

# **COMPACT TOWNSHIP, RURAL MIGRATION AND URBANIZATION**

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There is no denying the fact that population growth in Bangladesh is still deemed to be a major problem despite enormous success in the area of family planning. Over the last two decades the rural population growth has been almost stagnant not because inadequate biological reproduction but as a consequence of large migration to the cities and on the other hand the country lacks urban infrastructure to support even the prevailing urban citizens. At the same time, very little has been done, either in terms of expansion and development of existing urban centers to accommodate for increasing population or development of new urban centers. Existing cities have had to absorb this excess population without being in a position to provide even the bare minimum facilities, like shelter and clean water. Although the migrant workers enjoy a relatively higher income this is certainly at the expense of having to live in less healthy habitat, than their rural abodes. Given the fact that the prevailing rural areas would not be able to support any additional population the crucial problem over the next two decades is that even the most optimistic vision of urban growth in line with World Bank projections cannot account for the nearly 35 million people. We can either allow the country to gradually move towards an impossible situation or fundamental views regarding urban policy needs to be totally overhauled. Instead of allowing the prevailing urban centers to bear the brunt of migration we could develop small urban centers in the form of compact townships that would not only absorb willing migrants but also encourage other rural households to move to these compact towns. This will not only ameliorate the forthcoming crisis of excessive burden on existing urban centers but also release precious agricultural land for cultivation of crops.

## **Compact Township**

A Compact Township (CT) is an agglomeration of Houses, hospitals, schools, markets, rural industries and local governmental units that provide all basic services to a population of about 20,000. It is to be largely self-governing and self-financing. The size is small enough for traffic within the CT to be conducted by non-motorized vehicles and for motorized traffic to be thus isolated from the CT itself, making it well connected yet environmentally friendly. As the size is small enough to provide effective protection from floods, the CT's will permit Bangladesh to do with many fewer embankments and thus encourage the re-emergence of a wetlands environment as well as serve to stimulate the renewal of freshwater fisheries, a critical source of nutrition. A tentative plan is to have about 200-300 acres for each such CT, such as the Mirpur Staff College or BARD in Comilla.

Eventually some 7000 of these will become the basic rural landscape of Bangladesh, supplemented by a scattering of homesteads and some remaining number of the existent

68,000 villages. The general idea of gaining economies by agglomeration is an extremely simple one and has been the staple of several branches of Economics and Regional Planning. The concept put forth here is simple but important, necessary and practicable and provides a concrete shape to suit the particular current situation of Bangladesh.

There are some partial antecedents for CT's even within BD in the cluster villages (for the homeless) and in growth centers based on market towns. There are several academic precedents: Sarwar Jahan's Masters Thesis, (BUET 1978), and *The Role of Small Towns in Rural Development*, by Toufiq M Seraj, NILG 1989, (from a Liverpool thesis) are two that I have seen. A.T.M. Nurul Amin of AIT is having a concept called "densification" developed by his students, that Lutful Huq of the Geography Department had discussed such a concept in 1974, and according to Professor Rehman Sobhan, Mahbulul Aalm Chashi had broached the idea for the cyclone prone coast in 1970. A M A Muhith had espoused the idea of 'habitation centers' almost twenty years ago, and he also raised the issue again in the recent International Conference on the Environment (January 2000). The general idea of a CT is simply a combination of Integrated Rural Development with the idea of a 'Growth Pole', or its spatial equivalent, a 'Growth Center'. Insofar as there is a difference, and the originality of the concept of CT is that the earlier proposals are either focused upon poverty or as an ancillary to some other plan of economic growth. The principal difference lies in the conjoined scale, scope and purpose of the CT.

Planning has come into considerable disrepute in recent years, has always been welcomed with regard to the expansion of education or of roads and infrastructure—so, to be careful, one has to say that suitable planning of inputs is still a desirable option. The question is whether the CT's will in fact be stimulating the appropriate inputs. Furthermore, all moves into the CT's will be voluntary. No force will be used. The only inducement will be an indirect one. No Government can be asked to support that which is beyond its means. It can be asked to provide education and health, but only in an affordable way. Those who choose to move into the CT's will have easy access to education, health, banking, family planning etc. Those who do not so move would still be eligible for such benefits, but it will be so much harder for them to gain access.

