Journal of Business Studies, Vol. XXXVI, No. 2, August 2015

Impact of the Low Wages on the Health and Nutritional Status of RMG Workers in Bangladesh

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Abstract: *Readymade Garments sector is making enormous contribution as a great source of employment especially for women and export income and in the economic development of Bangladesh. The future of this sector is highly optimistic but depends on the garment workers who come from extreme poor families of rural Bangladesh. These workers have a difficult life. Persistent poverty, inadequate nutrition intake and gender inequity cause pervasive malnutrition and different health problems which make these workers less productive. Poor health results in loss of working days and reduced productivity. Healthy people can transform their energy into productivity, both mental and physical, more efficiently than the sick and undernourished people do. Their education level is too low to increase their skill for further development in labor market. In RMG sector workers are working hard but their basic demand of quality wage is not met. Poor health condition of RMG workers is reducing not only their own productivity, but also affects the growth of RMG sector itself. In comparison to other developing countries like Sri Lanka, South Korea, Hong Kong etc, labor productivity of Bangladeshi workers is lower. This sector needs to improve its labor force productivity to compete globally. Increase in wage can create opportunity for workers to have better diets, improved health care and healthier living conditions. The increase in health and nutrition status of the workers can play a vital role in improving individual productivity as well as a healthy garment society in Bangladesh. This milieu, this article with a qualitative method explores the impact of low wages on the health and nutritional status of RMG workers in Bangladesh.*

Introduction

Adequate wage for the labor is considered as a key factor to boost the capacity of workers in any industrial complex around the world. The quality wage always helps to ensure the fundamental needs for the physical survival of the workers. On the contrary, inadequate and lack of quality wage push the workers to suffer from shortage of necessary food, housing, health care, etc., which ultimately makes them incapable to continue their work and decrease their labor productivity. Although Readymade Garment factories (RMG) have been playing a significant role in the economic development of Bangladesh in terms of employment, income and export, and is no doubt considered as the only multi-billion-dollar manufacturing and export industry it has been argued that huge workers of this sector are not paid quality wage for the maintenance of their livelihood that create huge impact on their health condition and poor calorie intake for sustaining good health and nutritional status. This lack of quality wage is ultimately resulted in the dec crease of labor productivity of the workers. Whereas this industrial sector contributed only 0.001 per cent to the country's total export earnings in 1976 in the take off stage, its share has increased to about approximate 80 per cent of those earnings in 2010. It would be worth mentioning here that

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Bangladesh had exported garments worth the equivalent of $12348 Million in 2010, which was about 3.00 per cent of the global total value ($276 billion) of garment exports.[2] Low wages and MFA Quota system are the key factor to growth of the RMG industry in Bangladesh. In the field of Industrialization RMG sector is making significant contribution in export income and in the economical development of our country. At present, approximately 20 lakh workers (80% is female) are working in this sector which is a great source of employment. About 76% (nearly 10% of GDP) of our foreign exchange is also earned by this sector (EPB, 2011). The growth of knitwear is increasing at an unprecedented rate. The cumulative average growth is 27% and it is continuously grabbing more portion of export pie of Bangladesh. This sector is now the main source of foreign exchange earning of Bangladesh (BKMEA 2011).

Ready-made garments manufactured in Bangladesh are divided mainly into two broad categories: woven and knit products. The most garments are mainly located mainly in Dhaka (Savar, Mirpur, Rupgonj, Joydebpur, Gazipur, Kachpur, Ashulia, Nishchintapur, Zamgara), Chittagonh and Narayangonj. These sectors are totally labor intensive and depend on the strong base of garment workers. At the entry point, a worker gets $, 90 in Vietnam $101, in India $135 and in China $217 per month. Minimum wage of Bangladeshi garment workers (less than $25) is the lowest wages among the garment producing nations. They earn less than one dollar per day international poverty line income is $1.25. Along wage, they are also deprived from other benefits and facilities including bonus, insurance coverage, financial support for illness and good environment to work.[3] RMG sectors are totally labor intensive and flourishing on the strong foundation of our garment workers who are working hard from morning to evening, doing overtime to meet their two squares a meal. Most of the RMG workers are low educated and use to come from the poor families. Today garment workers across Asia, the majority of them are women; earn half of what they need to meet their families' basic needs, such as food, shelter and sending their children to school (Hearson, 2008). Livelihood of these workers is very measurable. Most of Garments workers are spend life in sub human condition. They are hiring a room with four to five huddles near the factory, cook their food and have their dinner or lunch in unhygienic floor or bed and sleep where they cook & take their food. Sometime they could not effort 3 times meal. Due to lack of income these people are daily taking low qualities of cereals rice, some vegetables, a little amount of pulses and small quantities of fish if and when available. Milk, milk products and meat are consumed only occasionally and in very small amounts. As a result, malnutrition is found as one the common scenario of the RMG workers and their children, and due to this situation, they are suffering from many health problems. Persistent poverty, inadequate nutrition intake and gender inequity cause pervasive malnutrition among these workers. As a result they are becoming less productive and consequently less able to contribute to the labor force. Myrdal (1968) found that in South Asia low labor productivity was the main cause of undernourishment and malnutrition. He further elaborated that dietary deficiencies reduced workers' ability to work, lowering labor input and efficiency in production. He pointed out the cyclical pattern whereby undernourishment lead to low productivity and low productivity generated low wages which in turn lead to

[2] "Contribution of the Ready-Made Garments (RMG) Sector to the Bangladesh Economy", 1 august, 2010, East West University, Bangladesh

[3] Problem of minimum wages and the prospects of RMG sector, Financial Express, Vol. 18, Dhaka, July 23, 2010

undernourishment. Low health condition and nutritional status of RMG workers causes low productivity which can pose an obstacle to development and growth in RMG sector. It is necessary to improve the health and nutritional status of RMG workers to compete globally. The future of this sector is highly optimistic. The improvement of RMG workers' health and nutritional status can play a significant role to occupy a unique position for Bangladesh in globally and increase the growth rate of GDP. In this objective of national and international requirement for this sector, this paper with an application of qualitative method is trying to explore the impact of low wage on the health and nutritional status of RMG workers

Review of Literature and Theoretical Framework

Literature Review

Several authors have analyzed aspects of the garment industry in Bangladesh. In this chapter, examination of some of the previous literature that has attempted to discuss about the RMG sector and identify the relationship between nutritional intake and health, reproduction, physical activity, productivity, work performance, social competence and impact of low wages will be discuss. In the study Salah Uddin Gazi (2008) stated about the competitive advantages (Unskilled labor) of RMG sectors of Bangladesh. This sector is lies in the availability of cheap labor as compared to western economics and developed economics like South Korea and Japan and Germany. Two factors had played significant roles in the growth of this industry: low wages and MFA Quota system. The experiences of the early exporting countries indicating that the increasing cost competition in the export markets lead entrepreneurs to search for newer source of cheap labor. During the 1990s, participation rate of women's labor force increased in Bangladesh than man. Because women are ready to do work for low wages and work for longer hours under exceedingly inhospitable conditions of work. Their 'oriental docility' normally does not let them join unions and agitate against the management (Standing, 1989; Barbezat, 1993; Lim, 1984).

Level of skill workers was the mention in the CPD-RMG Survey (2006). it was found that level of skill workers are unskilled category who are mostly helpers in various section of the factory, Semi-skilled workers who mainly work as junior operators, Skilled workers are senior operators and Professional and management level staff. In professional positions such as supervisors, floor managers, quality control managers, cutting master, male workers tend to be more preferred; only a few female workers were found to be working as line man and supervisor etc. Female workers thus only cross one to three steps in the job ladder, from helper to senior operator, in the course of their employment. Percentage of the skill female workers is much smaller than male workers. Poorer women have less access to education and skill endowment. However, women from this group are more likely to take up paid employment. This implies slow improvement of educational endowment of female labor force. The number and share of women in entrepreneurial status declined during the early 1990s. Female labor force experienced a significant extent of causation during 1996-2003 periods (Salah Uddin Gazi, 2008).

The present minimum wages paid by the garment factory to its workers is Tk. 2500 per month which is not sufficient amount to meet the current rate of inflation. Along wage, they are also

deprived from other benefits and facilities including bonus, insurance coverage, financial support for illness and good environment to work. At this situation, to resolve wage problem, BGMEA proposed Tk. 2000 per month as minimum wage for entry level worker against the proposal of Tk 6200 from the representative of garments workers to the Minimum Wage Board (MWB).

