JAPAN INTERNATIONAL COOPERATION AGENCY

THE PEOPLE'S REPUBLIC OF BANGLADESH
MINISTRY OF HEALTH AND FAMILY WELFARE

BASIC DESIGN STUDY REPORT

ON

THE PROJECT FOR

STRENGTHENING OF MATERNAL & CHILD HEALTH TRAINING INSTITUTE

IN

THE PEOPLE'S REPUBLIC OF BANGLADESH

JUNE, 1992

YAMASHITA SEKKEI INC.

JAPAN INTERNATIONAL COOPERATION AGENCY

THE PEOPLE'S REPUBLIC OF BANGLADESH
MINISTRY OF HEALTH AND FAMILY WELFARE

BASIC DESIGN STUDY REPORT

ON

THE PROJECT FOR

STRENGTHENING OF MATERNAL & CHILD HEALTH TRAINING INSTITUTE

IN

THE PEOPLE'S REPUBLIC OF BANGLADESH

JUNE, 1992

YAMASHITA SEKKEI INC.

PREFACE

In response to a request of the Government of the People's Republic of Bangladesh, the Government of Japan decided to conduct a basic design study on the Project for Strengthening of Maternal & Child Health Training Institute and entrusted the study to the Japan International Cooperation Agency (JICA).

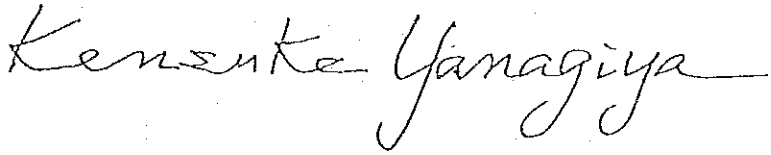
JICA sent to Bangladesh a study team headed by Dr. Takashi Wagatsuma, Director, Department of International Cooperation, National Medical Center Hospital, Ministry of Health and Welfare, and constituted by members of Yamashita Sekkei Inc., from January 10 to February 14, 1992.

The team exchanged views with the officials concerned of the Government of the People's Republic of Bangladesh and conducted a field survey at the site of the proposed project. After the team returned to Japan, further studies were made. Then, a mission headed by M.D. Katsuhiro Yoshitake, Department of International Cooperation, National Medical Center Hospital, Ministry of Health and Welfare, was sent to Bangladesh in order to discuss the draft report from may 25 to June 3, 1992 and the present report was prepared.

I hope that this report will contribute to the promotion of the project and to the enhancement of friendly relations between our two countries.

I wish to express my sincere appreciation to the officials concerned of the Government of the People's Republic of Bangladesh for their close cooperation extended the terms.

June, 1992



Kensuke Yanagiya

President

Japan International Cooperation Agency

June, 1992

Mr. Kensuke Yanagiya
President
Japan International Cooperation Agency
Tokyo, Japan

Letter of Transmittal

We are pleased to submit to you the basic design study report on the Project for Strengthening of Maternal & Child Health Training Institute in the People's Republic of Bangladesh.

This study has been made by Yamashita Sekkei Inc., based on a contract with JICA, from Jan. 7 1992 to June 30 1992. Throughout the study, we have taken into full consideration of the present situation in Bangladesh, and have planned the most appropriate project in the scheme of Japan's grant aid.

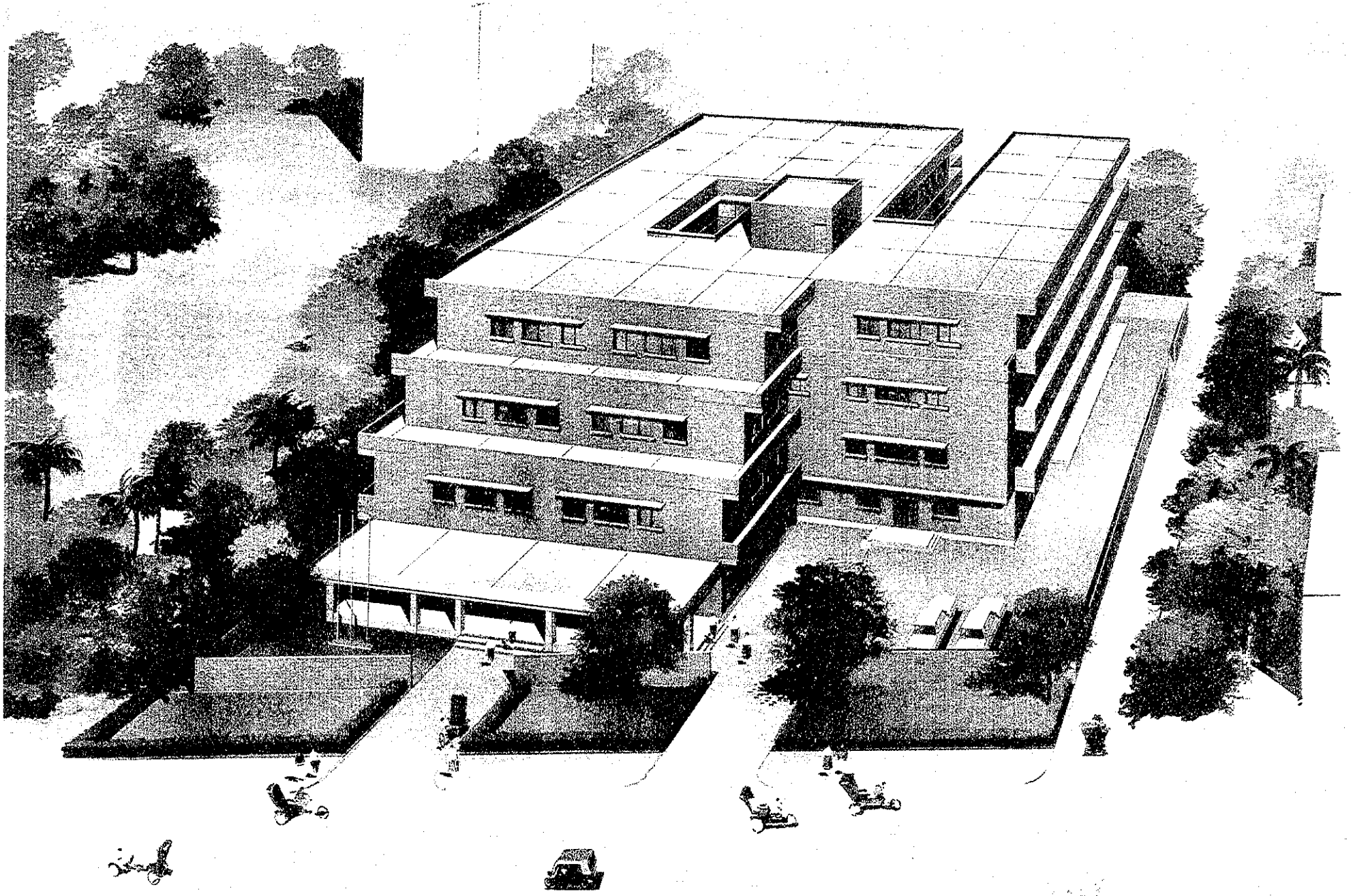
We wish to take this opportunity to express our sincere gratitude to the officials concerned of JICA, the Ministry of Foreign Affairs, Ministry of Health and Welfare and Embassy of Bangladesh in Japan. We also wish to express our deep gratitude to the officials concerned of Ministry of Health and Family Welfare, Directorate of Family Planning, JICA Bangladesh office, Embassy of Japan for their close cooperation and assistance during our study.

At last, we hope that this report will be effectively used for the promotion of the project.

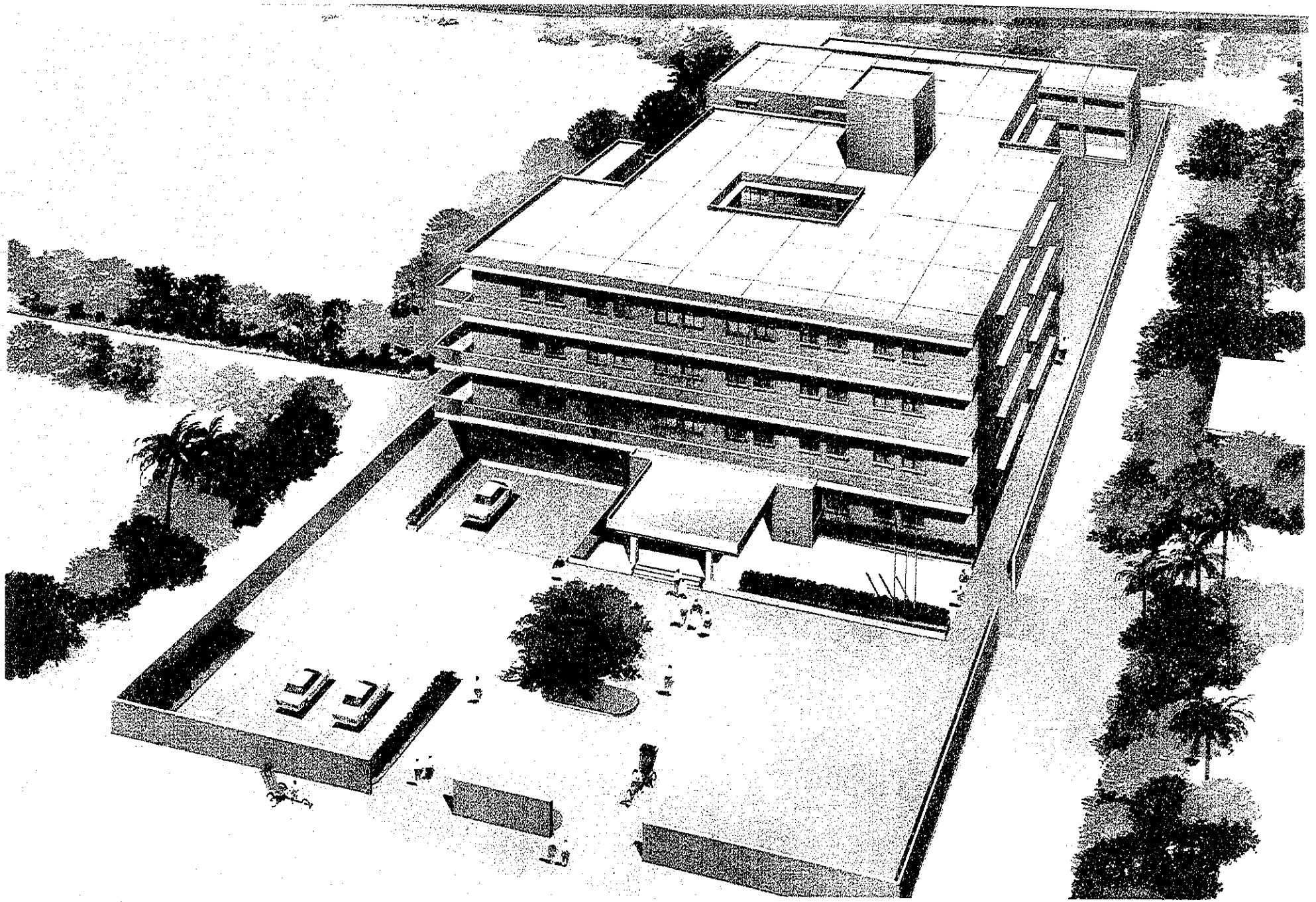
Very truly yours,

M. Sugano.

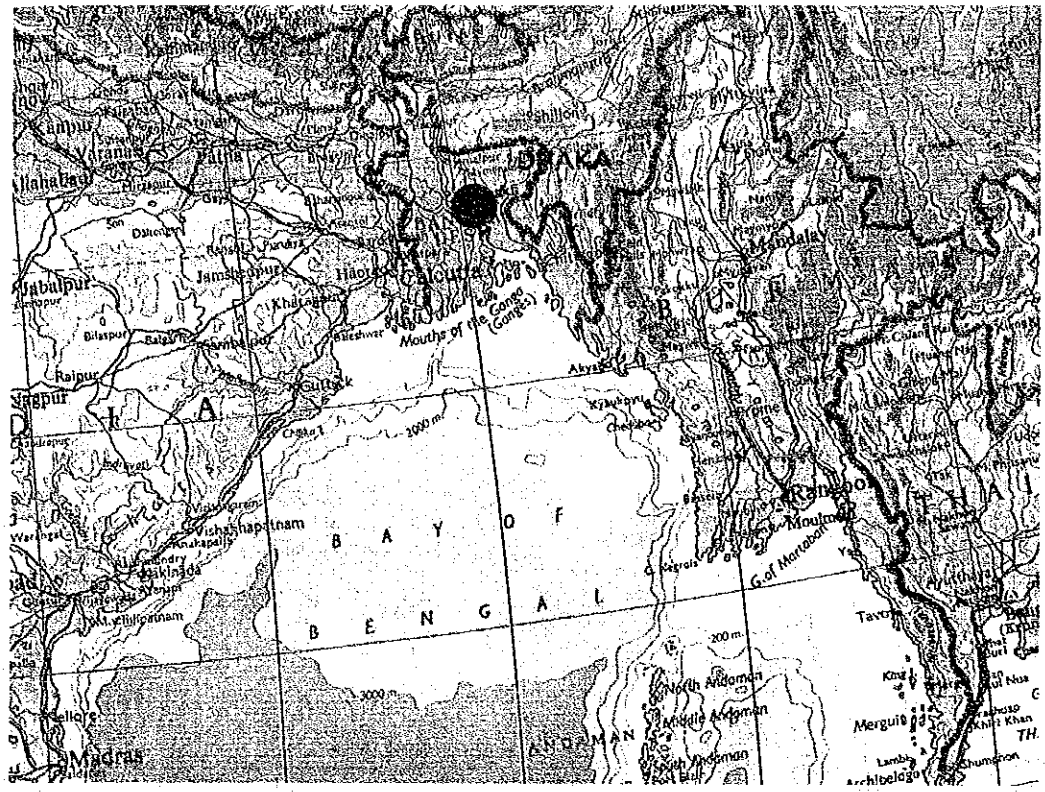
Project Manager, Munetake Sugano
Basic design study team on
the Project for Strengthening
of Maternal & Child Health
Training Institute
Yamashita Sekkei Inc.



