analysis at the central level, but rather that the focus at the central level will shift from routine monitoring to more focussed comparative, operational and comprehensive research.

9.2 The Importance of Timing

As has been noted in a number of other articles that have reviewed crisis-related data, the timing of studies is a particularly important issue.⁶ Where data have been collected on a regular basis, for example every three months for the Drug Tracking Survey, the Helen Keller Central Java Study and the CHN-RL study in Purworejo and Belu, large fluctuations have been seen in many indicators. It is clear, therefore, that the timing of any data collection exercise can influence results quite significantly. The immediacy of crisis impact is also questionable, and it is unclear how soon investigators could expect to see indications of crisis-related changes in health indicators. The attached chart in Annex II shows the timing of the studies discussed in this report.

When reviewing or comparing study results, program managers and decision-makers need to consider the possibility that the identified changes in health status or other indicators could be the result of ongoing fluctuations, rather than longer-term trends.

A discussion of events beyond the scope of the actual data collection may help to determine if the trends identified are indeed long-term or if they represent a specific situation at the time of data collection.

Presentation of at least three data points would significantly strengthen the conclusions presented in the reports reviewed. It would therefore be appropriate to focus efforts on the utilization of systems that are already in place for periodic data collection such as the Susenas, the IDHS, the Household Health Survey and the year 2000 census, rather than the development of new systems. The wider use of routinely collected data would also be an asset to the monitoring of both "real" changes in health status and access and availability of services, and short-term fluctuations.

A general trend analysis should be conducted to assist in the interpretation of data from ongoing longitudinal studies. General trend analysis would identify any longer-term trends in health status beyond the large fluctuations being currently reported.

There are several areas that cannot be adequately addressed through these mechanisms. Resources would be well spent focussing on special research programs to monitor violence against women, postabortion case load, antenatal and postpartum care.

9.3 Link to the Crisis

Many of the studies reviewed drew the conclusion that changes in health status and other indicators seen between 1997 and 1998 or 1999 were a result of the economic crisis, but very few attempted to actually link these two phenomena. In fact, the difficulty of distinguishing crisis effects from other effects is one of the major problems faced by researchers who wish to assess the impact of the economic crisis on health-related issues.

⁶ Poppele J, Sumarto S and Pritchett L (1999) *Social Impacts of the Crisis: New Data and Policy Implications*; Helen Keller International (1999) The importance of accurate anthropometric assessment and defining the 'lost generation'. Jakarta: HKI, *Indonesia Crisis Bulletin*, March 1(5).

Program managers and other decision-makers should recognize the difficulty faced by researchers in linking observed changes in health and social indicators to the economic crisis. When designing program activities, planners should be mindful that events beyond the economic crisis will also be influencing the health and social status of women and children in Indonesia.

Many of the crisis-related studies have been designed based on the assumption that the crisis has had an effect on the health status of women and children, and on availability and access to services. That assumption has sometimes led to a bias in both the way the questions have been asked and in the interpretation of results.

Investigators need to ensure that biases from assuming that all changes identified are a result of the economic crisis are not introduced into data collection, analysis and presentation of research.

When analysts have attempted to look at the data in a context beyond the economic crisis, some findings have indicated that the deterioration in health status identified between 1997 and 1998/99 is, in fact, a continuation of a trend already in existence pre-crisis. While the economic crisis may be exacerbating the situation, it cannot necessarily be identified as the cause.

To get a better picture of whether the differences identified are due to the crisis or result from usual trends or random fluctuations, the relevant data should be studied over a longer period of time, pre-crisis.

9.4 Methodological Issues

Many of the differences identified in the crisis-related research result from differences in definitions of key indicators, both between studies and between rounds. Data cannot be truly compared unless efforts are made to minimize differences in these indicators. In addition, there are a number of instances where data have been collected that are of little relevance for program planning or management. Data have little value if they cannot be used to design or evaluate interventions, or guide policy formation.

When comparing crisis-related data, it is important that program managers and other decision-makers clarify the exact definition of each indicator being reviewed, and recognize the problems created by allowing variations in presented indicators.

In order to effectively respond to the crisis, there needs to be significant coordination and networking between donor agencies, government agencies, non-governmental organizations, international organizations and researchers. Data collection should uniformly respond to the needs of each of these groups and results must be fed back to all the relevant actors in a timely manner. Investigators and decision-makers should be encouraged to share their results and develop comparable and useful measures, possibly through an annual or semi-annual research conference.