Paul-Majumder Pratima and Begum Anwara (2000) stated in their studied about the working environment of garment industries. Most of the garment factory buildings are overcrowded, congested and poorly ventilated. As a result garment workers are exposed to toxic substance and dust. Raw materials contain dust and fiber particles that hang in the air. Dye, a toxic substance emitted from colored cloth, spreads in the workroom. The workers, particularly the operators and sewing helpers, who are mostly women, continuously inhale these substances. Most factories do not have adequate ventilation and exhaust fans and few workers use masks. Garment workers suffer from the absence of a lunchroom, lack of pure drinking water, and lack of canteen facilities. Another problem is that most garment factories do not have adequate fire prevention measures. The survey of 1997 shows that in addition to other fire code violations, most of the garment factories do not have fire exits or fire alarms. According to the Bangladesh Fire Brigade, up to November 1997, 58 fire accidents took place in the garment industry; 118 workers were killed, of which 90 percent were female workers.

The CPD-GATE survey revealed that female workers are more engaged as operators, and fewer female workers receive on-the-job training compared with male workers. This gap was also found in an examination of workers' income, which revealed that male workers earn higher incomes. While participation in lower skilled activities due to less training is the apparent reason for women's disadvantageous situation regarding income, gender discrimination also plays a role. Female workers were less ambitious in terms of their expectations for remuneration. This reflects the outlook women posses in the existing socio-economic reality where women are discriminated. Even with limited incomes, workers try to save. The propensity to save is greater for women than men. Traditionally, women in Bangladesh are more concerned about the welfare of their families and thus have a propensity to save more than men. This practice has contributed to the success of micro-credit programs (such as the Grameen Bank) in Bangladesh, where women are the major borrowers. Poor health disproportionately affects RMG workers in Bangladesh because food-insecure. Many female workers suffer from various illnesses like chronic energy deficiency, occupational hazards after starting work in the garment industry. Poor health is resulted in a loss of working days or in reducing workers' productivity. Bliss and Stern (1978) discuss in some detail the nutritional literature that shows links between the requirement of nutrients and activity levels as well as between nutrient intakes and weight and production levels.

RMG workers are suffering from some type of illness due to their work in the factory. The number of sick female workers is higher than the number of male workers; Difference reflects women's overall health condition in Bangladesh, where women's intake of nutritious food is lower than men's intake, as women eat last in the family and only eat the leftovers. This social practice contributes to the frequency of health problems found among female workers. Skin problems, headaches, gastric ailments, and fatigue are common illnesses among workers. These diseases

occur due to dust, concentration on stitching for long periods, irregular food habits, and poor health conditions in general.

According to Sekhar, Rout & Chandra, Nayak (2007) health has a double function for an individual, On the one hand, perfect health represents a value of its own, a target that needs to be reached as closely as possible. On the other hand, there are other aims in life as well e.g. good health gives good income in labour market (Zweifel and Breyer, 1997). World Development Report, 1993 explained good health as a crucial part of well-being. It further asserted that spending on health can also be justified on purely economic grounds. Improved health contributes to economic growth in four ways: it reduces production losses caused by worker illness; it permits the use of natural resources that had been totally or nearly inaccessible because of disease; it increases the enrollment of children in schools and makes them better able to learn; and it makes alternative uses of resources that would otherwise have to be spent on treatment (World Bank, 1993). A further elaboration may make the understanding better. Nutritional deficiencies become firmly established by the age of 30 months (Larrea, Freire and Lutter, 2001).

Fogel (1991, 1992, 1994a, 1994b) highlights the role of nutrition and its important influence on health and longevity, and on the power of the human machine especially at young stage. Nutritional status when young has been shown to be reflected in adult height, weight and in the Body Mass Index. A large number of literatures on stature have shown it to be a good measure of welfare (Steckel, 1995) and a faithful reflection of nutrition when people are young (Schürch and Scrimshaw, 1987). Nutritional deficiencies become firmly established by the age of 30 months (Larrea, Freire and Lutter, 2001). These RMG workers are not able to generate sufficient income to obtain sufficient calories to be productive. This relationship, sometimes dubbed the efficiency wage hypothesis, has been the object of considered theoretical work since Leibenstein (1957). Strauss and Thomas' (1998) review of the empirical literature notes that efforts to test this relationship empirically have been dogged by a number of problems: unobservable heterogeneity, measurement error, and observability issues. They note, "It is not obvious how to interpret a result that additional calories are associated with higher productivity if higher productivity workers are stronger and consume more calories" (p. 806).

Dandekar and Rath's study found that for the energy requirement of 2,500 calories to be met the average per capita income would have to meet 334 Rupees (Rs.) in India, implying that the 40 percent of the rural population who were below this line, were undernourished [Secklar, 1980]. Sukhatme was extremely skeptical of this classification line, regardless of the relationship that existed between energy intake and the level of expenditure. He argued that this minimum requirement implied that anyone above this line was over nourished and anyone below it as undernourished. The method was not taking into consideration the inter-individual variation. Sukhatme pointed out the inaccurate assumptions were, namely, (a) the caloric requirement of an individual is known, (b) the requirement is constant for a person over the time span by age and sex group. The study stressed that energy usage of an individual varies day to day. A person's dietary habits are complicated and may be influenced by factors which are non-physiological.

Many author analyzed the impact of nutrition on labor productivity and estimated production functions or wage equations. The production function is augmented by considering calorie intake or anthropometric measures as a measurement of nutritional status, which reflects worker effort and effectiveness. Using cross-section data on hoe-cultivating farm households in Sierra Leone, J. Strauss finds that 'effective family labor,' which is a function of actual labor and per capita daily calorie intake, is a significant input in production. Using panel data from south India, A. B. Deolalikar tests for a link between the total value of output and 'effective labor,' where the latter is a function of actual labor, daily calorie intake, and weight-for-height of on-farm family farm workers. Rosenzweig's (1993, 1994) approach to moral hazard is monitoring the productivity of workers in regard to their nutritional and health status. Since the last 50 years, an inquiry on how health influences the labour market and economic outcomes has been done in the development research. With the advent of efficiency wage hypothesis and its nutrition-based variant (Leibenstein 1957), this question has been addressed in many dimensions as far as development economics is concerned. Malnutrition is responsible for a high percentage of high death rates and morbidity in less developed countries. Decreased energy intakes contribute to impairments of a number of human functions such as disease response, reproductive competence, work output and activity, cognitive and sensory capacities, and social and behavioral functions. In its less severe form, malnutrition causes problems to the general well being of individuals. Much literature indicates that the relationship between nutrition and physical functioning of human beings is complex and varied.

The potential relationship between labor productivity and nutrition has been of considerable interest to economists for several years. The Efficiency Wage Hypothesis literature (Liebenstien 1957) stresses the relationship between caloric intake and improved labor productivity at low levels of income. This hypothesis has important labor market implications, but has had little empirical testing. Sukhatme (1977) critically examined the methods used in estimating how poverty level income is linked with malnutrition. He defined malnutrition as inadequate energy intake and uses three separate terms, listed here in order of its impairment to the body, namely malnutrition, under-nutrition, and protein malnutrition. The later poses the smallest problem to the human body and including it as a cause of devastation to the body tends to overstate the problem. The author found the estimates of the incidence of poverty highly exaggerated in studies by Dandekar and Rath (1971).

