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The impact of monetary crisis and natural disasters on women's health and nutrition

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Executive Summary:

THE IMPACT OF MONETARY CRISIS AND NATURAL DISASTERS ON WOMEN'S HEALTH AND NUTRITION[1]

Meiwita B. Iskandar[2]

Introduction

This paper is an analysis of the short term effects of the monetary crisis and natural disasters in Indonesia on women's health and nutritional status, and activities to monitor and address these problems. The monetary crisis which was officially announced in January, 1998, hit the highest monthly inflation rate of 12.76% in February. The 1997/98 fiscal year ended with an annual inflation rate of 34.2% by 31 March 1998, the highest during the New Order administration. The inflation for the current fiscal year (1998/99) was projected to be even higher, at 47% (Jakarta Post, April 3, 1998). Natural disasters which have relentlessly plagued Indonesia since early 1997, including various long droughts and forest fires, have been projected by the United Nations Economic and Social Commissioner for Asia and the Pacific (ESCAP) to cause famines, beginning in March 1998, and an increased likelihood of infant and adult mortality in various areas (Pilar, Nov. 1997 edition).

The economic crisis situation also directly impacts millions of workforce members threatened by the down-sizing of thousands of businesses and factories, in the form of job termination. About 38% of the workforce are women (Kompas, 7 February, 1998). The level of complete unemployment which ranged between 11.1% in urban areas and 5.3% in rural areas in 1995 (BPS, 1997a:20), will rapidly change to three times the level or more in 1998/99. In general, it can be predicted that the high rate of unemployment means a return to poverty, the emergence of pockets of slum settlements in cities, an increase in the crime rate (including rape), less affordable food in urban areas, famine and scarcity in rural areas, worsening environmental health, epidemics of infectious and non-infectious diseases, cutbacks in public health care budget and facilities, more school drop-outs, teen-agers enter prostitution, domestic violence, drug abuses, mental illnesses, and suicide attempts.

Effects on Individual Women

The monetary crisis will have negative effects on women's nutritional and health status. The consumption of protein will be reduced greatly. The price of eggs, the protein food most frequently consumed, has risen over 50% (Suara Pembaruan, 9 December, 1997; and 28 January, 1998). A family with two children whom normally consumes 4 eggs per week, will be more likely to fall to only 4 eggs per month. The likelihood of consuming animal protein such as meat and fish is even smaller as the price is already beyond reach.

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[1] Paper presented at Workshop on *Monetary Crisis Impact on Indonesian Society, Family, Women and Children*, held by PPT-LIPI and UNICEF, Jakarta, February 21, 1998.

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Another predicted risks of nutritional and health disorders among women will revolve around five important vitamins and minerals that women need. They are: iron, folic acid, calcium, iodine, and vitamin A (Burns, 1997:167). Iron is vital throughout a woman's life span to help prevent anemia, especially during the reproductive years when a women has monthly bleeding and excessively bleed during childbirth. The main sources of iron are meat, eggs, fish and beans/legumes, which also happen to be protein sources. The rise in the price of meat, fish and eggs will cause a decline in consumption of iron too. Anemia among pregnant women is a serious illness which increases the likelihood of bleeding heavily or even die during childbirth.

Another nutrient needed by the body for red blood cell formation is folic acid. Good sources of folic acid are liver, meat, fish, eggs, peas and beans. Again, these foods are also protein sources, and again these are becoming too expensive for those in low-income groups. The lack of ability to pay for protein sources will thus also lead to insufficient consumption of folic acid. Folic acid deficiency increases the risk of anemia in adolescent women and pregnant women, as well as bringing a higher risk of neonatal health problems.

Data for 1990 show that 30% of women workers suffered from anemia, and this condition reduces their productivity by about 20%. The planned target for the end of the Sixth Five Year Development Plan (1999) was for the prevalence of anemia in women workers to be reduced to 20% (DepNaKer, 1997:2-3). However, now it is feared it will actually rise, because of low protein, vitamin and mineral intake, and this will have the effect of further reducing their productivity.

Another mineral especially needed by women is calcium, but the pattern of food consumption in the Indonesian population in general does not routinely include foods that are rich in calcium. The reduction in the consumption of protein food sources also implies a higher risk of calcium deficiency problems. In pregnant women, it can disturb the growth of fetal bones, and also affect the condition of the mother's own teeth and bones. In breast feeding women, there will be a worsening in the quality of breast milk (known as *ASI*) due to reduced calcium content.

In some provinces, there are known to be areas where there is little natural iodine in the soil and water, especially in mountainous regions. Although iodine can be obtained from cabbage and cassava, the main source of iodine is sea food such as shellfish, fresh and dried fish. Sea food is among those foods for which daily consumption has been drastically cut back in the general Indonesian population, because of its high prices. In provinces vulnerable to iodine deficiency, such as Aceh, Jambi, Bali, Nusa Tenggara Barat, Nusa Tenggara Timur, Central Kalimantan, and Maluku, there needs to be special monitoring of the potential increases in Total Goiter Rate and Visible Goiter Rate (DepKes, 1997:84). It is highly probable that the rates of children born with mental slowness due to iodine deficiency in pregnant women will also increase.

The relatively high prices of orange, red and green fruits and vegetables (sources of vitamin A) may cause reduction of foods that are rich in vitamin A. Among women who are not eating well, they will face problems with vitamin A absorption, because absorption of vitamin A also requires the presence of fat as a solvent and for transportation throughout the body. In pregnant women with vitamin A deficiency, the incidence of night blindness will increase, their babies will also face deficiency of vitamin A which is vital for protection from various infectious diseases. The total number of children threatened by blindness (Xeropthalmia) will increase.

