

To the MDGs and Beyond: Accountability and Institutional Innovation in Bangladesh

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ABBREVIATIONS AND ACRONYMS

ARI	Acute Respiratory Infection
ATC	Agreement on Textiles and Clothing
BBS	Bangladesh Bureau of Statistics
BIDS	Bangladesh Institute for Development Studies
BMA	Bangladesh Medical Association
BRAC	Bangladesh Rural Advancement Committee
CMR	Child Mortality Rate
DCC	Dhaka City Corporation
DESA	Dhaka Electric Supply Authority
DFID	Department for International Development
DHS	Demographic and Health Survey
DPHE	Department of Public Health Engineering
DPT	Diphtheria and Whooping Cough
DSK	Dushtha Shasthya Kendra
EPZ	Export Processing Zone
ESD	Essential Service Delivery
FDI	Foreign Direct Investment
FP	Family Planning
FSRP	Financial Sector Reform Program
FSSAP	Female Secondary School Assistance Program
FSSS	Female Secondary School Stipend
FY	Fiscal Year
GDP	Gross Domestic Product
GK	Gonoshayastha Kendra
GNI	Gross National Income
GOB	Government of Bangladesh
HDI	Human Development Index
HDS	Health and Demographic Survey
HIES	Household Income and Expenditure Survey
HIV	Human Immuno-deficiency Virus
HNPSP	Health, Nutrition and Population Sector Program
ICDDR	International Center for Diarrhoeal Disease Research
IDA	International Development Agency
IFPRI	International Food Policy Research Institute
IMR	Infant Mortality Rate
IT	Information Technology
IUCN	International Union of Conservation

LFPR	Labor Force Participation Rate
LFS	Labor Force Survey
LGED	Local Government Engineering Department
MDG	Millennium Development Goal
MFA	Multi-Fiber Agreement
MIC	Middle-Income Country
MIGRD	Ministry of Local Government, Rural Development and Cooperatives
MMR	Maternal Mortality Ratio
MoF	Ministry of Finance
MPO	Monthly Pay Order
NGO	Non Government Organization
NHA	National Housing Authority
NPSWS	National Policy for Safe Water and Sanitation
OP	Operational Plan
PM	Particulate Matter
PPP	Purchasing Power Parity
PRSP	Poverty Reduction Strategy Policy
PWD	Public Works Department
RAJUK	Rajdhani Unnayan Karttripakkha
RDP	Rural Development Project
RMG	Ready-Made Garments
RRMIMP	Rural Roads and Market Improvement and Maintenance Project
SC	Satellite Clinics
SMA	Statistical Metropolitan Area
SOE	State-Owned Enterprises
TBA	Traditional Birth Attendants
TFP	Total Factor Productivity
TFR	Total Fertility Rate
UHC	Upazila Health Complex
UHFWC	The Union Health and Family Welfare Center
UN	United Nations
UP	Union Parishad
UPHCP	Urban Primary Health Care Project
VDC	Village Development Committee
WASA	Water and Sewage Authority
WB	World Bank
WHO	World Health Organization

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FOREWORD

Bangladesh has already achieved one of the Millennium Development Goals (MDGs), namely gender parity in primary and secondary schooling. It is likely to achieve several more by 2015. But to do so the country will need to resolve some serious service delivery problems.

This study examines the institutions and service delivery models responsible for combating hunger, disease, mortality, ignorance and discrimination. It proposes specific policy and institutional reforms that are likely to help Bangladesh achieve the levels of human development in line with its clear potential. The report's principal conclusion is that Bangladesh can meet most or all of the MDG outcomes—including difficult ones like maternal mortality and child malnutrition—by improving the accountability and transparency of public services, sustaining growth by removing key constraints, and tackling the rapidly deteriorating situation in metropolitan areas.

The report recommends that accountability and transparency of basic services can be improved by harnessing the *creative tension* in the partnerships between three major stakeholders: national government, NGOs/public service providers, and local governments. When successfully established, the interactions between these groups provide a system of checks and balances that ensures each contributor fulfils its duties to the best of its ability. At its core, the notion of creative tensions rests on increased accountability with community driven development.

The report also highlights the severe deterioration of human development outcomes and quality of life in metropolitan areas which risk Bangladesh achieving its MDG targets. It proposes to tackle urban residents' problems directly through a range of measures, including improved incentives for poor children in metropolitan areas to go to school, replicating effective water and sanitation service delivery models, and reducing the exposure to indoor and outdoor air pollution. These problems must be addressed through ways that increase the accountability of urban government officials.

Finally, the report emphasizes the importance of female secondary schooling in furthering progress toward many MDGs. In particular, female secondary schooling has significant positive impact on reducing child malnutrition, which is a particular problem in Bangladesh, and on reducing fertility rates.

Together, these concrete recommendations can form important elements of a strategy to achieve and surpass all the MDGs in Bangladesh.

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SUMMARY AND RECOMMENDATIONS

I. Introduction and Context

In recent years Bangladesh has made impressive gains across a range of social indicators and has enjoyed strong economic growth, which together convincingly refute its reputation as an “international basket case”. As a result, Bangladesh has achieved one of its Millennium Development Goals (MDGs) already, and will probably reach several more by 2015—a result few expected when the MDGs were originally agreed. But detailed analysis shows that most of the MDGs are unlikely to be met on the basis of continued economic growth alone, even at moderately higher levels. In order to meet the MDGs—and achieve the sort of social progress of which it is capable—Bangladesh needs to generate structural breaks in the trend lines of its principal social indicators. That is, it needs to shift to fundamentally higher rates of progress in the main social problems that it faces. If economic growth is not enough to achieve this, it is necessary to examine the institutions and delivery models responsible for the services that are meant to combat hunger, disease, mortality, ignorance and discrimination, to name a few.

This report analyzes the specific policy and institutional reforms required for Bangladesh to increase its rate of progress towards the MDGs. Rather than examining each MDG in turn, with the attendant risk of producing a grocery list of piecemeal recommendations, we prefer to operationalize our task by focusing on the deep institutional and social determinants of two MDGs: maternal mortality and child mortality. In doing so, we hope to reach an analytically informed and coherent view of why performance varies drastically amongst Bangladesh’s regions and models of service provision. The reasons for choosing these particular indicators are both obvious and subtle. Maternal and child mortality are, of course, important goals in and of themselves. They are also amongst the most complex of the MDGs in terms of the policy mix required for their attainment, with implications for hunger, education, nutrition, environmental, water and sanitation policy, and so on. Efforts to improve them must necessarily span multiple sectors in rural and urban areas in order to find the most appropriate package of policies and interventions. Improvements here thus imply progress across a broad range of problems and policy fronts, including all other MDGs. This report will exploit these characteristics of the maternal and child mortality MDGs to analyze and emphasize the links that exist between these indicators and other development goals. The subtler reason is that maternal and child mortality reveal much about a nation’s social and political development, as well as its economic prospects. Both the very young and their mothers are amongst society’s most vulnerable. How they are treated—their chances of physical survival—are measures not only of the efficiency of public services, nor of the human rights and opportunities that citizens enjoy, but indeed of the willingness of a society to invest in its own future. Focusing on these two goals, therefore, allows one to highlight some of the social dimensions of vulnerability and poverty, which must be incorporated into a strategy for reaching and progressing beyond the MDGs.

II. Economic Overview

Bangladesh has made strong progress towards reducing income poverty, placing it roughly on track to meet the target of halving the share of the population living on less than US \$1 per day by 2015. Rising and stable economic growth, underpinned by good economic and social policies, has been a key factor in making this possible. In addition, pioneering social entrepreneurship, often with creative partnerships under innovative institutional arrangements, has also contributed immensely to the successes attained. These successes have compensated somewhat for Bangladesh’s critical and persistent weaknesses in governance. Currently the challenge is to steer the economy to middle income status, to which end the much improved economic fundamentals and successful implementation of an array of first generation reforms augur well. But the challenges ahead are formidable. Bangladesh must pursue actively a range

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of second generation policy reforms, which are necessary to sustain and improve her good growth and human development achievements.

III. Significant but Insufficient Progress on Child and Maternal Mortality

Bangladesh has made remarkable progress on both infant and child mortality measures over the past three decades. Between the 1950s and early 1970s there had been stagnation at around 165 infant deaths per thousand live births, but this was followed by a sharp and sustained decline from 1975 that saw the rate plummet from 161 to 66 infant deaths today. Compared to India, the decline has been much faster in Bangladesh, to the point where infant mortality is now lower in Bangladesh despite a GDP per capita only half that of India. These positive and rapid changes suggest that child mortality MDG targets can be met on current trends, although sustaining those rates will require continued diligence.

Unfortunately the same cannot be said of maternal mortality. Bangladesh has one of the highest rates of maternal mortality in the world, and despite substantial advances over the last two decades, it remains comparatively elevated. A simple extrapolation of recent trends indicates that this MDG will not likely be met. One of the most significant impediments to better maternal health outcomes is the current state of public health services, which is unlikely to allow the country to reach the target. However, there are successful models of health service delivery in Bangladesh, which show how the maternal mortality targets can be attained through focused attention on outcomes and the improvement of upward and downward accountability in health service delivery.

IV. Attaining MDG Outcomes by Strengthening Accountability and Transparency

Public health services in Bangladesh provide varying levels and quality of service. They are also hampered by accountability and governance problems. There is very little outreach to the community and essentially no accountability to clients, as all public health service employees are central government employees managed from Dhaka. The situation in publicly financed health services contrasts starkly to that in secondary education where most schools are publicly financed but privately managed with local school committees. In those schools, education outcomes can be monitored by groups of parents who are able to look at overall exam results achieved by the school. No such accountability mechanism exists for publicly financed health services.

With that said, Bangladesh has found some success in health services—vertical, public preventive health care programs where accountability is very clear, for example, do reasonably well. But Bangladesh has many extremely positive examples in the health sector where NGOs have achieved success in both preventive and curative care by using clear lines of both *downward and upward accountability*. The largest of these models is Gonoshasthaya Kendra (GK), which is now the second largest¹ health service provider in the country after the Government. Although GK is only one of many successful models of health care delivery by the non-governmental sector in Bangladesh, this report uses the GK system as an important case study and basis of analysis for the following reasons: (a) GK has been actively applying the same basic model since 1972 and the model is therefore time-tested; (b) GK provides the whole range of health care from a specialized teaching hospital to community-level field workers, and is accordingly most comparable in scope with the public system; (c) GK's unit costs are low and thus replicable across the country; (d) GK has kept full records of its patients and their background since its early days. This effort has resulted in a statistically reliable household panel data series over fifteen years, which allows us to look at both the impact and dynamic changes in outcomes over time; (e) GK carries out detailed verbal autopsies for all cases of maternal mortality and so provides a very rich and useful source of qualitative

¹ There other successful NGO providers that serve larger groups through specific programs, such as BRAC, which has community health workers in 30,000 villages. GK, however, provides the whole range of health care from specialized hospitals to community based workers.

and quantitative data; and (f) unlike many NGOs GK works in partnership with local government in a way that suggests the model could be replicated across the country. The selection of GK as a model for this study should therefore be attributed to the aforementioned factors and should not be understood to detract from the numerous other successful experiences in Bangladesh.

Gonoshasthaya Kendra (GK) provides a broad range of services, including reproductive and child health care, and basic education, as well as tertiary care, to over a million people in 592 villages located in 16 upazilas across 11 districts. In its areas of activity, GK has already exceeded the MDG for infant mortality a decade ahead of time, while the rest of the country remains at a level two-thirds higher. On maternal mortality, GK has achieved a rate of 186 per 100,000 live births, 42 percent lower than the national average, and is likely to attain the MDG target in its program areas given current trends. Part of the reason for this success is surely that GK's coverage encompasses 100 percent of the poor, including the very poor and destitute. This is done at a modest unit cost, estimated at US \$1 per person annually, which compares favorably to the US \$4 spent by the Government. Insurance fees and co-payments generate about 70 percent of GK's annual income. Much of the rest comes from businesses it owns, including a pharmaceutical plant, the profits of which are re-invested into the GK service model.

GK relies on Village Development Committees to oversee activities. Each committee consists of one member from the Union Parishad (directly elected local government), one from GK or another NGO active in the area, and other members elected from the village at large. The UP member must be a woman. She automatically becomes head of the committee, and thereafter serves as signatory for GK programs generally. Such engagement is part of a larger strategy by GK to involve local government in its activities in order to facilitate problem solving and institutional development in the medium and long term.

The most impressive aspect of the GK system is the simple yet powerful framework it has developed to foment accountability not only for its own workers, but for government health staff as well. Whenever there is a death in a GK-attended village, a whole-village post-mortem is done to establish the detailed facts of what happened and why, in order to determine responsibility and suggest improvements. The high degrees of village solidarity and self-knowledge ensure that with the participation of all, informed answers can be found. The causes of death, and the role of individual mistakes, are made well understood by all stakeholders so as to ensure they are not repeated in the future. Upazila Health Officers are invited to post-mortems, which they mostly attend, assured in the knowledge that absence will be met with GK queries at the following Upazila-wide health meeting.

Although scaling the GK model up nationwide would not be easy, the evidence suggests that it is feasible. This is due to its virtues of simplicity, transparency, economy, replicability, and the use of existing local governments and health services working in tandem. The GK model relies on existing systems – it's "magic" lies in making these systems work not only better but together. What GK has done is apparent for all to see, and takes the form of a simple quasi-recipe. This approach can be replicated by bringing in Union Parishads to bolster downward accountability, which, by so doing, would provide an institutional conduit for local citizens and clients to monitor health care provision. These mechanisms of downward accountability should be complemented by efforts on the part of the Government health service to enforce its own rules, thereby ensuring that the chain of upward accountability to supervisors is well-developed and effective.

A key point is that the GK model is not simply a model of an NGO doing things more efficiently and successfully—there are many such examples in the country. Rather, the principal conclusion to be drawn from the GK experience is that it brings in elected local government and community groups into its service delivery model. It is this linkage that allows it to be generalized and expanded in a systemic, financially sustainable manner.

V. Emerging Problems of Metropolitan Areas

An increasing proportion of national progress or stagnation toward the MDGs will depend on outcomes in urban areas of the country. The urban share of the national population will increase from 25 to 30 percent between 2005 and 2015—the decade remaining for Bangladesh to achieve its MDGs. This trend underscores the fact that urban areas will play an increasingly important role for development outcomes at the national level, and will be increasingly important determinants over time of national welfare and performance on the MDGs. Unfortunately, the situation for key MDG outcomes in metropolitan areas is stagnating at best, and often is worsening, as a rapidly growing population increasingly strains services and stresses the living environment. This rapid population growth in metropolitan areas is not matched by commensurate growth in services, in part due to resource constraints and in part due to reluctance on the part of policy makers to make metropolitan areas appear more attractive than they already are. This is unhelpful in the long-run because in the long-run the bulk of those arriving in the metropolitan areas are likely to stay, and it is far better from both development and rights-based perspectives to provide them with the services necessary to become useful and productive citizens.

In Bangladesh, the significant spatial variation in outcomes for the MDGs is often driven by the poor performance of metropolitan areas. But even within metropolitan areas, substantial differences in MDG outcomes can be seen, particularly in the low-income areas and slums as compared to wealthier areas. The available evidence suggests that these slums, in which outcomes on many MDG-related indicators are catastrophic, have been growing at roughly 13 percent per year, or over 200 percent in the last decade alone, an even faster rate than the growth of metropolitan areas as a whole. This rapid growth of slums not only poses immediate problems for Bangladesh's citizens, but also creates a set of emergent challenges to positive development outcomes that must be addressed.

Metropolitan areas experience widespread problems with both access to and quality of services. For many sectors that are directly and indirectly associated with the MDGs, rapid urbanization and a burgeoning metropolitan population have made ensuring access to services difficult, and have diminished the quality of existing services. It is therefore necessary to address immediately the 'first generation' service delivery problems of access, particularly given the available evidence on the impacts of services, even those of low quality, such as secondary education. These efforts to boost access, however, ought not to exclude 'second generation' considerations of quality, which we can expect to improve the primary and secondary effects of expanding access.

A major shift in government policy toward urban areas is necessary, particularly with regard to provision of services to slum dwellers and sites without tenure. Successful models of service delivery in slums and low-income communities of metropolitan areas demonstrate that it is indeed possible to provide services in slums. Importantly, slum dwellers are willing to pay for decent services and assist in the management of common resources. Sometimes these successes have occurred because NGOs and/or communities have assumed onto themselves the associated risks. But unfortunately, donors, NGOs and private entrepreneurs are often reluctant to provide formal services to slums for fear of losing their investments should evictions occur. This situation presents one of the most significant constraints to adequate service delivery in metropolitan areas.

The roles and responsibilities of government agencies, both local and central, must be better delineated and more effectively coordinated. At present, there is a patchwork combination of service providers that are frequently impeded from fulfilling their obligations because they depend on complementary functions performed by other agencies. Pervasive institutional weaknesses in terms of both accountability and capacity must be remedied so that service providers have the ability and motivation to provide services to all metropolitan residents. Tackling metropolitan problems will require a restructuring of the relationships of accountability between policymakers, service providers, and clients.

VI. Environment and Infrastructure

Environmental and infrastructural issues are important not only at the macroeconomic level, but also at the micro-level in terms of vulnerability, health, and productivity of households and individuals. Poor water and air quality lead to and exacerbate undesirable health outcomes, including respiratory and diarrhoeal illnesses in particular. Such outcomes damage the chances of reaching the health MDGs, and reduce labor productivity. Poor infrastructure too impedes better human development outcomes. Inadequate roads make it more difficult for households to access schools or health facilities. Similarly, lack of electricity makes more difficult students' efforts to study, and prevents proper storage of certain medicines. Environmental quality and access to infrastructure thus have direct consequences on the human development MDGs, in addition to the MDG on poverty. As time progresses and the population continues to expand, environmental and infrastructural issues can be expected to become increasingly important constraints to all the MDGs due to their multi-sectoral consequences.

The case of water and sanitation perhaps best illustrates the cross-cutting value of adequate infrastructure and a healthy environment for both economic and human development. Safe drinking water and hygienic sanitation are fundamental to mitigating diarrhoeal disease, which is one of the most common and serious health risks in Bangladesh. Such high prevalence of diarrhea increases the mortality rate of children directly, but it can also have indirect effects on health by damaging nutrition levels of either the child or mother, and/or impairing income sources through diminished labor productivity and shortened amounts of time available for work.

Infrastructural development over the recent past has been fundamental in facilitating improvements in welfare and progress toward the MDGs in Bangladesh. A growing body of research provides evidence that access to infrastructure in Bangladesh (as elsewhere) has not only fuelled economic growth and poverty reduction, but is also closely associated with improvements in health and education outcomes. Since the beginning of the 90s Bangladesh has experienced a rapid expansion of access to roads, electricity, telephony, and water and sanitation services even in the poorest regions. Such infrastructure development leads to greater agricultural productivity and greater opportunities for non-farm activities, as found by a recent IFPRI study.² Agricultural productivity is improved still further through the interaction effects of improved irrigation systems, greater rural urban linkages, access to electricity and technology. Accessibility to roads and information helps to link potential employers and employees, thereby stimulating the labor market. In rural areas, infrastructure development has caused an increase in the level of non-farm activities, and has led to the employment and participation of the women and the landless, who are among the most vulnerable groups. These findings, among others, provide strong evidence that infrastructural improvements should play a critical role as part of a package of multi-sectoral interventions to reach the MDGs in Bangladesh.

VII. Girls' Secondary Education as a Driver for Other MDG targets

Bangladesh is beginning to reap the multifaceted benefits of its innovative program to encourage girls to attend secondary schools. The fertility rate has begun to come down after a decade-long plateau; this downward trend is demand driven and led by girls educated to the secondary level—the fertility rate among this group is half that of women without any education and significantly lower than that for

² Chowdhury, S. and M. Torrero (2006). "Urban-Rural Linkages in Bangladesh: The impact of infrastructure and the food value chain on livelihoods and migration of landless households, women and girls in the northwestern region," Presented at Workshop on *Towards a strategy for Achieving the MDG outcomes in Bangladesh* June 5 and 6, Dhaka: The World Bank.

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women educated only through primary school.³ Analysis of the Demographic and Health Survey (DHS) 2004 data shows that the secondary education of the mother is *the* major driver of reductions in fertility and child malnutrition regardless of household wealth. The link between secondary education, fertility and malnutrition has existed over a long period; the difference now is that as a result of incentives to increase girls secondary enrollment, the proportion of mothers with secondary education is increasing rapidly. Lower fertility rates are very closely linked to child and maternal mortality, and indeed are also associated with lower levels of malnutrition. A simulation exercise shows that if all mothers in Bangladesh had primary education, with no change in the proportion having secondary education, the fertility rate could be expected to drop to 2.5. Furthermore, if all mothers had secondary education, the fertility rate would drop to an estimated 2.0, or roughly to replacement levels.



In addition, the increasing proportion of mothers with secondary education may prove crucial for reaching the most stubborn MDG target in South Asia—malnutrition. This report primarily uses stunting as a measure of malnutrition because it is a long-term measure that is more closely associated with medium- to long term trends rather than intra-year shocks; in this respect it is better than using weight-based measures that capture shorter term fluctuations in nutritional status. At current national levels of education, the probability that a single child is stunted is 0.16; this implies a stunting rate of close to 46 percent given an average fertility rate of close to 2.9 children per mother. Projecting current, positive trends in primary and secondary enrolment to 2015 suggests that almost 90 percent of mothers will have at least primary education, and 61 percent will have at least secondary education. This is a direct outcome of policies to increase enrolment of girls in secondary school in rural areas. Simulating the impact of this expected level of education, and without considering the effects of any other changes such as income growth,

³ See Al Zayed, Stopnitzky and Khan “Reaping the benefits of Girls Secondary Education”, Presented at MDG Workshop at the World Bank in Dhaka, June 5 to 6, 2006.

fertility is predicted to drop to 2.4 and malnutrition to 33 percent by 2015. The expected expansion of secondary education is thus expected to bring fertility down significantly as well as fuel the attainment of the MDG on malnutrition (the MDG target calls for a reduction of malnutrition by half from the 1990 base levels; this yields a target of 33 percent). But consider the fruits of still faster progress. If all mothers had primary education, holding secondary education and wealth distribution unchanged, the child malnutrition rate would be expected to drop to 31 percent. If all mothers had secondary education, however, the stunting rate would be predicted to drop to 17 percent when the effect of secondary education on fertility is accounted for. If primary and secondary education can be expanded, then, it is likely that Bangladesh will get very close to this target. There is, however, one critical caveat to this generally optimistic finding: in the fast growing metropolitan areas, educational outcomes are terribly low, particularly among the poor, and the rapid pace of urbanization means that an ever greater proportion of the school age population will suffer from deficient service delivery and will not be enrolled, if the situation is not immediately addressed.

The linkages between mothers' education and malnutrition and fertility described above is one that presupposes that existing programs and services in health, population and nutrition are maintained. This is an important point to emphasize because secondary education appears to have an interaction effect with health care provision that makes health care more efficient and effective, beyond the program and wealth effects. The available evidence from Bangladesh and abroad⁴ suggests that this effect can be traced to the role of better utilization of information in empowering women and encouraging them to both access health services and demand better quality from service providers.

VIII. The Way Forward – Overall Recommendations

The principal conclusion to be drawn is that Bangladesh can almost meet all the MDG outcomes—including difficult ones like maternal mortality and child malnutrition—provided that it improves the accountability and transparency of public services, that growth is sustained by removing key constraints, and that successful current programs such as the female secondary scholarship are maintained and expanded into urban areas. *However, without a new strategic approach to the growing problems of urban areas, the MDG outcomes in those areas risk bringing down the national outcomes.*

This report recommends that basic services can be improved by harnessing *creative tension*, whereby service users are provided a mechanism for providing constructive feedback to service providers, and whereby a system of checks and balances structures a productive institutional framework in which various institutional actors contribute to specific development goals, such as improving a given health clinic or school. At the core of this idea lies increased accountability with community driven development. A good example that illustrates the concept of creative tension is the use of community-based verbal post-mortems that GK conducts for all significant health events such as maternal deaths. Although the discussions can be uncomfortable, particularly when blame is assigned, they are placed in a forward-looking framework that aims to prevent future problems. That is, all participants are not only informed of the mistakes made, but various hypothetical solutions are discussed so that everyone is more aware in the future of both warning signs and proper responses to health crises. By strengthening relationships of accountability between various actors, and by sharing learning experiences widely, this post-mortem process has been a major factor contributing to GK's success in reducing maternal and child mortality. Such creative tension can be used to improve not only service delivery in health, but also for other kinds of services as well if an appropriately designed format can be identified and implemented. In operational terms, enhanced creative tension can be implemented by fostering partnerships between service providers, elected local government, beneficiary groups, and community based organizations. Moreover, it is an

⁴ See e.g. Gertler and Boyce (2001) "An Experiment in Incentive-Based Welfare: The Impact of PROGRESA on Health in Mexico." Mimeo, University of California at Berkeley.

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important feature of creative tension, especially in the context of Bangladesh, that the institutional framework be established so that interaction among stakeholders is constructive rather than adversarial.

The emphasis in this report on GK's experience in harnessing creative tension does not intend to suggest NGOs are, or should be, the solution to Bangladesh's service delivery problems. Rather, the report argues that the MDG outcomes would be best attained through effective partnerships that involve the triangle of national government, NGOs/service providers, and local governments in which each side of the triangle acts as an equal partner that strengthens the whole framework. Thus, the important conclusion to be drawn is that it is the particular ways that accountability is structured and reinforced in the GK system that has such incredibly useful effects, and that these features can be bolstered across both private and public forms of service delivery by bringing local governments and communities into institutional arrangements for service delivery.

Accountability and transparency in public services can be improved within the existing rules and structures of the Government. *Upward accountability* can be improved by actually implementing the government rules regarding discipline and performance. Evidence that this is possible can be found in the fact that NGO staff perform better in service delivery even though they are not paid more; their lines of accountability and responsibilities, however, are clearly specified. There is, therefore, significant space for improving staff performance simply through better accountability and not only through increased resources. *Downward accountability* can be strengthened by giving specific roles to elected Union Parishad (UP) members in monitoring and reporting, who themselves are directly accountable to the local citizenry. The UP could also be authorized to create citizen watch groups to monitor various public service facilities such as schools, clinics, hospitals, etc. The UP, this report argues, holds a vast, but as yet largely untapped, potential to help institutionalize *creative tension* across all locally delivered public services for both existing and future projects.

The special challenge posed by urban areas must be addressed by starting with the problem of institutional inadequacy. Urban institutions are not structured to adapt the lessons of accountability from the successful rural experiences. They are instead heavily dominated by central Ministries, which are not accountable to the metropolitan populations and whose agenda may not always be conducive to the well-being of the metropolitan populations, particularly with respect to the poor. With that said, however, neither are urban local governments structured to be sufficiently responsive to the demands and interests of their respective populations. A ward commissioner in Dhaka, for example, may represent over a 100,000 people, which is likely too large a unit for responsive local government. In an effort to strengthen this long route of accountability, there may be need to change the structure of metropolitan governments according to population size so that each elected representative is responsible for a smaller more manageable group and can be monitored by their voters. The experience of the new city Government structure in Pakistan, for example, may provide lessons about how to improve the institutional framework in urban areas.

