Report on the Basic Survey of Population and Development in Southeast Asian Countries

——Bangladesh——

FEBRUARY 1991

The Asian Population and Development Association

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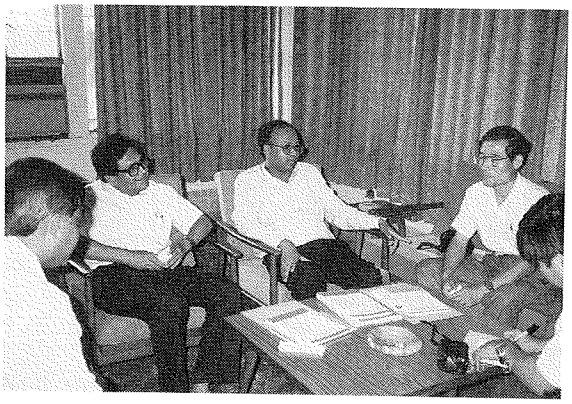

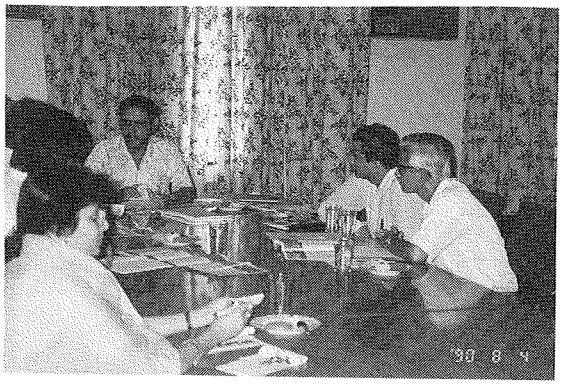

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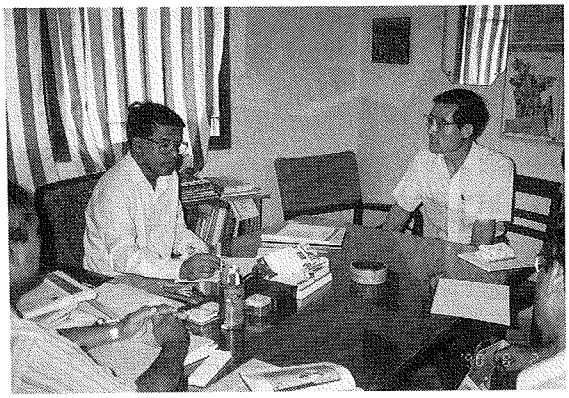

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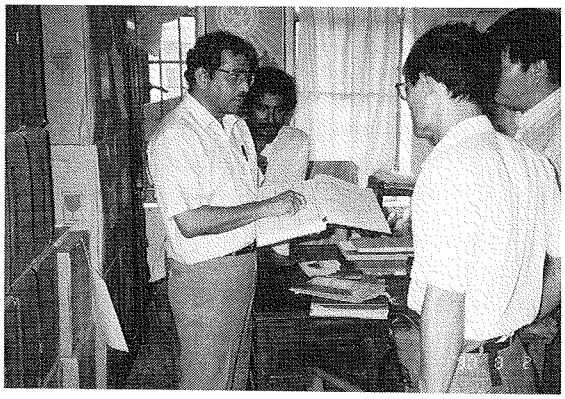

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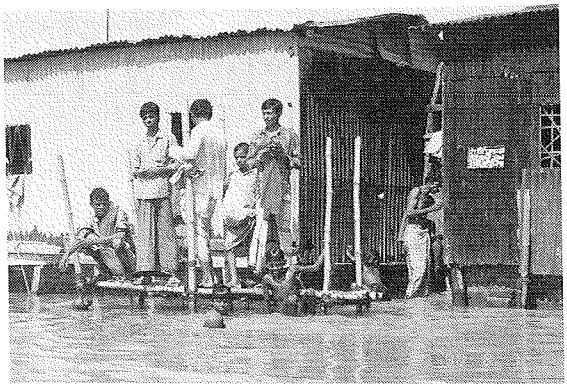


◀Slums in Dhaka
Municipality

Foreword

This report presents the findings of a basic survey of population and development in Bangladesh. In 1990, the Asian Population and Development Association (APDA) was entrusted with the survey project, "Basic Survey of Population and Development in Southeast Asian Countries" by the Ministry of Health and Welfare and Japan International Corporation of Welfare Services. APDA selected Bangladesh as the country in which its field survey would be conducted. The actual survey and analysis of the resultant findings were conducted by APDA's survey committee (Chairperson, Dr. Toshio Kuroda, Director Emeritus, Population Research Institute, Nihon University).

For effective application of population policies in the Souteast Asia and other countries, population dynamics as population qrowth, diseases, mortality, reproduction, population distribution and internal migration, as well as static data of the population including family structure and population structure by age must be closely defined. In addition, effects of these factors on living and welfare standards, and medical care must be reviewed.

The objective of this survey was to contribute to resolving the problems related to population and development in Asian nations, by conducting a detailed survey of population dynamics, living and welfare standards and health and medical care and other aspects in the Southeast Asian countries.

The field survey was conducted with the guidance and cooperation of Ambassador Takeo Iguchi and Mr. Takeshi Ota, First Secretary, Mr. Ryoji Noda, Second Secretary both of the Embassy of Japan in Bangladesh, and Mr. Mohammd Habibur Rahman Deputy Director, MIS, Directrate of Family Planning, Ministry of Health and Family Planning. Also, the secretariat of the Government of Bangladesh provided assistance and escorts while conducting our survey. In Japan, members of Policy Planning & Evaluation Division, Minister's Secretariat, Ministry of Health and Welfare and Department of Policies, Economic Cooperation Bureau, Ministry of Foreign Affairs, cooperated in the planning and arrangements of the field survey. I would like to express my heart-felt gratitude to all of them.

In conclusion, I sincerely hope that this report would contribute to the further advancement of the population and development program in Bangladesh as well as the Japanese Government's effective cooperation with Bangladesh.

Furthermore, I would like to add that this report is the responsibility of APDA and does not necessarily reflect the views nor policies of the Ministry of Health and Welfare or the Japanese Government.

March, 1991.
Takashi Sato
Chairman
The Asian Population and
Development Association

Contents

Chapter 1 Introduction and Summary

Bangladesh: The vicious circle between rapid population growth and poverty

Bangladesh is a representative example among developing countries of the vicious circle that exists between population growth and poverty. Population growth is manifested in the difference between a high birth rate and a declining mortality rate. In the case of Bangladesh, even today the crude birth rate exceeds 40/1000, and total fertility rate is also as high as 5.4 persons. Presently the crude mortality rate is on the decline but still high, 15.0/1000, with infant mortality rate at the abnormally high 130/1000. Morever, the average longevity is less than 50 years, 49.1 for men and 48.1 for women.[1] A shorter average longevity in women is also seen in South Asia's Pakistan and India. It has been observed that this is the result of malnutrition and the harsh labour conditions of women in poverty stricken societies.

The average yearly population growth rate is 2.7% (2.18% according to Government Statistics for 1987). This high average is a great impediment to socio-economic growth. A 85% of the population lives in absolute poverty. The literacy rate is 26%, while one third of labour force is unemployed. These situations are directly representing conditions of poverty in Bangladesh.[2]

Demographic transition is closely related to levels of modernization. A high birth-mortality rate reflects a low level of development, just as a low birth-mortality rate reflect a high degree of development. The degree of decline attained in the birth rate and the degree of improvement in the morality rate are represented by the demographic transition index. In the case of Bangladesh, the demographic transition index is only 30% the need to make a 70% decline in the birth rate and improvements in the mortality rates. In other parts of Asia such as Japan, Hong Kong, and Singapore, the demographic transition process has been completed with the achievement of lowered birth and mortality rates. China and Korea are in the final stages of its completion.[3] Bangladesh is still far from the road to modernization.

From a geographical perspective the populations of Japan and Bangladesh have some commom features. The total area of Bangladesh is only 40% about of that of but the size of their populations is about the same. To Japan's 122 million, Bangladesh has a population of 102.6 million (1987), that is close to Japan. Among the world's largest populations, Japan occupies the 7th position with Bangladesh following in a close 8th. Bangladesh shows highest population density with its average of 712 people per square kilometer. Japan with 323 people (1987) per square kilometer, only less than half the density of Bangladesh, occu-

pies the 4th position in the world. In comparison with Bangladesh's great expanses of flat land, Japan is made up mostly of mountainous terrain. However, for this reason, Japan's specific population density per square kilometer of agricultural land exceeds 2,200 people. This is more than two times larger than Bangladesh's 1000 people per square kilometer of agricultural land. Japan holds the number 1 position in the world for specific population density. Bangladesh is number 4. This is just the opposite of their general population density ranks. From an economic perspective, however, Bangladesh belongs to the group of least developed countries. Its GNP is the alarmingly low U.S.$ 160 per head (1988, World Bank estimates). Japan on the other hand belongs to the more developed countries category. The GNP is U.S.$ 16,000 per head, (1988, Agency of Economic Planning) or nearly 100 times that of Bangladesh.

The abnormally high population growth in Bangladesh as explained above, is the source of the conspicuous lack of development in the socio-economic sectors. In addition, natural disasters coupled with political instability or what could be called man-made disasters are a visible hinderance to this country. However, even in Bangladesh there are some projects that merit hope. For example, the small scale Rural Poor Program. This program aimed at helping impoverished peasants directly in their region, strives to rear the local people towards a entrepreneur spirit while elevating their living standard at the same time. Ambitious projects implemented in Bangladesh, though now yet small scale, are now internationally attracting notice as measures to stimulate peasant's volition toward productive activities.

International aid and collaboration for Bangladesh have been forthcoming from the more developed countries and also the United Nations. The government of Bangladesh is of course playing an active role in formulating efforts towards ending the vicious circle of rapid population growth and poverty. This study aims to comment on what results have been produced by efforts made by the government, the people and international cooperations. And finally from the results of this limited investigation we dared to suggest basic strategy for truly ending the vicious circle of population growth and poverty.

Notes

1) United Nations: World Population Prospects 1988, United Nations, New York, 1989, p.290. Compared with official to statistics from Bangladesh this rate of increase is higher. For further information on this point please see Ch.2 The Population and Family Planning in Bangladesh.
2) M. Mosleh Uddin: Rural Development and Poverty in Bangladesh, V.R.F. Series No.169, Institute of Developing Economies, February 1990, pp.70-71.
3) For method of measuring the Demographic Transition Index and the computed results for various Asian Countries see, The Asian Population

and Development Association: Structural Change in Population and Development, Japan's experience in Aging, "Population and Development Series No. 11, February 1990, p.16.
4) Ibid., Uddi's paper

Postscript: I would like to extend my sincere gratitude to Dr. M. Mosleh Uddin for allowing me to quote from his paper.

Chapter 2 -- Population and Family Planning in Bangladesh

In spite of its severe natural conditions, stagnant economy and low standard of living, Bangladesh has a population of more than 100 million people. What's more, this large population is increasing at a rate of over 2 percent per year. Looked at in conventional terms, this would seem to be an extremely abnormal situation. The population situation is certain to become an enormous socioeconomic burden on Bangladesh in future. In this chapter we will examine (1) population trends in Bangladesh and their causes and (2) possible countermeasures to deal with them.

1 Trends in the Population Growth and Vital Events of Bangladesh

We will begin with an general survey of historical trends affecting the total population. Table 1 shows changes in the total population and the rate of population growth. It makes clear that the population growth trend can be roughly divided into two stages, a first stage lasting from 1901 through 1951 and a second stage from after 1951 to the present. The population expanded very slowly during the first stage. With the exception of 1941, the rate of population increase is below 1 percent. In a period of 50 years the population grew by a mere 15 million people (=44 million - 29 million).

In contrast to this, in the second stage the rate of population growth is very high at over 2 percent for each of the years listed (reaching a peak of 2.5 percent in 1971), and by 1985 the total population has reached the 100 million mark. In other words, the total population more than doubled in the 34 years from 1951 to 1985.

What caused this rapid population increase in the years following 1951? Table 2 and Figure 1 illustrate the trends in the birth and death rates during these years. On the basis of this data, we can see that three things happened after 1950: (1) the crude death rate dropped steadily, but (2) the crude birth rate remained high and, since it began to decline only very gradually, (3) the rate of natural increase (= crude birth rate - crude death rate) rose.

Table 3 shows the trends in the crude birth and death rates between 1881 and 1987. Though data for some years is missing, we can discern three points clearly. (1) The mortality rate between 1881 and 1951 was very high at some 40 permill. (2) If we try to estimate the pre-1951 birth rate by extrapolating from later trends, we come up with a figure of perhaps a little over 40 permill. As a result, (3) the rate of natural increase before 1951 was low.

If we accept the above argument, then the extremely rapid increase in the population of Bangladesh after the milestone year 1950 is due to the following factors: (1) In spite of a steady decrease in the previously very high death rate, (2) the birth rate remained high and declined only at a very slow pace, (3) causing the rate of natural increase to upsurge.1)

2 Factors Determining the Birth and Death Rates

Let us now examine the causes for the above-mentioned trends in the birth and death rate.

First, the death rate -- demographic theory states that birth rate and death rate decline as a result of socioeconomic development.[2] However, Bangladesh is faced with a number of socioeconomic difficulties, and it would be difficult to say that it has been developing at a steady pace. In spite of this, the crude death rate suddenly declined after 1950 (see Table 1). In other words, it would seem that the drop in Bangladesh's mortality was due do factors other than socioeconomic ones.

If this is indeed the case, what caused the decline in mortality? The well-known demographer Kingsley Davis, after analyzing the causes of the sudden decline in mortality in developing countries, states the following.[3]

"...it seems clear that the great reduction of mortality in underdeveloped areas since 1940 has been brought about mainly by the discovery of new methods of disease treatment applicable at reasonable cost, by the diffusion of these new methods from the advanced countries to the unadvanced through international organizations and scientific communication,... The reduction could be rapid, because it did not depend on general economic development or social modernization in the underdeveloped areas."

This has become the generally accepted view. If one considers the socioeconomic situation in Bangladesh, it is indisputable that international medical cooperation and medical advances have greatly contributed to the decline in the mortality in that country.

These same things can also be said about the birth rate. As Figure 1 makes clear, the crude birth rate of Bangladesh has remained at a high level overall. However, a closer examination of the data reveals that it rose slightly between 1950 and 1975 and then declined somewhat between 1975 and 1985. Such a decline in the crude birth rate is gener-

ally thought to accompany socioeconomic development and a rise in the standard of living. [4]

However, a look at the present socioeconomic situation in Bangladesh, with stagnant economic growth, high unemployment, widespread poverty and the number of landless labour actually increasing, makes it difficult to ascribe the decline in the birth rate, small though it may be, to socioeconomic development. It seems rather more appropriate to give credit for the decline to international cooperation in population-related areas, particularly family planning.

Based on the above, we can draw the following conclusions. The death rate dropped steadily in Bangladesh after 1950. On the other hand, the birth rate has finally begin to drop, however slightly, in recent years. However, an examination of the socioeconomic situation in Bangladesh makes it difficult to believe that the above trends in birth and death rates are due to socioeconomic development. Rather, it seems appropriate to ascribe them to the stimulus provided by external factors such as international cooperative efforts. In this sense, we can say that Bangladesh's fertility and mortality trends have an imposed nature.

The major issue remains the fact that although the birth rate is decreasing, it is doing so at a very slow rate, and that in contrast to this high birth rate the death rate is dropping. The resulting population increase [5] cannot fail to put tremendous pressure on Bangladesh's society and economy in future.

3 Family Planning in Bangladesh

What's so difficult about reducing the birth rate? The problem is twofold, having to do with (1) the dissemination of birth control methods and (2) peoples' awareness of birth control.

There are basically four types of birth control: (1) contraceptives (2) abortion (3) alteration of marriage patterns [6] and (4) breast feeding.[7-8] Figure 2 and Table 4 show the results of calculations indicating to what extent each of these methods are effective in controlling births in Bangladesh and how they affect the present (1985) birth rate.[9]

The figure and table are very easy to read. The actual birth rate in Bangladesh (total fertility rate [10]) in 1985 is 5.7. Put simply, each woman in Bangladesh bears on average about six children. This can be compared with a biological limit per woman of about 15.3 children on average.[11] The figure and table show which birth control methods have

been used to produce this discrepancy of 9.6 between the actual birth rate and the biological limit and to what extent they have contributed to the reduction.

