

Towards 2000: Health scenario of Bangladesh

(a book chapter)

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Introduction

Born in 1971 after a devastating war, Bangladesh is a land of immense beauty and potential. Its people are resilient and known for their ability to survive great hardships. Their survival strategies, developed and fine-tuned over time immemorial, have generated a remarkable capacity for adapting to seemingly impossible circumstances and for overcoming all gloomy prophecies. This was most recently apparent during the deluge of 1998 when the people of Bangladesh faced, coped with and overcome the worst flood of the century. As the current millenium draws to an end, it seems timely to do stocktaking of the health scenario of Bangladesh.

Current scenario

Bangladesh is the most densely populated country in the world, having a land mass of 144,000 sq. km. (861 persons/sq. km. in 1997). With a population growth rate of 1.8%, Bangladesh ranks 144th out of 175 countries with an estimated GNP per capita of US\$253 (World Bank, 1996). At least 70 million people live in absolute poverty, and of these, 35 to 50 million form the extreme ultra poverty¹ group (BIDS, 1990; '92). Forty-seven percent of the adult population of Bangladesh is illiterate and two-thirds of them are women; 20% of primary school-age children (6-11yrs) do not enroll in school at all (ADB, 1997; BBS, 1997a). The life expectancy at birth is still only 59 years; indeed, Bangladesh is one of the few countries in the world in which the life expectancy is lower for females than for males. The infant mortality remains high at 77 per thousand live births (BBS, 1996). Poverty, illiteracy, and gender discrimination combined with violence within and outside home contribute to the adverse effect on women's health. As many as six of every hundred women (28,000 women annually) die from pregnancy related causes (Kamal et al, 1993). Only 25% of pregnant women receive antenatal care,

and trained midwives attend only 14% of the births. Only 39% of the district hospitals and 56% of the Thana Health Complexes (THCs) have the potential to offer adequate basic obstetric services. More than one-third of the 3.33 million infants born annually weighs less than 2.5 Kg, the threshold for low birth weight (lbw). Two-thirds of the children under six years of age are either under-weight or stunted and some 17% are moderate-to-severely wasted (BBS, 1997b). Of the approximately 20 million under-five children, an estimated 380,000 die from pneumonia, diarrhoea, measles and neonatal tetanus every year (Abedin, 1997; Baqui et al., 1998). Nationwide, one-third of the deaths in children under five years of age occurs during the first month of life (BBS, 1996; Mostafa, 1996). The average daily calorie consumption is only 80% of the recommended level (World Bank, 1995) and in 25% of rural households, the average daily consumption is still less than 1,800 calories, the minimum for extreme poverty (World bank, 1998a). Although the use of safe sources for drinking water is almost universal, only 44% of the population uses a sanitary method of excreta disposal (BBS, 1997a).

Medical pluralism

Like most transitional societies, the simultaneous existence of different systems of medicine or medical pluralism is a fact of life in Bangladesh (Ahmed, 1993a). 'Modern' allopathic medicine generally has established itself in these societies not so much by displacing indigenous medicine as by increasing the therapeutic options available to these populations. Kabiraj, Hakim, practitioners of 'folk' medicine, and faith healers of different shades (pir, fakir etc.) fall under the broad umbrella of 'traditional' medicine (see later). Bangladesh has an extensive array of local shops and pharmacies where drugs and other health-related supplies are sold. There are an estimated 85,000 retail outlets nationwide, one for approximately 2,000 persons (POPTECH, 1995; Mookherji et al., 1996). In addition to selling medicines, these retail outlets also provide health service and treatment, though only a fraction by qualified allopathic practitioners. Recent data suggests that approximately half of all health and family planning expenditure made by individuals in Bangladesh were for over-the-counter drugs or for local "unqualified" practitioners (Data International, 1998). By far the single largest group of rural private

¹ defined as less than 1805 kcal consumption per capita per day

practitioners is the 'unqualified allopaths' who are the untrained pharmacists, market sellers, and road-side "quacks" with little or no professional training who use allopathic drugs, including antibiotics (Ahmed, 1998). These practitioners rarely follow standard therapies. Rather, treatment tends to be a function of negotiation between patient and provider regarding what the patient or their families can afford. Medicines are usually sold per tablet, capsule or spoon in case of syrup on the basis of what is described by a relative, and seldom involve the direct examination of the patient (Ashraf et al., 1982). They present a formidable barrier in rational prescription of drugs for treating diseases.

Access and utilization of public health facilities

Less than 40% of the population of Bangladesh has access to modern primary health care services beyond immunization and family planning (Abedin, 1997). Utilization of the public health care system has declined from 20% in 1981 to 12% in 1994. The large majority of the health care-seeking population go to the unqualified practitioners of various kinds for treatment that is frequently sub-standard, in-effective or harmful (Begum, 1996). Reasons cited for non-use of public facilities are: inadequate attention given by the physician (28%), non-availability of medicines (26%), distance to the nearest health facility (9%), and factors like long waiting times, absence of doctor, ineffective treatment and the charging of informal and extra fees (24%) (Khan et al., 1988). Even though the 'official' cost of the service is zero, the 'hidden' cost may be substantial and beyond the reach of the poor.

Government expenditures on health and family planning activities have never exceeded 3% of its budget including donor support (GOB, 1998a). Preventive care as part of Primary Health Care (PHC) seems to have even less priority. Two-thirds (66%) of the Ministry Of Health and Family Welfare (MOHFW)'s expenditure is for hospital services, including the THCs. One-quarter (24%) of MOHFW expenditures are for tertiary health care services at the medical college hospitals and at specialised hospitals. On the other hand, the great majority of international financial support is given for PHC including family planning. Thus, MOHFW has a very marginal position in the delivery of PHC services and in 1990-95 devoted no more than 8% of the resources to preventive care

(Data International, 1998). Public health facilities are running at only 50% of capacity (IBRD, 1995) and a 1996 survey of THCs found that doctors were working as little as 15% of their designated hours (IBRD, 1996).