One critical acknowledgement that must be made is for policymakers to recognize that those moving to urban areas are not transients and that their problems need to be addressed on a permanent basis. Foremost among these is the critical problem of some form of recognition of the tenurial rights of the slum-dweller; this is critical as the basis for delivery of services. There do exist, however, service delivery models that manage the risks associated with lack of tenure and/or in other ways foster a productive and creation tension among stakeholders. Social intermediation models, for example, of urban water and sanitation services are one means of reducing the risk associated with service provision in the context of insecurity of tenure. In addition, the water and power authorities could start using pre-paid meters to provide connections to the urban poor who do not have tenure, which is one model that has worked well in metropolises in which populations are relatively mobile.

The worsening environmental conditions in both urban and rural areas need to be addressed, otherwise recent gains in both child and maternal mortality will be rolled back and future progress could suffer. Foremost among these priorities from the perspective of maternal and child health outcomes must be water and sanitation services and exposure to indoor air pollution. While the first has received substantial attention from policymakers, there is little awareness about the deleterious health effects of regular exposure to smoke from indoor stoves and/or cigarette smokers. Addressing this issue will require simply behavioral changes that must be motivated by awareness campaigns. In addition, existing environmental laws and compliance must be enforced, which can be achieved through use of industry group partnerships as well as traditional enforcement mechanisms.

Successful programs such as the female scholarship program and the rural maintenance program should be maintained and expanded, but could be modified to increase their efficiency. There is a pressing need to expand incentives to attend school by the poor in metropolitan areas as their enrolment rate is now lower than the poor in rural areas. The scholarships in metropolitan areas could be means tested and may need to be supplemented by services such as day-care to free older siblings from poor families to attend school.

The evidence presented in this paper shows the importance of secondary education of mothers on the achievement of MDG targets and outcomes. This effect works through improving the effectiveness and efficiency of existing programs and services and is unlikely to work in their absence. Moreover, this finding shows that the Government has been on the right track since the early 1990s in addressing secondary girls' education as a major development objective. There is now a need to press forward to ensure that the objective is fully attained and to address the 'second generation' quality issues. Additionally, there may be unexplored means of enhancing the positive effects of education with minimal changes to the prevailing system, such as by providing nutritional and other health information to students.

IX. Recommendations for Different Target Groups

The aforementioned recommendations cover a wide range of areas which require action by different groups in a concerted manner. These and other more specific recommendations are grouped below according to the target group needed to take a given action.

Actions for Consideration by the Government of Bangladesh

The Bangladesh government must be commended for giving so much space for NGOs and civil society actors to operate in sectors traditionally reserved in many other countries for the government. This openness has contributed significantly to the progress Bangladesh has made thus far toward the achievement of its MDGs. Successive Bangladesh governments have made the social sectors a public expenditure priority and provided needed resources. Future progress in outside of metropolitan areas can be achieved to a large extent by increasing the resource use efficiency through approaches suggested in this report. Additional resources will be needed, especially in metropolitan areas, but much can be achieved through improving efficiency of resource use.

However, if the Government desires to sustain and deepen the progress on its MDG outcomes, it will need to go further than it has until now in strengthening public-private partnerships. This would not be accomplished simply by contracting NGOs as service providers. The Government must recognize that many of the answers regarding how to improve MDG outcomes have been indigenously developed in Bangladesh by the NGO community, and it must learn to harness such creativity and efficiency in a more systematic manner both in policy-making and policy implementation.

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Foremost among the Government's obligations ought to be immediate efforts to improve the accountability of publicly financed services. This can be done at the outset by simply enforcing its own rules of accountability, including that top-down supervision is enforced through regular inspection visits by superiors in the hierarchy. At the same time, bottom up-accountability must also be improved by using local governments as a partner to ensure accountability among service providers, regardless of whether the service is provided directly by government employees or whether it is provided by contractors and service provision partners. Local governments, in turn, must learn how to seek input and meaningful participation from community members and groups.

The Government ought to recognize that special attention must be given to the problems of urban areas, particularly metropolitan areas, or the gains made so far could otherwise be overturned by the sheer scope and scale of the emergent urban issues. It should be noted that a large proportion of migrants come because they have no choice and unless they receive the help to become productive citizens, they could become the source of major political instability. In particular, the Government needs to consider restructuring urban governance, especially in the large cities, by bringing in a multi-tier local government system of which the size of each tier is based on the number of people served. Doing so will allow local governments to become partners in the monitoring and delivery of basic services once they have more manageable jurisdictions and are 'closer' to their constituents. A much needed step would be for policymakers to recognize fully that those people moving to urban areas are not merely transients; their problems must be addressed on a long term basis. Foremost among the policies that impede long term solutions and create critical problems in the present is the lack of some form of recognition of the tenurial rights of the slum-dweller, without which they are unable to receive many essential services.⁵

The Government needs to consider seriously an extension to the metropolitan areas of its successful program of expanding female secondary enrolment. Such an expansion would help boost presently low demand for schooling in metropolitan areas. The incentives in urban areas can be targeted to the poor who face relatively high cost of school access and also high opportunity costs. It is also important that the Government simultaneously address the educational supply constraints in metropolitan areas, which have not benefited from the successes of the Monthly Pay Order (MPO) system due to the generally higher costs that private providers face there.

Actions for Consideration by NGOs and Civil Society Groups

Bangladesh's highly successful NGO community must recognize that it cannot scale-up its successes in a sustainable manner without partnership with the Government, particularly local government. These partnerships should not simply be in the form of accepting service delivery contracts financed by the Government, but should be real partnerships where each side brings its strengths to the table. For their part, NGOs bring local knowledge, significant experience and a good ability to encourage and harness beneficiary participation. NGOs should consider pooling these strengths and resources with public funds in order to form more impacting partnerships. Further, NGOs should consider local governments to be key players in assuring accountability, particularly in complement to community groups with which most NGOs already work, and devise strategies for working closely with them.

Actions for Development Partners (DPs)

Most donors in Bangladesh tend to focus their attention on rural areas (as does the Government) but they must begin to address the emerging urban challenge in a systematic manner. At the outset, this process will involve for many sectors a need for greater knowledge about how and what kind of services can be delivered effectively to the metropolitan poor. Although there do exist good examples of urban service

⁵ It should be noted that private sector has been able to provide services to the same people using prepaid services and other tailored approaches.

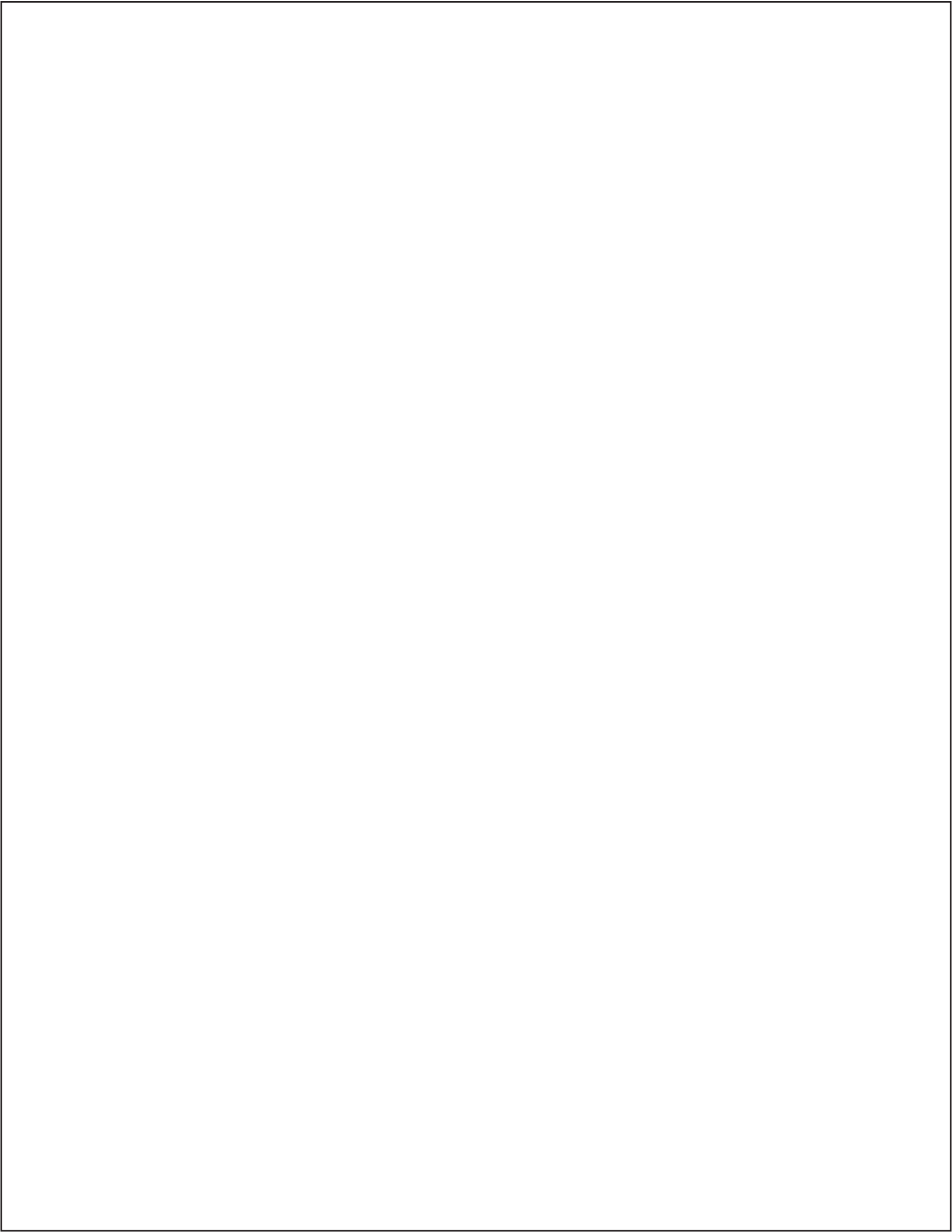
delivery in Bangladesh, there is little consensus among DPs about how to deliver services in urban areas, even among those already engaged there. Efforts to increase among donors the commonly held understanding of urban problems and their solutions could therefore do much to ensure appropriate responses.

A second area of concern for DPs that this report highlights is secondary education; most DPs are presently focused on primary education to the detriment of secondary education. While primary education is important and there are still many challenges of access and quality yet to overcome, this report presents evidence that secondary education has the potential to change the face of Bangladesh through its unparalleled impact on fertility and nutrition. Importantly, these massive positive effects on reduced fertility and malnutrition rates are found even given the current problems of quality that characterize the system. With effort to improve the quality of secondary education in addition to increasing access, which this report argues is important in itself, girls educated through secondary school might be expected to have still fewer malnourished children and still lower fertility levels.

Actions for the World Bank

The World Bank's urban program has been focused until now on improving the efficiency of services and financing infrastructural investments. Such investments represent a necessary although likely insufficient condition for improving MDG outcomes in metropolitan areas. More specifically, it seems extremely uncertain whether further investments in centralized agencies will be effective without addressing the difficult issues of urban governance in a manner that recognizes and is suited to political realities. It is possible, for example, that a metropolitan government may be the best solution to urban governance problems in Bangladesh, but it is likely unattainable within the current exceedingly centralized political situation. Reform of the current system of metropolitan governments by adding lower tiers, which are based on the number of people served, may be an attainable solution in the medium term that would likely not meet with much political resistance. These lower tiers could be used to improve local accountability of service providers in metropolitan areas and yet would not run counter to an eventual metropolitan government. The Bank could contribute to this agenda with analytical and advisory work.

Finally, there is an important role for the World Bank in encouraging NGOs to participate in service delivery as both providers and as part of the web of accountability. The World Bank's current procurement procedures and rules treat potential NGO partners as service contractors subject to procurement rules designed for consultants, consulting firms, and similar service providers. These procedures involve multiple, time-intensive stages, which increase transactions costs for NGOs. For the larger and stronger NGOs, which could in principle be full-fledged partners in service delivery that contribute their own financial and human resources, these processes are often unappealing and undermine promising partnerships. Thus, the very NGOs which can make the biggest difference are deterred from participating in World Bank financed projects. But for smaller NGOs, too, the transaction costs may be too burdensome to bear, and will likewise tend to prevent those smaller organizations from partnering with the World Bank. The World Bank should therefore consider new procedures under which well-established, effective NGOs can become full-fledged partners in the delivery and monitoring of services. Such an exception already exists for UN agencies and could perhaps be extended to those NGOs which are sufficiently developed institutionally that they could become more than simple contracted service providers.



CHAPTER 1 : INTRODUCTION AND OVERVIEW

1. The Millennium Development Goals (MDGs)—a set of targets to be achieved by the year 2015—were launched at the Millennium Summit in New York in September, 2000. Since then, a broad international consensus has emerged that they are a useful yardstick for efforts by governments, donors and NGOs to promote development. The MDGs include halving poverty and hunger, achieving universal primary education and gender equality, reducing infant and child mortality by two-thirds and maternal mortality by three-quarters, controlling HIV/AIDS, and increasing access to safe drinking water by 50 percent, compared to their levels in 1990. All the United Nations' member countries and donors, as well as many major international and national non-governmental organizations (NGOs), have now accepted the MDGs as important policy goals.

2. The manner by which the MDGs should be met has become an important crux of many development debates. Answers vary substantially amongst different countries, according to the constraints they face and their levels of development. A recent World Bank report, *Attaining the Millennium Development Goals in Bangladesh*, analyzed the determinants of recent trends in five MDGs in order to shed light on the socio-economic factors driving progress towards their achievement in that country. The report found that Bangladesh has already met the goal on gender parity in primary and secondary schooling, and is likely to meet the goals on consumption-poverty and under-five mortality given plausible levels of economic growth and recent trends in social investment. But the MDGs on child malnutrition and universal enrolment/completion in primary education are unlikely to be met, even assuming future economic growth above recent high levels.

3. Here we take the debate one step further by analyzing the specific policy and institutional measures required for Bangladesh to increase its rate of progress towards the MDGs. Rather than examining each MDG in turn, with the attendant risk of producing a grocery list of piecemeal recommendations, we prefer to operationalize the task by focusing on the deep institutional and social determinants of two MDGs—maternal mortality and child mortality. In doing so, we hope to reach a more coherent and analytical view of why recent progress has varied drastically across Bangladesh's regions, and models of service provision. The reasons for choosing these particular indicators are both obvious and subtle. Maternal and child mortality are, of course, important goals in and of themselves. They are also amongst the most complex of the MDGs in terms of the policy mix required for their attainment, with implications for hunger, education, nutrition, environmental, and water and sanitation policy, to name only a few. Efforts to improve them must necessarily span multiple sectors in rural and urban areas in order to find the most appropriate package of policies and interventions. Improvements here thus imply progress across a broad range of problems and policy fronts, including not least all the other MDGs. The report exploits these characteristics of maternal and child mortality to analyze and emphasize the links that exist between these indicators and other development goals. Another, subtler reason is that maternal and child mortality reveal much about a nation's social and political development, as well as its economic prospects. Both the very young and their mothers are amongst society's most vulnerable. How they are treated—their chances of physical survival—are measures not only of the efficiency of public services, nor of the human rights and opportunities that citizens enjoy, but indeed of the willingness of a society to invest in its own future.

4. This report examines how progress towards meeting the MDGs for maternal and child mortality can be accelerated through a combination of improved economic growth, institutional reform to enhance downwards accountability and hence the quality of services delivered, and a number of specific technical and/or complementary measures. Our approach is empirically led, based on an analysis of specific episodes of reform that led to improvements in MMR and CMR. The emphasis is on operational measures that can catalyze improvements already achieved in the field, but on a national scale. The rest

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of the report proceeds as follows. Chapter 2 examines the question of economic growth and Bangladesh's broad development performance over recent years, and provides recommendations for accelerating growth. Chapter 3 provides descriptive statistics for MMR and CMR, and discusses trends over recent decades and projections to 2015. Chapter 4 turns to other allied issues, such as the special challenges to MDG progress posed by urban areas, the environment, malnutrition, and infrastructure. Chapter 5 examines evidence from areas where service delivery and social outcomes are good, and other areas where they are poor, and attempts to analyze the institutional determinants of this spatial variation.



CHAPTER 2 : DEVELOPMENT PERFORMANCE AND CHALLENGES

5. Bangladesh has made strong progress towards reducing income poverty, placing it roughly on track to meet the target of halving the share of the population living on under US \$1 a day by 2015. Rising and stable economic growth underpinned by good economic and social policies has been a key factor in making this possible. Pioneering social entrepreneurship, partnered under innovative institutional arrangements, have contributed immensely to the successes attained. These have also enabled the country to cope with some critical weaknesses in governance. Given this growth record, the current challenge is to steer the economy to middle income status. To that end, the much improved economic fundamentals and successful implementation of an array of first generation reforms augur well. But the challenges ahead are formidable. Bangladesh will have to actively pursue a range of second generation policy reforms, necessary to sustain and improve her good growth and human development achievements.

I. The Development Record

Background: Recent poverty trends in Bangladesh

6. **Poverty Trends:** Data from Household Income and Expenditure Surveys show sizeable poverty reduction in Bangladesh over the last 15 years (between 1991-92 and 2005) and more recently, between 2000 and 2005. Poverty headcount rates based on both upper and lower poverty lines using the Cost of Basic Needs (CBN) method show that the proportion of poor in the population declined considerably between 2000 and 2005 (Table 2.1). In the year 2000, 49 percent of Bangladesh's population was poor (per capita consumption below the *upper poverty line*) as compared to 40 percent in 2005. 34 percent of the population was extremely poor (per capita consumption below the *lower poverty line*) in 2000 as compared to 25 percent in 2005.⁶ The percentage decline in poverty was higher in urban areas (24 percent) than in rural areas (19 percent).⁷

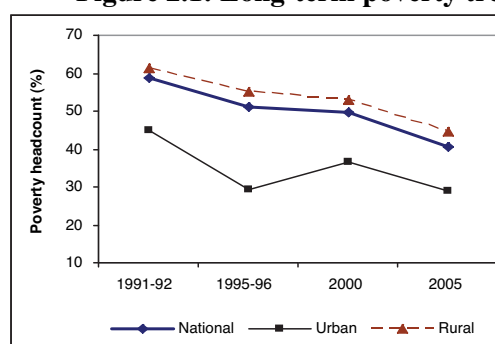
7. The long-term poverty trends show a significant decline in poverty over the period 1991-92 to 2005, with similar gains seen for urban and rural areas (Figure 2.1). Other measures of poverty, such as poverty gap and squared poverty gap show short and long-term

Table 2.1: Poverty Headcount Rates (%)

	Upper Poverty Lines		Lower Poverty Lines	
	2000	2005	2000	2005
National	48.9	40.0	34.3	25.1
Urban	35.2	28.4	19.9	14.6
Rural	52.3	43.8	37.9	28.6

Source: HIES 2000 and 2005; using poverty lines estimated with HIES (2005) and deflated to adjust for inflation during 2000-05
Note: These figures are using BBS's adopted method of using the 2005 sampling frame to generate poverty lines and then deflating these lines to obtain poverty figures for earlier years.

Figure 2.1: Long-term poverty trends



Source: World Bank (2002); HIES (2005)

Note: The numbers are calculated using the Upper Poverty Line of 1991-92, adjusted for price changes between years

⁶ Similar 8-9 percentage point declines in national poverty rate are also found employing different methods to calculate poverty lines and price indices, indicating that the measured reduction in poverty is similar across a wide range of methodologies. The robustness with respect to the choice of poverty lines is consistent with changes in the distribution of per capita expenditure between 2000 and 2005.

⁷ The reduction in poverty headcount from 2000 to 2005 was statistically significant at 95 percent level of confidence for national and rural estimates, and at 90 percent level for urban.

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trends similar to those for headcount rates.

8. **Growth in consumption:** The decline in poverty is driven by a sizeable growth in per capita consumption expenditure (Table 2.2). Per capita consumption expenditure increased by 12 percent in real terms between 2000 and 2005 – an average annual growth rate of 2.3 percent. While the increase in percentage terms was higher for rural areas (12 percent) than urban areas (5 percent), real per capita expenditure was still 39 percent higher for urban areas than for rural areas in 2005.

9. These figures are also broadly consistent with Bangladesh's macroeconomic indicators over the same period. Annual average growth in real GDP per capita as well as per capita private consumption was 3.8 percent during 2000-04—rates that are even higher than the growth in household consumption observed from survey data.

10. **How was growth distributed?** Growth in consumption occurred across the board for the poor and non-poor alike. Per capita consumption of the poorest and richest population deciles grew by 14 percent in real terms between 2000 and 2005, and that of the second-poorest and second-richest deciles by 12 and 11 percent respectively. Consistent with this trend, *relative* inequality as measured by the Gini index of per capita real consumption showed no change between 2000 and 2005. In fact, since 1995-96, the changes in national and urban/rural Ginis are too small to be statistically significant. On the other hand, *absolute* inequality has clearly increased nationally and for rural Bangladesh between 2000 and 2005, but remained almost unchanged for urban areas. Consistent with the Ginis, while relative differences (or ratios) between different percentiles of consumption have remained almost unchanged, the absolute *sizes* of the differences have increased from 2000 to 2005.

11. *Growth Incidence Curves* (GICs – measuring the annual average growth rate of per capita consumption for percentiles of the population) show that the highest growth in consumption during 2000-2005 occurred for the bottom 20 percent and top 10 percent of the population. Furthermore, growth rate for the bottom 30 percent is higher than the mean of growth rates (of all percentiles). A more disaggregated picture reveals that the rural GIC is similar in shape to the national one; whereas urban GIC is largely downward sloping, which indicates growth was more pro-poor than in the rural sector.

12. Decompositions of changes in poverty measures between growth and redistribution components yield results consistent with the above patterns. The effects of growth and redistribution act in opposite directions – with the growth effect contributing towards poverty reduction – nationally and for the rural sector. But in urban areas, growth and redistribution effects reinforce each others' impact in reducing poverty, and contribute almost equally to overall poverty reduction.

Table 2.2: Mean Real (2005 rural Dhaka prices) Per Capita Monthly Consumption

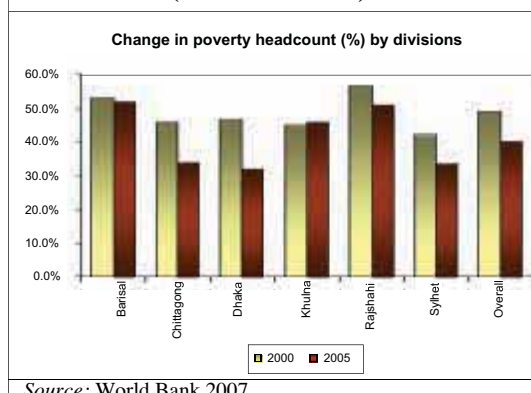
	2000	2005	% change
National	1082	1210	11.9
Rural	985	1103	12.0
Urban	1465	1535	4.8

Source: HIES 2000 and 2005

Note: To obtain real consumption, nominal consumption expenditures are deflated by price indices to adjust for inflation over time and by upper poverty lines to adjust for regional price differences.

13. **The regional picture:** While poverty reduction has occurred for both rural and urban areas, a disaggregation by geographic regions reveals a mixed picture (Figure 2.2). The largest decline in poverty incidence occurred for the Dhaka division, followed by Chittagong and Sylhet. By contrast, poverty headcount stagnated in Barisal and Khulna. A decomposition exercise shows that two divisions – Dhaka and Chittagong – contributed to as much as 79 percent of the aggregate reduction in poverty headcount between 2000 and 2005.⁸ Regional differences were thus quite sharp in 2005 – the poverty headcount ranged from a low of 32 percent in Dhaka and 34 percent in Chittagong and Sylhet to over 50 percent in Barisal and Rajshahi.

Figure 2.2: Poverty Levels by Division (2000 and 2005)



14. Growth and poverty reduction since 1990 has been accompanied by faster progress on some human development measures. In the human development area, secondary school enrollment remained stalled at 19 percent between 1975-90, but has since increased to 46 percent; access to sanitation facilities has been doubled from 23 percent in 1990; children malnutrition rates (by weight) stagnated during the 1980s but have been reduced considerably since, although Bangladesh still has a lot of distance to cover in this respect.

15. In many ways, progress on most human development indicators (see Table 2.3) has been as impressive (or more so) than income growth and poverty reduction, and stands out in comparison with most low-income countries (See World Bank 2003).

Table 2.3: Progress in Social Indicators

	Then	Now
School enrollment, secondary (% net)	19 (1990)	44 (2005)
School enrollment, primary (% net)	71 (1990)	84 (2004)
Fertility Rate	7.0 (1972)	3.0 (2004)
Immunization, DPT (% of children ages 12-23 months)	1 (1980)	93 (2004)
Immunization, measles (% of children ages 12-23 months)	1 (1982)	76 (2004)
Improved sanitation facilities (% of population with access)	23 (1990)	64 (2005)
Life expectancy at birth, total (years)	45 (1972)	62 (2003)
Malnutrition prevalence, weight for age (% of children under 5)	68 (1983)	47 (2005)
Mortality rate, under-5 (per 1,000)	239 (1970)	88 (2005)
Mortality rate, infant (per 1,000 live births)	145 (1970)	65 (2004)

Source: GoB and World Bank

⁸ This refers to a sectoral decomposition of changes in poverty headcount between 2000 and 2005, with the sectors as the 6 divisions. Total intra-sectoral effect accounts for 99.8 percent of the change in poverty headcount (Dhaka and Chittagong contributing 52 and 27 percent respectively); the population shift effect has an (opposite) effect of -0.4 percent, and the interaction between the population-shift and intra-sectoral effects contributes 0.6 percent.

II. Moving Development Forward

More rapid growth needed to achieve the Millennium Development Goals

16. Despite the good development achievements, formidable social and economic challenges remain. In 2004, Bangladesh's PPP US \$ per capita gross domestic product (GDP) was only US \$1,875 (or US \$440 at market exchange rates), compared with US \$3,115 in India, US \$5,494 in China, and US \$9,760 in Malaysia. The population of about 140 million is compactly packed in a land area of 147,570 sq. km., resulting in one of the highest population densities in the world, and about 2 million people are added to this each year. Some 63 million people live in deprivation, two-thirds of them caught in extreme poverty. The level of human development remains low despite the tremendous progress since independence. Adult illiteracy is persistent at about 50 percent and falling slowly, particularly among women. Child malnutrition rates are among the highest in the world, and maternal mortality rates, albeit lower than in India, Pakistan, and Nepal, are among the highest in the world outside of Sub-Saharan Africa.

17. At US \$440 in 2004, Bangladesh's gross national income (GNI) per capita was a little over half the US\$825 cut-off for Middle Income Country (MIC) classification used by IDA. The challenge for Bangladesh is to build on the growth momentum since the early 1990s to close this gap as soon as possible. If the country's per capita income grows at 3.5 percent (the average rate in the last ten years), it would take until 2022 to attain MIC status (as per the 2004 IDA classification). The transition to MIC status would be put on hold for another 5 decades if per-capita growth slips back to the 1 percent rate seen in the 1980s. Alternatively, Bangladesh could become an MIC within a decade (by 2016) if per capita growth could accelerate to 6 percent, implying GDP growth at a challenging (but not impossible) 7.5 percent. There is international precedence for such performance: for instance, average GDP growth in China has been close to 9.5 percent since 1976, while Indonesia, Malaysia, and Thailand each attained average growth rates of 7-8 percent for over two decades before the East Asian crisis in 1997. A possible hypothetical scenario of Bangladesh's transition to MIC status by 2016 is outlined in Table 2.4 below.