Dandekar and Rath's approach consisted of three steps: (1) calculating energy intake by total expenditure, (2) calculating the level of total expenditure at which the energy needs are just met, (3) calculating the number of people under the poverty line. Various studies done by Liebenstein (1957), Stiglitz (1976), Bliss and Stern (1977) and Griffith (1978), postulated the existence of a relationship between food consumption and productivity. Myrdal (1968) stated that low productivity of labor was the main cause of undernourishment and malnutrition in South Asia. Myrdal further elaborated that dietary deficiencies reduced workers' ability to work lowering labor input and efficiency in production. He pointed out the cyclical pattern whereby undernourishment lead to low productivity and low productivity generated low wages which in turn lead to

undernourishment. Thus, nutritional deficiencies posed an obstacle to development and growth in agriculture. Leibenstein (1957) was the first author to show the connection between increased wages, units of work and productivity. This postulation gave rise to the Efficiency Wage Hypothesis Theory. According to Bliss and Stern (1978) the productivity-consumption link and its influence on labor wages has been subjected to thorough examination by many authors. Mirlees (1976) and Stiglitz (1976), have discussed the relationship of productivity-consumption influence on the optimum allocation of labor and shadow wage. The study of Bliss and Stern (1978) which incorporates much of Liebenstein, Mirlees and Stiglitz's work, investigates the productivity-consumption influence on the positive theory of wages. The productivity-consumption relationship and its implication for the wage theory was beyond the scope of this study. This paper's concern was the effect of food consumption on labor productivity and that aspect of the Efficiency Wage Hypothesis. Khatun, Fahmida, Rahman, Mustafizur, Bhattacharya, Debapriya, Moazzem, Khondokar Golam and Shahrin, Afifa. (2007) stated that when quotas restriction (exports to the EU and U.S) lifted in 2008 China will regain its lost ground and increase its market. To retain its market share, Bangladesh has to improve its production capacity by expanding the size of firms, upgrading production quality by using sophisticated machineries, diversifying products by introducing more high-value products, improving the skills and productivity of workers, reducing lead time by developing backward linkages to textile production, and facilitating domestic and foreign investment by establishing a central-bonded warehouse (CBW) facility for selected fabric categories.

Theoretical Framework

In understanding impact of wages on nutrition, health and labor productivity of RMG workers difference theories on relevant issues will discuss. Bliss and Stern discuss in some detail the nutritional literature that links between the requirement of nutrients and activity levels as well as between nutrient intakes and weight and production levels. They ask for additional indicators beyond the consideration of weight for height. The HBM is generally regarded as the beginning of systematic, theory-based research into health behavior and empirical support attributes the model a prominent status next to other individual-level theories applied in health research (Janz and Becker 1984; Mullen et al 1987; Harrison et al. 1992).[4]

The health belief model stipulates that a person's health-related behavior depends on the person's perception of four critical areas: the severity of a potential illness, the person's susceptibility to that illness, and the benefits of taking a preventive action, and the barriers to taking that action. The model also incorporates cues to action (e.g., leaving a written reminder to oneself to walk) as important elements in eliciting or maintaining patterns of behavior. The construct of self-efficacy, or a person's confidence in his or her ability to successfully perform an action, has been added to the model, perhaps allowing it to better account for habitual behaviors, such as a physically active lifestyle. 5 The Health Belief Model has been applied to a broad range of health behaviors and

[4] The Health Belief Model (HBM), The Theory of Reasoned Action (TRA), The Theory of Planned Behavior (TPB), The Trans-Theoretical Model (TTM) to study and predict health related behavior change, February 20007

[5] Jim Grizzell, MBA, MA, Certified Health Education Specialist, Fellow - American College Health Association, 856-3350 Cal Poly Pomona, jvgrizzell@csupomona.edu, 2007).

subject populations. Three broad areas can be identified (Conner & Norman, 1996): 1): Preventive health behaviors, which include health-promoting (e.g. diet, exercise) and health-risk (e.g. smoking) behaviors as well as vaccination and contraceptive practices. 2) Sick role behaviors, which refer to compliance with recommended medical regimens, usually following professional diagnosis of illness. 3) Clinic use, which includes physician visits for a variety of reasons.

The theory of HBM aims to explain the determinants of engaging in actions that can have health implications. The HBM is a health specific social cognition model (Ajzen 1998) and to use the Health Belief Model (HBM; Becker, 1974) as a parsimonious model for conceptualizing the current knowledge base, as well as predicting and suggesting future research and implementation strategies in the field. Applied in a systematic way the full set of model components described above (to which may on occasions be added a general health perception variable) would have the potential to provide a relatively comprehensive understanding of the influence of social, economic and environmental factors on health behaviors, in addition to that of cognitive factors contained in the psycho-social equation at the heart of the HBM. The HBM was spelled out in terms of four constructs representing the perceived threat and net benefits: perceived susceptibility, perceived severity, perceived benefits, and perceived barriers. These concepts were proposed as accounting for people's 'readiness to act.' An added concept, cues to action, would activate that readiness and stimulate overt behavior.

A recent addition to the HBM is the concept of self-efficacy, or one's confidence in the ability to successfully perform an action. This concept was added by Rosenstock and others in 1988 to help the HBM better fit the challenges of changing habitual unhealthy behaviors, such as being sedentary, smoking, or overeating.

Table from "Theory at a Glance: A Guide for Health Promotion Practice" (1997)

Concept	Definition	Application
Perceived Susceptibility	One's opinion of chances of getting a condition	Define population(s) at risk, risk levels; personalize risk based on a person's features or behavior; heighten perceived susceptibility if too low.
Perceived Severity	One's opinion of how serious a condition and its consequences are	Specify consequences of the risk and the condition
Perceived Benefits	One's belief in the efficacy of the advised action to reduce risk or seriousness of impact	Define action to take; how, where, when; clarify the positive effects to be expected.
Perceived Barriers	One's opinion of the tangible and psychological costs of the advised action	Identify and reduce barriers through reassurance, incentives, assistance.
Cues to Action	Strategies to activate 'readiness'	Provide how-to information, promote awareness, reminders.
Self-Efficacy	Confidence in one's ability to take action	Provide training, guidance in performing action.

There are two main assumptions underpinning the HBM: 1) the subjective valuation of a particular goal; and 2) the individual's estimate of the likelihood that a given action will achieve that goal. The goals can be defined in terms of the prevention of disease or improvements to one's health

status or wellbeing. According to the HBM (Figure 1) health behaviours (Box A) are dependent upon the perceived threat of disease (Box C). The latter is the outcome of perceived susceptibility to getting a disease and the severity of consequences of suffering the particular disease (Box B).

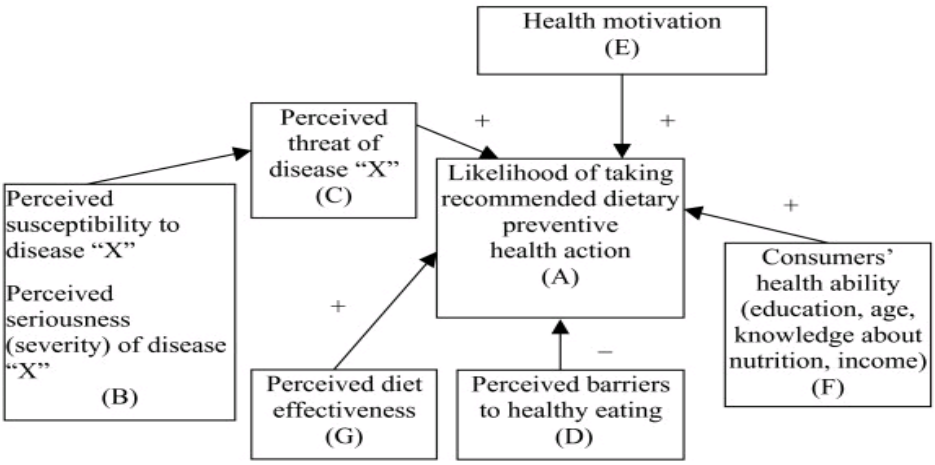


Figure 1: Articles from BMC Public Health are provided here courtesy of BioMed Central

Efficiency wage theory

To understand the better health and nutrition, as related to labor productivity or better production organization (since deciders in good health generally have better intellectual capacities) which can increase household income and economic growth the Efficiency Wage Hypothesis model is best suite. The efficiency wage model asserts that the productivity of workers in firms is positively correlated with the wages they receive. The model has different explanations as to why this is the case. These explanations in turn can be seen as sub-models to the efficiency wage model[6]:

- Shirking Model[7]: If workers receive a higher wage, the cost of losing their job become shigher, and this acts as an incentive for workers not to shirk and risk being fired.
- Gift-Exchange Model[8]: A higher wage is seen by workers as a gift from the firm, and workers will want to return this gift in the form of higher effort.
- Fair Wage-effort Model[9]: If workers were paid a wage below what they perceived as fair, they would not apply as much effort as when they got a "fair" wage.