Current Government expenditure amounts to about \$3.50 per capita for all health and family planning purpose, while the World Bank estimates that an essential package of basic services for a country like Bangladesh would cost around \$12 (UNICEF, 1997). Of this expenditure, payment and allowances take a greater portion of the spending than health care delivery services expenses. User fees for government services amounted to less than 1% of government health expenditures. Benefits from public health spending represents only 0.5% of rural household income. However, the incidence of such spending, as proportion of income, is highest for the poorest decile (2.9%), declining almost secularly to 0.2% in the case of top two deciles. The relative proportion of the public and private health expenditure indicates that public expenditure only fills 15% of the health care demand (Sen, 1997).

State of urban health care services

The urban population of Bangladesh has increased rapidly from around 8% in 1971 to around 20% in 1997, following a growth rate of approximately 6% in the past two decades (MOHFW, 1996). Around 60% of this growth is due to poverty and disaster related migration from the countryside. A major consequence of the surge in urban population is the rapid growth of slums and squatter settlements. It is estimated that there will be about 16 million 'poor' and 9 million 'hard-core poor' in urban Bangladesh by the year 2000¹. About half of the population of Dhaka (amounting to about 4.5 million) can be categorized as living below poverty line. While the urban poor population is not confined to slums, these do present an aggregation of the poorest section of the urban population and due to overcrowded, unsanitary and substandard dwellings, are thus at high risk of contracting communicable diseases.

¹ The World Bank has identified two groups: the 'poor' who earn less than Taka 2600 per month for the average family of six persons, and the 'hard-core poor' who earn less than Taka 1724 per month (Tawfik Y et al., 1996)

The health and family planning status of the slum population is worse than in the rural areas (Perry H et al., 1996; URC, 1996). The IMR is 138 per thousand live births in Dhaka slums compared to national urban and rural estimates of 67 and 89 per thousand live births respectively. The mortality rate of under-five children in the poorest slum households is three times that of better-off urban households (Perry et al., 1997). The nutritional status of children in urban slum households is even worse than that of children in rural areas with a similar socioeconomic background (HKL, 1997; BBS, 1998). Again, the contraceptive prevalence rate (CPR) for modern methods in the slums is only 38-40 percent compared to 51 percent in the non-slum urban area (Arifeen and Mukharjee, 1995; GOB and ADB, 1998).

In retrospect: evolution of the health services

Providing health care is the constitutional obligation of the Government: "...it shall be the responsibility of the state to attain, through planned economic growth, a constant increase of productive forces and a steady improvement in the material and cultural standard of living of the people, with a view to securing to its citizens- a) the provision of the basic necessities of life, including food, clothing, shelter, education and medical care..." Bangladesh inherited a poor state of health and health services at independence which was the product of decades of colonialism, conflict, and neglect. With 72 million people, Bangladesh was already a densely populated country with low agricultural productivity and an annual food deficit of staggering proportions. Before independence, only one in five adults could read and write, most of whom were men. At 47 years, life expectancy was one of the lowest, More than half of all rural families and three quarters of those in cities and towns suffered from severe nutrition deficiency. At around 150 per 1,000 live births, Bangladesh had one of the highest child mortality rates in the world (GOB, 1998b).

In order to improve the health of the population, various programmes have been undertaken in the country in the past few decades. One of the most important of these

initiatives was the development of physical infrastructure like 31-bed Thana Health Complexes (THCs) and the Union Health and Family Welfare Centres (UHFWCs) as grassroots units for delivering PHC services at the doorsteps of the rural people. These centres have been built with the assistance of a donor consortium led by the World Bank and ultimately, all 4,770 unions will be covered. The network of institutional facilities starts from the UHFWCs at the union level, with THCs as the first referral centre. In each union, there are eight sites for outreach services, called satellite clinics (SCs). The Family Welfare Visitors (FWVs) conduct these SCs once every month. Family Welfare Assistants (FWAs) motivate clients and refer them to this clinic for family planning services and other services that cannot be served at home. Beside PHC and FP services at the UHFWCs, specialised services in the field of medicine, surgery, gynae, obstetrics, paediatrics and anaesthesia and dentistry are provided at each of the 374 THCs. Supply of essential drugs and vaccines has further been improved and cold chain instituted in each THC to maintain the quality and effectiveness of drugs and vaccines. Currently, there are 3,200 operational UHFWCs of which 1,525 are staffed by an MBBS doctor. The other staff are: a Medical Assistant (where there is no doctor), a Family Welfare Visitor (FWV), occasionally a pharmacist and other ancillary staff. The number of hospital beds has also increased significantly over the years. Currently, there are about 34,786 hospital beds giving a bed-population ratio of approximately 1:3,450 (GOB, 1998b). From 1974 onwards, the MOHFW has had a bifurcated organisational structure from the top down to the grassroots level, with one cadre of workers in family planning activities and another cadre in health activities. Developed at the insistence of the donors for aggressively pursuing the FP activities, it led to duplication of management and service delivery staff, and inefficiencies and difficulties of coordination at all levels. Also, current management systems provide few incentives to improve the quality of care and respond to the client's needs. In a study done by BRAC on the two wings of MOHFW in one thana in 1988, a dismal picture emerged (Chowdhury, 1990). The study found the large number of field staff to be spending less than half of their scheduled working time on the job. Many of the assigned duties were not done, or done only partially. A sense of mutual suspicion and mistrust seemed to exist between the workers of the health and family planning wings, which affected their performance. The findings from the study played an

important role in reviewing and improving the activities of the two wings of MOHFW. Currently, attempts are being made to integrate these two services and improve management for efficient and cost-effective delivery of an essential package of health care services at the grassroots (see later).

