Productivity Movement in Bangladesh: Strategy for 2021

"Common" Issues, Retold by an Economist

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1. What is Productivity?

Productivity is a multi-faceted concept; no single definition can holistically describe it. However, in the simplest form, productivity signifies the ratio between the input and output[1]. Productivity is defined in number of ways, from different perspective. According to Investopedia, Productivity measures may be examined collectively (across the whole economy) or viewed industry by industry to examine trends in labor growth, wage levels and technological improvement[2].

Economists define productivity in number of ways- some of which are theoretical, and some are defined for operational purpose. In the most popular basic book of economics by Samuleson and Nordhaus (1998), productivity refers to the ratio of output to inputs (total output divided by labor inputs is labor productivity). Productivity increases if the same quantity of inputs produces more output. Labor productivity increases because of improved technology, improvement in labor skills, or capital deepening[3]. According to Rastogi (1988), productivity denotes the efficiency with which output is produced by the resources utilized. It is usually measured as a ratio relating output (goods, commodities, products, services, etc.) to one or more of the inputs (labor, capital, materials, fuel, energy, etc.) associated with that output[4]. Wikipedia defines it as- productivity is a measure of output from a production process, per unit of input[5].

2. Why Productivity is Important: Theoretical Perspective

An essential element of any successful strategy for raising the level of well-being is a sustained increase in productivity. Increase in productivity remains as the key element in achieving sustained growth in income per capita[6].

Productivity signifies a continual striving towards the economically most efficient mode of production of goods, commodities, and services needed by a society. Thus, it is indeed, one of the most crucial perquisites for increasing living standard of people in a nation. The higher per capita incomes of developed countries reflect higher levels of productivity. It is estimated that up-to one-third or more of the annual growth in the Gross Domestic Product (GDP) of industrial nations stems from their productivity gains as distinct from growth through additional

[1] It is to note that in many instances, the term production is confused with the term productivity- which are not synonymous at all. Productivity refers to a ratio, while production relates to volume.

[2] Source: Investopedia; http://www.investopedia.com/terms/p/productivity.asp#axzz1XtyNf21G; accessed on Sept14, 2011

[3] Paul A. Samuelson, William D. Nordhaus (1998). Economics. Irwin/McGraw-Hill (international Edition)

[4] Rastogi, P.N (1988). Productivity, Innovation and Development. Sage Publications India. Pvt. Ltd.

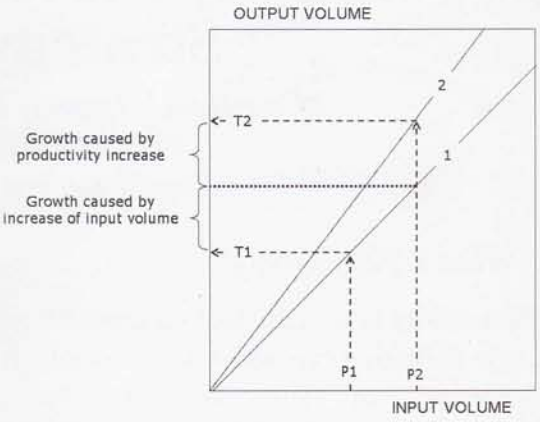
[5] Source: Wikipedia; http://en.wikipedia.org/wiki/Productivity; accessed on Sept 14, 2011

[6] M. Tajul Islam, Abdul Baqui Chowdhury, and Ahmed Ali Shah (1999). Bangladesh. Changing Productivity Movement in Asia and the Pacific: Challenges and Lessons (Productivity Series 28). Asian Productivity Organization, Tokyo

investment. On the other hand, low and stagnating per capita incomes in developing countries reflects low level of productive capacity. Efficiency in production is of high importance for lowering cost of production (thereby, impacting on managing inflation), increasing export, generating surplus for investment, consumption and social welfare. Broadly, growth in productivity can be achieved in two ways: improvement in efficiency with a given technological state, and higher effectiveness of new production technologies resulting from innovation and technical advancement[7].

The methods of combining the inputs of production in the process of making output are called technology. The production function can be used as a measure of relative performance when comparing technologies. Technology can be depicted mathematically by the production function which describes the relation between input and output. The production function is a simple description of the mechanism of economic growth. Economic growth is defined as any production increase of a business or nation. It is usually expressed as an annual growth percentage depicting growth of the company output (per entity) or the national product (per nation). Real economic growth (as opposed to inflation) consists of two components. These components are an increase in production input and an increase in productivity[8].