[6]Campbell & Kamlani 1997:760
[7]Attributed to Shapiro and Stiglitz 1984
[8] Akerl of 1982, 1984
[9] Akerl of 1990; Campbell and Kamlani don't actually consider this to be part of the efficiency wage model, but I will include it, since it also correlates higher wages with efficiency and could logically be likened to the gift exchange model (i.e. instead of a higher wage being perceived as a gift, a lower wage would be seen as an unfairness, which in effect is explaining the same phenomenon from two different psychological viewpoints).

- Adverse Selection Model[10]: A wage which is above the labour-market equilibrium wage will draw more workers to the gates of the firm, thus allowing the firm to choose better workers from a bigger pool.
- Turnover Model[11]: If workers are paid a higher wage than they would get at other firms, they are less inclined to quit their jobs, thus decreasing the firm's turnover. The firm thus saves itself the costs of hiring and training new workers.

Leibenstien, (1957) stated that the efficiency wage model based on the fundamental assumption that at low levels of income there is a positive relationship between levels of food consumption and labor productivity. Poor health will result in a loss of days worked or in reduced worker capacity, which, when family and hired labor are not perfect substitutes or when there are liquidity constraints, is likely to reduce output.[12] The basic theory works as follows. Assume output is a concave function of labor input; the number of people and their 'effort' level. Next, suppose higher wages allow for a higher nutritional intake of workers, which stimulates effort. Then the optimal wage, from the perspective of the producer, will be the one which minimizes the wage bill in efficiency units of labor (i.e., the wage rate divided by the effort level). If one makes the appropriate assumptions about the nature of the effort function'', linking effort to wages, an interior solution exists. Figure 2 provides a geometric illustration; w* is thus the wage level which minimizes labor cost. Given the wage, thus determined, the level of employment is given by the first order condition from profit maximization: the marginal product of labor equals its factor price. Insofar as total employment, obtained by summing across firms, falls short of total labor supply, unemployment arises in equilibrium. Moreover, since the wage is optimal from the perspective of employers, unemployed laborers cannot undercut.

According to Bliss and Stern, (1978) explain the productivity-consumption relationship of the model. The length of a working day is given in terms of ordinary clock hours. A distinction is made between 'clock hours' and 'efficiency hours'. Efficiency hours measure the productivity of the workers' effort. This is to say, a more productive worker will generate a higher number of efficient hours of labor in a given number of clock hours. These efficiency labor hours depend on the workers' consumption level c of calories and this relationship between efficient labor hours and consumption will be denoted by h(c). Given the assumption that the length of the working day is fixed, the number of workers and clock hours are used interchangeably. All workers are given the same wage w, and they are hired to work the same number of clock hours. The workers spend all their wages for food consumption, and they have no other source of consumption. Therefore, the relation between efficient labor hours and consumption is expressed as h(w). If the number of clock hours worked is l, which is proportional to the number of workers hired, then the number of efficient hours produced is lh(w). The output, which is generated by these efficient hours, can be

[10] Weiss 1980, 1990
[11] Stiglitz 1974
[12] Andre Croppenstedt, The Impact of Farmers' Health and Nutritional Status on Their Productivity and Efficiency: Evidence from Ethiopia, ã 2000 by The University of Chicago. Food and Agriculture Organization and Christophe Muller Nottingham University.

denoted by y = f[lh(w)]. Figure 1 depicts the postulated productivity-consumption relation where the efficient hours a worker supplies is a function of the level of caloric intake. Wages are all spent on food for workers; Liebenstein (1957) translated the food consumption into energy intake. Thus, the productivity is expressed as a function of caloric intake or h(c), where c stands for consumption in calories. A certain level of daily consumption (Co) is required to cover.

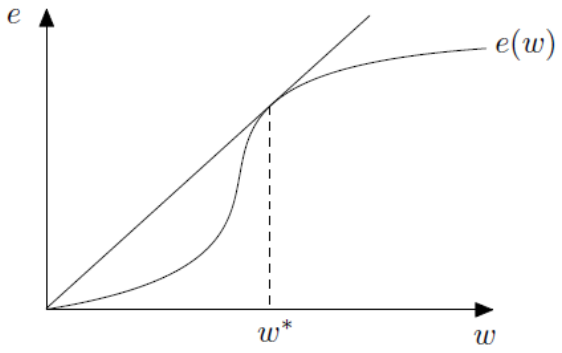


Figure 2: Determination of the Efficiency Wage

The implication of this wage theory, namely nutrition-based efficiency wage hypothesis, raises the importance of an improved health status for a less developed countries not only because of its concern in theory, but also because of the much needed empirical support in order to come out with proper policy implication towards sustainable growth and development. This study will use efficiency wage theory and the existence of community-based sharing to hypothesize that labor markets in developing countries have multiple equilibria – the same economy can be stuck at different levels of unemployment with different levels of wages. The model is meant for developing economies where wage-productivity links are discernible and income-sharing among the poor is prevalent. It seems reasonable to posit that in such an economy more unemployment leads to more income sharing. The main results are generated combining this claim with a theoretical demonstration of the fact that more sharing increases unemployment rates.

Minimum Wages of the Workers around the World

The IMF world economic database for the year of 2010 published the wages of workers of its member countries around the world. Here the country summary of indicator wise wage level has brought about as per high, medium and low income countries that compare the wages of the working class people around the world**.**

Table 1: Wages of the Workers in 'Very High human Development' Countries

Country	Minimum wage	Gross annual wage (Intl. dollars)[13] [14]	% of 2010 GDP per capita[1] [15]
1. Australia	570.00 Australian dollars per week; set federally by the Fair Work Australia[16]	29,640	52
2. United States	the federal minimum wage is US$7.25 per hour; states may also set a minimum, in which case the higher of the two is controlling[17]	15,080[18]	33
3. Netherlands	€1,398.60 per month, €322.75 per week and €64.55 per day for persons 23 and older; between 30-85% of this amount for persons aged 15–22[19]	19,335	48
4. Canada	set by each province and territory; ranges from C$8.00 to C$11.00 per hour	16,710[6]	44
5. Japan	Prefectural minimum wages range from ¥642 to ¥821 per hour for all workers. Industrial minimum wages applies for certain industries and usually set higher than the prefectural minimum.[20] If prefectural and industrial minimum wages differ, higher of two will apply.[21] Cost for commuting, extra pays (such as working on holidays, at night, overtime, etc.) and temporary pays (bonus, tips, etc.) must be paid exclusively and cannot be used to calculate towards minimum wage.	11,254[22]	35
6. Switzerland	300 Swazi emalangeni a month for a domestic worker; 420 emalangeni a month for an unskilled worker; 600 emalangeni a month for a skilled worker.[9]	848	15
7. France	€9.00 per hour; €1,365.00 per month for 151.67 hours worked (or 7 hours every weekday of the month)[23]	17,701[24]	53

[13] GDP (PPP) per capita and PPP conversion rate for all IMF member countries, from the IMF's World Economic Outlook Database, October 2010 Edition.

[14] Annual wages were calculated by multiplying monthly wages by 25, weekly wages by 62, daily wages by 6x52 and hourly wages by Wx52, where W is the legal maximum (or the practical, if lower) workweek length in hours. A purchasing power parity (PPP) conversion rate from 2009 —obtained from the International Monetary Fund (IMF)'s World Economic Outlook Database, October 2010 Edition— was used to convert the annual wage from national currency to international dollars.

[15] Percentages were calculated by dividing the annual wage in local currency by the country's 2009 gross domestic product per capita, obtained from the IMF's World Economic Outlook Database, October 2010 Edition.

[16] Sydney Morning Herald" 3 June 2010". Smh.com.au. 2010-06-03. http://www.smh.com.au/business/minimum-wage-lifted-to-570-a-week-20100603-x1by.html. Retrieved 2010-11-09.

[17] "U.S. Department of Labor Topic: Minimum Wage". http://www.dol.gov/dol/topic/wages/minimumwage.htm. Retrieved 2010-09-26.

[18] 40 hours a week

[19] "Minimum pay". *Department of Labour*. http://www.ers.dol.govt.nz/pay/minimum.html. Retrieved 2009-07-30.

[20] http://www2.mhlw.go.jp/topics/seido/kijunkyoku/minimum/minimum-19.htm

[21] 2008 Country Reports on Human Rights Practices, United States Department of State.

[22] Service public fédéral Emploi, Travail et Concertation sociale.

