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HEALTH, NUTRITION AND HUMAN RESOURCE DEVELOPMENT: A CRUCIAL LINK

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ABSTRACT

Health and nutrition is one of the important components of human resource development. The relationship between health-nutrition and human resource development is reciprocal and takes a cyclical fashion. The first section of this paper endeavors to establish a link between health, nutrition and human resource development. The second section discusses this linkage in the context of Bangladesh and with the particular focus on its health and nutrition policies and programs.

Key words: Health, nutrition, labor force, human resource development, economic development, Bangladesh.

I. INTRODUCTION

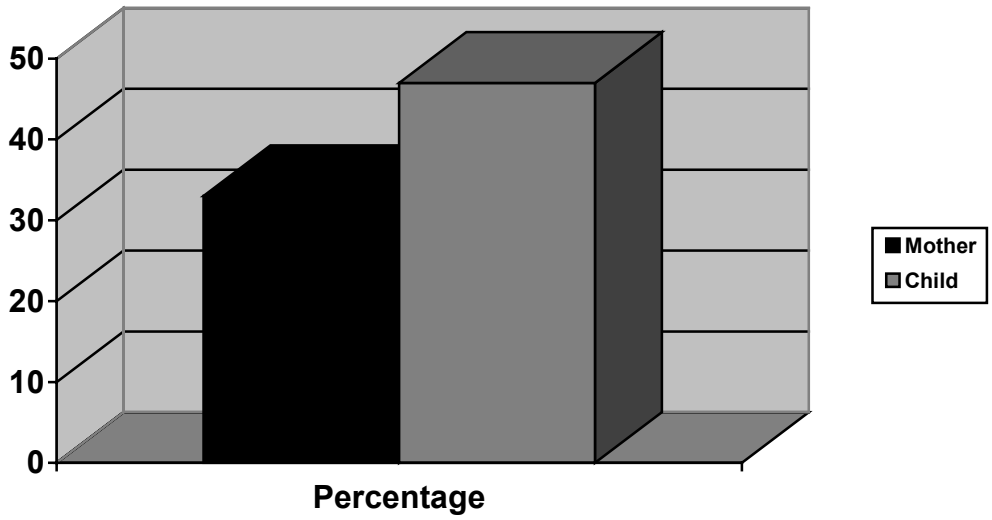
Health and nutrition is one of the important components of human resource development. Increased income and reduced poverty make people afford better diets, improved health care, and healthier living conditions. Healthier people can transform their energy into productivity, both mental and physical, more efficiently than ill health and undernourished people can do. An efficient use of people's productivity turns into more economic output, higher income and economic development. The first section of this paper endeavors to establish a link between health, nutrition and human resource development. The second section discusses this linkage in the context of Bangladesh and with the particular focus on its health and nutrition policies and programs. Life expectancy at birth and under five mortality have been used as health indicator in this paper. This paper considers human resource development in terms of participation of human resource into economic activities (activities done to produce economic goods and to earn money).

Health and human resource development are related in a reciprocal way [1] [2]. The assumption behind this relationship is that health contributes in building good human capital, which contributes in economic development and on the other hand, economic development enhances people's affordability to buy food and health care service. Usually better nutrition leads workers to better workability and thereby better income. On the other hand, economic capabilities affect health, as low income constrains access to health care and health promoting opportunities [3]. The next section analyses the impact of health on human resources.

II. HEALTH AND NUTRITION ENHANCES HUMAN RESOURCE DEVELOPMENT

The capacity of work done by people depends on different factors, one of which is nutrition and health. Impact of health and nutrition on economic activities of workers can be understood in three different phases; current working capacity of workers, children's working capacity in future, intergenerational working capacity, particularly for