Figure 1: Components of economic growth



The Figure 1 illustrates an economic growth process. Each time of measurement has its own graph of the production function for that time. The portion of growth caused by the increase in inputs is shown on line 1 and does not change the relation between inputs and outputs. The portion of growth caused by an increase in productivity is shown on line 2 with a steeper slope. Increased productivity represents greater output per unit of input. Accordingly, an increase in productivity is characterized by a shift of the production function (steepening slope) and a consequent change to the output/input relation The formula of total productivity is normally written as follows: *Total productivity = Output quantity / Input quantity. In order to accentuate qualitative changes in output and input, the formula of total productivity shall be written as follows: Total productivity = Output quality and quantity / Input quality and quantity*[9].

Economies of scale is closely related with productivity. According to Sulivan et. al. (2003)[10] economies of scale refers to the cost advantages that a business obtains due

[7] Rastogi, P.N (1988). Productivity, Innovation and Development. Sage Publications India. Pvt. Ltd.

[8] Saari, S. (2006). Productivity. Theory and Measurement in Business. Productivity Handbook. MIDO OY. pp. 272

[9] Sarri, S. (2006). Productivity. Theory and Measurement in Business. European Productivity Conference. Espoo, Finland. Date:30 August-1 September 2006

[10] Sullivan, Arthur; Steven M. Sheffrin (2003). Economics: Principles in action. Upper Saddle River, New Jersey 07458: Pearson Prentice Hall

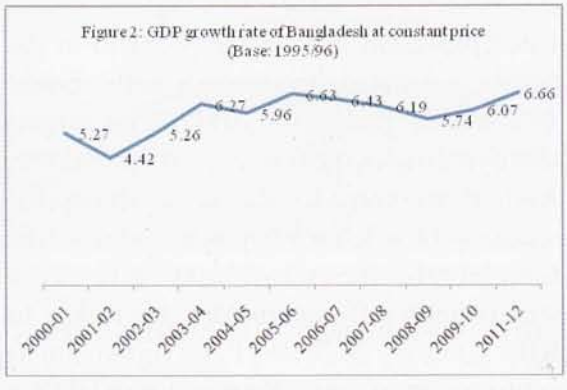
to expansion. There are factors that cause a producer's average cost per unit to fall as the scale of output is increased. "economies of scale" is a long run concept and refers to reductions in unit cost as the size of a facility and the usage levels of other inputs increase. These, all together impact on increase in efficiency of productivity.

3. Productivity: The Current Global Status at a Glance

World output growth plunged from a recent peak of 5.3 per cent in 2007 to 2.8 per cent in 2008 and -0.58 per cent in 2009. This financial recession was worldwide: all G7[11] economies experienced the deepest output retrenchment since the 1930s, while growth in emerging and developing economies was slashed from 8.7 per cent before the crisis to 2.5 per cent in 2009. Before the crisis, a shift in the global economic balance of power was also observed. IMF estimates growth in the advance economies will slow from 2.5 per cent in 2010 to 2.0 per cent in 2011. For emerging and developing economies it is estimated as from 7.1 per cent to 6.4 per cent. For developing Asian economies it is estimated as from 9.4 per cent to 8.4 per cent. For newly industrialized countries the figures are 7.8 per cent and 4.5 per cent accordingly. As demand from rich economies decreases, developing countries will probably have to develop more domestic demand to fill the gap[12].

It is to note that in this global economy with increasing integration, the economic development is not and will not enjoy fencing of national boundary with its own economic policies. According to Leigh, et. al (2010), it is estimated that world output will grow at 4.8 per cent and growth in the emerging and developing economies will accelerate to 7.1 per cent in 2010. Developing Asia will be the fastest-growing region in 2010, at 9.4 percent[13].

4. Productivity in Bangladesh: The Economic Perspective at a Glance



The overall productivity of Bangladesh, to some extent, is reflected by the Gross Domestic Product (GDP). Bangladesh's per capita GDP has more than doubled since 1975. The growth of GDP has been slow in the 1980s, at an annual average of 1.6 per cent a year, but it accelerated to 3 per cent in the 1990s, and to about 2 per cent in more recent period. The acceleration resulted partly from a slowdown in population growth but also from a sustained increase in GDP growth, which averaged 3.7 per cent annually during the 1980s, 4.8 per cent during the 1990s and 5.6 per cent since then. The GDP growth rate of Bangladesh is not very high, but it is more or less stable one. GDP growth rate, declined a bit in 2002 (4.4%), but then stabled at around 7% (Figure 2). Although, the growth rate seems very stable, but this exemplary average performance hides both variations within geographic regions and poverty pockets. It also hides the increasing

[11] Canada, France, Germany, Italy, Japan, United Kingdom, and United States

[12] APO Productivity Databook 2011, Asian Productivity Organization, Japan

[13] Leigh, Daniel, Pete Devries, Charles Freedman, Jaime, Guajardo, Douglas Laxton, and Andrea Pescatori (2010) "Will It Hurt? Macroeconomic Effects of Fiscal Consolidation in World Economic Outlook", IMF World Economic Outlook, Chapter 3

inequality where inclusion of the excluded has not been realized adequately. According to HIES (2010[14]), the Gini co-efficient of income is 0.458. The five lower deciles continue to share only 20.33 per cent of total income, although they comprise 50 percent of the population. This indicates increase of inequality.