Table 2.4 Hypothetical Scenario of Bangladesh's Transition to MIC Status

	1996-2000	2001-05	2006-08	2009-12	2013-16
GDP Growth	5.2	5.4	6.8	7.5	7.5
Capital Stock Growth	6.7	7.5	8.0	8.4	9.0
Labor (quality adjusted) Growth	3.4	5.2	5.0	4.7	4.5
TFP Growth	0.5	-0.8	0.6	1.2	1.2
Investment Rate (% of GDP)	23.0	24.4	25.6	27.8	30.5

Source: BBS, Barro-Lee (2000), and staff calculations

18. The key requirement to approximate this hypothetical scenario is to boost productivity growth and capital accumulation. Not only would the recent declines in TFP growth have to be reversed, TFP growth rates would also have to increase significantly above previously attained levels. Progress on this will be predicated upon tackling the structural constraints (see below). In addition, capital accumulation will need to accelerate, with the underlying investment rate increasing by as much as 5 percentage points. Demographic trends would be conducive, with a rising share of working age population (in total) tending to raise household savings rates, as has happened in India and other countries. Increases in domestic savings would also depend upon improvements in the domestic financial intermediation. The government budget is unlikely to be a significant source of additional savings even as revenue generation catches up from its current low levels. It would be important, however, to tackle the mounting losses of the energy SOEs—estimated at 1.1 percent of GDP in FY06—to make space for private investment and the priority development spending. FDI would need to pick up pace, although that would require better economic governance and business environment. Remittances and donor support would continue to play an important role.

19. Continued strong growth in quality-adjusted labor would also be important. A special emphasis on women's advancement would bring considerable growth dividends. Only about one-quarter of the working age women participate in the labor force, compared with at least double that in advanced economies. Educational attainment of the labor force should increase as a result of the higher school enrollment rates over the past decade. However, more emphasis on improving the quality of education and making it more market oriented would be needed.

Managing the key transitions

20. Based on the major structural transformations already at play in Bangladesh and also connecting those to the experiences of other successful developing countries, it appears that the following four transitions will have to be better understood and managed:⁹

- A middle income Bangladesh will have reached a more advanced stage of ***transition out of agriculture and into the industrial and services sectors***. In particular, the country would have a much deeper manufacturing base driven by globally competitive private firms.
- A middle income Bangladesh would be significantly ***more open to investment and trade***, where Bangladeshi firms will be plugged into global supply chains and the country will figure prominently on global investment maps.
- A middle income Bangladesh would be able to provide ***more ample and productive job opportunities to citizens***.
- A middle income Bangladesh will be ***far more urbanized*** than today.

Transforming the Labor Market to Provide Fuller and More Productive Employment

21. The labor force has been growing at an increasingly rapid rate, with growth rates reaching 4.3 percent—more than two-and-a-half times the population growth rate—between 2000-2003. Increasing by almost 2 million each year, the labor force has reached an estimated size of around 50 million. Two important factors have caused the rapid increases: the phase of the demographic transition Bangladesh is in and increasing female participation. Both forces are expected to persist in the foreseeable future (although with some slowing down).

22. The economy has been able to only partially accommodate the increase in the labor force. While most of the new entrants were able to find a job, this was accompanied by a sharp increase in the underemployment rate in almost all major economic sectors and for all job statuses. This meant that rather than creating new jobs, many of the new entrants were accommodated by “dividing up” jobs that already existed. Consistent with the increase in underemployment, the average hours worked per week declined for all economic sectors, with the sharpest reductions occurring in manufacturing, construction, transport and communication services. However, the extent of the decline in average hours worked was much smaller than the increase in the underemployment rate. Job creation was also not necessarily in the most productive sectors.

23. Improving the labor market conditions is critical for growth and poverty reduction in Bangladesh. Labor, it is often said, is Bangladesh's most precious resource, one that has the potential to unleash a rapid transition toward prosperity under the right conditions, as the East Asian economies have shown. A relative abundance of labor provides Bangladesh with a comparative advantage in production

⁹ The Government's PRSP draws out another major ongoing transformation with implications for long-term growth: the evolution of the meso-economy (rural market centers): formal and informal activities in service, trade, construction and small industries that are rapidly expanding in the rural market centers. The area, no doubt critical, is still little understood. Its analytical underpinnings need to be deepened for incorporating it into the mainstream growth story.

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of labor-intensive goods. But this does not automatically translate into global competitiveness, which depends on a host of factors that affect productivity. Productivity is also being undermined by a number of labor market conditions themselves.

24. Unlike in neighboring India, labor laws and regulations do not appear to be serious hindrances to the functioning of the labor market. Union activity is also limited, though there are frequent, politically-motivated nation-wide strikes (*hartals*), which adversely affect labor productivity. Overall, firms retain considerable flexibility to hire and fire, which is also confirmed by results from the *Investment Climate Assessment* and *Doing Business* surveys. Of more serious concern are some structural barriers that impair the efficiency of the labor market and need to be tackled:

- ***There appears to be a mismatch between economic performance and labor allocation.*** Allocation of labor across major economic sectors has had little to do with growth performance of those sectors, as seen in the table below. Part of the reason is that most of the women entrants into the rural job market enter as unpaid family workers, more often than not in the agriculture sector. This group has very limited mobility; out of agriculture and certainly to urban areas where the more productive jobs are. While continued gender empowerment would be needed to increase their mobility, that will be worth little if the manufacturing sector does not do better in terms of job creation.

Table 2.5: Economic Performance and Labor Allocation

	Share of Increase in GDP (%), 1996-2003	Share of Increase in Employment (%), 1996-2003
Agriculture, Forestry, Fisheries	18	62
Manufacturing and Mining	18	10
Construction	12	6
Services	52	22

- ***The manufacturing sector has its own set of structural inefficiencies.*** Real wages in the sector have increased sharply while the sector was sluggish in creating new jobs. This could arise from any combination of: an improvement in labor productivity in the sector; a premium on certain skill sets that are not readily available and preclude leveling out of wages; informational problems that prevent matching of jobs with available workers with the right skills; and wage setting by collective bargaining. While collective bargaining doesn't seem to be prevalent in Bangladesh, the other three forces appear to be at play.
- ***Part of the reason for real wage inflation in manufacturing could be the pressures from the public sector.*** Public-private segmentation is apparent in the considerable wage premium (over 30 percent) for public jobs. Analyses have shown the disparity to be arising from the lower-end (classes III and IV) public sector jobs. Not only does this lead to rationing of the high premium public sector jobs, it also distorts wage signals across the economy.
- ***Another segmentation is between urban and rural areas:*** Urban areas provide more employment opportunities (more hours of employment) in addition to a significant wage premium. The barriers to rural-urban mobility of labor – that would also be productivity improving – likely have to do with the shanty living conditions in the cities, especially for fresh migrants and the poor, and the higher cost of living.
- ***Female workers continue to face considerable barriers in the labor market.*** Improvements notwithstanding, only a quarter of working age females participate in the labor force. This emanates mostly from the social barriers commonly seen in developing countries, but it is hard to

imagine a path of rapid development, if three-quarters of females are not there to participate in and shape it. The solutions of more education and female empowerment are happening but could be speeded up.

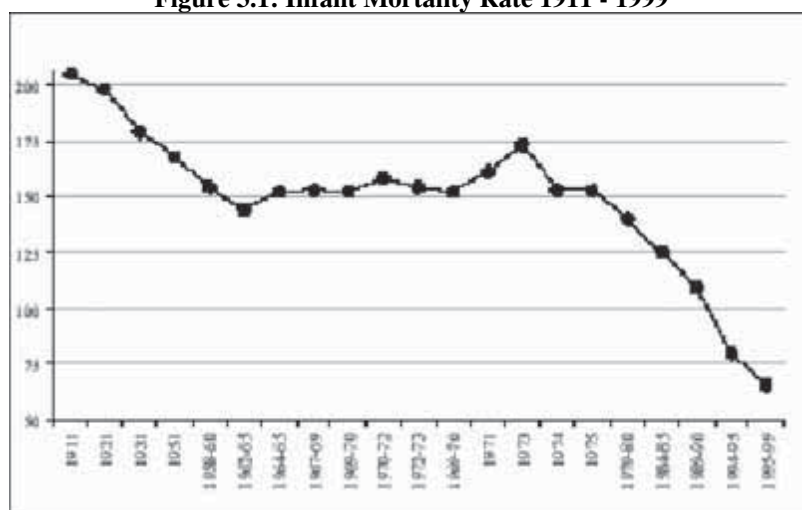
- ***The quality of labor is not only low but also does not seem to match the needs of the labor market.*** On average, the employed labor force has only 4 years of schooling; 4.2 years on average for male workers and 3.2 years for female workers. In addition, it is a major loss to productivity when even this scarce human capital is not properly utilized, as highlighted by the fact that almost a fourth of the unemployed hold a SSC, HSC or higher degree: 30 percent in the case of women. This is consistent with studies that have found substantial gap between the skills demanded by the market and those being supplied by the system. A focus on market oriented vocational skills and good quality secondary and tertiary education, therefore, appears essential in addition to consolidating earlier gains on primary education.

CHAPTER 3: MATERNAL AND CHILD MORTALITY: TRENDS AND PROJECTIONS

I. Trends

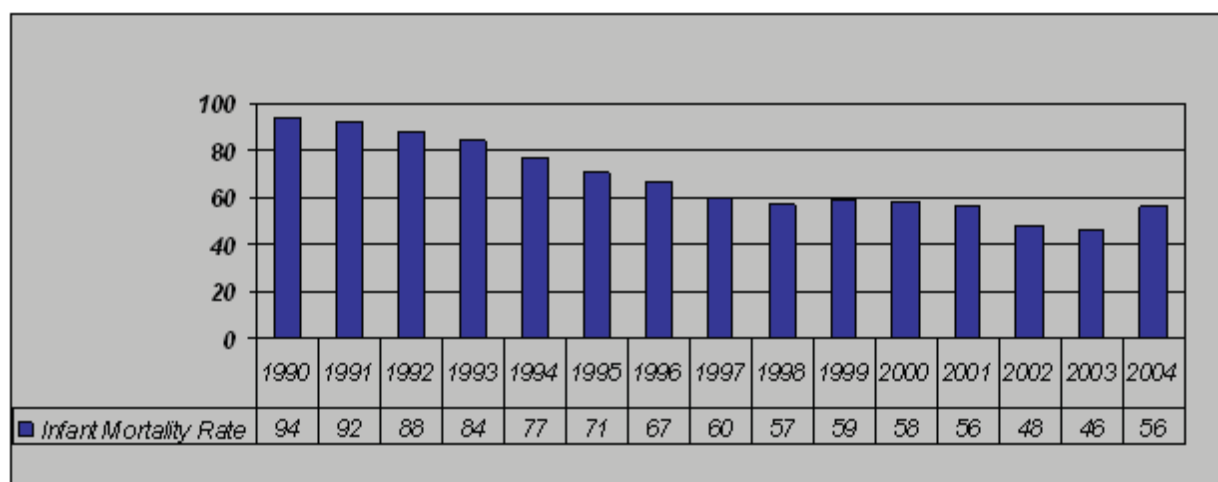
25. Child mortality is typically measured by two broad indicators, the infant mortality rate (IMR, 0-1 year) and the child, or under-five, mortality rate (0-5 years, CMR). Bangladesh has made remarkable progress in both measures over the past three decades. Figure 3.1 shows the evolution of infant mortality through most of the twentieth century. We see stagnation between the 1950s and early 1970s at around 165 infant deaths per thousand live births, followed by a sharp and sustained decline from 1975 that saw the rate plummet from 161 to 66 infant deaths today. Compared to India the decline has been much faster in Bangladesh, to the point where infant mortality is now lower in the latter despite a GDP per capita only half that of India.

Figure 3.1: Infant Mortality Rate 1911 - 1999



Source: *Attaining the Millennium Development Goals in Bangladesh* (2005)

Figure 3.2: Infant Mortality Rate 1990 – 2004



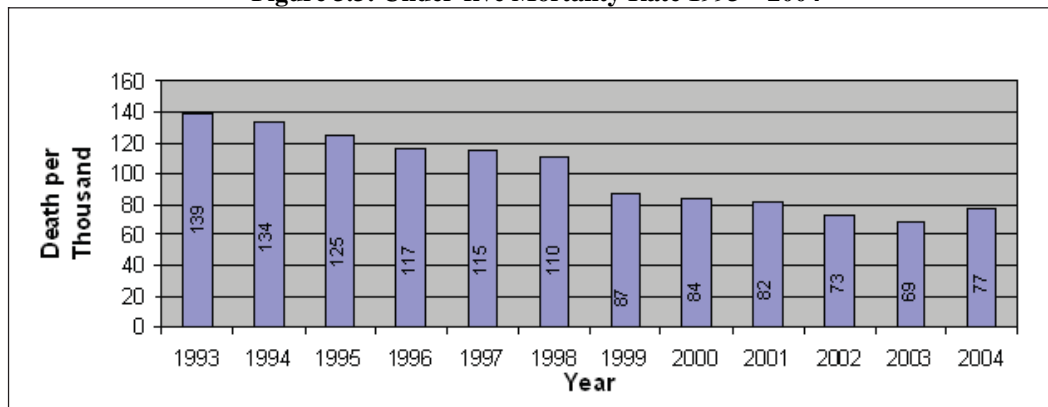
Source: *Millennium Development Goals, Bangladesh Progress Report* (2005)

26. Figure 3.3 shows progress in under-five mortality since 1993; mortality rates fell by almost half during this period, although the rate of decline has slowed considerably since 1999. Rural-urban

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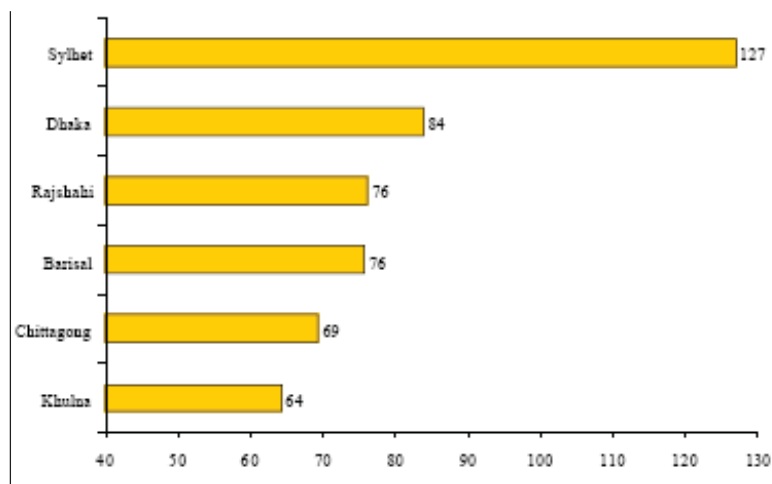
differences persist in 2001, with the rural rate (89) considerably higher than the urban rate (52). Indeed, spatial variation in mortality rates continue to be high across Bangladesh, despite recent progress. Figure 3.4 shows infant mortality rates across the country's different divisions, and the differences are striking. IMR in Sylhet division is twice that of Khulna. Curiously the capital, Dhaka, is second-highest. The region with the highest infant mortality rate in 1993/4—Dhaka—saw the slowest decline in that rate (14 percent) during the following six years. By contrast, Khulna, with lowest IMR in 1993/4, saw it fall twice as fast. Hence regional variations in IMR have become more pronounced across Bangladesh over time. Figure 3.5 suggests that such spatial variation is probably not due to exogenous geographic or environmental factors. A map of under-five mortality by district shows that those with the highest CMR are scattered throughout the country, and sometimes contiguous with the lowest-CMR districts. Absent structural changes in health care and nutrition, these spatial variations are projected to persist through 2015.

Figure 3.3: Under-five Mortality Rate 1993 – 2004



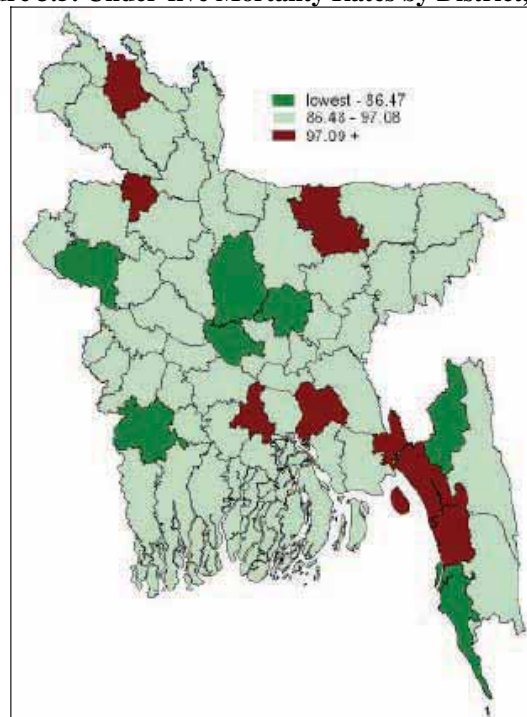
Source: Millennium Development Goals, Bangladesh Progress Report (2005)

Figure 3.4: Infant Mortality Rate by Division 1999 – 2000



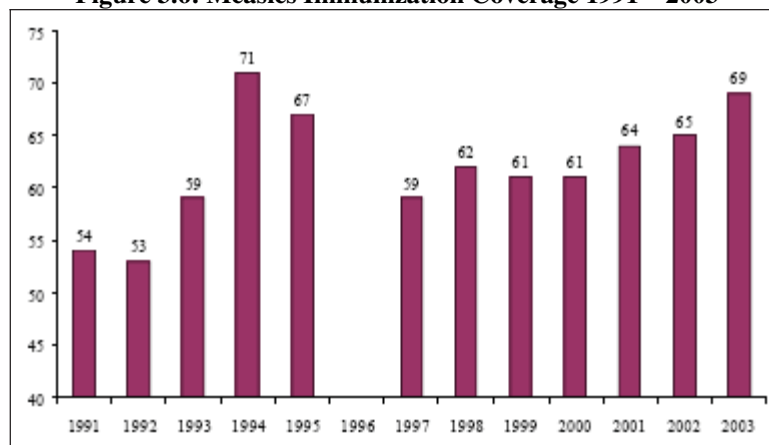
Source: World Bank 2005

Figure 3.5: Under-five Mortality Rates by District, 2000



Source: World Bank 2005

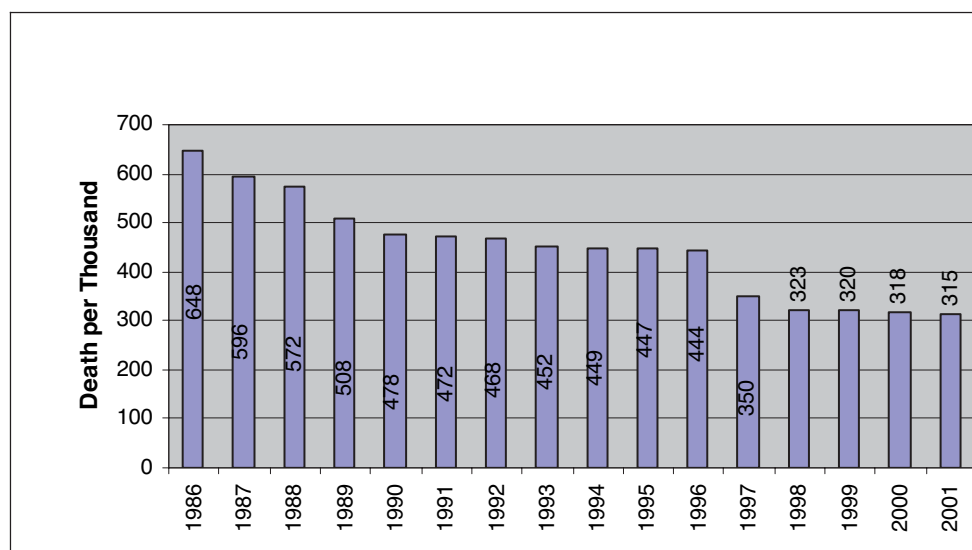
Figure 3.6: Measles Immunization Coverage 1991 – 2003



Source: World Bank 2005

27. Maternal mortality is usually tracked with a single indicator, the maternal mortality ratio (MMR), which is a measure of maternal deaths per 100,000 live births. Because the indicator is measured by reference to live births, the declining fertility rate in Bangladesh does not affect the overall level of MMR. It is important to note, however, that the declining fertility rate does mean that the average risk to women from maternal complications has been reduced, irrespective of the factors that affect the MMR. Here we focus on the MMR, as do the MDGs, because it captures the effects of both the demand and supply side of the system of maternal health service delivery. Figure 3.7 below presents data from UNESCAP, based on BBS data from the Vital Registration System, during the period 1986 to 2001. It is immediately apparent that Bangladesh has managed to reduce by more than half its MMR during the last 20 years.

Figure 3.7: Maternal Mortality Ratio 1986 – 2001



Source: UNESCAP using BBS data from the Vital Registration System.¹⁰

II. Projections

28. Bangladesh has done well recently on both maternal and child mortality, in some cases surpassing its larger, richer neighbor India. How likely is it to meet the MMR and CMR goals by 2015? Recent quantitative analysis¹¹ shows that the determinants of recent trends in child mortality include:

- Strong economic growth that raises consumption expenditure per capita
- Increasing female education
- Increasing measles immunization coverage
- Increasing the age at which women begin reproduction.
- Reduction in fertility

No similar analysis has yet been done for maternal mortality. But the phenomena are quite similar, and we can assume broadly similar determinants for both mortality types. The first two factors are outside the health sector, while the latter two are within it. Hence it is useful to treat the two groups of determinants separately.

29. Economic growth in Bangladesh has been strong recently, and the trend is clearly one of improvement. The country is experiencing a sort of boom that may be modest by Asian standards, but is remarkable when compared to its own history. As was discussed above, per capita GDP growth more than doubled from 1.5 percent per year in the 1980s to 3.3 percent per year in the 1990s, and appears to have accelerated somewhat since 2003. Quantitative analysis shows that growth has been responsible for a good deal of the improvement in Bangladesh's social indicators in recent years, notably poverty,

¹⁰ It should be noted that the accuracy of the data generated by the Bangladesh Bureau of Statistics' Vital Registration System has been called into question (ICDDR,B, 2005). Nevertheless, the VRS figures have been used here because they are the only source of annual data on maternal mortality that is nationally representative.

¹¹ World Bank, *Attaining the Millennium Development Goals in Bangladesh* (2005). The urban, female, and multiple birth variables are excluded from this list since they are not choice variables susceptible to policy interventions.

hunger, primary school enrolment, and child mortality. Hence it is of the utmost importance that growth be maintained and accelerated, in the interests of improving broad standards of living and welfare, and for the sake of meeting the MDGs. We return to the topic of how to increase growth in the next section.

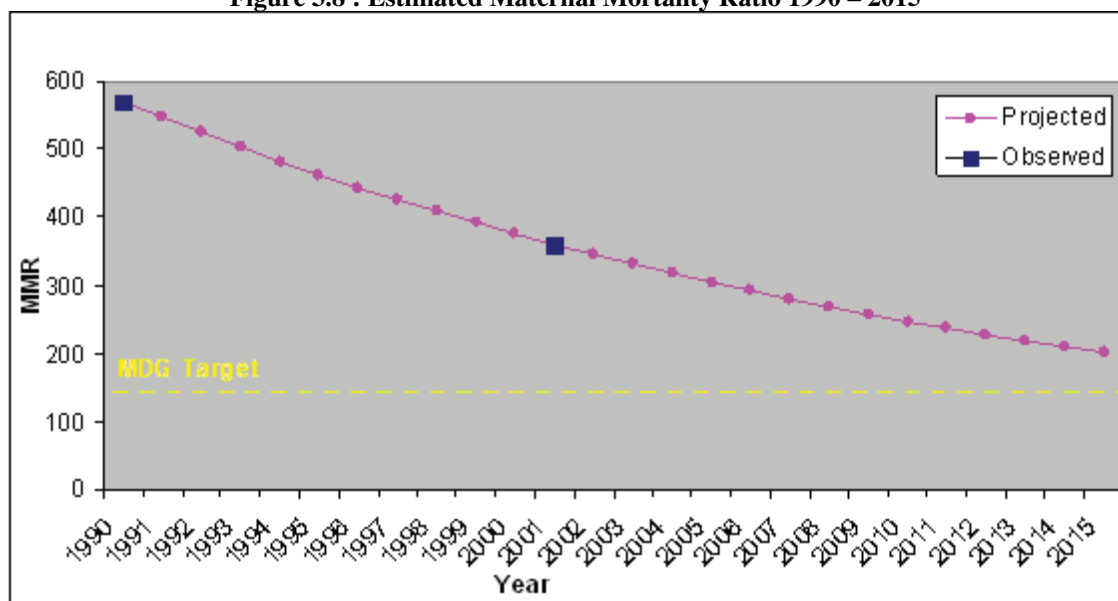
30. Bangladesh has made substantial progress in the education of girls in recent decades. With the Female Secondary School Stipend (FSSS) program, launched in 1994, female enrolment rose dramatically, from 1/3 of all secondary students in 1990 to just over half in 2000. This simple and highly effective tool is a form of conditional cash transfer that covers most school expenses incurred by girls in grades 6-10. A stipend is paid directly to an account established for each girl in a nearby commercial bank. Recipient girls are expected to pay miscellaneous school fees out of their stipends, while tuition assistance is paid directly to the schools involved. Stipends rise over time because extra incentives are needed to reduce dropout in higher grades. The program has additionally raised the number of teachers—especially women—in secondary school; provided occupational skill training to girls about to graduate; made schools more attractive, healthier and safer for girls; and strengthened government institutions for secondary education.

31. The FSSS appears to have been hugely successful in its main objectives of increasing the number of girls entering secondary school, and keeping them in school until graduation. Indeed, it has allowed Bangladesh to meet the MDG for gender equality in secondary education 15 years ahead of time. This is another instance of accelerated social progress in Bangladesh, an example for other developing countries, and an important policy tool that should be sustained in the medium term. It is also an example of how well-designed instruments of service provision can bring about significant changes in social outcomes, such as female education, despite little change in the underlying social norms and structures that are often thought to determine such outcomes.

32. Could Bangladesh meet the goals for MMR and CMR by 2015? Simulations based on the quantitative analysis cited above, given reasonable assumptions about changes in mean consumption per capita, adult female schooling, delayed child bearing among women, and expanded measles coverage, suggest that child mortality could decline substantially—by more than 50 percent—between now and 2015. The incremental contributions of measles vaccination and delayed child bearing to this decline are estimated at 15 and 11 deaths averted respectively. This implies the CMR would fall by 52 to 46 per thousand live births, and the MDG would be met roughly one year ahead of time. It should be noted that these are not *predictions*, but rather projections based on recent trends in the factors mentioned above continuing in a linear fashion through 2015. In particular, the model assumes per capita GDP growth rates of 4 percent per year, which is somewhat higher than growth recorded during the 1990s, but not radically so. The discussion in chapter 3, illustrates how Bangladesh can exceed this target quite easily.

