HEALTH

K.M. Mustafizur Rahman

GROWTH OR CONTRACTION?

State of Bangladesh Economy and Development
2011-2012

উন্নয়ন অন্বেষণ
Unnayan Onneshan
The Innovators
centre for research and action on development
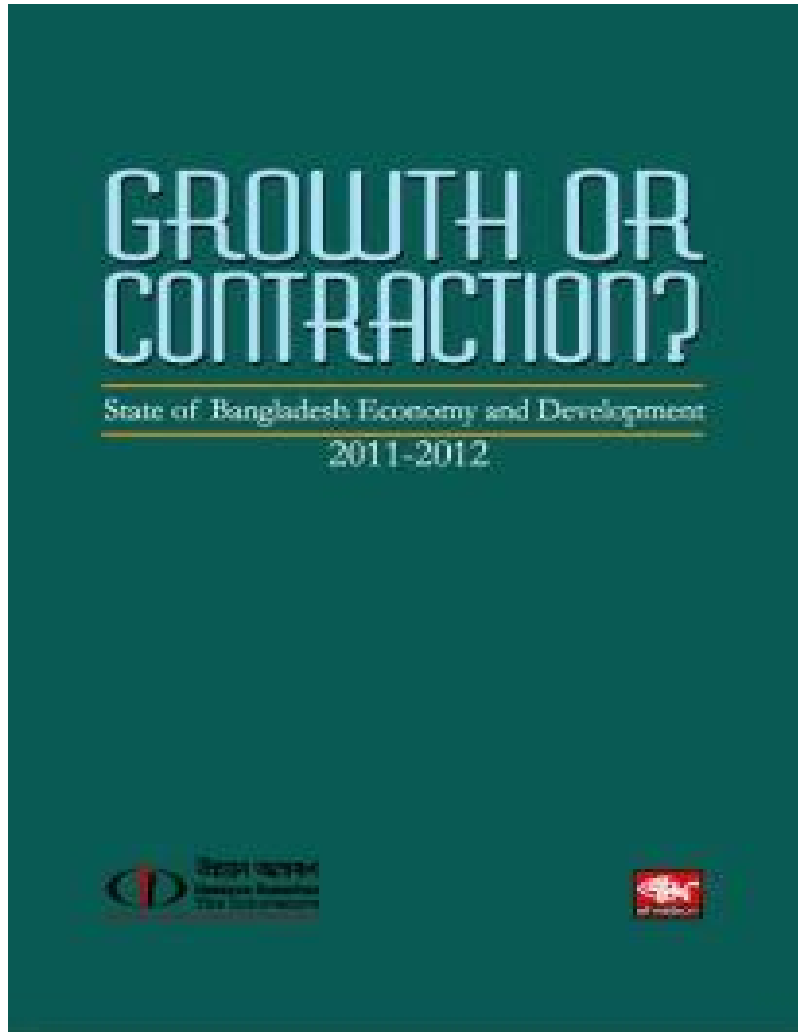
*This report has been prepared as a chapter for a forthcoming book "*Growth or Contraction?: State of Bangladesh Economy and Development 2011-2012*", edited by Rashed Al Mahmud Titumir to be published by Shrabon Prokashani, Dhaka in June 2012*

উন্নয়ন অন্বেষণ
Unnayan Onneshan
The Innovators
centre for research and action on development

HEALTH

K.M. Mustafizur Rahman

1 INTRODUCTION

Health remains a fundamental issue on the development agenda. No country can achieve desired growth unless it ensures accessible and improved health facilities to its citizen. As health became a part of development, the first seven Millennium Development Goals (MDGs) are directly or indirectly linked with health, nutrition, and population related activities in the World Bank, either as health and nutrition status indicators or as determinants of health outcomes. The world is moving ahead in ensuring health coverage for its population. It is now desirable and unavoidable (Preker et al. 2009).

It is very difficult to achieve the universal health coverage due to the lack of voice and accountability, ineffectiveness of Government, low level of regulatory quality, weakness in establishing rule of law, lack of transparency, mismanagement by the Government, lack of adequate human and financial resources, corruption etc. Additionally, reduction in the subsidy in health sector will make the situation more difficult to get minimum health services for the poor people. Furthermore, soaring price of essential food commodities can compel the people to reduce the quantity and quality of their food as well as change their consumption patterns (Titumir and Rahman, 2011). This is likely to have serious short and long-term health and nutritional impacts on the citizens, resulting in lower achievements of health related indicators.

However, progress made towards attaining the development goals related to health remains slower than required. Realizing this, the present Government, in their election manifesto, has committed to ensure health facilities to every citizen, nutrition to children and mothers, improved traditional medicine, elimination of contagious disease, ensuring primary health care to all by formulating 'Health Policy', 'Population Policy' and 'Pharmaceutical Policy'. In order to address these targets, proper budgetary allocation is strongly required. As a poor country, Bangladesh has made some significant progress in various health related indicators over the years, but it still has a long way to go.