Unemployment is a severe problem in the highly populated Bangladesh with around 143 million people in 2011[15]. The largest share of employment relates to agriculture. And, if we consider the labor absorption scenario of a labor abundant country like Bangladesh, the result may give us a significantly different picture. According to BBS (2011)[16], in 2010-11 the (provisional) contribution of agriculture sector to GDP is 19.95 per cent and 30.33 per cent for industrial sector. But noticeably, according to MES (2009)[17], 43.53 per cent of labor force are engaged in the agriculture sector, where only 13.53 per cent of labor force in engaged in the manufacturing sector.

Asian Productivity Organization-APO (2011)[18] estimates per-worker labor productivity levels[19]. According to them, in 1980, the per-worker labor productivity level in Bangladesh was 2.0, which has been increased to 3.7 in 2008. This is indeed an improvement. But, while compared to our neighbor countries (India: 2.7 in 2008, 6.1 in 2008; Pakistan: 3.8 in 1980, 7.4 in 2008), it is evident that there is much to be done. APO also estimates that per-hour labor productivity level[20] in Bangladesh was 0.9 in 1980, which has been increased to 1.4 in 2008; while the figures are higher in our neighbors in South Asia (India: 1.2 in 1980, 2.8 in 2008; Pakistan: 1.8 in 1980, 3.5 in 2008).

Labor utilization and labor productivity together determine per capita GDP. Other things being equal, increasing employment and improving labor productivity could present a policy trade-off in the short term (i.e., they cannot be achieved simultaneously). If the policy target is to increase employment, productivity may suffer in the short term as marginal and less productive workers are recruited, bringing down the average productivity performance.[21]

National Productivity Organization in Bangladesh[22] estimated that in the 90s, there was hardly any difference between the public and private sector regarding productivity of employee. While Base: 1990-91=100, the productivity in public sector was 104.41 in 1991-92, which became 116.80 in 1996-97- where average in that decade was 113.43. The average productivity of employee in private sector in that same decade was 118.48 (114.31 in 1991-92 and 122.35 in 1996-97). Salary and wages in that decade in public sector was 168.63 in average (153.25 in 1991-92; 284.55 in 1996-97). Salary and wages in that decade in private sector was 172.95 in average (145.34 in 1991-92; 186.39 in 1996-97) (Table 1).

[14] Preliminary Report on Household Income and Expenditure Survey 2011. Bangladesh Bureau of Statistics
[15] Preliminary Results of Population & Housing Census 2011 (July 2011). Bangladesh Bureau of Statistics
[16] Bangladesh Economic Review 2011. Ministry of Finance. Government of Bangladesh
[17] Report on Monitoring of Employment Survey 2009. Bangladesh Bureau of Statistics
[18] APO Productivity Databook 2011, Asian Productivity Organization, Japan
[19] Thousand US dollars at constant basic prices per worker, using 2005 PPPs
[20] US dollars at constant basic per hour, using 2005 PPPs
[21] APO Productivity Databook 2011, Asian Productivity Organization, Japan
[22] Secondary Data of National Productivity Organization. Ministry of Industries. Government of Bangladesh

Table 1: Comparative trends of productivity and wages and salaries paid to the employees both under public and private sector management in Bangladesh (Base: 1990-91=100)

Sector	Years	Trend of productivity	Trends of wages and salaries
Public Sector	1991-92	104.41	153.25
	1992-93	112.61	159.33
	1993-94	117.40	172.13
	1994-95	114.20	168.85
	1995-96	115.14	173.70
	1996-97	116.80	284.55
	Average	**113.43**	168.63
Private Sector	1991-92	114.31	145.34
	1992-93	116.46	172.56
	1993-94	121.26	174.42
	1994-95	117.21	179.27
	1995-96	119.26	179.73
	1996-97	122.35	186.39
	Average	**118.48**	**172.95**

Source: Secondary data of national productivity organization

While Base: 1998-99=100, the productivity of employee in public sector in 2002-03 was 120.33 and the wages and salary was 107.94; the same for private sector are accordingly 100.23 and 125.07 (Table 2).