Table 2: Wages of the Workers in 'High human Development' Countries

Country	Minimum wage	Gross annual wage (Intl. dollars)[25] [26]	% of 2010 GDP per capita[1] [27]
1. Romania	670 Romanian lei per month for a full-time schedule of 170 hours per month for workers in the public sector and 700 Romanian lei per month for workers in the private sector; 110% of the minimum wage for skilled workers; 172% of the minimum wage for workers with post secondary studies[28]	4,170	31
2. Chile	172,000 Chilean pesos per month for workers aged 18–65; 128,402 pesos for workers younger than 18 and older than 65; and 110,950 pesos for 'non remunerative' purposes[29[; 92% of the 18–65 minimum wage for domestic servants.[30]	5,484	38
3. Argentina	1,740 Argentine pesos a month, nationally[31]	9,170	63
4. Malaysia	None, nationally; 350 Malaysian ringgit per month for plantation workers; raised to 700 ringgit by productivity incentives and bonuses.[32]	4,735	34
5. Colombia	515,000 Colombian pesos a month; established by the government every January, serving as a benchmark for wage bargaining[20, 33]	4,983	55
6. Jamaica	J$3,700 per week for all workers except private security guards, whose minimum was J$5,500 per week.[20]	4,219	48
7. Bulgeria	240 Bulgarian leva per month.[34]	3,908	33

[23] ^Salaire minimum interprofessionnel de croissance (SMIC), INSEE. And "Le Smic". Travail-solidarite.gouv.fr. http://www.travail-solidarite.gouv.fr/informations-pratiques,89/fiches-pratiques,91/remuneration,113/le-smic,1027.html. Retrieved 2011-02-27.

[24] 35 hours a week

[25] GDP (PPP) per capita and PPP conversion rate for all IMF member countries, from the IMF's World Economic Outlook Database, October 2010 Edition.

[26] Annual wages were calculated by multiplying monthly wages by 25, weekly wages by 62, daily wages by 6x52 and hourly wages by Wx52, where W is the legal maximum (or the practical, if lower) workweek length in hours. A purchasing power parity (PPP) conversion rate from 2009 —obtained from the International Monetary Fund (IMF)'s World Economic Outlook Database, October 2010 Edition— was used to convert the annual wage from national currency to international dollars.

[27] Percentages were calculated by dividing the annual wage in local currency by the country's 2009 gross domestic product per capita, obtained from the IMF's World Economic Outlook Database, October 2010 Edition.

[28] "Salariu_minim_pe_economie". http://ro.wikipedia.org/wiki/Salariu_minim_pe_economie. Retrieved 2011-01-18.

[29] "Chilean Law 20,449". Leychile.cl. http://www.leychile.cl/Navegar?idNorma=1014975&idParte=&idVersion=2010-07-03. Retrieved 2010-11-09.

[30] "Chilean Labor Code". Bcn.cl. http://www.bcn.cl/leyes/pdf/actualizado/207436.pdf. Retrieved 2010-11-09.

[31] "SALARIOS Y UNA CANASTA DE ALIMENTOS EN ARGENTINA, BRASIL, CHILE Y URUGUAY". http://www.pagina12.com.ar/diario/suplementos/cash/17-4846-2010-12-19.html. Retrieved 2011-01-18.

[32] 2008 Country Reports on Human Rights Practices, United States Department of State.

[33] $515.000 Salario mínimo legal para 2010, Revista Dinero, December 31, 2009.

[34] Elena Koinova (2008-05-22). ""Sofia Echo" Thu 22 may 2008". Sofiaecho.com. http://www.sofiaecho.com/article/cabinet-outlines-macroeconomic-framework-for-2009-budget/id_29498/catid_66. Retrieved 2010-11-09.

Table 3: Wages of the Workers in 'Medium Human Development' Countries

Country	Minimum wage	Gross annual wage (Intl. dollars)[35] [36]	% of 2010 GDP per capita[1] [37]
1. Sri Lanka	6,750 rupees per month in 43 trades[26]	1,619	34
1. Uzbekistan	25,040 Uzbekistani som per month.[38]	490	17
2. Thailand	ranges from 148 Thai baht to 203 baht per day, depending on the cost of living in various provinces; set by provincial tripartite wage committees that sometimes include only employer representatives.[26]	2,293	28
3. Philippines	ranges from P178 a day for agricultural workers in the MIMAROPA Region to P404 a day for nonagricultural workers in the National Capital Region[39]; set by tripartite regional wage boards. [26]	2,053	58
4. Pakistan	6,000 Pakistani rupees per month, applying only to industrial and commercial establishments employing 50 or more workers.[26]	2,484	93
5. Indonesia	established by provincial and district authorities, which vary by province, district, and sector; as high as 1,100,000 rupiah per month in Papua; as low as 500,000 rupiah per month in East Java[26]	1,027	25
6. South Africa	R1,041 a month for farm workers in urban areas and R989 a month in rural areas; for domestic workers employed more than 27 hours per week it ranges from R1,067 a month to R1,167 a month[26]	2,471	24

[35] GDP (PPP) per capita and PPP conversion rate for all IMF member countries, from the IMF's World Economic Outlook Database, October 2010 Edition.

[36] Annual wages were calculated by multiplying monthly wages by 25, weekly wages by 62, daily wages by 6x52 and hourly wages by Wx52, where W is the legal maximum (or the practical, if lower) workweek length in hours. A purchasing power parity (PPP) conversion rate from 2009 —obtained from the International Monetary Fund (IMF)'s World Economic Outlook Database, October 2010 Edition— was used to convert the annual wage from national currency to international dollars.

[37] Percentages were calculated by dividing the annual wage in local currency by the country's 2009 gross domestic product per capita, obtained from the IMF's World Economic Outlook Database, October 2010 Edition.

[38] 2008 Country Reports on Human Rights Practices, United States Department of State.

[39] http://www.nwpc.dole.gov.ph/pages/statistics/stat_current_regional.html

Table 4: Wages of the Workers in 'Low Human Development' Countries

Country	Minimum wage	Gross annual wage (Intl. dollars)[40] [41]	% of 2010 GDP per capita[1] [42]
1. Kenya	set by the government by location, age and skill level; the lowest urban minimum wage was 7,578 shillings per month, and the lowest agricultural minimum wage for unskilled employees was 2,536 shillings per month, excluding housing allowance.[43]	830	48
2. Cameroon	28,246 CFA francs per month; applicable in all sectors[31]	1,382	64
3. Nepal	4,600 Nepalese rupees a month for unskilled labor (3,050 rupees as a basic salary, and 1,550 rupees as an allowance); 4,650 NRS for semi-skilled labor; 4,760 NRS for skilled labor; 4,950 NRS for highly skilled labor[31]	1,889	155
4. Zambia	268,000 Zambian kwacha per month in the formal sector; for nonunionized workers, whose wages and conditions of employment are not regulated through collective bargaining, is determined by category of employment[31]	917	60
5. Afghanistan	4,000 Afghani per month for government workers; 2,000 Afghani for private sector workers[31]	907	97
6. Sudan	124 Sudanese pounds per month[31]	1,100	46
7. Malawi	MK142 per day for urban workers; MK 105 per day in all other areas[31]	494	57
8. Bangladesh	2500 taka a month; set nationally every five years by the National Minimum Wage Board in a tripartite forum industry by industry	430[44]	54

[40] GDP (PPP) per capita and PPP conversion rate for all IMF member countries, from the IMF's World Economic Outlook Database, October 2010 Edition.
[41] Annual wages were calculated by multiplying monthly wages by 25, weekly wages by 62, daily wages by 6x52 and hourly wages by Wx52, where W is the legal maximum (or the practical, if lower) workweek length in hours. A purchasing power parity (PPP) conversion rate from 2009 —obtained from the International Monetary Fund (IMF)'s World Economic Outlook Database, October 2010 Edition— was used to convert the annual wage from national currency to international dollars.
[42] Percentages were calculated by dividing the annual wage in local currency by the country's 2009 gross domestic product per capita, obtained from the IMF's World Economic Outlook Database, October 2010 Edition.
[43] 2008 Country Reports on Human Rights Practices, United States Department of State.
[44] This annual wage is calculated as per the newly introduced wage for the workers of industrial sector by the government in June 2010 and was activated from November 2010.