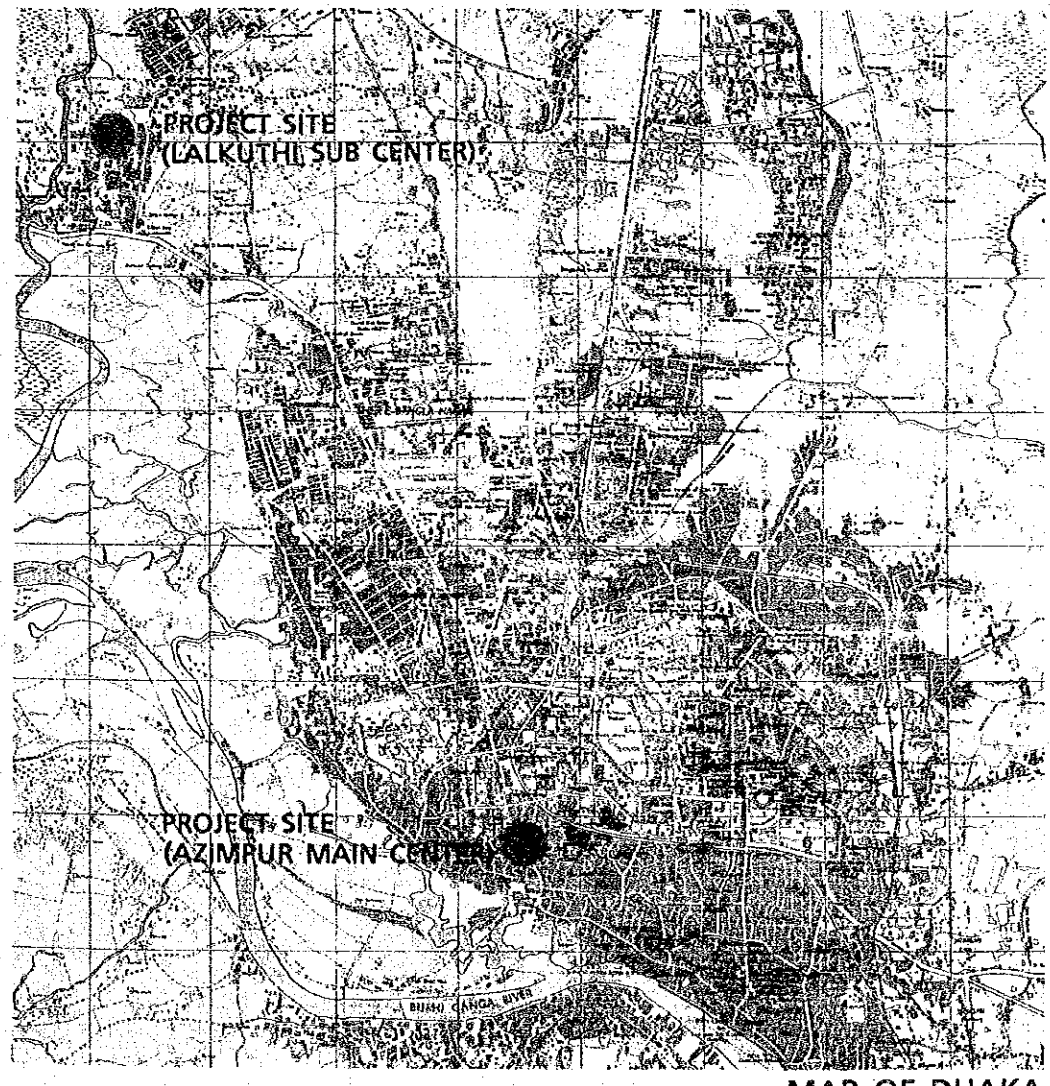
PERSPECTIVE (AZIMPUR MAIN CENTER)



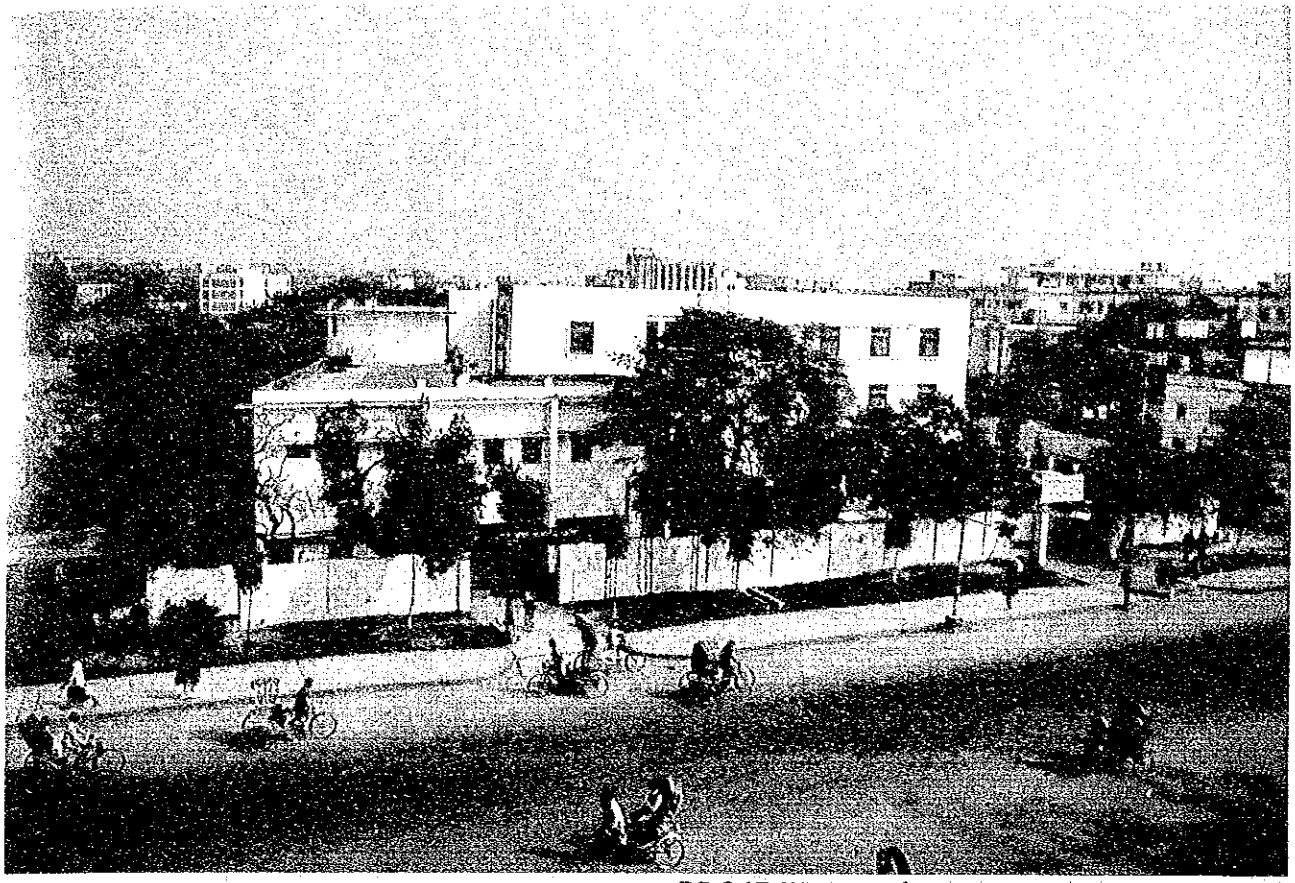
PERSPECTIVE (LALKUTHI SUB CENTER)



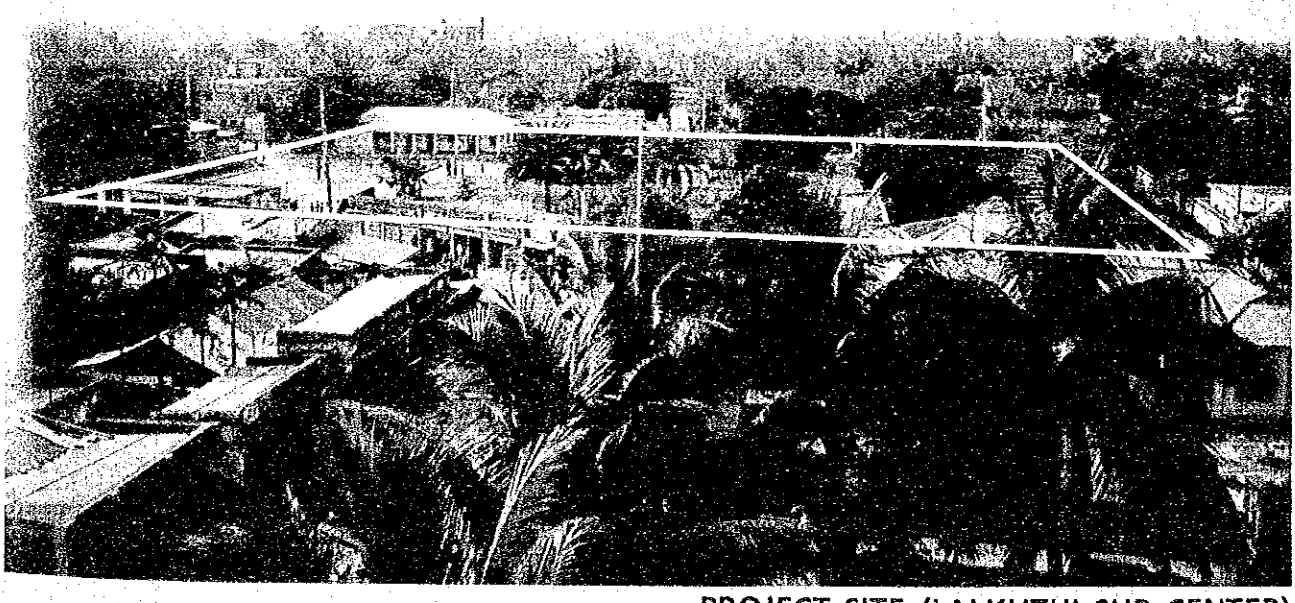
MAP OF BANGLADESH



MAP OF DHAKA



PROJECT SITE (AZIMPUR MAIN CENTER)



PROJECT SITE (LALKUTHI SUB CENTER)

SUMMARY

SUMMARY

In Bangladesh, the infant mortality rate is 97/1,000 and 14.2/1,000 for children under the age of five. These figures are the highest in Asia, as are those for Cambodia and Nepal. The country's maternal mortality rate is very high at 5.72/1,000. In light of the high average number of births per woman, it can be said that women of childbearing age account for a considerable portion of the mortality rate for women of all ages in the country. All this is attributable to the generally poor health and nutritive conditions of these women, as well as the low rate of diffusion and low quality of the maternal and child health services in the country. Also noteworthy is the low rate of "institutional delivery" in the country. It is said that unsanitary conditions and poor postnatal care by untrained birth attendants is also responsible for the high maternal mortality rate.

Under these circumstances, the Government of Bangladesh considers the enhancement of the quality of maternal and child health services and the extension of family planning as the greatest challenges it faces in the area of health care since initiating the five-year national development plans back in 1976, and has been tackling these challenges with the cooperation of the World Bank and other international aid-providing organizations. In a move to help attain the global goal of "Health for all by the year 2000" advocated by WHO, the Government of Bangladesh adopted the quantitative and qualitative improvement of antenatal care, midwifery service, preventive immunization, prevention of diarrhea, and prevention of loss of sight resulting from malnutrition, as the goals of its fourth five-year plan, which is now being implemented. Giving priority to the maternal and child health services, the Government of Bangladesh has been stepping up its efforts to improve the employment and training of FWVs, the training of TBAs, the Expanded Program on Immunization (EPI) and the diarrhea prevention project.