33. Hence the child mortality targets can be met on current trends, though there is still a long way to go. Unfortunately the same cannot be said of maternal mortality. Bangladesh has one of the highest rates of maternal mortality in the world, and the strong advances recorded recently have nonetheless left it comparatively elevated. Quantitative models have not been estimated for maternal mortality, and hence we do not have detailed projections. But simple extrapolation of recent trends implies that this MDG will not be met. Figure 3.8 shows that maternal mortality fell from 574 deaths per 100,000 live births in 1990 to about 360 deaths in 2001, a fall of 37 percent. If we extrapolate this *rate* of decline, implicitly accepting that continued reductions become more difficult as the level of MMR falls, we reach a level of 227 deaths by 2015. If the rate of decline itself falls with the level, say to 25 percent, then the projected rate in 2015 will be 270. The two numbers are 59 percent and 88 percent higher, respectively, than the millennium target of 143.

Figure 3.8 : Estimated Maternal Mortality Ratio 1990 – 2015



Source: Authors' calculations based on official data.

34. There is thus a need for a structural break in recent MMR trends—an exogenous “MMR shock”—of the sort observed for infant mortality after 1975. In principle, this could come from a variety of sources: fiscal, institutional, medical or educational, to name some obvious candidates. Both the analysis provided in *Attaining the Millennium Development Goals in Bangladesh* and the general principle of diminishing returns, in this case of particular policy instruments, imply that the most cost-effective solution will involve a blend of measures. In order to identify these, we must look inside the health care provision system, at its institutional features and technical parameters, to distinguish those aspects that work to improve mortality rates from those that do not. The persistence of high subnational variation in CMR performance in Bangladesh suggests that a comparative approach may well be fruitful. Why do some areas perform so much better than others? Why have a few NGOs managed radical improvements in maternal and child mortality, apparently without significant investments in infrastructure or equipment, relying instead on the same public health assets that as a rule perform much more poorly?

CHAPTER 4: SPECIAL CHALLENGES TO ATTAINMENT OF THE MDGs

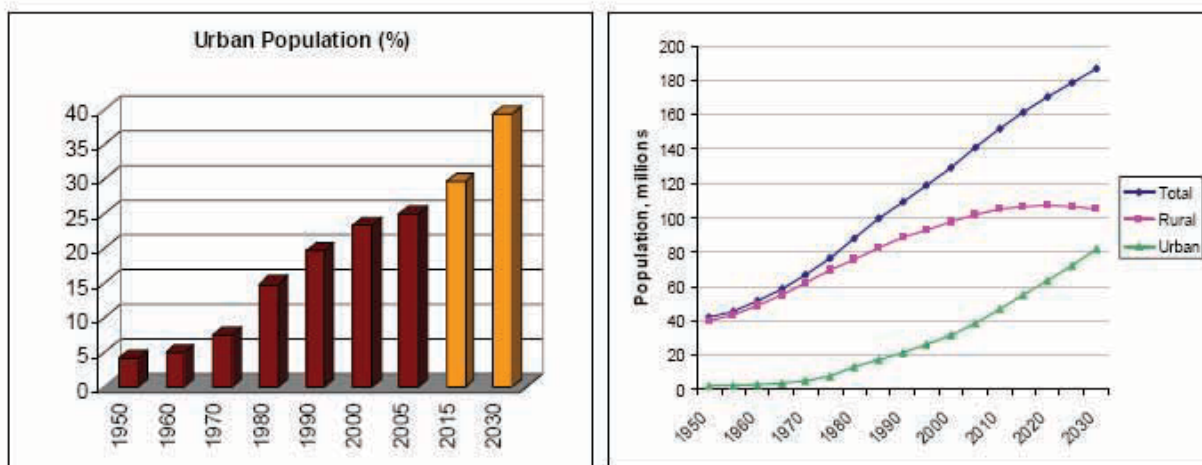
35. Bangladesh's growth record and history of social progress have been emphasized in this report as developments that bode well for the country's prospects for achieving many of the MDGs. It has been suggested as well that Bangladesh might even be able to expedite its pace of economic and social progress and, in so doing, surpass specific MDGs. This possibility should be cause for great hope in the country. However, there exist a number of significant development challenges that have far-reaching consequences for overall MDG progress, and that threaten to undermine Bangladesh's gains. Each of them imposes a significant constraint on Bangladesh's development prospects through their wide-ranging implications. For example, urbanization in Bangladesh and the concomitant deterioration of welfare in metropolitan areas raises serious questions about the attainability of the MDGs at the national scale. Until now, the policy response to these changes has been muted, as urban problems, which are continuously growing and worsening, are often approached with rural conceptual frameworks that are ill-suited to urban life. The challenges posed by urbanization are critical because they are felt across multiple sectors and constrain multiple MDGs. Likewise for issues related to inadequate infrastructure and poor environmental quality. In these sectors, too, problems and constraints impact upon all the MDGs, as well as tend to reinforce each other. The unsatisfactory state of water and sanitation infrastructure, for example, leads to unnecessary degradation of the people's environments, and in so doing affects morbidity, labor productivity, learning outcomes, and nutrition. The third cross-cutting challenge to the MDGs that we will focus on here is related to malnutrition. As is well known, proper nutrition is essential for cognitive and physical development and functioning, and yet Bangladesh has one of the highest malnutrition rates in the world. In Bangladesh, this problem is not only a consequence of income poverty and low consumption; even in the richest quintiles one finds malnutrition rates that rival the averages from impoverished neighbors such as Myanmar. Thus, these three cross-cutting issues—urbanization, infrastructure and environment, and malnutrition—represent major threats to the MDGs, which do not have straightforward solutions. In urban areas, in particular, the policies that are necessary for addressing these special challenges are not yet well-defined. By providing an overview of them here, this report hopes to draw attention to subjects that it argues merit greater attention by policymakers than has been paid until now.

I Emerging Challenges Created by Urbanization

36. At present the majority of Bangladesh's population is rural, but this situation is changing rapidly as a continuously increasing share of the population lives in urban areas. The rate of urbanization at the national level is among the fastest in the world, with the capital city Dhaka the single fastest growing metropolis—by 2020 it is expected to be the second largest urban agglomeration on the global stage. Given current trends, the national population is expected to become predominantly urban in roughly three decades.

37. An increasing proportion of national progress or stagnation toward the MDGs will depend on outcomes in urban areas of the country. The urban population's share will increase from 25 to 30 percent of the national population in the time period between 2005 and 2015, which is the decade remaining for Bangladesh to achieve its MDGs. This trend underscores the fact that urban areas will play an increasingly important role at the national level and indeed will be increasingly important determinants over time of national welfare and performance on the MDGs.

Figure 4.1: Urbanization in Bangladesh



Source: UN World Urbanization Prospects

38. Urbanization has not been spread evenly across municipalities but rather has been driven by increases in the number of people living in metropolitan cities, particularly Dhaka and Chittagong. One descriptive measure that captures the nature of this demographic concentration is urban primacy, which is the share of the total urban population that resides in the largest urban agglomeration in the country (Henderson 2002). According to figures from the Bangladesh Bureau of Statistics (BBS), this measure of urban primacy has increased from 25 percent in 1981 to 34 percent in 2001. If one expands the definition somewhat to include all statistical metropolitan areas (SMAs)—that is, Dhaka, Chittagong, Khulna, Sylhet, Rajshahi, and Barisal—then the urban primacy rate has increased from 42 percent in 1981 to 52 percent in 2001. Thus, not only has urbanization been increasing rapidly nation-wide, but also the share of urban dwellers is increasingly concentrated in only a few metropolitan areas.

39. The high concentration of the population in metropolitan areas poses special problems for economic development and service delivery. The manner by which economic development and service delivery can be enhanced in metropolitan areas has not yet been assigned due attention from planners and development practitioners, who tend in Bangladesh, as in other countries that have been historically largely agrarian, to adhere through habit or past experience to rural-oriented conceptual frameworks and models. This assertion is evidenced in part through the extensive efforts to improve access of rural people to primary and secondary education, to health facilities, to improved sanitation sources, and to microfinance. By contrast, urban and metropolitan areas rarely receive comparable programs designed specifically to tackle the outstanding issues they face. Instead, they are often recipients of programs that have been applied elsewhere, often successfully, but which fail to account for urban specificities. One example of such rural-oriented thinking can be seen in the secondary education sub-sector, to which the Female Secondary School Assistance Program (FSSAP) and the Monthly Pay Order (MPO) system have done much to boost access, particularly for rural girls, but has failed to address the specificities of the metropolitan context.¹²

40. This section of the report examines the performance of metropolitan and urban areas on a number of MDG indicators, which are important in their own right but are also significant as inputs to maternal and child health outcomes. It will be seen that the human development situation in metropolitan areas is either stagnating or actively worsening as a rapidly growing population increasingly strains

¹² See Stopnitzky, Al Zayed, and Khan (2006) for an in-depth discussion of these programs in the metropolitan context. The principal conclusions of their paper can be found in chapter 4 below.

services and stresses the living environment. This strain on services is characterized by two features: firstly, the rising population requires a continuously and proportionately increasing supply of services that have not been forthcoming until now for a variety of reasons; secondly, the growing pressure placed on existing services outstrips their capacity to provide, thereby driving down the quality of those existing services. In other words, for a large percentage of metropolitan city dwellers, particularly the poor among them, there exist both ‘*first generation*’ problems of access to services and ‘*second generation*’ issues related to the quality of services. These dual challenges must be addressed if Bangladesh is to sustain, and further, progress toward the MDGs.

41. In Bangladesh, there is significant spatial variation in outcomes for all MDGs, much of which is driven by the often poor performance of metropolitan areas. Even within metropolitan areas, substantial differences in MDG outcomes can be seen, particularly in the low-income areas and slums as compared to wealthier areas. The available evidence suggests that these slums, in which outcomes on many MDG-related indicators are catastrophic, as will be seen below, have been growing at roughly 13 percent per year, or over 200 percent in the last decade alone, an even faster rate than metropolitan areas as a whole. The situation of service delivery in the slums and low-income areas is worse than already low metropolitan averages, a point that will be emphasized repeatedly in the discussion that follows. Of course, these outcomes have a significant effect at the national level due to the large and growing share of the national population that resides in urban areas generally, and low-income urban settlements in particular.

Table 4.1: Slum Growth Over the Last Decade

Comparison of figures for 1996 and 2005					
Year	Number of clusters	Number of households	Slum population	Total population	% Living in slums
1996	3,007	220,920	1,104,600	---	---
2005	4,966	673,874	3,420,521	9,136,182	37.4%
Growth of slums over past 10 years in absolute and relative terms					
Year	Number of clusters	Number of households	Slum population		
1996-2005	1,959	452,954	2,315,921		
10 year period	65.2%	205.0%	209.7%		
Annual average	5.7%	13.2%	13.4%		

Source: Orsola-Vidal (2006) using data from the Center for Urban Studies.

42. Of the eight MDGs, only one deals explicitly with urban areas: Goal 7 on Ensuring Environmental Sustainability, which uses three indicators to assess progress. These indicators are: the proportion of the urban population with access to safe water, the proportion of the urban population that has access to improved sanitation, and the proportion that has secure tenure, either through documentary evidence or de facto protection against eviction. The UN adds durability of housing, which provides protection against extreme climatic conditions such as flooding, and sufficient living area as two further dimensions that affect the welfare of slum dwellers.

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43. Although only Goal 7 of the MDGs deals directly with urban issues, each and every one of the other MDG outcomes in Bangladesh is also affected by the conditions and characteristics of urban life. Provision of primary and secondary education, for example, is negatively influenced by the relatively higher prices associated with land and labor. Health care systems are burdened with growing demand for services and limited access to primary health care, including antenatal care. Extremely poor air quality produced by industry and a heavy reliance on automobiles both pose health risks that exacerbate acute respiratory infections (ARI), a leading cause of child mortality. High levels of chemical and biological pollution in water sources increase the prevalence of diarrhea, another important factor in child and maternal mortality and morbidity. In such ways, among others, the features of modern urban life impact upon the MDGs and impair progress toward them.



Service Delivery in Metropolitan Areas

44. Available services are delivered by a combination of public agencies, private providers (often 'mastaans' that provide through illegal means), NGOs, and donors. These various service providers vary dramatically in their technical capacities, financial resources, and accountabilities, but on average metropolitan residents appear to be wholly dissatisfied with the current state of service delivery (World Bank, 2002). Overall, less than 20 percent of city residents were happy with the state of eight different services. Among poor households, this figure dropped to less than five percent on seven types of basic services.

Table 4.2: Administrative Structure of Service Delivery in Greater Dhaka

Agency	Services	Sources of Financing
Central government agencies	Education, health, legal, judicial, police, land registration,	Taxes, donor funds
Dhaka City Corporation	Sanitation, solid waste disposal, road building and maintenance, street lighting, traffic signaling, parks, playgrounds, graveyards, slaughter houses, market places, street addressing, provision of nominal stipends to primary education, slum improvement, mosquito prevention, primary health care	Property taxes, conservancy, lighting and water tariffs, fees, fines, rental income, government grants, donor funds
Pourashava	Sanitation, solid waste disposal, primary health care, road building and maintenance, street lighting, traffic signaling, parks, playground, poverty alleviation, slum improvement, planning, etc.	Property taxes, conservancy, lighting and water tariffs, fees, fines, rental income, government grants, donor funds
WASA (Water and Sewage Authority)	Drinking water, sewerage	Water tariffs, loans, government grants, donor funds
RAJUK	Planning and development of physical infrastructure, including housing	Sale of lands, government grants
Specialized authorities: PWD, NHA, DPHE, LGED	Civil works, housing, physical development	Government budget, donor funds
DESA (Dhaka Electric Supply Authority)	Electricity	
Titas	Gas Supply	

Source: Chowdry 2004 and World Bank 2006

Water and Sanitation Services in Slums Drive Outcomes in Metropolitan Areas

45. Access to improved sanitation has increased remarkably in rural areas but has remained virtually stagnant in metropolitan areas. The Government of Bangladesh's Total Sanitation program, which was initiated in 2003, has performed well in rural areas, dramatically improving access to improved sanitation in rural Bangladesh from only 29 percent in 2003 to 62 percent in 2005 (see Table 4.3 below). Meanwhile, access to sanitation in metropolitan areas has remained stagnant at about 75 percent, after improving only five percent in the same two-year period.

Table 4.3: Absolute and Relative Measures of Sanitation Progress in Bangladesh

Area	Total No. of Households	October 2003 (%)	June 2004 (%)	December 2004 (%)	June 2005 (%)	December 2005 (%)
Rural Area	1,83,26,332	5,272,589 (28.8)	6,081,923 (33.1)	7,240,626 (39.4)	10,457,387 (57.1)	11,347,905 (61.9)
Municipalities	18,51,337	983,025 (53.1)	1,036,350 (56.0)	1,189,599 (64.3)	1,371,416 (74.1)	1,431,515 (77.3)
City Corporation	1216424	850,527 (69.9)	885,454 (72.8)	892,906 (73.4)	907,797 (74.6)	914,034 (75.1)
National	21394093	7,106,141 (33.2)	8,003,727 (37.4)	9,323,131 (43.6)	12,736,600 (59.5)	13,693,458 (64.0)

Source: Orsola-Vidal (2006) using data from the National Sanitation Secretariat

46. Looking at the average for metropolitan areas masks the water and sanitation situation in slums, in which outcomes are significantly worse. Recent studies (LGED 2005; Orsola-Vidal, 2006) present evidence that only 35 percent of low-income metropolitan inhabitants use hygienic latrines (as compared, e.g., to 75 percent in non-metro urban areas). In Dhaka, it is estimated that merely 26 percent of slum dwellers use only hygienic latrines, which suggests that the remainder is exposed at least part of the time to health risks caused by unhygienic sanitation in a given location; over 50 percent of slum dwellers use only unhygienic latrines, and thereby suffer constant exposure to such health risks. There are in fact good reasons to suspect this number has been worsening over time—and will continue to do so in the future—including the fact that more aggregated figures on access to hygienic sanitation in metropolitan areas show little improvement, the fact that the slum population is rapidly increasing, and the related evidence that slums are least likely within these areas to benefit.

47. Adequate provision of safe water and improved sanitation in metropolitan areas, especially in slums, is constrained by the lack of a comprehensive urban policy framework, insecure land tenure, technical difficulties, and institutional weaknesses among providers. There does not exist a national urban policy that addresses urbanization and urban poverty, most likely due to the persistent but erroneous belief that the situation in rural areas is universally direr than in metropolitan areas, and the notion that improving the situation in the slums will tend to attract more migrants to the cities. Further, the pervasive lack of land tenure among the metropolitan poor impairs implementation of the existing relevant policies such as the National Policy for Safe Water and Sanitation 1998. The Dhaka and Chittagong Water and Sewerage Authorities, for example, do not provide services to those households deemed 'illegal' for lack of secure tenure. A shift in this policy is absolutely critical if low-income inhabitants of metropolitan areas are to gain access to a safe water supply and hygienic sanitation facilities. Compounding the constraints of the institutional framework explained above is a number of technical difficulties specific to metropolitan life, such as extraordinarily dense settlements with little free space, as well as their frequent proximity to water bodies and flood-prone areas. Finally, the institutional service providers for water and sanitation suffer from their own constraints. There is poor coordination between the Water and Sewerage Authorities and the City Corporations, neither of which have sufficient capacity to provide universal water and sanitation services. Importantly, the WASAs suffer from very

limited accountability both internally and externally, a lack of transparency in management, financial limitations, and extremely bureaucratic decision-making processes (Orsola-Vidal, 2006).

48. Nevertheless, successful models of water and sanitation service delivery can overcome these constraints by giving the community control over physical resources, providing significant support to program software, and helping to reduce the risks associated with possible eviction. Dushtha Shasthya Kendra (DSK), for example, is a non-governmental organization that piloted, with the support of WaterAid, a service delivery model based on social intermediation between community members and the public utilities, which enhances the relationships of accountability among stakeholders. The model is driven by community demand and emphasizes strongly the social mobilization and community management (i.e. software) components, ensuring that latrines do not end up unused, as with many supply-driven models. The model is also based on cost recovery, which drives down the costs of provision, helps to build the 'short route' of accountability, and enhances long term sustainability. This model has proven to be effective and is now being replicated by international NGOs and scaled up by WaterAid through partnerships with other local NGOs.

49. Like the post-mortem exercise that is an integral part of the GK health care system (which is discussed in greater detail in chapter 5), the DSK model of sanitation service delivery in slums provides an excellent example of *creative tension*. Under usual circumstances, the relationship between slum dwellers and metropolitan public utilities is non-cooperative at best, largely due to the fact that the WASAs fail to provide water to those without secure tenure—a highly problematic situation for slum dwellers which was discussed above. But in the DSK model, the organization enters to reframe the institutional framework guiding service provision in such a way that service users and providers are placed into newly productive, complementary roles based on mechanisms of accountability that did not exist previously. These relationships are structured by creative tension, which describes that all stakeholders are active in a way that encourages the others to fulfill their own roles and responsibilities. DSK serves, then, as a kind of bridge between a given slum community and WASA that re-instills the creative tension or balance among stakeholders, which had been lost due to the particular policies of the WASAs. The social intermediation function performed by DSK is, however, only one aspect of its service delivery model that fosters such creative tension. The DSK model also has several specific features that create incentives for beneficial interaction among stakeholders. One of these features of the DSK model is the cost recovery component of water and sanitation provision. By paying for the services that are consumed, slum dwellers enter into a normal operating relationship with the public utilities, albeit one mediated by an external agency (i.e. DSK). More to the point, they have effectively 'bought into' the service delivery framework by making regular payments to service providers, thereby increasing the incentives for monitoring the quantity and quality of the services they receive (see also WDR 2004 for a discussion on the related argument that user payments enhance the 'short route' of accountability). Finally, DSK also facilitates community involvement and social mobilization around project design (contamination and poverty mapping, and choice of technology), implementation (cleaning and maintenance of facilities, money collection, monitoring), and advocacy regarding user rights. Each of these activities draws the various stakeholders into an institutional framework marked by novel roles and responsibilities, which operate in complement to each other in order to produce desirable outcomes.

Poor Secondary Schooling Outcomes in Metropolitan Areas

50. National progress in expanding access to secondary schooling has been driven largely by improved enrolment rates in rural areas, while metropolitan areas have been left behind. The GoB's efforts to boost the supply and demand for schooling through the MPO system and the FSSAP have been hugely successful in rural areas. Metropolitan areas, however, have not kept pace with these successes; indeed, some evidence suggests that the situation may be worsening, particularly among the two poorest income quintiles (HIES 1996, 2001, and 2006). In metropolitan areas, for example, only 47 percent of

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primary school graduates from the poorest two quintiles are enrolled in secondary school. This outcome compares disastrously with rural areas, in which the enrolment rates among the bottom two quintiles are nearly 70 percent. In 2001, only in the richest quintiles were enrolment rates in metropolitan areas any higher than rural areas (82 versus 81 percent, respectively) but they were still significantly lower than non-metro urban areas (91 percent). The situation in secondary schooling for these groups too has been worsening over the last five years: today enrolment rates for the richest two quintiles are lower in metropolitan areas than anywhere else in the country.

51. Looking at all children of secondary school age (11-18) irrespective of whether or not they graduated from primary school (thus a more comprehensive reflection of the education situation in metropolitan areas), enrolment rates are at terrible levels, dropping as low as 19 percent for males and 24 percent for females from the poorest quintile. This finding reflects the fact that secondary enrolment levels are outcomes of both the secondary and primary schooling systems. In metropolitan areas, primary schooling rates, like secondary enrolment rates, are significantly lower than in rural or non-metro urban areas. Again, this outcome is more severe among the poorest two quintiles, for which primary enrolment rates are only 50 percent for the first quintile, and under 70 percent for the second. Overall, then, in metropolitan areas half of very poor children of schooling age are failing to enroll in primary school; of those that do go and finish, another half fail to enroll in secondary school. This combined effect creates the catastrophically low enrolment figures found in the figure below.

Table 4.4: Secondary Enrolment Rates of All Children Aged 11-18

Income Group	Male			Female		
	Urban	Rural	Metro	Urban	Rural	Metro
Poorest 40%	39.3	40.5	37.0	58.0	51.9	36.0
Middle 20%	61.7	53.1	46.7	70.3	65.8	56.2
Richest 40%	79.1	67.6	70.6	78.3	76.6	69.7

Source: Stopnitzky, Al Zayed, and Khan (2006) using data from HIES 2006.

52. These outcomes can be explained in part by comparing how the MPO system functions across different geographical areas. The MPO is an instrument for publicly funding privately delivered secondary education. It does so by subsidizing 90 percent of recurrent costs faced by private providers, which are largely salary costs based on the universal public pay scale. Consequently, in areas of the country where recurrent and/or establishment costs are high, as they are in metropolitan areas, private providers are not proportionately subsidized (as compared to rural providers of secondary schooling). In fact, private providers in metropolitan have recurrent expenses, including rent and salaries, that are three times the average cost of schooling in rural and non-metro urban areas (Stopnitzky et al, 2006). At the same time, the MPO compensates them for a much smaller proportion of their total income. In rural schools, for example, the ratio of MPO income to non-MPO income is 109 percent in rural schools, but only 57 percent in metropolitan Dhaka schools. As could be expected, metropolitan secondary schools must find ways to raise the additional income it takes to operate, which usually take the form of fees passed on to students/households. Thus, 88 percent of income in metropolitan schools is generated through fees, whereas only 54 percent is in rural schools. Through these mechanisms, which derive from

the particularities of metropolitan areas, such as relatively high land costs,¹³ the incentives for private provision of secondary schooling are undermined and supply is reduced.

53. Another critical factor in creating low enrolment rates is low demand for schooling among poor households. As was just explained, schools in metropolitan areas must generate relatively more income from students through fees, which will place a disproportionate burden on poor families, who may not be able to pay such amounts given their budget constraint, or who, at least, must reduce current consumption significantly. Evidence from HIES 2001 confirms this: among the poorest quintile, average secondary school fees account for roughly one quarter of per capita household expenditure. Secondary education fees thus represent a significant burden that drive down demand. In addition to the direct cost of education, metropolitan areas also create through relatively diverse economic activities more employment opportunities for children, thereby increasing the opportunity cost associated with a child not working and being in school instead. Recent research suggests both that child wage rates (i.e. opportunity costs) are significantly higher in metropolitan areas than in other areas of the country, and that the prevailing child wage rate is the single most important determinant of secondary enrolment, even when controlling for the effects of other determinants, such as parental education levels and household income (Stopnitzky et al, 2006). These findings help to identify that the direct and indirect costs associated with schooling are the factors that most drive down demand for education, and thus schooling outcomes, in metropolitan areas.

54. Given the great successes of the MPO and FSSAP programs, adjustments could be made to their design, implementation, and/or benefits to better suit the needs of metropolitan areas. With respect to the MPO system, for example, GoB may consider increasing the subsidy to private providers for recurrent expenses to an amount greater than 90 percent, or may consider providing tax breaks or rental subsidies for land, which would help offset the cost of this massive component of recurrent expenditures in metropolitan areas. Similarly, the FSSAP program can be extended to metropolitan areas as well, and may be means-tested and targeted to the poorest households. Though the amount of the stipend need not be the equal to the costs of education borne by the households (because households have a preference for education and are willing to contribute), the amount may need to be revised somewhat from that given in rural areas in order to offset a proportionate amount of the direct and indirect costs of schooling.

Urban Health Care

55. Nearly half of all households (46 percent) in metropolitan areas report a lack of access to health care, and poor households have even lower rates of access. Only 12 percent of the poor report receiving care from free government health centers (World Bank 2005), and many cannot afford the additional bribes and payments necessary to secure care. For similar reasons of affordability, many poor do not have sufficient purchasing power to access private health services. Moreover, clinics and hospitals that are accessible rarely have the capacity to provide care to all those who need it, and consequently, the waiting time for patients is often extremely long. This time requirement poses an additional challenge for the poor, who may not be able to take sufficient time out of work obligations.

56. The City Corporations in large cities and Municipalities in smaller urban areas are responsible, under the Ministry of Local Government, Rural Development and Cooperatives (MLGRD), for providing primary health care. Nevertheless, very few public services are provided due to lack of resources and capacity, and most attention is focused on environmental health issues like vector control. Wealthier urban residents do generally have access to private providers, but the poor are largely unable to afford

¹³ Land prices in Dhaka are among the highest in the world. Prime real estate in Dhaka, such as the Dhanmondi and Banani neighborhoods, is valued on average at Tk. 3500 (roughly 60 USD) per square foot. Even less desirable peripheral areas, such as Uttara and Pallabi, have average land prices around Tk. 1600 per sq. ft., ranking these areas as more expensive than Chicago or Miami. (Glaeser and Gyorko, 2003).

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such services. Many poor and middle income people are served by health care NGOs, which have gained attention as government and donors have searched for ways to contract-out health service delivery from incapable public institutions, and to instead give those public institutions a role in quality assurance and oversight. At the core of such a health care strategy for urban areas is the focus on the Essential Service Delivery (ESD) package, which is comprised of basic services such as immunization, micronutrient support, family planning, prenatal and postnatal care, reproductive health, and control of communicable diseases such as tuberculosis. This emphasis on ESD mirrors the Ministry of Health and Family Welfare's larger national health strategy, and is embodied in the national HNPS (donor-supported) and urban-oriented UPHCP-II (DFID funded).