As we can see by examining Figure 2 and Table 4, the birth controlling effect of breast feeding is 6.2, that of contraception 2.2, that of marriage patterns 0.8 and that of abortion 0.2. Together, these four methods have held the birth rate to the present level. (The total of the above four figures is only 9.4, a discrepancy 0.2 from the 9.6 mentioned above and due to the error inherent in the calculation method.) In other words, breast feeding is the most effective method of birth control, far more so that any of the others.

The important point to be borne in mind here is that in spite of the efforts of the government of Bangladesh and extensive financial assistance from abroad for population control programs, the real effect of contraception in controlling the birth rate is surprisingly small. This indicates that family planning is still not well disseminated. In fact, as shown in Table 5, the proportion of the population actually using family planning techniques in 1986 was a mere 26.8 percent. The fact that the birth rate remains high and is falling only very gradually can be directly attributed to the low family planning dissemination rate.

4 Societal, Economic and Cultural Factors

The poor dissemination of family planning in Bangladesh is due to the awareness level of the populace and the societal, economic and cultural factors which contribute to it. In this section, we will take a quick look at these points.

Generally, in poor developing countries the economic value of men and male children is high. This is because boys can work once they reach a certain age and, in countries lacking social welfare systems, they are the source of support for their parents in old age.[12]

This state of affairs results in two things. First, the excessive preference for men and male children weakens the states of women and female children both in society and in the household.[13] Because of this, in developing countries many women never enjoy compulsory education, are not given adequate medical care when they are sick and are malnourished. Second, women tend to continue having children until they have the number of sons they consider necessary both for their ability to work and as a source of support in old age. This has the effect of raising the birth rate.[14]

In Bangladesh, this type of social system has continued unaltered through the present day.

Even if a woman bears the required number of sons, in societies with high rates of infant and child mortality there is no guarantee that all will survive to adulthood. For this reason, women desire to have more children than they actually consider necessary. This in turn causes the birth rate to rise.[15] Figure 3 charts the relationship between the rate of infant and child mortality and the desired number of children based on the World Fertility Survey. It makes it clear that the desired number of children is high in countries with high infant and child mortality. The rate of infant mortality in Bangladesh in 1987 was quite high: 111 per 1,000. It therefore should come as no surprise that in a country with infant mortality this high the birth rate should also be very high.

Unfortunately, when undernourished women give birth frequently, the birth weight of their children tends to drop. Underweight babies have lower resistance to disease, causing many of them to die in infancy. Repeated pregnancies such as are the norm in Bangladesh tend to cause an increase in infant and child mortality. This in turn causes the mother to want to become pregnant again. In addition, if the combination of undernourishment and frequent pregnancies leads to maternal depletion syndrome, the result is not only an increase in the number of women who die in childbirth, but also the family poverty which results when the mother, one of the pillars of the home's prosperity, is no longer present.

In addition to the above factors, in Bangladesh there is also religion to be considered. In Muslim societies, Islamic law is looked to as an example. In matters such as inheritance and the allocation of assets, Islamic law gives men precedence over women. This in turn causes women to favor their sons and to want to have more of them.

To summarize the preceding argument, family planning is not widely practiced in Bangladesh because of the high economic value placed on children due to poverty, the high infant mortality rate and because sentiment favoring large families is so inculcated into every corner of society that people cannot appreciate the benefits of having fewer children.

5 The Population Problem

It is possible to assess the causes of Bangladesh's rapid population growth as being certain demographic tendencies. But the problem still remains of determining what conditions supported and maintained this

increase.

A number of reasons why it is difficult to reduce the birth rate quickly were pointed out above. However, In a country like Bangladesh where the population density of over 690 persons per square kilometer seems near the absolute limit, one would expect the above factors to cease to have an effect after a certain point, and for the values of society and the individual to shift from favoring large families to preferring fewer children. This, in turn, should result in a drastic reduction in the rate of population growth. But as a look at the actual trends in birth rate and the rate of natural increase will show us, no such prominent tendency is apparent. (see Figure 1)

One scholar has the following to say concerning this problem: "The dense human population so often cited as a cause of Bangladesh's poverty actually bears testament to the land's fertility. Historically, the thick settlement of the Bangladesh delta, like that along the Nile, was made possible by agricultural abundance. ... The country's low level of urbanization makes this all the more remarkable, for nine out of ten Bangladeshis live in villages, where most make their living from the land."[16]

Another puts it this way: "Bangladeshi culture is highly successful if defined in biological terms. There is probably no other society in the world in which such a heavy population can subsist on the land without destroying the resource base."[17]

According to the above two authors, the agricultural abundance, in spite of severe natural conditions, which once earned the region the epithet "Golden Bengal" has been more than adequate to support a large population. This state of affairs has continued until very recently.

However, it would seem that in the last few years the situation has begun to change drastically. According to Islamic law, the father's land should be divided equally between his sons upon his death. In addition, a comparison of the rates of population increase in urban and rural areas reveals a higher rate of natural increase in the agricultural regions where nine-tenths of the population lives.[18] The combination of the above two factors means that the available farmland is being divided by successive generations into ever smaller parcels. This has resulted in a number of farms so small that they cannot support through the income from agriculture alone the families that till them.

Against this background, a complex interaction of land sales, indebtedness and mortgages have resulted in an unequal land ownership situation and a large increase in landless labor. The advancement of land owner-

ship inequality is charted by the Laurenz curve in Figure 4. In addition, the increase in landless labor has become a major social problem.[19]

Due to the above process, unemployment and under-employment are increasing in agricultural regions in Bangladesh. This has led to migration from the farms to the cities. This migration is spurred on by the push provided by high population pressure in agriculture areas, the loss of farmland and low wages, and the powerful magnet of urban employment opportunities and higher wages. This is the reason for the rapid pace of urbanization in Bangladesh in recent years which is shown in Table 6. Figures from the World Bank indicate that the number of migrants from rural to urban areas averaged about 40,000 per year between 1951 and 1961, and that this increased fivefold to approximately 200,000 yearly between 1961 and 1974.[20]

The rapid urbanization of the population brings with it a number of profound social problems. In the cities of Bangladesh, the problems of housing, employment, transportation and sanitation have already reached extremely serious proportions. Most of the new arrivals are unable to find regular jobs and are absorbed into the informal sector. This floating population congregates in slum areas where they face poverty, malnutrition and inadequate sanitation and health care. Urban poverty in Bangladesh is becoming a very serious problem. [21] As Figure 5 indicates, slums are proliferating within Dacca.

This is not the full extent of the problem, however. The increase in surplus population is a major obstacle to economic development and growth. Table 7 shows the rate of increase of per capita GNP, the rate of economic growth (GNP growth rate), rate of population increase. If we look at GNP alone we note that there is steady growth, though there is some fluctuation from year to year. However, a look at GNP per capita indicates that not only is the rate lower than that for GNP, but that some years even show negative growth. In other words, the population explosion has wiped out the gains of economic expansion, and even caused people's standard of living to fall at times, though only temporarily.

As the above makes clear, the reasons making it difficult for Bangladesh's economic expansion to move forward and standard of living to improve are to be found in low economic growth and, to a substantial degree, the rapidly increasing population.

6 The Vicious Circle and Countermeasures -- Family Planning and Maternal and Child Health

On the basis of the preceding sections, we can say that the society, economy and population of Bangladesh are caught in a kind of vicious circle. A rough outline of it follows (see Figure 6).

The high birth rate causes the population to increase. This leads to general economic stagnation which is the major cause of family poverty. In turn, the low social status of women which accompanies the spread of poverty leads to malnutrition and a low level of education. When malnourished women are subjected to frequent pregnancies the resistance to disease of their children drops and the incidence of maternal depletion syndrome due to extreme exhaustion rises.

As if the above were not enough, medical facilities are often inadequate. And even if they are available, they may not be used due to poverty and misunderstanding due to lack of education. This means higher infant and child mortality and more deaths in childbirth. The high economic value of children in poor societies combines with high rates of infant mortality to impede acceptance of, and therefore the widespread use of, family planning. A high birth rate and rapid population growth result. This high birth rate is the principal cause of maternal depletion syndrome. On the other hand, the deaths of expecting and nursing mothers or, to put it another way, the loss of the women who bind families together, causes households to descend into destitution.

Naturally it goes without saying that the poverty and slow rate of development cannot be blamed entirely on the enormous and rapidly increasing population. The number of factors contributing to this problem and the complex ways in which they interact are quite beyond our powers of imagination to fully conceive. Nevertheless, that the population factor is one of the biggest causes is an incontrovertible fact. It is not too much to say that the society, economy and culture of Bangladesh are caught up in a vicious circle of "poverty caused by a high birth rate and a high birth rate caused by poverty."

It is essential to break this vicious circle at some point. The government of Bangladesh is aware of this fact and has included in its third five-year plan the goal of raising the dissemination rate of birth control to 40 percent by the year 1990. International aid agencies and the governments of many advanced countries are also pouring family planning aid into Bangladesh. But as we have already seen, widening the use of family planning is not something that can be accomplished easily.

This is because the ground has not been prepared psychologically or otherwise for the acceptance of family planning by the populace. People still want large families. Before putting family planning projects into effect it is necessary to consider this state of affairs carefully.

Unfortunately, many Bangladeshis now are wary of family planning in general because of certain aid agencies which tried to coerce many women into having tubectomy.

Recently the government of Bangladesh and the international aid agencies have been putting more effort into motivating the populace to practice family planning, but this is sure to be a long-term project.

Against this background, in recent years increasing attention has been being focused on the child survival hypothesis as well as ways to improve maternal and child health. As was noted above, if a high infant and child mortality rate is one of the causes of high birth rates, than reducing the incidence of infant and child mortality should have the effect of lowering the birth rate.

Many studies have been carried out related to the child survival hypothesis and its validity has been made quite clear. In order to put the propositions of the hypothesis into action, government policies aimed at improving maternal and child health must form the core. Action to improve maternal and child health has a number of advantages over the family planning strategies tried up to now, such as the following.

In poor societies with high infant and child mortality and where the economic value of children is high it is difficult to gain the understanding and cooperation of the populace needed to make family planning programs successful. In contrast to this, all parents wants their children to be healthy and the health of the mother is the earnest hope of every family. This means that enthusiastic understanding and cooperation can be anticipated. In addition, a difficult birth that endangers the life of the mother will result either in joy or sorrow for the family concerned. It goes without saying that all is well if both mother and child survive the birth and are healthy. If one or both dies, however, the loss to the family is extremely great. A program for improving maternal and child health really demonstrates its power at decisive moments such as these. Furthermore, since the efficaciousness of medical treatment can be seen directly by the observers, their trust in modern medicine is greatly enhanced.

When infant and child mortality begins to drop as a result of such efforts and the populace gains confidence in them, their willingness to try family planing will gradually grow, and this will eventually contribute greatly to a reduction in the birth rate. It is hardly an exaggeration to say that maternal and child health programs are the key to controlling future population trends in Bangladesh.

7 Conclusion

Some of the aid agencies have finally started to recognize the benefits promised by maternal and child health programs. It would seem that UNICEF now not only provides training in family planning, but has also begin to train the TBAs (Traditional Birth Attendants or midwives) in basic medical techniques.[23]

Also, the United States Agency for International Development (USAID), as part of its clearly stated policy of attempting to lower the birth rate by reducing infant and child mortality, has published a pamphlet entitled "Child Survival Strategy." It contains the following statement: "A C[hild] S[urvival] strategy must be a critical component of USAID efforts to reduce fertility and more generally to develop Bangladesh's greatest potential resource -- its people. Thus, the provision of MCH services will be an important part of our Population and Health objectives."[24]

Something that should be borne in mind in this connection is the experience of Japan. Japan has the very valuable experience of itself having put a maternal and child health program into effect in the years before the current economic boom and seeing it reduce infant and child mortality as well as pregnancy and childbirth related deaths. In addition, the previously mentioned child survival hypothesis teaches us that a reduction in infant and child mortality is a precondition for a drop in the birth rate. The experience of Japan has a lot to teach the countries of Asia currently afflicted with rapidly increasing population, high birth rates and high infant and child mortality.

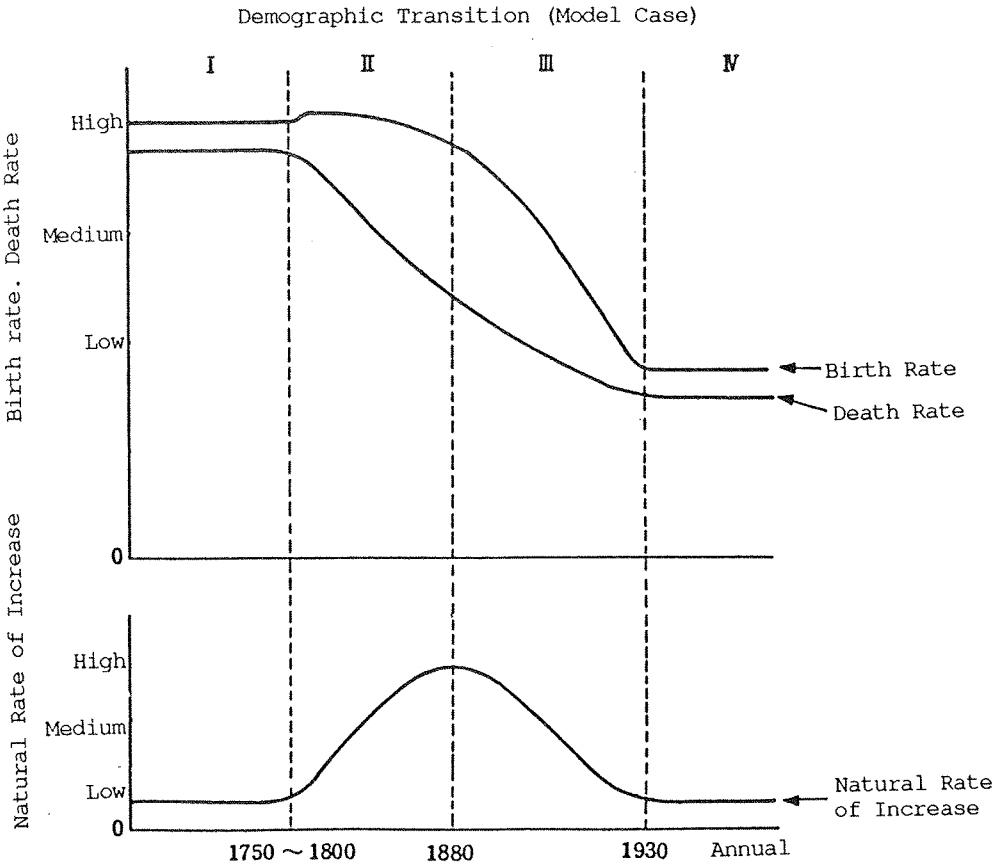
(Notes)

1) The theory of demographic transition can be used to explain trends in population, birth rate and death rate. The theory of demographic transition is a hypothesis which attempts to explain systematically the population trend of a single country and the trends in birth rate and death rate that determine it by making a connection with the socioeconomic level. The graph below provides an outline of the technique.

As the socioeconomic level rises, the birth rate and death rate drop. This process is termed demographic transition and it consists of four stages. In the first stage the birth rate and death rate are both high (the underdeveloped stage). In the second stage the death rate drops rapidly while the birth rate remains static (the initial development stage). In the third stage the birth rate drops rapidly, following the death rate (continuing development stage). Finally, in the fourth stage is marked by a low birth rate and low death rate (highly developed stage). In other words, the natural rate of population increase, which is defined as the gap between the birth rate and death rate, starts out at a low level (first stage), rises to a high level (second stage),

drops again to a low level (third stage) and finally remains low (fourth stage).

Incidentally, if we attempt to explain the demographic trends in Bangladesh up to the present using the theory of demographic transition, the period up to 1951 would be the first stage and the period from 1951 to the present would be the second stage. This becomes clear if we compare the graph below with Figure 1. However, as I make plain later in this chapter, it should be borne in mind that the demographic transition which took place in Bangladesh was not caused by socioeconomic development.



