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State Owned Leased out Water Bodies: Evolution of Lease Management and Its Role in Social Progress

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Abstract

Water Bodies (WBs) or Jalmahals are an integral feature of our gradually developed homeland or so called delta (δ) land. At present, there are about 10,500 (ten thousand and five hundred) number of state owned WBs in our territory. The quantity is endorsed by the Ministry of Land and it would be two or three times higher if all private owned WBs are taken into consideration. These are classified primarily in respect of their sizes namely, above or below 20 acres of WBs. Analysis of the Government Jalmahal Management Instructions, 2009” and “Government Jalmahal Management Instructions, 2009 amended in 2012” clearly reveal that there are a lot of shortcomings in these two and all policy documents. Moreover, many significant attributes, such as the role of WBs as natural sweet water reservoir, its role to balance the biodiversity and its importance to maintain standard underground water levels are absent in present documents. It is a fact that, WBs including river are facing relentless problems in terms of court litigations, illegal encroachment, and demarcation of outer boundaries, water retention area, and scarcity of water and so on. An inclusive policy framing including enactment and enforcement is badly needed to meet all the current challenges. Another important aspect is that, it is a huge resource and we can utilize it as a fiscal space. This research attempts to address the total issue by exploring available policy documents, primary and secondary data, stakeholder’s opinion, and available direct and anecdotal evidences in a way of qualitative method of analysis.

Keywords: Water Bodies (WBs), Water Retention Area (WRA), Encroachment, Anecdotal Evidence, Sairats, Jalmahals, Sustainable Development Goals (SDGs) and Fiscal Space.

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1.0 Introduction

Wetland is a productive ecosystem on the earth and provides many important services to the living being. State Owned Water Bodies (WBs) in Bangladesh both natural and artificial are very important part of our landscape and are also significant to support both lives and ecosystem. It includes Sea (up to economic zone), River, Beel, Haor, Lake, Lagoon, Canal, Pond, Ditch and all types of water reservoirs that exist in soil surface. WBs are very important pillars of nature. These are the prime sources of sweet water and sweet water fishes. Our ecological balance depends both on their existence and utilization. Natural accumulation of large volume of sweet water in the rural area surrounded by lives is one of the important blessings of our livelihood. On the other hand, we can also use it as a fiscal space for our Gross Domestic Product (GDP) growth. Inland fisheries are also crucial for food security and biodiversity. In fact, these are the active sources of our animal protein and different types of biologically important minerals. It is also evident that due to our own inherent culture, habit and heritage, we are used to intake different types of sweet water fish round the year and even we are accustomed to welcome our valued social guests visiting at home with different types of fish dishes. We cannot think life without fishes. Our inland WBs are the main suppliers of fishes. A portion of our agriculture, especially, irrigation and cultivation in the lean season is also depending on the water of the WBs. However, access of citizens or access of the poor and marginal groups to it is largely denied by the state or society due to legal bindings or leasing process although we all are the stakeholders of WBs. Even, sometimes people live on the bank of or by the side of WBs do not have any right to access into it. It is also a reality that all citizens do not have the opportunity to enjoy the resources. The main barrier is to lease to someone and corresponding right to access is entitled to a specific fisher group. Proper legislation for lease management or lease easement has also not yet been effectively framed for comprehensive poverty reduction or pro-poor fisher group skills and livelihood development. The government is regulating inland sweet water fisheries by leasing these out to the nearest fisher groups according to the latest published circular named as “Jalmahal Bebestapona Nitimala, 2009”¹. However, in practice, more wealthy and influential community of the society tends to monopolize or try to control the auction or lease of WBs. In some cases, a number of water bodies are also being used illegally and lease-owner also do not have any access to it for security reasons. All the income of WBs or its benefits eventually shifted to a group who are neither the real fishermen nor any other type of poor fish-catcher. Ultimately, the objective behind the lease of this economically important natural resource does not comply with the respective vision or policy of the government. Therefore, it is the proper time to re-address the lease management procedure, its legal drawbacks, right to access in lease process, its role in poverty reduction, transparency of its usage and different dimensions of political influences related to the management of state owned WBs.

At present, it is well known that, state owned WBs are leased out by following the rules of “Government Jalmahal Bebestapona Nitimala, 2009” and just before this rule, it was known as “Government Jalmahal Bebestapona Nitimala, 2005”². Since 1971, all state owned WBs have been leasing out according to the different guidelines or instructions although there is an old law, namely, “Sairatmahal (Management) Ordinance, 1959”³. It is a purposely framed law that clearly solved the ownership problem. Management and operational part are totally absent in that law although the law is still alive. A huge number of our water bodies are also facing different types of problems and therefore, primary objective of our research is to find out whether it is necessary to frame any new law for productive and efficient WBs management. It is also important to measure the amount of sweet water fish produced in a year, to ascertain the role of mother fish to be preserved every year to accelerate fish production and its continuation for upcoming seasons. Ensuring the alternate use of water, such as, irrigation in dry season and also overseeing the role of recreational activity i.e. transportation or boat race are also considerable issues. In cases of lease, the tendency is that guideline and instruction are changing with regular interval over the years although the issue of effectiveness of lease, its economic and environmental impact, biodiversity, preservation of WBs for future generation and right to access are not yet evaluated by any department or organization.

In 1980, with the donor organization support, such as the World Bank, the Government of Bangladesh mutually tried to improve the system by taking full control of some WBs⁴. However, this approach proved to be very unsustainable. It relied on continual maintenance and fish-stocking by using government funds and management, and it opened many corrupt practices in this sector. Later in 1989, IFAD once initiated the Oxbow Lakes Small-Scale Fishermen Project, using a social fisheries approach, at 23 lakes/Bills in south-western Bangladesh⁵. The project aimed to rehabilitate infrastructure and decentralize management of the resources by offering long-term leases to groups of poor fishers. In this way, they could invest with confidence in fish-stocking and in improving infrastructure. Fishers formed various groups to assume the leases and manage WBs, based on equal sharing of costs and benefits among members.

Security is another key issue in a lease process and three or more years lease virtually increases the confidence of a group to invest in the concerned WBs. The security of individual as a member of a group, with equal rights and responsibilities strengthen their dignity and confidence to participate in the process. Transparent procedure enables members to monitor key transactions, such as fish-stocking and sales, and also ensures that new knowledge and technology is not monopolized by a few but is spread widely throughout the group. Needless to say, there are many local elites who try to obstruct that process. Later an IFAD-funded project was also initiated in 1998 to ‘scale up’ the experience. It focused on community participation in order to ensure empowerment and access to water bodies. The project recruited

national and local NGOs to form new groups for 740 hectares of lakes, to strengthen the links between groups, line agencies, the private sectors and NGOs in order to improve technology transfer and open access to markets. Another project specifically designed to target women for household pond management and women effectively managed almost half of the new pond fisher groups. Some 30% are managed jointly by men and women and 25% by men only. Although the women-managed groups in communities in which fish culture was not a regular male activity, this still represents a unique example of checking institutional shift in pond management.

Long-term leasing might be a central feature of another target, there are now doubts about pursuing leasing rather than user rights in subsequent activities. There is also a substantial risk in long term lease process as the lease owners generally go to the courts and produce false and fraudulent documents, statements and try all the ways to cultivate it for more time. Previous experiences also reveal that in various cases the intentions of leases are bad in terms of lease process. They also appeal to court for temporary injunction in many cases if they find any fault or mistake in the leasing process and ultimately the government loses both of its control and revenues. The target would be poverty reduction, minor group development and ensuring equity in the society. Nevertheless, this pioneering and long journey of lease experience in the fish sector has many lessons for the government in terms of the changing scenario of present time to meet the challenges of the upcoming decades.

The aim of the project is to review the policies of the government related to **WBs** and how effectively those policies have been implemented so far¹⁻¹⁰. We also target to investigate the major challenges of lease management and their way out in terms of lease process, influences of local culture and politics with stakeholders and society approach as well. In short, the main objectives of this project are to: 1. analyze and review the existing policies of the state owned Jalmahals and also to find out how effectively all previous policies were implemented by different governments so far; 2. identify of the major challenges in lease including local interferences; 3. unfold-the field scenario of WBs; 4. clarify the Stakeholder's perceptions and conception.; 5. study its environmental, ecological and economic aspects; 5. utilize the resources of WBs by targeting Vision 2021 and SDGs agenda by 2030. (Goal 1: End poverty, Goal 6: Availability of Safe water & Goal 14: Life under water); 6. use water bodies as fiscal space to increase the GDP, and; 7. find out unknown hidden facts that truly exist in the field.

2. Problems and Discussion

2.1 Identification of problems

At present, there are about 10,500 number of state owned **WBs** in Bangladesh. The number is calendared and endorsed by the Ministry of land. According to the latest definition, “**a fisherman**” is he who leads the livelihood by catching and selling fish

from natural sources at least four months round the year. Most of the **WBs** remain dry or face shortage of water for more than six months in a year. Fishermen also need to change their profession for certain period for their survival. On the other hand, some people catch fish in some period in a year, although they are not the real fishermen. So, it is very difficult to provide sufficient safeguard for the interest of the real fishermen or its group by considering their professional uncertainty, insecurity and lack of available tools for fishermen identification. At present, most commercial fishermen are one type of businessmen or entrepreneurs. Our trend is that, the local people are interested to invest on both natural and artificial water bodies to culture fish due to the diversification in fish production, cultivation and its profit making opportunities etc. It is now reputed profitable business in the local area not only for poor fishermen but also for other professional groups who are additionally interested to involve them in cultivation of **WBs**. In **Jalmahal Bebestapona Nitimala, 2009**, social adaptation, attitudes and norms, political culture and practices are the notable obstacles for efficient and effective management of **WBs**.