Table 2: Comparative trends of productivity and wages of salaries paid to the employees both under public and private sector management in Bangladesh (Base: 1998-99=100)

Sector	Years	Trend of productivity	Trends of wages and salaries
Public Sector	1999-00	74.57	98.04
	2000-01	114.89	108.16
	2001-02	82.28	117.51
	2002-03	120.33	107.94
Private Sector	1999-00	104.76	100.15
	2000-01	100.35	112.25
	2001-02	97.45	118.73
	2002-03	100.23	125.07

Source: Secondary data of national productivity organization

While Base: 2002-03=100, the productivity of employee in public sector in 2008-09 was 75.5 and the wages and salary was 140.42; the same for private sector are accordingly 94.11 and 194.51- which indicates decrease in productivity in both the sectors (Table 3).

Table 3: Comparative trends of productivity and wages of salaries paid to the employees both under public and private sector management in Bangladesh (Base: 2002-03=100)

Sector	Years	Trend of productivity	Trends of wages and salaries
Public Sector	2003-04	163.39	105.46
	2004-05	58.70	105.31
	2005-06	134.53	106.69
	2006-07	121.12	134.19
	2007-08	98.60	144.44
	2008-09	75.05	140.42
Private Sector	2003-04	72.82	110.41
	2004-05	94.66	134.69
	2005-06	75.78	141.39
	2006-07	99.80	130.36
	2007-08	143.46	166.68
	2008-09	94.11	194.51

Source: Secondary data of national productivity organization

5. Productivity in Bangladesh: The Issues of Priority

To achieve the goals according to Vision 2021, specific issues need to be addressed by concerned and committed people backed by appropriate policies and strategies. The overall goal of Bangladesh- i.e., development- needs to be associated with productivity and productivity movement. The holistic scenario and the priority issues of concern regarding productivity in Bangladesh are delineated below in brief. However, these issues, are not the exhaustive list, rather an indicative one- to focus our views and ideas on the subject.

Human Resource Development: Need to Consider both Formal and Informal Sector

According to Asian Productivity Organization[23], the understanding of productivity depends on a better knowledge of the close relationship among labor, capital, and management and the impact of the human element on each of these factors. In a country like Bangladesh,

[23] Asian Productivity Organization. (Source: http://www.apo-tokyo.org/productivity/105_prod.htm; accessed on September 18, 2011)

where resources are limited and per capita income is low, productivity can be raised by emphasizing labor, i.e., awareness of labor efficiency. Unless labor contributes more toward GDP and gross national product, productivity cannot reach a satisfactory level in a country like Bangladesh. Upgrading labor productivity is therefore the easiest and the available means in the context of Bangladesh to break the vicious circle of poverty.

Human resource development is closely linked with productivity. In Bangladesh, to some extent, all aspects of human development (i.e., education, health, employment, manpower development, science and technology etc.) have been covered by both public and private initiatives, but yet, there is lack of integrated approach. All type of skill development programmes, especially vocation training programmes needs to be designed more efficiently- which, ultimately, will turn the large population of Bangladesh into a skilled productive manpower.

Increasing productivity, as well as rapid reduction of poverty and inequality in Bangladesh largely hinge on the proper utilization of productive labor force or Demographic Dividend. Bangladesh is passing through the window of opportunity where the share of working population (ages 15-64) has been steadily rising from 40 percent in 1970 to 62 percent in 2009[24]. Hence, in spite of having a large population of around 150 million[25], economy of Bangladesh can get rid of increased poverty along with high unemployment/ underemployment problem through creating job opportunity and skill for working age population. However, in addition to formal sector, there is need to take initiatives in developing skills for the manpower in informal sector to raise the national productivity. In Bangladesh about 88% of the workers are employed in the informal economy[26]. Many of these workers possess very limited or no skills which leads to low productivity and contributes to long working hours and low wages. The highest concentration of workers in the informal economy is found in the rural areas (92%)[27], with most of them working in the agricultural sector. Their limited and/or inappropriate skills keep them from taking up alternative occupations. At this backdrop, to take advantage of the window of opportunity for the prosperous and equitable economic development of Bangladesh, the transition from informal to formal employment remains one of the major challenges.

Agriculture: Productivity needs to be increased in a Stable Trend

Agriculture productivity is not only very important for food security, but also important as this sector is labor intensive and creates huge employment in Bangladesh. The best option would be to raise the agricultural productivity through optimizing the use of the available land, deployment of the most efficient farming technology and placing a greater emphasis on research activities[28]. According to World Bank (2005)[29] Higher agricultural

[24] Alam, Shamsul (2011), 'Solving Unemployment Problem: A Way Forward'. Paper presented at Bangladesh Social and Economic Forum 2011, on 27 April 2011.