Universal Views on the Health and Nutrition Status of the Workers

South Asia is the poorest region of the world next to sub-Saharan Africa in terms of all measurable development indicators. The region is home to approximately 23% of the world population, yet, in 2005, over one-third of the world's South Asia comprises seven countries including Bangladesh, Bhutan, India, Nepal, the Maldives, Pakistan and Sri Lanka. Over one-third of the world's poor and undernourished persons lived in this region, (estimated based on the internationally comparable poverty line of 'one dollar a day in 1985 purchasing power' and a calorie consumption line of 2100 kcal/person/day).[45]

Health and nutrition is one of the important components of human resource development. Measures of food deprivation, nutrition and poverty are strongly correlated. Health is an essential component of individual and societal livelihood. Body weight is used as an indicator of an individual's health. It is a number that correlates a person's height and weight and useful tool for diagnosing obesity or malnutrition; however, such diagnosis should take into account a person's age, gender, fitness, and ethnicity. Health is defined as A state of complete physical, mental and social well-being and not merely the absence of disease or infirmity." The Health Policy has: 1goals and objectives, 2. 0 policy principles and 3. 2 strategies [National Health Policy (NHP)]

Nutrition is another important indicator of health and socio-economic status of any society; and many factors reflect nutritional status across the lifecycle. Poverty regarded as a major cause of low level of nutrition. Nutritional status is usually associated with qualitative and quantitative food intake which, in turn, is taken to be dependent on household income. According to recent estimates, among the fifty five million under age-five children living in the low and middle income countries of East Asia, 35.3% are stunted, 3.6% are severely wasted and 20.7% are underweight (Black et al., 2008). Higher food prices lead to lower caloric intake and an increase in undernourishment. Bliss and Stern (1978b) discuss in some detail the nutritional literature that links between the requirement of nutrients and activity levels as well as between nutrient intakes and weight and production levels. They ask for additional indicators beyond the consideration of weight for height. The HBM is generally regarded as the beginning of systematic, theory-based research into health behavior and empirical support attributes the model a prominent status next to other individual-level theories applied in health research (Janz and Becker 1984; Mullen et al 1987; Harrison et al. 1992)[46].

The role of nutrition has been highlighted in Nobel prize winning studies by Fogel (1991, 1992, 1994[a], 1994[b]), who finds that nutrition, especially at young ages, has an important influence on health and longevity, and on the power of the human machine. Nutritional status when young has been shown to be reflected in adult height, weight and in the Body Mass Index. A large literature on stature has shown it to be a good measure of welfare (Steckel, 1995) and a faithful reflection of nutrition when young (Schürch and Scrimshaw, 1987). Nutritional deficiencies become firmly established by the age of 30 months (Larrea, Freire and Lutter, 2001). Poor Health

[45] FAO SOFI. The State of Food Insecurity in the World (adjusted): Eradicating world hunger – taking stock ten years after the World Food Summit. Food and AgricultureOrganization of the United Nations, Rome, 2007.

[46] The Health Belief Model (HBM), The Theory of Reasoned Action (TRA), The Theory of Planned Behavior (TPB), and The Trans Theoretical Model (TTM) to study and predict health related behavior change, February 2007

and Nutrition affects labour productivity and economic growth. Malnutrition is responsible for a high percentage of high death rates and morbidity in less developed countries (Workshop on Nutrient Intake and Reproductive Competence, 1978). Extensive studies have also shown weight-for-height (a body mass index), height at given ages, or weight at given ages are constructive predictors of morbidity and mortality. (Fogel, 1994). Thomas and Strauss (1996) estimate, in a large sample of urban Brazil, the impact on wages of height, body mass index, calorie and protein intakes, treating all but height as endogenous and identified by relative food prices. Schultz (1994), moreover, finds that even the erogeneity of height in the wage function can be rejected, identified by relative food prices and health infrastructure.[47]

The study 'Health, Nutrition and Human Resource Development: A Crucial Link' has set a linkage among health, nutrition, human resource development as well as economic development. In fact, the relationship between these factors is not linear, rather they seem to cyclical without any particular starting point (figure 2 below).

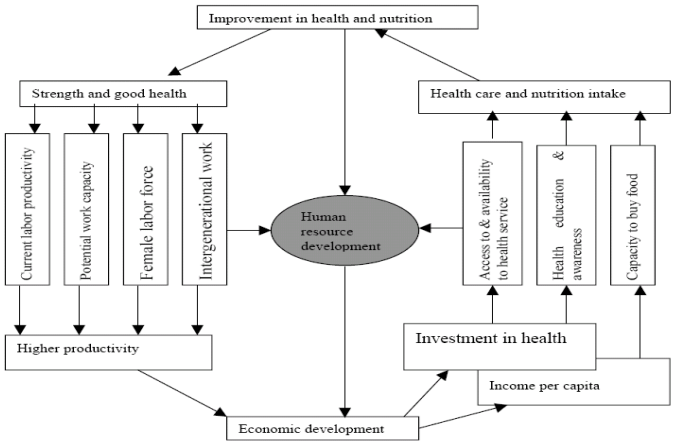


Figure 2: Linkage between health-nutrition and human resource development

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[48]

[47] Thomas, D., Strauss, J., 1996. Health and Wages: Evidence on Men and Women in Urban Brazil Journal of Econometrics, forthcoming.

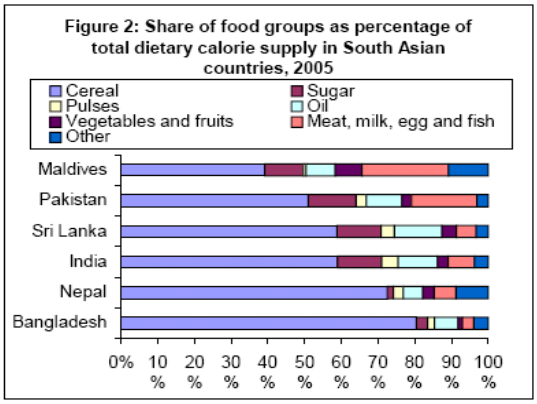
[48] Akhter, Sanzida Md. Wohab Abdul, (2006) Health, Nutrition and Human Resource Development: A Crucial Link, *BRAC University Journal*, Vol. III, No. 2, 2006, pp. 125-132

In a research report, conducted by BNC leader ZM Kamrul Anam, it was stated that Ideally an adult worker should consume 2122 calorie per day but workers intake of calorie per day is 1400, said the report. It said that workers are given $100 in China, $60 in Vietnam, $30 in Ethiopia, $82 in Pakistan, $67 in Sri Lanka, $65 in India and $80 in Indonesia. The research was conducted on 652 workers. Food balance sheets present a comprehensive picture of the pattern of a country's food supply during a specified reference period. Every year, the Food and Agriculture Organization of the United Nations (FAO) prepares Food Balance Sheets of countries of the world from where data on food production, import (commercial, food aid), export, feed and seed and other net uses (industrial and other) are available.

Information on per capita energy availability calculated by FAO provides a picture of the patterns of food consumption and food security in some of the countries of Asia is as follows:

Total Dietary energy supply in South Asian Countries[49]	
Countries	Kcal/capital/day
Bangladesh	2200
Pakistan	2320
Sri Lanka	2390
Nepal	2430
India	2470
Maldives	2600
South Asia	2424

Using 2002-2004 data, Table 1 gives the dietary energy supply in countries in South Asia. Maldives had the highest national per capita dietary energy supply (2600 kcal/day), while Bangladesh had the lowest (2200 kcal/day).



[49] FAO RAP selected indicators of food and agricultural development in the Asia –Pacific Region 1996 -2006, FAO RAP, Bangkok, 2007.