female labor force. Better health and nutrition can immediately increase the workers' current strength, energy and ability to concentrate on job and thereby increases the productivity of workers. Ill health and nutrition reduces the probability of participation and the intensity of job seeking by the unemployed. Ill health workers can adjust their work if it is self-employment, but in the case of wage labor it is difficult to adjust those works, which are already lost. In these cases sick people are excluded from the labor market, as there is availability of relatively healthy and nourished people in the market especially in developing countries, where open unemployment is a big problem [4]. Better productivity of workers lead to better economic output, which ultimately adds not only to country's economic development, but also to individual's own economic status. Better child health and nutrition promote future productivity by helping children develop into stronger, healthier adults. Healthy and well-nourished children can definitely achieve higher intelligence and educational attainment. And it is obvious that education helps enhancing worker's skill and productivity. Grira showed that in Bangladesh underweight children tend to be in lower grades than well-fed children of the same age [5]. It is estimated in his study that a one standard deviation improvement in weight-for-age would be expected to reduce the grades behind by about 0.25 years or about 13.5 percent of the actual years attained. Apart from the life long effect, ill health and malnutrition (particularly of female) also produce intergenerational incapability of work. Because, malnourished and ill health mothers are more likely to produce malnourished children. The following figure represents the effect of mothers' ill health on children, where 33% anemic mothers, among others, contributing to the 47% anemic children in Bangladesh. Thus the ill effect of ill health on human productivity is not ending with one person; rather it is extending from generation to generation.



Source NSP Annual Report 2001, p. 6

Figure 1: Percent of anemic mothers and children in Bangladesh

In developing countries women's malnutrition is also causing a serious reduction in their own working capacity and productivity. Due to high level of child morbidity and mortality caused by malnutrition, women tend to increase the desired (or needed) number of children. Additional pregnancies reduce women's resistance to diseases and throw them into morbid situation. Even if women do not die the effect of large number of pregnancies make them incapable of working intensively [6]. High fertility of women leads to the low participation in labor force (table 1).

Table 1. Total fertility rate and female labor force participation rate in different regions

Regions	Total fertility rate		Change	Female labor force participation rate		Change
	1995	2000		1995	2000	
Industrialized economies	1.7	1.7	No change	50.0	50.7	+
East Asia	1.9	1.7	-	73.8	73.5	-
South East Asia	3.6	3.2	-	59.1	60.1	+
South Asia	4.6	4.2	-	36.9	38	+
Latin America and Caribbean	2.9	2.7	-	46.5	49.0	+
Middle East and North Africa	4.1	3.6	-	26.0	27.9	+
Sub Saharan Africa	5.5	5.1	-	61.9	63.0	+

Source: ILO, Global Employment Trends Model, 2003

The table reveals the inverse relationship between labor force participation of female and their fertility rate. A decreasing trend in total fertility rate is seen to be associated with the increasing trend of female labor force participation rate in all the regions (except East Asia). However, repeated pregnancy not only worsens the nutritional status of a mother, but also it helps mother drop from job market, as she has to allocate more time for bearing and rearing up the children.

Moreover some endemic disease affect adversely on human resources. For example, AIDS affect adults in most of their productive lives. In some sub Saharan countries, particularly in Zambia, Zimbabwe, Rwanda, Ethiopia the percentage of people infected by HIV are 33.8, 47.4, 17.9 and 16.4 respectively [7]. This epidemic is creating new poverty and intensifying existing poverty—cutting short people's lives. In addition to that it reduces labor inputs and reduces human capital as a result of declines in school attendance [8].

Thus health and nutrition affect productivity of a wide range of people; current workers and potential workers, male and female. Even it puts a hindrance against attainment of education and skill, as it prevents the cognitive and mental development of the children and prevents them to attend school regularly. So for analyzing the current and future productivity of workers and economic output, consideration of health and nutritional status is important.

III. DEVELOPMENT PROCESS AFFECTS HEALTH STATUS

Through development process people get the benefits of development policies and programs in terms of their health, education and employment. In poorest countries, policies, which accelerate income growth and reduce poverty, make it possible for people to afford better diets, healthier living condition and better health care. Moreover, expanding educational opportunities bring people in the world of information and knowledge and help them understand the importance of health and nutrition. World Bank identified this relationship as a 'virtuous cycle' in which reduction of poverty and improvement in health reinforces each other. In addition to that, women's empowerment, which is one of the most important indicators of human development, can enhance women's capacity to improve their health and that of their families. Removing discrimination in the labor market, in access to credit, in property law and so on can boost women's earning, financial security, which can promote family health [9].