The provision of inclusion of the local lawmakers and elected members of the local government bodies especially Upazila Parisad Chairman as advisers in the **Upazila and District Jalmahal Management Committee** of state owned **WBs** starts its way to politicization or conflict of interest. Middlemen also try to capture the **WBs** by manipulating, tampering and negotiating with real fishermen groups due to local dominance or power. The actual fisher groups have no ability to invest more in the **WBs** and they have an acute shortage of logistics, funds and capacity. Most of the fishermen are poor and they are exploited by pressure groups, and sometimes intentionally utilized by the money launderers. The short term lease policy turns back the problems every year. The lessees also do not get any opportunity to make any profitable scientific long term plan. Generally, the-lessee is not allowed to permit any sub-lease, but in practice, they do it. Sometimes paddy cultivation is also practiced in some of its space especially in the dry season- In fact, **WBs** should not be used by non-professional or non-fishing people. Lack of initiatives to protect mother fish in the lean season is really a treat to lose many indigenous species of local fish. Some groups are authorized by yearly lease to cultivate the **WBs** but they do not even allow access public easement for recreation like boat race or transportation or to use it for other utility purposes. In many cases, the lessee erects fencing on water, fix water hyacinth on the surface of water and place different types of impediments that obstruct the people to use water as common utility. Broadly identified problems of the present state owned **WBs**, in brief, are:

- Court litigations, Injunction and Pending- trial cases on Jalmahal lease and related issues;

- Change of the nature of land of water bodies like filling by siltation and other artificial activities;
- Lack of comprehensive policies/guidelines/instructions on Government Jalmahal Management;
- Interferences of local/public representatives in the leasing process;
- At Present, among 10108 Jalmahal, about 50% or more remains out of lease in each and every year;
- Financial insolvency of real fishermen/fisher group;
- Third party influence and sub-lease in lease management;
- Lingering of lease activities, delay in calendaring and delay in possession transfer by district and upazila administration;
- Public easement in the name of religious and educational institutions;
- Amendments of Jalmahal lease policy in 2012 by manipulating the main structure of policy of 2009;
- Lack of demarcation in its outer boundary;
- High VAT and Source Taxes (15%) and security money (5%);
- Transfer of a number of Jalmahals to local government division from ministry of land through **MOU** by violating the Rules of Business, 1996.

The above mentioned problems are identified by collecting data from the field through discussion with all types of stakeholders. We shared the issue in detail with district and Upazila Administrations, local government bodies, locally involved people, fisher groups, the officials of the fisheries department and others.

Analysis of all Jalmahal Policies and Guidelines

It is a novel research work on Jalmahal lease management. In order to find the real scenario of the Jalmahal and its administration, we conducted a comprehensive policy reviews. It is a bit surprising that since our independence, this sector is guided by a series of instructions, guidelines, circulars and office orders. There are many overlapping and mismatching issues in all the circulars. The pioneering law of the Jalmahal management is **Sairatmahal (Management) Ordinance, 1959³**. This law still is in function, however, the purpose of this law has already been finished in course of time. It is one of the dysfunctional laws or an idle law in this area. All Sairats including Jalmahals were purposely vested to government in 1959. The power of court was barred to take the cognizance related to any of its litigation, and this provision was purposively inserted with the aim to control administration of the Jalmahal management. The government, now, may take an initiative to formulate similar law with necessary corrections, modification and incorporation of

different issues of the identified problems to establish it as an **Inclusive Sairatmahal (Management) Law**.

Government Jalmahal Lease Instruction (Amendment), 1973⁶ was initiated in 1973 as a key guideline of the Jalmahal management for the first time just after the birth of an independent state. Instruction clarifies that ministry of land is primarily responsible for administration and management of WBs by coordinating with the local administration or local government bodies. These instructions had some specific targets which actually were the key to achieve the goal. The pragmatic features of the instructions are:

- Provision of real fishermen, closed and open Jalmahals;
- District and Sub-District Jalmahal Management Committees;
- Restriction of sub-lease, permission to use the water for agricultural purposes;
- Lease period one year, development projects options for more time;
- Jalmahals those lease values were below 300 Tk., were vested to Panchayet;
- Lease value assessment option; and
- Preservation of mother fishes, open fishing, instalment payment system of lease money.

We think that, as of today, it is in fact a complete guideline for the management of both closed and open water bodies. In 1978, this guideline was first amended, modified and the management of Jalmahals were transferred to local government bodies by framing a special order, called, “**Transfer of ponds/tanks to union Parisad/Pourosova and Dacca Municipal Corporation, 1978⁷**.” Two mentionable features of the modified circular were: (a) below 2 acres of Jalmahals was transferred to the corresponding local government bodies and (b) one percent (1%) lease money had to be deposited to land ministry. Another remarkable change in the lease management process that has been happened in mid eighties by another new instruction that was circulated as a “**Government Jalamahal Management, 1984⁸**”. However, as per this instruction, several features had also been modified, altered and changed by addressing politico- social factors of that time. Some of the remarkable features were:

- Below 20 acres of Jalmahals was transferred to Upazila Parisad and above 20 acres of Jalmahals was handed over to Land Administration Board;
- Development projects provision were remained out of above mentioned conditions and;
- 3 Years lease period for closed and one year lease period for open Jalmahals were set as a tool or ground rule for lease.

Just after three years, in 1987, some more corrections have been carried out in the name of a new circular named as “**Experimental new Jalamahal Management**

Instructions, 1987” where all Jalmahals below 20 acres of size Jalmahals were transferred to Upazila Parisad and above 20 acres of size Jalmahals were handed over to Land Ministry in place of Land Administration Board. The basic change that had been carried out was that, lease value up to 5000 Tk. for a closed water body was transferred to Union Parisad to protect and to ensure the right of public easement. This was the first instance, where the Union Parisad was involved with Jalmahal lease and its management process. It was really a clear transition of lease history in Bangladesh although it did not sustain more.

It is really a fact that in all periods, all governments did take any mentionable positive attempt to lease it to real poor stakeholder or fishermen. Rather in all cases, attempts had been taken to control it, in such a way, that both politicians and supervising authority could control the process. It happened many times in many occasions. The government did not try to frame any independent legislation on this controversial issue. The greatest turn out of this process was occurred in 2005, when a new guideline was circulated named as a **“Government Jalmahal Management Instructions, 2005”**.² The evolutionary five main features of the instructions were the five clusters and these, in short, were:

- Closed Jalmahals below 20 acres of size were transferred to ministry of Youth and Sports to lease it to youth groups; City Jalmahals (youth) Committee headed ADC revenue and Youth Development Officer as a member secretary; District Jalmahals (youth) Committee headed Deputy Commissioner; and District. Youth Development officer as a member secretary.
- Some Jalmahals were vested to the Ministry of Fishery and Livestock for 5-10 years by lease.
- Some Jalmahals were vested to the Ministry of Local government, Rural development and Cooperative.
- Some Jalmahals were vested to the Ministry of Environment and Forest.
- Some Jalmahals were vested to Union Parisad/Upazila.

At present, all the closed and open water bodies are leased out as per the instruction of **“Government Jalmahal Management Instructions, 2009”**.⁹ Some salient features of this instruction are:

- Provisions for Development Projects;
- Member of the Parliament (MP) is included as an advisor in District Jalmahal Management Committee (DJMC).
- Maximum two Jalmahals were being leased out in favor of one committee and
- Provision of lease to real fishermen group for three years.

It is unfortunate that the existing instruction was severely changed and modified by an amendment in 2012, and circulated in the name of amendment as

“Government Jalmahal Management Instructions, 2009 amended in 2012”.²

Some of the important features of the amendments are:

- Six years duration for Development Project option;
- Public easement option in the name of religious and educational institutions;
- Provision to keep it, as out of lease and out of calendaring, in the name of public easement
- Youth fishermen group leasing option and
- Out of fishermen group leasing option.

These are the all policies that were applied so far for leasing out of water bodies since our independence. In a broad sense, we identified many problems in Jalmahal management and it is clear that a large number of Jalmahals that remains out of lease in each and every year. Problems and drawbacks clearly reveal that existing **Government Jalmahal Management Instructions, 2009**” and **“Government Jalmahal Management Instructions, 2009 amended in 2012”** are not functioning well. Analysis of the **Government Jalmahal Management Instructions, 2009**” that is also amended in 2012, clearly reveals that there are a lot of shortcomings and drawbacks in its provisions and articles. Nevertheless, some important features such as the role of Jalmahals as natural water reservoir and its role to balance the biodiversity in the existing environment are not mentioned clearly in its aims and objectives or preamble. However, these are the prime issues for water bodies to face the challenges of the next generation. It is very important to maintain the level of underground water. An inclusive policy is essential to face all upcoming challenges. Some of the mentionable drawbacks of the present policies are:

- The instruction of 2009 highlights the fish cultivation only;
- No option to preserve the Jalmahals itself, the policy only emphasizes on its use;
- No option to treat it as natural water reservoir and its maintenance or adjustment of ground water level;
- Goals 6 and 14 of **SDGs** are absent in the instruction of 2009, it means that it lacks vision;
- Demarcation, Maintenance, Preservation, Digging, Irrigation, Cultivation, and Biodiversity-these are not properly highlighted.