### **Motivation**

According to the World Bank<sup>1</sup> booklet, BANGLADESH 2020, by 2020 another 45 millions will be added to the population and another 50 million to the labor force. In 40 years we will have to employ another 80 million—or another Bangladesh. The WB emphasizes that Bangladesh must urbanize and indeed, rural BD has not grown in the last decade. But the WB proposal seems a non-starter on the basis of its own facts. Consider the description of Dhaka City today:

When only 20 percent of Dhaka's daily output of solid waste is collected everyday and the country's total output is likely to rise eight to ten times by 2020, it is not difficult to imagine cities overwhelmed and even fatally polluted by their own refuse. Dhaka has only a single sewage treatment plant – a completely inadequate one – and a sewage

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<sup>1</sup> Whenever possible World Bank (WB) figures are used since everyone seems to rely on WB figures.

system that covers only one third of its area. Thirty percent of the capital's people either use open latrines or none at all.(p10)Urban demand for water is due to rise from 645 million gallons a day to 3,300-4,200 million gallons. Already only one half of the country's city dwellers have access to clean, safe drinking water.

More and more of that future will take place in cities and towns and in construction and in the informal and service sectors. As a final component of the setting for growth, the process of *urbanization* and its attendant activities have to be examined both for the promise they hold and the threats they raise. In 1996 the urban population of Bangladesh stood at 24 million, one fifth of the country's population. By 2020 it is projected to be nearly 80 million, not much short of half the total. Together Dhaka (with an estimated 15-20 millions inhabitants in 2020, compared to over 8 million now) and Chittagong (doubling to 9-12 million by 2020) will be the megacity homes to one of every four Bangladeshis. Another one of four will live in urban areas that are already sizable (Rajshahi and Khulna) and in towns that may now be sleepy rural centers but that are destined, because of their location on road and rail routes that are axes of development, to boom (p10).

Anyone who has seen the reality unfold in Dhaka City will know that keeping Dhaka livable with 15 million people is a sufficient challenge. Add to this another 10 million in Chittagong. Even if the smaller cities grow to a million each and there are ten of them and if rural BD remains at 100 million, it leaves 35 million people unaccounted for. The WB does not face this issue squarely after having set up the facts to make it painfully evident.

The solution by default is that things will get done when the situation becomes sufficiently unbearable. Even though the WB is resolutely against such a policy it does not have any concrete suggestions much beyond the Washington Consensus of "sound fundamentals" in macroeconomics and privatization. We strongly believe that governments must help coordinate the activities of its citizens and enable the growth of self-governing civic bodies. In Bangladesh we have a rice-based economy and all rice economies are crucially dependent on water, a resource that is scarce, mobile and indispensable. Since markets can fail to work well with such common resource goods, some communal ethic is frequently necessary for practical and effective solutions. Even though Taiwan is a Private enterprise economy, it has one of the most successful community-based water sharing schemes.

The WB does not face the historical point that growth occurs in agglomerations. There is also a second point that may be relevant--- growth is typically focused upon a few years, say a critical decade. One concentrated effort then sets the stage for the future. The CT's seem to be part of a solution, they are certainly not a solution by themselves, but currently stands out as the only one due to lack of other alternatives.

First of all it is necessary that we be able to envision a future. In reading many a report and talking to many an expert, it became clear that for almost fifty years the overriding concern has been to avoid famines. Obviously a vision of future development cannot be

based on simply avoiding unforeseen calamities. We must try to visualize what Bangladesh will look like, may look like, in another 20 years or 50 years and even beyond. The Water Resource projects are then justified only by the role they will play within this vision of the future. There is no reason why Bangladesh has to be self-sufficient in rice while international trade opportunities allow us produce industrial goods and import rice from other countries. Instead of pouring billions of dollars on ambitious embankment projects we would be better off making the CT flood resistant instead. The engineering solution proposed by the French Plan after 1988 was to spend was an outrageous 6 billion dollars.