Thus, the progress of various health indicators is required along with an in-depth assessment. However, no systematic effort to date has been undertaken by the Civil Society Organization (CSO), Non-Government Organizations (NGO) or research organizations. So, this study is making a humble effort to make an assessment of the health related indicators and corresponding public investment in order to have a clear image of the current situation.

2 HEALTH STATUS INDICATORS OVER TIME

How well the prevailing health care system has served the people of Bangladesh is largely measured by the status of various health related indicators. In this section, the

conventional health status indicators have been reviewed in order to gauge the improvements which seem to have taken place over time.

2.1 Infant Mortality

Infant mortality is one of the key indicators that express a country's health situation. Bangladesh has made good progress in reducing infant mortality over the last few years. Infant mortality has decreased from 58 per 1000 live births in 2000 to 39 per 1000 live births in 2009 with an annual reduction rate of 3.6 percent at the national level. This rate of decrease was 1.8 percent in urban areas and 3.9 percent in rural areas during the same period. The possible reasons for the slower improvement in case of infant mortality in the urban areas compared to the rural areas might be the rural-urban migration. More specifically, poor rural people are moving towards the urban areas for various income generating activities and living in slums or other areas (like footpath, railway station, road side etc.) where the corresponding surroundings are not suitable for a healthy life and due to their poverty they cannot expend any money on medical services. However, based on the past, under the business as usual scenario, Bangladesh is well on track to achieve the Millennium Development Goal (MDG) target of 31 per 1000 live births by 2015 (Figure 1). The rural areas are in a better position to achieve the Millennium Development Goal (MDG) target than the urban areas. In case of Vision-2021 of the present Government, Bangladesh may be able to achieve the target before the time limit (Titumir and Rahman, 2010).

Figure 1: Current situation and future projection of the infant mortality by locality
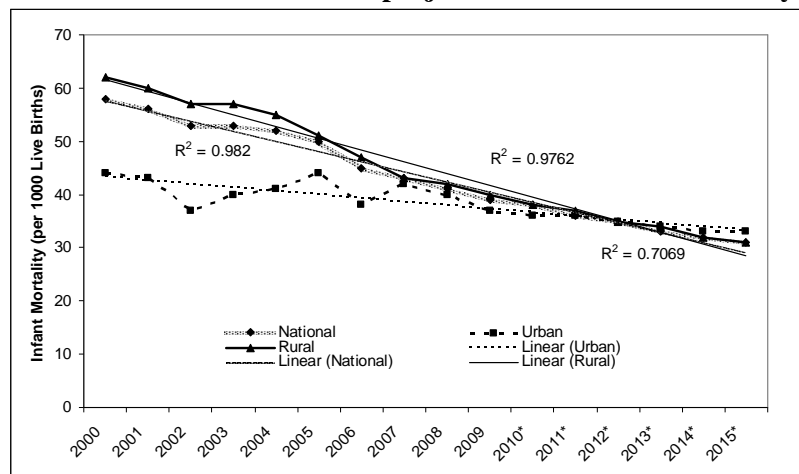
Source: Author's calculation based on the data from Bangladesh Bureau of Statistics 2011

2.2 Child Death Rate

In Bangladesh, the child death rate has gradually decreased over the time. It has decreased from 4.2 per 1000 children in 2000 to 2.7 per 1000 children in 2009 with a decreased rate of 3.97 percent per annum. On the other hand, this decreased rate of child mortality in rural areas (3.95 percent) is comparatively higher than that of the urban area (3.51 percent) during the same period (i.e. from 2000 to 2009). One possible hypothesis to explain the narrowing rate in the differences would be the improved access to health services and increased awareness about preventive and curative health care amongst rural

people. Although, a decreased trend of child death rate was found at the national and rural level after 2002. However, a different scenario has been found in case of urban areas. There is progress in reducing child death rates but, most of the time the improvement has occurred at a decreasing rate at the national, rural and urban levels during 2000-2009 (Table 1). This indicates that the current health services are not at a satisfactory level to address the issue of child death.

Table 1: Child death rate by locality

Year	National	Rate of Decrease (Percent)	Urban	Rate of Decrease (Percent)	Rural	Rate of Decrease (Percent)
2000	4.2	-	3.8	-	4.5	-
2001	4.1	2.4	3.6	5.3	4.4	2.2
2002	4.6	-12.2	3.9	-8.3	4.7	-11.9
2003	4.6	0	4.4	-12.8	4.7	0
2004	4.5	2.2	3.8	13.6	4.6	2.1
2005	4.1	8.9	2.6	31.6	4.5	2.2
2006	3.9	4.9	3.3	-26.9	4.1	8.9
2007	3.6	7.7	2.3	30.3	4.0	2.4
2008	3.1	13.9	2.2	4.3	3.4	15.0
2009	2.7	12.9	2.6	-18.2	2.9	14.7

Source: Author's calculation based on the data from Bangladesh Bureau of Statistics, 2011

2.3 Maternal Mortality Ratio

Although Bangladesh has made some progress in reducing maternal mortality but, it is still one of the highest in the world. The maternal mortality ratio has decreased from 4.44 per 1000 live births in 1996 to 3.37 per 1000 live births in 2006 with an annual reduction of 2.4 percent at the national level. On the other hand, it has decreased from 4.50 per 1000 live births to 3.75 per 1000 live births in rural areas during the same period with an annual reduction of 1.7 percent and the annual rate of reduction of 4.8 percent in urban areas during the same period. More specifically, it is observed that reduction of maternal mortality in urban areas has occurred with a faster rate than that of the rural areas. This indicates lower health facilities in rural areas for the mother than the urban areas. Additionally, in all areas (national, rural and urban) the improvement of maternal mortality has occurred at a slower rate than the previous years (Table 2). Therefore, the policy might not be suitable to ensure the health facilities to all mothers irrespective their location (rural or urban).