'Indigenous' or 'traditional' medicine

Despite increasing utilization of 'modern' (allopathic) health care services in Bangladesh, 'traditional' medical systems still persist and exert a significant influence by competing with, and sometimes delaying the use of, these services. Over the last two decades, rapid population growth, the current state of public health and consequently the need for medical manpower (unfulfilled by the "western" trained medical and paramedical staff) has led policy makers to acknowledge the role of indigenous healers (Ayurvedic or 'kibiraji', Unani or 'hakimi' and 'Homoeopathy'--- though of European origin) in the field of health care. Whereas during colonial times, the traditional systems were either ignored by the 'scientific' medicine or simply branded out-moded, un-scientific and un-worthy of being part of the official medical systems, post-colonial times have brought a revival of these systems. Soon after independence in 1971, the GOB recognised traditional medicine, keeping in force the Central Act of 1965 i.e., Unani, Ayurvedic and Homoeopathic practitioners Act, 1965. In the third five-year plan (1985-1990) one of the health sector objectives was: 'to promote systematic development of Homoeopathy, Unani and Ayurvedic systems of medicine with a specific basis'. In July 1983, by an ordinance, two separate boards, one for Homoeopathy and the other for Unani and Ayurvedic systems of medicine were established for the advancement of traditional medicine. There are currently about 6,000 practitioners of traditional medicine in Bangladesh, who are registered or accepted for registration under law, 750 among them institutionally trained. At present there are ten Unani, and five Ayurvedic teaching institutions recognised and aided by the Government. These institutions offer a four year diploma course plus a six month internship in an attached out-door hospital. In the third five-year plan, at Dhaka, one degree college of Unani and Ayurvedic system of medicine with a 100-bed hospital has been established with an annual intake of 50 students. This college started functioning from 1989-90 academic session offering a five year degree

course under Dhaka University. In the National Drug policy of 1982, Unani and Ayurvedic drugs have been brought under legislation to control the commercial manufacturing and marketing of quality drugs. Furthermore, a post of Director, Homoeopathy and Indigenous Medicine with one Deputy Director was created under MOHFW to see the overall development of traditional medicine (Ahmed, 1993b). A scheme for the establishment of a full-fledged well-equipped National Institute for Research in Unani and Ayurvedic Medicine is now under the active consideration of the Government. However, compared to its scope and status in neighbouring India, 'Traditional' systems of medicine still occupy a very marginal position in the mainstream health system of Bangladesh.

Progress over the years: a brief sketch

In its short history, Bangladesh has faced a daunting challenge of improving the health of its people and made remarkable progress. Particularly impressive gains have been made in reducing mortality. The infant mortality dropped from a level above 100 in late 1980s to just around 70 by 1996. Similarly, under-five mortality has decreased by almost 30% during this period to around 110 deaths per 1,000 live births. These reductions coincided with a higher rate of immunization coverage through the EPI (launched by the GOB and its development partners) which rose from 2% in 1985 to 67% in 1997 among children 12-23 months of age, and coverage rose from less than 2% to 86% for women with children under one year who obtained at least two tetanus toxoid immunizations (WHO, 1995; EPI, 1998). In 1996-97 an estimated 48% of children with diarrhoea were treated with pre-packed oral rehydration salts, and a further 28% were treated with a homemade solution of sugar, salt and water, called 'labon-gur' solution (LGS) in Bangla. BRAC played a very important role in popularising the LGS in Bangladesh. Over a ten-year period from July 1980 to November 1990, 12 million mothers were taught to prepare and administer LGS by the Oral Therapy Extension Programme (OTEP) of BRAC (Chowdhury and Cash, 1996). Supplementation of Vitamin A is now given to all children under 12 months of age at the time of routine immunization. Currently, more than 80% of children one to five years of age receive vitamin A capsules every six months and given

the known mortality reducing effects of vitamin A in undernourished children with vitamin A deficiency, an estimated 125,000 lives are being saved annually through this programme in addition to reduction in the prevalence of night blindness. Due to this dramatic improvement in child survival, parents can now afford to reduce the number of children they have. This has also contributed in motivating parents to limit the size of their family.

The most spectacular progress has been made in the field of family planning, reproductive health care and child health services. Bangladesh is the only country among the poorest 20 countries in the world where sustained fertility reduction has taken place over the past 15 years (World Bank, 1998b). Between 1972 and 1996, the 'contraceptive prevalence rate' rose from 4% to 49%, bringing down the 'fertility rate' from 6.3 to 3.3 children per woman. These results were achieved by the family planning programmes launched aggressively from mid-seventies with emphasis on the provision of a highly personalized community based services supported by information, education and communication, an effective FP/MCH logistics system, a vibrant network of NGOs providing services, rigorous operations research and effective social marketing.

The role of micro-credit based development programmes in empowering poor rural women and raising contraceptive use has also been suggested in the literature (Pitt et al., 1995; Schuler and Hashemi, 1994). Since independence, NGOs have played an ever-increasing role in the field of rural development, poverty alleviation and disaster management in Bangladesh, especially during the last one and half decades. Currently, about 80% of the Thanas¹ have been brought under NGO programmes (ADAB, 1996). They have been specially effective in the provision of selected social services like health, education, credit-based income generating opportunities for poor women, and service delivery in family planning. More girls are now achieving primary education and more women are working outside the home to earn an income. Exposing women to new knowledge influences their reproductive outcome by reducing desired family size (Le Vine et al., 1991). Work outside home exposes women to new ideas, better access to

¹ the lowest administrative unit in Bangladesh

family planning services and informed choice resulting in higher contraceptive use (Mahmud and Johnstone, 1994). Thus, the work of NGOs have contributed substantially to health and fertility transition in Bangladesh.

Morbidity burden of the rural society has also declined substantially in the recent years. Point prevalence¹ of acute illness declined from 16.2% in 1984 to 4.3% in 1995 (BIDS, 1996). However, infectious and parasitic diseases continue to dominate while other gastrointestinal problems like acidity, ulcer etc. too are growing causes of illness in rural areas. With respect to health professionals, the current doctor-population ratio is 1:4,870 and the nurse-population ratio is 1:10,714 (the doctor-nurse ratio is 2:1, totally reversed from western standard).

The National Drug Policy: a landmark

The National Drug Policy adopted by Bangladesh in 1982 was one of the firsts among developing countries that promoted the use of essential drugs and restricted the use of drugs with no scientifically proven efficacy. It limited the list of approved drugs to 150 essential drugs, restricted the manufacture and sale of most drugs to national firms and thus prohibited exorbitant profits (Chowdhury, 1996). Over the past 15 years, this policy has undergone some modifications as a result of pressure from interested quarters, the major of which was the de-regulation of the price of non-essential drugs. However, the price of essential drugs is still the lowest in Bangladesh among the countries of the region.