The share of food groups as percentages of the total dietary calorie supply is an indicator of dietary diversification in South Asian countries, and is shown in Figure 2. The figure shows that Bangladesh has the highest dietary energy supply from cereals (DES Cer %, an indicator of poverty), amounting to 80%, followed by Nepal, 72%. The lowest DES Cer % is in Maldives (39%). A high intake of sugar, which is a characteristic feature of the changing dietary trends in Asia, is noted to be approximately 12% in India, Sri Lanka, Pakistan and the Maldives, compared to only 3% in Bangladesh and less than 2% in Nepal. Sri Lanka has the highest consumption of edible oils (12.9% of total energy, mostly as coconut oil), followed by India (10.8%, all types) and Pakistan (9.7%, mostly palm oil). The Maldives and Pakistan consume the highest percentages of foods of animal origin (23.6% and 17.7% of the total energy, respectively) in the region, as compared to the minimal contribution made by foods of animal origin to diets in Bangladesh (3.1%). Diets in the Maldives have relatively higher percentages of fruits and vegetables (7.3% of the total calories), as compared to only 2.6% in Pakistan and less than 2% in Bangladesh. This reflects the poor diversification of the diets in Bangladesh and Nepal. The diets in other countries are relatively more diversified.[50]

History of the Wages for RMG workers in Bangladesh

Trade union formed in 1950s by labors in the Western World to provide workers greater rights with higher pay. And its causes the higher production cost. In 1974, Multi Fibre Agreement (MFA) was made to control the level of imported RMG products from developing countries into developed countries which imposed an export rate 6 percent increase every year from a developing country to a developed country. It also allowed developed countries to impose quotas on countries that exported at a higher rate than the bilateral agreements. As a result retailers started searching for places or countries where the cost of production was cheaper, which was outside the umbrella of quotas and had cheap labor. This is when Bangladesh started receiving investment in the RMG sector[51]. Low wages and MFA Quota system have played important roles to stated RMG industry in Bangladesh in the late 1970s.

Until the 1930s, employers were determined the wages and workers had to accept whatever compensation was offered or simply remain unemployed. Minimum wage is the lowest hourly wage allowed by federal and state labor laws. The federal minimum wage is established by and regulated under the Fair Labor Standards Act of 1938 (the FLSA). In its final form, the act applied to industries whose combined employment represented only about one-fifth of the US labor force. In these industries, it banned oppressive child labor and set the minimum hourly wage at 25 cents, and the maximum work week at 44 hours. Nominal values range from $0.25/hr in 1938 to the current $7.25/hr. Calculated in real 2010 dollars, the 1968 minimum wage was the highest at $10.04. The real dollar minimum wage falls during periods Congress does not raise the minimum wage to keep up with inflation. The minimum wage increased in three $0.70 increments--to $5.85 in July, 2007, $6.55 in July, 2008, and to $7.25 in July 2009.[52]

[50] Tontisirin K, Bhattacharjee L, Yusuf3 H K.M. and Nandi B K., Indicators for Nutrition Improvement Programmes at National and Community Levels: Lesson from South Asia
[51] Naila Kabeer and Simeen Mahmud. “Rags, Riches and Women Workers: Export – oriented Garment Manufacturing in Bangladesh.”
[52] Robert Longley, The Federal Minimum Wage, About.com Guide

In ILO Convention 131, it was mentioned that the right to minimum wages must be ensured by law and it cannot be left to anybody's discretion. Actions have to be taken against those who fail to implement the law[53].

In the year 1984 the RMG sector started flourishing in Bangladesh due to political unrest in Sri Lanka. During that time, there was no wage scale for the workers of this sector and no specific rules and regulations regarding the RMG sector were framed.[54] There were also no uniform minimum wages for workers across all sectors. Payment of Wages Act, 1936 regulated the payment and protection of wages and other related matters. This Act had a wide coverage. Workers employed in factories, shops, industrial and commercial establishments like road transport services, railways, dock, jetty, inland steam vessel, mine, oil field, plantation or any other workshop have been brought within the purview of this legislation. Under the Bangladesh Labour Act 2006, the minimum rate of wages fixed by the Government is final and cannot be questioned by any person in any manner in any court or authority. The rates declared by the Government on the recommendations of the Board are minimum rates of wages and no employer can pay wages lower than those notified by the Government. According to S.2(45) of the Act, 'wages' refer all remuneration capable of being expressed in terms of money. It is payable to a worker if the terms of the contract of employment are fulfilled.[55]

The legal minimum earnings of 930 Takas per month (US$16) was fixed in 1994. It has not been revised since, in spite of a rising trend in inflation (ADB, 2006, pp. 147-148). As for Sri Lanka, a recent report on apparel industry workers estimated that the total costs to cover the basic needs of the worker, excluding saving and remittance, are 7,000 and 8,800 Sri Lankan Rupees (LKRs) (US$70-85) for outside-free trade zone (FTZ) workers and FTZ workers respectively (Prasanna and Gowthaman, 2006). The minimum wage of US$36, however, does not allow meeting workers' basic needs; in fact, 86 per cent of workers surveyed receive a basic salary of less than LKR 6,000 per month (ibid.). In Cambodia, in spite of a rise in RMG exports, workers' earnings decreased by 8.5 per cent in 2005 compared to 2004 (CDRI, 2006 cited in Chan and Sok, 2006, p. 30).

In the study by A Chan and Sok (2006), it was found that 30 per cent of surveyed workers real wage has decreased in the post-ATC years as opposed to 19 per cent who perceived that their salary is increasing. The report also found that about 60 per cent perceived that their health condition has worsened as compared to 2004 (i.e., prior to the quota expiry) and argues that longer working hours to meet an increase in orders in the post-ATC environment and less expenses on food in order to save money for other purposes such as remittances and savings might have affected workers' health conditions. Employment has become increasingly casual over time, with increasing prevalence of short-term contracts and piece-rate work. Cambodia has adopted the industry-wide compliance monitoring system but the latest report shows that less than a quarter of the factories monitored comply with the overtime within the legal limit (ILO, 2006).

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[53] International Labour Office, "Lists of Ratifications by Convention and by Country", Geneva, 2002 Abul Quasem Haider,
[54] Abul Quasem Haider, Labor unrest in the RMG sector--reasons and remedies, Financial Express, Vol. 18 No -128 REGD N0. DA 1589 | Dhaka, Thursday October 7 2010
[55] Dr Abdullah Al Faruque, Current Status and Evolution of Industrial Relations System in Bangladesh, Copyright © International Labour Organization 2009

In the case of Bangladesh, the extra hour works or overtime for RMG workers has decreased in the post-ATC environment, because of buyer pressure to meet the legal limit of 60 hours per week, but this affected workers' well-being negatively because of reduced income and loss of nutritional supplements that are provided as snacks for overtime workers. The factories meet the increased orders by subcontracting some parts of the orders (Ahmed, Rahman and Sobhan 2005).

In May 2006 Government, BGMEA and RMG sector workers signed a tripartite agreement and set up a Minimum Wages Board. After prolonged deliberation a 7-grade minimum wage structure was declared for RMG sector workers in which minimum wage or wages at the lowest grade (grade-7) was determined as 1,662.50 taka per month. The declaration was made on November 19, 2006 to be put into effect from October 22, 2006.[56] Allowance for all apprentices or trainee workers were fixed at 1,200 taka per month. Apprenticeship was to be for a period of three months following which they would join as assistant sewing machine operator (helper) at grade-7.

According to a survey conducted by the Centre for Policy Dialogue (CPD) stated that wage disparity between male and female workers in the readymade garments (RMG) sector has increased during the recent years as salary growth of male labourers is comparatively high. The study revealed a 14.1 percent rise in RMG male workers' income against 11.1 percent rise in that of their female colleagues during 2004-05. During 1991-95, the average salary for a female worker was Tk 1298 compared with Tk 1360 for a male worker, which shows female worker earned 95.4 percent of a male worker's income. share of female income in male income has steadily decreased during 1996-2005. In 2005, a female worker earned 75.9 percent of a male worker's income, revealed the survey conducted during April-May of 2006. About 51 percent of workers do not enjoy weekly holiday due to additional work and overtime. Male workers took fewer weekly holidays compared to their female colleagues, the survey found. Though 87.3 percent of the female workers received maternity leave contractually, only 43 percent were granted paid maternity leave. [57] On the initiative of Bangladesh Institute of Labour Studies (BILS), representatives of all trade unions and federations met in the capital in April 2006 and prepared a ten-point charter of demands. Demand for monthly minimum wages worth taka 3,000 was one of them. The present government has revised the existing wage structure and declared a new revised wage about 80% structure with the Labour Minister concerned. It raised minimum monthly wages for its millions of garment workers by after months of violent protests over poor pay and conditions. The official minimum wage has been set at 3,000 takas (£28) a month, up from 1662 takas, in the first raise since 2006. The new pay structure starts in November and has seven grades, with the highest pay fixed at 9,300 takas. Workers and labour rights groups have pressed for a monthly wage of 5,000 takas. Bangladesh's garment exports mainly to the US and Europe earn nearly 80% of the country's export income.[58] However, in the latest development, the minimum wage for workers in RMG sector has risen to TK 5300 per month that is implemented since December 2013.