1) Tomomi Otsuka, "Demographic Transition in Bangladesh," Papers Commemorating the 100th Anniversary of the Founding of Nihon University, Keiso Shobo, October 4, 1989.
2) See the outline of the theory of demographic transition in note 1) above regarding this point.
3) K. Davis, "The Amazing Decline of Mortality in Underdeveloped Areas," American Economic Review, Vol. 46, No. 2 (May 1956), pp. 305 - 318.
4) See note 1) above regarding this point.
5) This can be confirmed by consulting demographic forecasts published by the United Nations.
6) This is easily understandable when one considers the case of late marriage. Women are capable of bearing children between the ages of 15 and 49. If we then assume that neither birth control or abortion are employed, a woman who marries at age 15 will naturally have more children than one who marries at age 25. Late marriage therefore has an important contraceptive effect.
7) Breast feeding has a contraceptive effect. The stimulus to the nipples during nursing causes a hormone to be secreted which inhibits ovulation. This means that breast feeding lengthens the period of postpartum amenorrhea. As a result the period between pregnancies lengthens, lowering the number of babies a woman can bear during her childbearing years (15 - 49).
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8) These factors are grouped under that heading of proximate determinants. Incidentally, 96 percent of fluctuations in human birth rates can be ascribed to these four factors.
9) This index can be calculated easily using the decomposition method developed by the American demographer Bongaarts.
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10) The this index represents the number of babies a woman will produce during her childbearing years (15 - 49), assuming that childbirth patterns indicated by present age specific birth rates will remain unchanged and that women will continue to bear children based on these childbirth patterns.
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22) Tomomi Otsuka, "Verification of the Child Survival Hypothesis: Connections with the Experience of Japan," Economic Compendium, Vol. 55, No. 3, October 1985.
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23) This was confirmed through verbal interviews with local residents.
24) USAID, mimeograph.

Table 1 - Population of Bangladesh and it`s Rate of Increase

Date of Census	Population (Persons)	Rate of Increase (%)
March 1, 1901	28,927,786	-
March 10, 1911	31,555,056	0.94
March 18, 1921	33,254,096	0.60
March 26, 1931	35,604,170	0.74
March 1, 1941	41,997,297	1.70
March 1, 1951	44,165,740	0.50
February 1, 1961	55,222,663	2.26
March 1, 1971	76,398,000	2.48
March 5, 1981	89,912,000	2.32
1985 [1]	100,500,000	

Note 1: The population figure for 1985 is a projection by the government of Bangladesh.
Sources: Bangladesh Bureau of Statistics, Statistical Pocket Book of Bangladesh 1989.
Bangladesh Bureau of Statistics, Statistical Yearbook of Bangladesh (1989).

Table 2 - UN Estimation of Birth Rate, Death rate and Rate of Natural Increase for Bangladesh

Period	Crude Birth Rate (‰)	Crude Death Rate (‰)	Rate of Natural Increase (%)
1950 - 1955	40.2	24.2	16.0
1960 - 1965	46.7	22.0	24.7
1965 - 1970	47.5	21.0	25.5
1970 - 1975	48.5	20.6	27.9
1975 - 1980	47.2	18.9	28.3
1980 - 1985	44.8	17.5	27.3

Source: United Nations, World Population Prospects and Projections as Assessed in 1982.

Table 3 - Birth Rate, Death Rate and Rate of Natural Increase in Bangladesh

Period	Crude Birth Rate (‰)	Period	Crude Death Rate (‰)	Period	Rate of Natural Increase (%)
		1881 - 91	41.3		
		1891 -1901	44.4		
		1901 - 11	45.6		
		1911 - 21	46.3		
		1921 - 31	41.7		
		1931 - 41	37.8		
		1941 - 51	40.7		
		1951 - 61	29.7		
1961	47.0	1961 - 65	18.5		
1963	44.0				
1964	42.0				
1965	37.0				
1968 - 69	42.0				
1975	49.9	1961 - 74	19.4		
1978	37.0				
1980	33.4	1980	10.2	1980	23.2
1981	34.6	1981	11.5	1981	23.1
1982	34.8	1982	11.9	1982	22.9
1983	35.0	1983	12.3	1983	22.7
1984	34.8	1984	12.3	1984	22.5
1985	34.6	1985	12.0	1985	22.6
1986	34.4	1986	11.9	1986	22.5
1987	33.3	1987	11.5	1987	21.8

Source: Bangladesh Bureau of Statistics, Statistical Yearbook of Bangladesh (1989).

Table 4 - Results of Decomposition Method Analysis for Bangladesh

Index	Value	Number of Children Prevented
Marriage	0.785	0.8
Contraception	0.747	2.2
Abortion	0.983	0.2
Breast Feeding	0.592	6.2
Total Number of Children Prevented		9.4

Table 5 - Rates of Family Planning Implementation by Contraception Method

Unit (%)

Method	1983	1984	1985	1986
Vasectomy	2.50	2.91	3.34	3.80
Tubectomy	6.21	6.81	7.37	7.89
Injectables	0.22	0.30	0.40	0.51
IUD	1.00	1.13	1.26	1.39
Pill	3.00	3.86	4.45	5.08
Condom	2.69	3.11	3.54	3.99
Traditional Methods	0.31	0.31	0.30	0.28
Abstinence	5.49	5.98	6.44	6.85
Total	21.70	24.00	27.11	29.80

Source: USAID, Family Planning and Health Service Project Research and Evaluation Findings, August 1988.

Table 6 - Urbanization of Bangladesh

(Unit: %)

Date of Census	Proportion of total population		Rate of Increase		
	Urban	Rural	Urban	Rural	Country as a whole
1901	2.43	97.57			
1911	2.55	97.45	1.39	0.85	0.94
1921	2.64	97.36	0.85	0.51	0.60
1931	3.02	96.98	2.00	0.64	0.74
1941	3.66	96.34	3.59	1.58	1.70
1951	4.33	95.67	1.69	0.00	0.50
1961	5.19	94.81	3.75	1.83	2.26
1974	8.78	91.22	6.62	2.33	2.48
1981	15.18*	84.82	10.63*	1.28	2.32

Note: The increase of 30 percent for the period 1974 - 1981 is due to the adoption of a new, expanded definition of "urban areas."
Source: Abdul Hye Mondal, "Rural Industrialization as a Tool for Rural-Urban Integration in Bangladesh," BIDS Research Report, No. 84, December 1988, p. 8.

Table 7 - Rates of Expansion for the Economy and Population of Bangladesh

(Unit: %)

Period	1977-78	78-79	79-80	80-81	81-82	82-83	83-84	84-85	85-86
Rate of Economic Growth	6.7	4.6	1.6	6.5	0.2	3.5	4.6	3.5	4.2
Rate of Population Increase	2.3	2.3	2.3	2.6	2.6	2.6	2.6	2.6	2.5
Per Capita GNP	4.2	2.3	-0.7	3.8	-2.3	0.9	2.0	0.9	1.6

Note to Table 7: The rate of population increase was calculated using the following equation:
$r = [(Pt - Po)/t]/[0.5 \times (Pt + Po)]$
Note that "r" is rate of population increase, "P" is population, and "o" and "t" are suffixes indicating time.
Source of raw data: World Bank, World Tables 1987.

Figure 1 - Birth Rate, Death Rate, and Rate of Natural Increase in Bangladesh

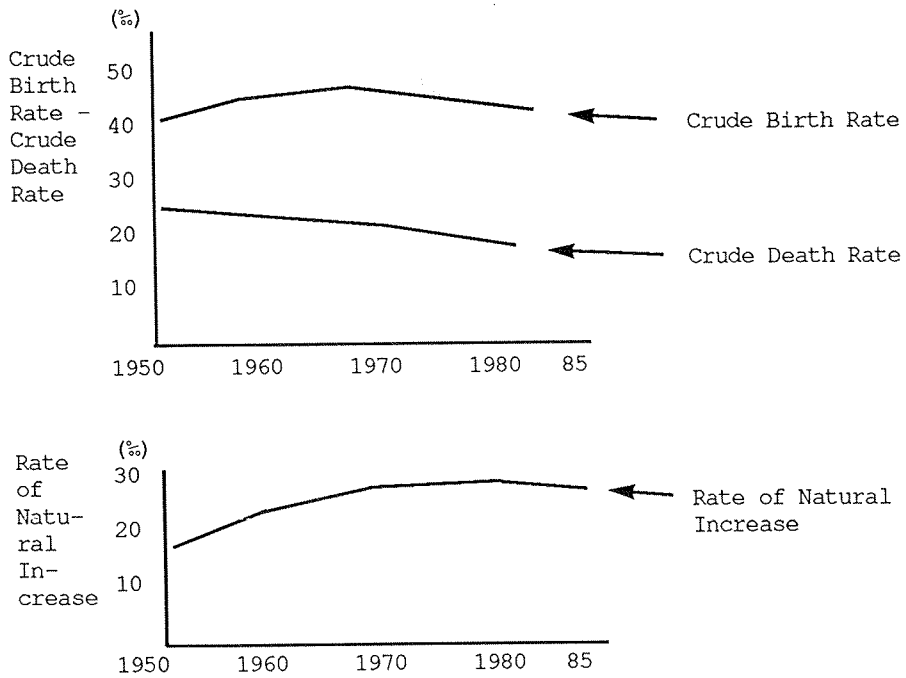


Figure 2 - Birth Potential Decomposition Method Analysis Results for Bangladesh

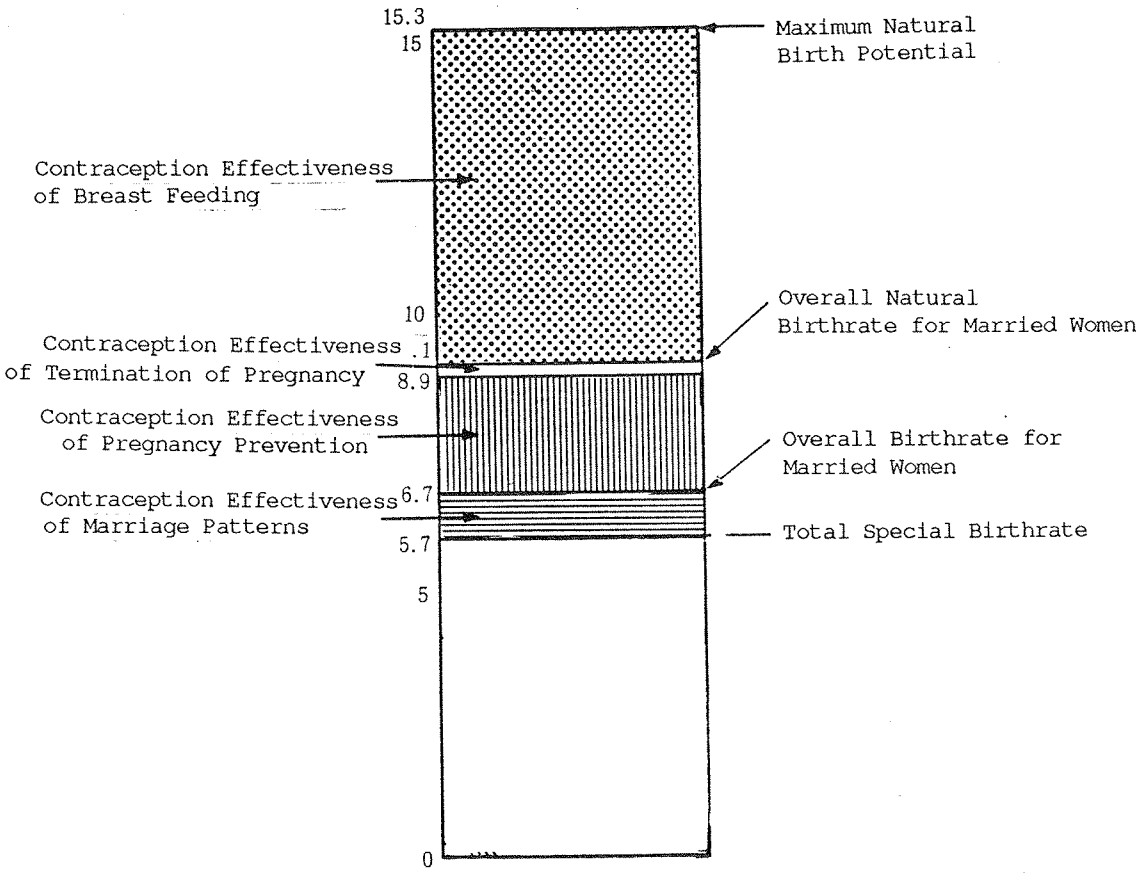
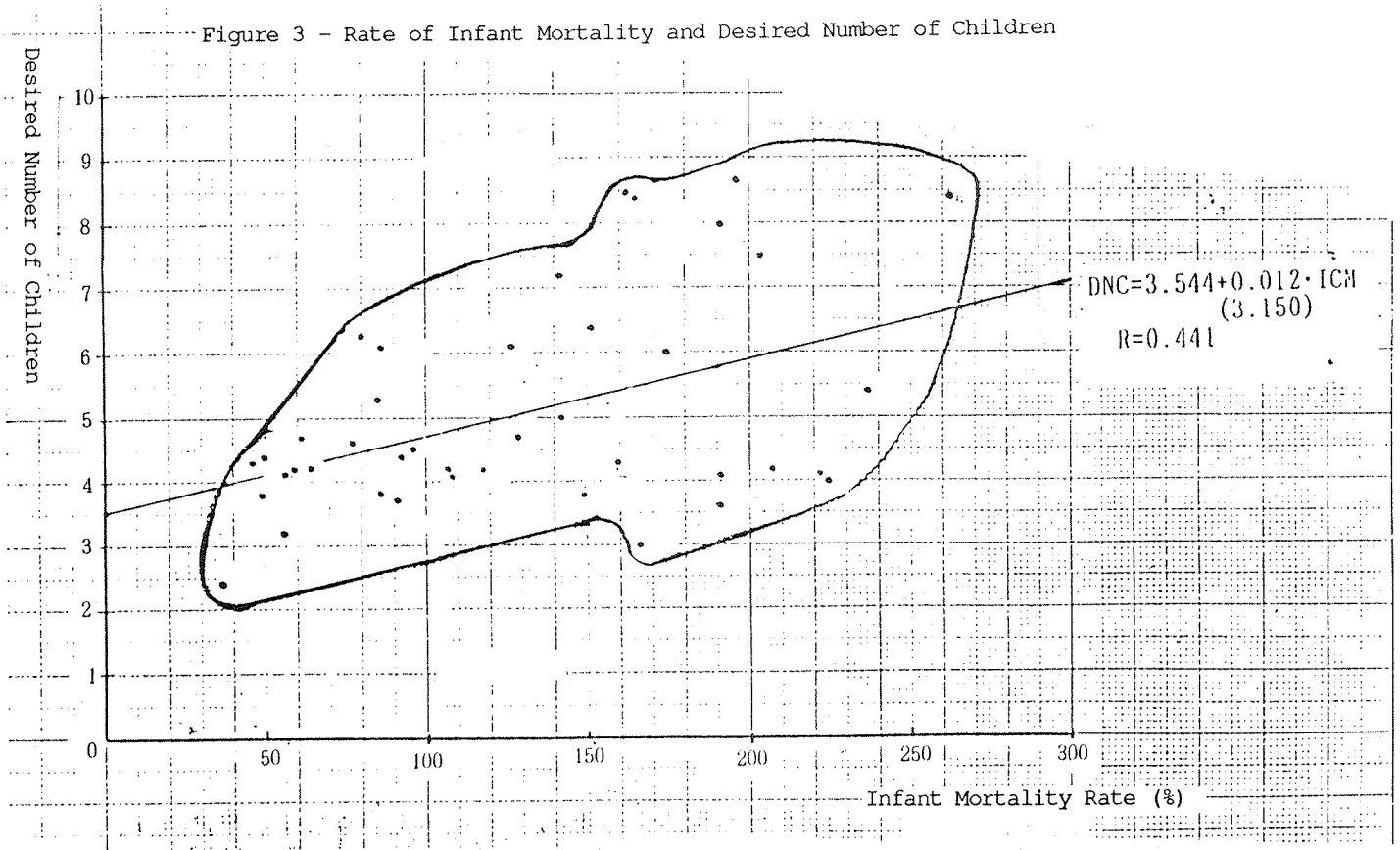
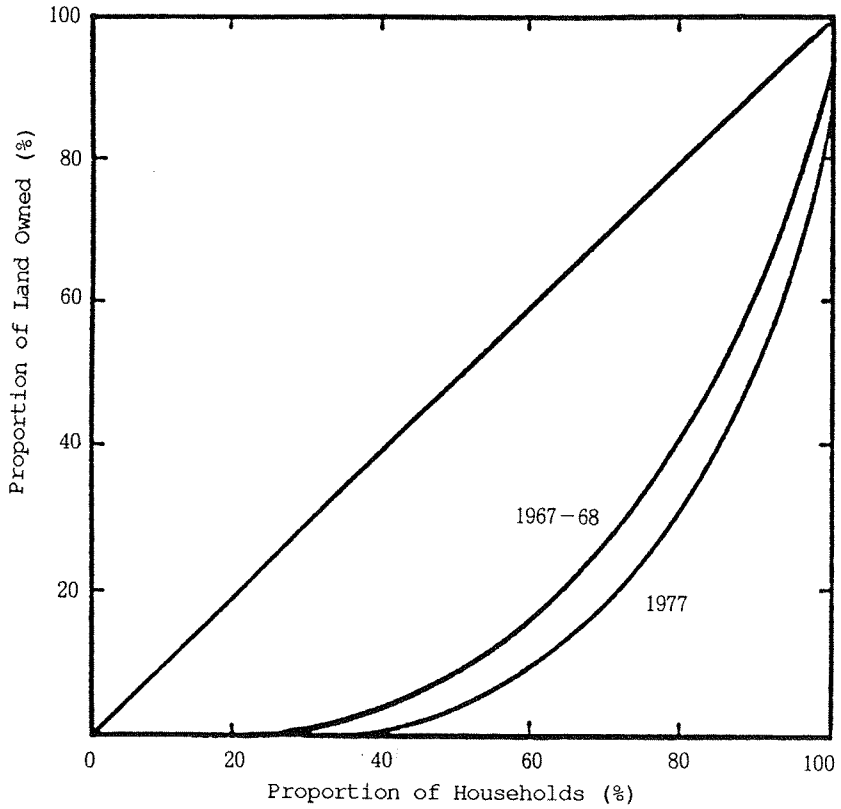


Figure 3 - Rate of Infant Mortality and Desired Number of Children



Note) In the recursive equation used in the figure, DNC indicates desired number of children, ICM indicates infant mortality rate and R is the coefficient of correlation. The figure in parentheses ( ) is the t value and the points represent values for various countries.