Table 2: Maternal mortality ratio by locality

Year	National	Rate of Decrease (Percent)	Rural	Rate of Decrease (Percent)	Urban	Rate of Decrease (Percent)
1996	4.44	-	4.50	-	3.75	-
1997	3.50	21.2	3.78	16.0	3.08	17.9
1998	3.23	7.7	3.36	11.1	2.85	7.5
1999	3.20	0.9	3.33	0.9	2.63	7.7
2000	3.18	0.6	3.29	1.2	2.61	0.8
2001	3.15	0.9	3.26	0.9	2.58	1.1
2002	3.15	0	3.40	-4.3	2.04	20.9
2003	3.76	-19.4	4.02	-18.2	2.70	32.4
2004	3.65	2.9	3.87	3.7	2.53	6.3
2005	3.48	4.7	3.58	7.5	2.76	-9.1
2006	3.37	3.2	3.75	-4.7	1.96	28.9

Source: Author's calculation based on the data from Bangladesh Bureau of Statistics, 2011

2.4 Contraceptive Prevalence Rate

Usage of contraceptives has a greater impact not only on the demographic circle but also on the economic circle as well. Use of contraception is very important for an over populated country like Bangladesh. When a population grows rapidly, it is very difficult to adjust this population with the economy of a country. Therefore, it is needed to control the population growth through contraception. Still contraceptive prevalence rate in Bangladesh is one of the lowest in the world. Although, there is an improvement in contraceptive prevalence rate over the years but still it is low (Bangladesh Bureau of Statistics 2011). The contraceptive prevalence rate was 39.2 percent in 1990 and has increased to 56.1 percent in 2009 with an annual increase of 2.27 percent at the national level. Urban people are much more conscious in using contraceptives than their rural counterparts. In urban areas, the contraceptive prevalence rate was 46.8 percent in 1990 and it has increased to 58.7 percent in 2009 with an increase rate of 1.34 percent per annum. On the other hand, contraceptive prevalence rate has increased annually with 2.15 percent during the same period (1990-2009) in rural areas. However, the contraceptive prevalence rate has annually increased with a faster rate than that of the urban area but, overall it is lower than the urban area. Although, there is an increase in contraceptive prevalence rates over the years, most of the time such increase has occurred at a slower rate than the previous one (Figure 2). This might be indicating that in the recent years the various family planning activities are not being implemented effectively. Without any adequate transformation in the socio-economic environment, the current family planning program will be exposed to serious problems in sustaining its current momentum which could be extremely challenging for realizing the desired targets.

**Figure 2: Annual growth of contraceptive prevalence rate by locality**
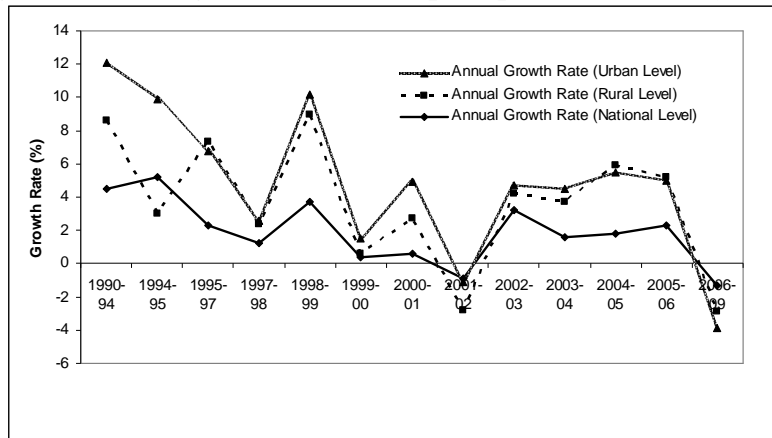
Source: Author's calculation based on Bangladesh Bureau of Statistics data, 2011

2.5 Nutritional Status of Child and Women

The nutritional status of a population is a key indicator in terms of poverty, hunger, health, education and social inequality. In other words, good health, cognitive development and productivity cannot be achieved in the absence of good nutrition. The prevalence of malnutrition in Bangladesh is one of the highest in the world. A huge number of children and women suffer from one or more forms of malnutrition including low birth weight, wasting, stunting, being underweight etc. Today, malnutrition is not only affecting individuals but its effects are passing from one generation to the next as malnourished mothers give birth to infants who struggle to grow and thrive