2.3 Analysis of fishermen opinions/data collected by designed questionnaire

We prepared a standard questionnaire having 20 different valued questions based on problems and evidences related to the current scenarios of **WBs** to check the validity of hypothesis. Concerned research questions were also considered as important factors at the time of framing and setting of questionnaire. During our

visit in the sites of water bodies and discussion with the stakeholders, all the problems were discussed to stakeholders to get exact information related to a specific question or problem. Stakeholders provided their answers both orally and in written. We asked them whether they are well-known about running Jamaal policies of government. Surprisingly, it was evident that almost all of the stakeholders, who were cultivating the water bodies, at present, were well informed about it. More than 60% of the member of the fisher group knows about the name of **Government Jalmahal Management Instructions, 2009** and up to its recent corrections or amendments in 2012. It means that they have the basic knowledge and awareness about government policies. Demarcation of boundary and digging are essential for all Jalmahals, and about 90% stakeholders realized it. All the water bodies need extensive diggings to increase its water bearing capacity. Illegal encroachments by the neighbourhood stakeholders are a treat for almost all water bodies. It is due to division of a existing plot into many smaller size plots in a Mouza due to rapid population growth.

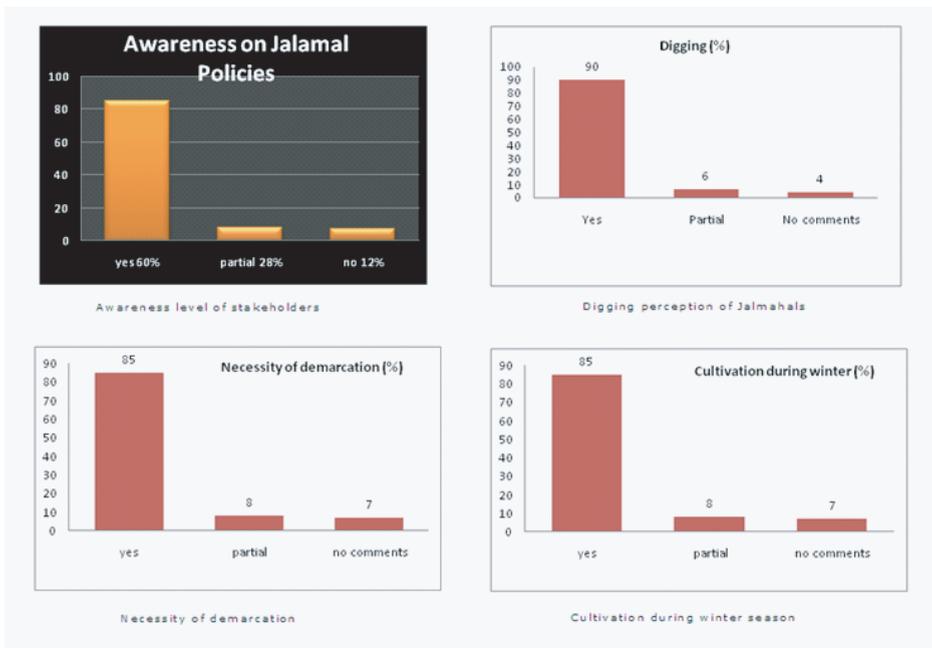


Figure 1: Opinions of stakeholders in addressing the problems of digging, demarcation and crop cultivations (Based on designed questionnaire).

Neighbouring owners of the state owned **WBs** always try in different way to entre enter into it or to capture it due to state ownership. Although, there is a provision that has to be followed by a lessee as per **Memorandum of Understanding (MOU)** that it is the responsibility of the lessee to look after the jalmahal in favour of government during lease period, however, they do not practice it. Some of its

portions are also cultivated by outsiders through a negotiation or mutual understanding. Therefore, demarcation and to maintain the exact demarcation line as an ownership boundary are overlooked by all the concerned parties.

We were also interested to know from the stakeholders about their poverty reduction, real income and its distribution, upgradation of their lifestyle by its income, the lease value of jalmahals, VAT and security money, availability of fund for cultivation, hidden costs, training on modern fish cultivations, mother fish preservation, competition on lease, getting the blessings of politicians, false fishermen groups, fishermen identity cards and others. All answers and opinions are analyzed. At the final stage of data analysis the concrete findings and recommendations were summarized on the basis of both opinions of the stakeholders and authentic anecdotal evidences.

2.4 Analysis of the opinions of Deputy Commissioners and Upazila Nirbahi Officers regarding the present conditions of Jalmahals

It was an important task for the project to access the real scenario in the field level. The project was initially planned to cover area of entire Bangladesh by dividing it into eight major sampling sites and eight others sub sampling sites. The major sampling sites were considered for districts and sub sites were considered as Upazilas. All the members of the research team were divided into many small clusters/groups and visited in all major sampling areas. For an example, one group approached Khulna district and took the appointment of the Deputy Commissioner, Khulna and Upazila Nirbahi Officer, Domoria, Khulna. The objective of the research was to access the real scenario of state owned water bodies' according to regional perspective. Stakeholders, policy makers and implementing agencies deliberately expressed their own ideas and experiences; they had faced on the ground. There are too many closed and open type Jalmahals in the Khulna division. The government did not do any maintenance of them since independence. They identified that the main problems are lack of demarcation of water bodies and the reduction of the size of the jalmahals due to natural siltation over time. The process of calendaring has not yet changed at all. The lease process is being continued by the same calendar for more than 45 years. For instance, there was a Beel of 5 acre size included in calendar in 1980. Since then, every year the district administration is publishing advertisement as per information of the calendar and surprisingly over last 36 years the area or size of water body's remains the same. However, the price has correspondingly increased each and every year. But over this long period of time, the actual size of water is converted into 0.5 acre if we measure it physically during rainy season. The Jalmahals also lost its water reserving capacity simultaneously. The nature of the land has been changed into many dimensions. Some parts of it are also being used for cultivation during winter season. In many cases, the land grabbers also captured some or many parts of it. The people or the fisher groups are not interested now to take it as lease with more money because there is a possibility to incur loss in cultivation. There are also some cases, where there are litigations in the court related to its different issues. Thus, lessee is

not interested to cultivate it. The district administration has no way to lease it as they never made any maintenance of it, they did not change the nature of the land by applying the process of so called “**Srenni Poribartan**”. The ultimate result is that 60% of them remain out of lease. We also visited many sites of Khulna and it was clearly evident to us that Jalmahals have multidimensional problems of both administrative and local. Major problems of Khulna regions are: lack of demarcation, siltation, lack of maintenance, old calendaring, slow administrative process of lease, grabbing some parts of jalmahal by local influential, high price of lease etc.

We also visited Nilphamari and Dinajpur districts where the problems were somewhat different from Khulna region. The main problem of jalmahal of the northern region of Bangladesh is court litigation. We surprisingly observed that in the Dinajpur Sadar Upazila among **total number of 1355 Jalmahals, a number of 1244 is out of lease** this year mainly due to court litigations.¹¹ It means in total 91.80% jalmahals are out of lease. The same scenario was found in almost all districts of the northern region. A large number of Jalmahals all over the country remains out of lease for pending the trial. We also came to know the situation through a **DO letter written by Secretary, Ministry of livestock and fisheries to the Cabinet Secretary on 12.89.2017.** ?¹² In this DO letter, the situation was pointed out in a such way that a UNO of the **Haor** area during his visit to Haor informed him that “**all Jalmahals of his upazila remain out of lease due to court litigation**”. These are the problems that exist in the field. We identified some more problems that are already enlisted in section 2.1.

It was also interesting to analyze the data of Jalmahals in the southern part of the country. A team headed by our team leader visited Patuakali district including its Kolapara Upazila. The scenario was almost same as like as other part of the country. The large number of jalmahals remained out of lease due to political interference and collusion between local influential groups. The local administration did not able to solve this problem as local pressure groups and law makers are directly involved in it.



Figure 2: Opinions of stakeholders in addressing the problems of mother fish cultivation and local interferences in lease process (Based on designed questionnaire).

We also visited the Sunamganj district, one of the major Jamaal orientated sites of Bangladesh. In Sunamganj, there are more than 1000 Jalmahals in different sizes. Court litigations, lack of demarcation, siltation, local politics all are common problems as like as other districts. The major problem that we have identified over there is **Memorandum of Understanding (MOU)** that is conducted between Ministry of Land and Local Government Division. On behalf of the local government division, the local LGED authority takes care of the Jalmahals. In the name of Jalmahals development project, some third parties like local groups cultivate the jalmahals by subsidizing a huge amount of government revenues. Jalmahal is the matter of ministry of land, Department of fisheries, and Local government bodies. How and why LGED was involved with the WBs is a big question. It's a sharp deviation of the Rules of Business, 1996.



Figure 3: Opinions of stakeholders in addressing the problems of VAT, Necessity of framing a law & FID (Based on designed questionnaire).

3. Results and Findings

We have conducted an in-depth analysis about the current problems and way forward for possible solutions of state owned WBs. Policy documents, literatures and available primary and secondary data clarified various hidden insight of the issue. Furthermore, all members of the team have had a lot of experiences to work with WBs in various levels and in different posts of the field administrations. Facing reality also helped us to understand the matter more extensively. All the results and outcomes of the project are summarized, in short, below:

- Framing of a **new inclusive law** is immediately required. Our past experiences on Jalmahal management are not at all satisfactory. Ministry of Land can take an initiative to make an inclusive draft by conducting consultation with its stakeholders and inter-ministerial meetings. In all cases, these findings of the project can be used as one of the major inputs for draft preparation of Jalmahal policies.
- Some important concepts, such as, the role of Jalmahals as natural **sweet water reservoir** to maintain standard ground water level; its **role in cultivation** to boost up agricultural production; and its necessity to preserve **ecological balance** need to be incorporated in upcoming policy documents. We need a policy for holistic use of Jalmahal. These facts must judiciously be included in inclusive **draft law**.
- The provision of public easement right mentioned in “**Government Jalmahal Management Instructions, 2009 amended in 2012**” is contradictory with goals and objectives of the “**Government Jalmahal Management Instructions, 2009**”. Policy intervention is essential at this stage.
- Development project provision of lease for six years is severely being misused by different intermediate groups. It is also one of the major causes for court litigations and corruptions.
- **Demarcations and Diggings** are the necessity of the time to preserve our water bodies. Water receiving capacity of almost all Jalmahals is reduced remarkably. Interim attempts of digging including demarcation need to be taken by the government. It may also be in the form of public private partnership (**ppp**), such as, 50% cost of digging would be paid from lease money and other 50% by the lessee . It is logical as the lessee will take the all the benefits of Jalmahal. Simultaneously, **participation and ownership** would engage themselves in the preservation and maintenance of the WBs.
- The necessity of the preservation of Jalmahal itself as **sweet water reservoir** needs to be clearly mentioned in the preamble of the proposed draft law or in forthcoming policies.
- **Illegal occupancy** by third party and sub-lease by real fisher group to local influential are treat of lease process.
- The concept to think Jalmahals as **rain water harvesting tank** and its utilization as flood water reservoir for flood affected area are essential and need to be included with long term vision of its management.
- Using of water of ponds or ditches as disaster **quenching liquid during accidental fire** in the densely populated cities or in the suburban area is to be adjudicated in the policies e along with fish cultivation. We need to think that

lease for fish cultivation is just one of the purposes of water bodies.