The Directorate of Family Planning of the Ministry of Health and Family Welfare of Bangladesh is responsible for the implementation of the country's maternal and health services, and is operating the Maternal and Child Health Training Institute (MCHTI). MCHTI (main center) was established in 1953 in the Azimpur District in the southern part of the city of Dhaka jointly by the Government of East Pakistan, WHO and UNICEF. As a medical institute to promote the spread of maternal and child health services in local communities, MCHTI has been training lady health visitor and offering health care services for pregnant and nursing mothers as well as children under the age of five. It started with only 20 beds, but increased to 100 in the year 1960. In 1953, its sub center, with 15 beds, was established in the Mirpur District in the western part of the city utilizing private house. It is now offering preventive medical services in the areas of maternal and child health and family planning, and it trains paramedical staff in these areas. Its present main goal is to reduce the mortality rate for pregnant and nursing mothers and the infant mortality through these activities. Shown below is the outline of health care and training services:

1) Health care
- Hospitalization, midwifery (mainly normal deliveries)
- Medical care for infant (primary cases)
- Diagnosis and treatment of outpatients and pregnant and nursing mothers
  Family planning service
  Immunization (For mothers and children under five)
  Maternity Class (Health Education)

2) Training
- Lectures and practical training service for FWVs and Senior FWVs
- Clinical training service for nurses, health workers and TBAs
- Clinical training service for medical officers

The main center accepts about 300 outpatients a day, and handles about 3,500 deliveries a year. Despite the fact that its functions have been expanded, its facilities have not been repaired since its founding in 1953. The facilities and its equipment are superannuated. It is overcrowded with outpatients, and its equipment for use in the training programs is insufficient. As a result, the main center has been unable to fulfill the functions initially expected of it.

As for the sub center, having been a private house, it has practically no viable medical equipment despite the fact that it is located in a new residential section of the city where there is a strong demand for maternal and child health care. Thus, the sub center is unable to offer satisfactory clinical or training services. It can accept only about 90 outpatients a day and handles only about 150 deliveries a year.

For the above-mentioned reasons, the Government of Bangladesh formulated a project to improve the quality of the maternal and child health services and to promote the development of health care manpower in the areas of mother and child health. In April 1991, the Government of Bangladesh requested the government of Japan for extending grant aid for the project.

In response to this request, the Government of Japan decided to examine the project, and in September 1991, the Japan International Cooperation Agency sent a preliminary study team to Bangladesh to investigate the background and details of the project.

As a result of the study, the Japan International Cooperation Agency reached the conclusion that it was necessary to conduct a basic design study to examine the propriety of the requested grant aid, and in January 1992, it dispatched a basic design study team to Bangladesh. The study team had discussions with the representative of the Government of Bangladesh, investigated the project sites, and collected supplementary data and information, expanding on the results of the preliminary survey. Back in Japan, the members of the basic design study team analyzed the results of their investigation activities in Bangladesh and created a

draft report. In May 1992, the study team re-visited Bangladesh to explain the draft report after which this basic design study report was prepared.

The basic design study team studied the present condition of the health care programs and their operation and management in Bangladesh, as well as the actual situation of the project sites, the local construction industry and the local medical equipment maintenance services, and then conducted a survey of the actual situation of MCHTI. As a result of a comprehensive analysis of the results of these studies, the basic design study team has decided on the optimum scale and contents of the project as outlined below.

The Directorate of Family Planning of the Ministry of Health and Family Welfare is to be responsible for the implementation of this project, and therefore the project is to be operated and managed under the jurisdiction of the directorate. The project is to consist of six parts: the medical department; the operation/delivery section; the laboratory section; the administration/service department; and the training department.

(1) Projected Facilities

	Main center	Sub center
Site	Dhaka, Azimpur district 2,990 m^2	Dhaka, Mirpur district, Lalkuthi 4,145 m^2
Area	6,613.74 m^2	6,363.84 m^2
Structure/story	Reinforced Concrete 4-story	Reinforced Concrete 4-story (Main) 2-story (Dormitory)
Rooms	1. Medical dept. 1) Obstetric/Gynecology Unit • Examination Rm • Treatment Rm • Maternal Class Rm	1. Medical dept. 1) Obstetric/Gynecology Unit • Examination Rm • Treatment Rm • Maternal Class Rm

	Main center	Sub center
Rooms	2) Pediatrics Section • Examination Rm • Treatment Rm 3) Common • Pharmacy • Immunization Rm • Medical Record Rm	2) Pediatrics Section • Examination Rm • Treatment Rm 3) Common • Pharmacy • Immunization Rm • Medical Record Rm
	2. Inpatient Section 1) Obstetrics Ward • Bed Rm (6 & 2 Beds) • Observation Rm • Nurse Station 2) Gynecology Ward • Bed Rm (6 & 2 Beds) • Nurse Station • Infant Observation 3) Pediatrics Ward • Bed Rm (6 & 2 Beds) • Nurse Station • Attendant	2. Inpatient Section 1) Obstetrics Ward • Bed Rm (6 & 2 Beds) • Observation Rm • Nurse Station 2) Gynecology Ward • Bed Rm (6 & 2 Beds) • Nurse Station • Infant Observation 3) Pediatrics Ward • Bed Rm (6 & 2 Beds) • Nurse Station • Attendant
	3. Operaton/Delivery Section • Labour Rm • Delivery Rm • Operation Theater • C.S.S. Rm	3. Operaton/Delivery Section • Labour Rm • Delivery Rm • Operation Theater • C.S.S. Rm
	4. Laboratory Section • General Lab. • Hematology Lab. • Ultra Sonograph Rm	4. Laboratory Section • General Lab. • Hematology Lab. • Ultra Sonograph Rm
	5. Administration/Service Dept. • Administration Office • Kitchen • Mechanical Rm	5. Administration/Service Dept. • Administration Office • Kitchen • Mechanical Rm
	6. Training Dept. • Lecture Rm	6. Training Dept. (Incl. Dormitory) • Lecture Rm • Dormitory Rm

(2) Equipment

Basic items of medical equipment which are necessary for maternal and child health care, and those which are necessary for training. Ambulance cars, and minibuses to transport the trainees are to be procured and installed.

At present, MCHTI (the main center and the sub center) has a staff of 170. Under the project, the staff members of the main center is to be increased by 123 for a total of 293, and the sub center is to have a staff members of 240. MCHTI's maintenance and management budget at the time of the completion of this project is estimated at 38,096,167 TK. Since MCHTI's total budget for fiscal 1991-92 is 10,079,012 TK, its total budget at the time of the completion of this projet will be 3.78 times as large as it is now.

It has been confirmed that the government of Bangladesh will allocate 70,000,000 TK for the project over the next four years subject to the approval of ECNEC, the highest state body of Bangladesh. It appears, therefore, that the Government of Bangladesh will be able to cope with a substantial increase in MCHTI's budget in the future. However, increasing MCHTI's budget by 3.78 times in one phase would impose a heavy financial burden on the Ministry of Health and Family Welfare, which is inadvisable from the standpoint of sustainable, smooth operation of the project. Therefore, both Japanese and Bangladesh sides agreed that the project would be divided into two phases and that the Phase II of the Project should be implemented after confirming the budgetary allocation for Phase II and effectiveness of Phase I. This implementation policy will secure the sufficient utilization of facility and sustainable, sound operation of the project.

This project is expected to have the following positive effects on improvement the quality of the maternal and child health services in Bangladesh:

1) The daily number of outpatients at the main center can be increased from about 300 to about 500 per day, and the annual number of deliveries handled at the main center from 3,500 to 5,000 per year. Also, the daily number of outpatients at the sub center can be increased from about 90 to about 400 per day, and the annual number of deliveries handled at the sub center from 200 to 3,000 per year. The total number of beds installed in MCHTI (the main center and the sub center) can be increased from 115 to 350, which will lead to a considerable increase in the number of inpatients, a sufficient length of hospitalization for each inpatient, a qualitative and quantitative improvement in "institutional delivery", and a reduction in infant mortality rate as well as a decreased maternal mortality rate.

2) MCHTI's training programs (clinical training and lectures) for FWVS and TVAs, both of whom are engaged in maternal and child health service activities in various parts of the country, will be improved and expanded. As a result, it will become possible to offer improved maternal and child health services by dispatching more FWVs and TBAs to medical facilities in various parts of the country, making the positive effects of the improvement and expansion of the MCHTI's facilities and equipment expand nationwide.

The direct beneficiaries of the project is women and children in Bangladesh. This means that this project will also contribute to the stability of the Bangladesh national life. It is considered reasonable, therefore, to implement this project under Japanese grant aid cooperation.

MCHTI project was adopted by the World Bank as part of the fourth Bangladesh health and family planning five-year plan. The study team confirmed that the collaborating countries (with the World Bank and WHO as the Central organization) have a plan after the completion of

the project to actively cooperate with the management of MCHTI in activities such as training, maintenance and operation, etc. However it should be noted that the Directorate of Family Planning of the Ministry of Health and Family Welfare of Bangladesh needs to endeavor to increase the positive effects of this project by raising the standard of operations at the training through the proper placement of qualified staff members at MCHTI and to create circumstances which will facilitate the Ministry of Health and Family Welfare to allocate sufficient budget for the management of MCHTI.

ABBREVIATIONS

ABBREVIATIONS (in alphabetical order)	NAME IN FULL
DAC	Development Assistance Committee
EPI	Expanded Program of Immunization
ECNEC	Executive Committee for the National Economic Council
FPA	Family Planning Assistant
FWA	Family Welfare Assistant
FWC	Family Welfare Center
FWV	Family Welfare Visitor
FWVTI	Family Welfare Visitor Training Institute
GTZ	German Technical Co-operation
HA	Health Assistant
IPGMR	The Institute of Post Graduate Medical Research
MCHTI	Maternal and Child Health Training Institute
MOHFW	Ministry of Health and Family Welfare
MO	Medical Officer
MR	Menstrual Regnlation
NEMEMW	National Electro Medical Equipment Maintenance Workshop
NIPORT	National Institute of Population Research and Training
NIPSOM	National Institute of Preventive and Social Medicine
OECD	Organization for Economic Co-operation and Development
RTC	Rural Training Centre
RAJUK	Rajdhani Unnyan Katripakha
TBA	Traditional Birth Attendant

UHC	Upazila Health Complex
UHFWC	Union Health Family Welfare Center
WASA	Water Supply & Sewerage Authority
WHO	World Health Organization
WID	Women in Development

CONTENTS

CHAPTER 1 INTRODUCTION

CHAPTER 1 INTRODUCTION

In the past, the government of Bangladesh implemented three five-year plans aimed at improving the state related to maternal and child health, family planning and population-related problems, and launched the fourth five-year plan in 1991. While the past five-year plans placed an emphasis on population problems and family planning in the area of health, the ongoing five-year plan places the utmost emphasis on maternal and child health. As part of the plan, the government of Bangladesh formulated a project to strengthen the Maternal and Child Health Training Institute (MCHTI), and in April 1991 requested the Government of Japan for extending grant aid for the project.

In response to the request, the government of Japan decided to conduct a study concerning the project, and dispatched a preliminary study team, headed by Dr. Takashi Wagatsuma, Director, Department of International Cooperation, National Medical Center Hospital, Ministry of Health and Welfare, to Bangladesh from September 3 through September 12, 1991. The team had a series of discussion with the officials concerned of the Government of Bangladesh and confirmed the background and details of the project, the system for the implementation of the project and other international organizations' assistance plans for the project.

As a result of the preliminary study, it was confirmed that the government of Bangladesh strongly requested an early implementation of the project with the cooperation of the government of Japan and that the World Bank and other international donor organizations had plans to actively cooperate in the maintenance and operation of MCHTI and the development of the training curricula after the completion of the project. For this reason, the Japan International Cooperation Agency (JICA) sent a basic design study team, which was again headed by Dr. Takashi Wagatsuma, to Bangladesh from January 10 through February 14, 1992 to investigate the

following in relation to the feasibility of Japanese grant aid cooperation:

(1) Present state of the existing MCHTI, main center (Azimpur District, Dhaka), and the sub center (Lalkuthi, Mirpur District, Dhaka)

(2) Present state of the related medical facilities in Bangladesh

(3) Operating and management method of the facilities suited for the main center and the sub center

(4) Necessity of the requested facilities and equipment

(5) Project implementing system, personnel plan, facility/equipment maintenance and operating budget, and scope of work by the government of Bangladesh

(6) Project site and related infrastructure

(7) Present state of the local construction industry and local supplies of medical equipment

Upon returning to Japan, the basic design study team analyzed the results of the field surveys, and prepared a draft report. In May 1992, the basic design study team visited Bangladesh to brief the representatives of the government of Bangladesh on the draft report and discuss its details with them. As result of the discussion both sides agreed on the contents of the draft report.

This report is to present the results of the basic design study mentioned in the above. A list of the members of the basic design study team, the time schedules of the surveys, a list of the Bangladesh counterparts and the minutes of the discussions are attached at the end of this report.

CHAPTER 2 BACKGROUND OF THE PROJECT

CHAPTER 2 BACKGROUND OF THE PROJECT

2-1 Present Status of Health and Medical Care in Bangladesh

2-1-1 The Fourth Five-Year Plan

The government of Bangladesh implemented three five-year plans until 1990, and now is in the process of implementing its fourth five-year plan (1990-95). The on going five-year plan has been formulated with focus on human resources development while the consequential emphasis on the economic development and stabilized society. The basic principal of the five year plan have been accepted as basically sound by the development partners of Bangladesh. This opened up a new dimension of co-operation between the Government of Bangladesh and its development partners.