Health-poverty interface: a new dimension for development

Sickness through 'income erosion' is a major contributing factor to the process of impoverishment in rural Bangladesh. Acute vulnerability of the poor households to sudden and unanticipated health related shocks lead not only to the loss of income and employment (equivalent to around 10% of the ultra-poor's income), but also to increased indebtedness associated with the raising of coping costs. Health hazard-related risk events

¹ defined as total number of persons with acute illness at any point in time

explain, on average, 16% of causes of deterioration along the poverty spiral experienced by households during the 1990-94 period. For non-poor households who slipped subsequently into 'hard core'¹ poverty, the share of health related causes are as high as 21%. (Sen, 1997). Access to high impact (essentially preventive) health services significantly reduces vulnerability of the poor households to illness-induced income erosion and expenditure crises. Thus, reductions in fertility and improved health are important for poverty alleviation as well.

NGOs: another key player in the health scenario

The dynamic NGO sector existing in Bangladesh has carved an important niche for itself in the provision of health and family planning services at the grassroots level. This has been possible due to two factors: delivery of relatively high quality services at a reasonable cost, and innovative ways to involve local community to change its own health in a sustainable manner. Many NGOs have close relationships with the communities they serve, and are therefore, in a better position to identify and reach vulnerable individuals and groups than government institutions. These NGOs range from large international organizations (e.g., CARE, Save the Children and World Vision) to large national ones like BRAC, *Ganashasthya Kendro*, Grameen Health Programme, FPAB etc., to hundreds of smaller local NGOs. Currently, around 4,000 NGOs are working in the health, nutrition and population sector in Bangladesh. Due to their flexible, result oriented management style, NGOs are able to experiment with innovative ways to deal with the health and population problems of Bangladesh unlike highly bureaucratized government structures. The Bangladesh Population and Health Consortium NGO Project funds 47 small-to medium size NGOs for provision of MCH-FP services to the poorest of the poor in the harder-to-reach areas. These smaller NGOs currently serve around 1.65 million people in 67 thanas throughout the country. These NGOs have strong outreach services and community participation, and strong integration of family planning and MCH services (BPHC NGO Project, 1997).

¹ The terms 'ultra-poor' and 'hard-core poor' have been used interchangeably to describe the bottom 10-15% in the income scale

An illustrative case: the experience of BRAC

BRAC, perhaps the largest NGO in the world (with 20, 433 full time staff and an annual Budget of US\$ 104 million as of December 1997) has extensive experience in developing community-based health and family planning services. Targeted mainly to its programme participants, some interventions are focused towards the whole community (e.g., community-based TB and ARI control programme) and are conducted in collaboration and partnership with the government. BRAC's health programmes aim to achieve a sustained health impact through reducing maternal, infant and child mortality and fertility; and by improving the nutritional status of children, adolescents and women. To achieve these goals, BRAC provides critical services in reproductive health and disease control, mobilizes women in health activities through training, and collaborates with the public sector in implementing national programmes of common interest. BRAC currently operates four major programmes: Reproductive Health and Disease Control (RHDC), National Integrated Population and Health Programme (NIPHP), Bangladesh Integrated Nutrition Project (BINP), and Essential Health Care (EHC). The RHDC and the EHC programmes are primarily targeted to the Village Organization (VO)¹ members and their families, while the other programmes are targeted towards the total community and implemented in collaboration with the government.

The core person in BRAC's health programme is the community health volunteer, the Shastho Shebika (SS), who is selected from among the BRAC's VO members. Most of these women are aged 25-35 years, illiterate, and from the poorest households. They are trained to identify and cure some common diseases, refer patients who need professional medical attention to formal medical services, and provide services on family planning and rural sanitation. Increasing the health and nutrition awareness of the members is another important task of the Shebika. BRAC's community based tuberculosis and acute respiratory tract infection (ARI) control programmes also operate through these Shebikas. Each Shebika is responsible for about 150-200 households and visits some 15 households

¹ poor women's group (an average of 35 members per VO) organized by BRAC through which all development inputs including credit are delivered

per day and provides services. She receives certain incentives such as access to credit or small profits from the sale of drugs or slab latrines, and is held in high esteem by the community in which she lives. The activities of the SS are supervised by BRAC field office staff who eventually visit 25% of her households (BRAC, 1997a; RHDC, 1997; Chowdhury, 1997).

From 1996, BRAC started operating static health care facilities in the rural areas (around 90 in number till date) to offer a comprehensive package of secondary health, nutrition and reproductive health services. These centres also act as backups for BRAC's SS-based field-level health activities. A team of health workers headed by a physician provides services. Emergency services are available 24 hours a day. The services are provided on a fee-for-service basis and there is a safety-net procedure for the poor in addition to a sliding fee scale in which service charges can be completely waived and the costs of medicines reduced even further. Around 20% of recurrent costs are currently being recovered from service fees, and BRAC expects the clinics to be completely self-sustaining within a few years (Khan SH et al., 1998).

Partnership between NGOs and the Public Sector at the grassroots: lessons learned

There has been marked progress over the past decade in supportive and complementary collaboration between the MOHFW and the NGOs in delivering health and family planning services at the grassroots level. Experiences gained from BRAC health programmes (BRAC, 1995), the UNICEF Combined Service Delivery Project (Talukder, 1996), the ICDDR,B Matlab MCH-FP Project (ICDDR,B, 1997), the GTZ Integrated Community Family Health Development Programme (GTZ, 1996), the Thana Functional Improvement Project (TFIPP, 1997), the WHO PHC Intensification Project (DGHS, 1993), and the World Vision health programmes (World Vision, 1996) indicate that government Health Assistants (health cadre) and Family Welfare Assistants (FP cadre) can work well together at the local level if external facilitation from the NGOs in the form of training, management, coordination, and supervision and monitoring, is present. Evidence suggests that when these service providers work in partnership with local

communities and the NGOs, the effectiveness of the services is greatly improved. GO/NGO collaboration has particularly been very successful in the areas of family planning and childhood immunization, and control of tuberculosis and leprosy. Experiences with these programmes show that the GO/NGO partnership works very well only when the government is fully committed and genuinely wants NGO cooperation. Also, much can be achieved by learning about how people understand their health problems and how they want to solve them with the limited resources available. The new Health and Population Sector Programme (HPSP 1998-2003) of the government envisions a strong role for the NGOs. NGOs will be able to bid on government-funded activities in the health and population sector, and mechanisms for contracting out government activities to the NGOs will be developed. It calls for providing assistance to government in the formulation and implementation of a Bill of Rights for clients in hospitals and clinics and in making the current Code of Conduct for medical practitioners widely known among clients (MOHFW, 1998).