The economic difficulties could add to women's reluctance to seek health care. Even if health problems arise, women will wait until the problem is severe before seeking care, at which point it may be difficult for primary health care services to handle. Efforts to self-treat with traditional herbs and concoctions will increase, and more people will return to their faith in traditional healers. There is a probability of a decline in the coverage of immunization programs, ANC, contraception, general health check ups and laboratory testing, with comparison between the periods 1996-1997 and 1998-1999. With the Safe Motherhood Movement (known as *Gerakan Sayang Ibu*) and the placement of 46,590 trained midwives in villages between 1989/90 and 1995/96 (DepKes, 1997:132), it was expected that births aided by trained health workers would rise and births aided by traditional birth attendants (TBA) would decline during the Seventh Five Year Development Plan (Repelita VII). However, the occurrence of the monetary crisis, the high unemployment rate and the food availability problems are expected to slow the expected rate of change.

Safe and clean births by trained health workers will also decline, if women return to seeking the aid of TBAs. The result will be that the case fatalities due to obstructed birth, hemorrhage, infection, eclampsia and shock will rise in 1999-2000. The assistance provided by Cesarean section, which is already low, can decline drastically. In contrast, the number of maternal deaths due to obstructed labour, hemorrhage, infection, eclampsia, or shock (loss of consciousness) will surely rise.

Family, Household and Community

An extended monetary crisis brings the risk of serious negative impacts on family food consumption patterns, especially those families which have absolutely no food stock or food security. The effects of the sharp rise in prices of staple foods are exacerbated by the fact that the variety of foods available in the market is more and more limited. Families' lack of buying power will be likely be accompanied by the emergence of myths and taboos relating to protein food sources, or the notion that girl children do not need to eat as much as boys.

Among families who are already poor, the economic crisis will increase the risk that young girls will be taken out of school and perhaps forced to work to help relieve their parents' burden and to support themselves. Older girl children will be obliged to sacrifice their schooling opportunities for the upkeep of smaller siblings. It is also expected that poverty forces parents to sell young girls who eventually fall into early-age prostitution, including the underground networks. Poor nutrition, exhaustion, and lack of rest place women and their children at risk of poor health. Poor women often cannot use medical care, even if it is free, because they cannot afford time away from their families. Extended economic difficulties will also increase the rate of divorce, and the total households headed by women will increase.

The on-going monetary crisis brings direct and dramatic effects in terms of increased prices of medicines and supplies, including contraceptives, since a majority of these materials still have to be imported at dollar equivalent prices (Republika, 11 February, 1998). Community health centers and hospitals are not capable of providing sufficient supplies and logistical support, especially those less capable of quality services, which put priority on raising the fees so that they can stay financially afloat. Some hospitals say clients must wait 1-2 weeks to get the medicine they need, even those who order and pay cash in advance (Suara Pembaruan, 5 February, 1998). If medicines and supplies keep rising in price and become harder to obtain, the capacity for surgery at general hospitals will decline.

This situation, added to poor family finances, will cause husbands to be more reluctant to bring their wives with pregnancy complications to the doctor, health center or hospital. The risk of maternal death from untreated complications will rise, because of late referral of cases to comprehensive emergency obstetric care facilities (such as for Cesarean section operations). Another effect of delayed access to medical services may also be difficulties in obtaining blood transfusions (due to inadequate blood bank supply). Before the event of the economic crisis, the availability of blood was already a problem. Now, it will be even more difficult for families of women with complicated pregnancies/births to get a safe and prompt transfusion, especially if tests for syphilis, hepatitis and HIV/AIDS are at high-costs.

The prevalence of various chronic illnesses such as tuberculosis and other infections may rise unnoticed if there is no screening at the primary care level (such as sputum testing, syphilis screening among pregnant women, and blood testing for malaria). The quality of primary care services (community health centers, sub-centers, and childbirth posts) will also worsen if health workers try to economize by re-using disposable needles and syringes which should only be used once, and by disregarding other standard infection control procedures. There is a great possibility that the spread of fatal viral diseases such as hepatitis and HIV/AIDS will increase.

Women's health also includes mental health, which is influenced by physical and social resilience of families. Any rise in the number of mental patients should be monitored, not only among male heads of families who have been terminated from work, or business-men who are strangled by loans, or professionals whose clientele has seriously dropped off, but also pregnant women who tend to be highly susceptible to mental instability. A report from Jakarta said that since August, 1997, there has been a trend towards an increasing number of new patients at the psychiatric and neurological units of private hospitals (Kompas, 7 February, 1998).

Communities and the Government

Planning for interventions for all of the health impacts mentioned above is the responsibility of the government, not only the Ministry of Health (MOH), but should be through a systematic effort at inter-sectoral cooperation among many departments. Thoroughness in the gathering, processing and presentation of data requires skills which are not yet generally available in most provinces. Nevertheless, at the end of the fiscal year 1998 (April 1999) and the end of the fiscal year 1999 (April 2000) there must be an analysis of the trends in rates of morbidity and mortality in women, as well as the results of any interventions that were applied. Recorded case fatality rates from hemorrhage, sepsis, and eclampsia (the three classic causes of maternal death) may reflect the quality of basic and comprehensive emergency obstetric services available as well as the usage of the referral mechanism. The neonatal mortality rate (infant deaths within 28 days after birth) usually also rises along with the increasing risk of maternal mortality. At the district and sub-district levels, the risk of maternal mortality from maternal causes can be estimated by use of a simple "multiple probability" model which looks at the usage rates of ANC services, first visit (K1) and fourth visit (K4), birth assistance by a trained health personnel, and the case fatality rates from hemorrhage, eclampsia, sepsis and obstructed labour. Based on these results, the weakest area will be apparent, ie. which programs need additional specific interventions or subsidies of basic services, or referral assistance.