Table 2. Status of health and economic development of some countries

Countries	Life expectancy at birth	People below poverty line	GDP per capita (2005)	Unemployment rate
Canada	80.22 (2006 est)	15.9 (2003)	35064	6.10 (2006)
Japan	81.25 (2006 est)	-	35787	4.4 (2005)
Norway	79.54 (2006 est)		64264	3.90
United Kingdom	78.54 (2006 est)	17 (2002 est)	36599	4.80 (2004 est)
Unite states	77.85 (2006 est)	12 (2004 est)	42101	4.70 (2006)
Bangladesh	62.08 (2005 est)	45 (2004 est)	403	40 (2004 est)
Sri Lanka	73.17 (2005 est)	22 (1997est)	1199	7.80 (2004 est)
Sudan	58.54 (2005 est)	40 (2004 est)	783	18.70 (2002 est)
India	64.35 (2005 est)	25 (2002 est)	714	9.20 (2004 est)
Indonesia	59.57 (2005 est)	27.1	1259	9.20 (2004 est)
Egypt	71.0 (2005 est)	20 (2005 est)	1316	10.90 (2004 est)

Source: http://en.wikipedia.org/wiki/Human_Development_Index

Table 2 presents life expectancy at birth as health indicators, GDP per capita and, pp. -number of people living below the poverty line the indicators of economic development and unemployment rate as the extent of utilization of human resources. The table shows that countries with high GDP per capita with (e.g., Canada, Japan, Norway, United States, United Kingdom) have higher life expectancy at birth along with lower unemployment rate. On the other hand, the countries, where GDP per capita is comparatively lower (e.g., Bangladesh, Egypt, India, Indonesia, Sudan, have higher rate of unemployment rate. A large proportion of economically active population in these countries is not using its labor force. However, it is to mention that apart from economic development, there are many other factors contributing to increase life expectancy at birth. For example, despite lower GDP per capita Sri Lanka has made a remarkable improvement in life expectancy at birth, mainly due to the extensive social services [10]. Gollady argues for general socio-economic development as the major factor of determinants of health. Among the most common indices of socio economic development life expectancy at birth and Infant mortality rate, each of which is also a common index of health, nutrition and demographic status. Thus socio-economic development is taken to mean rising life expectancy, declining infant and maternal mortality and improved nutritional status, just as it means increases in literacy, education, electrification, industrialization, female labor force participation outside the home, urbanization and GNP [11].

IV. LINKAGE BETWEEN HEALTH, NUTRITION AND HUMAN RESOURCE DEVELOPMENT

Based on the discussion in the previous two sections we can set a linkage among health, nutrition, human resource development as well as economic development. In fact, the relationship is not linear rather cyclical without any particular starting point (figure 2). The figure shows that the status of health and nutrition affects the productivity of labor through the working capacity of current and potential labor, through the extent of labor force participation of female and intergenerational working capacity. Productivity of labor leads to economic development. At this point economic development leads to higher per capita income and more investment in health and nutrition sector, especially in public health sector. Thus, at the individual level economic development increase people's affordability to get access to health care service as well as to purchase nutritional food. On the other hand at the national level economic development leads to more investment in health sectors. As a result of investment in health sector the availability of health service becomes wide spread and within the reach of mote people. Apart from the availability and access to health care service, increased

economic affordability increases education and awareness of people, which is important for getting a health life. Ultimately, all these results of economic development either individually or jointly are affecting the status of health and nutrition of the country. Human resource development takes a central place in this frame work, as it is influenced by both health- nutrition status and at the same time it is affecting the economic development of the country.