Nutritional status related target of the MDGs is to reduce the percentage of the underweight children to 33 percent by 2015. The percentage of underweight children in Bangladesh has decreased from 56.3 percent in 1996-1997 to 41 percent in 2007 with an annual average rate of decline of 1.39 percent. In order to achieve the target of the MDGs, Bangladesh needs to decrease the rate to an annual average of 1.23 percent. Under the business as usual scenario, Bangladesh might be able to achieve the target before 2015 (Figure 3). In case of rural and urban areas, inequality in the percentage of underweight children is very high. The percentage of underweight children in rural areas has decreased from 57.8 percent in 1996-1997 to 43 percent in 2007 with an annual average rate of reduction of 1.35 percent. Meanwhile, the percentage in urban areas has decreased from 41.9 percent in 1996-1997 to 33.4 percent in 2007 with an annual decline average rate of 0.77 percent. Considering the target of the MDGs, it is required to reduce the percentage of the underweight children at an annual average rate of 1.31 and 0.47 percent for rural and urban areas respectively. If the current rate of reduction continues, the target may be achieved in both rural and urban areas before 2015 (Figure 3).

Figure 3: Current situation and future projection of the underweight children (< 5 years of age) by locality
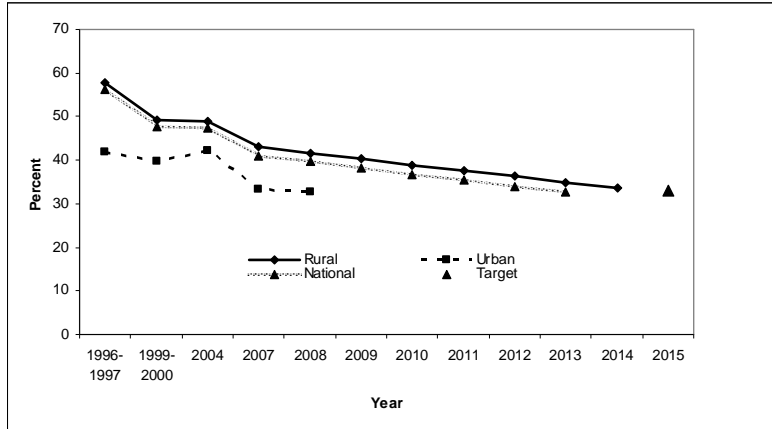
Source: Author's calculation based on data of Bangladesh Demographic and Health Survey of 1996-97, 1999-2000, 2004 and 2007

The target of the MDGs related to the nutritional status of women is to reduce the percentage of thin or malnourished (Body Mass Index, BMI<18.5) to less than 20 by 2015. The rate of decline in the percentage of malnourished (BMI<18.5) women is well on track in terms of the target for national, rural and urban areas. The rate in the percentage of the thin or malnourished women in Bangladesh has decreased from 52.0 percent in 1996-1997 to 29.7 percent in 2007. This percentage decreased from 53.8 percent in 1996-1997 to 32.6 percent in 2007 in rural areas and from 35.8 percent to 9.6 percent in urban areas. If these rates of decline prevail, the achievement of the targets of MDGs might be possible for rural and urban areas and for national level as well. The inequality in the percentage of malnourished women is significant, i.e. rural area might have more than double the malnourished women of urban areas (Figure 4).

Figure 4: Current situation and future projection of the nutritional status (BMI<18.5) of ever married women by locality
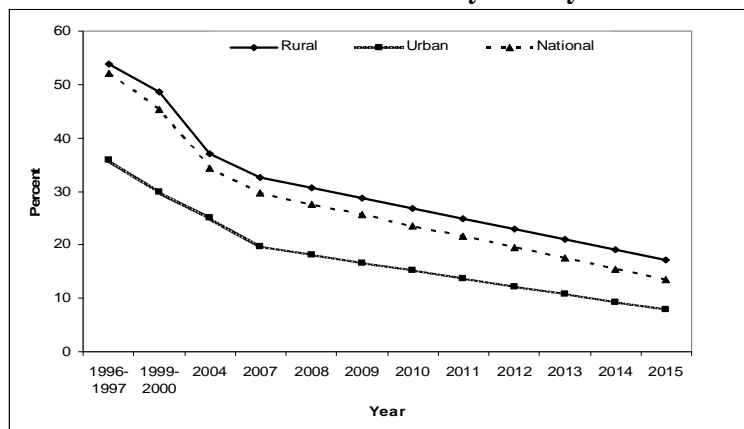

Source: Author's calculation based on data of Bangladesh Demographic and Health Survey of 1996-97, 1999-2000, 2004 and 2007

2.6 Price Hikes and Implications on Health and Nutritional Status

Food security is largely affected by the current price hike of essential food commodities. The escalation of prices of essential commodities has been compelling the people (especially poor) to cut back on the quantity and quality of their food. This price spikes may result in food insecurity and malnutrition adversely with both short and long term implications. The price of essential commodities has been on an upward trend over the years due to food related inflation. The soaring price of essential commodities, especially, food prices could hurt the poor and worsen equality. The poor spend a large part of their expenditure on food and the rising food price is likely to have a net worsening effect in terms of already lower nutritional status.