Conclusions and Recommendations

The problems of women's health and nutrition are closely related to the results of the handling of the monetary crisis and natural disasters by the government. Meanwhile, the government budget is already at an enormous deficit, because even if the Rupiah regained strength and the dollar fell to about Rp6,000, the budget would still have to be 100% more than the value in April, 1997. The government must create a form of social safety net for the poor, which includes public health programs. There will be more businesses down-sizing, millions of workers threatened with unemployment and, along with their families, falling below the poverty line. The buying power in the community will fall drastically and consumption of 2100 calories per capita per day cannot be guaranteed. Housing will be a problem, and public transportation costs will also rise eventually (as recommended by the International Monetary Funds). The majority of the community will face the threat of malnutrition, homelessness and lack of health care, which are the basic human needs.

Economic recovery cannot not be formulated only on paper but must involve the participation and support of the community. Efforts must be directed at subsidies to increase the availability of food, to bring medicines into an affordable price range, to create jobs for the unemployed, to protect the environment and provide care for the elderly. This requires innovative and creative planning of interventions, keeping in mind that the Government National Expenditure Budget (APBN) and the Regional Expenditure Budget (APBD) are much tighter for the coming Seventh Five Year Development Plan. Enforcement of legal protection for women workers needs to be increased so that women workers are viewed as potential contributors in development. Active participation from the private sector must be encouraged or mandated, including provision of food and basic health services.

Also there should be awareness-raising among families about starting to save up money from the first month of pregnancy, or activating a Community Health Managed Care (*Jaringan Pelayanan Kesehatan Masyarakat or JPKM*) system for assuring the provision of supplies, equipment and medications, including a solution to the difficulties of paying for health services and hospitals. The provincial government should provide subsidies to the district public hospital (emergency and obstetric wards) and set up a mechanism to facilitate pregnant women who lack the resources to pay for health care with "a letter of incapable to pay" so that they are granted free services at the hospital in the event that they should need emergency care or surgery. If these measures are not put into action, the acceleration of maternal mortality reduction will be severely challenged.

Information and education needs to be aimed at inexpensive but effective interventions. Government policy for improving the health status of women workers and the equality of the female workforce should be considered. In terms of drug provision, the local/provincial government needs to apply maximum retail prices to a variety of medications and disseminate this information to the community by publication of a book on Drug Price Information. The industrial pharmaceutical sector must list the drug prices in the publications like "Specialty Drug Information Indonesia" (known as ISO) and the "Indonesia Index Medical Specialty" (IIMS), and these must be kept up to date.

In closing, the above rapid evaluation of the effects of the monetary crisis and natural disasters on women's health and nutrition above have been made for the short-term, keeping in mind that there is not yet enough data to compile long-term estimates. Certainly, this assessment will need to be repeated in the near future.

THE IMPACT OF MONETARY CRISIS AND NATURAL DISASTERS ON WOMEN'S HEALTH AND NUTRITION[1]

Meiwita B. Iskandar[2]

Introduction

This paper is an analysis of the short term effects of the monetary crisis and natural disasters in Indonesia on women's health and nutritional status. It also presents recommendations for intervention activities, specifically for monitoring and addressing these problems. The monetary crisis was officially reported in January, 1998, with 6.88% monthly inflation rate as an "extremely high" figure compared to an average of below 1% per month in the previous years. From 1994 to 1996, the recorded level of inflation was 0.41% up to 0.79% per month, or ranging between 4.94% and 9.5% per year (Jakarta Post, February 5, 1998). The crisis even hit harder in February 1998, jumped almost double, resulting in 12.76% monthly inflation rate. By 31 March 1998, the end of 1997/98 fiscal year, the Central Bureau of Statistics announced an annual inflation rate of 34.2%, the highest during the New Order administration. The worst condition has not come yet because inflation for the current fiscal year (1998/99) was projected to be even higher, at 47% (Jakarta Post, April 3, 1998). In addition to that, natural disasters which have relentlessly plagued Indonesia since early 1997, including various long droughts and forest fires, have been projected by the United Nations Economic and Social Commissioner for Asia and the Pacific (ESCAP) to cause famines, beginning in March 1998, and an increased likelihood of infant and adult mortality in various areas (Pilar, Nov. 1997 edition).

Production of staple foods, such as rice, has decreased due to the drought in rice growing areas, and in most of the major farming regions of Indonesia which do not yet have modern irrigation but are rain dependent (Kompas, 9 February, 1997). Rice is the staple food of most of Indonesia's 202 million population, and their eating patterns generally revolve around only one staple food. Those who live in the islands of Java, Sumatra, Kalimantan and Sulawesi consume rice, while the populations of Maluku, East Timor and Irian Jaya rely on sago, corn and various sweet potato varieties. The more isolated and rural the areas, the more there is a lack of staples and other foods needed by the population, along with a decreasing likelihood that families have sufficient food security. According to a study by the Directorate for Community Nutrition Promotion, Ministry of Health (end of 1995), of the total number of calories per day consumed by individuals, 70% are from rice, 24% from animal foods and fats, 3% from fish, and 3% from fruits and vegetables (Suara Pembaruan, 3 February, 1998). This means that, even before the monetary crisis, energy from daily food consumption was not at recommended proportions, i.e., 60% of calories from carbohydrates, and the remainder from protein and fats (Guthrie and Picciano, 1985).