57. The models of upward and downward accountability which have worked well in rural contexts are more difficult to apply in the metropolitan areas, partly due to the depersonalization created by large concentrations of people. Such depersonalization disrupts the regular flows of information among clients and service providers, and so creates special challenges to mechanisms of accountability. One NGO that has attempted to design service delivery models in light of such constraints is Gonoshasthaya Kendra (GK), which has just reached agreement with the Dhaka City Government to apply and adapt their successful framework across a whole ward in a major urban setting. If this effort can be made to work, then the model can be applied more broadly across metropolitan areas. Dhaka Community Hospital, like GK, operates HMO-type urban health care models. The upward accountability side of these models are well developed in the sense that vertical supervision provides monitoring of service provision. But there are some problems with downward accountability to communities and users of the services. The proper mechanisms of accountability are not possible because the two systems address a small segment of the urban population in each area and monitoring by the community is difficult to establish. If the GK pilot can develop properly mechanisms of downward accountability that complement upward accountability mechanisms, then an approach involving partnerships between urban governments and private/NGO providers may be the most effective way of addressing the health care problems of the urban poor.

Urban Environmental Health

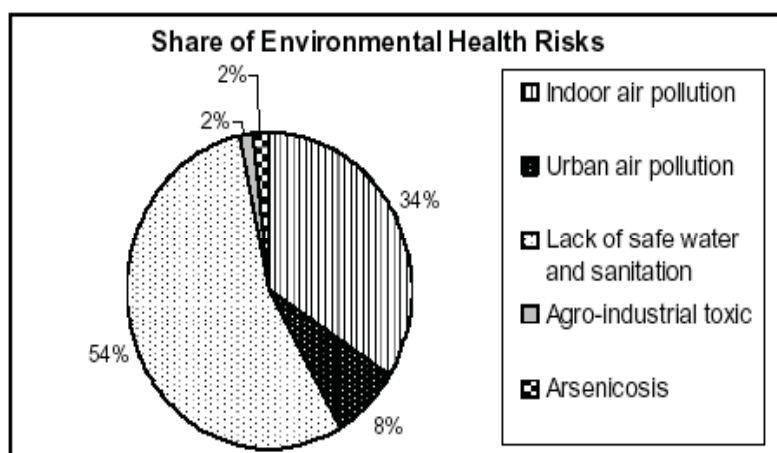
58. Unhealthy environments are estimated to cause roughly one-fifth of Bangladesh's total disease burden (World Bank, 2006). In particular, environmental conditions characterized by poor air quality, unsafe water, and inadequate sanitation exacerbate the prevalence and severity of respiratory illness and diarrhoeal disease—two of three of the top causes of death in Bangladesh, particularly among children.¹⁴ These environmental health risks are presented in the pie graph below; the environmental health risks captured in that graph together account for the approximately one-fifth of Bangladesh's total disease burden. The largest environmental health risk—diarrhoeal disease—stems from poor water and sanitation services, which not only increase mortality rates directly, but can also indirectly affect maternal and child mortality by worsening malnutrition levels and reducing labor productivity.

59. The metropolitan areas of Bangladesh, particularly Dhaka, are characterized by serious and growing problems of airborne and waterborne pollution, which have significant deleterious effects on the general health and productivity of the populace. It is estimated, for example, that 10 percent of Bangladesh's total number of respiratory infections and disease can be attributed to urban air pollution. When combined with the effects of poor indoor air quality, air pollution is estimated to contribute to between 36 and 60 percent of all respiratory infections and illnesses in Bangladesh (World Bank, 2006). Foremost among pollutants are suspended particulates, especially fine particulate matter (PM_{2.5}), which poses the most serious health risks. Levels of particulates in the air are nearly always above

¹⁴ WHO (1997) estimates that at the global level 90 percent of the risks associated inadequate water and sanitation-induced diarrhoeal disease is borne by children.

recommended national limits except during the rainy season when levels usually drop within acceptable limits.

Figure 4.2: Health Risks Weighted by Associated Disease Burden



Source: World Bank, 2006 "Country Environmental Assessment"

60. Indoor air pollution, which is caused by the burning of bio-fuels such as wood and dung for cooking, as well as from smoking of cigarettes, has a significant and negative impact on health outcomes, particularly for children. The health impacts associated with indoor air pollution in terms of respiratory infections and other illnesses are estimated to be around eight percent of Bangladesh's total disease burden according to the (World Bank 2006). Relatedly, research from GK project areas shows that having a smoker as a parent (either the father or mother) results in a significantly higher probability of child mortality (Chaudhury, 2006). Additional World Bank research (2004, 2005) shows that there is substantial heterogeneity among households in exposure to indoor pollution, even when using the same fuels. This suggests that construction materials of the dwelling and ventilation are important factors in determining exposure to indoor pollutants, and that policy interventions must focus equally on household behavior and construction that improves ventilation.

61. Water quality in metropolitan areas is likewise extremely poor, with nearly all waste from humans, livestock and industry making their way without treatment into surface water bodies (which over time seeps into groundwater as well). In Dhaka, there is at present only one sewage treatment plant at Pagla, which usually runs at less than capacity due to technical failures and a lack of treatment of effluents by polluting industries. The massive quantities of untreated waste entering water bodies results in large sections of the rivers and water bodies of Dhaka becoming biologically dead during the dry season, rendering the water unfit for human use and likely unfit for livestock use as well. Extraordinarily high levels of ammonia in the water are another serious cause for concern for they threaten the Saidabad Water Treatment Plants ability to treat water up to standards necessary for drinking.¹⁵ The problem of water pollution is particularly damaging to the poor, who in general have fewer options available to them and cannot avoid the health risks posed by terrible water quality. A recent World Bank report (2006) estimates that the total economic cost associated with poor water quality, including human health costs, is on the order of US \$670 million annually, and is expected to rise over time. These findings underscore the importance of water resources in producing positive health outcomes, particularly among the poor, in line with the MDGs.

¹⁵ This section is based on the discussion of water quality found in the "Country Environmental Assessment 2006" by the World Bank.

Table 4.5: Bangladesh—Share of Disability Adjusted Life Years (DALYs) Lost by Cause and Environmental Contribution

Cause	%	Environmental Factor	Share of Cause (%)	Share of Total (%)
Respiratory Infections and Disease	17	Indoor Air Pollution	30 – 50	5 – 8
		Urban Air Pollution	6 – 10	1 - 2
Perinatal Causes	14	Not Applicable	-	-
Diarrhoeal Disease	12	Low access to safe water, poor sanitation and hygiene	80 - 90	10 - 11
Injuries	11.5	Not Applicable	-	-
Nutrition/Endocrine	10	Not Applicable	-	-
Malignant Neoplasms	2	Agro-industrial toxics	5 – 25	0.1 - 0.5
Other	33.5	Arsenicosis ^a	-	0.3 - 0.4
Total	100		-	16.4 – 21.9

Sources: Streatfield (2001), Murray and Lopez (1996), Lokuge *et al* (2004), WHO (2002), World Bank staff.
 (a): Disease burden due to arsenic levels >50 ppb, estimated by Lokuge *et al* (2004). May include portions of the burden of disease listed under other causes.

62. Addressing the environmental problems outlined above will require a cross-sectoral strategic framework that places efforts to improve air and water quality, sanitation, and solid waste treatment within a broader urban planning framework. To achieve this, general environmental awareness must be enhanced in addition to more effective monitoring and compliance of environmental regulations. For water resources, this means greater public provision of information about water quality and the consequent effects on health, as well as a principled effort to reduce untreated industrial discharges. With respect to air pollution, greater attention must be focused on fuel quality, gross diesel polluters, and ensuring adequate ventilation and behaviors within households so that the negative impacts of indoor air pollution from stoves and cigarettes are diminished.

General Policy Conclusions for Metropolitan Areas

Addressing Service Quality

63. Metropolitan areas experience widespread problems with both access to and quality of services. For many sectors that are directly and indirectly associated with the MDGs, rapid urbanization and a burgeoning metropolitan population have made ensuring access to services difficult and have diminished the quality of existing services. It is therefore necessary to address immediately the ‘first generation’ service delivery problems of access, particularly given the available evidence on the impacts of services of even present quality, particularly secondary education (see, e.g., Al-Zayed *et al*, 2006). These efforts ought not to exclude ‘second generation’ considerations of quality, which we can expect to improve the primary and secondary effects of expanding access.

64. There must be a major shift in government policy toward urban areas, particularly with regard to provision of services to slum dwellers and sites without tenure. Successful models of service delivery in slums and low-income communities of metropolitan areas demonstrate that it is indeed possible to provide services in slums, and importantly, that slum dwellers are willing to pay for decent services and assist in the management of common resources. Sometimes these successes have occurred because NGOs and/or communities have assumed onto themselves the associated risks, but oftentimes donors, NGOs and private entrepreneurs are reluctant to provide formal services to slums for fear of losing their investments should evictions occur. This situation presents one of the most significant constraints to adequate service delivery in metropolitan areas.

The Problem of Urban Institutional Inadequacy

65. Urban institutions are not structured to adapt the lessons of accountability from successful rural experiences. Metropolitan local governments are not organized in a manner that obtains accountability from municipal service providers. Other metropolitan institutions are heavily dominated by central Ministries, which are not accountable to local citizens, and their agendas may not always be conducive to the well-being of the metropolitan population, particularly the poor. Thus, even if resource problems were solved, the structure of metropolitan institutions in Bangladesh does not allow proper delivery of basic services, particularly to the poor and those who are not well connected. Pervasive institutional weaknesses in terms of both accountability and capacity must be remedied so that service providers have the ability and motivation to provide services to all metropolitan residents. Tackling metropolitan problems will require a restructuring of the relationships of accountability between policymakers, service providers, and clients.

66. The first problem is that urban local governments are not structured to be responsive to the demands of the population, especially those in metropolitan cities. There has been a tendency to develop urban governments around a fixed institutional structure which is based on historical geography, i.e. geographic jurisdiction determined under British India. The structure has been modified modestly over time, but it is still built around priorities of a different scale and a different era—essentially, the provision of public services to roughly 100,000 people. While capacity to deliver services can be enhanced by increasing the number of municipal employees or contracting in services, upward accountability—an essential element of successful local government—cannot be assured. In a large city like Dhaka, the lowest level of representation, the ward commissioner, may represent over a 100,000 people. The large size of this unit of representation significantly undermines the role of responsive, accountable local government. At present, the quality of services provided depends especially on the willingness of municipal employees to compensate for an inadequate institutional structure with hard work. But such employees are permanent civil servants, and not accountable to those who use the services they provide.

67. There may be need to change the structure of metropolitan governments based on population size, so that each elected representative is responsible for a smaller and more manageable group and, conversely, can be monitored by their voters. The experience of large and fast-growing slums in Latin America provides lessons which can be incorporated in Bangladesh. The Latin America model has allowed the creation of a structure of elected local representatives for various slum localities who act to monitor the provision of services. Similarly, the new city Government structure in Pakistan, which has introduced three tiers of urban local government—the first being responsible for the whole urban region, the second for sub-regions, and the last for localities (and structured like Union Parishads in rural Bangladesh) may also provide lessons. A discussion of how urban governance can be structured points to an important governance agenda in Bangladesh: the need for effective local governments of various sizes across the rural-urban continuum, not only for municipalities or rural unions. It is only through a functional system of governance that addresses the heterogeneity of modern life at all spatial scales can Bangladesh ensure that service providers and policymakers are accountable to citizens and users.

68. Apart from enhancing accountability by increasing the tiers of urban local government, one alternative way of improving basic services is to make the centrally controlled service providers more effective and/or to build a strong metropolitan government. This approach is based on the undeniable fact that technical improvements and greater efficiency in the centrally controlled service agencies are very much needed. Still, such changes by themselves may not be enough to improve services for the poor, as a history of disappointing investments in those agencies has shown. Strong metropolitan government structures can be useful but may not be attainable given the political economy of Bangladesh, which centralizes power in Dhaka in such a way that national institutions exert undue influence on metropolitan ones. Even if a strong metropolitan government were to be created, this change would not be able to

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replace lower tiers of local government through which the poor would have more influence in the governance process. For these reasons, it is becoming increasingly clear that investments in centrally located agencies must be supplemented by structures that increase voice of service users, particularly of the poor, and increase the accountability of service providers.

69. The roles and responsibilities of government agencies, both local and central, must be better delineated and more effectively coordinated. At present, there is a patchwork combination of service providers that are frequently impeded from fulfilling their obligations because they depend on complementary functions performed by other agencies. For example, the Dhaka City Corporation is responsible for many services, including sanitation, solid waste removal and road building and maintenance, but is unable to perform its role properly because (a) it is dependent upon the central government for financial grants and staffing appointments, and (b) it has no official role in city planning or urban development (World Bank 2005). In analytical terms, fault (a) is inefficient as it leads to an important mismatch between the city's revenue-raising and expenditure responsibilities. Fault (b) is simply incoherent, so ensuring that sanitation and transport services will be poorly provided.

70. The thinking over the last 10-15 years is that strict hierarchies led by the head of state and reaching down to ward-level officers are not only rigid and costly, but fundamentally unsuited to the requirements of providing a broad array of public services with different technical, economic and social characteristics. Ostrom et al (1993) provide evidence from Asia, Africa, and the Americas of the advantages of a *polycentric* system of administration. Polycentrism holds that overlapping-but-not-concentric districts, centered on different sources of authority, can provide services and protect common resources more effectively and efficiently than a simple, hierarchical bureaucracy. This is because its institutional design takes clear, explicit account of the key parameters of the services and resources involved. Primary education, for example, has different economies of scale and different natural resource implications than water and sanitation. And the sorts of administrative structures designed to provide either service would be deeply unsuited to managing an irrigation system or forest.

Enhancing Accountability in Metropolitan Areas: An Example of Local Education Reforms in Chittagong

Since becoming an elected authority, the City Corporation of Chittagong has developed a large number of creative initiatives for improving education at all levels in Bangladesh's second city. The city runs 41 schools, 8 colleges and 1 university directly. Schools and colleges were mostly taken over from private management committees that previously ran them. Under city control, a Teacher Training Institute was established to improve teacher skills, performance incentives based on teacher efforts and student results in yearly examinations were incorporated into teacher pay, and a number of literacy programs were established.

Specific measures taken by the city include:

- Free books for children in grades 1-3, to spur literacy
- Free books for 25,000 students in the city's religious schools
- Improved teacher salaries
- Salary increments depend on student grades of at least 50% on exams
- Students who pass exams receive Tk.5000 each, and their teachers receive Tk.1000
- All of this was financed without rises in local taxes or central transfers, but instead by a large expansion in own revenue generation.

The results of these reforms have been striking:

- Secondary School Certificate test results have risen from a 60-70% to a 99% pass rate.
- Parents now queue for admission into City Corporation schools. Before being taken over these schools' exam results were poor, and they were attended by children rejected by government schools.
- Teacher performance on teacher training exams has improved.
- This has proved so powerful a mechanism that student pass rates have increased in the city as a whole as a result.

Under the previous system, teachers were accountable to no one. Under the new system, teachers are accountable to the City Corporation for their students' and their own performance, and through the city to the parents of the students they teach. Accountability—which appears to be strong—operates entirely through the “long route” of the electoral mechanism. A possible weak point is that the system features no “short route” accountability measures between schools and parents directly. Means of boosting the short route of accountability, such as through demand-side financing schemes, could be used to complement the long route and ensure that improved outcomes are not vulnerable to political changes borne of electoral idiosyncrasies.

71. Such issues of public administration have deep implications for Bangladeshi systems of governance. But this does not imply that reforms must be radical or broad-based. Reforms can start small, from the bottom up. In Chittagong, for example, the City Corporation has intervened in the education sector by taking over management of 41 schools from ineffective school management committees. The City Corporation has increased the training available to teachers, and has implemented a suite of incentives that boost teacher salaries and provide bonus pay based on the performance of their students. Students also receive monetary incentives to do well on exams (Tk. 5000 if the exam is passed). These successful interventions have dramatically boosted the examination pass rates and literacy rates of students in the schools in which they were implemented. The experience provides concrete evidence that with proper political motivation structured by the 'long route of accountability', it is indeed possible to realign the prevailing institutional relationships and to boost accountability of service providers with great effect on outcomes. There is, however, a need to apply some caution to the findings from Chittagong. The system is working because the current mayor is operating under the 'long-route of accountability' and a change in mayor or mayoral motivation could easily change the outcomes. Thus, for the Chittagong success to continue, it is essential that the long route of accountability be supplemented by the "short route", through empowerment of the consumers of these services.

72. Another critical barrier to effective service delivery in metropolitan areas derives from an essential problem of perception among policymakers. A fundamental step must be taken by Government in recognizing that those people moving to urban areas are not transients, and their problems need to be addressed on a long term basis. There is an unwillingness to recognize the increasing flow of residents to urban areas as something permanent, and thus legal recognition is systematically withheld as they attempt to establish themselves in the urban setting. One basic manifestation of this unwillingness is the inability of slum-dwellers to secure some form of recognition of their rights of tenure. This is critical as tenure is currently at the heart of the service delivery paradigm. For example, public water utilities will not provide services if users cannot prove legal tenure. In addition to the social intermediation models of service delivery highlighted above, the issue of legal tenure could also be by-passed by using existing technical solutions. Water and power authorities could start using pre-paid meters, for example, to provide connections to the urban poor who do not have tenure. Such a model has shown great success elsewhere, such as in telecoms, where rapid mobile phone penetration in Bangladesh was made possible in large part because of pre-paid services. The same service model can be creatively used for other essential utilities as well even in the context of an inadequate policy framework for metropolitan areas.

II. Infrastructure and the Environment

73. The Government of Bangladesh's PRS emphasizes the important roles to be played by critical infrastructure and sound management of environmental resources in supporting accelerated economic growth and poverty reduction. Indeed, given the spatial distribution of poverty and Bangladesh's majority rural population, and agriculture's disproportionate contribution to pro-poor growth, the PRSP highlights further development of the agriculture and rural development sector as a foremost priority. Accordingly, the PRSP argues that agricultural productivity and environmental sustainability must be enhanced if Bangladesh is to move away from a predominantly subsistence level of agriculture and develop a more sophisticated commercial-oriented agricultural sector and a more vibrant non-farm rural economy. Doing so will require, at the very least, efforts to prevent the degradation of soil quality and better manage water resources. But successful commercialization and development of the non-farm economy will also require investments in infrastructure that support the economic activities of farmers and non-farm rural dwellers, such as a year-round road network and reliably cheap transportation system, electrification for irrigation pumps and cold-storage, access to telephones to gather market information on going prices for goods and services, and so on. In such ways both the environment and infrastructure sectors have a critical role to play in driving economic growth and helping to further reduce poverty.

74. Environmental and infrastructural issues are important not only at the macro-economic level, but also very much so at the micro-level in terms of vulnerability, health, and productivity of households and individuals. Poor water and air quality lead to and exacerbate poor health outcomes, including respiratory and diarrhoeal illnesses in particular. Such outcomes damage the chances of reaching the health MDGs while also reducing labor productivity, with all of the attendant consequences. Poor infrastructure too can impede better human development outcomes. Inadequate roads make it more difficult for households to access schools or health facilities. Similarly, lack of electricity makes more difficult students' efforts to study, and it prevents proper storage of certain medicines. Environmental quality and access to infrastructure thus have direct consequences on the human development MDGs in addition to the MDG on poverty. As time progresses and the population continues to expand, environmental and infrastructural issues can be expected to become increasingly important constraints to all the MDGs if these sectoral challenges with multi-sectoral consequences are not addressed.

75. The case of water and sanitation perhaps best illustrates the cross-cutting value of adequate infrastructure and a healthy environment for both economic and human development. Safe drinking water and hygienic sanitation are fundamental to mitigating diarrhoeal disease, which is one of the most common and serious health risks in Bangladesh (34 percent of total morbidity).¹⁶ The same is true at the global level, for which the WHO (1997) estimates that 90 percent of the diarrhoeal disease burden is associated with unsafe water and poor sanitation services, and further, that 90 percent of this disease burden is shouldered by children, who are particularly vulnerable to this environmental health risk created largely by inadequate infrastructure. This global finding has been confirmed most recently in DHS 2004, which discovered that eight percent of children under-five had suffered during the two week period prior to the survey; this number increased to 12 percent among the most vulnerable 6 month to 2 year old age group. Such high prevalence of diarrhea increases the mortality rate for children directly, and can have indirect negative effects on health by damaging nutrition levels of either the child or mother and/or impairing income sources through diminished labor productivity and shortened amounts of time available for work.

76. Infrastructural development over the recent past has been fundamental in facilitating improvements in welfare and progress toward the MDGs in Bangladesh. A growing body of research provides evidence that access to infrastructure in Bangladesh has not only fuelled economic growth and

¹⁶ World Bank, 2006 "Bangladesh Country Environmental Assessment".

poverty reduction, but is also closely associated with improvements in health and education outcomes. In World Bank (2005), for example, evidence was presented on the significant effects on poverty of distinct types of infrastructure, such as electrification and accessibility of transportation. Similarly, these types of infrastructure were found to be associated with higher school enrolment and completion rates, while access to improved water and sanitation significantly boosted school completion rates and reduced malnutrition, presumably by lowering the incidence of diarrhoeal disease and other related illnesses among school-going children and their households. These findings, among others, provide strong evidence that infrastructural improvements can play a critical role as part of a package of multi-sectoral interventions to reach the MDGs in Bangladesh.

77. Since the beginning of the 90s Bangladesh has experienced a rapid expansion of access to roads, electricity, telephony (especially cellular), and water and sanitation services. Importantly, progress has also been made in particularly in the Northwest region of the country, which has been historically, and remains to some degree, a lagging region in terms of availability of infrastructure (as well as poverty reduction). With respect to roads, the total network has grown by an annualized rate of 4.9 percent over the period 1990 to 2003, which has been accompanied by 3 percent annual growth in the share of paved roads. Average electricity consumption has similarly skyrocketed at a rate of 20 percent per annum. Finally, access to cellular phones has exploded by a factor of 18,000, albeit from initially low levels approaching zero (Chowdhury and Torrero, 2006). The following table presents data on the magnitude of changes in key types of infrastructure both at the national level and for the lagging Northwest region.

Table 4.6: The State of Physical Infrastructure in Bangladesh and Rajshahi 1990/91 and 2002/2003

Indicator	National			Northwest region		
	1990-91	2002-03	% Growth	1990-91	2002-03	% Growth
Roads						
Roads, paved (share of total roads)	57	78	3.07	70 ^a	91	2.73
Roads, total network (kilometers)	14,104	22,360	4.88	3,122 ^a	4,443	3.85
Roads (kilometers) per square kilometer	0.10	0.16	5.00	0.09	0.13	3.70
Electricity						
Electric power consumption (kwh per capita)	43	144	19.57	na	na	
Total number of households connected		7,100,000		na	na	
Total number of rural households connected		4,700,000		208,930 ^a	1,098,722 ^a	
Fixed Telephones						
Telephone lines per 1,000 people	2.2	7.2	18.94	0.8	3.2	25.00
Rural telephone lines per 1,000 people	0.4	0.6 ^c	4.55	0.2	0.4 ^c	9.09
Waiting list for telephone lines	112,656	137,412	1.83	13,585	11,280	-1.41
Revenue per fixed line (current US\$)	512	163	-5.68	412	131	-5.68
Total number of subscribers	248,817	962,294 ^b	22.06	22,304	105,435 ^b	28.67
Total number of rural subscribers	38,507	123,729 ^b	17.02	5,603	58,279 ^b	72.32
Cellular telephones						
Total number of subscribers	2,502 ^d	3,210,358	18,316	na	na	
Total number of rural subscribers	na	100,000		na	na	
Cellular phones per 1,000 people	0.02	21.91	14,890	na	na	

Source: Chowdhury and Torrero (2006)

78. Since 2003, access to improved sanitation services in rural areas has risen from 29 percent coverage to over 60 percent today; coverage in urban and metropolitan areas has not increased with the same rapidity, although there has been limited positive change. In 2003 the Government of Bangladesh launched its Total Sanitation campaign, which is striving to reach the goal of 100 percent sanitation in Bangladesh by the year 2010; this would put the country well ahead of the internationally agreed MDG targets. While rural areas have witnessed a rapid increase in access to hygienic sanitation, urban areas,

and particularly metropolitan areas, have experienced much slower improvement, due to a variety of factors that include extremely rapid urbanization and institutional constraints.

Access to Infrastructure is Associated with Many MDG Outcomes

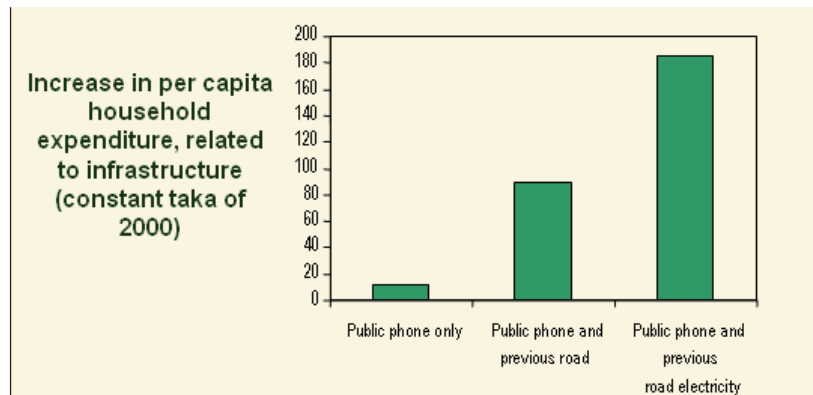
79. An expansion of access to infrastructure, particularly in the relatively impoverished Northwest region of the country, has helped to fuel economic growth and has had positive welfare effects on rural households.¹⁷ Much of this investment was publicly funded, such as roads and electricity, but substantial private investment has also been important, especially in telecommunications. These changes have helped to facilitate greater non-farm economic activities, the secondary and tertiary sectors, and greater urban-rural market integration, thereby playing a critical role in creating rural employment and income-generating opportunities. Chowdhury and Torrero (2006) find that many of these improvements in outcomes stem from higher farm prices, an important consequence of the infrastructural expansion that allowed farmers to better gather information, gain access to better and cheaper inputs such as fertilizers, and move goods to markets where they could fetch the best prices. By contrast, there was found to be no change in the average number of hours worked by rural households. An increase in the share of non-farm activities of households was also found. These findings provide evidence of efficiency gains, which allow households to allocate an increased amount of their time to non-farm activities and/or leisure, and spend less time on the farm, without losing income. These findings add to the lessons of previous studies in Bangladesh that find road improvement has a significant effect on income levels and poverty. For example, Khandker et al (2006) find that rural road investment reduces poverty through enhanced agricultural production, higher wages, lowered costs of agricultural inputs and transportation, and higher output prices. Further, impact evaluations of road improvement projects, such as RDP and RRMIMP find that rural road improvement can have a strong and positive effect on welfare by facilitating greater market development, more voluminous passenger and freight traffic, reduced transportation costs, savings on spoilage, etc. (BIDS, 2000). In RDP sample project areas, for example, a reduction of 9 percent in moderate poverty levels was found as compared to negligible changes in poverty levels in the control areas. For RRMIMP, development of roads led to a reduction of moderate poverty levels by 11 and 12 percent for project areas as compared to control areas.