Figure 5: Impact of food price hike on health and nutritional status

```
        ┌─────────────────────┐
        │   Food Price Hike   │
        └─────────────────────┘
                   │
                   ▼
        ┌─────────────────────┐
        │   Declining Food    │
        │    Consumption      │
        └─────────────────────┘
                   │
                   ▼
        ┌─────────────────────┐
        │  Health and Nutritional │
        │      Deficiency     │
        └─────────────────────┘
```
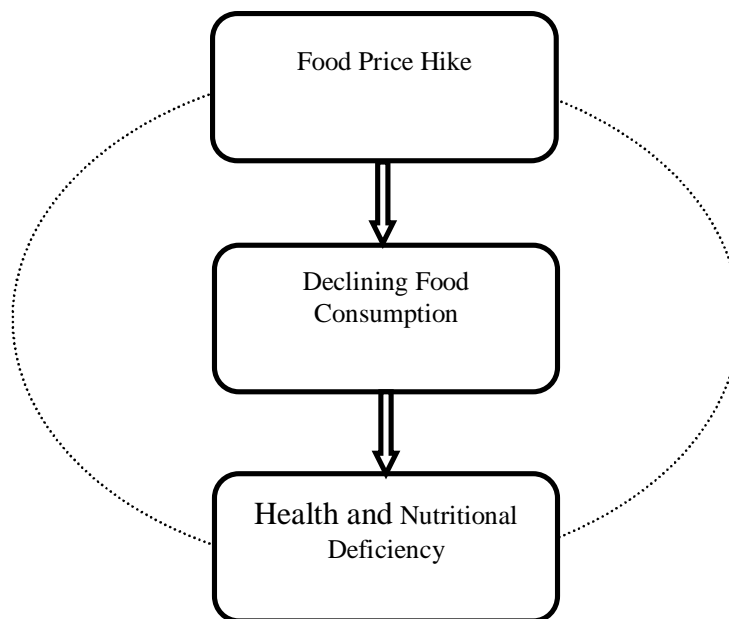
3 HEALTH SERVICE DEVELOPMENT

It is quite difficult to ensure the adequate health services to all for a poor country like Bangladesh. Due to the scarcity of resources, citizens of the country are not getting adequate health services. Furthermore, there is always a lack of transparency and accountability of the Government. The number of beds in Government hospitals and dispensaries has increased annually by 4.4 percent during the twenty years (i.e. 1990-91 to 2009-10). More specifically, this growth rate was highest in 1992-93 (13.6 percent). However, the number of beds in Government hospitals and dispensaries has increased over time but most of the time this increase has occurred with a decreasing rate than the past. In case of registered doctor, the number has increased by 8.4 percent annually during the same period. The number of registered doctors was 52,884 in 2009-10. It is quite impossible to ensure health facilities for a population of almost 150 million with this number of registered doctors. However, the number of registered nurses has annually increased by 9.3 percent but still; it is very low compared to the total population. Doctor-

nurse ratio, doctor-population ratio, population-nurse ratio, population-bed ratio are still very high for ensuring universal health services. Most of the people live in rural area so, without ensuring health facilities to rural people improvements in various health statuses, indicators remain elusive. During the last twenty years, the number of Thana health complexes has increased from 351 in 1990-99 to 424 in 2009-10 with an annual increase rate of 1.1 percent (Table 3). This indicates that many thanas need to have health complexes yet.

Table 3: Health service development and their annual growth rate

| Year	No. of beds in govt. hospitals and dispensaries	Rate of increase (Percent)	No. of registered doctors	Rate of Increase (Percent)	No. of registered nurses	Rate of increase (Percent)	No. of thana health complexes	Rate of increase (Percent)
1990-91	23870	-	20396	-	9274	-	351	-
1991-92	23870	0	20396	0	9274	0	351	0
1992-93	27111	13.6	21455	5.2	11061	19.3	347	-1.1
1993-94	27401	1.1	21749	1.4	12025	8.7	354	2.0
1994-95	27544	0.5	23805	9.5	13000	8.1	365	3.1
1995-96	28204	2.4	24338	2.2	13800	6.2	372	1.9
1996-97	29106	3.2	26535	9.0	13800	0	397	6.7
1997-98	29850	2.6	27546	3.8	15408	11.7	402	1.3
1998-99	30629	2.6	28312	2.8	16972	10.2	402	0
1999-00	31872	4.1	30864	9.0	17446	2.8	402	0
2000-01	31972	0.3	31952	3.5	17922	2.7	402	0
2001-02	32022	0.2	32498	1.7	18135	1.2	402	0
2002-03	32459	1.4	34502	6.2	19066	5.1	402	0
2003-04	34693	6.9	36576	6.0	19500	2.3	403	0.2
2004-05	35579	2.6	40210	9.9	20009	2.6	406	0.7
2005-06	37661	5.9	42010	4.5	20100	0.5	413	1.7
2006-07	38211	1.5	44632	6.2	20129	0.1	419	1.5
2007-08	41107	7.6	49608	11.1	23266	15.6	421	0.5
2008-09	41107	0	51993	4.8	24151	3.8	422	0.2
2009-10	43996	7.0	52884	1.7	25604	6.0	424	0.5