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The economic crisis situation also directly impacts millions of workforce members threatened by the down-sizing of thousands of businesses and factories, in the form of job termination. About 38% of the workforce are women (Kompas, 7 February, 1998). The level of complete unemployment ranged between 11.1% in urban areas and 5.3% in rural areas in 1995 (BPS, 1997a:20). This rate will rapidly change to three times the level or more in 1998/99. In general, it can be predicted that the high rate of unemployment means a return to poverty, the emergence of pockets of slum settlements in cities, an increase in the crime rate (including rape), less affordable food in urban areas, famine and scarcity in rural areas, worsening environmental health, epidemics of infectious and non-infectious diseases, cutbacks in public health care budget and facilities, more school drop-outs, teenagers enter prostitution, domestic violence, drug abuses, mental illnesses, and suicide attempts.

Effects on Individual Women

The economic crisis and natural disasters will have effects on both individual and family income. The declining allocation of daily expenditures for food will reduce the total amount and the quality of women's daily food consumption. This can be observed by monitoring the nutritional and health status of rural women, who comprise 65% of all Indonesian women, and most of whom use primary health care services, such as the integrated FP/MCH services posts (*posyandu*) and Community Health Centers (*puskesmas*) (BPS, 1997b:10).

A women needs protein to build the body, vitamins and minerals to protect and repair damaged cells, and fat and sugar to produce energy. Before the monetary crisis, the level of individual protein consumption was approaching the MOH-recommended level, that is about 55g per day, consisting of 9 g protein from fish, 6g protein from animal sources and 40g from plant sources (DepKes, 1996:48; BPS, 1997a:11). The Indonesian people usually refer to milk, meat, eggs and fish as protein sources, because understanding about protein from plant sources such as beans, legumes and nuts is low. The protein food most frequently consumed is eggs since this is the cheapest source of animal protein. However, the monetary crisis has caused the price of eggs to rise, from only about Rp.3,000/kg in December, 1997, to Rp.5,000/kg in January 1998 (Suara Pembaruan, 9 December, 1997; and 28 January, 1998). This means that even the consumption of eggs will become less frequent. For example, one family with two children normally consumes 4 eggs per week, but this is likely to fall to only 4 eggs per month. The likelihood of consuming animal protein such as meat and fish is even smaller as the price is already beyond reach. Before the monetary crisis, on average consumption of fish per person per day was 71g or 70 kcals. Even this, according to the MOH, was still below the recommended daily allowance of energy, which is as high as 5-10% of total energy intake (Suara Pembaruan, 3 February, 1998). After the monetary crisis hit Indonesia, various popular river fish and non-tidal swamp fish have become scarce, such as *blido, sepat, kumpeh, betutu, toman, tebakang gabus* and kettle fish *(lele)*. The long drought caused a sharp drop in fish production and a rise in price, between Rp.500.00-Rp.1,500.00 (Kompas, 5 January, 1998).

What will be the effects on the nutritional and health status of a woman if 70% or more of her total calories per day come from only rice, while her proportionate intake of protein and fat decreases? The following description presents some risks of nutritional and health disorders which focuses on 5 important vitamins and minerals that women need, especially women who are pregnant or breast-feeding. They are: iron, folic acid, calcium, iodine, and vitamin A (Burns, 1997:167).

For women, iron is vital throughout the life span to help prevent anemia, especially during the reproductive years when a women has monthly bleeding and excessively bleed during childbirth. The main sources of iron are meat, eggs, fish and beans/legumes, which also happen to be protein sources. The rise in the price of meat, fish and eggs will cause a decline in consumption of these animal protein sources, meaning a reduction also in daily consumption of iron. Meanwhile, alternative sources of iron such as potatoes, cauliflower, red cabbage, green leafy vegetables, pineapples and yams, are not usually eaten in large enough quantities each day among Indonesian people.

Another nutrient needed by the body for red blood cell formation is folic acid. Good sources of folic acid are liver, meat, fish, eggs, peas and beans. Again, these foods are also protein sources, and again these are becoming too expensive for those in low-income groups. The lack of ability to pay for protein sources will thus also lead to insufficient consumption of folic acid. Folic acid deficiency increases the risk of anemia in adolescent women and pregnant women, as well as bringing a higher risk of neonatal health problems.

If, as according to the results of the Household Health Survey (known as SKRT), there has already been a decline in anemia among pregnant women from 73.7% in 1986 to 51.3% in 1995 (DepKes, 1997:85), then it can be predicted that the level of anemia in pregnant women will rise again in 1999/2000, perhaps even surpassing the high levels in the 1980s. Data for 1990 show that 30% of women workers suffered from anemia, and this condition reduces their productivity by about 20%. The planned target for the end of the Sixth Five Year Development Plan (1999) was for the prevalence of anemia in women workers to be reduced to 20% (DepNaKer, 1997:2-3). However, now it is feared it will actually rise, because of low protein, vitamin and mineral intake, and this will have the effect of further reducing their productivity.