- **Addressing the sea**, i. e. The Bay of Bengal as a water body is also essential to think as early as possible. Sea fish cultivation and harvesting are closely related to the production and growth of sweet water fish. Government can also conduct a study and analysis to find its importance to frame another law.
- Monitoring to implement the provision for **bank loan against the lease document** is essential for fisher group development. Although the provision is already included in the present policy but there is no practice of it.
- Resource utilization by targeting **SDGs (Goal 1: End poverty, Goal 6: Availability of Safe water, & Goal 14: Life under water)** is very important for upcoming policies or laws. All present policies lack SDGs. Therefore, a revisit to present policies by either making a new law or by any other means is a must to achieve the SDGs agenda by 2030.
- **VAT and Source Taxes (15%)** are too high in a lease process. As the purpose of the lease is to improve the livelihood of the marginal fisher group, the charge of 15% extra money by fishermen is not justified.
- Land ministry transferred the management of a large number of Jalmahals to local govt. division in the name of community development of hoar people through an **MOU**. For instance, 232 Jalmahal are transferred to **LGED** in the Sunamgonj District. Community development of fisher group is not the allocation of business of local government division. It's the deviation of schedule 1 of Rules of Business, 1996. Department of fishery can closely work together with ministry of land and local administration to achieve clearly what are stated in all Jalmahal policies. Lateral transfer through **MOU** is also a drawback of Jalmahal management.
- **Government Jalmahal Lease Instruction (Amendment), 1973** is the best among all previous policies. It protected the rights of both the fisher groups and state properly.
- The process of lease out of Jalmahals by the district and Upazila Administrations is too lengthy. **Calendaring** is not up to date. In many cases, the lease provider does not start the process in time.
- **Digitalization** and corrected list of Jalmahals are not available in almost all government offices.
- Holistic use of water bodies is important in terms of **local fish variety preservation, biodiversity, sewerage disposal in pond, aquatic plant preservation and tourism**.
- We can use of water bodies as a **Fiscal space**.
- The fact of the reservation of one Khash pond in one village especially in the

coastal area for **drinking and cooking** purposes, if possible, needs to be addressed in upcoming policies.

- **Collective group fish catching by villagers residing on the bank or individual fish catching by individual or in a cluster fish catching by two or three or more members** in the government water bodies are a culture and heritage of the people of some regions such as, in Sylhet, Sunamganj, Netrokona and Kishoregonj. It is also the right of the citizen. This problem should be addressed in right way.
- Water bodies are playing important role in **ground water recharge, carbon sequestration and pollution abatement**. However, management of wetlands has received inadequate attention in national water sector agenda. As a result, many of the wetlands in urban and rural areas are subject to anthropogenic pressure including land use changes in the catchment; pollution from industry and households; encroachments; tourism; and over exploitation of their natural resources.

5. Conclusion and Recommendations

5.1 Framing of a new Inclusive Jalmahal Management Law by amalgamating of all previous and existing instructions, guidelines and orders is immediately required.

5.2 Demarcations and Diggings of Jalmahals are important for preservation of all water bodies.

5.3 Lease considering development projects for six years period needs to be discouraged to reduce litigation and grabbing.

5.4 Preservation of Jalmahal itself as sweet water reservoir needs to be included in the preamble of upcoming policies.

5.5 Sea fish cultivation and harvesting are closely related to the production and growth of sweet water fish. Department of Fisheries can conduct a comprehensive study and analysis to find its legitimate importance or legal impact assessment to frame the similar policy for sea resource harvesting

5.6 Interlinking of SDGs with jalmahal policies would have to be done immediately. Such as, Goal 1: End poverty, Goal 6: Availability of Safe water, & Goal 14: Life under water is are very important for upcoming Jalmahal policies or laws. The present policies lack interlinking of SDGs. Therefore, a revisit or review to all present policies by either making a new law or by any other means is a must to achieve the SDGs by 2030.

5.7 Transfer of Jalmahals to other ministries or division through MOU should immediately be stopped by ministry of land.

5.8 Water Bodies have three aspects; environmental, economic and social. “**Government Jalmahal Management Instructions, 2009**” is framed by considering only social aspect. Components of both economic and environmental aspects need to be incorporated in all policy documents.

The team has an extensive plan to elaborate and continue this research for medium and large sized water bodies of Bangladesh.

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Elaboration/Abbreviation

WBs: Water Bodies

IFAD: The International Fund for Agricultural Development

WB: World Bank

SDGs: Sustainable Development Goals

GDP: Gross Domestic Products

ID: Identity

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Young People's Perception on Environmental Change in Bangladesh: Rural-Urban Perspectives

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Abstract

At present environmental awareness programme is emerging across the world although this is a quite new phenomenon in Bangladesh. The present study attempted to know young people's perception about environmental change in Bangladesh. Findings of the study reveal that majority respondents' are aware that environmental change means changes in temperature, rainfall, and sea level rise. Almost all respondents stated that the urbanisation and industrialization as the main cause for environmental change. They also said that by reducing carbon emission the environmental change can be reduced. This means that young people are quite aware about environmental change.

Key Words: Young people, perception, environmental change, urban, rural, and Bangladesh.

Introduction

The global environment is changing rapidly, resulting in increasing temperatures, sea-level rises, changes in precipitation patterns and extreme weather events. These changes in the environment are affecting the overall environmental condition like air, water, soil, food and secure shelter (Organisation, 2015, Organization, 2008, World et al., 2015). It is expected that severe weather conditions will become more and more common over the next century resulting a very grim environment which is a growing concern for all (Leiserowitz, 2006, Leiserowitz, 2007, Rahman et al., 2011). Studies have shown that many countries of Asia and Africa are frequently experiencing various kinds of environmental snags that is threatening our livelihoods (Bamidele et al., 2014, Bartlett, 2008, Mishra et al., 2015). The environmental, social and economic impacts from environmental change are first and most strongly felt by communities who live in ecologically fragile areas but they are not aware of the real consequences which has become a major challenge to ensure sustainable development (Devkota, 2014, Maharjan et al., 2011).

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In terms of environment, Bangladesh is characterized by high temperatures, heavy rainfall, high humidity, and fairly marked seasonal variations (Saleemul and Ayers, 2008). It is well recognized both in the scientific and negotiating community that Bangladesh would be one of the most adversely affected country to climate change (Mahmood et al., 2010). We are ranked third most vulnerable to sea level rise, sixth most vulnerable to floods and fifth as most vulnerable country to climate change due to our unique geographic location, dominance of floodplains and low elevation from the sea (Forests, 2005, Kreft et al., 2014). Bangladesh in last 30 years experienced nearly 200 climate-related disasters like drought, extreme temperature, floods, and storms that have killed thousands of people, destroyed homes and livelihoods which cost approximately \$16 billion, and projected that in next 20 years the country will be worst victim of climate change (Bhusal, 2009, Feldman et al., 2010). Low economic strength, inadequate infrastructure, low level of social development, lack of institutional capacity, and higher dependency on the natural resource makes the country more vulnerable to climate stimuli (Leiserowitz, 2006). The environmental change has adverse impact on agriculture, infrastructural systems, energy, human health, fisheries and forestry, water and wildlife sectors therefore all believes that climate change is a very serious problem and concern for all (Huda, 2013, Leiserowitz, 2006, Leiserowitz, 2007, Yu et al., 2013). In Bangladesh most local perceptions on climate change were consistent with the scientific evidence regarding the vulnerability of the country to climate change (Lowe et al., 2006, Huq and Rabbani, 2011). Other studies focused on the environmental education and awareness among the mass people and secondary level students' environmental attitudes (Mahmood et al., 2010, Mamun et al., 2013, Sarkar, 2011). Then research on young people's perception on environmental change mainly focused on the strategies of reducing impacts and effects of climate change in schools and communities but not with a focus on health (Anagbogu et al., 2014, Lovell and O'Brien, 2009).

There has been considerable distinct research on people's understanding and knowledge of climate change that act as key factor for developing policies to mitigate and cope with its effects (Duan and Fortner, 2012, Egbe et al., 2014, Feldman et al., 2010). Especial in Bangladesh to date, such initiatives have been very limited. There have been few cross-national research on climate change and public opinion then no specific research focusing young people's perception regarding environmental change issue. The environmental change discourse has been evolving globally, and it has generated new ideas, debates and interests within the community of experts. At the same time, there has been intensification of efforts both by government and international communities to tackle the climate change impacts in Bangladesh. Still a knowledge gap exists on how these have influenced the perceptions of people affected by climate change. In fact, rare studies have focused the perception of young people about environmental change. Perception is important in our life because

understanding of different issues depends on right interpretation of information. The perception of environmental change is the foundation or making changes in future. Since the young people are the future politicians, business leaders and scientist, it is important to find out how this group views the environmental changes. The aim of this study was therefore to explore young people's perception on environmental change both in urban and rural areas in Bangladesh.