Figure 4 - Degree of Land Ownership Inequality



Source: Mushtaq Ahmed, Bangladesh Agriculture

Figure 5 - Slum Distribution in Dhaka

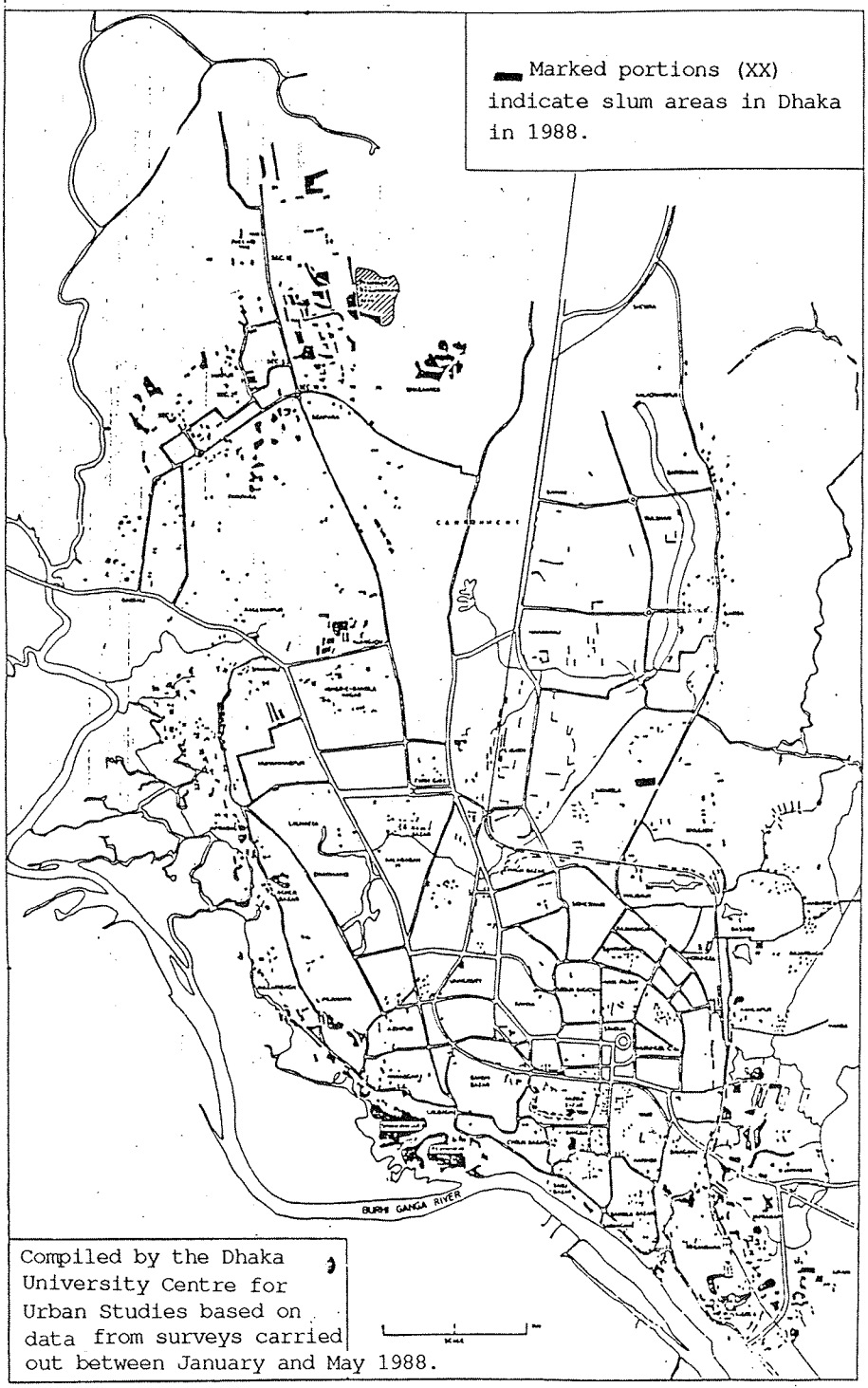
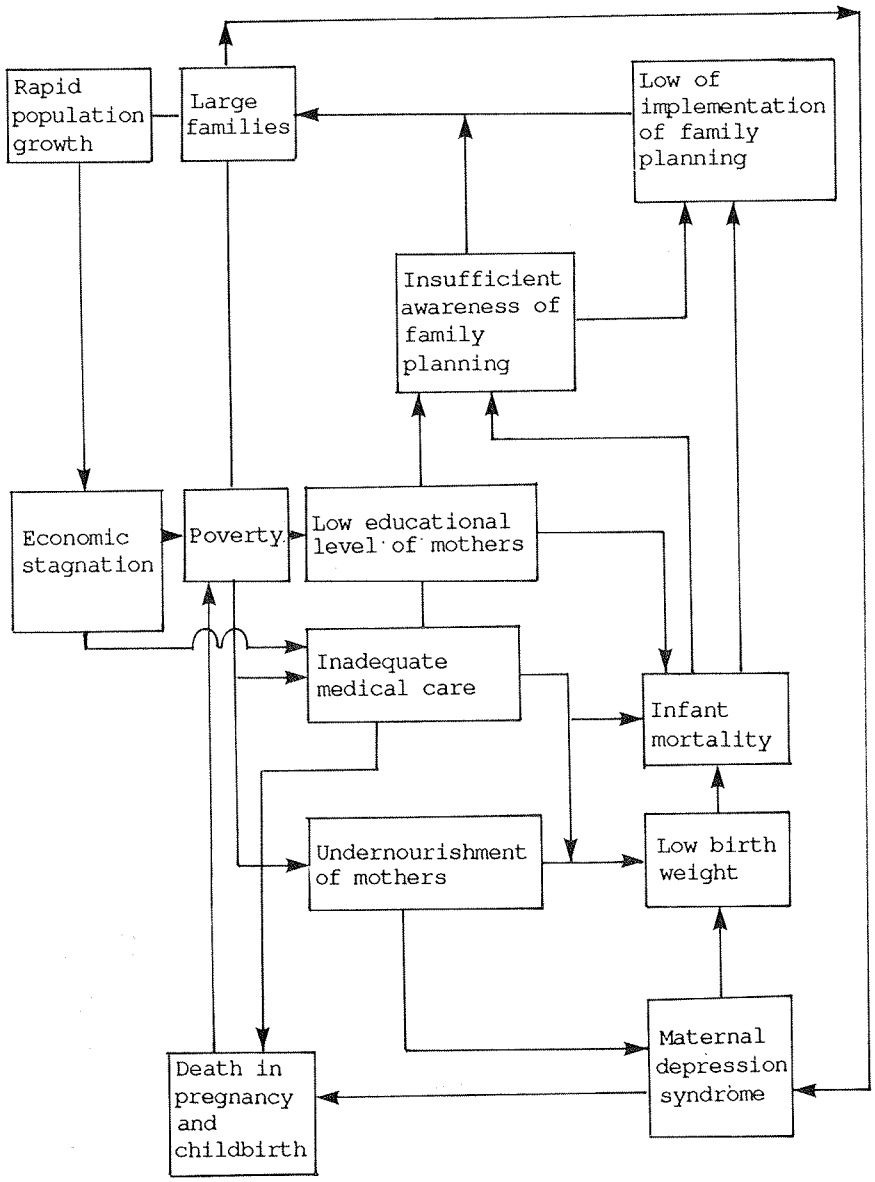


Figure 6 - The Vicious Circle in Bangladesh



Chapter 3 - Public Health Situation

The information available in the materials which have been collected on the public health situation in Bangladesh is extremely scanty. Due to the insufficient data available, there is a danger of reaching erroneous conclusions. It's like the story of the five blind men who touched an elephant and each thought it was something different. A recording system for gathering a variety of health statistics needs to be established if we are to gain a true picture of the public health situation in Bangladesh. Only by obtaining accurate information can appropriate measures to deal with the situation be proposed. The observations which follow are based on the limited information available.

1 Public Health

(1) Sanitation

Drinking Water (See Table 1.)[1)]

Since there are no statistics available for the country as a whole, it is difficult to evaluate the national drinking water situation as regards mortality and morbidity of disease. The statistics we have cover only a few regions, but the prevalence of diarrhea and infectious diseases related to the digestive tract point to problems with the quality of drinking water. That filtrated water to make it potable would result in a radical reduction not only in infectious diseases related to the digestive tract but in other ailments as well was reported simultaneously in the 1890s in America and Germany (the Mills-Reincke syndrome). As this work makes clear, the hygienic supply of drinking water is an important priority. Though 26.2 percent of urban households have running water, the quality of the water is a problem. And in the case of households which rely on tube wells, whether the water is sufficiently disinfected is an important question.

Waste Treatment (See Table 2.)[1)]

In addition to potable drinking water, proper waste treatment is essential to the prevention of infectious diseases. Inadequate treatment of waste contributes directly to unsanitary drinking water. As the table makes clear, the implementation of hygienic waste treatment is extremely scarce. Exactly what falls under the "other arrangement" category is not clear, but the fact that excretion in open fields and bushes is widely practiced indicates that improvement in this area is an urgent task.

(2) Nutrition

Since the health of the mother has a strong influence on infant development, proper health care during pregnancy is very important. In addition, it is essential that infants be assured proper nutrition after birth.

One index of the nutritional situation of nursing infants between 12 and 59 months in age is the percentage with an upper arm circumference of 12.5 cm or less.[2] The national figure is 14.4 percent (male: 11.5 percent, female: 17.6 percent), in urban districts 9.9 percent (male: 8.1 percent, female: 11.8 percent) and in rural districts 14.9 percent (male: 11.9 percent, female: 18.4 percent). This indicates that the development of girls in rural districts is particularly poor.

Tables 3 and 4 show the prevalence of acute malnutrition (wasting).[1] The percentage of underweight children aged 6 - 17 months is recognized to be 8.1 percent for the country as a whole. The rate is particularly high for children between 6 and 23 months, and drops off for older children. There are 13 million underweight children in Bangladesh.[2] Diarrhea and malnutrition are thought to be the causes. More nutritious mother's milk and better disease prevention are essential to solve the problem.

Tables 5 and 6 show the prevalence of stunting. Stunted growth is 20 percent more prevalent in villages than in cities. In addition, it becomes more frequent as the child's age increases. There are 9 million stunted children in Bangladesh.[2] To improve the situation, better schooling and education in nutrition for mothers (washing hands after excretion), more widespread immunization and running water supplies are essential.

There is no data available on adult nutrition, but if the average daily caloric intake (in kilocalories) is taken as an index of nutrition,[1] the national figure rose from 1,925 for the period from 1981 to 1982 to 2,191 for 1985 to 1986. There is almost no discrepancy between the figures for rural and urban areas. The average daily intake of protein (in grams) was 56 for 1981 to 1982 and 64 for 1985 to 1986. There was a gap of 10 grams between urban and rural areas in 1981 - 1982, but this had shrunk to 2 grams by 1985 - 1986.

(3) Rehydration

Diarrhea is an major cause of death and morbidity of disease in Bangladesh. It is caused by unsanitary drinking water, poorly developed

waste disposal facilities, a deteriorating public health situation and insufficient education about hygiene (due to the low literacy rate and insufficient schooling). Diarrhea and vomiting lead to dehydration, and, particularly when accompanied by fever causing increased perspiration, can kill nursing babies in a very short time. Consequently, the rehydration of babies suffering from diarrhea is an important treatment method.

An easy to administer rehydration method is available. Oral rehydration salt is dissolved in 500 ml of water and administered orally. The salt consists of 175 mg of sodium chloride, 0.75 g of potassium chloride, 145 mg of anhydrous citric acid trichloride and 10 mg of glucose. However, it is essential that the water in which the salt is dissolved be sterilized by boiling, filtration using activated charcoal or the like.

(4) Immunization [3]

Table 7 shows the rate of immunization of children. These figures are for only a limited sample, and the immunization rates for Bangladesh as a whole are probably lower. A higher percentage of city children are immunized than village children. For example. 2.7 times as many are vaccinated against measles (0 years of age), 5.5 times as many against DPT, 5.8 times as many against polio and 6.5 times as many against BCG. The level of awareness among mothers and the number of clinic facilities available probably have an influence.

2 Health Care Facilities and Personnel

The number of dental and medical colleges which supply Bangladesh's medical professionals, their faculty and students are as follows. In 1986 - 1987 there were nine medical colleges (including one graduate school of medicine) and one dental college.[1] The nine medical colleges had a total of 756 faculty (603 men and 186 women) and 8,396 students (6,032 men and 2,364 women). The dental college had 33 faculty (23 men and 10 women) and 278 students (193 men and 85 women).

As is shown in Table 8, there are only 1,839 health care facilities, ranging from sophisticated medical institutions to health posts.[1] Various health indicators are listed in Table 9.[1] Figures for Japan are given in parentheses ( ) for comparison.[4]

It is clear that the situation is woefully inadequate whatever parameter we look at. In such a state of affairs improving the quality of health care is extremely difficult. In Japan there are approximately

700,000 nurses. Bangladesh, with roughly the same overall population, has about 7,000. There is clearly a serious shortage of nurses. Religion contribute to the problem, but the low social status of nurses -- little better than prostitutes -- is also a major cause. It will be very difficult to alleviate the shortage of nurses until such attitudes are changed. In addition, 90 percent of the doctors are concentrated in the cities.[5] It is hardly surprising that the level of medical care in rural areas is lower.

The question of who attends the mother in childbirth is an important one from the perspective of reducing both maternal and infant mortality. Bangladesh's registered midwives [1] may not be equivalent to their Japanese counterparts, but they have at least had a certain amount of training and possess certain qualifications. Of 365 cases of village births, only 52 (14.2 percent) took place in a clinic or with some qualified medical practitioner in attendance. The fact that the corresponding figure for urban births is around 50 percent illustrates the importance of training registered midwives from the point of view of improving maternal health.

3 Mortality and Morbidity of Disease

(1) Mortality

Mortality statistics for Bangladesh are not available at the national level. There are statistics, however, on mortality in a sample of 177 farming villages.[6] These are summarized in Figure 10 by age group. Deaths due to tetanus and diarrhea are very common among nursing children.

Among adults, deaths due to cardiovascular diseases and old age are the most numerous. There are no notable variations between men and women (no table provided) in the figures. In other reports it is acknowledged that there is a gap of less than nine years in average life expectancy between urban and rural areas.[3] It is thought that malnutrition is the major basic cause of sickness leading to death among children from nursing to school age. In addition, sanitation, water in particular, is another central factor.

(2) Morbidity of Disease

There are no national statistics on morbidity of disease available for Bangladesh, but there is data available based on a sample of 1,920 persons (937 men and 983 women).[6] Table 11 shows disease patterns of morbidity by age group in terms of combined totals for rural

and urban districts. The incidence of diarrhea, respiratory diseases and other fevers is high among young people, these three categories accounting for between 60 and 70 percent of the total. The figures for men and women are quite similar on the whole, but those for urban and rural districts (no tables provided) show a 1.5 times greater incidence of diarrhea for the latter. The situation with intestinal worms (1.7 times) and respiratory diseases (1.9 times) is similar. The rates for infectious diseases such as intestinal worms and malaria are higher in rural districts, but those for diphtheria, whooping cough, polio and measles are slightly higher in urban areas. Cardiovascular diseases (4 times), diabetes (11.2 times), tumors and cancers (2.5 times), ulcers and gastric problems (1.4 times), accidents (2.1 times) and diseases of the kidneys and urinary tract are all more prevalent in the cities. There are few doctors in the villages, and they are unable to keep sufficiently abreast of the latest medical developments, particularly as regards methods of treatment.