[25] Population Clock of Bangladesh (2011), Bangladesh Bureau of Statistics (BBS); available at-http://www.bbs.gov.bd (accessed on May 3, 2011)

[26] ADB report: Informal employment in Bangladesh; April 2009

[27] ADB report: Informal employment in Bangladesh; April 2009

[28] The Financial Express (March 23, 2011). (Source: http://www.thefinancialexpress bd.com/more.php?news_id=130117 &date= 2011-03-23; accessed on September 18, 2011)

[29] World Bank (2005). Revitalizing the Agricultural Technology System in Bangladesh. Bangladesh Development Series (Paper7)

productivity is an important component of the rural development strategy for raising farm income; reducing poverty and making Bangladeshi agriculture more competitive in the global market. Among the barriers to an effective national agricultural technology system are low levels of government spending on agricultural research and the inability of agricultural research institutes to generate relevant modern agricultural technology. Aquino (2011)[30] estimates that Bangladesh spent less on research (in proportion to its agricultural GDP) compared to the Philippines[31]. But Bangladesh agriculture, a major economic sector that contributes about 20% of GDP (compared to only less than 14% for Philippine agriculture), is relied upon by the entire country to feed a population that is almost twice the Philippines. It is to note that, according to the Financial Express[32] one of the striking features of the development in farming practices in Bangladesh has been the declining production of pulses, oil seeds and spices. Since rice is occupying more importance in the production plan of the growers, the acreage under those crops has declined over time, leading to import of the same in higher quantities.

For increasing agriculture productivity, diversification, as well as value addition is a necessary condition- where initiative for transforming subsistence farming to commercial farming is necessary, which may be activated through real cooperative system. Ensuring access to agricultural khas land to the landless farmers and ensuring timely and adequately supply of agricultural inputs is a must. There is a need to examine the impact of input price policy and subsidies on profitability and competitiveness, and explore options for their reform.

Labor Union: Could be Instrumental for Productivity Gain

There is lot of debate on the relationship of labor union and productivity- some argue that, labor union increase productivity, some argue that it hinders productivity. According to the Economist (2007)[33], there are some areas where unions will produce higher productivity- 1) there are opportunities for deploying capital to replace low-skilled labor; 2) there are significant transaction costs to finding and retaining labor; 3) the work easily lends itself to classification and regularization; and 4) productivity is easily measured. However, labor union is indeed an effective tool to protect the interests of the workers, which is one of their rights too.

But unfortunately, real labor union has not been formed in Bangladesh which could be instrumental to have positive impact on the benefits for the labor, as well as on the increase of productivity. According to Rahman (2009)[34] labor unions in Bangladesh could not develop independently because of their overwhelming dependency on the political parties and leaders. At this backdrop, where common worker are not adequately protected by their unions as well as productivity is not directly been influenced

[30] Aquino, Albert Perez (2011). Benchmarking the Bangladesh National Agricultural Research System with the Philippines: Insights to Strengthen Its Monitoring and Evaluation, and Impact Assessment Systems of Agricultural Research.

[31] Agriculture research intensity ratio for Bangladesh is 0.36%, which is 0.54% in Philippine; Agriculture research intensity indicates total annual agricultural research spending as a ratio agricultural output (agricultural GDP).

[32] The Financial Express (March 23, 2011). (Source: http://www.thefinancialexpress bd.com/more.php?news_id=130117&date= 2011-03-23; accessed on September 18, 2011)

[33] The Economist. (Source: http://www.economist.com/blogs/freeexchange/2007/02/do_unions_increase_ productivit; accessed on September 18, 2011)

[34] Rahman, Zia (2009). South Asia Citizens Web. (Source: http://www.sacw.net/article889.html; accessed on September 18, 2011)

positively by the activities of unions, government needs to initiate innovative ideas and policy measures- which will serve interest of both the parties- owners and workers- impacting on the increase in productivity. Labor union issue in Export Processing Zone (EPZ) areas needs to be handled with extra care.

Regional Cooperation: Tool for Productive Development

Regional cooperation with neighboring countries can lead to a situation where Bangladesh economy can boost its national productivity, as well as income. In this regard, economic development policies of Bangladesh should be made compatible to all international laws, conventions and standards; policies should be harmonized to maximize mutual benefits in regional and international level. Bangladesh economy is much more open to external competition now as compared to 1980s. Still, stronger integration of Bangladesh economy with the neighbor countries and strong ties with global economy are necessary to mitigate economic insecurity and to accelerate growth. Regional trade and intra-country benefits are not yet satisfactory for Bangladesh.