Secondly, it is imperative that a an integrated vision be emphasized at the expense of detailed expertise. Research on Bangladesh has always been overwhelmingly project based. However good the results of the individual project, when the project folds, perhaps because donors have other interests, the good work dies. There is no cumulative impact.

### **Feasibility**

This brings up the question of financing. The important point to bear in mind is that all the benefits proposed such as Education or Medicine are no innovations. These promises have already been made to the people. The expenditures upon them are due. The real question is--- how can we effectively do what has already been promised? The exact numbers provided below are not of primary significance, only the orders of magnitude are.

If a four story building takes about \$150,000 to build and a school/community center takes about \$100,000, then a total of 200 houses in a CT will require a total of \$20 million. Once we add another 5 million for the accompanying infrastructure, each CT requires about \$25million for its construction.

Let us now consider the savings in roads, electricity and marketing that will arise from the CT's. One will not have the obligation to take electric lines into the interior at government cost, and smaller village roads can be left in an unfinished state and preserve the environment and the countryside. Suppose we did not extend electricity to villages or pave their roads but instead tried to use the money to make CT's. The average kilometer of rural electric line costs about \$11,000<sup>2</sup> and rural roads cost between Taka 2.5-3.5 million<sup>3</sup> if fully paved.

The number of kilometers of electric line per village actually varies quite a bit, from 7km per village in Chittagong, to 1.8 km per village in Kurigram<sup>4</sup>, with a mean around 3.5 km per village. By accounting for the villages yet to be connected about 178,390 km's of lines need to be laid, the total cost of which stands about \$1.962 billions.

Now if we assume the (minimal) additional cost of developing each rural road is \$20,000 per km. Since the lines go into houses while roads do not, we should probably reduce the

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<sup>2</sup> Courtesy of Kamaruzzaman and Colin Jack of USAID

<sup>3</sup> Courtesy of Kashem of LGED (RRIMP2)

<sup>4</sup> Rural Electrification Board Booklet 1997

length of electric lines previously calculated by 25% to give 133,800 km's of roads yet to be developed. If this money is saved by the development of the CT's then we get an additional \$2.68 billions. Only two items give us a potential savings of \$4.5 billion that can be used instead in developing CT's, about 200 of them. The difference between the two patterns of expenditures is that the CT's look directly to the future and hold out more hope than the current scheme. Also quite possibly due to dispersed village homesteads, Bangladesh has the highest density of rural roads in the world.<sup>5</sup>

The WB sees a total expenditure of \$325 billion over the next 25 years, or about \$13 billion per year. The WB sees BD as having to attract a good deal of FDI to finance this goal. The CT proposal is a distinct alternative.

Table 1. Investment requirement to year 2020 (in billion \$)\*

Sectors	Annual Average	Total
Social sector	1.0	25
Urban housing & infrastructure	4.0	100
Physical infrastructure	3.0	75
Industry & Agriculture	4.0	100
Environment & other	1.0	25
<b>TOTAL</b>	<b>13.0</b>	<b>325</b>

\* Source: WB(p102)

If we subtract an arbitrary amount of \$5 billion from the numbers above to finance the CT's, for 4000 CT's till 2020 we need \$100 billion. As those who move into the townships will be expected to pay for their benefits this is an expense but it may not be a cost as much of it will be recovered over time. The land can perhaps be acquired in exchange for the lands of those who are moving in.

Of the 68,000 villages, each of the 13,817,000 households lives on 0.07 acres of homestead on an average. Suppose only 80% of the villagers agree to enter the CT's, and assuming they need 0.02 acres each in the CT's, this will save 500,000 acres for fruits and vegetables. Out of a total of 1,949,000 ponds we can free up about 1,500,000 ponds for scientific fisheries. These are orders of magnitude that surely require closer examination.