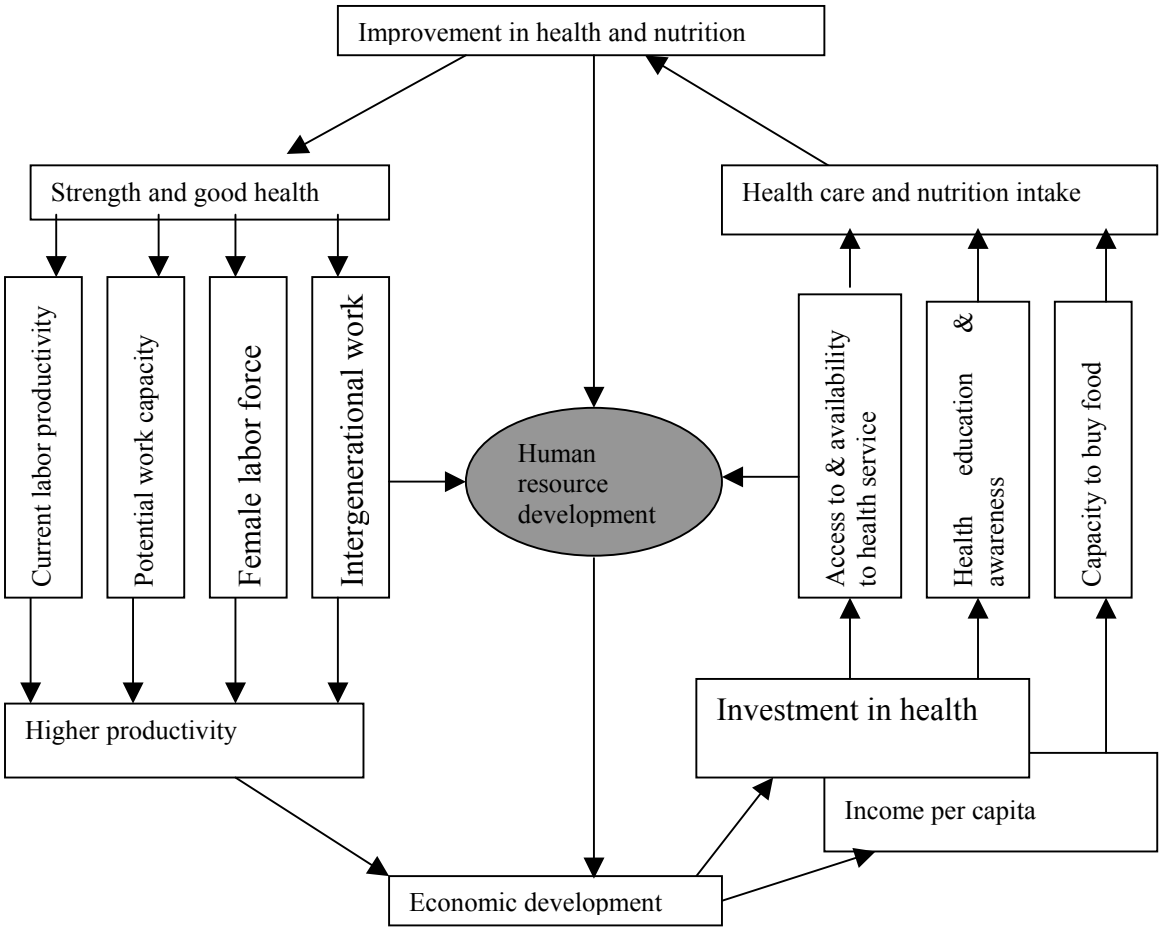


Figure 2: Linkage between health-nutrition and human resource development

The next section will discuss the relationship among health-nutrition and human resource development in the context of Bangladesh with a particular focus on its health and nutrition policy.