According to Srinivasan (2004)[35], if benefits from preferential regional trade agreement are compared with multilateral liberalization, then the benefits were more likely to be higher for Bangladesh, than its big neighbors like India, Pakistan. Although, on the basis of Most Favored Nations (MFN), all the countries in this region, could not share the benefits equally, the probability of larger benefits is high among the bigger countries. Under the Multi Fiber Arrangements (MFA), the boost of the textiles and apparel industry of this region has been restrained to some extent. But, still Bangladesh has been capable of facing the world competition.

Investment for Production

Investment is a perquisite for creation of new firms and expansion of the existing ones, thus increase in productivity. According to Barkat (2006)[36] development without investment is improbable. And in the case of Bangladesh, accelerating the process of development without sustained large-scale investment in both productive and human development fronts is more so. Structural weaknesses deter investment-mediated development process.

According to Bangladesh Economic Review (2011)[37] in FY 2009-10, investment was 24.41 per cent of GDP and the shares of public and private sector were 5.01 per cent and 19.40 per cent respectively. In Fiscal Year 2010-11, the investment is 24.73 per cent of GDP, and the shares of public and private sector are 5.28 per cent and 19.46 per cent respectively. According to Barkat (2006)[38] in 1990's the real GDP growth averaged 4.8 per cent (with declined volatility) credited to increased private investment and further integration with global economy reflected in the increased export, especially in the RMG sector. According to Bangladesh Economic Review (2010)[39], at the beginning of the nineties, the share of private investment in total investment was about 60 per cent,

[35] Srinivasan, T. N. (2004), Economic Reforms in South Asia: An Update

[36] Barkat, Abul (2006). Political Economy of Investmnet. The Daily Star (Source: http://www.thedailystar.net/suppliments/2006/15thanniv/investment/invest13.htm; accessed on September 20, 2011)

[37] Bangladesh Economic Review (2011). Ministry of Finance. Government of Bangladesh

[38] Barkat, Abul (2006). Political Economy of Investmnet. The Daily Star (Source: http://www.thedailystar.net/suppliments/2006/15thanniv/investment/invest13.htm; accessed on September 20, 2011)

[39] Bangladesh Economic Review (2010). Ministry of Finance. Government of Bangladesh

which stood over 80 per cent in FY 2009-10. An analysis of the investment data reveals that while the contribution of public sector in total investment is gradually decreasing, the contribution of private sector investment is increasing steadily.

Foreign Direct Investment could play a major role in developing the productive base of Bangladesh. But, According to Centre for Policy Dialoguers (2011)[40] Foreign Direct Investments (FDIs), historically has not been able to play its role to the extent desired in Bangladesh. In fact FDI inflow exhibited a decrease since 2008 and stood at only USD 636 million in FY2009-10, with marginal improvement during the initial four months of FY2010-11. The unsatisfactory attraction of Foreign Direct Investment (FDI) in Bangladesh might be a consequence of poor infrastructural facilities, low quality law and order situation, and political instability, among others. One should keep in mind that the FDI market is a supplier's (investor's) market, not the demanders market. Therefore, the environment should be tuned accordingly.

The remittances sent by the non-resident Bangladeshis (NRBs) have been playing a major role not only in the reserve formation as well as in overall economic development. In spite of some fluctuations in Fiscal Year 2010-11, the overall trend in remittance shows an increasing trend. But, still the money transfer for the NRBs to Bangladesh is not adequately easy at. Government should take appropriate initiative in this matter. Beside this, the use of the remitted foreign exchange in the most productive way should be encouraged through proper initiatives which could have tremendous positive impacts on increasing productivity, employment creation and income generation process on the local economy.

How fund raised through capital market could be used adequately and effectively in productive manufacturing sector- should also be thought actively, without hindering the basic principles of money-market.

Huge productive investment can be arranged through public-private partnership (PPP), but all dimensions of these types of agreements should be handled with committed-professional, keeping in mind about- maximization of national interest.

Home-Grown Productive Growth: To be harmonized with Technological Development

To ensure sustainable home-grown development and increasing productivity, it is absolutely necessary to make a comprehensive inventory of assets. In case of Bangladesh among others, the issues on khas land, remittances, and jute are very important assets, let alone the human-capital. There are other assets in the form of natural resources, e.g., gas, coal, water etc.