Methodology

This quantitative study mainly used a structured questionnaire to collect data and study area was Dhaka and Rajshahi divisions considering urban and rural areas, respectively. To find out the representative sample for this study simple random sampling procedure has been used considering the prevalence of 0.5 and the estimated sample size was 437. Almost equal number of respondents have been interviewed from rural and urban areas. For the purpose of data entry and cleaning SPSS version-20 was used and STATA 14 was used for data analysis. Here both descriptive statistics and inferential statistics were used to find out the required output. Simple percentages were calculated using descriptive statistics and some graphs were used where relevant. To find out the level of perception of the respondents on environmental change, a scoring method has been used based on perception related questions. Further, perception on environmental change has been estimated considering median score as the cut of point. The respondents achieving at least median score marked as 1 considering presence of adequate perception and the respondents achieving less than median score marked as 0 considering absence of adequate perception about environmental change. The chi-square test has been used to validate the statistical association between various independent variables (background variables) and dependent variable (perception on environmental change) using 5 percent level of significance.

Results

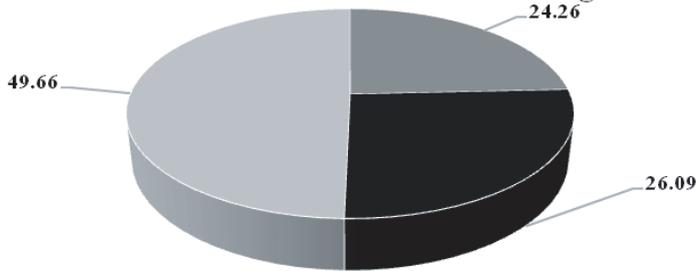
Most of the young people of this research fall within the age bracket of 15 to 24. Among them 42.7 percent belongs to age group 15-17 and they have been defined as young-young in this study, 25.7 percent belongs to age group 18-22 and they have been defined as young and the rest 31.7 percent comprises age group 22+ and they have been defined as late-young in this study. Among the respondents 50.5 percent were male and the rest 49.5 percent were female. In terms of place of residence 46.9 percent respondents have been interviewed from rural areas and the remaining 53.1 percent have been interviewed from the urban areas. Educational attainment has been classified into two categories namely higher secondary (46.7%) and above higher secondary (53.3%). Information on environmental change helps to develop the perception of people regarding the issue. Around 84.79 percent respondents said that they were receiving information on environmental change sometimes and 15.21 percent respondents were receiving information on environmental change regularly.

The major sources from where they received information on environmental changes were electronic media, print media and personal sources. In terms of sources of information, about 78.49 percent respondents were receiving information from print media, nearly 71.62 percent respondents were receiving information from electronic media and around 66.13 percent reported that they were receiving information from personal sources (see Table 1).

Table 1: Socio-demographic characteristics of the respondents	
Background Characteristics	Number of respondents (%)
Age Group	
Young-young (15-17)	186 (42.7)
Young (18-22)	112 (25.7)
Late-young (22+)	138 (31.7)
Sex	
Male	220 (50.5)
Female	216 (49.5)
Place of Residence	
Rural	205 (46.9)
Urban	232 (53.1)
Educational attainment	
Higher Secondary	204 (46.7)
Above Higher Secondary	233 (53.3)
Receive Information	
Sometimes	368 (84.79)
Regularly	66 (15.21)
Sources of Information	
Print Media	
Yes	343 (78.49)
No	94 (21.51)
Electronic Media	
Yes	313 (71.62)
No	124 (28.38)
Personal Sources of Information	
Yes	289 (66.13)
No	148 (33.87)

To know the perception of the adolescents regarding the causes of environmental change, respondents were asked to state main causes for environmental change, responses varied from deforestation (24.26%) to burning of fossil fuels (26.09%). While some respondents (49.66%) perceived that environmental change is due to urbanization and industrialisation as the main cause of environmental change (see Figure1).

Figure 1: Perception of the Respondents Regarding the Causes of Environmental Change

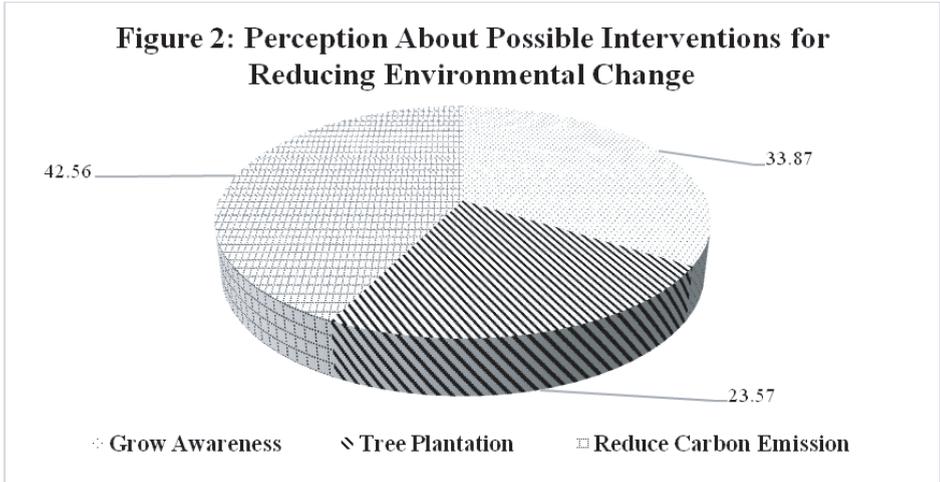


- Deforestation
- Burning of Fossil Fuel
- Urbanization and Industrialization

Cross tabulation was done to examine the association between background variables and the perception of respondents about the causes of environmental change. There was significant association with all the background (age, level of education, place of residence and receiving information) with respondent's perception about the causes of environmental change (see Table 2).

Characteristics	Deforestation	Burning of Fossil Fuel	Urbanization and Industrialization	Total	p-value
Age					0.001
Young -young (15-17)	55 (29.57)	60 (32.26)	71 (38.17)	186 (100.00)	
Young (18-22)	19 (16.96)	26 (23.21)	67 (59.82)	112 (100.00)	
Late-young (22+)	31 (22.46)	28 (20.29)	79 (57.25)	138 (100.00)	
Sex					0.890
Male	52 (24.07)	66 (30.56)	98 (45.37)	216 (100.00)	
Female	53 (24.09)	48 (21.82)	119 (54.09)	220 (100.00)	
Place of Residence					0.000
Rural	61 (26.29)	78 (33.62)	93 (40.09)	232 (100.00)	
Urban	45 (21.95)	36 (17.56)	124 (60.49)	205 (100.00)	
Education					0.000
Higher Secondary	57 (27.94)	67 (32.84)	80 (39.22)	204 (100.00)	
Above Higher Secondary	49 (21.03)	47 (20.17)	137 (58.80)	233 (100.00)	
Receive Information					0.012
Sometime	90 (24.46)	105 (28.53)	173 (47.01)	368 (100.00)	
Regularly	16 (24.24)	8 (12.12)	42 (63.64)	66 (100.00)	

Environmental change can be reduced by taking different preventative intervention such as grow awareness, tree plantation and reduce carbon emission. In stating the possible intervention that could be taken to reduce environmental change 33.87 percent respondents mentioned that need to grow awareness, 23.57 percent respondents identifies that tree plantation and the rest 42.56 percent observes that reduction of carbon emission (see Figure 2).



This study found that the perception regarding possible interventions for reducing environmental change varies according to different background characteristics of the respondents. It has been found that the concept of preventive intervention varies significantly according to age of the respondents, place of residence, educational level and availability of information except sex of the respondents (see Table 3).

Table 3: Perception About Possible Intervention for Reducing Environmental Change

Characteristics	Grow Awareness	Tree Plantation	Reduce Carbon Emission	Total	p-value
Age					0.000
Young -young (15-17)	43 (23.12)	45 (24.19)	98 (52.69)	186 (100.00)	
Young (18-22)	43 (38.39)	26 (23.21)	43 (38.39)	112 (100.00)	
Late-young (22+)	62 (44.93)	32 (23.19)	44 (31.88)	138 (100.00)	
Sex					0.995
Male	74 (34.26)	51 (23.61)	91 (42.13)	216 (100.00)	
Female	74 (33.64)	52 (23.64)	94 (42.73)	220 (100.00)	
Place of Residence					0.000
Rural	51 (21.98)	58 (25.00)	123 (53.02)	232 (100.00)	
Urban	97 (47.31)	45 (21.95)	63 (30.73)	205 (100.00)	
Education					0.000
Higher Secondary	49 (24.02)	48 (23.43)	109 (53.43)	204 (100.00)	
Above Higher Secondary	102 (43.78)	55 (23.61)	76 (32.63)	233 (100.00)	
Receive Information					0.000
Sometime	112 (30.44)	94 (25.54)	162 (44.03)	368 (100.00)	
Regularly	35 (53.03)	8 (12.12)	23 (34.85)	66 (100.00)	

Respondents were asked whether their living environment is changing nowadays. Most of the respondents considers that environmental changes are taking place and it was found that young people have heard about environmental change. Among those who had heard about environmental change in both urban and rural areas, two third respondents were aware of the term ‘environmental change’. To them environmental change meant different thing they have interpreted

environmental change as storms, floods, temperature rise, long heat waves and sea level rise (table not shown).