V. BANGLADESH

Being a developing country with a large number of population (129.6 million in 2000) Bangladesh has been experiencing a slow and steady improvement in her health status. Since birth in 1971, the government of Bangladesh along with many different non government organizations has invested substantially in the institutionalization and strengthening of health and family planning services, with special attention on rural areas and is committed to Health for all with primary health care as the key approach [12]. In the mid 70s the government instituted the deployment of local family welfare assistant (FWAs) – community based family planning motivator and distributors who numbered almost 24000. Since then more than 200 NGOs have been involved in this sector [13]. Since the mid 1980's the government has sought to improve its health services and teaching institutions. Moreover to improve leadership from the grass root level and to provide service to them,

family welfare visitors, family planning inspectors and family planning assistant were recruited and trained [14]. Health and hygiene education, safe birth practices and antenatal care and promoting contraception were being done for the rural mass people from this grass root level health center, like USC or HFWC or thana health complex.

In 1988, an effort was made to incorporate health with population program in a wide range by introducing Health and Population Sector Strategy. This strategy gave priority to ensuring universal accessibility to and equity in health care, with particular attention to the rural population. Efforts are being made to develop a package of essential services based on the priority needs of clients, to be delivered from a static service point, rather than providing door to door visits by community health workers to reduce costs and increase efficiency as well as meet peoples' demand [15]. Privatization of medical care at the tertiary level, on a selective basis, is also being considered. Significant changes in human resources for health have taken place in recent years leading to overall improvement in the coverage of health services. In 1993-94 the national health expenditure by both public and private sectors amounted to 3.04 percent of the GNP. It increased marginally to 3.8 percent in 1998.Government health expenditure as a percentage of the total government expenditure was 6.9 percent. In 1998 the total government health expenditure per capita was $4 [16].In addition to that improvement, the availability of safe drinking water in urban areas has increased from 44.9 percent in 1991 to 99.2 percent in 1999-2000 and in the rural sector from 88 percent to 96.7 percent at the same period. This increased facilities lead to reducing the extent of diarrhoeal diseases. The promotion of the population with adequate extra disposal facilities has also increased from 38 percent (1991) to 74.6 percent (1999-2000) in the urban sector and from 10percent (1991) to 49.3 percent (1999-2000) in the rural sector [17]

The combined result of the initiative of Government and NGOs in Bangladesh at last has produced the following improvement in two of its important indicators of health:

Table 3. Changes in IMR and CMR in Bangladesh

Year	Under five Mortality Rate	Infant Mortality Rate
1990	151	94
1991	146	92
1992	144	88
1993	139	84
1994	134	77
1995	125	71
1996	117	67
1997	115	60
1998	110	57
1999	87	59
2000	84	58
2001	82	56
2002	76	53

Source: GOB and UN 2005, pp. 27-29

The steady decreasing trend of infant and child mortality indicates directly the nutrition and health status of children and indirectly that of mothers. Because mother's health and nutrition has profound influence on children's health and nutrition. In addition to that table 3 also indicates the potential labor force of Bangladesh. However, the country needs to provide these infants and children with health and education to utilize their labor force up to optimum level in future.

Along with the improvement in health status the economic growth of Bangladesh has also shown a significant increase, as GDP per capita goes from $254 (1995) to $ 373 (2000).

However despite these improvements, much still remains to be done. Mortality rates, especially infant and maternal mortality, continue to be high, compared to other countries. The quality of life of the mass people is still very low. Low calorie intake continues to result in malnutrition. Despite the reduction in total fertility rate the huge absolute number of people, itself, throws a big challenge by throwing a great demand of health care service with limited resource of the country. But at the same time, this huge number of people can open a door to development if their labor force is utilized in a productive and efficient way. Another big issue to be solved yet is the high rate of child labor in Bangladesh. Although the health and nutritional status of children (as shown in the decreasing trend of mortality rates) is improving, 6.6 million

children, which accounts for more than 5 percent of the world's working child population of 120 million [18]. The reason of child labor is, among others, poverty. In Bangladesh children need to work to provide financial support to their poor parents or family. Child labor affects the working capacity in various ways. Firstly as children are under aged and unskilled they are not utilized at work with full productivity and many of them earn a nominal amount of money; 500 taka per month (about 9 euros) for 48 hours of work a week [19]. Secondly, as working children do not go to school, they remain uneducated or less educated. Lack of education makes them unskilled labor in future. Thirdly working children are poor and can hardly earn enough money for adequate food and nutrition. So they remain malnourished and less energetic throughout their whole life. And finally, as children are available at low cost employers and owners of industries are happy to employ them rather the working aged labor force, who remains unemployed and or low paid.