The objectives of the health sector during the fourth five-year plan have been formulated within the overall macro-objectives of human resources development and on the broad principles of promoting and supporting development and operation of the national health care system so as to attain the national strategy for "Health for all by the year 2000". The fourth five-year plan has special emphasis on consolidation, strengthening of management capabilities to ensure efficient functioning and optimum utilization of existing health facilities and programs.

The main objectives of the health sector of the fourth five-year plan are as shown below:

1) To improve the population's health status, particularly of mothers and children.

2) To consolidate and strengthen the coverage of health care and its supporting services for improved quality and quantity of health services.

3) To deliver improved health/family planning services in a package to the family with a view to increasing its welfare.

4) To prevent, control and treat major communicable diseases and non communicable diseases.

5) To improve the population's nutritional status, particularly of mothers and children

6) To foster appropriate health manpower development and its optimum utilization.

7) To formulate adequate production, supply and distribution of essential drugs, vaccines and other diagnostic and therapeutic agents.

8) To strengthen planning and management capabilities of health system for utilization of existing facilities to the fullest extent and optimization of health services, and to promote and strengthen health system and biomedical research.

The specific goals for the health sector of the five-year plan are as shown in the following table.

Table 2-1 The Specific Goals of Health Sector of the Fourth Five Year Plan

	Indicator items	Unit	1989~90 (Achieve-ments)	1994~95 (Estimated Target)
1.	Infant Mortality Rate	/1000 Live Births	110	80
2.	Child Mortality Rate	/1000 1 to 5 yrs.	11	9
3.	Maternal Mortality Rate	/1000 Live Births	7	4
4.	Crude Birth Rate	/1000 Population	35.2	30
5.	Crude Death Rate	/1000 Population	13.9	12
6.	Population Growth	% / Year	2.16	1.8
7.	Life Expectancy at Birth	Years at Birth	53	55
8.	Hospital Beds	Cumulative	34,488	36,488
	a) Public	Cumulative	24,501	26,001
	b) Private	Cumulative	9,987	10,487
9.	Upazila Health Complex	One in Each Upazila	351	397
10.	UHFWC/RD	One in Each Union	3,375	4,325

	Indicator item	Unit	1989~90 (Achieve-ment)	1994~95 (Estimated Target)
11.	Immunization			
	a) B.C.G.	% Coverage	75	85
	b) DPT	% Coverage	68	85
	c) Measles	% Coverage	50	85
	d) Polio	% Coverage	68	85
	e) TT	% Coverage	45	85
12.	Control of Diarrhea	% Coverage of ORS Distribution	90	90
13.	Control TB	% Cases Found	20	50
14.	Delivery by Trained Personnel	% Pregnant Women	20	50
15.	Antenatal Care	% Pregnant Women	45	60
16.	Nutrition Condition	Calorie Intake (Adult)	1,850	2,100
17.	Blindness Prevention	% Children under 6 Receiving Vit. A Cap.	66	90
18.	Goitre Control	% Coverage		
		Iodine Salt	10	100
19.	Nutrition Service	% 2~3 Degree Malnutrition Treated	50	60
20.	PHC	% Population Coverage	50	80
21.	Essential Drugs and Vaccines	% Availability for Public Health Services	60	70
22.	Health Lab Services			
	a) UHC	% Coverage	100	100
	b) Dist. Lab	% Coverage	100	100
23.	X-ray Facilities in UHCs	Number	143	397
24.	Blood Transfusion in Dist.	Number	46	71
25.	Essential Drugs, ORS, Vaccines, IV fluids	Million Taka	4,317	4,826
	a) Public		389	408
	b) Private		3,928	4,418
26.	Health Manpower			
	a) MBBS Dr.	Cumulative	20,590	25,600
	b) Dentist	Cumulative	805	1,150
	c) Nurse	Cumulative	9,100	11,350
	d) Medical Assistant	Cumulative	4,348	4,700
	e) Lb. Technician	Cumulative	1,702	2,050
	f) Radiographer	Cumulative	522	850
	g) Pharmacist	Cumulative	6,283	7,000

2-1-2 National Health Policies

Bangladesh is one of the signatories to the Asian Charter for Health Development and to Alma Ata Declaration on Primary Health Care. And it determined to implement the resolutions of the declaration to achieve "Health for all by the year 2000." The main policy objectives are as follows:

- To provide primary health care comprising treatment of simple ailments, care of children, improvement of facilities for mothers during pregnancy and child birth, family planning services, protection from communicable diseases, environmental sanitation, applied nutrition, and health education.

- To extend total support in the implementation of population control measures by providing the required services for control and spacing of births and ensuring special medical and health care to acceptors of family planning.

- To promote the development of appropriate health personnel to meet the needs of the entire population through education and running of health services and ensuring suitable redistribution of the available health personnel.

- To strengthen and integrate national epidemiological surveillance, control and containment activities against all communicable diseases within the general health services, giving special emphasis to expanding immunization coverage and strengthening related laboratory work as a part of the national epidemiological framework.

- To improve specialized services and other facilities in static health care institutions, by developing services for combating non-communicable health problems like cardiovascular diseases, malignancies, mental disorders, diabetes, etc. to provide nationwide coverage.

- To strengthen legislative and administrative support to eliminate spurious and substandard drugs, to reduce costs of drugs, to augment the availability of essential drugs and biologicals, and to promote production of basic pharmaceuticals in the country to attain self-reliance.

- To encourage systematic improvement in the practice of indigenous systems of medicine and to utilize the additional manpower available in that sector giving particular attention to scientific evaluation of indigenous and herbal drugs.

- To provide special health care for industrial workers not only to minimize occupational hazards and accidents, but also to enhance the efficiency of industrial manpower and to increase national productivity in keeping with the increasing industrialization in the country.

- To develop people-oriented national health services, by ensuring maximum possible community involvement and participation.

- To maintain close collaboration with national agencies entrusted with the responsibility to provide safe community water supplies, dispose of wastes and with other health related sectors promote evaluation of environmental conditions and control of hazards liable to affect human health.

- To encourage biomedical and health services research relevant to the health of the country.

2-1-3 Present Status of Health Care in Bangladesh

The present state of maternal and child health in Bangladesh can be seen below along with data on population structure, matters related to births and birthrate, infant mortality and causes, and its maternal mortality.

(1) Population structure

Table 2-2 shows changes in population over the past 90 years in Bangladesh. The country's population growth rate, which exceeded 2 percent in the 1960s, has not declined, and in 1991, the country's population reached 107,993,000. The population growth rate of

Bangladesh is one of the highest rates in the World and is now as high as 2.17 percent, which is next to 3.4 percent for Nigeria, 3.1 percent for Pakistan and 2.2 percent for Brazil. As regards the population structure, those aged 14 and under occupies 45.7 percent, those aged from 15 to 65 years old occupies 51.2 percent, and those aged 65 and over occupies 3.1 percent of the total population. As shown in Fig. 2-1, population structure by age of Bangladesh is similar to other Asian countries, although size of population is different.

Table 2-2 Inter-censal Growth Rate of Population, 1901~1991

Year of Census	Population	Variation		Growth Rate
		Number	Percent	
1902 Mar.	28,927,786			
1911 Mar.	31,555,056	2,627,220	9.08	0.94
1921 Mar.	33,254,096	1,699,040	5.38	0.6
1931 Feb.	35,604,170	2,350,074	7.07	0.74
1941 Mar.	41,997,297	6,393,127	17.96	1.74
1951 Mar.	44,165,740	2,168,443	5.16	0.50
1961 Feb.	55,222,663	11,056,923	25.04	2.26
1974 Mar.	76,398,000	21,175,337	38.35	2.48
1981 Mar.	89,912,000	13,514,000	17.69	2.32
1991 Mar.	107,993,000	18,081,000	20.11	2.17

(Source: Bangladesh Bureau of Statistics)

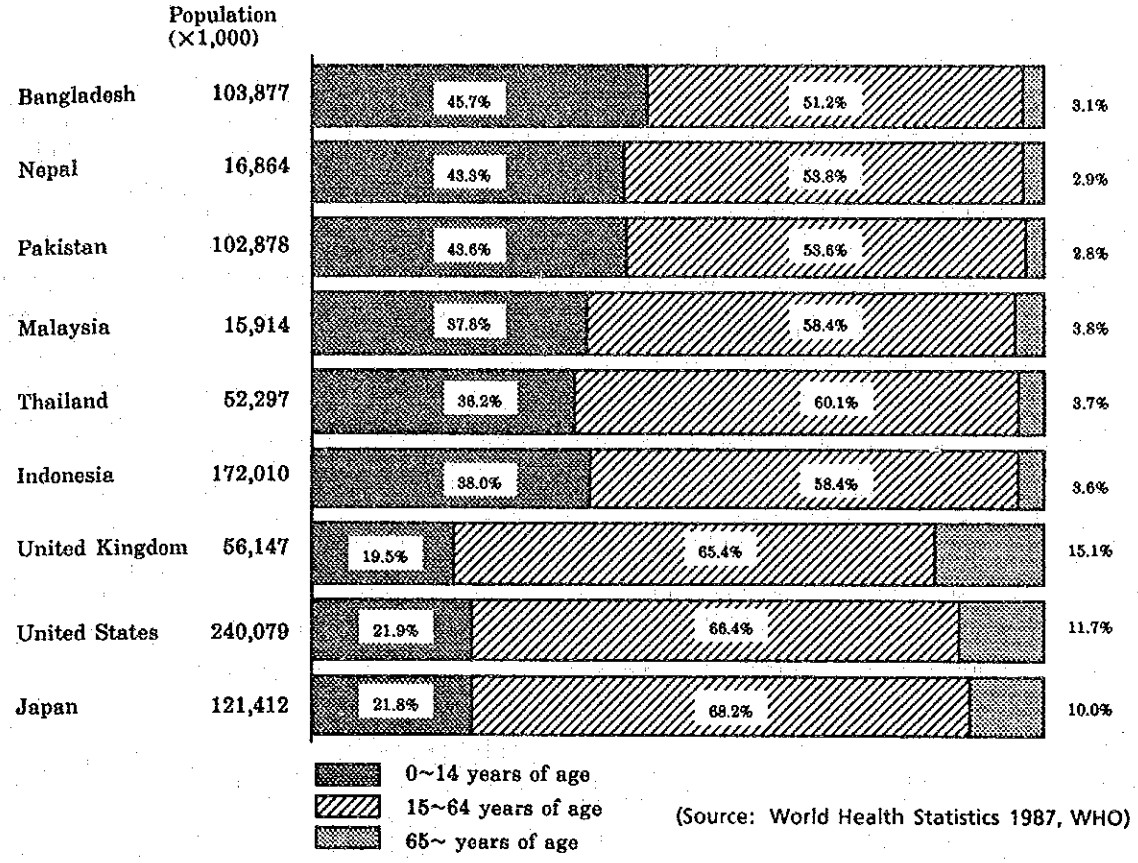


Fig. 2-1 Population Structure

(2) Crude birth rates and total fertility rates

The country's crude birth rate is on the decline. It decreased from 47 (per 1,000 population) in 1961 to 32.8 in 1990. This means that the crude birth rate declined by 30.2 percent over a 29-year period from 1961 to 1990. On the other hand, the total fertility rates (the number of babies a woman will give birth to throughout her life based on the assumption that she will bear children according to the birthrate by age which is applicable to a certain year) is also on the decline. It decreased from 6.78 percent in 1961, which was a rather high rate, to 4.33 percent in 1990. However, the country's population is still on the rise, which implies that the country's crude birth rate and total fertility rate need to be reduced.

Table 2-3 Crude Birth Rates and Total Fertility Rates

Year	CBR/1000	TFR	Year	CBR/1000	TFR
1961	47.0	6.78	1982	34.8	5.21
1963	44.0	6.78	1983	35.0	5.07
1964	42.0	6.6	1984	34.8	4.83
1965	37.0	5.79	1985	34.6	4.71
1968~69	42.0	6.28	1986	34.4	4.70
1975	49.9	6.34	1987	33.3	4.42
1978	37.0	5.77	1988	33.2	4.39
1980	33.4	4.99	1989	33.0	4.35
1981	34.6	5.04	1990	32.8	4.33

(Sources: Bangladesh Bureau of Statistics)

(3) Infant mortality

Infant mortality in Bangladesh is as high as Bhutan (142/1,000), Nepal (112/1,000) and Pakistan (112/1,100) in Asia. In Bangladesh, about 3.5 million babies are born every year on average (2.95 million in 1980, 3.39 million in 1985 and 3.58 million in 1990), about half of which weigh less than 2,500 grams at the time of their birth. Most women give birth to their children at home either with the help of a traditional birth attendant (TBA), family members or without assistance. Since most of the newborn babies suffer from malnutrition, and most women deliver their children under extremely poor sanitary conditions, the mortality rate of newborn babies within one year of their birth is very high.