Home grown growths like promoting 'golden fibre-jute' have never been high on development agenda in recent past. Bangladesh is very rich in its variety of fine quality handicrafts and they are welcomed worldwide. In the developed nations, the wastage disposal is becoming a huge problem. So, they are looking for bio-degradable products instead of synthetic products. And, as they have achieved a certain stage of development and higher standard of living, now they can think other areas, like-'environment friendly goods'. From the 90's the overall demand for environment friendly bio-degradable products is increasing. And, overall public consciousness about protection for environment has increased a lot. In this background, the demand for environment friendly bio-degradable product, like jute

[40] Centre for Policy Dialogues (2011). State of the Bangladesh Economy FY 2010-11. Dhaka.

product is increasing day by day. Bangladesh should reap this benefit through proper utilization of its very high quality jute. To win back the jute market will be not easy to attain. However, with appropriately designed policies and implementation of those, the jute market share can be increased much- which will, of-course significantly increase the productivity base of Bangladesh.

There is an increasing demand of home-made products in the international market. While in Bangladesh there is an availability of relatively cheap labor, cottage industries can be promoted in the most cost effective manner here.

All the development initiatives including the home-grown and traditional technologies need to be harmonized and modified with modern technological changes. In the pathway to achieve a "Digital Bangladesh", the sense should be seen as an inner philosophy of the mental framework to accept and utilize the good parts of the modern technologies in the most efficient and humane manner.

Cooperatives: A Proven Instrument[41]

Institutional Inception of cooperative activities in Bangladesh toke place revolving around agricultural sector. Cooperative has huge contribution in increasing agricultural production in Bangladesh. This contribution of cooperative came about through organizing poverty prone, illiterate and inexperienced peasants and inspiring them in using improve seeds, fertilizer and irrigation system. In this process of organizing, cooperative society were formed in each village and extension workers visited door to door for inspiring peasants in this regard. Even, if needed, those extension workers stayed with peasant at night for motivating them. Following these great effort, green revolution took place in mid 80s in Bangladesh. At present, there are about 69 thousands agriculture cooperative societies operating in Bangladesh. However, these societies are almost inactive and close to extinction now because of following reasons:

" In 1991, government declared the exemption of agriculture loan up to 5 thousands taka. However, this declaration was not applicable for cooperative which led serious complexity for cooperative. In addition, because of Government's adoption of privatization polity, Government reduced its support for cooperative.

" As the cooperative societies led by Bangladesh Rural Development Board (BRDB) were formulated in fast pace, organizational weakness of these societies soon manifested. Besides that, avoiding its main programme, BRDB became more oriented with the microcredit activities through creating non-institutional groups.

As a part of the initiatives for development of livelihood of backward population, Department of Cooperative formulates cooperative society for the fisherman through organizing them. At present, there are 3,340 such societies functioning in Bangladesh. Having the assistance from Ministry of Land, attempts were taken for improving the livelihood status of fisherman. Among these initiatives, leasing of government open water bodies to those cooperative was notable one. Moreover, Department of Cooperative also has taken some development projects, under which supply of functional capital and other instruments have been provided to fisherman. However, in recent years these cooperatives become ineffective as

[41] Barkat, Abul (2009). Bangladeshe Shamabay Andalan O Rupokolpo 2021 Bastobayon (Cooperative Movement in Bangladesh and Implementation of Vision 2021). Presented as Key Note Paper for Observance of National Cooperative Day, organized by Department of Cooperatives. 7 November 2009. Dhaka.

members of those cooperative societies are not getting their expected benefit. Some of the main reasons behind this scenario are - shortage of necessary capital, encroachment of non-fisherman (pirates), reduction of water bodies, and in some aspect non-cooperation from the local government institutions.

Analyzing the success stories of dairy production oriented countries, it is apparent that cooperative has great contribution behind those success stories. In India, the highest dairy milk producing country in the world, 80 percent dairy milk is produced by various dairy farming cooperative. However, in Bangladesh, though the contribution of cooperative in this sector is not up to the mark, it should be considered as decent. At present, there are 1,770 cooperative societies and only one federation (Known as 'Milk Vita') operating in Bangladesh. Annual volume of collected milk through 'Milk Vita' is about 8.5 crore liter, and in this regard, annual financial transaction is about 2,400 crore taka. Total number of beneficiaries and employed staff of 'Milk Vita' are around 10 lacs and 1 thousands respectively. At present, 'Milk Vita' has 50 percent market share of the supplied pasteurized liquid diary milk in Bangladesh.