Differences in sample size will also influence the comparability of study findings. Some of the changes identified in the studies reviewed are small in magnitude, and the significance of these changes will be determined by the size of the sampled population. Of the reports reviewed, only the IFLS attempted to conduct a rigorous statistical analysis on the data presented.

To truly analyze changes in various health-related indicators over time, it is essential that statistical analysis of the observed differences be conducted and reported. This will be particularly important when attempting to compare data from studies with different sample sizes.

As presented by the research findings, economic changes over the period from mid-1997 to mid-1999 have affected different regions of Indonesia in very different ways and magnitudes. The majority of the studies discussed are not nationally representative, and results need to be interpreted with this in mind. Studies with a limited geographic focus cannot be assumed to reflect the situation in areas beyond the study sites. This variation in geographic coverage of quantitative studies, combined with the heterogeneity of the economic crisis, implies that results are not directly comparable. The qualitative studies should be interpreted in an even more focussed manner. Results from qualitative studies can only be assumed to represent the individuals participating in the study.

When reviewing available data, program managers and other decision-makers should be clear about the geographic coverage and methodology used for data collection since these factors affect the representativeness of the studies they are reviewing.

Investigators should present data clearly and completely to ensure that those who use the data for decision-making purposes are aware of the geographic limitations.

Annex I: Summary of the main data reviewed in this report

a) Data with a "crisis" focus, or with comparable data from immediately "pre-crisis"

| No | Title | Date | Conducted by | Funded by | Type of Study | Sample | Sites | Topics |
|----|---|------------------------------|--|---|--|---|---|--|
| 1 | The National-Social and Economic Survey (Susenas) | Jan-Feb 1997 Jan-Feb 1998 | Central Bureau of Statistics (BPS) | | Household Survey | Core Sample: 208,000 households | 27 provinces | Health & nutrition, family planning, education, housing, consumption |
| 2 | The Indonesia Family Planning Life Survey (IFLS) | Aug-Dec 1997 Aug-Dec 1998 | RAND, UCLA, and Demographic Institute of the University of Indonesia | USAID through the Futures Group's POLICY Project, the World Bank, and UNFPA | Longitudinal; household survey plus facility-based observation | 1,903 households included in both 1997 and 1998 | Seven provinces included in both 1997 and 1998 | Health & nutrition, family planning, education, poverty |
| 3 | 100 Village Survey (SSD) | May 1997 Aug and Dec 1998 | Central Bureau of Statistics (BPS) | UNICEF and ADB-Bappenas-PT Insan Hitawasana Sejahtera | Cluster Survey | 12,000 households | 100 villages in 10 districts in eight provinces | Family planning, education; employment, household expenditure, Social Safety Net |

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| 3.1 | Participatory Assessment Study | Dec 1998 Mar-April 1999 | Central Bureau of Statistics (BPS) | Asian Development Bank | Group discussion, observations, and in-depth-interviews supplemented by data from newspaper clippings and secondary data analysis | (data not available) | 20 villages in 13 provinces | Crisis impact on health and nutrition, education, employment, access to food, Social Safety Net |
| 4 | Drug Tracking Survey | Oct 1998 Dec 1998 Mar 1999 May 1999 July 1999 | The Futures Group's Policy Project, BKKBN, Ministry of Health with data collection by PT Taylor Nelson Sofres | USAID | Facility survey | Approximately 370 SDPs per wave: hospital, <i>puskesmas</i> , drug stores, pharmacies, and midwives in Waves I to IV, with drug stores and pharmacies being substituted by sub- <i>puskesmas</i> and lower SDP in Wave V | Indonesia's four largest islands plus two small islands | Availability of contraceptives, essential drugs and other medical supplies |
| 5 | Community Health and Nutrition Research Laboratory (CHN-RL) | Every three months since the mid 1990s | Gadjah Mada University | The Community Health and Nutrition Project of the Ministry of Health using IBRD resources | Household survey | 12,928 households in Purworejo District (Data not available for Belu) | Purworejo District in Central Java and Belu District in East Nusa Tenggara | Primarily health and nutrition of women and children |