Table 2-4 Infant Mortality Rate per 1,000

Year	Sex	Residence		
		National	Urban	Rural
1985	Both Sexes	112.0	99.0	113.0
	Male	114.0	109.0	115.0
	Female	109.0	87.0	112.0
1986	Both Sexes	116.0	101.0	118.0
	Male	122.0	104.0	123.0
	Female	111.0	97.0	112.0
1987	Both Sexes	113.0	95.0	115.0
	Male	120.0	102.0	112.0
	Female	105.0	87.0	107.0
1988	Both Sexes	116.0	91.0	112.0
	Male	116.0	96.0	108.0
	Female	105.0	87.0	107.0
1989	Both Sexes	98.0	84.0	105.0
	Male	102.0	90.0	106.0
	Female	95.0	81.0	101.0
1990	Both Sexes	94.0	71.0	97.0
	Male	98.0	73.0	101.0
	Female	91.0	68.0	93.0

(Source: 1991 Statistical Yearbook of Bangladesh)

About one-half to two-thirds of these deaths are neonatal deaths (deaths within one month after birth). The main causes of these neonatal deaths are tetanus, injuries and respiratory infectious diseases. On the other hand, the main causes of deaths for infants more than one month after birth are diarrhea, respiratory infectious diseases and tetanus. While malnutrition is not considered a direct cause of death, it is often involved in deaths from infectious diseases or diarrhea.

(4) Mortality rate for children under five

In 1960, the mortality rate for children under five was 26.2/1,000 and in 1990 it was 14.2/1,000. The mortality rate for children under five

is on the decrease due to the spread of immunization and other preventive measures. It is desirable, however, to further improve the quality of health facilities for maternal and child health.

Table 2-5 Child Mortality Rate per 1,000 Children of Ages 1~4 Years

Year	Sex	Residence		
		National	Urban	Rural
1985	Both Sexes	15.0	10.4	15.8
	Male	14.0	9.0	14.5
	Female	16.4	11.9	16.8
1986	Both Sexes	13.1	9.7	14.1
	Male	13.1	9.9	13.4
	Female	14.5	10.6	14.9
1987	Both Sexes	12.5	8.6	13.1
	Male	11.0	8.4	11.2
	Female	13.9	8.9	15.1
1988	Both Sexes	13.5	8.7	14.1
	Male	12.3	8.5	12.8
	Female	14.7	8.9	15.4
1989	Both Sexes	13.6	8.6	14.3
	Male	14.1	8.8	27.8
	Female	13.3	8.3	13.9
1990	Both Sexes	14.2	8.3	14.2
	Male	13.6	8.5	14.2
	Female	14.8	8.2	15.7

(Source: 1991 Statistical Yearbook of Bangladesh)

(5) Maternal Mortality Rate

Most pregnant Bangladesh women weigh less than 50kg, which indicates that many are suffering from malnutrition. When Considering the high fertility rate in Bangladesh, malnutrition poses a serious problem. In Bangladesh, mothers who often give birth while in a malnourished condition are very likely to die from an infectious diseases. The mortality rate for these mothers was 6.48/1,000 in 1986, 5.96/1,000 in 1987, and 5.72 in 1988. Obstetric causes of death (Eclampsia and complications at the time of labor, delivery or abortion) account for

80 percent of the cause of death of pregnant women. This is because few are deliver their children at health facilities.

Table 2-6 Causes of Maternal Mortality

Causes	1974	1979	1986	1987	1988
Eclampsia	80 %	27 %	15 %	12 %	38 %
Complications from Delivery		24 %	33 %	16 %	17 %
Abortion-related		28 %	27 %	18 %	16 %
Infection	20 %	21 %	19 %	27 %	17 %
Other		8 %	6 %	27 %	3 %

(Source: Report by Bonita Stanton, M.D. University of Maryland)

A breakdown by age of the causes of mortality of pregnant mothers shows that those in the 40-44 and 45-49 age groups are most likely to die.

According to surveys conducted by the government of Bangladesh Bureau of Statistics, the average mortality rate for pregnant and nursing mothers in all urban areas was 5.92 in 1988. The mortality rate for these in the 40-44 age group was 10.27 (1.7 times as high as the average) and that for those in the 45-49 age group was 14.93 (2.5 times as high as the average).

Although the mortality rate for Bangladesh's pregnant mothers is on the decline, as is infant mortality, it is still relatively high. Therefore the necessity for improving the standard of maternal and child health is imperative.

(6) Morbidity rate

According to a WHO survey conducted in 1986, a breakdown by type of disease of the total number of patients in Bangladesh can be seen in Table 2-7. Diarrhea and respiratory diseases, including tuberculosis, and malnutrition account for 59.6 percent of the total.

Table 2-7 Disease Pattern

	Disease	Percent
1.	Diarrheas	22.3
2.	Respiratory Infections	19.7
3.	Malnutrition	17.6
4.	Skin Disease	13.0
5.	Nyctalopia	3.5
6.	Internal Parasites	3.5
7.	Malaria	2.5
8.	Measles	1.1
9.	Goitre	0.8
10.	Osteomyelitis	0.7
11.	Tetanus	0.06
12.	Leprosy	0.02
13.	Other	15.32

(Source: Report by WHO in 1986)

In modern medicine, most of these disease can easily be cured if they are treated at an early stage. They can also be prevented to some extent through the improvement in public health conditions or the spread of immunization.

As shown in Table 2-8, gastrointestinal diseases including diarrhea, and respiratory diseases including tuberculosis occupy main causes of death in Bangladesh. The general malnutrition and lack of physical strength are also indirect causes of many deaths. It is said that only 5 percent of Bangladesh total population can take meals which are sufficient in quality and quantity. Of the remaining 95 percent, children under five and pregnant and nursing mothers, though requiring sufficient nutrition, are suffering from serious malnutrition. In addition, only 46 percent of the total population can obtain safe drinking water and more than 48 percent live in houses with no lavatories. Many residents live under poor sanitary conditions, which

contributes to the increase of diarrhea and respiratory diseases, as well as the mortality rate for pregnant mothers and infants.

Table 2-8 Diseases Leading to Death

	Diseases	Percent
1.	Gastrointestinal Diseases including Diarrheas	17.3
2.	Respiratory Infections including Tuberculosis	13.4
3.	Complication	9.6
4.	Fever (Unknown cause)	5.8
5.	Pneumonia	3.8
6.	Jaundice	3.8
7.	Tetanus	3.8
8.	Skin Disease	3.8
9.	Maternal Problem	3.8
10.	Parasite Disease	1.9
11.	Gastric Ulcer	1.9
12.	Typhoid	1.9

(Source: Report by WHO 1986)

In Bangladesh, it is of vital importance to improve hygienic conditions, and to expand and improve medical facilities which train paramedics who will take charge of community on hygiene.

2-2 Health Care Administration

2-2-1 Organization of the Ministry of Health and Family Welfare

In Bangladesh, the Ministry of Health and Family Welfare is responsible for the country's health administration. The ministry consists of two main directorates (the Directorate of Health and the Directorate of Family Planning) and other directorates which support the two main Directorate. The Directorate of Health is responsible for health care service, and the Directorate of Family Planning is responsible for the implementation of maternal and child health and family planning (MCH/FP) programs under the Secretary of Health and Family Welfare. Fig. 2-2 shows an outline of the organization of the Ministry.

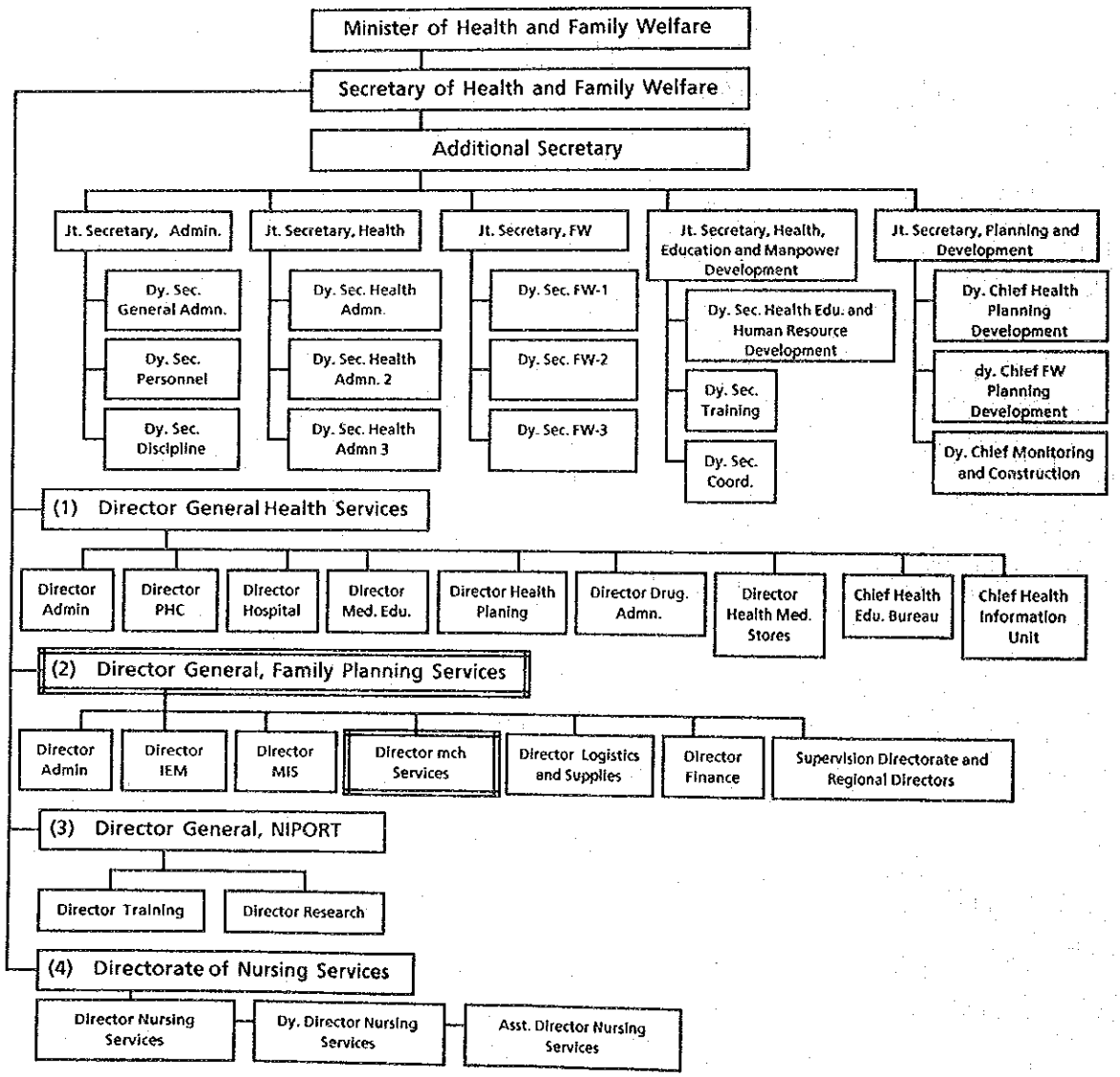


Fig. 2-2 Organization of the Ministry of Health and Family Welfare

2-2-2 Annual Budget of the Ministry of Health and Family Welfare

In Bangladesh, health care service activities are carried out with two financial resources -- revenue and development. Changes of total annual budget for the Ministry, the Directorate of Health and the Directorate of Family Planning are shown in the following table.

Table 2-9 Budget of the Ministry of Health and Family Welfare

(Unit: 10 million TK)

		'85~'86	'86~'87	'87~'88	'88~'89	'89~'90
National	Revenue	7954.7	8525.9	9435.93	10994.1	13660.44
	Development	4095.5	4764.0	5046.00	4593.34	5803.02
	Total	12050.2	13289.9	14481.93	15589.44	19463.26
Ministry	Revenue	226.9	238.9	289.05	321.71	330.62
	%	2.9	2.8	3.06	2.93	2.42
	Development	204.5	244.9	279.43	339.14	470.27
	%	5.0	5.1	5.54	7.38	8.10
	Total	431.4	483.8	568.48	660.85	800.89
	%	3.6	3.6	3.93	4.23	4.11
Directorate of Health	Revenue	206.5	218.3	267.18	294.28	302.58
	%	2.6	2.6	2.83	2.68	2.22
	Development	75.8	101.0	104.02	125.00	163.68
	%	1.9	2.1	2.06	2.72	2.82
	Total	282.3	319.3	371.2	419.28	466.26
	%	2.3	2.4	2.56	2.69	2.39
Directorate of Family Planning	Revenue	20.4	20.6	21.87	27.43	28.04
	%	0.3	0.2	0.23	0.25	0.21
	Development	128.7	143.9	175.41	214.14	306.59
	%	3.1	3.0	3.47	4.66	5.28
	Total	149.1	164.5	197.28	241.57	334.63
	%	1.2	1.2	1.36	1.55	1.71

(Source: A Status Report on Bangladesh Third Population and Health Project)

A comparison of the annual budget between the Directorate of Family Planning, which is the implementation agency of the Project, and the Directorate of Health shows that annual budget of the Family Planning has been steadily increasing in the past three years while that of the Health has remained virtually unchanged.

The continued increase in the Directorate of Family Planning's annual budget reflects emphasis on the need to enhance the quality of maternal and child health services and family planning services, more specifically the need to raise the standard of child health and to control the infant mortality and the maternal mortality rate. In executing the health

service programs of the Ministry of Health and Family Welfare, the role of the directorate of Family Planning become more significant.

2-2-3 Health Care

The Ministry of Health and Family Welfare is responsible for the formulation of health care service programs, and the Directorate of Health is responsible for the formulation of health care service programs and the Directorate of Family Planning for maternal and child health service and family planning (MCH/FP) programs. At and below upazila level, health care service system and MCH/FP Service are integrated.