Another mineral especially needed by women is calcium, but the pattern of food consumption in the Indonesian population in general does not routinely include foods that are rich in calcium, such as milk, cheese, bone meal, and shellfish, which are also protein foods. It is fortunate that with the tropical climate in Indonesia, the sunshine can assist with more efficient use of calcium in the body. The reduction in the consumption of protein food sources also implies a higher risk of calcium deficiency problems. A projected picture of possible long-term calcium deficiency effect is malformation of the pelvic bones development in girls children, which can increase the chance of later complications during childbirth. In pregnant women, it can disturb the growth of fetal bones, and also affect the condition of the mother's own teeth and bones. In breast feeding women, there will be a worsening in the quality of breast milk (known as *ASI*) due to reduced calcium content. In women's post reproductive years, lack of calcium will manifest in a higher prevalence of osteoporosis.

Another nutritional disorder which may arise in women is iodine deficiency disorder (known as GAKY). In some provinces, there are known to be areas where there is little natural iodine in the soil and water, especially in mountainous regions. Although iodine can be obtained from cabbage and cassava, the main source of iodine is sea food such as shellfish, fresh and dried fish. The price of seafood in January, 1998, doubled from the price in December, 1997. Prawns in Tegal and Brebes (Central Java) in December cost about Rp.4,000-5,500 per 100g, but now have gone up to Rp.8,000-10,200 per 100g (Kompas, 7 February, 1998). It can be estimated that sea food is among those foods for which daily consumption has been drastically cut back in the general Indonesian population. This will strain the success that has so far been recorded in the battle against Goiter - the Total Goiter Rate (TGR) has been reduced from 37.2% to 27.7%; and the Visible Goiter Rate (VGR) from 9.3% to 6.8% between 1980/82 and 1987/90. In provinces vulnerable to GAKY, such as Aceh, Jambi, Bali, Nusa Tenggara Barat, Nusa Tenggara Timur, Central Kalimantan, and Maluku, there needs to be special monitoring of the potential increases in TGR and VGR (DepKes, 1997:84). It is highly probable that the rates of children born with mental slowness due to iodine deficiency in pregnant women will also increase. If the use of iodized salt is not promoted intensively, this will reduce the general intelligence level of Indonesia's young generation.

The increase in the prevalence of vitamin A deficiency in Indonesian women is also quite worrying. The price of fruits and vegetables, especially orange, red and green varieties (sources of vitamin A) are relatively high. For example, the price of tomatoes is Rp.2,000-4,000/kg, carrots are Rp.3,000-8,000/kg and cabbage or broccoli is Rp.5,000-11,000/kg (Suara Pembaruan, 28 January, 1998). Absorption of vitamin A also requires the presence of fat as a solvent and for transportation throughout the body. Women with lower than recommended body weight (upper arm circumference less than 23.5 cm) will face problems with vitamin A absorption. In pregnant women with vitamin A deficiency, the incidence of night blindness will increase. Their babies will thus also face deficiency of vitamin A (which they must receive from the mother's breast milk), which is vital for protection from various infectious diseases. The total number of children threatened by blindness (Xeropthalmia) will increase. If mothers do not make sure that their children (under fives) get accustomed to eating vitamin A-rich fruits and vegetables, in adulthood they will dislike these foods. These eating habits will be even worse if, due to shortage of funds, parents fail to provide a balanced mix of foods containing enough iron, protein, and other nutrients. One rough set of data which is relatively easy to obtain is upper arm circumference measurement (known as LILA) which should be more than 23.5 cm. According to the 1997 data, this has already reached 75% in 1996, but might decline to lower levels again in 1998/99 (BPS, 1997a:12). The risks are highest in provinces which are less progressive and developed both in terms of education levels and women's welfare.

Ideally, poor nutritional status in pregnant women can be detected at an antenatal care (ANC) visit. Almost all pregnant women in Indonesia (known as *bumil*) say that they have had at least one ANC check up (Fortney and Smith, 1996:21). On average, pregnant women in Indonesia seek ANC 5 times more often than pregnant women in Bangladesh (ibid). It is hoped that this situation will continue despite the monetary crisis. Perhaps this will indeed be the case, if awareness about the need to seek medical care and information has already taken root at the individual level. But if the quality of the interaction between women and health workers or family planning staff is strained,

the economic difficulties could add to women's reluctance to go to health care facilities. Even if health problems arise, women will wait until the problem is severe before seeking care, at which point it may be difficult for primary health care services to handle. Efforts to self-treat with traditional herbs and concoctions will increase, and more people will return to their faith in traditional healers.

Because of the financial difficulty, there is a probability of a decline in the coverage of immunization programs, ANC, contraception, general health check ups and laboratory testing, with comparison between the periods 1996-1997 and 1998-1999. In Indonesia, although the level of ANC check-ups is relatively high, only 46.6% of births are aided by a trained health worker (DepKes, 1997:92). With the Safe Motherhood Movement (known as GSI), and the placement of 46,590 trained midwives in villages between 1989/90 and 1995/96 (DepKes, 1997:132), it was expected that births aided by trained health workers would rise and births aided by traditional birth attendants (TBA) would decline during the Seventh Five Year Development Plan (Repelita VII). However, the occurrence of the monetary crisis, the high unemployment rate and the food availability problems are expected to slow the expected rate of change. Occurrence of the "three delays" which can cause maternal death (delay in decision-making at home to seek care, delay in finding transport, and delay in receiving appropriate care at health facilities) might rise again, despite the fact that these problems were showing signs of subsiding due to the efforts of the Safe Motherhood Movement (*Gerakan Sayang Ibu*).