First of all, the CT's will be the 35 million who are unaccounted for in the WB plan. Although the major problem is said to be population control, we believe population growth will not stop overnight. However, fertility rate is already declining very sharply in due more to women's awareness and to social changes than to the variables so often posited by economists. Finally, of all the variables used to predict actual family size, the most effective by far is 'desired family size'. Real change occurs when people change their minds. Insofar as attitudes are mostly changed by social interaction, the CT's will provide the maximal potential for reducing future population.

<sup>5</sup> Bangladesh Rural Infrastructure Strategy Study, World Bank, 1997

Secondly, entrepreneurship is the driving force for growth in a Market Economy. Nothing stimulates this more than the perception of high profits. It is hoped that the self-government of the CT's will serve to stimulate this last prerequisite. Indeed, tax collection and local expenditures will be under the direct control of each township, and these CT's can be stimulated into a friendly rivalry. If the central government focuses upon making the principal Roads fast and safe these CT's will be able to provide nurturing places for the growth of subcontracting and rural based industries. China will serve as a useful model.

Thirdly, Technology is the great force leading to continual productivity. However, the potential of the small CT's is hard to appreciate because of some misconceptions about Technology. It is assumed that Technology is largely dependent upon Science, especially basic Science. However, according to such authorities as Solla Price, it is arguable that Science depended more upon Technology than vice versa. Cumulatively, these small improvements made an enormous difference. The reluctance to consider small, specialized and flexible production units is based upon the belief that only large scale production can be efficient. However, the secret of Japanese JIT production lies in the ability to adapt the workplace to skilled, cooperative workers who take participatory pride in what they do.

In other words, the CT's can reasonably be expected to provide a stimulating nursery for the most important inputs involved in economic growth---education, entrepreneurship, and technology. The data to support such a proposal are yet to be gathered. Current data either do not address these issues or fail to take into account the large scale nature of the cumulative and agglomerative effects envisioned. There are significant differences in the demand for marketed products between rural and urban households. This suggests that the agglomeration produced by the Compact Townships has the potential of increasing domestic demand considerably.

Using Household Expenditure Survey we now show the significant differences in the pattern of demand for marketed products between rural and urban households. There are numerous examples of studies analyzing as to why rural people migrate to the cities and never come back. However the question which has seldom (if ever) been answered as to what prevents all the other rural people to migrate to the cities also, and what would be the consequence there of. Innate reluctance to leave the ancestor's home, uncertainty in urban employment and lack to funds necessary to successfully migrate are obvious reasons that come to mind. But the fact that adequate incentive in terms of better economic and social conditions have been luring relatively wealthy and the not-so-well-to-do towards the city is ample proof reasonable incentives can increase the rate of this migration. The concept of CT tries to answer whether there should there be a policy of actively encouraging migration to the cities, and how would these people get adequate accommodation.

We assume that wages are higher in the cities, living standards are better in the cities, the young worker in the countryside has a natural tendency to migrate to the cities, and urban

employment growth is much higher than the stagnant employment opportunities in the rural area. Therefore mass transfer of rural population to the cities is a mere eventuality. In this context we make an attempt to analyze the profiles of the rural household and the urban household side by side to detect and identify noticeable differences.

### **Data and Variables**

The data source is the Bangladesh Household Expenditure Survey (HES) 1995, collected and compiled by Bangladesh Bureau of Statistics. The HES sample consists of 7420 households in 371 unions (there are twenty sample households taken from each union) from all 22 regions of Bangladesh. We retained 3296 rural households and 1296 urban households.

Consumption expenditures are computed for three types of commodities: farm goods ( $C$ ), market goods ( $M$ ), and leisure ( $L$ ). There are 20 households in each union. First calculate the average unit price of an item for each union. Now we use these prices to compute a price index for own goods and market goods for each of the households. The unit of measurement was one kilogram or one liter in most cases except for dozens for eggs, yards for cloth and some other standard variations.