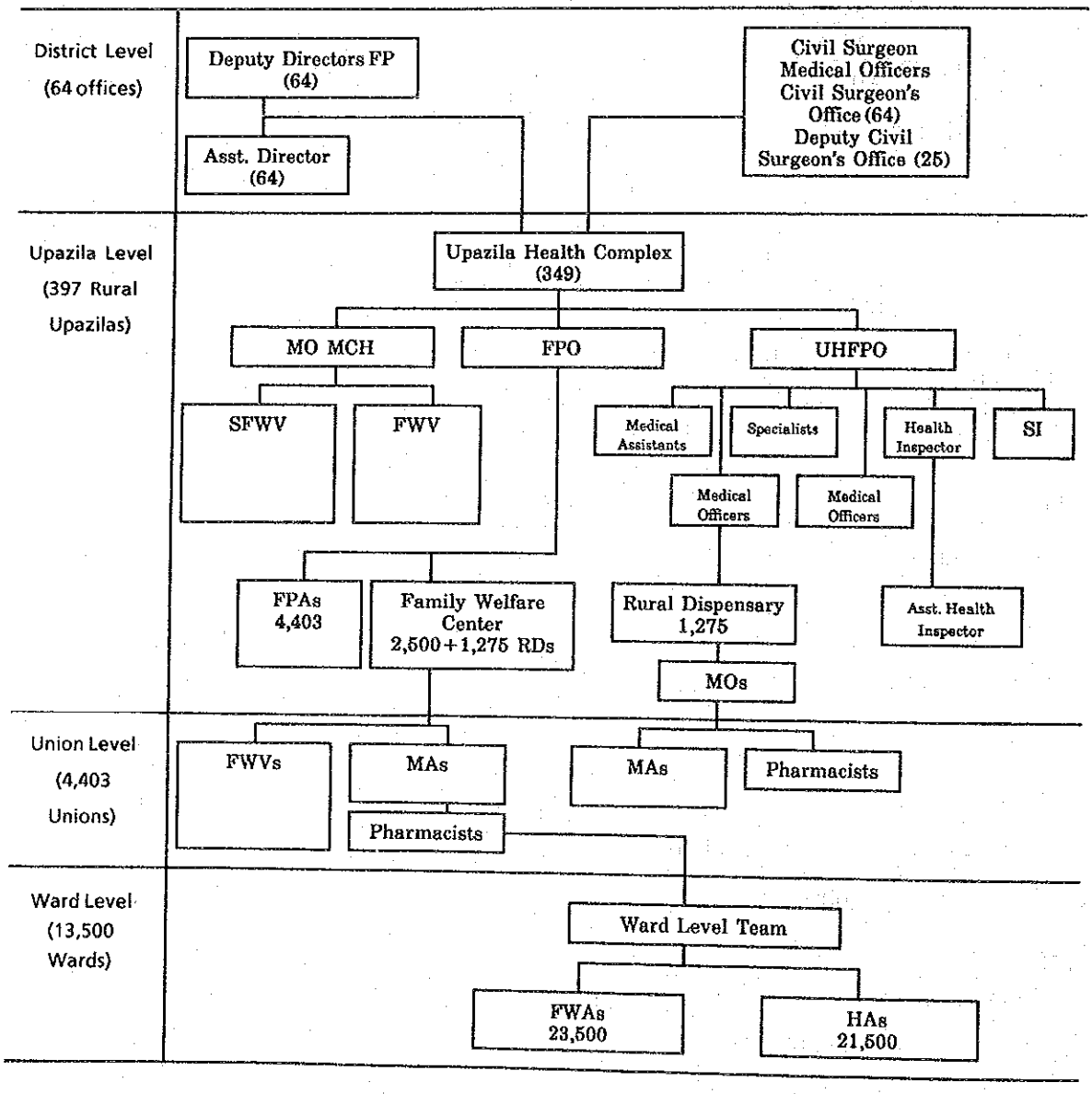


Fig. 2-3 Organization of the Rural Health and Family

At present, the Ministry has a staff of about 120,900, of which about 1,200 are medical specialists of health care/public health, about 8,000 are general doctors and dentists, about 12,000 are nurses, and about 40,000 are paramedical staff (Medical assistants, pharmacists, Lab. technician, family welfare visitors, health inspector, public health inspectors, assistant health inspector, assistant family welfare visitors and health assistants). Its staff also includes health educators and health information analyzer.

(1) Health Care Service System

1) Ward level

FWV stationed in Ward are providing a wide variety of family welfare services through the health clinic and the Expanded Program on Immunization (EPI), with the cooperation of those FWVs stationed in unions.

2) Union level

The smallest units of the country's health care administrative organization are the Family Welfare Center (FWC) in Union and the ward clinic in ward. In Bangladesh, there are 4,403 unions, and the average of union population is 20,000 (as of 1981).
In 1991, 2,500 of the total number of unions (4,403) have family welfare centers and 1,275 have village clinics. Furthermore, 460 unions have Upazila Health Complexes (UHC).
At about 60 percent of the total number of these facilities, a doctor is serving as the director, under whose supervision the FWVs and other paramedical staffs are providing MCH/FP services and other services.

During the fourth five-year plan, it is planned that family welfare centers (FWC) will be newly established in 100 unions. When all these additional family welfare centers are completed,

there will be only 68 unions which have no public health care facilities. It is also expected that the existing ward clinics in 500 unions will be expanded and improved, and will be raised to the status of family welfare center.

3) Upazila level

At the upazila health complex, health services by maternal and child health medical officers and senior family welfare visitor (Sr. FWV) are available.

Of the country's 487 upazilas, 397 are in rural districts. Of these upazila in rural districts, 352 have a upazila health complex (UHC) (as of 1988). A typical UHC has an examination room, an operating room, a dental treatment room, a delivery room, a dispensing room, a ward, and a lodging house for staff members on duty. The UHCs are better provided with medical equipment and medicinal drugs than the family welfare centers. At a UHC, up to 9 medical officers provide health care services. The most of UHCs (with 31 beds) have a staff of about 40, which include a director, six administrative officers and a 40 medical staff. A typical medical staff consists of a surgeon, gynecologists, a dentist, four other medical officers and five nurses.

The UHC is positioned as the smallest health care facility where inpatients can be treated. Since the average upazila population exceeds 300,000, a bed is available for about every 10,000 population. It can be said, therefore, that the UHC is oriented more toward the treatment of outpatients than inpatients. In the fourth five-year plan, a greater emphasis is placed on the enhancement of the quality of maternal and child health-related health care services and as part of the plan, more than 70 percent of the total number of hospital beds of planned 10 UHCs in the fourth five-year plan are for women and children.

4) District level

Of the country's 64 districts, 59 have prefectural hospitals. The average district population is 1.5 million. The number of beds at a district hospital ranges from 50 to 200. The average district hospital has a staff of physicians and surgeons - some are equipped with operating theaters. However, small-scale district hospitals with 50 to 100 beds have only one male ward and one female ward. Facilities of many district hospitals are superannuated and need to be repaired.

(2) Maternal and Child Health/Family Planning Service System

The maternal and child health/family planning (MCH/FP) services are provided the organization as shown Fig. 2-3 where health care and family planning services are closely interrelated in regions, wards, unions, upazilas and districts.

1) Ward level

FWVs and the Traditional Birth Attendants (TBAs) provide MCH/FP services through calls at residents' homes. The improvement in the quality of MCH/FP services at Ward level has been achieved through enhancing of community residents' awareness of the importance of family planning.

2) Union level

In unions, MCH/FP clinical services are available at the family welfare center.

A Family Planning Assistant (FPA) is stationed in each union, under whose supervision three FWA are working. The main tasks of the FWA are to provide information on MCH/FP to each family and to distribute contraceptive devices and pills to families who

practice family planning. They also refer those who prefer methods of contraception such as the IUD or menstrual regulation (MR), which require medical experts' specific services, to nearby special hospitals.

3) Upazila level

A family planning officer (FPO) is stationed at each UHC to promote the concept and practice of family planning across the upazila. Family planning assistants (FPA) who are promoting the concept and practice of family planning in unions under the FPO include male FPAs.

4) District level

At the district hospitals, patients suffering from high-risk diseases complicated by other diseases are treated under the maternal and child health/family planning program.

2-2-4 Health Care Personnel Training System

(1) Medical College

At present, there are eight medical colleges: Sylhet M.A.G. Osmani Medical College; Mymensingh Medical College; Chittagon Medical College; Rengpur Medical College; Sir Salimullah Medical College; Sher-E-Bangla Medical College; Rajshahi Medical College; Dhaka Medical College in Bangladesh. The total number of medical students on the register is 7634 (male 5885, female 1749).

Table 2-10 Medical Students on the register

Name of Medical College	No. of Students in 1990		
	Male	Female	Total
Sylhet M.A.G. Osmani	738	210	948
Mymensingh	664	367	1031
Chittagong	765	298	1063
Rangpur	595	200	795
Sir Salimullah	684	255	934
Sher-E-Bangla	819	216	1035
Rajshahi	808	283	1091
Dhaka	515	218	733
Total			7634

(Source: 1991 Statistical Yearbook of Bangladesh)

About 800 students graduate from the colleges each year. And 90 percent of the graduates will look for jobs in the cities.

(2) Institute of Postgraduate Medicine and Research (IPGMR)

IPGMR was established in 1965 as the first institute in the country for importing Postgraduate Medical Education with a view to produce specialist doctors, consultants and medical teachers and also promoting research in various field of medicine.
It is now considered as the highest national medical institute in the country and is also providing medical care to the patients referred from other institutions and hospitals of the country.

The following five points are the objectives of IPGMR.

1) To impart postgraduate medical education in various field of Medical Sciences.

2) To produce specialist doctors in various fields of medicine.

3) To produce medical teachers for Medical College and Postgraduate Medical Institutes in Bangladesh.

4) To promote research in various fields of medicine.

5) To render medical facilities to the patients referred from other Medical Institutes and Hospitals of the country.

The total number of students on the register is 378 (male 291, female 87) in 1990. The following table is showing the change of the number of student on the register in last five year.

Table 2-11 The number of student on register at IPGMR

	1986	1987	1988	1989	1990
Male	301	227	247	276	291
Female	93	49	53	68	87
Total	394	276	300	344	378

(Source: 1991 Statistical Yearbook of Bangladesh)

Each year, about 150 students graduate from IPGMR, which means that the institute plays an important role as a training facilities for medical personnel.

(3) National Institute of Population Research & Training (NIPORT)

NIPORT which belongs to the Ministry of Health and Family Welfare, conducts training to MCH/FP program related personnel from officers to paramedics. NIPORT also conducts research on population problems.

NIPORT consists of 33 institutes including NIPORT Dhaka, 12 Family Welfare Visitor Training Institutes (FWVTIs) and 20 Regional Training Center (RTC).

1) NIPORT Dhaka

- Provides management development and team training for mid-level program officers District and Upazila levels.

- Is responsible for overall management, administration and coordination of FWVTIs and RTCs. It develops the annual training calender, holds coordination meetings and provides technical guidance and supervision to field institutions.
- Develops all curricula and training materials.
- Conducts trainers' training on a regular basis for its own faculty as well as faculty for FWVTIs and RTCs

2) Family Welfare Visitor Training Institute (FWVTI)

12 FWVTIs provide training for FWVs, who are female paramedics, rendering maternal and child health/family planning (MCH/FP) services to the people.

- 18-months basic training for FWVs.
- 1-month refresher course for FWVs.
- Training of senior FWVs
- Training and retraining of field workers (FWAs and HAs)

3) Regional Training Center

The 20 RTCs train the lowest level field workers such as family planning assistants (FPA), health assistants (HA) and family welfare assistants (FWA), who conduct home visits and communicate directly with the people in the villages.

- 8 weeks basic training for newly recruited FWAs.
- 2 weeks refresher training for HAs and FWVs.
- 2 weeks team training for FPAs.

(4) National Institute of Preventive and Social Medicine (NIPSOM)

The NIPSOM is a government institution under the Ministry of Health and Family Welfare and functions through the Directorate of Health. The ultimate goal of NIPSOM is to develop health manpower at the post graduate level in the Public Health Disciplines and to provide

research, advisory and consultancy services in the public health field. The objectives of NIPSOM are as follows:

- To conduct academic courses leading to post graduate and doctoral degree and diplomas in the disciplines of public health.
- To organize in-service and continuing education/training programs for different categories of health personnel.
- To promote and undertake Health System Research as an instrument of public health practice and development.
- To provide technical advisory/consultancy services in the field of public health.

The institute conducts academic courses leading to formal degrees and diplomas awarded by University of Dhaka.

1) Degree course (2 years)

   - Master of Philosophy in Preventive and social Medicine

2) Diploma Courses (1 year)

   - Public Health
   - Community Medicine
   - Industrial Health
   - Maternal and Child Health/Family Planning
   - Health Education
   - Hospital Management

NIPORT, NIPSOM and College of Nursing provide theoretical and field trainings for paramedical staff and medical officers. However, they do not have any clinical training facilities which is essential for trainees. Therefore, the trainees are sent to nearby hospitals, or where maternal and child health is concerned, the trainees are sent to Maternal and Child Health Training Institute (MCHTI).