Pregnant women in Indonesia frequently ignore or do not take seriously warning signs or symptoms of pregnancy complications, such as edema (hands/face), severe vomiting, convulsions and excessive bleeding (Fortney and Smith, 1996:23-24). This tendency may increase as a result of the current economic crisis. In 1999 it is likely that the rate of referrals to the hospital for emergency obstetric cases which require surgery will decline below the levels reached in 1997. This, despite the knowledge that, according to Fortney and Smith (1996:29), Indonesian women have a 4 times greater risk compared to Indian women for facing obstructed birth for 18 hours or more. Safe and clean births by trained health workers will also decline, if women return to seeking the aid of TBAs. The result will be that the case fatalities due to obstructed birth, hemorrhage, infection, eclampsia or other complications of shock will rise in 1999-2000. The assistance provided by Cesarean section, according to Fortney and Smith has only reached 0.7% in Indonesia, which is low compared to 4.2% in Egypt and 5,5% in India (ibid). Given that the risk of unexpected complications is 15-17% of pregnancies/births in Indonesia, the expected rate of Cesarean section would be about 2%. If the availability of comprehensive emergency obstetric care at the district level is minimal, or the usage declines drastically, then the number of maternal deaths due to obstructed labour, hemorrhage, infection, eclampsia, or shock (loss of consciousness) will surely rise.

Estimated rate of maternal mortality (MMR) due to maternal causes according to the 1994 Indonesia Demographic and Health Survey (IDHS) is 390 per 100,000 live births (DepKes, 1997:50). Trend estimates from modeling by use of the SUSENAS data of 1995 predicted a decline in the MMR to 280 for 1996, and further projected a rate of 253 in 1997 and 227 in 1998 (Soemantri, 1997). With the extended economic crisis and the current decline in food production, these prediction become less certain and poverty may quickly erase previous gains.

Family, Household and Community

An extended monetary crisis brings the risk of serious negative impacts on family food consumption patterns, especially those families which have absolutely no food stock or food security. The effects of the sharp rise in prices of staple foods are exacerbated by the fact that the variety of foods available in the market is more and more limited. Families' lack of buying power will be likely be accompanied by the emergence of myths and taboos relating to protein food sources. For example, the myth that meat or fish will cause blood and breast milk smell bad (fishy) can cause protein deficiency get worse during pregnancy and breast-feeding. Or the notion that girl children do not need to eat as much as boys. It is also feared that parents may reduce food portions for children due to limited availability of food in the family, or increase their calorie intake from carbohydrates up to more than 90% (for example, eating only rice and salt).

Among families who are already poor, the economic crisis will increase the risk that young girls will be taken out of school and perhaps forced to work to help relieve their parents' burden and to support themselves. It is feared that due to this, girls will only find work in low status and low paying jobs such as domestic servants, market sellers or manual laborers. It is also expected that poverty forces parents to sell young girls who eventually fall into early-age prostitution, including the underground networks.

Adolescent women will likely be more often married early and find themselves pregnant before they are physically fully mature enough for childbirth. The maternal mortality rate will increase because the risk of death to pregnant teenagers aged 15-19 is twice as high as the risk to women 20 and older (PRB, Sept. 1997). Families where the mother has died will face disruptive events, such as the re-marriage of the father to a new wife. This scenario usually brings additional children, even if the existing children are still small and neglected, or else older girl children will be obliged to sacrifice their schooling opportunities for the upkeep of smaller siblings. Extended economic difficulties will also increase the rate of divorce. The total households headed by women will increase. Poor nutrition, exhaustion, and lack of rest place women and their children at risk of poor health. Poor women often cannot use medical care, even if it is free, because they cannot afford time away from their families.

The quality of information and medical services at the four levels of the health care system: (1) health cadres; (2) village health posts; (3) community health centers; and (4) hospitals can be expected to drop. The on-going monetary crisis brings direct and dramatic effects in terms of increased prices of medicines and supplies, including contraceptives. The MOH has stated that 95% of materials for making medicines still have to be imported at dollar equivalent prices (Republika, 11 February, 1998). The result is that even the price of domestic medicine production will rise up to 5 times more than the pre-crisis prices, while generic medicines have already gone up 100% (Suara Pembaruan, 5 February, 1998; Republika, 11 February, 1998). Community Health Centers and Hospitals are not capable of providing sufficient supplies and logistical support, especially those less capable of quality services, which put priority on raising the fees so that they can stay financially afloat. Some hospitals say clients must wait 1-2 weeks to get the medicine they need, even those who order and pay cash in advance (Suara Pembaruan, 5 February, 1998). If medicines and supplies keep rising in price and become harder to obtain, the capacity for surgery at general hospitals will decline. For

example, at Bekasi General Hospital which usually performs 30 surgical procedures per day, after the monetary crisis hit, this rate has been cut in half (Republika, 11 February, 1998). It is likely that district hospitals will only do operations if the condition is a true emergency (ie. lack of immediate surgery would be fatal), while other cases will be referred to the province level referral hospital. In the short term, referral hospitals at the province level will face a deficit in funding and be forced to implement similar policies, refusing operations or forcing the family of the patient to take the risk and responsibility of finding the medicines themselves, even though it is uncertain whether they have the resources to pay for the medicine.