### **Rural Urban Differences**

We use a Stone-Geary linear expenditure system (LES) to estimate the household demand for farm goods, market goods and leisure. We assume that the household utility function is identical for each member and additive across individuals and hence total household consumption problem is to maximize per capita consumption of  $C$ ,  $M$ , and  $L$ . In addition to prices and wage, other variables which affect household decision are household characteristics such as number of members in the labor force ( $n_1$ ), number of dependents ( $n_2$ ) and education level of household head ( $e$ ).

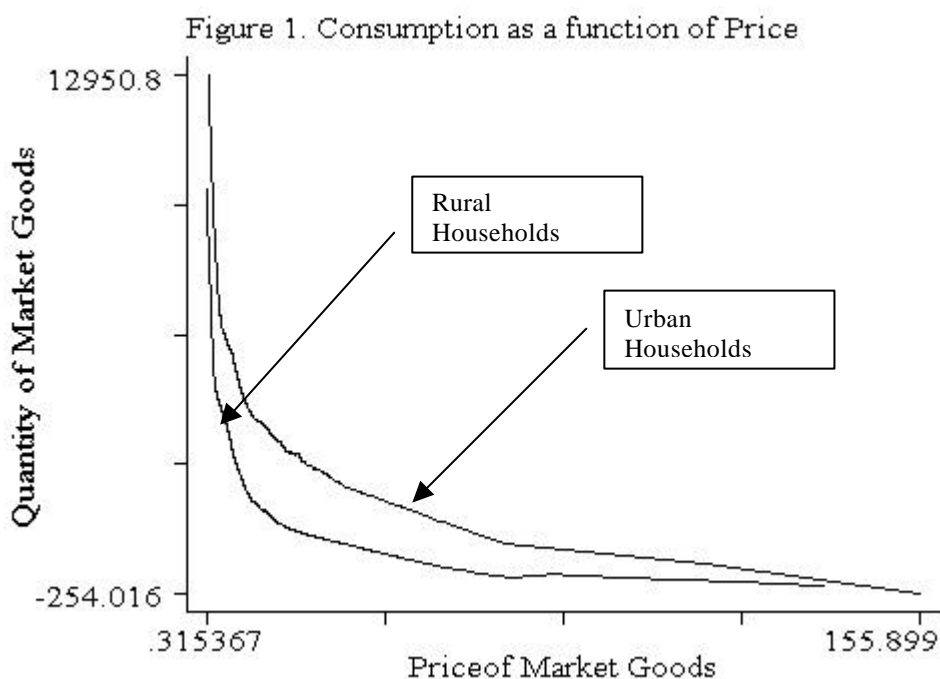
Assuming that the model fulfills the standard assumptions of a regression model we estimate the above nonlinear seemingly unrelated regressions equation system using maximum likelihood estimation. Coefficient estimates that are not significant at the five-percent level of were dropped from the model and hence all elasticities listed in the following tables are significant. Elasticities of household consumption of farm goods and market good, and supply of labor, are calculated at the arithmetic mean of the variables on the basis of keeping total expenditure exogenous (i.e., expenditure is assumed to be independent of  $w$  and  $n_1$ ). Constant expenditure mainly implies that we do not allow family expenditure to reflect changes in wage rate or in the number of labor force in the household.<sup>6</sup>

Labor supply in the urban area is highly elastic to changes in the wage rate. A 1-percent increase in the wage rate is accompanied by 1.31-% increase in labor supply by the urban households and by 0.91% increase in the labor supply for the rural households. The effect of a change in the wage rate and the change in the family labor force is better reflected as

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<sup>6</sup> Estimates of parameters and corresponding elasticities are reported in dissertation of Quayes.

in elasticities<sup>1</sup> when we allow total expenditure to vary. An increase in the wage rate has very little effect on the household's consumption of farm goods but increases the consumption of market goods by 0.10 for rural households and by 0.18 for urban households. With an increase in wage rate there is a slight decrease in labor supply by the rural households while urban households increase their labor supply by 0.03% as a result of a 1-percent increase in wage rate. The urban households are characterized by exhibiting a higher price elasticity of farm goods, lower price elasticity of market goods and a more elastic labor supply compared to the rural households. Not surprisingly, elasticities change when we allow total expenditure to be affected by wage rate and number of members in the labor force in the household.