Source: Author's calculation based on the data from Bangladesh Bureau of Statistics, 2011

4 PUBLIC INVESTMENT IN HEALTH SECTOR

Public allocation for health sector is not adequate and is not properly utilized and managed. In the budget of FY 2011-12, the proposed allocation for health sector was Tk. 8,8890 million (including development and non-development budget), which was 5.43 percent of the total budget. However, the allocation has increased by Tk. 7600 million. Still, it is far away from the proposed allocation (from 7 percent to 12 percent) of the total budget mentioned in the draft National Health Policy (NHP). The decreased allocation has occurred at a time when the Government has committed to ensure better health facilities to its citizens and tried to achieve the Millennium Development Goal (MDG) targets and Vision-2021 targets as well.

Ensuring better health facilities is largely dependent not only on the proper budgetary allocation but also on the proper implementation. It is observed that during the last five years (from FY 2007-08 to FY 2011-12), development budget is increasing slower than the non-development budget. More specifically, the growth rate of development expenditure was 9.17 percent whereas; it was 21.50 percent for non-development expenditure during the last five years. To ensure better health facilities to all, planned and appropriate development budgetary expenditure is needed; currently, it is much lower than the non-development expenditure. The development and non-development expenditure over the last five years are shown here (Figure 6).

Figure 6: Development and non-development expenditure
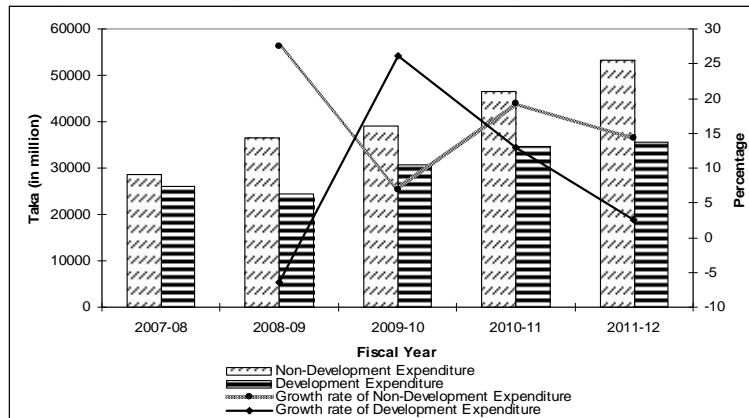
Source: Author's calculation based on the data from Ministry of Finance

One of the major problems regarding Annual Development Programme (ADP) is its poor implementation status. In the current fiscal year (i.e. FY 2011-12) only 30 percent of the total allocated ADP was implemented during the last eight months (July to February) and the remaining 70 percent (i.e. Tk. 7042.4 million) has to be implemented within the next four months. Under the business as usual scenario, another 15 percent of the allocated ADP might be implemented in the remaining time of this fiscal year. This indicates more than half of the allocated money (Tk. 5,516.9 million) may remain unspent. When a large amount of money has to be mobilized within a short period, a lack of transparency is imminent and the corruption is the main barriers of achieving the desired goals. This lower allocation and poor implementation status of allocated money in health sector puts the achievement of Millennium Development Goals (MDG) and Vision-2021 targets at risk.

Figure 7: Implementation status of allocated Annual Development Programme (FY 2011-12)
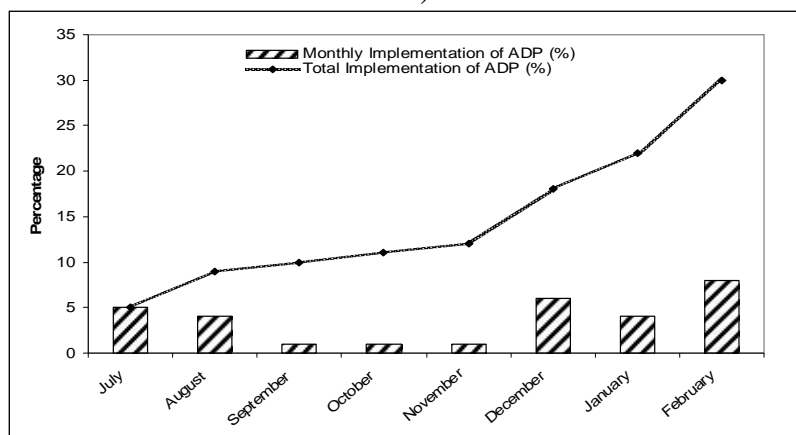
Source: Author's calculation based on the data from Implementation Monitoring and Evaluation Division

5 BARRIERS TO THE WAY OF ACHIEVING UNIVERSAL HEALTH COVERAGE

The public health system in Bangladesh does not exist at a satisfactory level. The doctor-population, doctor-nurse, nurse population ratios are still far below from the standard level. However, there is some progress in the health sector but difficult challenges remain.