This situation, added to poor family finances, will cause husbands to be more reluctant to bring their wives with pregnancy complications to the doctor, health center or hospital. The risk of maternal death from untreated complications will rise, because of late referral of cases to comprehensive emergency obstetric care facilities (such as for Cesarean section operations). Another effect of delayed access to medical services may also be difficulties in obtaining blood transfusions (due to inadequate blood bank supply). Before the event of the economic crisis, the availability of blood was already a problem. Now, it will be even more difficult for families of women with complicated pregnancies/births to get a safe and prompt transfusion. Families will quickly give up, not making further efforts to obtain blood because of lack of confidence in the availability of services. At the same time, the blood that is available in emergencies may not be safe to use, especially if tests for syphilis, hepatitis and HIV/AIDS are at high-costs.

The prevalence of various chronic illnesses such as tuberculosis and other infections may rise unnoticed if there is no screening at the primary care level (such as sputum testing, syphilis screening among pregnant women, and blood testing for malaria). All sub-district level Community Health Centers in Indonesia have laboratories equipped with microscopes and trained lab technicians who can do simple tests such as sputum tests, malaria blood tests, and wet mounts and Gram stains for detection of RTIs/STDs, but this capacity may be rarely put to use. The quality of primary care services (community health centers, sub-centers, and childbirth posts) will also worsen if health workers try to economize by re-using disposable needles and syringes which should only be used once, and by disregarding other standard infection control procedures. There is a great possibility that the spread of fatal viral diseases such as hepatitis and HIV/AIDS will increase.

Women's health also includes mental health, which is influenced by physical and social resilience of families. Any rise in the number of mental patients should be monitored, not only among male heads of families who have been terminated from work, or business-men who are strangled by loans, or professionals whose clientele has seriously dropped off, but also pregnant women who tend to be highly susceptible to mental instability. Those who are mentally ill for sometimes may need more frequent contact with health workers. While before they may have needed visits only once every six months, now they may need this on a monthly basis. This means that there will be even more stress on minimal family funds. If the number of pregnant women with mental illness increases, this condition will also affect marital relations, parenting, and relations with the surrounding community. A report from Jakarta said that since August, 1997, there has been a trend towards an increasing number of new patients at the psychiatric and neurological units of private hospitals (Kompas, 7 February, 1998).

Communities and the Government

Planning for interventions for all of the health impacts mentioned above is the responsibility of the government. This does not only mean the Ministry of Health (MOH), but should be through a systematic effort at inter-sectoral cooperation among many departments. Data and information from the local recording and reporting system should be monitored by health planners at the province, district and sub-district levels. New reports must be analyzed and summarized for use in planning intervention steps which are appropriate to the local needs and risks. Thoroughness in the gathering, processing and presentation of data requires skills which are not yet generally available in most provinces. Nevertheless, at the end of the fiscal year 1998 (April 1999) and the end of the fiscal year 1999 (April 2000) there must be an analysis of the trends in rates of morbidity and mortality in women, as well as the results of any interventions that were applied. Since the formal estimation of maternal mortality rates is difficult, recorded case fatality rates from hemorrhage, sepsis, and eclampsia (the three classic causes of maternal death) may reflect the quality of basic and comprehensive emergency obstetric services available as well as the usage of the referral mechanism. The neonatal mortality rate (infant deaths within 28 days after birth) usually also rises along with the increasing risk of maternal mortality. At the district and sub-district levels, the risk of maternal mortality from maternal causes can be estimated by use of a simple "multiple probability" model which looks at the usage rates of ANC services, first visit (K1) and fourth visit (K4), birth assistance by a trained health personnel, and the case fatality rates from hemorrhage, eclampsia, sepsis and obstructed labour, which has been developed and tested by the University of Indonesia's Center for Health Research in collaboration with the MOH (1997/98). The source of community-based data can be the Family Welfare Registration of the NFPCB (or BKKBN), high risk pregnancy mapping and referrals recorded by the volunteers of the *Dasa Wisma Program* of the local Family Welfare Movement (PKK), or by a rapid survey method using data from the Local Area Monitoring obtained from the village midwives responsible for this data. Based on these results, the weakest area will be apparent, ie. which programs need additional specific interventions or subsidies of basic services, or referral assistance.

Based on local evaluation of the health and nutritional status of women at the provincial, district and sub-district levels, more effective IEC materials, appropriate for local culture and conditions, should be delivered in ways that are respectful and empathetic. Special messages must be developed about the needs of girl children and female adolescents for nutritious foods, high in protein and iron, especially in their pre-pubescent and reproductive years. Family awareness about balanced diet (containing iron, folic acid, calcium, iodine and vitamin A) must also be upgraded. Men should be given messages about family planning, STD prevention and treatment, and responsible sexual behaviour. They can be encouraged to take part in child care, especially if the wives must work outside their house.

Conclusions and Recommendations

The problems of women's health and nutrition are closely related to the results of the handling of the monetary crisis and natural disasters by the government. Rough estimates indicate that up to early May 1998 (2 months after the March 11 presidential election and the new cabinet establishment) there will be no law enforcement or firm regulations implemented to rectify the economic situation after the effects of the crisis and environmental disasters. The extent of the effects will probably be assessed by the new Cabinet in June, 1998. Planning and implementation of relevant intervention programs will take at least 3 to 6 months, so at the earliest, by January 1999, we might expect some concrete and systematic intervention. Meanwhile, the government budget is already at an enormous deficit, because even if the Rupiah regained strength and the dollar fell to about Rp6,000, the government budget would still have to be 100% more than the value in April, 1997 (last year).