80. Access to more than one type of infrastructure creates a synergy that improves welfare to a degree greater than does the sum of individual types of infrastructure. For example, the monthly income effect associated with access to a telephone was found to be only Tk. 12. When telephony was combined with access to roads, the monthly income gains associated with this change rose to 89 taka. Finally, when access to telephones was added to access to roads and electricity, average income increases by 185 taka per month, more than double the effect of the telephony/road combination, and more than 10 times the effect of telephony alone.¹⁸ These findings provide compelling evidence that simultaneous investments in several types of critical infrastructure can have disproportionately positive effects on household welfare.

¹⁷ Chowdhury and Torrero (2006) “Urban-Rural Linkages in Bangladesh: The impact of infrastructure and the food value chain on livelihoods and migration of landless households, women and girls in the northwestern region”. IFPRI. The following section draws heavily on the numerous findings of this paper.

¹⁸ Ibid.

Figure 4.3: Monthly Increases in Income due to Infrastructure



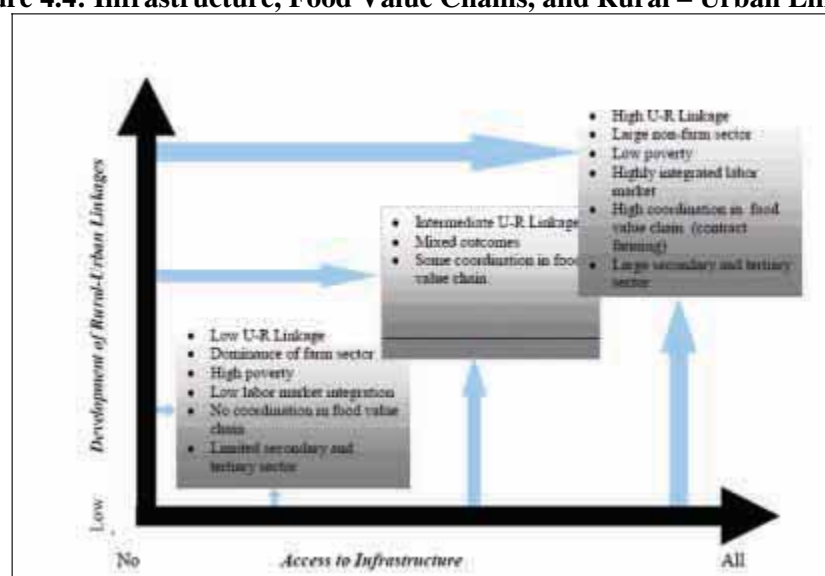
Source: Chowdhury and Torrero (2006)

81. Infrastructural investments in roads, electricity and telephony also have disproportionately positive effects on women and the landless, two of the most vulnerable social groups, according to Chowdhury and Torrero (2006). ‘Hard’ infrastructure helps to increase the amount of time devoted to non-farm work as well as increases the time spent on unpaid work by shifting time away from activities such as collecting food and water, and toward new economic activities (for women) such as fishing and rickshaw/van pulling. Additionally, women with access to paved roads were found to have raised greater spatial mobility and attendance levels in training activities on income generation. Such increases in women’s activity outside the homestead have been shown in other studies on Bangladesh to be one of the most important determinants of female autonomy (Anderson and Eswaran, 2005). In such ways, infrastructural development can lead to certain forms of women’s empowerment and qualitative differences in gender relations. With respect to the landless, Chowdhury and Torrero (2006) found that their welfare was more sensitive to changes in infrastructure, even when they only gained access to one type of infrastructure. For the land-owning households, by contrast, significant income increases came only from increases to two or more types of infrastructure, but not from zero to one type. This finding suggests that any expansions in access to these types of infrastructure will directly and disproportionately benefit the landless.



82. Access to infrastructure is associated with better rural-urban market integration, such as new food value chains between urban supermarkets and rural producers. These changes have served to reduce the variability of staple crop prices, particularly with respect to seasonal variability, and so have been important in reducing vulnerability to poverty and helped to maintain caloric intake. Interestingly, Chowdhury and Torrero (2006) also find that infrastructural improvements result in little to no permanent rural to urban migration among the households surveyed, and insignificant levels of inter-thana and inter-district labor movements. Thus, while infrastructural development does lead to beneficial urban-rural linkages, there appears to be no reason to presume from the available evidence that improving infrastructure, especially roads, will exacerbate the already extremely high rates of urbanization. The following diagram, taken from Chowdhury and Torrero (2006), provides a schematic representation of how greater urban-rural market linkages can serve to improve the condition and rural areas and therefore help to mitigate urbanization.

Figure 4.4: Infrastructure, Food Value Chains, and Rural – Urban Linkages



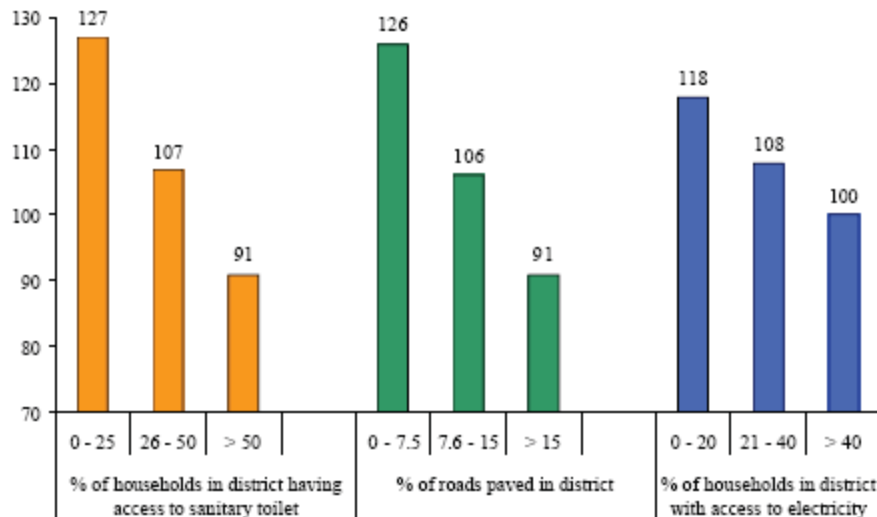
Source: Chowdhury and Torrero (2006)

83. Infrastructure development also plays an important role in ensuring that people can access health services, that health-related information is disseminated, and that health facilities have the amenities necessary to deliver proper treatments (e.g. cold-storage of certain prescription drugs). Additionally, access to clean drinking water and hygienic sanitation services is very important for the prevention of diseases such as diarrhea. These effects are all likely to facilitate reduced levels of child and maternal mortality. The following figure illustrates the district-wise correlation between infrastructure and the child mortality rate, suggesting in a simplistic way that health outcomes are indeed related to the accessibility of infrastructure.

84. More generally, numerous cross-country analyses have provided evidence of the mutually supportive effects of infrastructure and health care. This literature suggests that even in the context of poor quality care, access to infrastructure can significantly improve health outcomes. When combined with high quality care, however, infrastructure has an exponential impact capable of significantly reducing child mortality; this effect has been found to hold even when controlling for income levels. Such synergy can be seen in the straightforward correlations reported in Leipziger et al (2003) and reproduced below. In these results, health interventions have nearly triple the impact on child mortality if a high level of infrastructure already exists, and the health effects of an improvement in infrastructure are

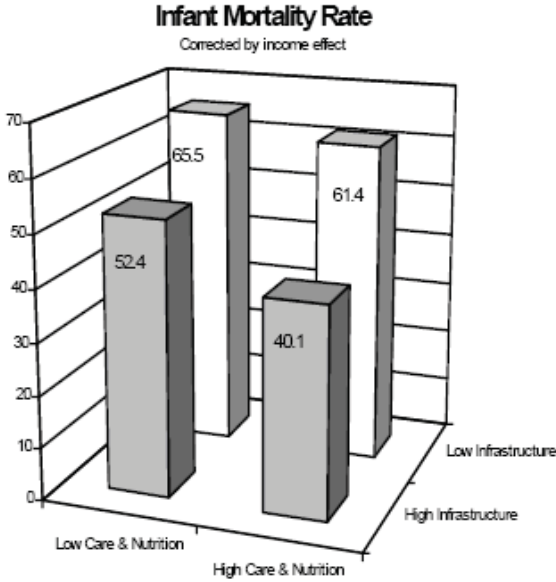
nearly double when there exists a high level of health interventions. Additionally, the authors report that the prevalence of a variety of infrastructure explains as much as 37 percent of the difference in child mortality rates between the highest and lowest income quintiles. These general findings lend further support to studies that find a direct relationship, for example, between water and sanitation and diarrhoeal morbidity (Esrey et al. 1991) or transport facilities and easier access to health facilities by both clients and staff (Brenneman and Kerf, 2002). But the findings in Leipziger et al suggest moreover that the mechanisms by which, for example, water and sanitation impact upon diarrhoeal morbidity are likely to be mediated by health interventions, such as, for example, hygiene promotion and handwashing. Similarly, it can be expected that improving physical access to health facilities by clients will have an additionally positive effect if those clinics provide good quality services (and indeed if the staff are present, as is more likely if their access is improved too through improvements in the transport network). Interestingly, Leipziger et al (2003) also find that education, in addition to the use of health services, conditions the impact of infrastructure.

Figure 4.5: Correlations between Access to Infrastructure at District Level and Child Mortality Levels



Source: World Bank, 2005 "Attaining the MDGs in Bangladesh"

Figure 4.6: Interaction Effects between Infrastructure and Health Care



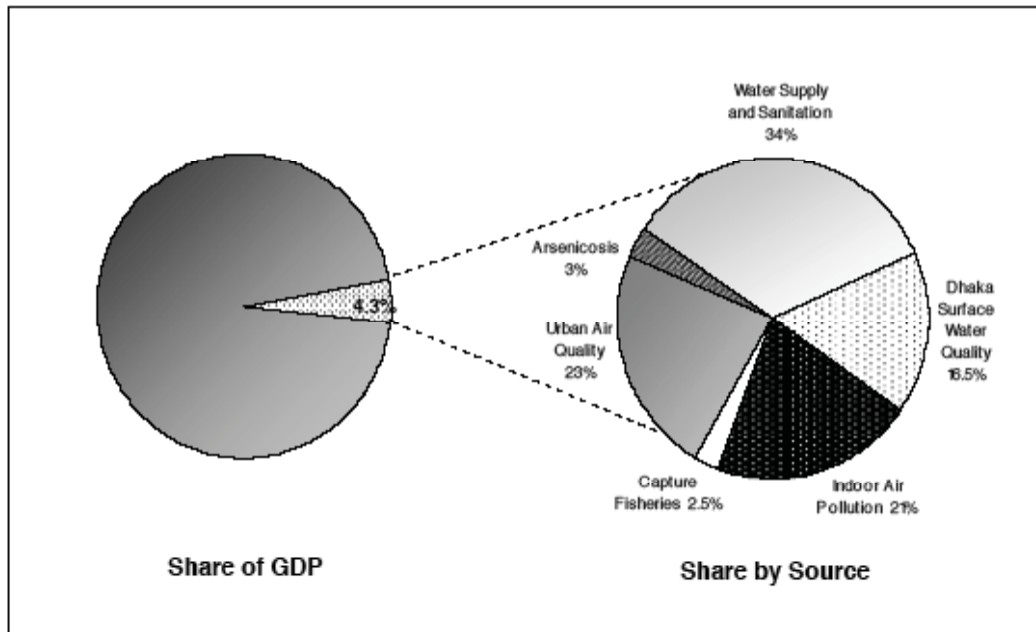
Source: Leipziger et al (2003)

Environmental Quality Also Affects MDG Outcomes

85. As was just seen with the prevalence and accessibility of infrastructure, the quality of the environment also serves as an important variable that impacts upon a range of MDGs, particularly with respect to women and children. In many cases, environmental quality and infrastructure are themselves closely related, as in the case of the environmental health risks posed by low quality or degraded water resources and unhygienic sanitation services. But the environment and infrastructure are related in a number of additional ways as well. Access to electricity in the home can help to reduce indoor air pollution, which is a major determinant of acute respiratory infections (ARI) and respiratory morbidity. Similarly, transport policy and infrastructure have a defining role to play in outdoor air pollution, particularly in urban areas that rely heavily on motorized vehicles. Environmental quality has also a tremendous impact on growth and productivity, particularly among fisherfolk, farmers, and other rural dwellers that depend directly upon the quality of the natural resource base for much of their livelihoods.

86. At the macroeconomic scale, environmental degradation is estimated to amount to over 4 percent of GDP through the effects of poor environmental quality on health and through the deterioration of environmental goods such as capture fisheries (World Bank, 2006). These environmental threats include poor air quality (both indoor and outdoor), inadequately safe water (including arsenic-contaminated water) and unhygienic sanitation, untreated solid waste and agro-chemical and industrial effluents, and overuse of renewable resources such as forests and fisheries. Together, they represent significant challenges to attainment of all the MDGs by impairing economic growth and by their micro-level effects on labor productivity and damaged health.

Figure 4.7: The Economic Cost of Environmental Degradation



Source: World Bank 2006 “Country Environmental Assessment”.

87. A very large proportion of Bangladesh’s disease burden—between 16.5 and 22 percent—can be directly linked to environmental factors. Of these, environmental factors that contribute to diarrhoeal disease account for some 54 percent of the total, and factors that lead to respiratory problems, i.e. indoor and outdoor air pollution, contribute to another 42 percent of the environmentally related health risks of the country.¹⁹ With respect to air pollution, recent World Bank research (2005) finds that indoor air pollution in particular poses a significant health risk (as much as 8 percent of Bangladesh’s total disease burden), with hazardous concentrations of particulates in a majority of poor households, and particularly exposure levels among women and children. These findings highlight the critical importance of addressing water and sanitation inadequacies and reducing exposure to various forms of air pollution to help improve child and maternal health. The World Bank estimates that realistic improvements on these two environmental fronts (which include attaining the GoB’s own goal on total sanitation, reaching 100 percent access to safe water, and reducing exposure to air pollution by 20 to 80 percent can result in annual savings of between US \$644 and 1755 million, or between 1.3 and 3.5 percent of GDP. The GoB is already striving to provide 100 percent sanitation coverage by 2010 by making the UPs focal points in providing sanitation services to the poor in rural areas, and by using Wards for a similar function in urban areas. These efforts have achieved substantial success over the last three years, but metropolitan areas remain a serious problem, as will be discussed later. On water supply, Bangladesh was able to achieve near universal access to safe water through hand-pumps (86 percent) and piped water (10 percent). These figures, however, have been damaged somewhat by the arsenic contamination of groundwater, which reduced national rates of access to safe water down to only 73 percent, a still relatively high figure. Indoor air pollution can be tackled through a combination of cleaner fuels (to replace biomass), improved efficiency of fuel use (such as through improved stoves), and improved ventilation. The latter in particular represents an immediate policy goal that can reduce the severe health effects of indoor pollution even among poor families, who are able to make small structural (cooking locations, construction materials, door/window locations) and/or behavioral (opening windows and doors, allowing children to

¹⁹ See World Bank 2006 “Bangladesh Country Environmental Assessment”, on which this section is based, for more details.

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spend time outdoors while cooking) changes. Achieving this will require prompt and concerted public information campaigns to raise awareness of the health consequences of indoor air pollution.

88. The degradation of capture fisheries embodies one of the most serious environmental threats facing Bangladesh, both in terms of its effect on economic growth and its indirect effects on nutrition levels. The country's fisheries create approximately nine percent of national employment and provide over two-thirds of the country's animal protein needs, thereby representing a crucial livelihood resource and nutritional base of direct relevance to mortality rates among children and women. Despite this importance, capture fisheries (as distinct from aquaculture) have been declining by 2.1 percent annually in inland areas and 1.6 percent per year in coastal areas, largely due to overconsumption of fish and the decline of fish populations, urbanization and infrastructural encroachment of habitat, and pollution from both agricultural and industrial activities. Nearly 30 percent of all inland fish species are now under threat of extinction, according to IUCN (2000). Remedying this situation is essentially a question of management and governance, as the experience in rejuvenating the declining Hilsa (an important local fish) population has proven. In that case, political will helped to facilitate national concern and awareness, which adopted and implemented a successful management strategy based on sound science. Elements of a management strategy to improve the declining capture fisheries will likely include the protection of dry season water flows, the establishment of sanctuaries in which populations can rehabilitate, and institutional arrangements that regulate access to fisheries while maintaining the rights of poor subsistence fishers.²⁰

136. The quality of the environment therefore has significant impacts for both the macro- and micro-levels by constraining Bangladesh's overall GDP and by affecting the health, nutrition and productivity levels of households. Reassuringly, there exist some simple interventions that can make cost-effective but impacting improvements to certain features of the environment. Chief among these is the real reduction in levels of smoke in the household both from stoves and the burning of bio-fuels and from cigarettes. With relatively small changes in behavior and little physical investment, substantial improvements can be made to levels of indoor air pollution and exposure to it. Achieving this would help to mitigate one of the major environmental health risks that contribute to Bangladesh's child mortality rates.

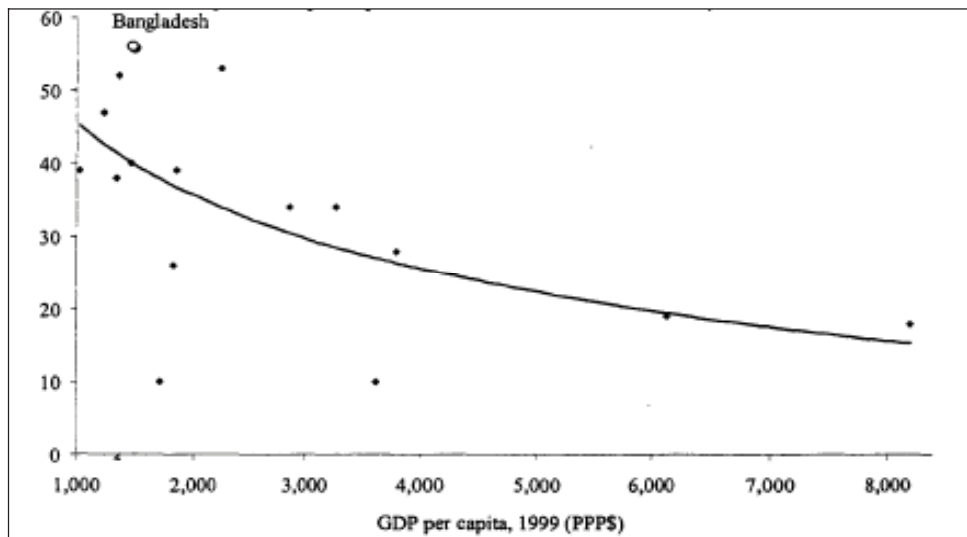
III. Malnutrition

89. Malnutrition levels in Bangladesh, particularly among children, are among the highest in the world. Almost one-half of children under the age of five are moderately underweight or stunted, according to the DHS 2004, and 16 percent of Bangladeshi children are severely stunted. These disastrous nutritional outcomes have lifelong consequences in terms of productivity, cognitive ability, educational attainment, vulnerability to disease, and quality of life. Child malnutrition is therefore of fundamental import for all the MDGs, but particularly so for infant and child mortality, to which it is a major contributing factor. The critical moments in a child's development, during which permanent patterns of poor nutrition are often established, occurs *in utero* and during the first six months of life, when the child should be breastfeeding. If a woman fails to meet her own and the developing baby's nutritional needs during this time—due to poverty, social constraints, or cultural beliefs regarding maternal behavior and child needs—then the nutritional deficit is passed on to the developing child, who depends upon its mother for all nourishment and is at its most vulnerable. For this reason the nutritional status of women during and after pregnancy is a critical determinant of the long-term nutritional outcomes of children. Moreover, low stature among women (itself a direct consequence of poor childhood nutrition) and low scores for mothers on the body mass index (BMI) both increase the likelihood of complications during delivery, and so have a direct relationship with maternal mortality. In these ways, chronic and acute malnutrition have direct and sizeable impacts on child and maternal mortality.

²⁰ This paragraph is drawn from material presented in World Bank (2006).

90. In all countries, malnutrition is closely linked to consumption poverty. In Bangladesh, however, this fairly steady relationship at the global level exhibits some peculiarities that are extremely revealing about the nature of the nutritional crisis in the country. The first idiosyncrasy worthy of mention concerns the severity of the problem. Because Bangladesh is one of the poorest countries in the world, high malnutrition levels could be expected based on the well-established correlation just mentioned. When compared to other countries, however, malnutrition levels in Bangladesh are approximately 16 percentage points higher than could be expected based on income levels (Deolalikar, 2004). Figure 4.8 depicts the relationship between poverty and child malnutrition for a group of 16 Asian countries: not only does Bangladesh have the highest rates in this group, but it is also a distinct outlier.

Figure 4.8: Predicted Relationship Between GDP per Capita and Malnutrition in 16 Asian Countries



Source: Deolalikar, 2004

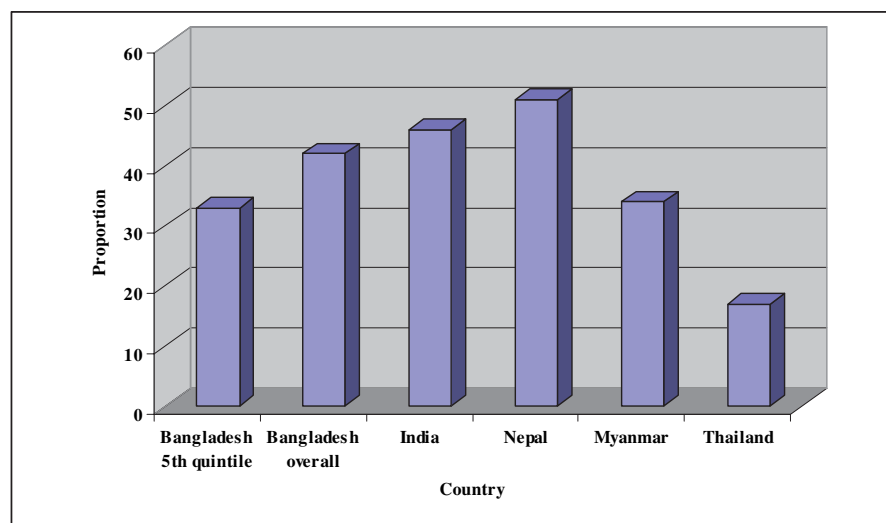
91. The second important feature of malnutrition in Bangladesh concerns the relationship between income and nutritional levels *within* the country. Of course, malnutrition is high among the poorest quintiles, the levels of which average between 46 and 50 percent for the first and second quintiles, respectively. But even among the richest income quintile, malnutrition levels are surprisingly high at 33 percent. This remarkable figure places the average malnutrition levels of the richest 20 percent of Bangladesh's population, for example, on par with Myanmar's national average (Helen Keller International, 2006). It would seem, therefore, that the binding constraints to better nutrition in Bangladesh are not strictly linked to income, although improvements in household income should allow households to increase consumption. Rather, certain behavioral patterns must be changed in all households to ensure that the developing child receives sufficient nutrients during the most critical moments in its development—*in utero*, during the first half-year of life, and as the child weans away from breastfeeding.

Child Malnutrition Patterns

92. The preceding comments characterize the uniqueness and severity of child malnutrition in Bangladesh. The country has made, however, significant progress in reducing malnutrition levels over the last 15 years or so, particularly since the early 90s. For example, the rate of stunting dropped between

1992 and 2000 at an annualized rate of 3.3 percent (from 64 to 49 percent); and the proportion of wasted children fell still more rapidly (World Bank, 2005). In the DHS 2004 survey, stunting has been reduced still further to 43 percent of children (DHS 2004).

Figure 4.9: Stunting in Bangladesh and Neighboring Countries



Source: Helen Keller International, 2005

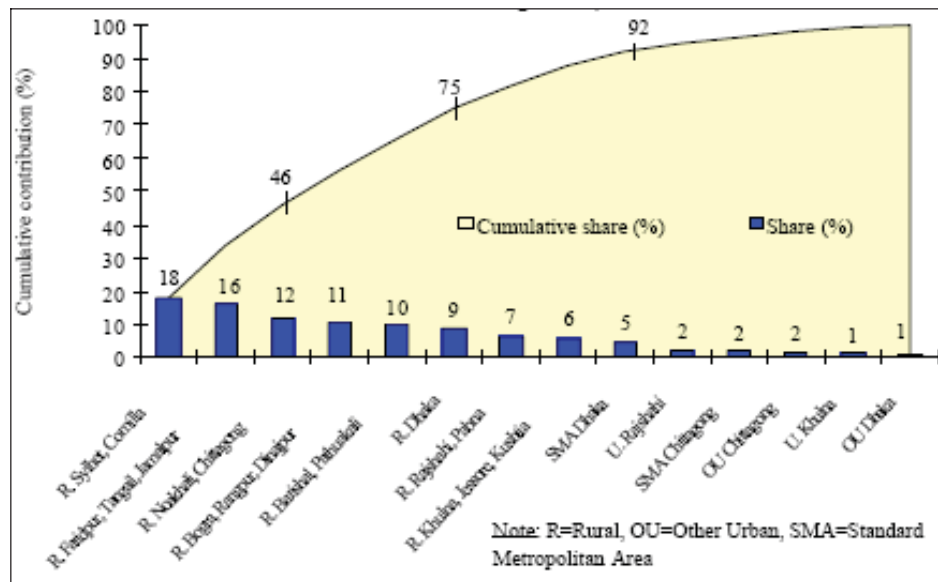
93. Adequate nutrition during pregnancy and the first six months of life are critical to a child's development because of the impact on birth weight. Poor nutritional status at birth is subsequently perpetuated by insufficient or inappropriate breastfeeding and supplementary feeding habits. Oftentimes, inadequate breastfeeding stems from the mother's insufficient milk supply, which is due to her own poor nutrition or heavy workload. Gonoshasthaya Kendra (GK) has found success in improving maternal nutrition by convincing poor households to allow pregnant mothers to take rest from work for three additional hours per day; this translates into caloric savings that improve both maternal and child nutrition. GK also advocates that pregnant and lactating mothers be allowed to serve themselves first at meals, a simple behavioral change in the household that also tends to increase the amount of calories that mothers consume. There are other important household decisions and behaviors that affect child nutrition. Mistaken but persistent beliefs regarding the value of colostrum, for example, are also a significant factor that undermines child nutrition. Such nutritional deficits account for approximately one-third of child malnutrition (Deolalikar, 2004). After the first year of life, however, the risks facing the child increase dramatically due to the process of weaning away from breast milk that usually happens at that time. This transition to exclusive solid foods frequently fails to provide to children the full variety of nutrients that are needed. This transition to solid foods must therefore become a focus of attention in order to mitigate the permanent damage malnutrition causes to infants.

94. Girls are particularly vulnerable to this serious risk, as they are significantly more likely than boys to be underweight or stunted between six and 24 months of age. As they get older, the malnutrition rates of boys and girls become more even, though this effect is likely explained by the increased mortality rates that young girls face relative to boys (the child mortality rate for girls is 29; for boys it is 24), which will tend to underestimate the actual malnutrition rates of girls between one and five years of age, rather than reflect any true evening out of malnutrition levels between the sexes. Furthermore, the gender of the child is important because of the powerful interact effect it has with the birth order of the child. Generally, the lower the birth order of a female child, the greater probability it has of being malnourished as compared to a male. First-born daughters, then, are 75 percent more likely to be severely malnourished

than first-born males. Higher birth order children, however, tend to be treated more equally (Deolalikar, 2004). Addressing the gender bias that fuels malnutrition and child mortality among females is therefore critical to furthering progress toward these MDGs.