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[56] Gazette notification ref:-S.R.O. no 301-Ain/2006/SROKOM/Sha-6/Ni.Mo.Board-1/2006. Also see, News flier of Bangladesh Institute of Labour Studies, *web: www.bils-bd.org* Earlier wages board for RMG sector workers was formed in 1994 which recommended minimum wages for workers as taka 930 per month.

[57] Muntazir Zaidi, Male-female wage disparity rising in RMG sector, August 7, 2007, http://www.tg-supply.com/article/view.html?id=16308.

[58] Associated Press in Dhaka, guardian.co.uk, Thursday 29 July 2010 22.57 BST

The term real wages refers to wages that have been adjusted for inflation. A theoretical wage level is a quality wage that allows the earner to afford adequate shelter, food and the other necessities of life. The living wage should be substantial enough to ensure that no more than 30% of it needs to be spent on housing. The goal of the living wage is to allow employees to earn enough income for a satisfactory standard of living. Minimum wage is the lowest wage rate an employer can pay an employee. A minimum wage is the lowest hourly, daily or monthly remuneration that employers may legally pay to workers. Most employees are eligible for minimum wage, whether they are full-time, part-time, casual employees, or are paid an hourly rate, commission, piece rate, flat rate or salary. Equivalently, it is the lowest wage at which workers may sell their labour. Although minimum wage laws are in effect in a great many jurisdictions, there are differences of opinion about the benefits and drawbacks of a minimum wage. Supporters of the minimum wage say that it increases the standard of living of workers and reduces poverty[59]

Present Situation of Health and Nutritional status of the work forces in Bangladesh

The economy of Bangladesh mainly depended Agriculture and then Industry. Jute industry was the one of the export earning sector of Bangladesh but due to flood, declines jute fibre prices and a significant decrease of world demand, the contribution to the jute sector in country economy has decline. RMG sector emerge science early 1980s and playing an important role the courtiers economy. The phasing out of Multi-fibre Arrangement (MFA) abolition of GSP had serious challenge for Bangladesh. This sector now successfully exporting in the world market and compete with Hong Kong, South Korea, Thailand, India, Pakistan and Srilanka. Cheap labour and extreme exploitation is the main source of high profit in Garment sector. And they are receiving lowest wages in comparison to most of the other workers employed in Bangladesh and other countries. As a result these garment workers have to live in inhuman conditions. They are also depriving from trade union rights. Their working places are also unsafe and unhygienic which causes accident, fire and stampede. Each year many garment workers loss their life due to non-compliance of workplace safety regulation.

Ready-made garment (RMG) workers are subjected to a variety of physical, chemical and biological hazards due to use of natural and synthetic materials in the factories. Wage discrimination, long working hours, unhygienic environment, lack of water and sanitation facilities and inadequate rest and sleeping time are causing malnutrition and many other health problems to garment workers.[60] Healthier people can transform their energy into productivity, both mental and physical, more efficiently than ill health and undernourished people can do. Increased income and reduced poverty make people afford better diets, improved health care, and healthier living conditions. Female workers employed in the export-oriented garment industry contribute about 46 percent of their family income. Survey of 1997 shows that about 23 percent of the unmarried garment workers are the main earners of their family. Without female workers' earning, 80 percent of their families would slide below the poverty level (Paul-Majumder and Zohir 1995). Males are promoted more often than females, and men's earnings increase at a much

[59] Kai Filion, Minimum Wage Issue Guide, July 21, 2009
[60] RMG workers suffer health hazards for use of synthetic materials in factories, The Daily Star, Saturday, March 19, 2011

higher rate than women—even after controlling for age, education, experience, and skill level (Zohir and Paul-Majumder, 1996).

In the study 'Gender and Trade Liberalization in Bangladesh: The Case of the Ready Made Garments' it was stated that About 17 percent of workers reported having suffered from some type of illness due to their work in the factory. The number of sick female workers (21.8 per cent) was found to be higher than the number of male workers (9.4 per cent); this difference reflects women's overall health condition in Bangladesh, where women's intake of nutritious food is lower than men's intake, as women eat last in the family and only eat the leftovers. This social practice contributes to the frequency of health problems found among female workers. Skin problems, headaches, gastric ailments, and fatigue are common illnesses among workers. These diseases occur due to dust, concentration on stitching for long periods, irregular food habits, and poor health conditions in general. All male workers receive treatment for their illnesses, while only 41.7 per cent of female workers reported receiving treatment; this is not only due to women's ignorance about health but also due to social attitudes regarding the importance of women's good health. This data also reflects that women are more tolerant and less demanding. In most cases the management has provided the costs of treatment for all these health sufferings. The nutritional status of garment workers was found to be low. On average, workers were able to afford fish or meat for about three days per week. About 65 per cent of workers believed that their income was not enough to guarantee a decent living. Food safety is an essential public health function for Bangladesh. Food and water-borne diarrhoeal diseases are leading causes of illness and death and cause great human suffering and economic losses in the RMG sectors. There is a need to implement a programme (P12) on improving food safety and quality for consumer health and nutrition to develop a comprehensive policy, strengthen capacities of the existing institutions, strengthen consumer protection and build on on-going insufficient food safety activities.[61]

Conclusion

RMG sector is one of the imperative sectors of Bangladesh which constitute about 75% of annual export and provide employment generation, involving women in the formal sector, increased substantial export earnings, women empowerment, reduced child marriage & infant mortality etc. Now a day this sector is a multi-billion-dollar manufacturing and export industry in the country. The overall impact of the readymade garment exports is playing a significant role in social and economic developments (nearly 10 percent of GDP) of Bangladesh. The tremendous success of this sector has increases our anticipation. And this sector is prominent sector to play a positive role to contribute in the field of our export income and in the economical development of our country. These sectors are totally labor intensive and approximately 20 lakh workers employed in semi-skilled and skilled jobs producing clothing for exports, the development of the export industry has had far-reaching implications for the society and economy of Bangladesh. RMG workers are backbone of the RMG sector but still their contribution did not valued. Most of the workers come from hard core poor families and most of them were motivated to search for work as new entrants in response to a push or crisis. And most of the female workers with past work experience were

[61] BANGLADESH Country Investment Plan, A Road Map towards investment in agriculture, food security and nutrition, Approved version (14 June 2010) following the Bangladesh Food Security Investment Forum 26 – 27 May 2010

engaged either in domestic service or in self employment in tailoring/sewing. Their education level is too poor to increase their skill for further development in labor market In RMG sector workers are working hard but could not meet their basic demand. Due to that they have keen to get employment in factories where there are opportunities for working more overtime. They are not taking sufficient food to meet their calorie which rebuilds their energy. As a result poor health condition of RMG workers are reducing not only their productivity as well as for RMG sector also. This study will focus on the health and nutritional status of the RMG workers in terms of wages. This study finding will play a vital role to learn about the health and nutritional status of RMG workers. This study will bring out the present health and nutritional situation, problems and the prospects of these industries.

RMG sector of Bangladesh has been the key export division and a main source of foreign exchange earnings. This sector is providing employment to 40 percent of industrial workers. This sector has much prosperity to meet the challenges of Bangladesh to achieving accelerated economic growth and alleviating the massive poverty. This sector is flourished on the strong foundation of RMG workers who are little educated and coming from ultra poor families. Their economic condition couldn't meet their basic demand. As a result they are suffering from various health problems. Malnutrition is one of the common scenarios of the RMG workers. Health and nutritional problem of the RMG workers reducing labor productivity. The productive efficiency of labor is more important determinant for gaining comparative advantage. Compares to other development countries like Sri Lanka, South Korea, Hong Kong etc labor productivity of Bangladesh is lower than those countries. RMG sector needs to improve its labor force productivity to compete globally. Workers' livelihoods are measurable due to lower level of wages since their wages are found to be only 43 per cent of their productivity level. Need to develop workers' living places by way of providing various services. Provide health, nutrition, medical and child care support for livelihood improvement of RMG workers. Our Garments Industries can improve their position in the world map by reducing the overall problems.

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