(References)

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Table 1 - Distribution of Households by Source of Drinking Water and Region (%)

(1981)

Area	Total households	Tap water	Tube well	Pond or shallow well	River - Stream Canal
National	100	3.6	53.1	37.5	5.8
Urban	100	26.2	54.1	17.4	2.3
Rural	100	-	53.0	40.7	8.3

Source: 1)

Table 2 - Percentage Distribution of Households by Latrine System and Region (%)

(1982)

Area	Total house-holds	Flush toilet (municipal sewerage)	Flush toilet (septic tank)	Municipal sewerage latrine	Public lavatory	Other arrangement	None (open field/ bush)
National	100	0.52	1.04	1.04	3.55	44.94	48.91
Urban	100	3.64	7.66	8.11	21.05	46.35	13.20
Rural	100	0.11	0.17	0.11	1.25	44.76	53.60

Source: 1)

Table 3 - Wasting by Region and Sex of Children 6 - 71 Months of Age (%) (1985 - 1986)

	National	Urban	Rural
Male	6.8	6.7	6.8
Female	9.5	7.1	9.8
Total	8.1	6.9	8.2

Source: 1)

Table 4 - Prevalence of Wasting by Age Group and Sex (%)
(1985 - 1986)

Age (in months)	National	Urban	Rural
6 - 11	10.0	9.5	10.7
12 - 23	16.8	11.8	22.4
24 - 35	9.6	8.0	11.2
36 - 47	5.2	4.2	6.3
48 - 59	5.1	4.9	5.2
60 - 71	4.6	4.9	4.1
Total	8.1	6.8	9.5

Source: 1)

Table 5 - Stunting by Region and Sex of Children 6 - 71 Months of Age (%)
(1985 - 1986)

Sex	National	Urban	Rural
Male	54.8	42.4	56.3
Female	57.6	46.1	59.1
Total	56.1	44.2	57.6

Source: 1)

Table 6 - Prevalence of Stunting by Age (in Months) and Region (%)
(1985 - 1986)

Age (in months)	National	Urban	Rural
6 - 11	24.1	23.2	25.4
12 - 23	53.6	47.5	60.6
24 - 35	53.9	54.9	52.7
36 - 47	61.4	61.4	61.5
48 - 59	61.5	63.5	59.4
60 - 71	63.0	60.5	65.9
Total	56.1	54.8	57.6

Source: 1)

Table 7 - Immunization of Children Aged 0 - 14 Years, All Areas

Age	Population	% vaccinated against			
		Measles	DPT	Polio	BCG
0	338	2.2	7.4	7.1	13.0
1 - 4	1832	8.2	12.3	12.2	14.6
0 - 4	2170	7.3	11.5	11.4	13.1
5 - 9	2251	5.6	7.6	7.9	26.8
10 - 14	2072	5.3	5.6	5.5	44.7

Source: 3) Note: DPT = diphtheria, whooping cough, tetanus

Table 8 - Estimated Numbers of In and Outpatients in Different Hospitals and Clinics (1987)

Name of hospital or health post	No.	No. of beds	No. of in-patients	No. of out-patients
IPGMR Hospital	1	400	13,350	174,306
I.D.C.H.	1	500	4,828	-
I.C.V.D.	1	100	5,289	36,477
R.I.H.D.	1	450	5,667	60,662
N.I.O.	1	100	1,735	33,385
Medical college hospitals	9	4,920	185,486	177,200
District hospitals	59	3,850	216,152	3,680,014
Other general hospitals	2	275	7,695	29,519
U.H.C./R.H.C.	363	11,121	336,998	28,612,298
T.B. hospitals	12	556	2,610	-
T.B. clinics	44	-	-	437,437
Leprosy hospitals	3	130	493	14,099
I.D. hospitals	5	180	10,380	8,005
Mental hospital	1	400	1,025	5,219
School health clinics	22	-	106,708	-
Urban dispensaries	35	106,708	-	-
U.S.C./F.W.C.	1,275	-	-	12,453,992
Labor hospitals	3	110	-	-
Govt. employees' hospital	1	50	-	-
Total	1,839	129,860	898,416	45,988,215

Source: 1)

Table 9 - Health Indicators

Health indicator	1985	1986	1987	1989
No. of registered physicians	14,591	16,090 (183000)	16,929	-
Persons per physician	6,886	6,393 (632)	6,219	5,210
No. of registered nurses	6,418	6,912 (694000)	70,000	(700,000)
Persons per registered nurse	-	-	-	12,142 (177)
No. of registered midwives	4,399	5,199 (23,000)	5,837	-
Total no. of hospital beds	27,645	28,077	33,038	-
Persons per hospital bed	3,635	3,664	3,187	3,204

Sources: 1), 7) (1989 only)
Note: Figures in parentheses ( ) are for Japan.

Table 10 - Disease Patterns of Mortality by Broad Age Group, Rural Areas

Figures in parentheses ( ) represent number of deaths.

Disease	Aged 1 and under	Aged 1 - 4	Aged 5 - 14	Aged 45 and over
Diphtheria	-	2.7 (1)	-	-
Tetanus	20.5 (9)	13.5 (5)	8.3 (1)	-
Polio	-	-	8.3 (1)	-
T.B.	-	-	-	2.8 (2)
Measles	9.1 (4)	2.7 (1)	-	-
Diarrhea	13.6 (6)	37.8 (14)	41.7 (5)	2.8 (2)
Worms	-	-	8.3 (1)	-
Respiratory problems	13.6 (6)	2.7 (1)	-	1.4 (1)
Jaundice	-	5.4 (2)	8.3 (1)	4.2 (3)
Malaria	-	-	-	2.8 (2)
All other fevers including typhoid	2.3 (1)	13.5 (5)	-	2.8 (2)
Kidney/urinal	-	-	-	1.4 (1)
Cardiovascular diseases	-	-	-	21.1 (15)
Diabetes	-	-	-	1.4 (1)
Tumors/cancer	-	-	-	7.0 (5)
Pregnancy, birth injuries, etc.	6.8 (3)	-	-	-
Ulcer/gastric	-	-	-	1.4 (1)
Accident	-	2.7 (1)	-	-
Old age problems	-	-	-	42.2 (30)
Sudden death	6.8 (3)	5.4 (2)	-	1.4 (1)
Malnutrition	-	-	8.3 (1)	1.4 (1)
Other & unknown	27.3 (12)	13.5 (5)	16.7 (2)	7.0 (5)
Total	100.0 (44)	100.0 (37)	100.0 (12)	100.0 (72)

Source: 6)

Table 11 - Age Specific Disease Patterns of Morbidity (All Areas)
Figures in parentheses ( ) represent number of deaths.

Disease	Aged 1 and under	Aged 1 - 4	Aged 5 - 14	Aged 15 - 44	Aged 45 and over
Diphtheria	-	-	-	0.3 (2)	-
Whooping cough	1.9 (1)	2.5 (9)	1.9 (8)	0.2 (1)	-
Tetanus	-	0.3 (1)	-	-	-
Polio	-	0.3 (1)	0.2 (1)	-	-
T.B.	-	0.3 (1)	-	0.2 (1)	1.5 (7)
Measles	3.8 (2)	3.0 (11)	0.5 (2)	0.2 (1)	-
Night blindness	-	0.3 (1)	0.7 (3)	-	0.6 (3)
Eye problems	3.8 (2)	2.2 (8)	4.2 (18)	2.8 (18)	2.4 (11)
Diarrhea	30.8 (16)	33.7 (123)	29.0 (124)	12.1 (74)	9.7 (45)
Intestinal worms	-	3.2 (12)	2.3 (10)	-	-
Respiratory diseases	21.2 (11)	13.4 (49)	16.2 (69)	11.1 (68)	6.7 (31)
Jaundice	-	1.6 (6)	1.9 (8)	3.6 (22)	8.2 (38)
Malaria	-	4.1 (15)	2.8 (12)	1.3 (8)	0.6 (3)
All other fevers	25.0 (13)	20.5 (75)	27.2 (116)	19.1 (117)	9.7 (45)
Skin diseases	5.8 (3)	5.5 (20)	3.3 (14)	2.8 (17)	1.7 (8)
Kidney/urinal	-	-	0.2 (1)	1.0 (6)	0.4 (2)
Cardiovascular	-	-	-	4.9 (30)	14.9 (69)
Diabetes	-	-	-	1.1 (7)	3.9 (18)
Tumors/cancer	-	0.5 (2)	-	0.7 (4)	0.6 (3)
Pregnancy & birthinjuries, etc.	-	-	0.2 (1)	1.5 (9)	-
Gynecolocical disorder	-	-	-	4.4 (27)	0.9 (4)
Ulcer/gastric	-	-	-	11.8 (72)	9.7 (45)
Mental disease	-	-	-	1.1 (7)	-
Accident	-	-	0.5 (2)	1.3 (8)	0.6 (3)
Drug abuse	-	-	-	0.2 (1)	-
Rheumatism	-	-	0.2 (1)	3.9 (24)	10.1 (47)
Old age problems	-	-	-	-	10.3 (48)
Malnutrition	1.9 (1)	1.1 (4)	1.6 (7)	5.6 (34)	1.7 (8)
Other	5.8 (3)	7.4 (27)	7.0 (30)	8.8 (54)	5.6 (26)
Total	100.0 (52)	100.0 (365)	100.0 (427)	100.0 (612)	100.0 (464)

Source: 6)

Chapter 4: Survey Report: Public Health Care Service Activities in Bangladesh

1. Government Policies and Public Health Services

Bangladesh is administratively zoned into 4 divisions, 21 regions, 64 districts, 492 upazila[1)] (sub-districts), 4401 unions and 60315 units (villages). The organization of public health care corresponds to the administrative structure of the country. (Ref. to table 1[2)]).

Accordingly the health care services of Bangladesh consist of "Union Health and Family Welfare Centers" and "Upazila Health Complexes", both concerned with primary health care, while district hospitals and hospitals of medical colleges provide higher level services. Union Health and Family Welfare Centers work on the union level, Upazila Health Complexes on the Upazila level. District hospitals are associated with districts and the medical college hospitals with the Divisions.

Each public health service plays an allotted role. The Union Health and Family Welfare Centers are entrusted with ambulant medical treatment of simple diseases and injuries, prevention of epidemics, maternal and child health care, nutrition education and introduction of family planning. On the next level, the Upazila Health Complex is set up for inpatients as well as outpatients of more serious diseases and injuries. In addition, it also is in charge of implementation of maternal and child health care and family planning (including visiting service). More grave diseases and injuries are treated by district hospitals. Finally, on the highest level there are the medical college hospitals, conducting research, education and medical treatment.

As shown, the public health care services of this country are structured hierarchically with the medical colleges constituting the top level. Incidentally, below the union level some dispensaries can be found in some units. (Ref. to table 1)[3)]

Though Bangladesh government is endeavouring to establish the intended public health care facilities for each of the service levels, this goal is not fully realized yet in all administrative districts at the present stage. Presently there are medical college hospitals for each division (realization ratio 100%), districts hospitals have been established in 59 of the 64 districts (realization ratio of 92.1%). However, of the 492 "upazila" only 363 dispose over a health complex (realization ratio 73.8%), while of the 4401 unions about 2,200 have a "Union Health and Family Welfare Center" (realization ratio of

50.0%)[4]. The above describes the present situation of Bangladesh's public health service organization is visualized by table 1.

The realization ratio for the establishment of facilities of each of these health service types, from the division level down to the union, becomes significantly less with lower levels. It is natural that the regional population is not satisfied with the present situation. For the solution of this problem, the government of Bangladesh has to put full efforts into the implementation of a primary health care by constructing more "union health and family welfare centers" and "upazila health complexes". For the health care of regional populations the multiple activities of the upazila level health care services have a crucial importance as shown in detail in the following.

2 General Outline of the Public Health Services and its Problems

As becomes evident from the above explanation, the establishment of "union health and family welfare centers" and "upazila health complexes" as basis of primary health care measures, has become a main concern of the Bangladesh government. However, since the scope of both levels is quite different, they cannot be measured with the same yardstick. In the following we will try to introduce the standard features and functions of these services.[5]

In general, the "union health and family welfare centers" are housed in small-scale buildings, usually featuring 4 rooms, namely an examination room, a delivery room, a dispensary and a classroom. Normally, these establishments possess the minimum equipment necessary for medical treatment like scales, sphygmomanometer, hypodermic syringes, sterilization vessel, basic medicines and contraceptives. These centers ordinarily have a small staff of 4, consisting of a medical officer, a medical assistant, a pharmacist and a clerk.

Understandably with such limited staff, facilities, and equipment, it is only possible to treat out-patients on a very limited level. However, using the classroom it is possible to extend regular guidance in hygiene, maternal and child health, family planning, preventive inoculation and nutrition to the local inhabitants. In the final analysis it can be said that the Union Health and Family Welfare Centers are on the whole more involved in teaching the local inhabitants basic hygiene and other educational activities than in giving medical treatment.

The Upazila Health Complex exists in a variety of forms. In most cases these centers consist of an examination room, a surgery room, a dentist's office, a parturition room, a dispensary, a hospital ward for

the patients who need to be admitted, and a residential area for the on-duty staff of the center. In comparison with Union Health and Family Welfare Centers, the Upazila Health Complexes have a larger variety of medical instruments and medicines at their disposal. These Centers are also staffed by a larger staff to meet standard needs. (These centers have a bed capacity of about 31 places) The personnel includes a Upazila Health and Planning Officer (the Chief of a Upazila Health Complex), 6 administrative officers, and 40 medical assistants. (reference Chart 1). Of the medical assistants, 7 are specialized medical professionals (including professionals of internal medicine, obstetrician/gynecologists, and a dentist). There are also engineers and 33 support staff (of which 5 are nurses).

Upazila Health Complexes with their in-patient/out-patient services also differ from the Union Health and Family Welfare Centers by their large variety of equipment and numerous staff.

As a part of what can be called the Health Complex of Bangladesh, the activities performed at the Upazila Health Complex are not merely limited to the practice of medicine. There are many different branches within this Complex.(Further explanation will follow) On a field level, Health Assistants who belong to Upazila Health Complexes visit individual families at their homes in order to give guidance in hygienics, prevention of communicable diseases, and oral rehydration therapy. (reference Chart 1)[6]

Aside from the medical related activities practiced at the Upazila Health Complex there is a section for family planning activities. At the Upazila Health Complexes, a Family Planning Officer is the chief of the special group organization that occupies itself with the dissemination of family planning and maternal and child health education through home visits. This organization is also composed of a Family Welfare Visitor, a Family Planning Assistant,and a Family Welfare Assistant.(reference chart 1)[7] Through home visits the Family Welfare Assistant has the principal influence.

Up to this point I have explained the basic structure of the Health and Medical system in Bangladesh. Now I would like to take a look at its major problems and suggest ways to cope with them.

First of all, among the health and medical services various aspects are mutually related. Within the same country there is a social hierarchy formed around a medical service system that places the Medical Colleges (with their attached hospitals) at the top. (Reference Table 1) The connection between the other levels of the system are weak at the best. In order to perfect a plan to create cohesion between the various services, it is necessary to combine originality and ingenuity

and put them to practical use for building an intimate relationship between all levels of the health and medical services, from primary health care to first class medical treatment.

The second point is the participation of the local inhabitants. As I stated earlier, in the Union Health and Family Welfare Centers or the Upazila Health Complexes guidance about maternal and child health, immunization, nutrition and educational activities are an important part of the primary health care activities. However, participation in these programs by local inhabitants is not complete. The results of educational activities in this sphere has been very good. However, a policy that encourages participation by all local inhabitants is necessary.