95. The spatial distribution of child malnutrition in Bangladesh is uneven, with several areas of the country, such as Dhaka and Chittagong divisions, accounting for more than half of the country's total malnourished children. Also, the more populous regions in the country tend to have very high rates of underweight children, which results in substantial geographical concentration of child malnutrition. The following graph depicts the regional contributions to national malnutrition rates. These spatial patterns suggest that targeting nutritional interventions geographically can be effective in reducing national figures in accordance with the MDG targets.

Figure 4.10: Regional Contributions to Total Underweight Children (6-71 months) in Bangladesh (2000)



Source: World Bank, 2005

Proximate Causes and Socio-Economic Determinants of Malnutrition

96. It has already been mentioned that infant feeding practices are fundamental to the nutritional outcomes of children. UNICEF and the WHO recommend that all children receive colostrum (foremilk) immediately after birth, although only 24 percent of Bangladeshi children are breastfed within an hour of delivery (DHS 2004). This tendency is detrimental because the incidence of underweight children is significantly higher among children who did not receive colostrums as their first food (cow milk, sugar, honey and mustard oil are popular substitutes in Bangladesh). Additionally, colostrum provides an important injection of antibodies and proteins that boost an infant's immune system and reduces morbidity over the medium term, particularly of diarrhoeal diseases. Thereafter, breastfeeding becomes much more widespread: 83 percent of mothers breastfeed within the first 24 hours, and 98 percent of children are breastfed at some point (DHS 2004). Unfortunately, much of this breastfeeding during the first six months is not exclusive, i.e. it is supplemented by other less nutritious foods. Only 55 percent of children less than two months of age are exclusively breastfed; for children between 2 and 3 months, the figure drops to 38 percent; for children between 4 and 5 months, only 21 percent are exclusively breastfed. The cumulative effect of these breastfeeding patterns is that only 36 percent of infants are exclusively breastfed for six months, in contrast to WHO guidelines.

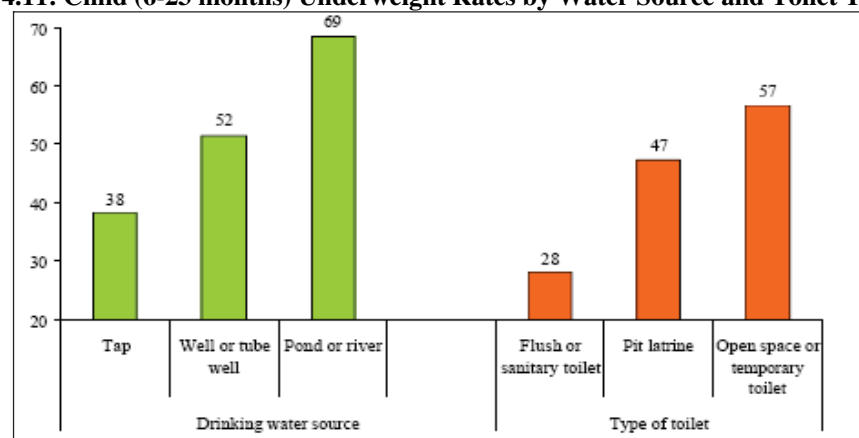
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97. As the family begins to feed to infants supplementary foods aside from breast milk, the nutritional qualities of the household's diet become an increasingly important factor in a child's nutritional status. In this respect, it could be expected that the wealth of the household would translate directly into greater consumption of calories and nutrients, and that therefore wealth would be closely (positively) correlated with nutritional status. But this expected effect is muted in Bangladesh. Using data from the National Nutritional Surveillance Project, Helen Keller International provides evidence of a small tendency toward greater household expenditure on food among richer households, but finds that this increased expenditure tends to be on food items that are not derived from animals (HKI, 2006). Thus, while overall consumption increases slightly with raised income levels, diets are still deficient in crucial nutrients, particularly protein, vitamin A, and iron, and are generally not adequate to cover all household members' nutritional needs. The breakdown of household food expenditure that is observed—and the nutritional consequences of those decisions—likely explains much of the high malnutrition levels observed among richer income quintiles.

98. While richer families may not be eating an adequate variety of foods, many poor families are not able to afford regularly nutrient-rich foods. Micronutrient deficiencies are therefore extremely common and have severe effects on child and maternal mortality. For example, vitamin A is important for proper functioning of the immune system; vitamin A deficiency can raise the severity of infections, including diarrhoeal disease, and can in extreme cases lead to blindness. Recent research also shows that vitamin A deficiency is common in pregnant and lactating mothers in Bangladesh, and that this lack both decreases a mother's chance of survival and facilitates vitamin A deficiency among their children (Christian, 2002). Yet foods rich in vitamin A such as dark green leafy vegetables and eggs are not eaten in sufficient quantities (HKI, 2006) and many children and mothers still do not receive the recommended bi-annual vitamin A supplement recommended by the government (DHS, 2004). Iron deficiency is also a serious problem in Bangladesh because it impedes the physical and cognitive development of children and puts mothers at heightened risk of maternal mortality. In fact, anemia can kill women during delivery or postpartum even through small losses of blood—anemic mothers are 3.5 times more likely to die than those with adequate hemoglobin levels (Brabin, Hakimi, and Pelletier, 2001). Despite the importance of iron, one half of Bangladesh children and mothers of reproductive age are anemic, according to NSP data (HKI, 2002). Thus, immediate efforts must be made to improve iron intake—through supplements in the first instance until the moment at which iron-rich foods become a more regular part of the Bangladesh diet. These efforts can build on the relatively successful distribution processes already in place for vitamin A supplementation; in such a case, alternative packing arrangements can be found to increase the amount of iron supplements given to households so that it lasts longer than the 15 days that the present dose lasts. This would help facilitate use by ensuring that mothers did not need to return for supplements bi-monthly, as is the current practice.

99. One of the principal consequences of poor nutrition is increased morbidity. But morbidity, particularly diarrhoeal disease, can also affect nutritional status if it afflicts a child repeatedly. There is thus a feedback loop between malnutrition and diarrhea that is particularly damaging to maternal and child health. Two of the most important factors in this bivariate relationship diarrhea are proper, hygienic sanitation facilities and a safe water supply. For example, data from the Child Nutrition Survey 2000 shows a greater than 30 percent increase in child underweight rates among households that get their drinking water from ponds or rivers as opposed to taps. This can have a negative impact even among infants: because bottle-feeding is relatively common in Bangladesh, unsafe water and preparation facilities may increase microbial contamination and increase diarrhoeal morbidity. Similarly, there is a roughly 30 percent increase in child underweight rates for households that use a sanitary toilet over those that use an open space or temporary toilet (World Bank, 2005). These findings indicate that access to safe water and hygienic sanitation facilities can significantly disrupt the mutually reinforcing interrelation between malnutrition and diarrhoeal disease.

Figure 4.11: Child (6-23 months) Underweight Rates by Water Source and Toilet Type, 2000



Source: World Bank, 2005.

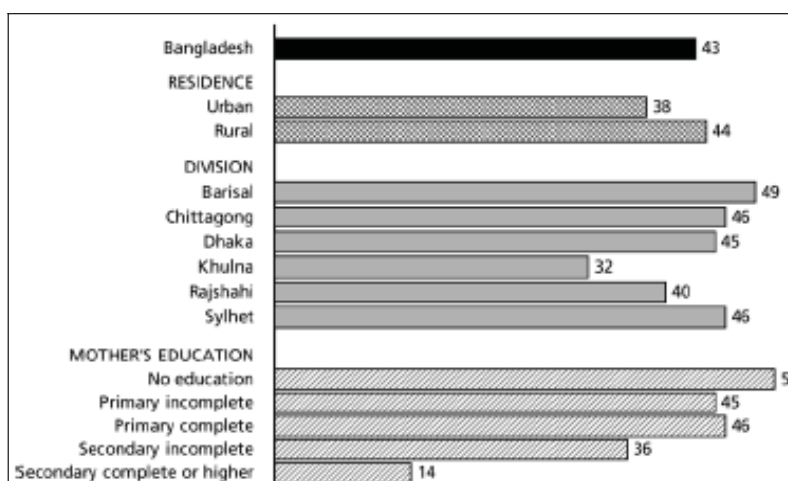
100. Access to and utilization of health services are also very important in reducing child malnutrition. For example, attendance at birth by a trained medical provider increases substantially the probability that breastfeeding occurs immediately after birth (DHS 2004). Research by the World Bank (2005) also demonstrates that having a thana (i.e. upazila) health center within 5 kilometers of a village decreases the average underweight rate by 2.4 percent (from 53.5 to 51.9 percent); moreover, this effect is strongly pro-poor in the sense that the largest reductions in the underweight rates accrue to the poorest income quintile. The effect of easy access to health facilities holds for NGO-administered health clinics, but not for private health clinics, which suggests that the poor either cannot afford private health clinics and so do not go, or that they receive poorer quality services once there.

Secondary Education is Critically Important for Improving Nutrition

101. The educational level of mothers has a powerful effect on child malnutrition: the greater the educational attainment, particularly to secondary school, the better nourished are her children. For example, the CNS 2000 indicated that 57 percent of children (aged 6-23 months) of mothers with no schooling were underweight, whereas only 27 percent of children of mothers who completed secondary education are malnourished. This effect appears stronger in the DHS 2004 data: 51 percent of stunted children had mothers with no education, but only 14 percent of stunted children had mothers who completed secondary school. From this data, it appears that the jump between primary and secondary schooling yields the biggest impact in terms of improved child nutrition—even incomplete levels of secondary education lead to stunting rates that are 10 percent less than that found among children of mothers who had only completed primary school. This strongly positive bivariate relationship, however, may be masking the effect of unobserved variables, such as access to health care, income levels, access to infrastructure, etc. Al Zayed, Stopnitzky and Khan (2006) examine the role of secondary education in reducing child malnutrition in a multivariate framework that controls for a set of basic household characteristics, but that also examines the interaction effects between education and wealth. They find that secondary education has the largest and most significant effect on malnutrition, and that these benefits accrue irrespective of the household's wealth. The policy implications of these findings are substantive: an expansion of female secondary schooling is the single most important factor in improving Bangladesh's terrible child malnutrition problem. Simulations of the predicted impact of increased female secondary schooling on malnutrition show that every additional year of schooling results in a 2 percent decline in the malnutrition rate (World Bank, 2005) and that reaching full female secondary

enrolment would diminish by half the probability that a child is malnourished (Al Zayed et al, 2006). Thus, expanding completely girls' access to secondary education can by itself be expected to drive the behavior changes necessary to reach the child malnutrition MDG, one of Bangladesh's most troublesome (see Table 4.7).

Figure 4.12: Percentage of Children Under Five Who are Stunted, by Socio-Economic Characteristics



Source: BDHS 2004

Table 4.7: Simulation Results for 2015 of the Effect of Education of Fertility and Malnutrition

Scenario	Expected Fertility Rate	Expected Stunting
Education Levels in 2015 same as 2004	2.9 children per mother	47%
All mothers have primary, no increase in secondary	2.5 children per mother	31%
All mothers have at least secondary	2.0 children per mother	17%
Likely scenario simulating current enrolments i.e. 30% have at least primary and 61% at least secondary	2.4 children per mother	33% (=MDG target)

102. Given the significant effect of education on nutritional outcomes, provision of nutritional messages in secondary, and perhaps primary, schools should be considered. The evidence in Al Zayed et al. (2006) and other sources suggest that the effect of education operates not through the curriculum or learning achievements (i.e. the quality of learning), but rather through some unobserved characteristic of the educational process, such as the conditioning of children to be more receptive of information provided to them. According to this mechanism, therefore, the more a child is educated, the more amenable that individual is later in life to the health campaigns and behavioral cues that will improve MDG outcomes. Such socialization processes can be tapped into by providing nutritional and/or other critical health messages to students, which would reinforce the positive effects of schooling and could be expected to further positive health outcomes for future mothers and their children.

CHAPTER 5: INSTITUTIONS AND ACCOUNTABILITY

103. Perhaps more striking than recent decreases in the levels of social indicators in Bangladesh is their continuing and considerable variation across space. The ratio of girls to boys in school is 30 points higher in OU Dhaka than SMA Dhaka, for example, while the primary enrollment and primary completion rates are 54 percent and 62 percent higher in the highest regions of the country than the lowest, respectively. Child malnutrition, measles vaccination coverage and infant mortality also vary significantly across Bangladesh's regions. A significant portion of these variations can be explained by the nature of public health services in Bangladesh, which provide varying levels and quality of service, and which are hampered by accountability and governance problems. There is very little outreach to the community and zero accountability to the clients as all public health service employees are central government employees managed from Dhaka. The situation in publicly financed health services contrasts starkly to that in secondary education where most schools are publicly financed but privately managed with local school committees. In those schools, education outcomes can be monitored by groups of parents who are able to look at overall exam results achieved by the school. No such accountability mechanism exists for publicly financed health services.

104. Such variation—essentially amongst different parts of the public service provision system—is small when compared to that between public and non-governmental service providers. Bangladesh has had success in health services; vertical, public preventive health care programs where accountability is very clear, for example, do reasonably well. Bangladesh has many examples of success in the health sector where the NGO sector has achieved success in both preventive and curative care using clear lines of both *downward and upward accountability*. The largest of these models is Gonoshasthaya Kendra (GK), a pioneer NGO in health care, which is now the second largest health service provider in the country after the Government. A recent study²¹ shows that areas of the country served by GK met the MDG target for infant mortality of 32 per thousand live births in 2003-04, while the country as a whole remained well above 50.

105. What explains such stark differences? Begin with the weaknesses of the formal, government health system. A recent study of public sector health services²² tried to understand the reasons why the public services were failing to deliver despite higher resources and staff salaries. The authors surveyed 15 randomly chosen upazilas and looked at the following issues: (a) misdirection of funds; (b) lack of control over payroll disbursements; (c) illegal payments to accounts officers; (d) purchases at higher than market prices; (e) private practice by doctors during office hours; (f) absenteeism of service providers; (g) negative activities of class 3 and 4 unions; and (h) sale and pilferage of drugs by employees. The study found high rates of absenteeism particularly at the upazila and lower levels.

106. The absenteeism rate among upazila family planning officers was 46 percent whereas that for resident doctors was 23 percent. Even when present, fewer than half the doctors were engaged in addressing patient needs. Sixty percent of doctors were reported to be engaged in private practice in public hospitals, demanding payments from their patients, and almost 67 percent encouraged their patients to visit their private practices. In all upazilas surveyed, private pharmacists reported that hospital personnel sell them drugs. In most cases, the records indicate out-patients received medicines whereas

²¹ Chaudhury, R. H. 2006. "Gonoshayastha Kendra's Experience in reducing Maternal and Child Mortality – An Example of Transparency and Accountability as a Way to Achieve MDG Outcomes," Workshop presentation, Dhaka: The World Bank.

²² Cortez, R. 2006. "Bangladesh – Strengthening Management and Governance in the HNP Sector". Workshop Presentation, World Bank: Dhaka .

they actually did not receive any. With regard to tendering, the large majority purchased goods above market prices and most suppliers reported having to pay commission to staff. The trade unions of class 3 and 4 staff (below clerical level) pay a major role in controlling access to the services providers and sometimes even encourage service providers to be late increasing their chances of collecting side payments.

107. The above problems explains to a large extent why public health services fail to deliver²³. NGOs appear to avoid these problems by generating upward and downward accountability in their delivery systems. The relevant unit of analysis for such questions is the upazila, which has discretion over budgets, staffing, supplies and medical standards for health care at the union and village levels, and hence we shall focus here.

108. The next section examines the institutional underpinnings of service provision in two upazilas, one high-performing and the other low-performing. The section that follows examines the service provision model of GK, with an emphasis on the innovations that have allowed them to reach such high levels of success. Both seek to explain divergent outcomes not in terms of how hard health workers work, nor how well dispensaries are stocked, but rather why health workers expend more effort in one locale than another, and why some facilities are well-stocked and others are not. That is to say, we do not seek to explain differences in outcomes through differences in service inputs, but rather the deeper institutional and social factors that cause services to be provided differently in the first place. We begin with a tale of two upazilas.

I. Satoria vs. Rajnagar²⁴

109. Satoria upazila is located in Manikganj district west of Dhaka, while Rajnagar upazila is located in Moulvibazar district on Bangladesh's eastern border with India. Despite its greater distance from the capital, it is Rajnagar that is wealthier, with an average household income of Tk.7,081/month compared to Satoria's Tk.5,831/month, and more livestock assets per family. This is at least partly explained by the high levels of remittances families in Rajnagar receive from a large diaspora in the UK. Indeed, the nearby airport in Sylhet boasts direct flights to London. Average landholdings are higher in Rajnagar, at 182 decimals per household vs. 137 in Sylhet. And Rajnagar's literacy rate of 64 percent is also higher than Satoria's 58 percent, as is its average household size—6.2 vs. 5.1. But it is also more unequal, with more households in both the extreme poor and rich categories, while 86 percent of Satoria's population is concentrated in the intervening two categories.

110. But paradoxically, Satoria has systematically superior health indicators than Rajnagar. Under-five mortality in 2005 was 40 per thousand in Rajnagar, compared to 13 per thousand in Satoria; the prevalence of illnesses in Rajnagar is 36 percent, compared to 25 percent in Satoria; and the notional maternal mortality rate over the previous 5 years²⁵ was 791 per hundred thousand live births in Rajnagar, compared to 0 in Satoria. The statistics on complications during childbirth tell the same story: mothers in Rajnagar suffered more from long labor, excessive bleeding, high fever and convulsions than mothers in Satoria. In light of this, it is not surprising that Satoria has had considerably more success in reducing its maternal and child mortality rates over the past few years than Rajnagar.

²³ Despite this, there are motivated workers in the public sector particularly those who can see the outcomes of what they do – for example those working on immunization campaigns.

²⁴ The data in this section comes from Ali, Z. and T. Rahman. 2006. "A Tale of Two Upazilas: A Study of Spatial Differences in MDG Outcomes in Bangladesh," Workshop Paper, Dhaka: The World Bank

²⁵ This is notional because such a low-frequency phenomenon as maternal mortality requires a larger sample or longer time frame for accurate calculation.

111. It is also not surprising that much of this is due to better infrastructure and the superior provision of health services in Saturia. Access to sanitary toilets, for example, is higher in Saturia (90%) than Rajnagar (69%). Pregnant mothers receive more antenatal care in Saturia (91%) than Rajnagar (73%). More mothers are informed about the signs of pregnancy complications in Saturia (83%), and where to go when they occur (87%) than Rajnagar (63% and 73%). More mothers receive vaccinations and nutritional supplements during pregnancy in Saturia, and more have a post-partum check-up, and more quickly, than Rajnagar. Table 5.1 summarizes additional data on child health interventions and outcomes in the two upazilas.

Table 5.1: Child Health Indicators by Upazila

	Saturia	Rajnagar
Baby given colostrum immediately after birth (%)	90.9	84.7
Vitamin A given to child (%)	82.9	72.7
Diarrhoea - last 2 weeks (%)	25.4	42.5
Chest problems - last 2 weeks(%)	12.9	24.2
Breathing difficulty - last 2 weeks (%)	18.2	28.4
Rapid breathing - last 2 weeks(%)	19.1	29.7
Cough - last 2 weeks (%)	35.1	59.3

Source: Ali and Rahman (2006)

112. If economic variables do not explain such divergent health outcomes, what does? The answer cannot relate to the structure of the health sector in each upazila, nor to the quantity nor design of the physical infrastructure available, as this is all common to both upazilas. Both Saturia and Rajnagar are served by the Ministry of Health and Family Planning, which in Bangladesh employs a particularly standardized, homogeneous model of health provision that deploys assets uniformly, allocates resources mechanically, and is as a result insensitive to local characteristics or variations in local demand. Hence variations in performance must be due to something else.

113. If the answer is not local health “hardware”, is there something in the “software” that might explain differences in performance? A visit to each upazila is telling in this regard. There are numerous, obvious differences in the maintenance and operation of the health facilities at hand. Field visits to each Upazila Health Complex (UHC) found that Saturia’s was well-maintained and clean, with more bathrooms available, all clean and in working order, the operating room in good repair and used regularly, and staff absenteeism was 1 percent. In Rajnagar, by contrast, most of the rooms, wards, windows and doors were damaged, its toilets were so dirty they had become unusable, the operating room was unused and abandoned, and staff absenteeism was 10 percent. Unfortunately for the residents of Rajnagar, health authorities made far fewer community visits than in Saturia, leaving them more reliant on this degraded infrastructure. When interviewed in much detail, patients in Saturia were quite happy about the quality of services they received, while in Rajnagar patient opinion was decidedly mixed.

114. These differences grow sharper at the union level.²⁶ The Union Health and Family Welfare Center (UHFWC) visited in Rajnagar was badly understaffed, with no doctor in charge. This forced it to close when staff attended at Satellite Clinics (SCs) in the villages, leaving it open only three days a week.

²⁶ Unions visited were Munshibazar in Rajnagar and Dhankora in Saturia.

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The UHFWC in Saturia, by contrast, was fully staffed and open 5 days a week. Facilities were well maintained and clean in Saturia, but badly maintained and dirty in Rajnagar, with the toilets once again unusable. Both have electricity, but almost no lights or fans worked in Rajnagar, rendering the operating room inoperable. In Saturia all of the above did work, and the operating room was in regular use. The tubewell did not function in Rajnagar, and the water supply lines were damaged, while Saturia's water infrastructure was in good repair. In Saturia medicines and family planning supplies were well stocked and regularly replenished, whereas Rajnagar received family planning supplies but no medicines from the Ministry. As we might expect, the combination of superior facilities and happier patients led to greater popularity amongst the population – the Saturia facility treated 8,000 patients in 2005, while the Rajnagar facility managed only 4,400, despite a larger overall population. These differences were reflected at the village level, where the Saturia SC was better endowed with health and sanitary equipment, including a toilet, which the Rajnagar SC did not have. On the day each was visited, 85 patients were treated at the Saturia SC compared to just 24 at the Rajnagar SC. The dysfunctionality of Rajnagar's UHFWC, of course, contributed to heavier use of its upazila health complex, despite the problems identified at the latter. Because a UHC is a higher-cost installation than a UHFWC, the upwards deflection of patients in Rajnagar led to higher overall costs for a given number of treatments. In Saturia, by contrast, better functioning of the health services pyramid not only extended services to more patients, but effectively reduced unit costs.

115. The objective differences in healthcare provision between the two upazilas translate directly into subjective measures of the quality of healthcare received. Patients in Saturia reported far higher satisfaction with a number of important factors, including: the attitudes of their doctors and other service providers, attitudes of office staff, physical infrastructure, utilities, cleanliness and hygiene, privacy of treatment, quality of food, waiting time, availability of doctors, availability of drugs, availability of medical supplies and the quality of treatment received. Patients in Saturia reported much shorter waits for treatment than those in Rajnagar, and 72 percent thought they would be able to follow doctors' instructions, as compared to 56 percent in Rajnagar.

116. In summary, the structure of the public health system, and the quantity and design of its assets, were quite similar across both upazilas. But these assets were maintained and exploited in quite different ways, leading to significant differences in the quality and quantity of services provided in the two upazilas. These differences led to important differences in real health outcomes, and explain why people in Saturia suffered from fewer diseases, and had healthier children and mothers, than those in Rajnagar. The link between better health services and improved outcomes is further supported by a detailed econometric analysis of the two areas.

117. So far we have good proximate causes of the variation in health outcomes. But we must go further. Why were infrastructure and equipment deployed differently in the two districts? Why were they cleaned and maintained in one but not the other? To answer these questions we must dig deeper into the local institutional context in which the health sector operated, and identify the deep incentives and behaviors at work.

118. Begin with monitoring. Focus group discussions revealed important differences in the way that public services were monitored in the two upazilas. Health authorities in Saturia reported extensive monitoring by their superiors at the district level, with frequent visits to the area, whereas their peers in Rajnagar did not report such monitoring. This establishes upwards accountability for Saturia's health system, but not for Rajnagar's. Accountability also works in the downward direction in Saturia, with the active involvement of Union Parishad²⁷ (UP) officials in health delivery issues. Focus groups testified that the UP chairman takes steps to facilitate the proper implementation of Saturia's health program, and

²⁷ The institution of local government, usually covering several villages.

Union officials regularly monitor the quality of services provided in town and villages. Independent researchers corroborated this when they found the chairman observing immunizations in different areas of his union on National Immunization Day. When asked why, he responded, “As the local people’s elected representatives, it’s our responsibility to monitor whether they’re getting the services they’re supposed to receive. We keep tabs on whether health authorities are providing proper services to the people or not, and visiting villages in a timely fashion or not.” No evidence of any of this was found present in Rajnagar, whose health officials were left operating in an institutional vacuum, disconnected from both their superiors and from the elected representatives of their target population. In such a context, it is not surprising that their performance was indifferent and unresponsive.

119. This level of involvement and oversight on behalf of the people was reflected in the attitudes and behaviors of the people themselves. Sauria’s citizens were found to be extensively involved with the delivery of health services in their upazila. Interviews and direct observation uncovered regular and intense interactions between health workers and community people in Sauria. There was very little evidence of this in Rajnagar. As a result, health workers in Sauria were able to maintain quite close relationships with the people they were meant to serve, and involve them closely in decision-making. By contrast, ordinary people in Rajnagar were kept at arm’s length by their authorities, leaving them less informed about local problems and less involved in their solution.

120. One would expect a population with more vigorous, active institutions, and higher quality and more responsive public services, to hold different ideas and attitudes about these services, reflected in a higher level of social demand. And this is in fact the case. In Sauria, men now encourage women to participate in health programs and immunization drives, as one NGO worker testified. Social norms do not intervene, as a focus group participant pointed out:

“Women can go to the hospital alone if required. Nobody minds about pregnant mothers receiving vaccines or about women using birth control. Because it has now been accepted by all – rich and poor alike. Husband and wife take these decisions together. All now realize that having more children is the cause of poverty.”

121. This situation is all the more remarkable for the change it marks with the status quo ante in Sauria. In earlier times there were many superstitions, especially regarding maternal health. But now attitudes have changed. People no longer resist or delay medical intervention when a pregnant mother is sick, but immediately seek assistance from a doctor or health center. “It was not like this ten years ago,” a respondent observed. “The changes are due to the rising rate of education, and to awareness programs broadcast on radio and television, and also by health workers.”

122. These new attitudes and dispositions operate not just at the individual level, but at the group level as well. “We all are aware,” declared one woman.

“We share our experiences regarding maternal health issues among ourselves, and also try to take care of each other. For example, when I become pregnant then my sister-in-law (*nanod*) takes care of me. On the other hand, when she becomes pregnant I take care of her. Our husbands are also aware.”

In this way, attitudes conducive to better health, and the information on which they are based, are reinforced in the population. New ideas circulate, and new standards of health care are adopted by the group, which can then mobilize its efforts in aid of a needy members, further reinforcing the importance of medical care. As a number of authors have pointed out,²⁸ institutions do not operate in a psychological

²⁸ Perhaps most famously by Bourdieu (1986).