Challenges ahead

Bangladesh continues to face a number of significant challenges in the health sector despite some progress since independence. Despite considerable declines in IMR and MMR, death rates continue to be unacceptably high compared to many other developing countries. The quality of life of the general population is still very low. Low calorie intake continues to result in malnutrition in a large proportion of women and children. Preventable communicable and poverty-related diseases still dominate the top 10 causes of morbidity and 65% of all morbidity causes in 1996 were caused by these. Resurgence of malaria, kala-azar and other re-emerging diseases as well as emerging diseases like HIV/AIDS, substance abuse etc. are increasing the disease burden of the population. Environmental degradation due to air, water and industrial pollution, deteriorating living conditions in the urban slums, and increased concentration of arsenic in subsoil water reported recently in some areas of the country etc., poses significant adverse outcomes for public health (GOB, 1998b).

Towards the new millenium: facing the challenges

At the turn of the millenium, the GOB, donors, and private sector have recognised that Bangladesh's health and population problems face new demographic and programme realities. To date, donors have underwritten lion's share of the government's expenditure for health and population for more than two decades which currently accounts for roughly 35% of the ministry's budgeted expenditure (Buse and Gwin, 1998). In future, the proportion of health sector expenses that will be met by external donor support will, at best, not likely to increase beyond its current level. It is projected that total available financial resources will be insufficient to keep pace with the health and family planning needs of a still rapidly growing population. To achieve demographic goals, the programmes must become significantly more cost-effective by delivering a package of basic health and family planning services in an integrated and high quality manner. Customer survey and other research information confirms that Bangladeshis have a strong desire for integrated family planning, reproductive health and other essential health services that are both accessible and of high quality (USAID, 1995). Also, the private sector will undoubtedly play an increasingly important role in the health and family planning sectors in the future. Thus, the health and family planning programmes are undergoing a radical overhauling to face the millenium in an effective and efficient way. These are briefly described below.

Health and Population Sector Programme, HPSP (1998-2003):

Since 1975, a World Bank led consortium of development agencies has provided financial and technical assistance to the Government for the implementation of successive health projects. The First Population Project (1975-80) provided support for re-establishing an infrastructure for family planning service delivery. The Second Population and Family Health Project (1980-86) provided funds for further development of the national family planning programmes. The Third Population and Family Welfare Project (1986-91) began to provide some support for the reduction of infant mortality along with support for FP services. The Fourth Population and Health project (1992-98)

provided further support for MCH and disease control activities along with FP services (World Bank, 1998b).

With the experiences gained from past health projects, the MOHFW has reformed its policies and approach to health by restructuring and integrating its previously divided sectors, health and family planning-maternal-child health. The reformed MOHFW presents 'HPSP 1998-2003' with the purpose to "*achieve client-centred provision and client utilisation of an Essential Service Package, plus selected services*" (MOHFW, 1998). The Essential Service Package (ESP) includes: prioritized reproductive and child health services, communicable disease control and limited curative care. In addition, a new component called Behavioural Change Communication (BCC) has been initiated to empower people to demand services and expect quality of life and health care. Funded by the World Bank and a consortium of donors beside GOB and multilateral development partners (UNDP, UNICEF, UNFPA, WHO and UNAIDS), this large internationally financed health and population project is undertaken to reduce infant and maternal mortality and morbidity, improve nutritional status and reduce fertility so that replacement-level fertility will be reached by the year 2005. To achieve these targets over the next five to seven years, the government will pursue at least five strategies: 1) design and implement the ESP 2) reorganize public sector service provision 3) improve financial sustainability 4) build a greater role for the private sector and NGOs, and 5) review, revise and update the National Drug Policy, particularly for the purpose of increasing the availability and affordability of essential drugs and promoting the rational use of drugs. It addresses the issues of gender in the human resource development activities of the MOHFW, by emphasizing the importance of enhancing opportunities for women at the policy and planning level, improving working conditions and guaranteed career structures for women. Also, attention is given to raise awareness of the staff on gender issues while interacting with clients and colleagues. Efforts will be undertaken during this project to strengthen the private sector regulatory framework. The implementation of this programme will cost around US \$ 2.9 billion (with some US \$ 1 billion in external donor support).

National Integrated Population and Health Programme, NIPHP (1997-2004):

Between 1987 and 1997, the USAID supported national Family Planning and Health Services Project (FPHSP) provided support to 115 NGOs involved in providing family planning services through field workers who visited the homes of married couples of reproductive age every two months. Based upon the external evaluation of FPHSP, a USAID-funded strategic options/sector assessment, and a 1995 USAID appraisal of FP and health customers, USAID and GOB launched in July 1997, the NIPHP partnership between USAID, the GOB and its MOHFW, along with two service delivery partners, RSDP (Rural Service Delivery Partnership) and the USDP (Urban Service Delivery Partnership), and five other supporting entities. The primary purpose of the NIPHP is *"to enhance the quality of life of poor and underprivileged members of the society by helping to reduce fertility and improve family health"* (USAID, 1997). The partners currently operate through 45 NGOs within Bangladesh's national population and health programme and cover approximately 25 million people. It represents a radical new approach to health and population service delivery: while the previous USAID-supported project emphasized community-based distribution of family planning materials by field workers at the door-steps, the current programme emphasizes the delivery of a high quality high impact ESP (lesser version)¹ in a clinic-based one-stop setting, targeted to the whole family. The services are provided through both static clinics and satellite clinics. These clinics are supposed to be readily accessible to the poorer and socially disadvantaged segments of the population, particularly in the under-served and poor-performing areas of the country. The NIPHP has a much stronger focus on child survival activities and on maternal and reproductive health activities than did the earlier FPHSP. The RSDP supports 20 NGOs (including BRAC) working in 171 of the 460 thanas of rural Bangladesh. There are 159 Static Clinics and 595 Satellite Clinic teams functioning in these locations. The USDP supports 25 NGOs in the four city corporations of Bangladesh and in 67 other smaller municipalities. There are now a total of 117 Static Clinics and 244 Satellite Clinic teams functioning in these locations.