The third point is the coordination of the Upazila Health Complexes for practical use. The Public Welfare Administration of the Ministry of Health and Population Control is divided into Health Policy and Family Planning Policy. As a result of that, for example, the head of the Upazila Health Complex (Upazila Health and Family Planning Officer) and the Family Planning Officer may work in the same Public Health Care Center and yet they are unable to unite the organizational activities of the two branches in order to have a more generalized effect. (reference Chart 1)

Therefore, (1) The double-tracked direct command system of the Upazila Health Complex makes it impossible to use as a system of organization. (2) Since both services, the Public Health Care Service of the center and the Family Planning Service of the center call on local residents independently and without any coordination of activities a Health Assistant and a Family Welfare Assistant might call on the same home. (3) The records of visits to local residents are kept separate. (4) The head of Upazila Health Complex is indifferent to family planning, whereas the administrators of the Family Planning side do not have access to support like information about family sizes and diffusion. These are the grave problems that exist within this health care complex.

For the citizens of Bangladesh this is a very unfortunate situation. The government of Bangladesh needs to make immediate efforts to resolve these problems.

The fourth point is the lack of adequate facilities, tools and materials, and staff. The government of Bangledesh wants to perfect its Primary Health Care facilities. But considering the rate of establishment of new Union Health and Family Welfare Centers as well as Upazila Health Complexes it can hardly be said that they are found all across the country. (Reference Table 1)

Areas that have institutions adequately equipped with tools and materials are rare. In the majority of the institutions it is common knowledge that there are not enough staff replacements, and vacant positions are conspicuous. Nevertheless, the Public Health Centers or Upazila Health Complexes must protect the health of a great many local inhabitants.[8)]

In order to instigate visible improvements in this situation, the government of Bangladesh must make even greater efforts than it has made up until now to improve the situation. At the same time a greater collaborative effort must be expected from the nation as a whole. Because presently the national financial situation is very acute.(Reference Chapter 2) In part because self-reliance has its limits.

Nevertheless, the point I want to emphasize here is the role of collaboration. As stated up until this point, the Primary Health Care of the Bangladesh public health care system is closely attached and influenced by the affairs of the local region where it functions. Accordingly, even when limited sums have been committed by collaborative efforts or offers to build large hospitals and supply all the latest tools and equipment have been advanced, up until now the results have not been notable. It would be more effective to use offers of limited financial aid to directly support the primary health care system. Facilities and tools available to Public Health Care Centers or Upazila Health Complexes could be perfected. Educating future health care personnel would also be a good overall vehicle of support to the health care system.

The fifth point is the training of more nurses to be the nucleus of the medical system's staff. In 1987, there were 16,929 registered doctors in Bangladesh. For the same year, the total number of registered nurses did not exceed 7,000. Normally, in most societies doctors form the summit of the health care practitioner pyramid. However, in Bangladesh the exact opposite phenomenon exists. The influence of Islamic tradition and teachings which prohibit women from working outside the home is largely responsible for this situation.

Activities on the part of medical practitioners engaged within the Public Health Care system do not encourage the use of nurses as the nucleus of the health care system. In order to create a functioning health care system, nurses must be quickly integrated within the system as its nucleus.

3 Urbanism and Slums

(1) Poverty and Urbanism

The urban population of Bangladesh did not account for more than 16% of the population in 1981. It cannot be said that such a small percentage of the urban population constitutes a grave problem for the socio-economic structure of Bangladesh as a whole. However, Dhaka Municipality has a concentrated population of 2.82 million. If the surrounding suburban areas of Narayanganj Municipality, Gulshan Municipality, Mirpur municipality and Tongi Municipality are included in this calculation the total population for the metropolitan area reaches 3.44 million.(Or 25% of the total urban population). During the 7 year period from 1974 to 1981 there was an influx of population to this five city region that increased the population by 1.14 million. Located in the Southeastern part of the country, the population of the second largest city in Bangladesh, Chittagong was 1.39 million in 1981. Bangladesh with its total population of approximately one hundred million has only three cities with a population over 500,000. They are metropolitan Dhaka, Chittagong and Khulna (po. 650,000, in the Southwestern part of the country). In these three areas there has been a sudden increase and influx of population creating population centralization.

The average yearly net per capita income for Bangladesh during the period covering 1987/88 was the exceedingly low average of 5,249 taka (U.S.$ 163). Looking at the situation in detail Chittagong had the highest average, with individuals earning approximately 8,748 taka a year.(U.S.$ 271). It was followed by Dhaka where the sum was a lower 5,481 taka (U.S.$ 170). Places like Pabna where the average yearly net per capita income is the lowest at 3,700 taka (U.S.$ 115) show that there is not a very big gap in the per capita income of the different regions. These figures show that Bangladesh as whole has a very low income level and poverty is a direct result of this situation. However, in places like Dhaka Municipality and nearby Narayanganj Municipality where local commerce is brisk and the prices of commodities higher, it is easy to find individuals with average yearly incomes on par with the U.S.$ 500-1000 average of other Asian countries. It is not yet possible to have detailed statistics on this enormous difference in income. It is anticipated however, that this difference will be attributed to differences within the class structure.

The generally low average yearly net income of the people of Bangladesh is also evident in the construction of their houses. 46% of all the house in the country are made of straw and bamboo. Even in the metropolitan areas 34% of the housing is made from straw and bamboo (Census 1981). These very basic dwellings where half the population lives, are not made to endure the wind and rain. Even without conducting on the detailed investigations the situation is apparent to simple observation. In Dhaka municipality the price of materials to build one slum house is approximately 1,000 taka. This is 1/5 of the average

yearly net income for one adult, a considerable sum. The weather cycle, with its five month period of relatively moderate temperatures with little or no rain from November to March and from April to October the seven month period of hotter temperatures and humidity, explains the practicability of the housing situation.

Geographically speaking, Bangladesh is situated in an area that is frequently attacked by large scale floods and extremely powerful cyclones. The damage caused by cyclones is generally limited to the prefectures surrounding the southern coastal region. During the regular yearly period of flooding, at times as much as 1/3 of the country is under water. Due to these floods and cyclones, the simple structured flat-roofed houses receive great damage and must be repaired and rebuilt at great cost. (In Bangladesh, elevated first floor style housing is not in general use.)

Bangladesh can be looked at this way. On the one hand,the population of the big cities is rapidly moving towards urbanization. Whereas on the other, the overall population has a very low average yearly income and slums are a condition that remain throughout the country.

(2) Urban Problems and Slums

I would like to analyze the urban problems of Bangladesh, that is to say its slum problem using Dhaka municipality as an example. Dhaka municipality is located on one of the banks created by the Burhi Ganga River, a tributary of the Brahmaputra River. Earth and sand have piled up in the river bottom creating a water level that is almost equal to the ground level. This means that whenever it rains most of the city becomes submerged. The government has built an embankment along the rivers edge, installed drainage pumps and tried various means to protect Dhaka municipality from the river's floods. It is understandable that Dhaka's biggest problem is how to protect the city and keep it functioning during the annual floods.

At various levels the infrastructure of Dhaka Municipality is insufficient. This is its second major problem. Aside from the main trunk road in Dhaka, the conditions of almost all the other facilities that make up an infrastructure are sorely inadequate. That is to say that the basic standard of facilities and services that constitute an urban infrastructure found in other Asian countries such as waterworks, electrical power, secondary roads, means of transportation for students and workers, means of transportation for business commodities (especially trucks),telephone service and related resources, television, radio, newspapers, magazines and related mass media resources, movie theaters and related educational and amusement facilities, markets, stores, warehouses and related distribution resources, Public Health

Care Centers, primary schools, public hospitals, private hospitals, etc., are on the whole not maintained or functioning properly in Dhaka. (Even the government must lease some of its office space from civilian sources.) For this reason in comparison with other urban areas Dhaka is a relatively quiet city. The usual din caused by the daily migrations of people and commodities on bicycles and other vehicles used by the mass media are conspicuously absent. In the downtown market district a variety of small shops, blacksmiths, etc. that bring to mind images of the middle ages, still exist. Adjacent to this is a larger scale market set up under a tent where fabrics and daily sundries are sold. In the business center along Dhaka's main street high rise business office buildings and apartments are hemmed in by slums where the houses are made of bamboo and tents. The contrast between the two extremes is striking. There exists a conflict between the facilities and tools available to the affluent and to the general populace. Old tools and facilities exist in confusion with modern tools and facilities. This causes parts of the population to be deprived of their right to use facilities that constitute the community infrastructure.

The third major problem of Dhaka Municipality is the existence of extensive slums. In Bangladesh the slum community is particularly unstable. The slums in Bangladesh are representative of its poverty ridden production structure. When analyzed, the classification of Dhaka's slums can be divided into six major parts: (1) squatters on state-owned property, (2) colonies of displaced people from the war of independence and other religious conflicts, (3) slums leased on privately owned property, (4) decrepit buildings under lease (5) old mideavalish style stores and residences on streets that exist from pre-colonial Dhaka, and (6) temporary structures built to house seasonal migrant workers. Among these six, the major problems are numbers (1), (3) and (4). The reason for this being that in the case of number (6) the situation is only temporary. As soon as the work is finished the slum automatically disappears with the workers. The stores and residences in number (5) are an important part of the economic structure of under-developed Bangladesh and therefore Dhaka. When the country becomes more affluent through urban planning and economic conversions the social class of people living in these areas will improve their situation themselves. The situation of the people in case number (2) is unique and needs governmental intervention to be resolved.

The Center for Urban Studies, University of Dhaka compiled statistics in 1983 that showed that slums exist in 771 places in Dhaka municipality. Among these, 109 are on state-owned property, 643 are on leased land and in 19 cases the question of property rights are under pending legal dispute. Excluding the cases under dispute, slums on leased land account for 83% of the total. In square meters, the area occupied by slums on leased land equals 64% of the total. From this study it has been understood that slums on leased land overwhelmingly occupy the largest percentage. (Reference Table 2) In 1988 a new survey

showed that slums had increased to 1,125 places. (Survey Dhaka Municipality) The geographical distribution of Dhaka Municipality's slums in 1988 can be roughly divided into two as shown on Map 2. When viewed for the first time, this map gives the impression that slums are developing over the whole city. They create an omnipresent periphery around the city. Even in the business center, the heart of the city, a large number of slums can be found. If Map 2 is placed on top of Map 3, which shows the flood patterns in Dhaka, the basic character of Dhaka's slum distribution becomes clear. Dhaka's slums are located in areas which are inundated regularly by the common flood pattern. The exceptions to this rule is the North-West sector where the Diet Building, Supreme Court and the living quarters and sports center for civil servants are located. After independence new slums developed on government owned land in the newly developed areas of the city. A vicious circle developed between local governing authorities and the squatters when it came time to build community facilities on occupied land and coercion was needed to clear the area. In one investigation it was shown that local governing authorities used duress to empty a slum. Within the morning half of the homes of the densely populated Agarugaon slum area were destroyed. The squatters held a protest rally.

Thus a large part of Dhaka's slums were on private land. The fact that a large portion of the slums are located on flood land is representative of the situation. Slums on privately owned land must be leased. The price varies according to the location. Areas where flooding is not too severe are expensive. Areas that are severely flooded are used only during the dry season by migrant workers and the lease is calculated accordingly. Vacant land is divided into plots. The tenants have to purchase the necessary materials to construct simply living quarters. For example, if a landlord leases a single plot (which is approximately $10m^2$) at a monthly rent of 200 taka and if he has approximately 400 plots to rent, he can earn the extraordinary monthly income of 80,000 taka (approximately U.S.$ 2,286) In Bangladesh, where the lack of housing is a big problem, managing a slum is a very good business. In the power play between the landowner and the tenant the landowner generally has the upper hand. If the landowner wants, he can have a tenant driven away and replace him with someone who will pay more. Also, in flood-prone areas people have to evacuate during months of high river levels. Fires and arson are frequent in the slums (There are a variety of reasons behind the arsons), for the residents of slums, whether it be on government owned land or on privately owned land the living conditions are unstable for the above mentioned reasons.

According to a 1988 survey, the slum population of Dhaka municipality was 878,300 people. If small scale slums of less than 10 households are also included, the total population is approximately 1 million. The slum residents are employed as rickshaw drivers, assistants for various other forms of transportation, construction workers, day

labourers in factories, loading and unloading cargo in the ports and train stations, etc. Their income is generally low and unstable. Commerce and industry in Bangladesh are undeveloped, apart from agriculture employment opportunities are very limited. Nevertheless, as stated previously, in Dhaka municipality there are a great many old style forms of business still in existence. On the one hand, this is supported by a limited economy which means limited wages. On the other, due to the limited job opportunities many people must participate in work sharing systems. In small enterprises dealing with the production of commodities or transportation, a number of people are used to do small quantities of work. This type of economic system is ineffective due to stagnation caused by work sharing and low wages. Also, in Bangladesh, it is common to marry early. The rate of participation by women in the workforce is strikingly low. Young men marry as soon as they have sufficient income and consequently have to carry the heavy burden of wife and children support. Furthermore, the recently increasing distribution of manufactured goods in the market creates further spending possibilities. Yet on the other hand, the prices of imported goods have been raised because of Bangladesh's weak currency. And dwellings where the threat of arson, fire, being driven away from one's home, etc.put also a great stress on family savings. In modern day Bangladesh, where the economic system is based on an increase in the number of people flowing into the urban areas who want to receive cash incomes, the low productivity work sharing system is on the rise. The burden of supporting a family is growing along with the size of slums and the cost of living. The stockpiling of goods for future needs cannot occur in this urban environment. All of these factors cause the regeneration of poverty. In a society like Bangladesh where economic means are strained to the limit, it is always the weakest members of society, the women and children of the slums, who's life and health are gnawed away by the circumstances. In Bangladesh where the participation of women in the workforce is very low, women work on construction sites and roads breaking stones to prepare for pavement making. This is the ultimate limit in poverty induced employment.

(3) Population Migrations and Growing Push-out Factors of Rural Workforce

The 1981 census surveyed the lifetime migration patterns of the people of Bangladesh. According to this survey, the rate of lifetime interprefectural migration is 4.5%. The fact that the rate of urbanization is so low is in part due to the stagnated nature of the Bangladesh society. From the railways to major roads, including the flood zone areas with its innumerable small tributaries, the transportation system between provinces is naturally obstructed. For this reason the transportation of commodities and the migration of people is not a simple task.

However, since W.W.II there have been two incidents of great

upheaval causing large scale migrations within Bangladesh. The first was during the 1947 Independence unrest, and the second was during the 1971 war of Independence from Pakistan. During both of these upheavals the main reason for migration within the population was religious. The Hindu part of the population immigrated to India, and the Islamic part to Pakistan. Nevertheless, on the whole Bangladesh is a country that has had very little experience of migration within the population. From 1979, after the period of the 2nd Oil Shock, the number of people from Bangladesh who went to work overseas in the Middle East reached 500,000.

Although historically Bangladesh is a country that has experienced great migrations within its population, there are various reasons as to the present low migration rate within the population. The first reason is as mentioned before, the lack of development of trunk roads and waterways and the means of transportation between them. During the rainy season, due to high levels of water some areas become isolated. The use of small boats is limited and the larger level ferry boat service is for the most case not well established. During the dry season when the water level of the rivers is low, the use of middle and long distance traffic is troublesome. In cases where there is fighting over land, it can become dangerous to use another persons land as a transportation thoroughfare. The second reason is the limited technical knowledge in agricultural production methods, requiring a large number of young men as workforce in agriculture. Generally, in other S.E. Asian countries, even when the technical knowledge was at a low level it was common for the women to leave their household duties to participate in field work. In the case of Bangladesh it is very unusual to find women working outside the home. In some cases it is possible to find women making jute fiber, but this is the exception and women are almost never found working in the fields. It is generally accepted, that women who work outside the home are forced to do so because of poverty. Bangladesh's low level of industrial technology and the fact that women cannot participate in the work force cause young men to be tied up working in agriculture. The third point is the link between the threat to public peace and order and its relationship to the unstable aspect of landholder's rights. In order to maintain peace in the family and preserve landholder's rights the necessity for the young men of the family to stay and work the family land is increased. Disputes over land are extensive. Because there is no well established system of settlement within the governmental machinery, families without many male members have no means to confront incidents of property infringement. This is why having many male family members is beneficial . The fourth point is the weak economic link between urban and rural areas. Urban areas receive more financial input directly from overseas. Self-sufficiency is strong in the rural areas. For this reason the interchange of products and information between the urban and rural areas is very limited. In S.E. Asia, from quite some time ago the people in rural areas had battery powered radios. And as soon as electrical power reached their areas televisions were disseminated. Afterwards, information from

home and abroad was at their disposal. In comparison the dissemination of radios in Bangladesh is still very limited. The common denominators of an infrastructure such as electricity, main roads, waterworks etc. are still not well developed in Bangladesh. Urban and rural areas are mutually estranged from each other. The low rate of migration can be based on this lack of communication with the outside world. Excluding instances of natural disaster, the disturbances of war or other emergencies, in peacetime Bangladesh the rate of population migration is comparatively low. The aforementioned four points are the central reasons behind this situation.