Over the short run household characteristics such as size, labor force and number of dependents remain exogenous even at the macro level. At the micro level, wage rate is the only variable, which can react to changes in these exogenous variables reflecting interdependence at the macro level. Assumption of representative household at the micro level allows us to obtain macroeconomic relationships, by multiplying the corresponding microeconomic relationships by the total number of households. We also assume that the interdependence of exogenous variables at the macro level is only reflected between wage rate and the other exogenous variables. In a competitive labor market wage rate is determined by the interaction of labor supply and labor demand. The equilibrium wage rate for the agricultural labor can be determined by equating the demand for labor and supply of labor for a representative household.

The rural market response and urban market response are calculated separately on the basis of the assumption that changes in the pattern of demand for farm goods, market goods and labor in one sector does not directly affect the equilibrium price in the other



sector. However changes in one sector will affect the other sector indirectly via production and labor migration. We also assume that elasticity of labor demand is identical for the all the industries (especially for the agriculture sector and the manufacturing sector). Although using estimated demand elasticities for market goods would be ideal we have made the assumption so that we may look at the differences between urban and rural households mainly on the basis of their demand pattern.

Figure 1 depicts the pattern of market goods consumption of rural and urban households. The horizontal axis represents price and the vertical axis represents quantity. The smoothed curves represent plots of household consumption of market goods against the respective price index for the household. The lower curve representing the rural households shows that at each given price level, urban households consume a greater amount of market goods than the rural households do on an average. The rural price-market goods curve also indicates higher price elasticity than the urban demand curve.

The major difference between the consumption profile of rural households and the urban households is in their consumption of market goods. Obviously we would expect the relatively more affluent urban to indulge in higher consumption of market goods. While the consumption of farm for the median urban household is only 16% higher than the consumption of a median rural household; the median urban household consumes nearly two and half times (233%) of the market goods consumption of the median rural household. Needless to mention that the median wage rate for the median urban household is more than two and half times that of the median rural household Hence the only important transition for a migrant rural household to get gradually allocate a higher fraction of income towards market goods. A simple implication of such migration is also an impetus to the production of market goods, which generally have a large manufacturing component. Figure 2 shows us what we already know, i.e., the average per capita expenditure for urban households is higher than that of the rural households. However we do notice that the variance of per capita expenditure for urban households is comparatively larger than the variance for rural households.