In the economic reform packet, the government must create a form of social safety net for the poor, which includes public health programs. Until the end of 1998 there will be more businesses down-sizing, millions of workers threatened with unemployment and, along with their families, falling below the poverty line. The buying power in the community will fall drastically and consumption of 2100 calories per capita per day cannot be guaranteed. Housing will also be a problem, because the cost of rentals or owners installment payments will rise, not accompanied by increasing wages but rather by the reduction in daily food consumption. Public transportation costs will also rise if the price of petrol goes up in the near future (as recommended by the International Monetary Funds). The clear conclusion is that the majority of the community will face the threat of malnutrition, homelessness and lack of health care, which are the basic human needs. Motivation to fulfill other needs, such as education and better jobs, will therefore be lower.

Economic recovery cannot not be formulated only on paper but must involve the participation and support of the community. Efforts must be directed at subsidies to increase the availability of food, to bring medicines into an affordable price range, to create jobs for the unemployed, to protect the environment and provide care for the elderly. This requires innovative and creative planning of interventions, keeping in mind that the Government National Expenditure Budget (APBN) and the Regional Expenditure Budget (APBD) are much tighter for the coming Seventh Five Year Development Plan. Enforcement of legal protection for women workers needs to be increased so that women workers are no longer viewed as objects, but as potential contributors in development within the framework of taking maximum advantage of human resources assets for development. Active participation from the private sector must be encouraged or mandated, including provision of food and basic health services.

Community participation can be in the form of a sense of solidarity among those who have been victims of the economic crisis and natural disasters. In the Safe Motherhood effort, for example, *gotong royong* (mandatory community collaborative work) can take the form of sharing of vehicles (pooled transportation), where neighborhood groups list down owners of vehicles which can be used if and when a pregnant woman needs to be referred to the hospital. The feeling of solidarity can also be created by fund-raising efforts or by putting aside handfuls of rice each month and

then gathering it all together via the *Dasa Wisma* system, or by the preparation of a Mother Friendly Waiting Home as a transit point for pregnant women whose homes are too far from the main road but who are not yet ready to go to the hospital. Also there should be awareness-raising among families about starting to save up money from the first month of pregnancy, or activating a Community Health Managed Care (*Jaminan Pelayanan Kesehatan Masyarakat or JPKM*) system for assuring the provision of supplies, equipment and medications, including a solution to the difficulties of paying for health services and hospitals. The provincial government should provide subsidies to the district public hospital (emergency and obstetric wards) and set up a mechanism to facilitate pregnant women who lack the resources to pay for health care with "a letter of incapable to pay" so that they are granted free services at the hospital in the event that they should need emergency care or surgery. If these measures are not put into action, the acceleration of maternal mortality reduction will be severely challenged. Now is the time for "community health managed care" programs to be implemented throughout Indonesia, given the increasing cost of living, the price of medicine and health care supplies. These programs will enable community members to seek routine health check-ups, especially in rural communities, which many do not yet have access to formal health care (Kompas, 7 February, 1998).

Epidemiological data from chronic diseases such as malaria, which destroys red blood cells, tuberculosis, and parasitic infections like worms and dysentery (passing blood in the stool), which exacerbated the problem of anemia need to get attention too. There must be an intensive campaign about foods which are rich of iron, vitamin A and vitamin C, (such as tomatoes, citrus fruits, and green leafy vegetables), and stronger promotion and provision of iron tablets. Consumption of iodine by use of iodized salt needs to be intensified, especially in regions with high levels of iodine deficiency disorder. Fortification of kitchen salt with iodine must be mandated if the government can no longer provide free iodized oil by mouth or by injection.

Information and education needs to be aimed at inexpensive but effective interventions. For example, knowledge among women about how to cook food to increase iron consumption is still low. Cooking with iron pots, then adding tomato or lime juice to the cooking can dissolve and make some of the iron from the pot go into the food. Besides this, there is other simple method, such as adding an iron nail to the cooking (boiling) of food. There is also a need for simple messages about not to drink tea or coffee during or right after a meal because this can reduce the absorption of iron from the food.

Government policy for improving the health status of women workers and the equality of the female workforce should be directed at two key issues: 1) equal treatment of male and female workers; and 2) enforcement of regulations requiring businesses to provide special facilities for women workers (YLKI and Ford Foundation, 1997).

The issue of standard medicine price agreement is rarely complained by patients. However, with the drastic rise of drug prices as a result of the monetary crisis it can be expected that the community has begun to feel the direct effects. Generic medicines (with the generic logo) are said to be available, but this does not extend to antibiotics and other essentials which are produced in Indonesia, such as: ciprofloxacin,

tiamphenicol, captopril, natrium dyclophenate, mefenamic acid, oral acyclovir and others. The local/provincial government needs to apply maximum retail prices to a variety of medications and disseminate this information to the community by publication of a book on Drug Price Information. The industrial pharmaceutical sector must list the drug prices in the packages or in books like "Specialty Drug Information Indonesia" (known as ISO) and the "Indonesia Index Medical Specialty" (IIMS), and these must be kept up to date. Currently, the prices in these two books are sometimes out of date, because the length of time it takes to publish them, while prices may have already risen in the meantime.

In closing, the above rapid evaluation of the effects of the monetary crisis and natural disasters on women's health and nutrition above have been made for the short-term, keeping in mind that there is not yet enough data to compile long-term estimates. The political and social situation between March and June 1998 may worsen or accelerate the efforts at economic reform in Indonesia. Certainly, this assessment will need to be repeated in the near future.

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