However, recently there has been a change in this situation. There are a variety of new factors causing this. First of all, poverty in rural areas puts limitations on the population the land can support, especially in the large marshlands of Bangladesh where young male family members are necessary for the protection of life and property. As the population increases so does the subdivision of the land. Since the second war of independence with Pakistan, the cycle of inheritance has gone through 2 generations and is currently progressing through the third. Because the average rate of life expectancy is so short in Bangladesh, people marry at a young age, creating a very short inheritance cycle, which in turn means that the subdivision of the land also progresses very rapidly. Thus the amount of land that each household can work on is reduced with each generation. Presently, because the amount of workable land has been scaled-down, a surplus of labourers and a reduction in income has started. Poverty is quickly regenerated under these conditions. And it cause of new labour migration.

The second point is the development of political stability and the internationalization of the economy. Dhaka municipality as the major city, is the nucleus of accelerated economic expansion. Especially since 1988, foreign investments and production commissions have increased. The growth in the manufacturing industry and commerce group has been remarkable. In the textile industry alone in the last three years employment has increased by 200,000 to 300,000 people. The difference between employment opportunities and income for people who live in the urban areas and in rural areas is widening. Accordingly, the distance prospective migrant labourers are traveling from the provinces to work in the urban areas is also increasing.

The third point is the progress in the country's financial development due to foreign aid. More than 50% of the finances allotted for public work by the government of Bangladesh come from foreign aid. Foreign aid is helping to establish a viable infrastructure, gives food, and has helped to implement improved medical care and related assistance projects. Due to this aid, many related programs and concentrated employment opportunities increase in Dhaka municipality. Consequently the economic expansion of Dhaka municipality is expected to continue. Of the above mentioned three primary factors, the

migration of population in Bangladesh is increasing rapidly. And Dhaka municipality has become the focus of migration.

4. The Position of Women in Society and Mother-Child Health Care

(1) The Present Situation for Women in Bangladesh

Viewed from an international perspective, the rate of participation of women in the work force in Islamic countries is low. Therefore, the number of women working outside the home is strikingly low. This impression is supported by official statistics, as well as by simple observations by foreigners who have travelled in the country. However, nobody doubts that the women of Bangladesh are contributing a great deal to the establishment of the nation and the development of the family. The improvement of mother-child health care is an essential element in the over-all improvement of the population. Women play the essential role in this through childbearing and child-rearing. There is a world wide tendency for women to take jobs outside the home when family finances are unstable. In order to understand the social role of women in Bangladesh, let us examine the data from a variety of studies by the government of Bangladesh.

(i) According to the 1981 population census the sex ratio is 106.4. The 1987 survey on the vital registration of the population (BDSVRS) puts the figure at 106. It was thought that the young male population would be larger but in fact it is about equal.

(ii) According to the 1981 census the average lifespan for women is 54.4 years and 55.3 for men. In the 1985 survey on the vital registration this figure was 54.6 for women and 55.7 for men. Whichever suvey is used, women's lives are shorter by 0.9 to 1.1 years.

(iii) In 1980 the average age for marriage in women was 16.4. In 1986 it became 17.5. Compared with international averages this is a strikingly young age for marriage. Young marriages are one of Bangladesh's distinctive characteristics. The average age for men was 24.9 in 1980 and 24.5 in 1986.

(iv) In relation to number (iii), the number of women between the age of 10 and 19 who are married was an extremely high 31.9% in 1981. In 1974 the percentage was 33.8. It can be said, that the percentage hardly declined during this seven year period. In Bangladesh by the age of 20, 1/3 of all the women are married.

(v) Directly related to the low marriage age of women in Bangladesh are the statistics on separation immediately after marriage. For women between the age of 15-19, 2.5% of total population are separated or divorced (1981 Census). Moreover, women between the ages of 15-19 are the biggest share of separation from husband. If all women between the ages of 15 to 24 are included, the share of women living separated from their husbands is 61.5. These figures show that there are many unstable families due to divorce at a young age.

(vi) The great difference in age between spouses in Bangladesh is a distinctive feature of its society. There is generally a 10 year age difference between men aged 30-54 and their spouses. For men over 55, the age difference increases to 10 to 15 years. For younger men aged 20 to 29 the difference in age with their spouses peaks at about 5 years. Recently the difference between the ages of the spouses is shrinking.

(vii) Looking at the level of education in women, according to the 1981 Census 81.0% of women over 10 years old are illiterate. Compared with international standards this is a relatively high percentage. The figure jumps to 83.7% for women living in rural areas and improves a bit to 65.0% for women living in urban areas.

(viii) One index of women's position in society is the rate of participation in the work force. The 1981 census records a strikingly low 4.3% for Bangladesh. In comparison, other Islamic countries in Asia show higher percentages, 27.9 in Indonesia, and 26.0 in Malaysia. In Bangladesh, whether in urban areas (5.5%) or rural areas (4.1%), the rate of participation by women in the work force does not change.

(ix) Regardless of the low percentage of participation by women in the work force, what type of work are the women who are employed outside the home doing? According to a survey on labour conducted in 1985/86, 38.4% of the women employed outside the home are working in service related fields. After that 26.3% work in the manufacturing industry and 11% in agriculture and fisheries. In fields such as sales (4.4%), office work (3.3%), technological specialists (3.3%), management and administration (0.1) where the overall numbers of people employed is already very small women form a miniscule part of the workforce. The lack of participation of women in the labourforce, especially in agriculturely related jobs is not only a problem of statistics, but a real phenomenon in Bangladesh. The fact was also supported by our survey.

(2) The Important Role of Women in Society

Analyzing the various aforementioned statistics, the life of the

women of Bangladesh consists of a childhood with little or no formal education. Adulthood comes early with the marriage to a man generally about 10 years senior. Most of the women of Bangladesh have no experience in employment and concentrate on household affairs while bearing approximately five children during their lifetime and generally die before their husbands. In some cases, separation will occur early on in the marriage and the women will be forced to go against the generally accepted social norm and find work. Concentrating on housework after marriage is not a characteristic that is unique to Bangladesh. In the occident, as well as in Japan, this was one of the steps to economic development. However, countries where historically women are not given basic education because they are female, are limited in number. Presently the numbers are even smaller. Higher education for women facilitates good upbringing and the acquisition of knowledge about life. It allows the girls to make simple decisions in their parents' place when necessary to help maintaining safety of life and propertie of the family. When a girl becomes an adult, marries, and has a family of her own, higher education will help her plan meals that are balanced in calories and nutrition, which in turn will protect the health and stamina of her entire family. Once she has children, she will play an important role in the child's growth from initial basic infant hygiene to maintaining the child's physical stamina. In order for economic expansion to proceed rapidly, it is necessary to improve the overall health of populations in less-developed countries. Physical stamina and knowledge are the key to a superior work force and economic prosperity. Good judgmental abilities, the capacity to adapt, and competence are all more important to industry than a large work force. The basic nature of any society is formed during infancy and childhood. Therefore in the interest of the family and of the country it is indispensible that women as future mothers of the country, receive basic education.

(3) Socio-economic Restrictions of Women

In Bangladesh there is a big difference in the social position of men and women. More than a question of the difference between the socio-economic division of labour, it is a question of the different values and social positions allotted to men and women as human beings. This discrimination is based upon a variety of socio-economic factors. Namely, (i) the marriage system, (ii) the system of inheritance, and (iii) public law enforcement. I would like to examine the above-mentioned three factors in some detail.

(i) First of all, the marriage system in Bangladesh requires women to bring a large sum of money as her dowry into her marriage. There is no similar expense for the man's side. The marriage ceremony consists of festivities at the woman's and the man's home separately. Of the two ceremonies , the woman's family will probably spend more money. The amount of money spent on the dowry and marriage ceremony will increase with the father's income and social position. A woman

cannot achieve a good marriage on a small dowry and is likely to receive cold treatment from the husband's family after the marriage. Marriages arranged by the parents are more common than marriages where the bride and groom choose each other. If the dowry is less than promised both the bride and her family face reproach. In some cases the bride will be persecuted and even divorced over the size of the dowry. In Bangladesh it is almost impossible for a woman who has been divorced to remarry. The family name is soiled and the woman has no other recourse but to return to her family home and live in secrecy. Also, until the bride has given birth to her first son she is not given full status as a member of her new family and will be discriminated until a son is born. The expense of raising a daughter during childhood, the large amount of money necessary for marriage and the expense in case of divorce or failure to deliver a son all mean that from the day they are born until the day they die daughters cost their parents a lot of money. This is why in poor homes the expense of raising and educating a daughter are kept to a minimum. Early marriage and the quick birth of the first son are prayed for. These conditions all cause the early marriage of women, the high illiteracy, physically immature mothers, and low birth weight in newborns.

(ii) In the case of inheritance, the difference in the way men and women are discriminated against is great. In Bangladesh men have the right to inherit equally. Women have the right to inherit only 1/2 of a man's share. Especially, in areas where agriculture is the main source of income the tendency to give all the land to male heirs and moveable property (precious metals, commodities, cash) to women is common. When it comes to inheritance the small details vary from case to case. However, social tradition makes it difficult for a woman to actually legally inherit an estate. In Bangladesh, where the average net income is U.S.$ 160 and 85% of the population live in rural areas, the average family lives on an ultra small farm. Regarding inheritance, joint management under an extended family system is common instead of dividing the land up in to ever smaller pieces. In the extended family system the members are dependent upon each other for mutual aid. In this case the family fortune is the property, the income earned from it and the tools necessary to earn it. Among this there is not much for an individual women to inherit. In the same vein there is not much opportunity for a woman to earn her own income or accumulate wealth. Her economic position is very low.

(iii) In places where public peace and safety are not maintained the position of women is weak. In Bangladesh general poverty, instability in the land owning rights of farmlands, an administrative system that does not function, and common socio-economic crimes are caused by lack of public safety. Under these conditions it is very difficult for a women to leave the extended family system and live by themselves independently. Even if a woman tried to take her property and live independently she would probably be robbed. It is a generally accepted

norm that women are never employed by others than their own family. Women generally cannot walk around or go shopping alone, because it is dangerous. Within the extended family the male members protect the property and lives of the female members. Since the government of Bangladesh has not established a system that protects the peace and safety of all its citizens, it is necessary for the male members of each family to be their own self-vigilance organization. Similar forms of self-vigilance exist within different types community groups such as villages and private companies. If the government were able to guarantee public safety and peace, it would be welcome by women who need to be independent due to separation or divorce. This would help women to attain good jobs with proper salaries and contribute to women's independence and development. However, this is presently not the situation. The problem of public safety regulates the very low position of women in the society of Bangladesh.

5 Conclusion (Problems and Countermeasures)

In summary the present grave population problems in Bangladesh have many facades. The problem extends from traditional living styles caused by natural conditions to the efficacy of population planning and its various relations with politics, economics and social value systems. The results of this present grave situation are behind the reproductive mechanism that has immature mothers bearing low birth weight babies throughout Bangladesh. Statistics on population indicate conditions of poverty as a primary factor behind high birth rates and high infant mortality rates. This is the present situation in Bangladesh. In the following section I would like to analyze some aspects of the population problem and would like to propose some ways of improvement of the public health care system in Bangladesh.

(1) Modernization of the Administration of Public Health Care Services

Bangladesh won its independence in 1971. As a nation, it has only 20 years of history. Before that, until 1947 Bangladesh was an British colony with a government and economy managed by Hindus. During the period covering 1947-70, the Islamic traditionalists pushed for succession and received political and economic management from West Pakistan. It can be said that then Bangladesh became a semi-colonized state of West Pakistan. Under colonization the Bengalis were forced to grow tea and jute as cash crops for their colonizers. Thus, for a long period of time the main elements of Bangladesh's politics and economy have been influenced by outside power. However, the history of the Bengal race with its independent culture and a local economy centered around rice growing population supporting rice growing, is a long one.

With independence in 1971 came freedom from political and econom-

ic supervision. All at once all the politicians, top management and technocrats left the country. Bangladesh temporarily suffered a deficiency in capable people. Until 1981 the country was plagued by repeated coups d'etat and presidential assassinations. There was no political stability and administrative organizations were insufficient. Positive plans for economic development have been implemented since the beginning of the 80's. Priority has been given to the development of infrastructures in industry and manufacturing while the infrastructure of social institutions like education and public health remain neglected. Bangladesh has a history of having a Public Health Care Administration that is not sufficiently organized. Basically the present level of organization and Public Health Care is not much different from its colonial period. Of course, since 1971 and independence, the government has tried to establish a number of Public Health Care units. A few hospitals have been constructed with funds from private trust foundations. However, this only touches the population living in the surrounding area. This is why the range of influence of the Public Health Care system is grossly insufficient. For a large part of the population access to modern medicine and Public Health Care administration is difficult. Even without citing official statistics the numbers of illness and death resulting from this situation are evident. Nevertheless, if modern technology were employed and the awareness level among bureaucrats could be raised, it would be easy to implement widespread improvements. It is necessary to increase the basic local units within the Public Health Care system and modernize its administration.

Continuing, the reason that public health care is so sorely inadequate is not just a question of finances. There are a variety of socially related reasons. For example, in most countries nurses have a high social standing. In Bangladesh they do not. Morever, there are few women who want to be nurses and almost no standard care is served. There are very few women specialists versed in knowledge about health and hygiene to give aid and education to the mothers of future generations. It is a doctor's duty to maintain the life and health of all patients regardless of their financial state. This is not the case in Bangladesh. In countries where the illiteracy rate is high, pictures and photos are used to convey educational propaganda on health and hygiene. For the most part this is not being done in Bangladesh. It is important that easily diffused mass media tools like newspapers, television, and radio be used to teach health and hygiene in an easy-to-understand fashion. The quality of the administration of public health care in Bangladesh is wholly insufficient. A healthy life is a basic human need. In order for a people to have trust in its government the quality of the administrative services must be improved. The public health care situation in Bangladesh is an urgent problem in need of quality modernization and serious attention.

(2) Implementation of Mass Education and the Betterment of the Basic Health

Analyzing Bangladesh's present Public Health Care situation a number of vicious circles become obvious. For example, poverty leads to malnutrition which is linked to poor hygiene which is connected to illness. Illness in turn is related to ignorance which can be connected to not getting medical treatment on time which in turn can lead to death. In order to break this vicious circle, studies need to be carried out on how to improve the overall medical treatment and hygiene of the entire population. The socio-economic effects of poverty are so great that I cannot take the opportunity to discuss them here. I would like to consider the results some other countries have had in dealing with the outbreaks of illness and death. The concrete measure taken to deal with these problems differ from country to country depending on human customs and the environment. On the environmental side the eradication of malaria, mosquitoes, and cholera are the important issues. It is important for people to be able to protect their bodies from the negative aspects of the environment. The level of medical technology necessary to deal with these type of environmental problems exists and would not be a difficult problem to tackle. In the case of Bangladesh dealing with the environmental problem is largely an economic problem. Many developing countries are already experiencing positive results in dealing with similar problems.

However, when it comes to human customs it is not so easy to take measures, applied successfully in one country and expect them to work the same way in another. In the case of Bangladesh, the best way to deal with the main intellectual and physical barriers causing illness and death would be to implement a program of mandatory free elementary education and free school lunches. The main reason behind the low literacy rate and the high dropout rate for elementary school children in Bangladesh is undernourishment. This is a great loss for the future generations of Bangladesh. If for example, at the primary school level, the students were given one free meal a day this would be a great contribution to improvement. Not to mention the revolutionary effect that it would have on attendance by children from poverty stricken homes. This would be a good opportunity for children to have first hand experience in proper nutrition and hygiene. Naturally this would be quite an expense for the government of Bangladesh. But it would pay of in the short term future with a healthier labour force and a potential reduction in Public Health Care. Preparing the lunches would create employment opportunities for women and give the citizens increased confidence in their government. The initiation of free school lunches and related population, public health and medical treatment programs are all within the possibility of the government of Bangladesh.

(3) The Economic Betterment of Women and Plans for the Improvement of the Position of Mothers

In comparison to other developing countries, Bangladesh has a long history of family planning. Nevertheless, the overall birthrate and infant mortality rate is high. The average citizen does not get enough to eat. Undernourished and sick mothers give birth to low birth weight babies. The average lifespan is very short, with women living 1.1 years less than men (1985). These points indicate the grave aspect of the population problem in Bangladesh.