To measure the perception of the respondents we asked them to give their views on different factors related to environmental change (i.e. change in rainfall, change in temperature, unpredictable weather, flooding, drought, cyclones and rise in sea level). Since the level of perception regarding environmental change is not same for all the respondents, cross tabulation was done to examine the association between background variables. The study found significant association between age, place of residence, education, receiving information on environmental change from print media and perception level. For instance young-young respondents have significantly more perception (98.94%) compared to young (93.75%) and late young (90.58%), respectively. This study found significant ($p=0.000$) differences between urban respondents (98.71%) and rural respondents (90.73%) in terms of the level of perception on environmental change. However, the level of education has a negative but significant ($p=0.001$) impact on the perception level of the young people, that is the increased level of education is not increasing the perception level. Further, it has also been found that the respondents receiving information from print media have significantly higher level of perception than the opponent. But receiving information from electronic media and personal sources has no significant effect on the perception level of environmental change (see Table 4).

Characteristics	No Perception N (%)	Have Some Perception N (%)	P-value
Age			
Young young (15-17)	2 (1.08)	184 (98.94)	0.003
Young (18-22)	7 (6.25)	105 (93.75)	
Late young (22+)	13 (9.42)	125 (90.58)	
Sex			
Male	7 (3.18)	213 (96.82)	0.073
Female	15 (6.94)	201 (93.06)	
Place of Residence			
Rural	19 (9.27)	186 (90.73)	0.000
Urban	3 (1.29)	229 (98.71)	
Education			
Higher Secondary	3 (1.47)	201 (98.53)	0.001
Above Higher Secondary	19 (8.15)	214 (91.85)	
Receiving Information			
Sometimes	17 (4.62)	351 (95.38)	0.615
Regularly	4 (6.06)	62 (93.94)	
Print Media			
Yes	9 (2.62)	334 (97.38)	0.000
No	12 (12.77)	82 (87.23)	
Electronic Media			
Yes	12 (3.83)	301 (96.17)	0.131
No	9 (7.26)	115 (92.74)	
Personal Source			
Yes	13 (4.50)	276 (95.50)	0.675
No	8 (5.41)	140 (94.59)	

Discussion

The overall purpose of the research was to explore young people's perception on environmental change both in urban and rural areas in Bangladesh. The finding of the study shows that most of the young people of this research fall within the age bracket of 15 to 24. The findings of the study shows that urban young people sometime receiving more relevant information regarding environmental change than rural young people this finding is similar with other studies carried out on climate change perception (Bamidele et al., 2014, Egbe et al., 2014). Among the different sources to receive information about environmental change, print and electronic media were two leading sources, majority respondents said that they were receiving information on environmental change sometimes and this finding is similar to other research of Huda (Huda, 2013).

This study found that with increase of age perception level regarding environmental change subsequently decreases which is consistent with earlier studies (Stevenson et al., 2014, Moniruzzaman, 2013). This study found that level of education has a negative but significant impact on the perception level of the young people that as the level of education increased the level of perception is not increasing subsequently. This findings is not consistent with the other research where they have found that with the increase of education status of perception level increases (Esther et al., 2014, Toan et al., 2013, Carew-Reid, 2008). As stated the urbanization and industrialisation as the main causes of environmental change by the respondent, along with deforestation and burning fossil fuels this finding is similar with other study findings (Bamidele et al., 2014, Communication and Indies, 2012, Foundation, 2012, Anagbogu et al., 2014, Hara, 2010). Environmental change can be reduced by taking possible intervention such as grow awareness, tree plantation and reduce carbon emission etc. According to the findings respondents specified that by growing sufficient awareness and reduce carbon emission could be possible way to prevent environmental change. This findings were consistent with that of other studies where they also have found that awareness programme plays an important role in preventing environmental change (Egbe et al., 2014, Bamidele et al., 2014, Foundation, 2012, Communication and Indies, 2012, Hara, 2010, W IDCR, 2009.).

The findings of the study reveals that the young people both in urban and rural areas had some perception regarding environmental change that resemblances in many aspects with the perception of respondents of other studies (Toan et al., 2013, Yu et al., 2013, Foundation, 2012, DeBono et al., 2012, Akter and Bennett, 2011, Akerlof et al., 2010, Semenza et al., 2008, Leiserowitz, 2005). The study shows that the perception of environmental change as perceived by young people are rising temperatures, heavy precipitation, increase rainfall, flooding, rising sea levels, deforestation which is consistent with the earlier studies (Anagbogu et al., 2014,

Seal and Baten, 2011). The test of association (chi-square) also shows that the rural respondents are likely to have lower perception about environmental change compared to their urban counterparts that have similarity with the findings signified in previous studies in the context of environmental change in Bangladesh (Chaudhary and Bawa, 2011, Emch et al., 2010, Shahid, 2009, Emch et al., 2008, Rahman et al., 2007, Ebi et al., 2007).

Conclusion

According to present research, most of the young people both urban and rural area have some perception about the causes and possible intervention to reduce environmental change. If awareness is created at the all stage for the young people then they can understand the extent of the impact and effect of environmental change. Therefore to increase level of perception regarding environmental change among the young people, environmental education is important by adding specific chapter on environmental issues in our national education curriculum. It is also important to increase the frequency of receiving information right information from appropriate source. Therefore the government needs to commit universal access to information and messages on environmental issues. Thus it requires more specialised training programme for the providers who are responsible to disseminate information. Government can include environmental issues in their existing program with the aim to develop appropriate educational and awareness program. These programs will aim to teach and train people about environment change and how to conserve to improve the present environmental condition of Bangladesh. We should also engage young people in different environmental conservation program regardless of their level of acceptance of risk perception. Further research will deepen our knowledge about environmental change. Attention should be given to collect more information on perception regarding causes and consequences to environmental change.

Limitations

This study has some limitations. First and foremost, the study topic is complicated and difficult to measure. Secondly it made use of self-reported data on environmental change perception which are subject to recall bias and misreporting. Thirdly the study was conducted in two districts of Bangladesh so it may not represent the perception of elsewhere. At the same time many important variables have been left out such as parent's education, parent's socioeconomic status that has influence on children. Despite these limitations, the study tried to focus on the perception of young people regarding environmental change. Also it was empirically established that the strategies if applied will go a long way to reduce the impact and effect of environmental change in our environment now and in the future.

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A Probe Into E-Government Services In Rural Bangladesh: The Case Of Union Digital Centers (Udcs)

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Abstract

One stated and repeatedly emphasized goal and commitment of the government is to decentralize public service delivery through the provision of ICT based e-services in rural areas of Bangladesh under the auspices of the Union Digital Centers (UDC). In this context, this study delves into the role and performance of UDC in light of selected variables and associated indicators - such as Impact on citizens' behavioral pattern, Infrastructure & Logistics in UDC, Efficient Service Delivery in UDC, Reduction of Corruption, and Satisfaction level of Entrepreneurs. A qualitative research approach was deployed for the purpose of investigating into the research objective. The research tools included Review of secondary literature, Sample survey administered through a semi-structured questionnaire, a purposely designed Assessment scale and Personal observation. One core finding of the study reveals and corroborates that the government's commitment for initiating widespread digital development has so far been reasonably well received and materialized in the study areas through the UDC operations, and remained consistent with the approved ICT policies. The study has identified the key challenges (such as the inadequacy of infrastructural and logistics support and backstopping) that thwart the process of maximizing the development potential of UDC. The evidence also suggests that the Public Private Partnership model is yet work in full swing, and the current level of income generation of the entrepreneurs is not satisfactory. The article furnishes some policy and functional recommendations, and concludes with an exhortation for further research on this interesting area of study.

Key words: UDC, ICT, Digital Bangladesh, e-Service, e-Governance

Background

Decentralization of public service delivery and bringing the services to the doorsteps of the common millions constitute a fundamental development agenda of the present (Awami League) government. In following this agenda, the Access to Information (a2i) Programme of the Prime Minister's Office—with technical and financial support from UNDP and USAID—has set up some 4554 one-stop information and service delivery outlets known as Union Digital Centers (UDCs) in all union councils- the lowest tier of the local government structure in Bangladesh (a2i, 2017).

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UDCs pledge to offer the rural people access to important information and services. A typical UDC is situated about 4 km from the average rural citizen's home whereas a government Upazilla (sub-district) level office is about 20 km. UDCs are essentially micro-enterprises run by 'citizen entrepreneurs'—one female and one male with local government representatives. UDC usually provides two types of services—free and fee-based like land records, birth registration, telemedicine, passport and overseas job application as well as application to various other government services and private services like mobile financial services, insurance, various types of computer and vocational training, etc.

The UDCs model was innovatively designed in public-private entrepreneurship model to bring the model and infrastructure of the public sector coupled with entrepreneurial zeal and efficiency of the private sector. The UDC is situated in Upzaila Parishad building. The UDC receives 1% of the total ADP budget for its logistics support whereas everyday expenses are borne by the entrepreneurs who generate revenue by selling public and private services.

In the above backdrop, this study focuses on the role and performance of UDC against its protagonists' claim as a 'pro-people e-Government service delivery model'. More specifically, the key objective of this study is to examine the performance of the studied-UDCs in light of the following variables and associated indicators: Impact on citizens' behavioral pattern, Infrastructure & Logistics in UDC, Efficient Service Delivery in UDC, Hassle free service delivery, Reduction of Corruption, Satisfaction level of Entrepreneurs (explained further in the Analytical framework and Methodology sections).

The article is organized into seven sections. After setting the scene in this section, the next section provides a review of the selected key literature on the subject. The third section then proffers the description of the Case together with the Analytical framework and Methodological considerations of the study. The major findings and observations are presented in the fourth section. The fifth section delve into the key challenges of UDC, while some recommendations are furnished in the sixth section. The epilogue is presented in the seventh section, and the paper concludes with an exhortation for further research on this interesting area of study.