Infrastructure Development: A Must for Increase of Productivity

Infrastructure is divided into a variety of sub-groups, i.e., economic infrastructure and social infrastructure[42]. Economic infrastructure refers to amount of physical and financial capital embodied in roads, railways, waterways, airways, port facilities and other forms of transportation and communications plus water supplies, telecommunication networks, financial institutions, electricity[43]; while social infrastructure includes facilities such as educational institutions, hospitals, justice facilities and community facilities. Level of Infrastructural development in country can raise manufacturing productivity in the economy through enabling the firms and industries to improve their productivity. Several studies carried out since 80s validate this assumption. During 90s, Aschauer[44] initiated such an attempt in a series of studies on this topic. Using Cobb-Douglas production function and aggregated national time series data for the U.S. Aschauer finds a very strong and high-level linkage between public infrastructure capital and aggregated output of the private sector. The estimated elasticity of output with respect to the public capital is 0.39. The elasticity of the 'core' infrastructure including highways, mass transit, airports etc. is about 0.24.

Infrastructure can have three main effects on productivity through acting as 'free input' (direct effect), facilitating product or process innovations (indirect affect) which allow firms to do what they do now in a better way or to do new things, and finally, through affecting the productivity of other inputs what is often referred to as the 'factor bias effect' (Shanks, S. & Barnes, P., 2008).

In light of the above framework, in a developing country like Bangladesh, infrastructural development is the necessary condition of additional investment and overall productivity gain. Existing transport facilities (e.g., highway, railway, waterway) in Bangladesh is

[42] Shanks, S. and Barnes, P. 2008, Econometric Modelling of Infrastructure and Australia's Productivity, Internal Research Memorandum, Cat No. 08-01, Productivity Commission, Canberra, January, unpublished. Available at: http://www.pc.gov.au/data/assets/pdf_file/0007/79081/economic-modelling-infrastructure.pdf, accessed on 21/9/2011

[43] Todaro, Michael P. 2003, Economic Development, seventh edition, Pearson Education Limited, Essex, England.

[44] Jiang, Bangqiao. 2001, A Review of Studies on the Relationship between Transport Infrastructure Investments and Economic Growth, Research conducted for the Canada Transportation Act Review, Vancouver, British Columbia. Available at: http://www.reviewctaexamenltc.gc.ca/CTAReview/CTAReview/english/reports/jiang.pdf, visited on 21/9/11

becoming bottleneck for augmented productivity in manufacturing sector at significant extent. Quantitative and qualitative improvement of public highway ('free input') provides a more direct route to market which would lower the total unit cost of production, thereby would increase productivity. Moreover, the availability such transport infrastructure with an advanced telecommunications infrastructure can facilitating service, product or process innovation, such as diffusion of technology, access to new customers, lower transactions costs.

Though such innovation related telecommunication infrastructure taking place in Bangladesh at a decent pace, the potential productivity of telecommunication is hampered by other infrastructural problem like deficiency of energy sector. At present, half of the villages of Bangladesh do not have electricity coverage. Hence, beneficial changes in industry relocation and concentration, on the basis of comparative advantages of getting cheap factor input, has not taken place. Even, low infrastructural performance in one sector leads serious underperformance of other infrastructures. For example, poor transport facilities in south-western part of Bangladesh, in fact, causes the underutilization of Mongla port. As a result, potential manufacturing sector has not developed in that region for utilizing cheap factor of production. Hence, the increment of productivity through 'factor bias effect' has not taken place in Bangladesh in balance approach.

6. Concluding Remark

Productivity cannot be viewed or perceived as an isolated issue from other ingredients of development. The issues of productivity need to be revisited from a wider horizon. The development experience in Bangladesh shows that it has pursued various reform measures towards economic growth, development and poverty reduction in the last four decades. Attaining accelerated macro-economic stability and economic growth overtime was 'officially' the key objectives of the reforms, and these were viewed as means to poverty reduction in a sustainable way. Outcomes are mixed. The priority social sectors were somewhat seemingly neglected by the governments, which were somehow addressed by the NGOs, civil society, and other development partners with some significant question mark. Major reforms aimed at trade reform to face the market challenges of globalization. Basically, trade reforms in the form of free market open economy were being initiated in this process. Analysis shows that macroeconomic stability might be an important player for growth, but there is space and high probability that various important country wise variables play in the growth dynamics. The development process itself was not dealt with adequate accuracy in the political-economic framework in Bangladesh. It can be said for sure, that, faster growth and increasing productivity must be complemented with other policies aimed at fighting poverty. While acceleration in growth and increasing of productivity is an essential precondition for poverty reduction, it is never the sufficient one. Growth with distributive justice will necessitate a paradigm shift in the whole development mind set, in which among others, the issues of land-agrarian-aquarian reforms, right to food as Constitutional right, public-private partnership, regional cooperation based on mutual trust, mutual respect, and reciprocity should be high on agenda.

Above all, to raise the overall productivity in Bangladesh, the basic drive and philosophy needs to be motivated from 3C. That is- Concern, Commitment, and Competence.