In Bangladesh regardless of education or place of residence marriage at a young age is the norm. It is common for girls to marry and give birth between the ages of 13-15. Physically and mentally immature, these girls become mothers and continue to bear children until menopause. After marriage in Bangladesh the women stay at home and concentrate on bearing children and housework. Outside employment is rare. In a country where 80% of the population lives in the countryside, women do easy farmwork around the house while the men work the fields. Women's socio-economic lives are very limited. They have little contact with outside society or opportunities to acquire knowledge. In this environment oblivious to changes in the world an ignorant and uneducated mother, who's only role is to bear and rear children and protect the family health and hygiene, life will be consumed by too many births at an early age. There is little opportunity to profit from modern science and economic development.

Mothers play an important role in improving the population problem. In order for mothers to achieve this role they need to have a bigger voice in family affairs. In Bangladesh where a woman is not fully recognized as part of the family until she gives birth to her first son, to have economic power would be one way to increase her voice. Women with specialist and technical qualifications could find employment and financial security while playing an important role in modern society. Staff of a daycare center, elementary school teacher, Public Health Care system doctor or nutritionist, hospital nurse, office worker for a bank or company, airlines stewardess, beautician, broadcasting announcer, receptionist; women could share all these roles with men and make great social contributions. Women with education and qualifications are especially fit to do jobs in cases where other women and children are involved. Women are needed to work in family planning, prenatal hygiene and medical care, as nurses and doctors, nutritionist and public health care assistants. Technology is progressing at the speed of light in our modern era. Women specialists with education and qualifications could help the whole socio-economic structure of Bangladesh take a flying leap into the future through the betterment of the national lifestyle and individual family finances. The population problem in Bangladesh could see a new day by allowing women to have jobs, receive an income, possess property and have wonderful children.

(4) Movements to Improve Life in the Immediate Environment in Cities and Villages

If you compare the lifestyle of people in other S.E. Asian countries and that of the people of Bangladesh, taking into account the variations in climate, people in other S.E. Asian countries have found a number of ways to improve their lifestyle. For example, rainwater is gathered in water jars or tin barrels to use as water for daily use. The houses are constructed with elevated floors to protect against flood waters and infectious bugs. Small 2-3 person boats are used to navigate floodwaters and riverways. Simple bamboo or straw sandals are made to wear to protect feet from water in low level land and high water areas. Papayas, bananas, mangos and other fruits are grown in between the farm plots. Chickens and ducks are raised for added nutrition. The stalks and fruit of water plants are used as food. Increased income allows the people to stop going barefoot and wear slippers or tennis shoes. All of these examples could be put to use in Bangladesh. These small efforts have improved the hygiene and nutrition of the people while protecting them from infectious diseases and epidemics. In S. Bangladesh where cyclone winds cause havoc it would be good to implement similar steps. Using the experiences of others, at little cost, these are ways to improve immediate lifestyle while increasing the family income, health and hygiene. If a lifestyle improvement movement could be implemented on a large scale, nationally everyone's income, health and hygiene would improve.

1) There are 460 Upazila. If the 32 Thanas (administrative sections) are added this makes 492.
2) Table 1 is based on various data and materials taken from surveys conducted on location. Moreover, some natural discrepancies are to be expected when comparing them with other data and materials. However, I do not think that there is any error in conclusions made based on their indications.
3) It was not possible to find detailed materials on postings to Dispensaries.
4) Because of details mentioned in (3) it is not possible to confirm the realization ratio for dispensaries.
5) The scale, tools and materials and staff of the Union Health and Family Welfare Centers as well as the Upazila Health Complex vary widely. Nevertheless, most Upazila Health Complex have 31 approximately beds.
6) The number of Health Inspectors, Assistant Health Inspectors and Health Assistants that the Upazila Health Complex will guarantee lodgement for differs from place to place.
7) Only one Family Welfare Visitor, Family Planning Assistant is appointed for each Union, and one Family Welfare Assistant is appointed per unit.
8) Assuming there is approximately a population of 100 million in the total country, that means that for each upazila area there is a population of 200,000 (= 100 million /492 upazila). Keeping these figures in mind it becomes apparent that the Upazila Health Complexes are medically responsible for a very large number of inhabitants.

Table 1 Public Health and Medical Service System [1]

Region Division	No. of Divisions	Type of medical treatment agency (b)	present number of agencies	Realization ratio (%) (b/a)	Goal and role
Total Country	1	Medical colleges and their attached hospitals	8	100 [2]	* the best medical treatment agency * research, education, medical treatment
Province	4				
District	64	District Hospital	59	92	relatively high level of medical treatment
Upazila	492 [3]	Upazila Health Complex	363	74	* primary health care * general health care for the sick and wounded (in and out patient) * home visit service (Public Health Care section and Family Planning Section)
Union Village	4,401	Union Health an Family Welfare Center	approx. 2,200	50	* primary health care * general health care for the sick and wounded (out patient) Mother-child health care, nutritional guidance, family planning
Union	60,315	Dispensary			

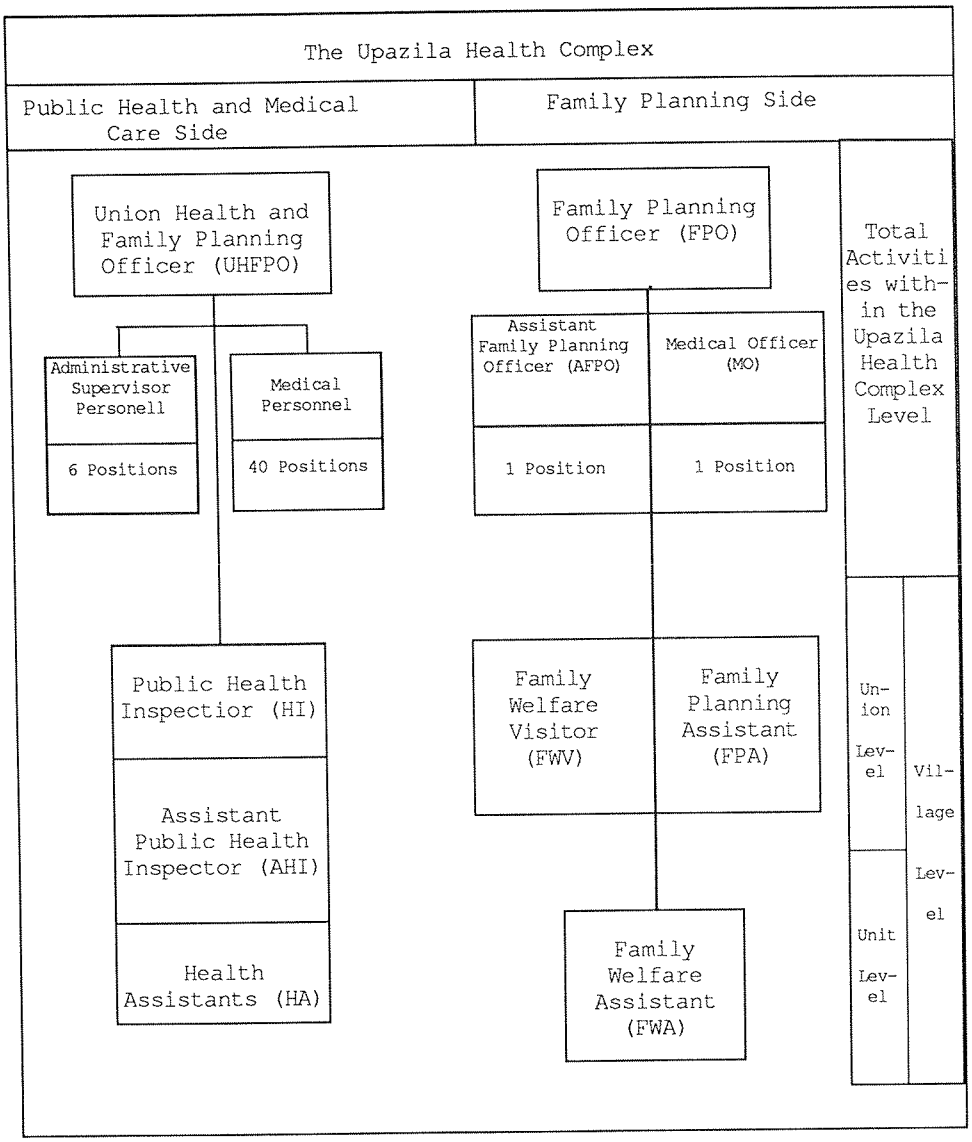
1) The numerical values quoted in this paper are the results of various surveys conducted in the actua local and existing documentd records.
2) There are total of 8 Medical Colleges (with attached hospitals) in all Bangladesh. This means that at a minimum each province has one such facility. Thus the establishment rate is 100%.
3) The 32 administrative districts of Thana are included in this calculation.

Table 2 The slums of Dhaka Municipality and the types of land ownership

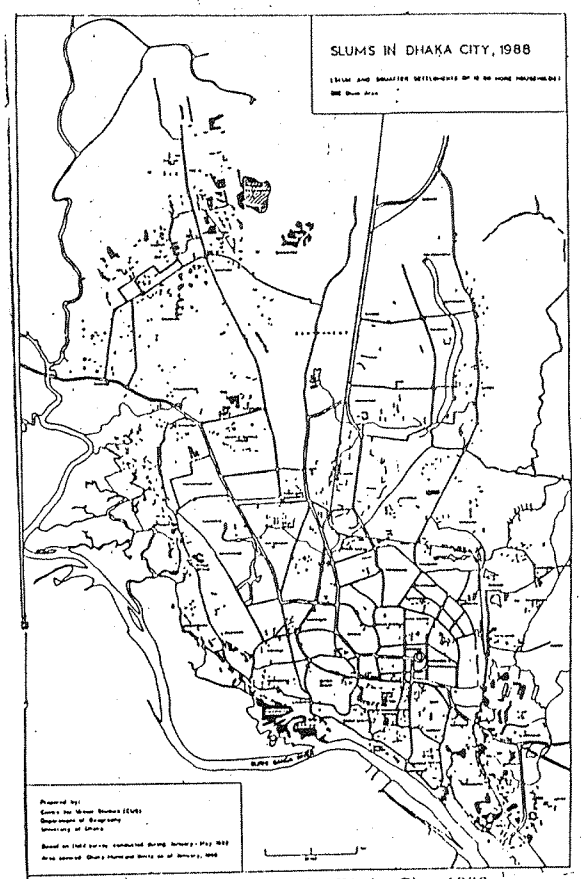
Landownership	Slum numbers		Size of land	
	No. of cases	%	Acres	%
Goverment/semi-government	90	11.7	176	29.3
Dhaka municipality	19	2.5	18	3.0
Private	643	83.4	384	64.0
Disputed	19	2.4	22	3.7
Total	771	100.0	600	100.0

Source) The University of Dhaka, Center for Urban Studies, 1983

Chart 1 An outline of the Upazila Health Complex

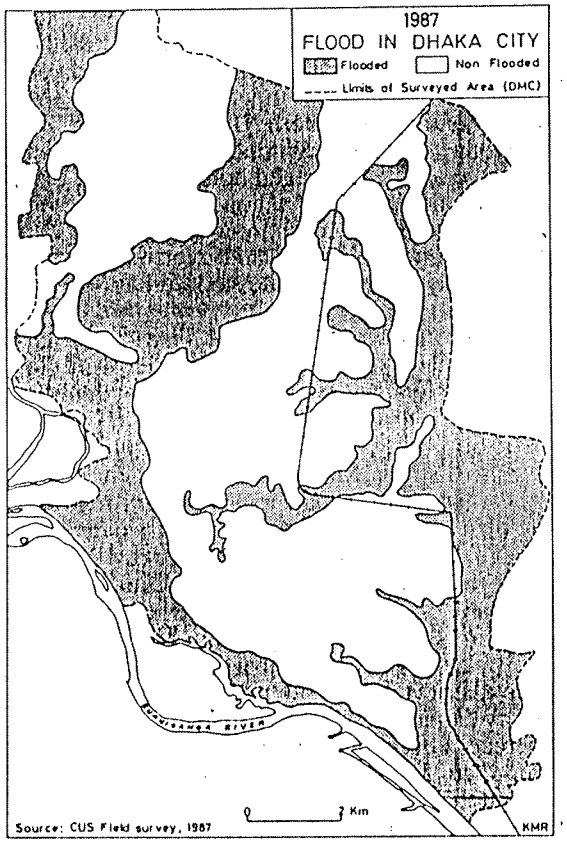


Map 2 Distribution of Slums in Dhaka City, 1988



Map 1 : Distribution of Slums in Dhaka City, 1988.

Map 3 Flood Regions in Dhaka City, 1987



Chapter 5 -- Survey Members and Itinerary

1. Japanese Committee

Toshio Koroda	Director Emeritus, Nihon University Population Research Institute
Hiroaki Washio	Senior Researcher, Economic Cooperation Department, Institute of Developing Economies (Leader, Field Research Team)
Hidesuke Shimizu	Professor, Department of Public Health, Jikei` University School of Medicine
Tomomi Otsuka	Assistant, Department of Economics, Nihon University (Member, Field Research Team)
Tsuguo Hirose	Director, Secretary General, Asian Population and Development Association (APDA)
Masaaki Endo	Senior Programme Officer, Asian Population and Development Association (APDA), (Member, Field Research Team)

2. Cooperators

Embassy of Japan

Takeo Iguchi	Ambassador
Takeshi Ota	First Secretary
Ryoji Noda	Second Secretary

Government and Institutes

Hussain Chowdhory	Director, Dhaka Children's Hospital
Mahubub Hossain	Director General, Bangladesh Institute of Development Studies (BIDS)
Mashur Rahman Khan	Research Director, BIDS
Paisul Awal Mahmood	Senior Research Fellow, BIDS
Nazul Islam	Professor, Department of Geography, University of Dhaka (UD)
Nazmul Haq	Director General, Family Planning, Ministry of Health and Family Planning
Nurul Islam Nazem	Assistant Professor, Department of Geography, Jahangirnagar University
A.Q.M. Mahbub	Assistant Professor, Department of Geography, UD

M.G. Kibria	Director, Bangladesh Shishu Academy
S.R. Chowdhury	Director, MIS, Ministry of Health and Family Planning
Sattendrath Adittaya	MBBS, FCPS, Civil Surgeon and Senior Consultant of General Hospital, Narayanganj
Abdul Majid	Director, Narayanganj Hospital
Joyen Uddin Bhuiyan	Deputy Director, Family Planning, Munshiganj
S.K. Alok	Country Director, UNFPA

Survey Itinerary : (July 29 - August 11, 1990)

Date	
July 29 (Sun)	Leave Narita, arrive in Bangkok.
July 30 (Mon)	Leave Bangkok, arrive in Dhaka.
July 31 (Tue)	Visit to Embassy of Japan. Pay courtesy call on Ambassador Takeo Iguchi. Discussion of survey outline with the local expert and briefing on population, family planning and health in Bangladesh.
August 1 (Wed)	Visit to Child Hospital. Briefing on the out line of the hospital by Hussain Chowdhory, Director.
	Visit Bangladesh Institute of Development Studies (BIDS). Briefing on National Development Plans of Bangladesh by Mahaubub Hossain, Director General.
August 2 (Thu)	Visit to Center for Urban Studies, University of Dhaka. Briefing on urbanization in Bangladesh by Nazrul Islam, Director.
	Observing Gazaria Upazila Health Complex.
August 3 (Fri)	Visit to Nabazram Union. Briefing on the union's activities by Habibur, Head of Union.
August 4 (Sat)	Visit to Child Academy. Briefing on the acade my's activities by M.G. Kibra, Director.

August 4 (Sat) (cont.)	Visit to MIS, Ministry of Health and Family Planning. Briefing on population and development in Bangladesh by S.R. Chowdhury, Director, MIS.
August 5 (Sun)	Visit to Civil Surgeon in Narayanganj. Briefing on health and medical treatment activities in the District by D.S. Adittaya.
	Observing Narayanganj Hospital.
	Observing Narayanganj District Hospital.
August 6 (Mon)	Visit to Munshiganj. Observing women's activities in the region.
August 7 (Tue)	Visit to UNFPA. Briefing on that current projects by S.K. Alok, Country Director.
	Visit to BIRTAN. Observing Maternal and Child Health Checkups.
August 8 (Wed)	Visit to People's Health Center. Briefing on center's activities by Q. Chowdhry, Project Director, observing the hospital and vocational training center.
August 9 (Thu)	Visit to Ministry of Health and Family Planning. Report on the survey results to Nazmul Haq, Director General, Family Planning.
	Visit to Embassy of Japan. Report on the survey results.
August 10 (Fri)	Arranging collected data.
	Leave Dhaka, arrive in Bangkok.
August 11 (Sat)	Leave Bangkok, arrive at Narita.