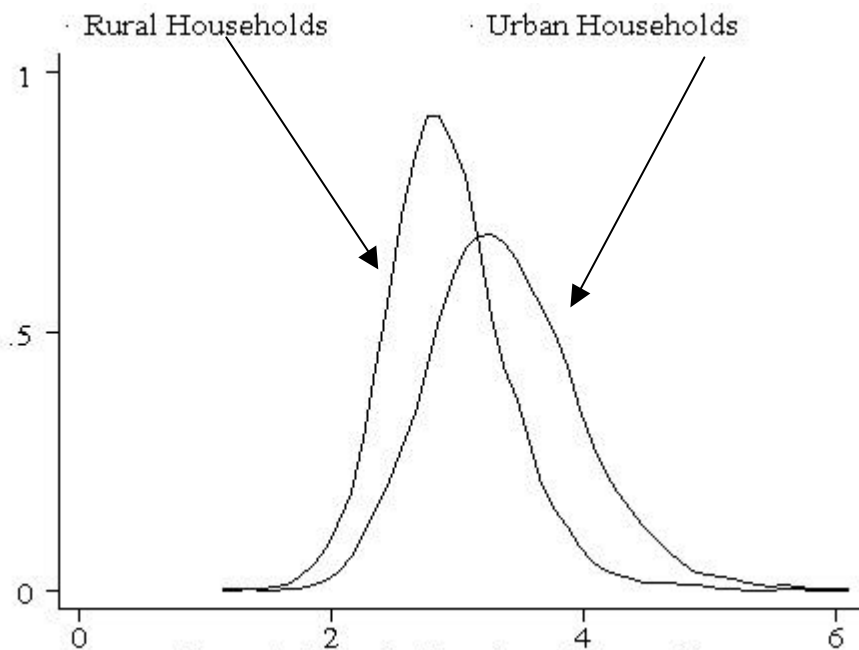


Figure 2. Density Function of Expenditure

Average daily consumption is 2659 in the rural area and 2558 in the urban areas. The bottom 20-percent amongst the rural households has an average daily consumption of 2012 calories while the top 20 percent consumes 3349 calories. In the urban region the bottom 20-percent consume a daily intake of 2069 calories while the top 20-percent consume 3109. Therefore, if the rural households migrate to the cities their per capita expenditure will go up but there won't be any significant change in their nutritional intake. But we do notice that differences exist in the expenditure elasticity of calories between urban and rural households. At the median rural households have a higher elasticity (0.37) than the elasticity (0.23) for urban households. This means that when the rural household migrates to the city its consumption of market goods will increase substantially. The market for manufactured goods would expand and a side effect of the migration would stimulate the market goods industry.

Traditional estimation of the cost of migration on the rural economy involves accounting for the loss of marginal product due to the drop in labor supply. In fact trying to calculate the loss in terms of lost productivity would underestimate the true cost since other family members put in more effort following the departure of a family member. Ahmed (1974) uses average family product to calculate the personal cost of migrating from the village. For the rural areas a 1% decrease in labor force results in 0.83% reduction in the labor supply, i.e., remaining members of the household put in extra effort to make up for 0.17% of loss in productivity. So the loss incurred in terms of productivity in the rural sector due to the outmigration of one worker would be equivalent to 83% of his marginal product of labor. For a median wage earner in the rural sector this loss can be quantified in monetary terms if we multiply this loss by the median wage rate prevailing in the rural market. The median wage rate in the rural sector is approximately Taka 33 per day. In table 4 we have expressed the wage rates as a percentage of average national wage rate, calling it wage index. The wage index for the median wage earner in the rural sector is 66. If we multiply 66 by 0.83 it will give us the productivity loss in the rural sector due to the migration of a median worker to the urban area. If this worker obtains employment in the urban sector and earns equal to a wage index of 55, there is no loss in overall economic productivity. However we have to account for the fact that every addition in the urban labor force does

not obtain employment. But since the median wage index for the urban sector is 175, even if one third of the migrant workers obtain employment in the urban region, the economy as a whole will have compensated for the loss in rural production (one third of 173 is still greater than 55). In fact a median age earner in the rural region migrates to the cities and obtains employment at the bottom 10-percentile wage rate (wage index = 58) of urban workers, there still would not be any loss of productivity for the economy as a whole. In the urban sector, an addition to the family labor force increases the labor supply by 0.68 units. So the addition of each rural migrant adds an amount of productivity equal to 118 (173 multiplied by 0.68), if he is able to obtain employment at median urban wage rate. If workers earning median wages in the rural sector migrate and obtain employment at median urban wages, on an average productivity gains per migrant worker will be equal to 63 in terms of wage index. As a percentage of the labor productivity of the median migrant worker, this is a productivity gain of 95%. If rural workers earning wages at 25-percentile migrate to the city and obtain urban employment at the 10-percentile wage rate only, even then the net effect will be productivity gains equal to 18% of their marginal product of labor in the rural sector.

We assume adequate availability of employment. Therefore the level of employment is meant to depend solely on the labor supply of the household. Also the household labor supply is an observed phenomenon, hence it already reflects the equilibrium in the labor market. Notwithstanding the demand for labor and implicitly assuming that labor market clears, the gain for the urban economy due to immigration of one unit of labor is 214% of the loss incurred by the rural economy for the outmigration of the said unit of labor.

Table 2. Impact of Rural Urban Migration in terms of marginal product of labor.