Bangladesh Integrated Nutrition Project, BINP (1996-2001)

Funded by GOB/World Bank and with technical assistance from UNICEF, this community-based nutrition project, partnered by GOB and NGOs, was launched in 40 thanas with three components: core community-based nutrition activities, national-level nutrition activities and the inter-sectoral nutrition programme (BRAC, 1997b). In the core component, Community Nutrition Centres (CNC) staffed by a local woman Community Nutrition Promoter (CNP) are established at sites donated by the local communities. In each site, children under two years undergo monthly weighing and pregnant women undergo height and weight measurement throughout their pregnancy. Severely malnourished women and children receive daily pre-cooked snacks and nutrition counseling. On a quarterly basis, a community growth chart is prepared which describes the nutritional status of all the children in a way that can be readily understood by the community members. The project is six years in length and will reach almost 10% of the population located in 40 thanas. BRAC is playing a major role, both as implementor and trainer/supervisor, in the initial phase of the programme. Analysis of project experience showed that a community-based nutrition programme like this can make rapid and significant impact on severe malnutrition. These encouraging findings have paved the way for scaling up BINP and led to the development of a 10 year national nutrition project for the entire population with WB financing and UNICEF technical assistance. The project will be managed by the MOHFW as part of the HPSP through partnership with NGOs, along with the involvement of relevant government ministries.

New Initiatives in the Urban sector

In urban areas, MOHFW has only a limited preventive and promotive health care infrastructure. A mixture of private, NGO and government hospital facilities providing mainly curative services complements this. The responsibility for providing public health services, including immunization, in urban areas lies with City corporations and municipal authorities under the jurisdiction of Ministry of Local Government, Rural

¹ aspects of the ESP which receive low levels of support through NIPHP are: "safe delivery", care of post-

Development and Cooperatives (MLGRDC). The MLGRDC does not have in its structure a health cell to plan, implement and monitor the health services for urban Bangladesh. The role of the municipal and health managers is often co-ordination of the service providers, namely, NGOs, private practitioners, traditional healers, municipal health facilities and MOHFW facilities (hospital based secondary and tertiary care). Some new initiatives have also been taken in the urban health sector to improve the current state of urban health, with particular focus on the slum and non-slum poor.

Urban Family Health Partnership under NIPHP

Currently, in the urban area, the UFHP¹ under the NIPHP delivers clinic based full range of ESP through 24 NGOs (117 static clinics, 35 in City corporations and 65 in other municipalities; 2 satellite teams per static clinic). There are six areas where UFHP plan to develop a direct working relationship with GOB: liaison and networking with GOB representatives at municipal level, sharing lessons learned on quality, improving municipal coordination on family health matters, helping to launch an urban TB project, franchising ICDDR,B's cholera hospital to GOB sites in Dhaka, launching 'sustainability contracting' in urban slums.

Urban Immunization by BASICS (Basic Support for Institutionalising Child Survival)

The urban EPI project, initiated in 1988 with USAID funding to reduce the gap in national and urban EPI coverage in the late 1980s, was brought under the global USAID health project BASICS in 1994. Although overall childhood immunization coverage in the cities of Bangladesh is now higher than the national coverage, several surveys have found that the coverage of children living in urban slums lags behind that of non-slum children, creating gaps of un-immunized population. In 1996, BASICS developed a coordinated strategy to meet the special needs of immunization for the urban poor, living in slum areas focussing on two specific objectives (Tawfik et al., 1998):

- to assist GOB to develop and implement strategies to extend supply and demand for EPI in selected municipalities, with special emphasis on the urban poor

abortion complications, control of communicable diseases and curative care of common diseases

¹ Participants of UFHP are: John Snow Institute, Family Planning Services and Training Centre, Concerned Women for Family Planning and Behaviour Change Communication Programme (led by JSI)

- to assist GOB to achieve and sustain 85% EPI coverage with emphasis on the urban poor

Urban Primary Health Care Project (1998-2002)

There have not been any major government or private programmes specifically targeted at the primary health care needs of the urban poor, especially those living in the urban slums. To cater to their needs, a five-year, US\$ 60 million Urban PHC Project was launched through MLGRDC in four city corporations of Bangladesh (Dhaka, Chittagong, Khulna and Rajshahi), targeting 9.5 million urban poor or 41% of Bangladesh's urban population (ADB, 1998; GOB and ADB, 1998). The project's goals are: reduce morbidity and mortality especially among the women and children, and strengthen the capacity of the local governments to manage, finance, plan, evaluate and coordinate primary health care services. The project will construct 190 new PHC centres near slums and other densely populated areas and provide services on immunization, micronutrient support (e.g., Vitamin A), FP services, antenatal, obstetrical and postnatal care, management of diarrhoea and pneumonia in children, and TB and RTIs in adults, first-aid and psychological support for women who have been victims of violence.

Attempts to integrate 'traditional' medicine into the public health system

Currently, no measures have been undertaken to use the vast army of traditional practitioners in the public health care system. In general, the 'traditional' system operates outside the Government health care system and is largely self-financing, dependent upon the financial capability of the patient. Traditional medical practitioners should be taken into account when planning PHC programmes, if for no other reason than because they are used by a significant number of people throughout the country either as the only health resource available or a substitute for, or a complement to, allopathic health care. Practitioners now working in traditional sectors should be integrated into the official medical sector, as an inexpensive means of expanding the availability of efficacious health care services. This will lead to the development of a new culture of 'integrated' medicine by accommodating traditional healing practices, where possible, with 'modern

scientific' medicine, as envisioned by WHO (WHO, 1978). Regarding 'folk' practitioners (faith healers of different types) it can be said that their strength lies in 'healing' patients rather than 'curing' them i.e., giving meaning of bio-medical events rather than controlling them. As such, under certain circumstances, they may be used to complement the 'curing' services of the official medical sector. Otherwise, they should be discouraged to practice, keeping in mind the long term interest of the patient's health who exclusively rely on such treatment.