Literature Review

Of late there has been unprecedented enthusiasm and interest in Bangladesh about e-Government services as a means of rural development (Heeks et al 2009; Drucker, 2001). As part of intense interventions and activities towards promoting e-Government services, the Union level information and service stations – the government owned micro-enterprises, popularly known as Union Digital Centers (UDCs) - have been working as one-stop information and service delivery outlets since 2010 across all Union Parishads. It has been argued that “the depth and

breadth of PPP around UDCs is unprecedented in Bangladesh's development history" (Census Report on UDC, 2014, p-1).

The terms e-Government and e-Governance are often used to describe a government's use of Information and Communication Technology (ICT) to render services to its citizens. Within the research community there is a debate on the correct use of these two terms. Drucker (2001) defined the term e-Governance as the use of emerging information and communication technologies to facilitate the processes of government and public administration whereas e-Government can be well-defined as the use of information technology to support government operations, engage citizens, and provide government services (West and Wind, 1996).

Heeks et al (2009, 2010) found that e-Governance brings benefits to developing countries (Chile, Philippines, Honduras, and South Korea) by making governance more effective and efficient. The e-Governance can play a significant role for poverty reduction, corruption control and can provide cost-effective service delivery to the citizens (Bertot et al, 2010). Monga (2008) noted that the e-Governance enhances the quality of service delivery by cultivating transparency, simplifying procedures, saving time, improving office and record management systems. In the same vein, Hoque et al (2015) argued that ICT is applied to improve results in productivity, increase efficiency of operations and effectiveness, strengthen management and administrative functions, progress market performance and increase business competitiveness in developing countries.

The implications for ICT in terms of disadvantaged regions (e.g. rural frontiers, difficult or inaccessible terrains) remain a matter of debate in the literature. It is often argued that rural areas are least influenced by the latest advances in the "digital revolution". The high cost of access to information and infrastructure affect the equitable distribution of information in rural areas, however, technological advancements in ICTs have reduced the cost and increased the quantity and therefore, speed of the transfer of information dramatically improved (Chapman et al, 2002). According to Okiy (2003) "rural development is a basis for economic development and information is an important ingredient in development process. People in rural areas whether literate or not should have access to any kind of information which will help them to become capable and productive in their social and political obligations, to become better informed citizens generally".

Now the question is what ICT can do for an emerging country like Bangladesh. Recently, the inequality level in Bangladesh continues to remain a matter of grave concern; particularly rural inequality is on rise. According to Gini scale of inequality measurement, rate of inequality has increased from 0.451 in 2000 to 0.467 in 2005, generally because of increasing rural inequality (HIES, 2005). It is argued that the access to information and widespread e-Government services in rural settings may help reducing the gap between rich and poor (Akter and Georgsen 2012; Hoque et

al, 2015).By comparing the alternative service providers, Faruqi (2015) also stated that UDC based service delivery has potential to reduce time, distance and cost (TVC) in service delivery and it may contribute to bridging the digital gap between rural and urban segments. At this point, it is worthy to mention that there are three types of Digital Divide: the first-level is the inequality of access to IT, the second-level is inequality of capability to exploit IT and the third level is the inequality of outcomes (Wei et al, 2011).

According to Hoque et al (2015) Development can only be effective if rural citizens have access to the information for their day-to-day activities. In recent years, e-governance project in rural areas plays an important role to access to the relevant information and transformation of local government services. It improves the efficiency of government information, reduces cost, increases transparency, and ensures quality of service (Al-Hujran, 2011). Considering this view, UDC is an important initiative taken by the present government of Bangladesh. It provides precise, dependable and quality services to the unreached in remote places of the country. In recent days, many scholars have conducted studies regarding the implementation and success stories of the UDCs. However, questions still remain to what extent this PPP model contribute to the rural development? Or reaching the unreached is a myth or reality? Unfortunately, there are few reports and publications describing the real scenario of the effectiveness of UDCs. Most of them tells us the story of a few success stories of rural people. Therefore, the aim of this study was to examine the impact of e-government services provided through UDCs and its impact on socio-economic development of rural areas of Bangladesh. So, literatures related to this topic has the gap in defining the role and the functionality of the UDCs for rural development. Moreover, this study also generates important lessons and observations that may illuminate the national policies and decisions of the bureaucrats on the subject.

After this general introduction, the second section offers an overview of the study case (UDC) and methodological considerations of the study to formulate the analytical framework. The third section summarizes the key findings and observations of the research from two complementary perspectives: that of the service users (beneficiaries) and of the service providers or entrepreneurs. The major challenges and obstacles that restrict the maximization of the potential of UDC as a means of e-Government services for rural development are identified in the fourth section. It also indicates some possible ways of improving and overcoming these challenges. Lastly, this article closes with an exhortation to further research in this interesting and less-explored area of study.

The Case, Analytical Framework & Methodological Considerations

The government formally inaugurated Union Digital Centers (UDC) in 4,501 Union Parishad on November 11, 2010. UDC is designed to act as a one-stop service outlet

located at UPs and is operated in line with the principles of Public Private Partnership (PPP) instead of donation dependent models. Over 9002 entrepreneurs including 50 percent women are working with UDCs (Asad, 2011). UDC serves as an information and community center to improve living conditions and the quality of life among the rural community. The government has established Union Digital Centers (UDC) to gear up the pro-poor ICT benefits by bringing fundamental changes in rural people. UDCs have the potential to benefit the rural people who do not otherwise have access to information (Akther and Georgsen, 2003). UDC delivers information and technological support to the rural people regarding agriculture, telemedicine, education and job market and provides ICT-training, photocopy and printing service and webcam support for better communication (Habib et al, 2013).

Table 1: Union Digital Center (UDC) at a Glance

Total UDC	4547 in 4547 Union Parishad (UP)
	407 in 11 City Corporation
	321 in Municipalities
Service Provided	50 million Citizen
	70 million Birth Registration
	0.1 million received Computer literacy
	500+ provide health facility
	Over 2 million registered for foreign employment
	3008 UDC providing mobile banking facility. Over 90 thousand received m-banking
Total Entrepreneurs	9,094 (Both male and Female)
Income	1.4 billion (17.96 million USD) per year

(Source: Digital Bangladesh, e-Service for all Report, A2i, 2015)

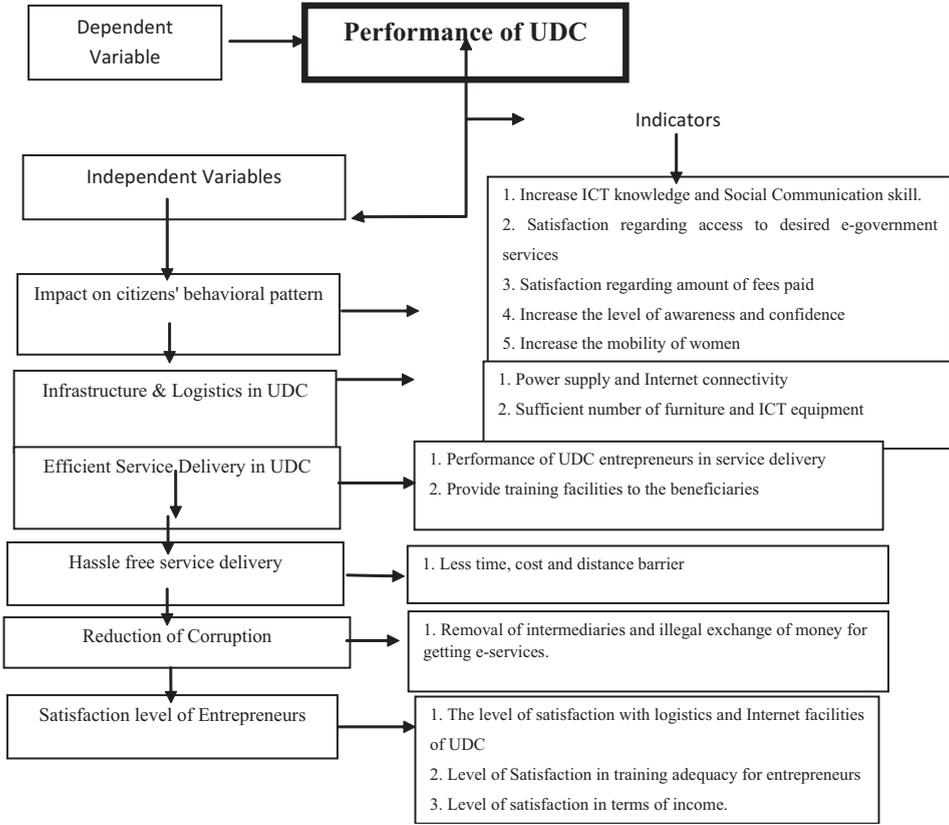
Total member	14,536+
Total blog post	0.16 million
Daily blog post	200-300
Status of Member	UDC entrepreneurs, Govt officials, MP, Minister

(Source: Digital Bangladesh, e-Service for all Report, A2i, 2015)

Towards an Analytical Framework of the Study

Exploring the impact of UDC is a herculean task - given the possible diverse perspectives and mammoth coverage of the subject. An analytical framework has therefore been considered imperative to conduct the study and articulate the findings. Based on selected literature, an attempt has been made to develop a conceptual framework that guided the fieldwork and subsequent analysis done by the researchers. In the main, six independent variables were identified to gauge the impact and functionalities of UDC (see Figure 1).