Voice and demands of citizens are very important in improving the state of responsiveness, transparency and accountability of the Government and to formulate policies and programmes regarding the health sector. Voices and demands of people are rarely taken into account while making and implementing health policies. Therefore, people's demands in the health sector remain elusive. Adequate and available manpower regarding health related services is lower than the expected. Lack of regular staff is a common scenario in most of the public hospitals. Furthermore, high rate of absenteeism undermines service delivery. Due to the comparatively lower compensation from public hospitals, many doctors and nurses are going to private clinics ignoring that public hospitals are experiencing shortage of medical personnel. Therefore, a patient finds it difficult to get adequate and proper health services from public hospitals. Due to the weak monitoring and regulatory framework as well as lack of communication between central levels to root levels' service providers, achievement of universal health coverage is really difficult. Furthermore, lower allocation and slow disbursement of funds causes delayed completion and ineffective utilization of funds, therefore, creating a barrier in achieving the universal health coverage. Besides these, lack of accountability and transparency, corruption and mismanagement of allocated money make the outlook gloomier.

Furthermore, besides these structural reasons, some macro-economic indicators like inflation, country's productive capacity, reduction of spending in social sector are also responsible for lowering universal health coverage. As inflation is on the rise, the people

are in more trouble to maintain their livelihoods and hence reduce their expenses on health related matters. Additionally, the country's declining productive capacity has resulted in reduction of employment opportunities. So, people have less opportunity to expend money for better health facilities. In fact, reduction in social expenditure could hamper the desired target of achieving universal health coverage as reduced social expenditure is marking out the poor people of the country.

6 CONCLUSION

Health is one of the basic needs of people as stated by the Constitution of the People's Republic of Bangladesh [15(a)] and ensuring health facilities to all is one of the main obligations of the country. But, the access and availability of quality services in the public health sector is not satisfactory. The results of this study indicate not only the degree of various health indicators but also its pattern, which should be considered in formulating health policies. The results provided in this report indicate that the country is well on track to achieve some of the targets of the MDGs related to health and nutritional status of the people within the stipulated time, but many of the targets might remain far from the expected levels. This independent assessment, casts doubt about the prospect of achieving the MDGs in its totality in the country. It will be difficult to reach the targets unless serious efforts are undertaken from the Government.

Balanced development should be undertaken both for the rural and urban areas. Policies should be targeted towards the poor. In case of reducing the subsidy in social sectors as suggested by the IMF-MEFP, effective policies should be taken. The issues of inequality should be addressed on a priority basis and policymaking requires both theoretical knowledge and practical judgment for implementation. Although, both the programmatic and non-programmatic components are showing some positive signs, a higher share of budget allocation for the health sector is needed in the upcoming years. Furthermore, lack of timely and poor implementation status of the allocated ADP could seriously damage the efficiency of the programme and eventually, compromise the success of the programme realized over the past few years.

Theoretically, some of the strategic documents and policy papers are sound and seem to be implementable, but in reality, the outcomes are yet to be discernible. Lack of appropriate strategies, country's institutional inability to effectively implement policies and programmes, the abysmal record of poor governance in terms of inefficiency and corruption and the lack of transparency and accountability are the major impediments in achieving the desired targets in the health sector. Existing policies and programmes are needed to be reviewed and revised for improving accessibility, affordability and quality of services. The Government needs to be creative in renewing and revising strategies and approaches.

REFERENCES

Bangladesh Demographic and Health Survey (BDHS), 1996-1997. National Institute of Population Research and Training, Mitra and Associate, Dhaka, Bangladesh.

Bangladesh Demographic and Health Survey (BDHS), 1999-2000. National Institute of Population Research and Training, Mitra and Associate, Dhaka, Bangladesh.

Bangladesh Demographic and Health Survey (BDHS), 2004. National Institute of Population Research and Training, Mitra and Associate, Dhaka, Bangladesh.

Bangladesh Demographic and Health Survey (BDHS), 2007. National Institute of Population Research and Training, Mitra and Associate, Dhaka, Bangladesh.

Bangladesh Institute of Development Studies (BIDS), 2009. Implications for Human Development – Impacts of Food Price Volatility on Nutrition and Schooling. BIDS Policy Brief. No. 0901. Dhaka, Bangladesh.

Ministry of Finance. 2012, Budget in Brief. Finance Division. Government of the People's Republic of Bangladesh, Dhaka, Bangladesh.

Ministry of Planning. 2011, Preliminary Report on the Household Income and Expenditure Survey (HIES) *2010,* Dhaka: Bangladesh Bureau of Statistics (BBS), Planning Division, and Government of the People's Republic of Bangladesh.

Ministry of Planning. 2011, Statistical Pocket Book of Bangladesh 2010, Dhaka: Bangladesh Bureau of Statistics (BBS), Planning Division, and Government of the People's Republic of Bangladesh.

Ministry of Planning. 2012. ADP Implementation Status. Implementation Monitoring and Evaluation Division (IMED).Government of the People's Republic of Bangladesh.