Percentile	Rural Wage	Rural Loss	Urban Wage	Urban Gain	Net Gain
10	25	21	58	39	75
25	39	32	96	65	85
50	66	55	173	118	95
75	119	99	331	225	105
90	248	206	571	389	74

Table 5 describes lateral comparison across various wage earner groups and shows that productivity gains in urban regions far outweigh the loss in the rural economy. Wages are expressed as an index, where the average wage rate of Bangladesh has an index of 100.

$$\text{Wage Index} = \left( \frac{\text{Wage Rate}}{\text{Average Wage Rate for Bangladesh}} \right) * 100$$

Rural loss is calculated by multiplying wage index by the labor force elasticity of labor supply. Similarly urban gain is computed by multiplying the wage index by the elasticity for the urban area. The net gain measures the net productivity gain as a percentage of the rural wage of the migrating worker.

$$\text{Net Gain} = \left( \frac{\text{Urban Gain} - \text{Rural Loss}}{\text{Rural Wage Index}} \right) * 100$$

Table 2 is constructed on the very simple assumption that migrant workers are able to obtain employment maintaining their relative income status in the society. In other words

a worker earning wages at the 25-percentile in the rural sector will also be able to earn at the 25-percentile urban wage rate. Although it is a fairly strong assumption it still serves the simple task of finding the cost/benefit of migration in elementary terms. For the bottom 10-percentile the productivity gains from migration is 75%. The productivity gains are even higher for the bottom 25-percentile wage earners at 85% and highest for the 75-percentile at 105%. Even for the top 10-percentile rural workers, migration will yield a productivity gain of 74%.

We need to look at Table 2 to have a birds eye view of the change in productivity that ought to follow after mass migration of rural people to the urban centers. The picture tells us that the overall productivity of the economy can only go up.

The consumption pattern of the urban households and the rural households are quite similar except for the market response in the demand for non-farm goods. This is an indication of transition of the rural household in consuming more non-farm goods when they migrate to the cities (existing city dwellers) consume more non-farm goods than the rural households. There are a few areas where regional differences exist; however the large productivity loss associated with rural workers leaving combined with small productivity gains in urban employment deeming net gains to be substantially smaller than all the other divisions was quite surprising.

The goal of this exercise of analyzing the consumption profile of the rural and urban household and the prevailing market response in these two areas, was an attempt to identify the differences. This would allow us to predict the future course of household behavior when a large fraction of the rural population migrates to the cities.

To facilitate the absorption of the increasing population from the country side, newer urban centers need to develop, either as a natural course of market-demand for such new townships or by way of partial government intervention in the form of supplying such new townships and creating the demand for such. As we have already mentioned in the beginning, adequate incentives will induce rural people to migrate to urban centers. These incentives have to be a lot less if these urban centers are in close proximity to their ancestor's home.

If the government or private developers build small local townships with adequate municipal facilities (like electricity, sanitation, schools and medical services) all over the country it would reduce the burden of immigration to the existing large cities. This by itself will free up resources that are being used in trying to facilitate the burden of excess population on the existing towns. Second, it will release precious land (used for habitat and small dirt roads needed for the current dwellers) and ponds (that are currently being used for bathing and other purposes) if a large fraction of rural people move to these newly developed townships. This will increase the production of crops and fish at the same time. Third, it would allow for integration of smaller land holdings into larger plots allowing for more efficient use of modern technology. This might have adverse effects on the land ownership profile but eventual urbanization also means that a smaller and smaller fraction of the population will be engaged in agricultural activity. Finally, it

improves the living conditions of the rural people and accelerates and completes the slow but gradual transition of rural-urban migration. This also reduces the total social cost of migration cost. This also is devoid of the cost of reduction in the agricultural labor force (the source of a major concern) since all farm workers remain in the vicinity and are actually able to participate in a larger labor market (efficient for both the employer and the employee)

The analysis of the profiles of consumption and market response at the national level and at the regional level show that some differences exist across rural and urban households, and the new townships will possibly exhibit a profile which is a convex combination of the rural and urban profiles. At first glance the small existing differences would not cause huge transitional costs on the moving households, although we shall only be able to quantify such social costs after the implementation.

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