2-3 International Organizations' Related Projects

(1) World Bank

World Bank has been cooperating with Bangladesh in regard to the maternal and child health/family planning/population problem of Bangladesh. In the past, World Bank implemented three five-year plans, and started the fourth five-year plan in 1991. While the cooperation in the past five year plans placed emphasis on population problems and family planning, the on going cooperation in the fourth five-year plan places emphasis on maternal and child health.

In relation to maternal and child health services, the World Bank formulated a plan to strength a facility of MCHTI as a part of the fourth five-year plan. The Government of Bangladesh then requested grant aid from the Government of Japan for MCHTI.

The main projects being implemented with the financial assistance of World Bank are as shown in the following table. World Bank intend to provide 310,000,000 US dollars for the Family planning sector and 190,000,000 US dollars for the Health sector during the implementation of the fourth five-year plan. The World Bank implement the following projects with WHO's extensive cooperation.

Table 2-12 The project implemented with the financial assistance of World Bank

Project Name	Contents
1. Family Planning Service Project	Salary for FWA, FWV, Sr. FWV, Purchase of contraceptives/medicine, and vehicle
2. Sterilization	Purchase and distribution of Clinical/Surgical equipment
3. Maternal/Child Health Service	Supply of medicine and diet kit, Strengthening of MCHTI, Salary for personnel of MCHTI
4. NIPORT, RTC, FWVTI	Training of mid-level officers, FPA, FWA, Health Inspector and FWV
5. Family Welfare Center	Building fee for Family Welfare
6. Women's Work	Union for women, Maternal Center, Vocational Training for Women

(2) World Health Organization (WHO)

WHO has been actively cooperating with the Government of Bangladesh in developing and implementing health policies since Bangladesh became independent. With a particular emphasis on primary health care, WHO has been actively promoting the spread and effective use of knowledge of primary health care in the nation through the implementation of health care services in the country. It has also been giving advice on the operation and management of medical colleges, nurses' training schools and paramedical staff training facilities. Furthermore, it has been assisting and cooperating in the area of training health care instructors.

Itemized below are the main programs WHO has been concerned with in Bangladesh. In 1987, WHO had provided 7,555,400 US dollar for the health-related project in Bangladesh.

1) National Health Plan

2) Programs to organize health care services on the basis of primary health care

3) Programs related to repairs, maintenance and management of electrical medical equipment

4) Nurses training programs

5) Programs to enhance medical personnels' capabilities

6) Programs to improve the water supply/sanitary facilities

7) Production of essential drugs and vaccines

8) Immunization programs

9) Malaria control programs

(3) United Nations International Children's Emergency Fund (UNICEF)

UNICEF has also been cooperating with the Government of Bangladesh particularly in the area of relief for mothers and children suffering

from malnutrition since Bangladesh became independent. At present, however, the scope of its cooperation includes such areas as mother and child health, nutrition, supply of safe drinking water, environmental hygiene, elementary education, regional development, social welfare service, "women in development," urban development and especially the diffusion of immunization and ORS.

Since the independence of Bangladesh, UNICEF has implemented three "Cooperation for Bangladesh" plans (July 1988 through June 1993). The fourth plan is aimed at cooperating with the Government of Bangladesh in the areas of "women in development," health and nutrition, project development, basic health service for poor families in both rural and urban areas, and water and environmental hygiene. UNICEF has prepared 135,544,000 US dollars for the fourth Bangladesh Cooperation plan.

(4) United States Agency for International Development (USAID)

USAID began supporting the government of Bangladesh's family planning service plan in 1981. It has since then implemented various programs to offer financial assistance and technical cooperation in the supply of contraceptive devices, drugs and medical equipment and the development of human resources in the area of family planning. In 1987, it launched a six-year family planning/health service program aimed at reducing the country's high birth rate and motarity rate. As a result, the quality of the country's family planning/maternal and child health services has been improved and the target area of the program itself has been expanded. USAID has provided 176,000,000 US dollars for the Six-year plan.

USAID has made public its intention to support the Government of Bangladesh in the following four areas, all of which are closely related to the family planning/maternal and child health service:

1) Family planning services implemented by the Government of Bangladesh

2) Family planning social marketing (sale of contraceptive devices and drugs through the provision of grants)

3) Family planning services implemented by non-governmental organizations

4) Maternal and child health services (prevention of diarrhea through the spread of ORS, the sale of ORS through the provision of grants, spread of immunization in urban areas)

(5) German Technical Cooperation Agency (GTZ)

GTZ has cooperated with the Government of Bangladesh in the construction of the National Institute of Population Research and Training (NIPORT) and the management of the institute. It has also been training paramedical staff members through NIPORT Dhaka, 12 FWVTIs and 20 RTCs.

At present, GTZ is supporting the following plan being implemented under the fourth five-year plan and GTZ will spend 12,400,000 US dollars for the plans:

1) In-service training of family planning/maternal and child health staff members at work on prefectural and country levels.

2) Expansion of the staff of NIPORT aimed at enhancing its functions.

3) Research on family planning/health service and on training curriculum.

2-4 Present State of Maternal Child Health Training Institute

2-4-1 Short History of Maternal and Child Health Training Institute (MCHTI)

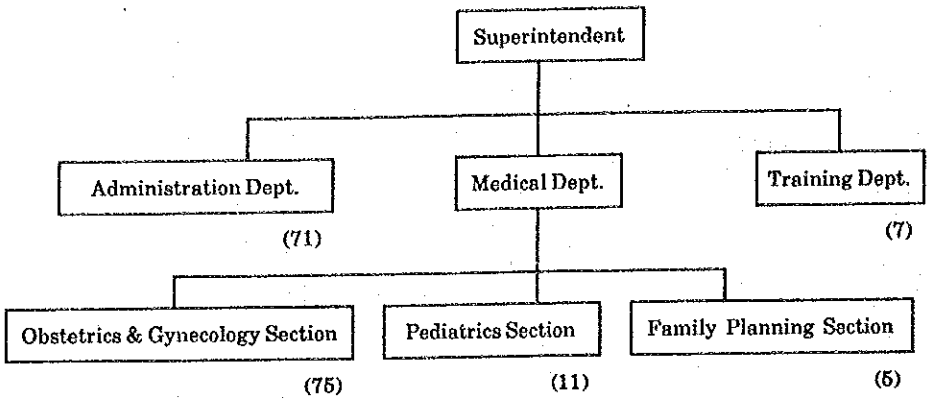
MCHTI was established in 1953 in the Azimpur District of Dhaka, with the collaboration of East Pakistan, WHO and UNICEF, as an organization to promote the spread of maternal and child health (MCH) services in local communities. The original main tasks of MCHTI were to train the Lady Health Visitors (LHV) and to provide health care services to pregnant mothers and children under five.

The number of beds of MCHTI, which was 20 at the time of its founding, was increased to 100 in 1960. Its sub center, with 15 beds, which used to be a private house, is located in the Mirpur District of the city of Dhaka. The present main tasks of MCHTI are to train paramedical staff members in the area of maternal and child health/family planning (MCH/FP) and to provide preventive medical services to mothers and children. The MCHTI aims to lower the maternal mortality rate and the infant mortality rate through these services.

2-4-2 Organization, Staff and Budget of MCHTI

(1) Organization

As of February 1992, MCHTI had two operating bases, namely, the main center in Azimpur and the sub center in Lalkuthi. The organization of MCHTI consists of three main units - the Medical Department, the Training Department and the Administration Department. The Medical Department is further divided into a Obstetrics and Gynecology section,a Pediatrics section and a Family Planing section.



( ) No. of Staff member

Fig. 2-4 Organization of Maternal & Child Health Training Institute

The MCHTI's organization has the following three characteristics:

1) Seventy-five percent of the staff members are women.

2) The training institute serves not only as a training facility but also as a midwifery service facility. Unlike other medical facilities, it has a large number of family welfare visitors (FWVs), whose main task is to assist the medical officers.

3) As many as 40 percent of the staff members are low ranked personnel such as AYA, MALI, MLSS, DAI etc. The MCHTI's organization is supported by a great deal of non-medical staff like many other medical facilities in Bangladesh which have a similar organizational structure.

The MCHTI's Medical Department is operating 24 hours, on a three-shift basis.

1) 8:00 a.m. to 2:00 p.m. (the outpatient reception desk is also open during this period of time)

2) 2:00 p.m. to 8:00 p.m.

3) 8:00 p.m. to 8:00 a.m.

After the daytime service hours (8:00 a.m. to 2:00 p.m.) 20 to 25 staff members, including a medical officer and three to five FWVs, are on duty until 8:00 a.m. the next day. However, not all the staff are assigned to work in three shifts.

No full-time medical officers are stationed at the sub center since it is a small-scale facility with 15 beds. It is staffed with three full-time FWVs. Four to five Aya, Dai, guards and sweepers are also dispatched from main center in one-month shifts. The sub center also operates on a three-shift basis, and a medical officer is sent as occasion demands.

Communications between the main center and the sub center are carried out when sub center's FWVs attend a weekly joint meeting held at the main center. The monthly executive meeting (attended by the superintendent, the senior consultants, the administrative officer, the matron and the accountant) and the weekly joint meeting (attended by the members of the executive meeting and the FWVs) are MCHTI's official correlation meetings.

(2) Staff members

As of February 1992, the training institute had a staff of 170, consisting of 22 officers and 148 others.

Table 2-13 Present Staff Members of MCHTI

Class	Rank	Name of Post	No. of Post		Total
			Revenue	Development	
		Officer			
I	4	Superintendent	1		1
I	6	Sr. Consultant (Ob/Gyn)		2	2
I	8	Assistant Surgeon	5		5
I	8	Pediatrician	1		1
I	8	Medical Officer		2	2
I	8	Anesthetics		1	1
I	8	Pathologist	1	1	2
I	9	Medical Social Worker		1	1
I	9	Nutrition Officer		1	1
II	10	Administrative Officer		1	1
II	10	Assistant Matron		1	1
III	10	Sister Tutor	4		4
		Total	12	10	22
		Staff			
III	11	Pharmacist	2		2
III	11	Sr. Staff Nurse	4		4
III	10	O.T. Sister	1		1
III	13	Accountant		1	1
III	13	Stenographer	1		1
III	14	Steward		1	1
III	14	Lab. Assistant	1		1
III	14	Store Keeper	1		1
III	14	U.D.Assistant	1		1
III	14	Cashier	1		1
III	14	FWV	20	10	30
III	15	Driver	3		3
III	16	Housekeeper	1		1
III	16	L.D.A. cum Typist	4	1	5
III	16	Ward Mistress	1		1
IV	19	Cook	6		6
IV	20	Male Attendant	5		5
IV	20	Guard	8	4	12
IV	20	Sweeper	17	6	23
IV	20	Aya	30		30
IV	20	Mali	1		1
IV	20	M.L.S.S.	8		8
IV	20	Dai	9		9
		Total	125	23	148
Total			137	33	170

In Bangladesh, government employees are classified into four classes with 20 ranks. Staff members of MCHTI are appointed to their respective positions according to their respective classes, and their salaries are paid from different sources (revenue and development).

Table 2-14 Government Employee Class System

Class	Rank	Appointment
Class I	1~9	Secretariat of MHFW
Class II	10	Director General
Class III	11~16	Superintendent
Class IV	17~20	Superintendent

When MCHTI recruit new staff members, the staff members fall under Class I and Class II are assigned as a transfer by the Ministry. And for Class III and Class IV staff members, applications are collected publicly.

(3) Budget

MCHTI's annual budget, which is drawn up in October of the preceding year, is finalized in March, and is executed from July. Changes in its annual budget in the past three years and its annual budget for the current fiscal year (1991-92) are as shown in the following tables.