The proposed health-related policies

The proposed health policy (currently pending parliament's approval) calls for continued efforts to reach "Health for All" and for equity of access for all citizens, especially the rural population and the urban poor. It places the concept of PHC at its core for providing essential services to the population. Under the policy, non-profit and for-profit private sectors are encouraged to work as a "complementary force" to the government's efforts. The policy calls for the involvement of all types of practitioners, both modern and traditional, and their professional associations in strengthening the availability and the quality of services. It further stipulates that the Government should assist traditional practitioners in improving the quality of their services. It calls for decentralization of services and increasing awareness of the community with regard to their health rights, responsibilities and interaction with the local health authorities. The policy proposes to improve the quality of care at the government health centres through the development of standards for, and monitoring of, service quality (GOB, 1998b).

The National Policy on HIV/AIDS and STD affirms the full human rights of persons with HIV and AIDS and calls for the development of a strong and comprehensive national HIV/AIDS prevention and control programme. Improving awareness about sexually transmitted diseases and access to facilities with high-quality STD services is a key component of the national policy as is the widespread promotion of condom use, establishment of an HIV/AIDS surveillance programme, and improvement in the safety of transfusion of blood and blood products (Choudhury et al., 1997). The National Food

and Nutrition Policy sets as its goal that by the year 2000, the national daily average per capita intake of 2,279 calories, which is the recommended daily minimum. The policy recommends a stronger role for the Bangladesh National Nutrition Council in national and regional policy formulation, in nutritional surveillance, and to promote the inclusion of nutritional components in all development programmes (BNNC, 1997).

Conclusion

At the dawn of the new millenium, we are confronted with the challenging task of providing equitable, accessible, efficacious and high quality health care-services to the population at large, the majority of whom live at or below the poverty line. Although Bangladesh has a formidable public sector health and family planning infrastructure, it is under-utilized, inadequately managed and of poor quality. The last two and half decades have shown that a 'growth promoting' approach to development on its own will not lead to sustainable health improvement for the majority of the population (Abed, 1996). Interventions to create healthy environments for preventive care may provide a more efficient and sustainable way to deliver curative services. A social change in favour of the poor will empower them to play an active role in health prevention and promotion, and improve their access to equitable, gender-sensitive, quality health care in the coming millenium.

References

- Abed FH (1996) *Health and Development: lessons learned from the grassroots*. J DIARRHOEAL DIS RES 14(2): 119-24.
- Abedin (1997) *Health and Population Sector: an overview and vision*. Paper prepared for the Logical Framework Workshop for HAPP-5, 23 – 25 February 1997 (unpublished).
- ADAB (1996) *Annual Report, 1996*.
- ADB (1997) *Second Primary Education Sector Project: Draft Report and Recommendation*. p.3.
- ADB (1998) *Project Administrative Memorandum (P.AM) for the loan to the PR Bangladesh for the Urban Primary Health Care Project*.
- Ahmed SM (1993a) *Medical pluralism: the case of Bangladesh*. JOPSCM 12(1): 26 – 9.
- Ahmed SM (1993b) *Traditional medicine and 'modern' medicine: confrontation or cooperation?* BRAC Health Studies 1993.

- Ahmed SM, Adams A, Chowdhury M, Bhuiya A (1998) *Socioeconomic development and health-seeking behaviour: the case of BRAC in Bangladesh* (unpublished).
- Arifeen SE and Mukharjee S (eds.) (1995) *The Urban MCH-FP initiative: An assessment of programme needs in Zone 3 of Dhaka City*.
- Ashraf A, Chowdhury S, Streetland P (1982) *Health, disease and health care in rural Bangladesh*. Soc Sci Med 16: 2041 – 54.
- Bangladesh National Nutrition Council (1997) *Bangladesh National Food and Nutrition Policy, 1997*.
- Bangladesh-German Technical Cooperation (GTZ) (1996) *Lessons to be learned from research findings of Integrated Community Family Health Development Programme, Bogra*.
- Baqui AH, Black R, Arifeen SR, Hill K, Mitra SN, Sabir AA (1998) *Causes of childhood deaths in Bangladesh: Results of a nationwide verbal autopsy study*. Bulletin of the World Health Organisation 76: 161-71.
- BBS (1996) *Statistical Pocketbook*. p.145.
- BBS (1997a) *Progotir Pathay: Achieving the goals for children in Bangladesh*, July 1997
- BBS (1997b) *Child Nutrition Survey of Bangladesh, 1995-96*. p.22.
- Begum S (1996) *Health dimensions of poverty*. In: Rahman HZ, Hossain M, Sen B (eds.) Dynamics of rural poverty in Bangladesh 1987-94. BIDS.
- BIDS (1990) *The Face of Rural Poverty in Bangladesh: Trends and Insights*.
- BIDS (1992) *Rethinking Rural Poverty: A Case for Bangladesh*.
- BPHC NGO Project (1997) *Lessons learned from the Bangladesh Population and Health Consortium NGO Project. Implications for HAPP-V*.
- BRAC (1995) *Health and population programme, July 1993 - December 1994 Report*.
- BRAC (1997a) *BRAC Report 1997*.
- BRAC (1997b) *Nutrition Facilitation Programme*.
- Buse K and Gwin C (1998) *The World Bank and global cooperation in health: the case of Bangladesh*. The Lancet 351: 665-9.
- Choudhury MR, Islam MN, Rasul MG (1997) *Meeting the challenges of HIV/AIDS*.
- Chowdhury AMR (1990) *A tale of two wings: Health and family planning programmes in an Upazila in northern Bangladesh*. Rural Study Series no. 6.
- Chowdhury AMR et al. (1997) *Control of tuberculosis by community health workers in Bangladesh*. Lancet 350: 169-172.
- Chowdhury AMR, Cash R (1996) *A simple solution: teaching millions to treat diarrhoea at home*.
- Chowdhury Z (1996) *The politics of essential drugs. The makings of a successful strategy: lessons from Bangladesh*.
- DATA International (1998) *Bangladesh National Health Accounts 1996/1997*.
- DGHS, MOHFW (1993) *Expansion of PHC intensification and District Health System development in Bangladesh*.