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vacuum, but rather rely on attitudes and dispositions compatible with their core ideas. In Saturia, health-compatible attitudes exist and are reinforced by a dense web of social and institutional relationships.

123. Such relationships unfortunately do not exist in Rajnagar. And as a result, local ideas and attitudes towards health care are decidedly more primitive. Contraceptive use is lower, and faith in traditional and spiritual healers much more apparent than in Saturia. Witness one villager's comment on ante-natal care:

“Pregnant mothers are given some tablets by family planning workers. But the problem is, when mothers take those tablets, the baby becomes unusually healthy. As a result, child delivery is not possible without surgery. So we do not like to give mothers those tablets provided by the government for free. Another problem is that a mother cannot conceive more than three times if the delivery is with surgery.”

124. Even in the home, special foods and nutritional supplements are spurned in Rajnagar, as families choose instead to rely on their normal daily diets. Visits to health centers and medical staff are avoided by villagers who shun pre-birth medical tests. Hence pregnant women requiring interventions tend to arrive at the UHC in a near-critical state. Thus another respondent:

“Many people do not care about the health condition of pregnant mothers. In a house nearby a pregnant mother once became sick. Her husband was abroad at that time, and her guardians did not want to take her to the doctor. As a result, that mother had to suffer for a long time, and the guardians ended up spending thousands of taka for her treatment.”

In some villages, pregnant women are not allowed to venture outside of the house even if gravely ill. And in most cases mothers must be accompanied by a close male family member. Some evidence suggests that such attitudes are beginning to change in Rajnagar. But the change is painfully slow.

125. Some observers may attribute differences in behavior, and hence outcomes, between Saturia and Rajnagar to exogenous cultural, especially religious, factors. To be sure, Rajnagar is more religiously traditional and conservative than Saturia, and this contributes importantly to how women are treated there. But this study takes the view that much more is explained by the enmeshing of Saturia's service delivery model in a web of local relationships and interactions that impose binding upwards and downwards accountability on her health providers. Perhaps the more important point is that questions surrounding the institutional basis of service provision are patently susceptible to reform, as the case of Saturia shows, and hence are the proper object of policy. And so when confronting the failures of health care in Bangladesh, we do well to ask ourselves not how conservative are her Muslim people, but rather what are the institutional foundations of success in Saturia, and how can they be replicated not only in Rajnagar but throughout the country.

126. Saturia teaches us another lesson as well, and it is a subtle but important one. This is that a number of the behavioral traits that we think of as “cultural”, and hence exogenous to policy analysis, are in fact sustained by certain institutions, and can thus be undermined by institutional reform. Consider how the two upazilas treat their pregnant women. Rajnagar's are kept indoors and discouraged from visiting health workers, regardless of the sickness, suffering, and death this causes. But Saturia's are free to leave the house unaccompanied, and encouraged to seek medical attention by family and friends, far more knowledgeable about the health consequences of their actions than their similars in Rajnagar. Is this difference a cultural one? A religious one? Not in their own eyes. “It was not like this ten years ago,” a resident of Saturia effectively answered. Change came through education, outreach, and the efforts of health workers. But this was in turn the product of an institutional framework that enmeshed such efforts, and the individuals who undertook them, in a dense web of relationships that both strengthened their

actions and made local society more susceptible to their message. Sauria's "cultural" behaviors changed, its people became healthier, and its women became more free.

II. Learning From the Non-Government Sector

127. Despite the problems in public health service delivery, Bangladesh has done very well in moving towards attaining some of the health MDG outcomes including difficult ones like maternal mortality due to the work of the non-government sector. The size and scope of activities of the non-government sector in Bangladesh is unique in the world. This report uses Gonoshasthaya Kendra (GK) as a model which can be expanded nationwide in a cost-effective manner for the following reasons: (a) GK has been actively applying the same basic model since 1972 and the model is time-tested; (b) GK provides the whole range of health care from a specialized teaching hospital to community workers and is thus most comparable in scope with the public system; (c) GK's unit costs are low and thus replicable across the country; (d) GK has kept full records of its patients and their background since its early days and currently there is a statistically reliable household data series covering fifteen years allowing us to look at impact and examine the dynamic impact of changes over time; (e) GK carries out detailed verbal autopsy on all cases of maternal mortality and is thus a very useful source of data; and (f) unlike many NGOs GK works in partnership with local Government in a way which allows the model to be replicated across the country. Thus, use of GK as a model for this study does not mean to take away from the successes of others – rather it has been selected for the above reasons.

128. Gonoshasthaya Kendra²⁹, the pioneering NGO from Bangladesh, was founded in 1972 with a project in Savar upazila that aimed to improve the quality of life, and especially the health, of the rural poor by ensuring affordable health services. From this modest, start it has expanded impressively over the last 35 years to cover a broader range of services, including reproductive and child health, and basic education, as well as tertiary care to over a million people in 592 villages located in 16 upazilas across 11 districts. It is now the second largest health service provider in the country after the Ministry of Health and Family Welfare. But what impresses most is not so much the scale of GK's services, but rather their quality and the results they produce. These results can be validated because GK has wisely compiled one of the most detailed datasets available on health outcomes and socioeconomic correlates. It has done so by collecting detailed information over the last decade about each of the households in its jurisdiction, including all major life and health events. Using this data source, which has been validated statistically through a recent survey, it can be seen that in its areas of activity GK has already exceeded the MDG for infant mortality a decade ahead of time, while the rest of the country remains at a level two-thirds higher. On maternal mortality, GK has achieved a rate of 186 per 100,000 live births, 42 percent lower than the national average. An additional decrease of 23 percent, or 43 deaths per 100,000, is required to meet the MDG—well within its reach given the decline of 113 deaths that GK achieved between 1993 and 2002. Part of the reason for this success is surely that GK's coverage includes 100 percent of the poor, including the very poor and destitute. And it does all of this at very modest unit costs, estimated at the level of the formal state sector. How does GK do all of this? What lessons can we learn from them? The best way to answer these questions is to examine the GK system of service provision.

The Gonoshasthaya Kendra System

129. The GK program consists of three elements: (i) health, (ii) basic primary education, and (iii) women's development, implying especially non-traditional jobs and roles. When it enters a new community, the point of entry is usually health, but can sometimes be education. From the start GK

²⁹ The data in this section comes from Chaudhury, R. H. 2006. "Gonoshasthaya Kendra's Experience in reducing Maternal and Child Mortality – An Example of Transparency and Accountability as a Way to Achieve MDG Outcomes," Workshop presentation, Dhaka: The World Bank.

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establishes a Village Development Committee to oversee activities in the three categories above. Each committee consists of one member from the Union Parishad (local government), one from GK or another NGO active in the area, and other members elected from the village at large. The UP member must be a woman. She automatically becomes head of the committee, and thereafter serves as signatory for GK programs generally. Such engagement is part of a larger strategy by GK to involve local government in its activities in order to facilitate problem solving in the medium and long term.



130. But the anchoring of GK programs within the local community goes far beyond formal institutions. Health workers are chosen from amongst villagers and put through an extensive, specialized training program for which GK is well-known within Bangladesh. Indeed, such training acts as a magnet in itself for potential staff, who accept low wages during the three year minimum service commitment that follows in exchange for the prestige and future earning potential associated with being “ex-GK”. Trained health workers are then sent back to the areas whence they came, often for decades, where they provide care for locals and help to train new generations of recruits. In this way, GK exploits their local knowledge and credibility/legitimacy amongst the population for the provision of local services. And by keeping them *in situ* for extended periods, GK acquires detailed knowledge about local health and education problems, as well as the economic and environmental risks faced by villagers. Lowest-level GK staff become to a large extent the institutional memory of both the organization and the village, and so an integral part of the planning and problem-solving apparatus that the organization has so successfully deployed throughout its area of influence.

131. GK’s highly pragmatic philosophy is illustrated by its approach to birth attendants. The organization originally tried to improve the poor quality of medical attention during birth by introducing skilled birth attendants from outside the village. But when this proved unsuccessful, the organization switched to the Traditional Birth Attendants (TBAs) that already existed in villages, and were responsible

for many of the poor practices that endangered the health of mothers and newborns. By giving them detailed, continuing training, thereby converting them into Trained TBAs (TTBAs), GK in one fell swoop eliminated bad traditional delivery practices, introduced new, superior delivery practices, enlisted the enthusiasm and good will of important local authorities (the TBAs), and attached the legitimacy and trust that TBAs enjoy within the village to their own activities. This is all the more important as only six percent of rural births are attended by doctors or nurses. In a similar vein, GK trains village women to do caesarean sections in its medical college, so as to be able to intervene immediately in an emergency. In all of these ways, GK has demonstrated how much can be done in the absence of doctors, with trained low-level staff. And in doing so, it has earned the enmity of the Bangladesh Medical Association. Such efforts are a large part of GK's enormous success in reducing infant and maternal mortality, a point to which we return below.

132. GK's *modus operandi* is one of repeated and regular village visits every month by health workers, who often work in senior-junior pairs and carry simple medications with them. The frequency of visits can be stepped up or down depending on the severity of the health problems occurring at any particular time. GK staff use informal means of gathering information. Upon arriving, they ask residents how many women are pregnant, how many people ill, how many elderly frail, etc., relying more on trusted informers with whom they have established relationships. In this way they can ascertain the major problems faced by the community with a few well-judged conversations, and save time and resources by going directly to the households affected.

133. The services GK offers include a wide range of health care and family planning services, including: (i) registration of all pregnant women and births; (ii) regular follow-up of pregnant mothers for ante-natal and post-natal care, and identification of high-risk mothers for referral; (iii) monitoring the development of newborns; (iv) promoting additional nutrients and a balanced diet for pregnant mothers and newborns; (iv) immunization of pregnant women against tetanus, and children under age one against six major killers: Diphtheria and Whooping Cough (DPT), Polio, BCG, Measles and TT; and (v) distribution of iron tablets amongst pregnant women, amongst others. Non-health areas such as indigence and unruly or dangerous youth are also tackled. Interventions in all of these areas incorporate not only health, but also education and water and sanitation components, making for integrated, cohesive responses to the problems of village well-being.

134. GK is not a substitute for government health services, but rather a supplement for them – so as to make them work for the rural poor, as they otherwise largely do not. Hence when GK health workers encounter a case requiring a more advanced intervention than they can supply, they escort the patient to the appropriate health facility, and monitor both treatment and progress. But one area in which they do substitute outright is in record-keeping, a particular weakness of the official system. GK health workers keep detailed records on all patients, which over time will encompass essentially all villagers. Even when advanced health care is required outside the village, GK records all. As a result, GK has the best records available on village health status in its areas of operation. When government doctors or nurses visit a village, they stop first at GK offices to speak to GK staff, and if possible accompany them for door-to-door visits.

135. GK classes villagers by income into five categories: Rich, Middle Class, Poor, Very Poor and Destitute. The bottom three groups comprise 60 percent of a typical village; much of the rest is middle class, though even distant rural villages usually have some residents who are outright rich. A site visit to Savar found that all of the poor-to-destitute used GK services, as well as 60 percent of the middle class. How does GK finance such a heavy service load? The key mechanism is GK's health insurance, administered by Village Development Committees. This covers most of villagers' health costs when they require medical attention, and villagers buy it at rates graduated by income level, as follows:

Table 5.2: Annual Cost of GK Health Insurance

Income Group	Cost (US\$ 1 = Tk.68)
Middle Class	Tk. 80
Poor	Tk. 50
Very Poor	Tk. 10
Destitute	Tk. 7

136. The insurance covers between is supplemented by co-payments of Tk.24 for outpatient treatments (in health clinics), and Tk.200 for in-patient treatments (in hospitals) per patient, collected at the point of treatment. Co-payments are waived for the poorest. Universal subscription rates amongst the poorest villagers are testimony to the benefits and good design of this insurance scheme. Its simplicity and transparency suggest that it could be scaled up easily across Bangladesh.

137. Insurance fees and co-payments generate about 70% of GK’s annual income. Much of the rest comes from businesses it owns, the profits of which are in large part plowed back into the GK service model. Perhaps the most prominent of these is a pharmaceutical company (GK Pharmaceuticals), which manufactures cheap medicines for the poor, and generates important profits. Unlike some other prominent Bangladeshi NGOs (e.g. BRAC and the Grameen Group) it derives no revenue from microcredit schemes, in which it does not believe. CIDA is its only major external donor. GK manages to survive on such modest resources in part because it pays its workers less than the government sector. A senior health worker with twenty years of experience earns about Tk.8,000 (about US \$120) per month. The decentralized, highly transparent administration of resources by elected village committees also helps to cut waste and graft and husband scarce resources. All of this suggests that the GK model, so successful not only in improving village health indicators, but also in reaching the rural poor, is highly sustainable. In fact, it is in all likelihood more sustainable than the government health system, which benefits from much larger foreign aid flows.

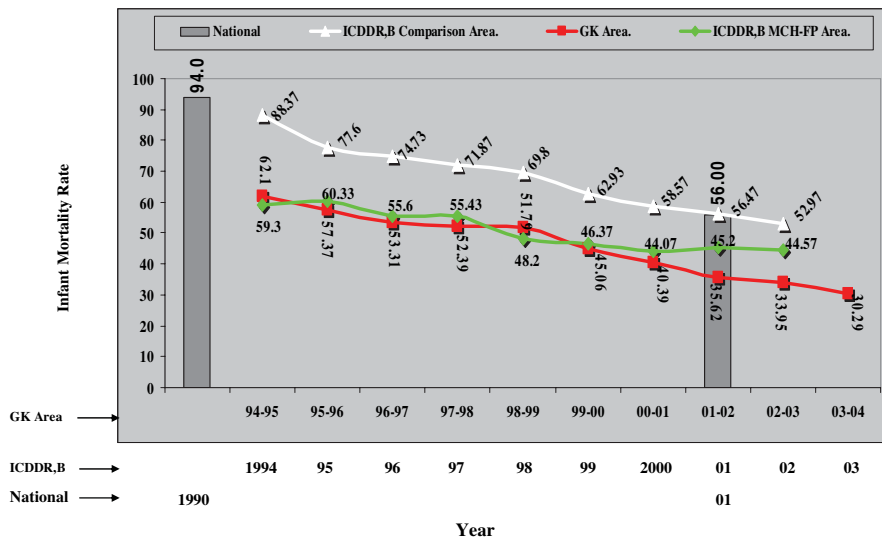
Village-Level Accountability

138. But perhaps the most impressive aspect of the GK system is the simple yet powerful framework it has developed to foment accountability not only for its own workers, but for government health staff as well. Whenever there is a death in a GK-attended village, a whole-village post-mortem is done to establish the detailed facts of what happened and why, determine responsibility, and suggest improvements. The high degree of village solidarity and self-knowledge ensure that with the participation of all, informed answers can be found. The causes of death, and the role of individual mistakes, are made well understood by all, so as to ensure they are not repeated in the future. Upazila Health Officers are invited to post-mortems, and they mostly attend, sure in the knowledge that absence will be met with GK queries at the following Upazila-wide health meeting, where the officer can be gently but comprehensively shamed for ignoring such an issue. These “soft” forms of pressure are preferred to formal sanctions or appeals to the legal system. GK is involved in a long-term symbiotic relationship with the government health sector, and so it doesn’t pay to involve itself in punishment and formal sanctions, given the pressures and divisiveness they bring. This post-mortem practice, which is embedded in an institutional framework that provides a system of checks and balances among institutional actors, provides an excellent example of what this report calls *creative tension*, where mutual oversight and complementary roles create productive rather than confrontational interactions among

stakeholders. This report argues that such *creative tension*, when properly facilitated, can significantly improve accountability mechanisms that enhance the quality of service delivery.

139. This is a good example of GK’s approach to accountability more broadly. As with government, GK is involved continuously in village work, and so is not interested in stoking up tensions or social conflict there. Hence it eschews formal punishments and the court system for its own staff and villagers alike, relying instead on transparency and the dissemination of information to generate gentle but persistent pressures for high performance, professional responsibility, and—especially—accountability to villagers. Information acts via reputation effects, and by shaping social opinion and expectation, which in a cohesive village environment can exert powerful pressure even on relatively high-status people. In fact, by bringing the local status of such people into play, this system is capable of generating powerful incentives for GK and Upazila health authorities.

Figure 5.1: Infant Mortality Rates for National, GK and ICDDR areas



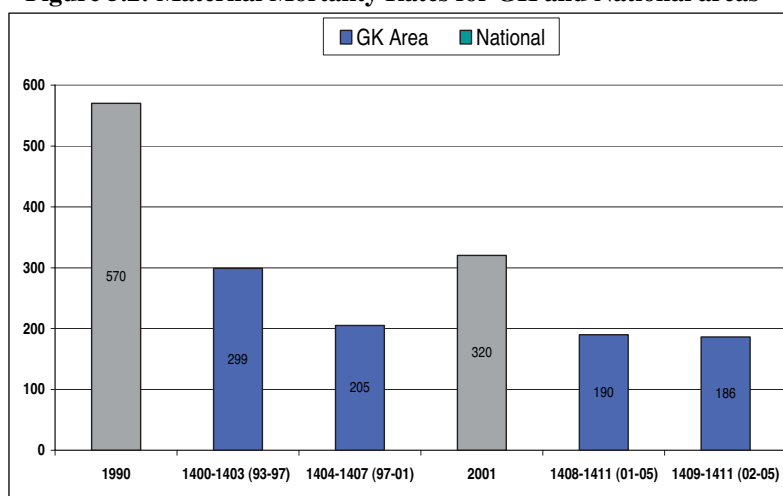
Source: Chaudhury (2006)

140. Where GK workers and villagers are concerned, accountability is generated not only via information and social expectations, but also through education, training and—for want of a better term—indoctrination (consciousness-raising) concerning professional standards and the meaning of success. GK training serves to set its staff’s standards and habits of mind, and also adjusts villagers expectations about the types of services they should expect and demand. This accountability system is so remarkable not only because there is abundant evidence that it works. It is also remarkable because—contrary to institutional theory—it is not anchored by any formal, “hard” incentives, such as explicit punishments or fines, relying instead entirely on the “soft” incentives of reputation and collective opinion. The question of whether such a regime is extendable to urban settings is an open one, and it is worth noting that GK has so far not done so. But it is also true that a regime of soft incentives is much cheaper to sustain than one that relies on formal incentives, and hence the judicial system with all of its associated contracting and legal costs.

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141. What has all of this accomplished? Figure 5.1 shows the evolution of infant mortality rates for Bangladesh, GK program areas, and those areas attended by another health NGO, the ICDDR (both treated (MCH-FP) and non-treated (B comparison) areas). We see that Bangladesh as a whole is still far off the MDG target, as is the ICDDR non-control group. The ICDDR treatment group is somewhat closer. But GK has already exceeded the MDG target of 32 deaths per thousand live births in its areas. And this has happened 11 years before the goal. On maternal mortality, the overall pattern is similar. Figure 5.2 shows that MMR rates were similar for GK areas and the nation as a whole in 1990, at 570 per 100,000 live births, but then descended by 67 percent in GK areas to 186 by 2002-05. The decline for the country as a whole, though important, was much less – to 320 by 2001. The MDG target of 143 is clearly in sight in GK areas, but unlikely to be met across the nation.

Figure 5.2: Maternal Mortality Rates for GK and National areas



Source: Chaudhury (2006)

142. Hence, by changing how health and education services are delivered at the village level, the GK system is taking health care to people who previously had no access, and is multiplying the impact of existing state staff and infrastructure, all at a small incremental cost. The effects of this on key indicators of well-being, such as child and maternal mortality, are enormous. It is no exaggeration to say that GK's achievements are transforming the life prospects of the people lucky enough to live in their area of operation. Table 5.3 provides further insight into why they are so successful. We see that over 80% of maternal deaths come from direct causes, having to do mostly with complications during labor and childbirth. These are precisely the sorts of medical conditions that can be successfully attended at low cost by a trained health worker, who is sufficiently knowledgeable to address more straightforward complications and can also refer more serious ones immediately to facilities that provide emergency obstetric care (EOC). In other words, a majority of these interventions are of the sort for which well trained low-level personnel, working with good information and access to EOC infrastructure, in a system fortified with upwards and downwards accountability, can excel. The remaining 19 percent of maternal deaths are more difficult to prevent, and will tend to rely on more expensive tertiary care. But it makes no sense to focus on these phenomena when so many more mothers die of more easily preventable conditions. The low-hanging fruit should always be picked first, and what GK has done is to provide us with a system for doing so that is widely tested, credible with villagers, resilient to a variety of external shocks, and cheap to operate.

III. BRAC – Another example of institutional innovation for service delivery

143. BRAC's evolving understanding of health service provision now emphasizes the critical importance of downward accountability to constituents as well as upward accountability to BRAC management and government hierarchies. At the outset of its health care activities, BRAC strove to provide services in neglected areas by using the existing facility-based paradigm that focused on doctor-run clinics, standard clinical approaches to family planning, hospital-based treatments for tuberculosis, etc (BRAC, 2005). This approach proved itself to be both ineffective at reaching marginalized segments of the population and expensive. Subsequently, BRAC shifted to a more community-oriented approach that utilized paramedic workers and local community members themselves. Doing so helped to establish greater downward accountability in the same way that GK hires and trains local women to become paramedics in their own communities. BRAC's local credit groups have become an important locus of influence on health care provision, which helps to select and guide the frontline field workers (in contrast to the lack of influence on government services) and thereby reinforces the downward accountability mechanism. The costs of this approach, similar to the GK model, are shared through insurance schemes, the premiums for which being collected immediately after the harvest when incomes are relatively high.

Table 5.3: Causes of Maternal Deaths

Causes of Death		Number	Percent of Direct Causes	Percent of All Causes
Direct Causes of Death	Direct complications of labor and delivery	48	68.6	55.8
	Post-partum hemorrhage with retained placenta	19	27.1	22.1
	PPH without retained placenta	9	12.9	10.5
	Obstructed labor	8	11.4	9.3
	Ruptured uterus	4	5.7	4.7
	Antepartum hemorrhage	8	11.4	9.3
	Pre-eclampsia/eclampsia	19	27.1	22.1
	Abortion	3	4.3	3.5
	Subtable Total	70	100	81.4
Causes of Death		Number	Percent of Indirect Causes	Percent of All Causes
Indirect Causes of Death	Anemia	6	37.5	7.0
	Jaundice	4	25	4.7
	Cardiac failure	3	18.8	3.5
	Snake bite	1	6.3	1.2
	Acute diarrhea	1	6.3	1.2
	Respiratory failure	1	6.3	1.2
	Subtable Total	16	100	18.6
Table Total		86	100	100

Source: Chaudhury (2006)

144. According to BRAC, improving the government's health services is a key component of its health strategy. It tries to improve the government health system by serving as a type of operational research and training arm of the government health system, which helps to identify the needs of the poor and provides information on inconvenient service hours, lack of outreach, inadequate drug supply, and poor management (BRAC, 2005). BRAC has also played an important role in motivating and facilitating

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use of family planning and other health services, as with the government TB program or the boost given by BRAC involvement to the national immunization campaign in the 90s. This model of engagement requires substantial facilitation by BRAC, which is able to improve utilization of government services and provide some limited technical recommendations. Nevertheless, it depends on the presence of an external agent—an NGO—to facilitate better functioning of the government health system, and it does without changing in a substantive manner the accountability of the government health providers to the communities they serve. The BRAC health program thus serves as an excellent model of NGO-facilitated health care provision, which demonstrates, as does the GK model, the need to work closely with government service providers, local government structures, and local community members to improve accountability in service delivery and reach better health outcomes.

IV. Conclusion: National Implications

145. The cases of institutional innovation teach us much that is useful if Bangladesh is to reform its service provision and reach the MDGs by 2015. The story of Saturia and Rajnagar shows the importance of embedding public services in a dense web of institutional relationships that facilitate downwards as well as upwards accountability. This report recommends that basic services can be improved by harnessing *creative tension*, whereby service users are provided a mechanism for providing constructive feedback to service providers, and whereby a system of checks and balances structures a productive institutional framework in which various institutional actors contribute to specific development goals, such as improving a given health clinic or school. At the core of this idea lies increased accountability with community driven development. In operational terms, enhanced *creative tension* can be implemented by fostering partnerships between service providers, elected local government, beneficiary groups, and community based organizations, as the GK and BRAC approaches demonstrate. Moreover, the GK and BRAC experiences highlight an important feature of creative tension, especially in the context of Bangladesh: the institutional framework must be established so that interaction among stakeholders is constructive rather than adversarial.

146. If services are to respond to a population's particular – and changing – needs, and be credible in the eyes of that population, then the elected representatives of that population should be involved in their production. They should have a degree of voice, or other leverage, over the way those services are provided, including the application of positive and negative incentives to directly responsible staff. Of course, such representatives must themselves be the product of elections that are free, fair and transparent if they are to have credibility and act with moral weight. And they use moral weight to communicate community problems and expectations upwards to service providers and their superiors, as well as the substance of policy reforms *and their motivations* downwards to the grass-roots. In this way, not only are specific policies made credible in the eyes of the people, but the changes in social behavior that underpin progress can begin to occur.

147. What the tale of two upazilas does not tell us, however, is how to endow a Rajnagar with Saturia-like success. The story is compelling, but seems idiosyncratic. Perhaps Saturia is special in some way that our research design failed to capture? What exactly would we do to generate more Saturia's throughout Bangladesh? This is where the GK story is illuminating, as GK is explicitly, emphatically a model of village health care and education—one that is designed to be standardized, flexible and inexpensive. The GK experience is *meant* to be replicated across all the villages of Bangladesh. The GK system works by changing the nature of the relationship between health care providers and beneficiaries, so as to insert the former in a more complex web of relationships with individuals and intermediating organizations composed of the latter. These relationships generate both the information and informal, “soft” incentives (reputation, social expectation) that make downward accountability binding on GK health workers, without need for fines or recourse to the legal system.

148. Could this be applied nationwide? And if so, what could it achieve? The answer to the first question is certainly yes. This is not to say that such a dramatic scaling-up would be easy – it would not. But among the GK model’s virtues are simplicity, transparency and economy. What they have done is apparent for all to see, and takes the form of a straightforward quasi-recipe. A development committee and so many health workers per village, multiplied by so many villages, and it can be done. The major challenges are likely to be training all the workers needed, and administering the entire, enormous effort. This suggests a gradual program, and not a big bang. But in principle it is eminently feasible. And it can be afforded. Remarkably, GK achieves the outcomes it does at a cost of US \$1 per capita, 75 percent less than the US \$4 that the Ministry of Health spends. The founder of GK, Dr. Chowdhury, had stated emphatically that with the participation of local governments, GK could extend its reach from 1 million people to 5-10 million in 2-3 years.³⁰ What all of this could achieve is quite simply the radical improvement of health care and health outcomes in Bangladesh, leading the country to attain its millennium development goals. A combination of such GK-like measures institutionalized across Bangladesh through the participation of local governments, couple with reinvigorated economic growth, must surely be the country’s best hope for attaining and surpassing the MDGs.

³⁰ Dr Zafrullah Chowdhury, GK’s founder, in a spoken intervention at the workshop “Towards A Strategy for Achieving the MDG Outcomes in Bangladesh”, Dhaka, June 5-6, 2006.

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