This is how the relationship between development and health is working in terms of human resource development. Poverty leads children to work, stay malnourished and out of school. Lack of knowledge and schooling and malnourishment make them low productive in future and again throw them into underdeveloped situation.

VI. CONCLUSION

Bangladesh has been doing better in improving health and nutrition status of its population, especially children. However attention should be given to the working children, particularly on their health status along with the education and skill. Mothers should also be taken into special consideration as it affects not only female labor force, but also children's working capacity and thereby potential labor force. This essay has established a link of how human resource development works in connection with the improvement of health and nutritional status. Still it is important to remember that health is not the one and only component of human resource development. Rather it should be accompanied with proper employment opportunities, education and skill. As poverty is playing a significant role here, a more contemporary and more equitable policy is needed to be taken with the objective of reaching the poorest segment of population, because according to Dr. Brundtland 'there is solid evidence to prove that investing wisely in health will help the world take a giant leap out of poverty. We can drastically reduce the global burden of disease, if we manage, hundreds of millions of people will be better able to fulfill their potential, enjoy their legitimate human rights and be driving forces in development. People would benefit. The economy would benefit. The environment would benefit' [20]

REFERENCES

[1] M. Gillis, H. Parkins, M. Roemer and D.R. Snodgrass: *Economics of development*, WW Norton & Company, New York, London. (1983)

[2] M. Bronner: *Economic development, Crisis and Health: A Malaysian case study,* LSE health and social care, Houghton Street, London. (2003)

[3] World Health Organization: *World Health Report* 2003; *Shaping the future*, p. 3. WHO. (2003)

[4] M. Lipton. "Labor and poverty" *World Bank Staff Working Paper,* 616, World Bank, Washington DC. (1983)

[5] H. Grira: *Delayed school enrolment in Bangladesh: who is responsible,* p. 10. Availableat <http://www.unicaen.fr/ufr/eco/colloque> (1998)

[6] G. Standing: *Labor force participation and development.* P. 91. ILO, Geneva. (1978).

[7] UNDP: *Poverty report 2000: overcoming human poverty,* p. 100. UNDP, New York. (2000)

[8] M. Bronner: P. 25. (2003); op.cit.

[9] World Bank: *World development report 1993; Investing in health.* p. 37. Oxford University Press. (1993)

[10] G. Gunatileke: Good health at low cost. *Proceedings of conference,* 19 April – 3 May 1985, The Rockefeller Foundation, pp. 111-124. (1985)

[11] F. Gollady: *health Issues and Policies in Developing countries.* World Bank, Washington DC. (1980)

[12] Country health profile, Bangladesh available at http://w3.whosea.org/LinkFiles/Bangladesh_bang.pdf

[13] NIPORT: *Bangladesh demographic and health survey, 1999-2000,* p. 3. Calverton, Maryland and Dhaka NIPORT, Mitra and Associates and Macro International, Inc. (2001)

[14] U. Rob, M. Mutahara and N. Sprafkin: "Development of population policy in Bangladesh" *International Quarterly of Community Health Education,* **31**, pp 25-38. (2004)

[15] Country Health Profile, Bangladesh; op.cit.

[16] Country Health profile, Bangladesh; op.cit.

[17] Country Health profile, Bangladesh, op.cit.

[18] ILO : *Global employment trend.* p. 57. International Labor Office Geneva. (2003)

[19] *Ibid*. p. 57

[20] Bulletin of the World health Organization: *Public Health in a new era*. **77**. p 202. available at Expanded Academic, ASAP. (1999)