- EPI (1998) *Findings of the National Coverage Survey*.
- GOB (1998a) *National Health Policy*.
- GOB (1998b) *The fifth five year plan 1997 – 2002*. p. 454.
- GOB and ADB (1998) *Urban Primary Health Care Project*.
- HKI (1997) *Status of urban slum households in Bangladesh* (unpublished).
- IBRD (1995) *Experiences with economic reform: a review of Bangladesh's development*. University Press. p.374.
- IBRD (1996) *Growth or stagnation: a review of Bangladesh's development*. University Press. p.148.
- ICDDR,B (1997) *ICDDR,B MCH-FP Extension Project (Rural). Intervention update flyer: Essential Service Package*.
- Kamal H, Hossain A, Begum SF, Kamal GM (1993) *Prospects of menstrual regulation services in Bangladesh: Results from operations research*. Publication No. 9. Bangladesh Association for the Prevention of Septic Abortion.
- Khan et al. (1988) *Bangladesh health finance and expenditure study*. Bangladesh Unnayan Gobeshana Prothistan.
- Khan SH et al. (1998) The trade-off between sustainability and equity: the case of the BRAC health centres in Bangladesh.
- LeVine RA et al. (1991) *Schooling and survival: The impact of maternal education on health and reproduction in the third world*. Harvard School of Public Health Working Paper No. 3. Harvard University, Boston.
- Mahmud S, Johnstone AM (1994) "Women's status, empowerment and reproductive outcomes". in: Sen G, Chen L. (eds) *Population policies reconsidered: health, empowerment and rights*. Harvard University Press, Boston.
- MOHFW (1996) *Population and development: National plan of action*. p.11.
- MOHFW (1998) *Health and Population Sector Programme, 1998 - 2003: Programme implementation plan, Part-I*.
- Mookherji S, Kane TT, Arifeen S, Baqui AH (1996) *The role of pharmacies in providing family planning and health services to the residents of Dhaka, Bangladesh*. MCH-FP Extension Project (Urban) Working Paper No. 21.
- Mostafa G, Ahmed K, Shaik MAK (1996) *Demographic Surveillance System---Matlab. Vol:27: Registration of Demographic Events 1995*. Scientific Report No. 79. ICDDR,B.
- Perry H et al. (1996) *Assessment of the quality of the MCH-FP services provided by field workers in Zone 3 of Dhaka City and strategies for improvement*. MCH-FP Extension Project (Urban) Working Paper No. 20. ICDDR,B.
- Perry H, Begum S, Hussain JB, Baqui AH (1997) *Levels and correlates of mortality in Zone 3 of Dhaka City, 1995*. Working Paper No. 27. ICDDR,B.

- Pitt M et al. (1995) "Credit programs for the poor and reproductive behaviour in low income countries: Are the reported causal relationships the result of heterogeneity bias?" Paper presented in the 1995 Annual Meeting of the Population Association of America, April, San Francisco, USA.
- POPTECH (1995) *The Bangladesh family planning and health services project: evaluation report*. POPTECH Report No. 95-040-027.
- Sculer SR, Hashemi SM (1994) *Credit programs, women's empowerment and contraceptive use in rural Bangladesh*. *Studies in Family Planning* 25(2): 65 – 76.
- Sen B (1997) *Health and poverty in the context of country development strategy: a case study on Bangladesh*. WHO "Macroeconomics, Health and Development" Series No.26, Bangladesh Country paper. p. 10.
- Talukder MQK (1996) *Combined Service Delivery (CSD): Historical background and Manikganj experience. Progress Report, March 1996* (unpublished).
- Tawfik et al. (1996) *Extending immunization services to the urban poor in Bangladesh: A strategy for action*. BASICS.
- Tawfik et al. (1998) *Extending immunization services to the urban poor in Bangladesh: progress and lessons learned*. BASICS.
- Thana Functional Improvement Pilot Project (TFIPP) (1997) *Project Progress Report: January 1997 - March 1997*.
- UNICEF (1997) *The dancing horizon: Human development prospects for Bangladesh*.
- University Research Corporation (1996) *Family planning survey in the urban slums in Bangladesh*.
- USAID (1995) *Population and Health customer appraisal*.
- USAID (1997) *National Integrated Population and Health Project (NIPHP) Results Package: July 1997 - June 2004*
- WHO (1978) *The promotion and development of traditional medicine*. WHO Technical Report Series No. 622.
- WHO (1995) *Global programme on vaccines and immunization information system*.
- World Bank (1995) *Integrated Nutrition Project, Staff Appraisal Report*. p.2.
- World Bank (1996) *Bangladesh: Economic Update*. p.2.
- World Bank (1998a) *National Nutrition Programme (NNP) identification mission, July 4-16, 1998*. Aide-Memoire.
- World Bank (1998b) *Project appraisal document on a proposed credit in the amount of SDR 185.5 million to the Government of PR Bangladesh for a Health and Population Programme Project*. Report No. 17684-BD.
- World Vision (1996) *Three reports on mid-term/final evaluations* (unpublished).

¹ The full range of ESP components:

- Child Health
 - Immunization for common childhood diseases

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- Prevention and control of ARI, Diarrhoea, Measles, Malaria, Malnutrition; VAC, Iodine supplementation; integrated management of childhood illnesses
 - Reproductive Health
 - ANC, Delivery including EOC, PNC
 - MR and post-abortion complication care
 - Clinical and non-clinical contraception and management of side-effects/complications
 - Adolescent health
 - Communicable disease control
 - TB
 - RTIs/STDs
 - HIV/AIDS
 - Malaria
 - Leprosy
 - Kala-azar
 - Filaria
 - Intestinal worms
 - Limited curative care
 - Treatment of common ailments
 - First-aid treatment
 - School Health Services
 - Behaviour Change Communication

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