Preker, A.S., Zweifel, P. and Schellekens, O.P. 2009. Introduction: Strength in Numbers. In: Preker, A.S. Zweifel, P. and Scellenkens, O.P. (Eds.). Global Market Place for Private Health Insurance. Washington D.C.: World Bank, 1-26.

Titumir, R.A.M. and Rahman, K. M. M. 2011. Achieving the MDGs Targets in Nutrition: Does Inequality Matter? Unnayan Onneshan-The Innovators. Available at: http://unnayan.org/reports/health/Achieving_the_MDGs_Targets_in_Nutrition-Does_Inequality_Matter.pdf

Titumir, R.A.M. and Rahman, K. M. M. 2010. Education, Health and Poverty: A Reality Check. Bangladesh Economic Update, 1 (6), December 2010. Unnayan

Onneshan-The Innovators. Available at: http://www.unnayan.org/reports/meu_Dec_2010.pdf

Appendix B

Mathematical Equation:

$$P_l = P_b(1 + ry)$$
$$\Rightarrow r = \frac{1}{y}\left(\frac{p_l}{p_b} - 1\right)$$

Where,

P_l = Value of the launch year;

P_b = Value of the base year;

y = Number of years between launch year and base year;

r = Growth rate.

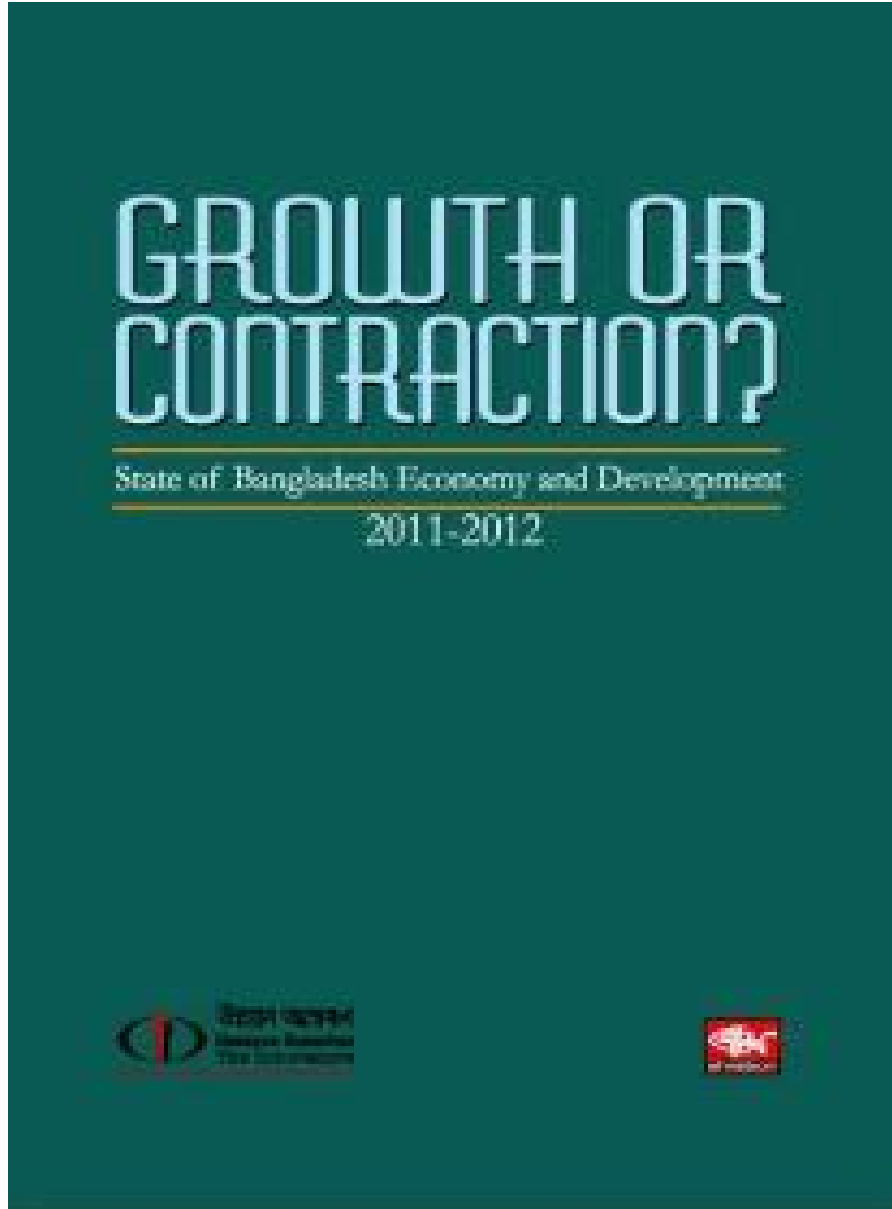Then, a projection using this method could be computed as:

$$P_t = P_l(1 + rz)$$

Where,

P_t = Value of the target year;

P_l = Value of the launch year;

z = Number of years between target year and launch year;

r = Growth rate.

GROWTH OR CONTRACTION?

State of Bangladesh Economy and Development

2011-2012