Table 2-15 Budget of MCHTI (1988~1992)

		1988~89		1989~90		1990~91		1991~92	
		TK	%	TK	%	TK	%	TK	%
Income	Revenue	4,700,000	67	5,900,000	68	6,500,000	68	9,719,324	69
	Development	2,045,000	29	2,435,000	28	2,825,000	29	4,349,377	31
	Patient responsibility	267,762	4	282,524	3	283,591	3		
	Total	7,012,762	100	8,617,524	100	9,608,591	100	14,068,701	100
Expendi-ture	Revenue	4,548,806	70	5,055,803	71	5,226,204	73	7,256,889	72
	Development	1,907,285	30	2,033,426	29	1,893,602	27	2,822,123	28
	Total	6,456,091	100	7,089,229	100	7,119,806	100	10,079,012	100
	Balance	556,671	8	1,528,295	18	2,488,782	26	3,989,689	14

Table 2-16 Expenditure from Revenue Budget (1988~1991)

Revenue

Item	1988~89		1989~90		1990~91		Average
	TK	%	TK	%	TK	%	
Salary	3,038,878	66.8	3,770,332	74.6	3,884,256	74.3	71.9
Diet	189,253	4.2	199,531	3.9	291,761	5.6	4.6
Contingency	382,273	8.4	269,707	5.3	284,008	5.4	6.4
Clinic Contingency	599,793	13.2	617,281	12.2	518,895	9.9	11.8
MSR	149,883	3.3	41,794	0.8	99,900	1.9	2.0
Maintenance of vehicle P.O.L.	141,251	3.1	135,576	2.7	114,697	2.2	2.7
Purchase of Book	19,995	0.4	9,860	0.2	0	0.0	0.2
Tax	26,480	0.6	11,722	0.2	32,687	0.6	0.5
Total	4,548,806	100	5,055,803	100	5,226,204	100	

Table 2-17 Expenditure from Development Budget (1988~1991)

Development

Item	1988~89		1989~90		1990~91		Average
	TK	%	TK	%	TK	%	
Salary	1,200,035	62.9	1,388,817	68.3	1,527,175	80.6	70.6
Diet	236,052	12.4	178,692	8.8	72,929	3.8	8.3
Contingency	231,537	12.1	288,650	14.2	216,138	11.4	12.6
Clinic Contingency	0	0	0	0	0	0	0
M.S.R.	132,311	6.9	124,828	6.1	29,800	1.6	4.8
Maintenance of Vehicle P.O.L.	107,350	5.6	52,439	2.6	47,660	2.5	3.7
Purchase of Book	0	0	0	0	0	0	0
Tax	0	0	0	0	0	0	0
Total	1,907,285	100	2,033,426	100	1,893,602	100	

As shown in the above tables, the annual budget has been in the black over the past three years. Since the authority of MCHTI's superintendent is limited to approving expenditures, the surplus at the end of the fiscal year is usually returned to the Ministry of Health and Family Welfare. Therefore MCHTI's actual annual expenditures are considered to represent the size of its annual budget. This is common practice for other government ministries and agencies. Although this is a training institute, the budget for training is not appropriated in. As MCHTI is the place to provide only space for trainees, the budget for training is appropriated in the organizations which send trainees to MCHTI.

The main reason why the budget for the current fiscal year is far larger than that for the previous fiscal year is that the pay structure of the Bangladesh government was drastically revised in July of last year.

The breakdown of MCHTI's income and expenditures is described as follows:

① Income items

The main Income items are revenue, development and patients' responsibility of the health care costs.

Revenue is transferred from the national treasury. Development is allocated for ongoing projects approved by the government, and the source of development is mainly foreign assistance. When all such projects are considered to have been completed, there may be no development issued. Mohammadpur Obstetrics and Gynecology Clinic, for example, has no revenue since it has been recently incorporated into the Ministry of Health and Family Welfare. Thus it is presently operated with development alone. On the other hand, Narayanganj General Hospital, which operated under both revenue and development at the time of its opening, is now operated with revenues alone.

Patients' responsibility of the health care costs are collected as follows:

Outpatient diagnosis treatment charge: 2 TK/visit

Hospital charges:	3 TK/visit
Two-bed room (4 rooms, 8 beds):	105 TK/day (bed sheet rental: 80 TK/day; 3 meals/day: 25 TK/day)

Ordinary beds and medicinal drugs are available free of charge

At the sub center, all facilities, equipment and supplies are available free of charge.

Income from patients' responsibility can not be used - the income will be added to the budget of the Ministry of Health and Family Welfare.

② Expenditure items

The main expenditure items are as shown below:

Salary, Diet expenses, Contingency, Clinic contingency, Vehicle maintenance expenses (including fuel expenses), Taxes and public charge

Table 2-16 and 2-17 show a breakdown of MCHTI's annual expenditures. Clearly salary represents more than 70 percent of the total expenditures. This percentage is higher than at other medical facilities. The main reason for this is that other expenses are relatively small since MCHTI is essentially an obstetric/gynecologic facility which does not require highly sophisticated medical equipment or treatment.

2-4-3 Present Activities

(1) Health care

1) Outpatient

At present, outpatient diagnosis and treatment at the obstetric section and the pediatric section is conducted on alternate days. About 350 outpatients (new and revisit outpatients) are diagnosed and treated a day at the main center and about 90 at the sub center. The following tables show a breakdown by item of the annual total number of outpatients diagnosed and treated at the main center and the sub center for the past five years.

Table 2-18 Number of Diagnosis (Main Center)

Diagnosis	Number/Year				
	1987	1988	1989	1990	1991
Pregnancy	33,420	28,451	31,462	30,416	29,566
Immunization(mother)	12,764	12,905	13,256	12,357	10,865
Family Planning	7,232	7,824	7,524	8,562	9,356
Pediatrics	23,662	21,485	39,869	42,559	42,695
Immunization (children)	6,374	7,673	9,403	8,812	8,577

(Source: MCHTI)

Table 2-19 Number of Diagnosis (Sub Center)

Diagnosis	Number/Year				
	1987	1988	1989	1990	1991
Pregnancy	2,045	2,068	2,311	2,059	2,373
Immunization(mother)	559	527	331	521	647
Family Planning	1,063	1,222	1,317	1,469	1,730
Pediatrics	5,599	6,465	7,862	9,383	9,878
Immunization (children)	159	167	141	182	167

(Source: MCHTI)

① Outpatients at the obstetric section

Most outpatients take antenatal medical examinations only. No postnatal medical examinations are conducted except for very serious cases. Pregnant mothers are given guidance on daily care in small groups before receiving medical examinations.
New outpatients go through a medical examination by FWVs, and after that they undergo medical examinations and palpation by medical officers. No internal examinations are conducted at the outpatient building. Patients who need to receive internal examinations are referred to the inpatient building.

Revisit outpatients undergo a medical examination by an FWV only except for serious cases, which are diagnosed and treated by medical officers. FWVs are also responsible for dispensing simple medicine. Those outpatients who have been found to

have serious complications are referred to Dhaka Medical College Hospital.

② Outpatient at the pediatric section

Immunization for children of five and under is the main activity at this section. Diagnosis and treatment are conducted mainly for skin diseases, upper respiratory tract infectious diseases, diarrhea and fevers. Those outpatients with serious diseases are transported to the Dhaka Medical College Hospital, Dhaka Seishu Children's Hospital or general hospitals.

Revisit outpatients undergo a medical examination by FWVs only except for serious cases.

2) Inpatient

① Delivery management

When labor pain starts or a rupture of bag occurs, the pregnant mother is hospitalized and placed under observation. About 90 percent of deliveries at the department are normal deliveries. However, induced delivery for complication of pregnancy toxemia, and forceps delivery for prolonged labor are conducted. And for stillbirth experienced pregnant mothers as well as for prolonged labor with early rupture of bag, caesarean sections are conducted.

Deliveries are conducted by FWVs or TBAs, as long as deliveries are normal. Cases of seriously difficult labours are referred to the Dhaka Medical College Hospital. In 1990, the number of babies delivered at MCHTI were 3,405 and 137 of difficult cases were referred to college hospital.

② Operations

Operations conducted at this section are menstrual regulation and caesarean operations. Usually, operations are performed by a Sr. Consultant and a FWV. A full-time anesthetist is stationed at the section. Even after ordinary service hours, the anesthetist can be available in case of emergency. In 1990, 1,129 of menstrual regulations and 54 caesarean operations were conducted at MCHTI.

③ Ward management

The section has a nurse station, where medicine control and medical record control are conducted.

3) Training

On-the-job trainings to doctors, nurses and paramedical staff such as FWVs, SR. FWVs, health workers and TBAs are carried out at MCHTI. Instructors are dispatched from training institutes, but officers in MCHTI also act as instructors if necessary.
The following table shows MCHTI's achievements in on-the-job training for the past two years.

Table 2-20 Training Achievement ('90, '91)

Trainee	year	1	2	3	4	5	6	7	8	9	10	11	12	Total	Remarks
Family Welfare Visitor (Refresher course)	'90									18	20	12	17	67	FWVTI NIPORT
	'91	18	18	16	16	17	20	16	16	13	9			159	
Sr. Family Welfare Visitor (Refresher course)	'90	18	11		20	19		15	22	19	20			149	FWVTI NIPORT
	'91	18	11		20	19		15	22	19	20			149	
Medical Officer	'90					14								14	NIPSOM
	'91		20			33		10						63	
Sr. Staff Nurse	'90		2			33	94							129	School of Nursing
	'91						131				1			132	
4th year student Nurse (Midwifery)	'90		15						15		52	27		123	College of Nursing
	'91				11	11			21	21	65			129	
Health Worker	'90			10		37	21		24	40			46	199	Bangladesh Rural Advancement committee
	'91					22	22			27	14			85	
Traditional Birth Attendant	'90		28		4		5					10	11	63	Radd Barnen, Aga Khan Foundation
	'91		15	20		21	10	13	21		6			106	

At present, there is no concrete time table for training. The training schedules are fixed and carried out upon the request of organizations which send trainees to MCHTI. As for contents of training for medical officers, examination and treatment to Pregnant women, family planning guidance to mothers, examination and diagnosis to children and immunization to mothers and children. For paramedical staffs, the following trainings are carried out: assistance to child birth, ante and postnatal care to mothers, family planning guidance to mothers, dietetics and hygienics. Trainees are divided and trained as small groups of 5 people.

2-4-4 Present State of the MCHTI's Facilities and Equipment

(1) Facilities

The main center consists of a two-storied outpatient building and a three-storied inpatient building. The sub center consists of a one-storied outpatient building and a one-storied inpatient building. These buildings are all extremely superannuated.

1) Azimpur·Main center

The main center has 100 beds, three delivery rooms, one operating theater, and a treatment room with four beds (for use in family planning). The fittings attached to the medical examination beds are superannuated. The center is not provided with sophisticated medical examination equipment. The operating theater which is not equipped with sufficient medical equipment has only an anesthetizer.

- Outpatient building

  The existing outpatient building is too small to accommodate the number of outpatients. Its waiting space is also insufficient. For these reasons, mothers and children are diagnosed and treated on alternate days. Although the numbers of shelves, desks, chairs and medical examination beds seem sufficient, most of these articles are very superannuated. However, facilities are kept clean despite of superannuation. Both the examination room and the treatment room are so small that it is very difficult to conduct on-the-job training.

- Ward

  Like the outpatient building, the inpatient building is superannuated. Although it is kept clean, it is not well ventilated or lighted.

Since the operating theater is located inconveniently and its fittings are unsuitable, it is difficult to protect it against contaminated air. While the numbers of shelves, desks, chairs, medical examination/treatment beds and hospital beds seem sufficient, most of these articles are superannuated.

2) Lalkuthi·Sub Center

The premises of the sub center is large in area. However, its outpatient building used to be a private house, and its inpatient building was constructed using community residents' donations. Both buildings are small, poorly lighted, poorly ventilated, and are very superannuated. While the numbers of shelves, desks, chairs and beds seem sufficient, all of these articles are superannuated.

(2) Equipment

The main items of equipment now in use at the two centers are as listed below: Most of these items of equipment are very superannuated, and therefore it cannot be said that they are functioning well.

1) Azimpur Main Center

A. Outpatient Dept.

a. Immunization room
Boiling sterilizer (1) Refrigerator (1) Tray (2)

b. Maternal classroom
Examining Table (1) Lecture Bench (15) Cabinet (1)

c. Pathology Room
Blood Sedimentation set (3) Manual Centrifugal Machine (2)
Microscope (1)

d. Reception

Desk (1)	Step (1)	Notice Board (1)

e. Pharmacy

Cabinet (1)	Working Table (1)	Desk (1)

f. Examination Room

Weighting Scale (1)	Infant Weighing Scale (1)	
Examining Table (1)		

g. Medical Record Room

Working Table (3)	Chair (3)	Cabinet (3)

h. Counseling Room

Sphygnomanometer (1)	Stethoscope (1)

i. Examination Room

Examining Table (1)	Working Table (1)	Instrument (1)

j. Family Planning

Desk (1)	Chair (10)	Cabinet (1)

k. Infant Medication Room

Cabinet (4)	Desk (2)	Chair (2)

B Inpatient Dept.

a. Emergency Room

Weighing Scale (1)	Height Scale (1)	Sphygnomanometer (1)
Stethoscope (1)	Patient Bed (4)	

b. Examination Room

Examining Table (2)	Instrument Tray (1)
Instrument Cabinet (2)	

c. Boiling Sterilizer Room

Boiling Sterilizer (1)	Test Tube & Tube Stand (1)

d. Treatment Room

Examining Lamp (1) Instrument Tray (1) Treatment Table (1)
Operation Chair (1) Washing (1)

e. Enema Room

Treatment Table (1) Disposal Bin (1)

f. Medicine Storage

Rack (3) Cabinet (4)

g. Preparation Room

Oxygen Inhalation Machine (1) Suction Unit (1)
Instrument Tray (1) Refrigerator (1) Infant Weight Scale (1)

h. Delivery Room

Delivery Table (3) IV Stand (3) Portable Lamp (1)
Instrument Tray (1)

i. Ward

Bed (15) Bed Side Cabinet (15)

C. Operation Dept.

a. Sterilization Room

Dryer (1) Sterilizer (1) Washing Machine (1)
Boiling Sterilizer (1)

b. Recovery Room

Treatment Table (1) Instrument Tray (1) Operating Chair (1)
Instrument Cabinet (1) Suction Unit (2) Refrigerator (1)
Oxygen Inhalation Machine (1)

c. Operation Theater

Shadowless Lamp (1) Operation Table (1) Delivery Table (1)
Instrument Tray (1) Anesthesia Machine (1) Instrument Set (3)
IV Stand (1) Suction Unit (1)