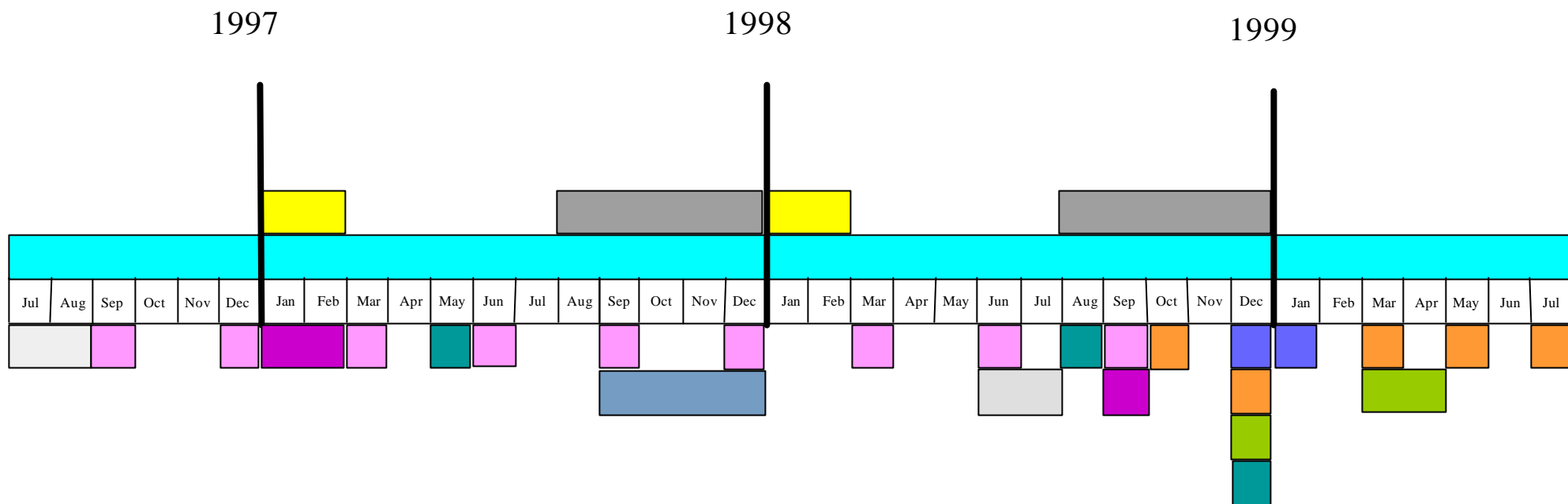
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|---|-------------------------------------|--|---|---|---|---|----------------------------------|------------------------------------|
| 6 | Helen Keller Central Java Study | Every three months Data from July to Aug 1996 and June to July 1998 were reviewed | Helen Keller International, UNICEF, Ministry of Health and University of Diponegoro | USAID | Household survey | 1,200 households in six ecological zones (mother and youngest child) | Central Java | Nutrition, food expenditure |
| 7 | Ministry of Health HIV Surveillance | Monthly | Ministry of Health | | Longitudinal study Passive reporting | Commercial sex workers General population | 27 provinces | Prevalence and incidence of HIV |
| 8 | Sex Worker Study | Jan-Feb 1997 Sep 1998 | The Indonesian Epidemiology Network | Family Health International with USAID funding through the Ministry of Health | Household survey | Approximately 500 commercial sex workers in the first round and 600 in the second round | Jakarta, Surabaya, Manado/Bitung | Prevalence of STDs, risk-behaviors |

b) Other data mentioned in the report

| No | Title | Date | Conducted by | Funded by | Type of Study | Sample | Sites | Topics |
|----|---|--------------|--|--|------------------|--|--------------|--|
| 1 | Indonesian Demographic and Health Survey (IDHS) | Sep-Dec 1997 | Central Bureau of Statistics (BPS), BKKBN and Ministry of Health | In country costs by Government of Indonesia, technical assistance by USAID | Household survey | 34,255 households, 28,810 ever married women | 27 provinces | Fertility and family planning, infant and child mortality, maternal and child health |

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|---|-----------------------------------|-------------------|-------------------------|-------------------|------------------|---|-----------|---|
| 2 | Social Safety Net East Java Study | Dec 1998-Jan 1999 | University of Airlangga | Social Safety Net | Household survey | 19,850 men and women in equal proportion from poor families categorized as "pre welfare" and "welfare stage I | East Java | Use of health services, nutrition, Social Safety Net, poverty |
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Difference in timing is a key reason for differences in findings



- Susenas
- IFLS
- SSD
- Participatory Assessment Study
- Drug Tracking Survey
- CHN - RL
- Helen Keller Central Java Study
- Ministry of Health HIV Surveillance
- Sex Worker Study
- IDHS
- Social Safety Net East Java Survey