FIGURE 1: The Conceptual Framework of the Study



(Source: Developed by the authors)

Rationale for selecting Study Areas

In most qualitative research studies, researchers study a specific issue or phenomenon in a certain population or ethnic group of a focused locality in a context and therefore, try to generalize the result to a larger population, however, generalizability of qualitative research findings is usually not an expected attribute (Leung, L, 2015). The study purposely focused on six Upazillas (sub-districts) spanning over two districts—Gazipur and Jessore. The sub-districts are: Gazipur Sadar, Kapasia and Shripur of Gazipur district and Jessore Sadar, Jhikorgacha and Bagherpara of Jessore district. In the journey of making Bangladesh digital, Jessore had been the first district to be declared “digital” in delivering government services. It also happened to be the first district in terms of the establishment of UDCs. The study therefore intentionally focused on Jessore to examine the performance of its UDCs that have been delivering services over longer

period to come into more accurate results of this study. On the other hand, Gazipur district is carefully selected to know the performance of the UDCs of a better-quality district. Based on it, the researchers intend to get an overview of the performance of UDC in other better or less-quality districts. This is a technique purposely adopted by the researchers to apply result of the study to the population at large. Relevant contextual information of the study-Upazilasis presented in the following tables:

Table 3: Contextual Data of Three Upazillas in Gazipur District

Name of Upazilla (Sub-District)	Land Area (Hctr)	Population	Density (per km)	Occupation	Average income (BDT)	Geographical Area (Sq km)
GazipurSadar	43363	1,94,298	1211	Agriculture	250	141.19
Kapasia	88213	3,21,454	900	Agriculture	250	356.98
Shripur	46,227	4,92,792	1060	Agriculture	200	465.25

Data source: Bangladesh Web Portal and BBS District Statistics, 2011

Table 4: Contextual Data of Three Upazillas in Jessore District

Name of Upazilla (Sub-District)	Land Area (Hctr)	Population	Density (per km)	Occupation	Average income (BDT)	Geographical Area (Sq km)
JessoreSadar	43,512	6,15,903	1020	Agriculture	200	435.40
Jhirkorgacha	60,470	2,71,710	800	Agriculture	200	308.08
Bagherpara	1690.61	2,16,897	797	Agriculture	150	271.99

Data source: Bangladesh Web Portal and BBS District Statistics, 2011

Methodology

The main tools of the empirical investigation included (i) secondary literature review; (ii) official documents survey (notably documents from the relevant ICT project based at the Prime Minister’s Office; (iii) Informal Interviews with the targeted beneficiaries in a “story telling” mode. Later, the researchers converted the transcript into stories to analyze them by using “Most Significant Change” (MSC) technique to get the common and significant themes emerging from the analysis of individual participants. For analyzing the stories, during the interviews, with open-ended questions, the participants were encouraged to express their experiences related to the UDC interventions from a user perspective.; (iv) A semi structured questionnaire survey considering two group of respondents, two sets of questionnaires have been formulated: one set is dedicated to collect data from beneficiaries, while the other set addressed the entrepreneurs; (v) Personal Observation.

Sample Size

The study purposely selected (72 male and 28 female)100 respondents. All of them are inhabitants of the locality and users of UDC on regular basis. A sample size of 100 was chosen for this study.

Data Analysis

The data analysis involved converting the transcripts of the interviews into story form, a thematic analysis of each participant’s story, and an integrative analysis of the overall, common and significant themes emerging from the analysis of the individual participants’ stories (Braun and Clarke 2006). Based on the key themes,the relationship is identified through content analysis. Moreover, five representative stories of five key contexts were developed from the transcripts of the interview. All content analysis was done manually.

An interpretive approach through a case study method was used by the researchers that allows to focus on the issues of ICT and its influence and impact on the development of rural areas of Bangladesh. The study applied the“Most Significant Change” (MSC) technique which was proposed by Harris and Tarawe (2009). MSC technique is reported to be suitable for quantitative indicators as it involves regular collection and participatory interpretation of “stories” about changes (Davies and Dart, 2005). In this manner, Willetts (2007) argued that stories deliver the true essence of to human intelligence which can define relationships, sequence of events, cause and effect etc. that are relevant to research.

Construction of Five-Point-Measurement-Scale

The following five-point-measurement-scale was constructed for analyzing data from questionnaire survey for assessing the impact of the services delivered on people of selected study areas.

Table 5: Five-Point-Measurement-Scale

Performance of UDC (Based on Independent Variables)						
Scale	Impact on citizens' behavioral pattern	Infrastructure & Logistics in UDC	Efficient Service Delivery in UDC	Hassle free service delivery	Reduction of Corruption	Satisfaction level of Entrepreneurs
1	Not at all	Very Poor	Very Poor	Not at all	Very Low	Very Poor
2	Minimum	Poor	Poor	Low	Low	Poor
3	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate
4	Significant	Sufficient	Efficient	Reduced	Reduced	Satisfied
5	Very Significant	Very Sufficient	Highly Efficient	Highly Reduced	Highly reduced	Highly Satisfied

Other Information

The researchers conducted questionnaire survey based on six independent variables and fourteen indicators according to the conceptual framework of the study. Each variable is measured by setting some indicators in five-point-measurement-scale. The list of variables and pertinent indicators are given below in the Tab. 6:

Table 6: List of Variables and Measurement Indicators

SL	Variable	Indicator
1	Impact on citizens' behavioral pattern	a. Increase ICT knowledge and Social communication skill b. Satisfaction regarding access to desired e-government services c. Satisfaction regarding amount of fees paid d. Increase the level of awareness and confidence e. Increase the mobility of women
2	Infrastructure & Logistics in UDC	a. Power supply and Internet connectivity b. Sufficient number of furniture and ICT equipment
3	Efficient Service Delivery in UDC	a. Performance of UDC entrepreneurs in service delivery b. Provide training facilities to the beneficiaries
4	Hassle free service delivery	a. Less time, cost and distance barrier
5	Reduction of Corruption	a. Removal of intermediaries and illegal exchange of money for getting e-services.
6	Satisfaction level of Entrepreneurs	a. The level of satisfaction with logistics and Internet facilities of UDC b. Level of Satisfaction in training adequacy for entrepreneurs c. Level of satisfaction in terms of income.

Demographic Profile of The UDC Users/Beneficiaries

A snapshot of socio-economic background of the participants is presented in Tab.7.It indicates that 24% participants were farmers with about half of them housewives (22%). The percentage of business community (44%) is also significant. Majority of the participants had at least primary level of education (80%) and were aged over 30 years (58%). They represented diversified occupation and age groups.

Table 7: Socio-Economic Background of the Participants

Category	Sub-category	Frequency	Percentage
Gender	Male	72	72
	Female	28	28
	Total	100	100
Occupation	Student	20	20
	Business	44	30
	Farming	24	24
	Housewife	12	22
	Others	04	04
	Total	100	100
Education	Illiterate	20	20
	Primary	20	20
	Secondary	24	24
	SSC	20	20
	HSC & above	16	16

	Total	100	100
Age	21-30	42	42
	31-40	40	40
	41-50	18	18
	Total	100	100

Synopsis Of Major Observations, Findings And Analysis

The field observations reveal that UDC has brought a degree of positive impact on the rural communities in terms of enhancing their ability to perform a wide range of tasks more efficiently, offering better life style of rural community, generating exposure to knowledge and building awareness and valuing self-dependence with scope of mobility. In line with other studies (see example: Hoque et al, 2015), this research has also found that rural women could overcome barriers of mobility by availing the opportunity of ICT driven UDC services.

The analysis also indicates that the entrepreneurs were broadly satisfied and expressed zeal and interest in continuously improving their services. UDC was essentially built on PPP model, and the evidence suggests that this mode of operation has reasonably worked well— although there is ample scope for improvement. This study also identified the major weaknesses and challenges including the limitations of appropriate logistics, power supply, and infrastructure. Again, the current level of income generation of the entrepreneurs has not been at the optimum level. Although this programme has surely addressed gender and ‘Digital Divide’ to an extent, the manifestation of inequities still exists in the study areas. The female citizens however have enthusiastically embraced the opportunities given by UDC, still have limited access to information and communication technologies; and thus, number of women beneficiaries was very insignificant.

Heeks (2003) argued that in many developing countries, governments have tried to change too many things at a time to run e-Government system and failed for not having enough human and technical resources. The field observations of this study corroborate this reality. The UDC programme appeared at times to be somewhat ambitious, and its potential could not be fully utilized due to such limitations of inadequate logistics and infrastructure, limited supply of appropriately trained human resources, and difficulty in adopting and supporting modern technology. Overall, however, despite the limitations, it can be said that UDC has opened a window of opportunity for the people living in rural areas to enhance their ability to perform a wide range of tasks more efficiently – resulting in a degree of positive impact on the overall socio-economic development of the locality.

Table 8: Synopsis of Findings and Analysis

<i>Measuring impact on Citizens' behavioral pattern</i>	<i>Mean Value</i>	<i>Impact</i>
a. Increase ICT knowledge and Social communication skill	3.74	Moderate
b. Satisfaction regarding access to desired e-government services	4.10	Significant
c. Satisfaction regarding amount of fees paid	4.72	Significant
d. Increase the level of awareness and confidence	3.46	Moderate
e. Increase the mobility of women	4.06	Significant
<i>Measuring Infrastructure and Logistics Support</i>		
a. Power supply and Internet connectivity	3.54	Moderate
b. Sufficient number of furniture and ICT equipment	3.70	Moderate
<i>Efficiency in Service Delivery</i>		
a. Performance of UDC entrepreneurs in service delivery	4.00	Significant
b. Provide training facilities to the beneficiaries	2.98	Poor
<i>Reduction of time cost and distance</i>		
a. Less time, cost and distance barrier	4.96	Significant
<i>Reduction of Corruption</i>		
a. Removal of intermediaries and illegal exchange of money for getting e-services.	4.82	Significant

Key Challenges

Based on the findings of the study, the authors found some key challenges to provide service at door-step more effectively. Despite some obstacles, this innovative model of delivering services by decentralizing the desk of the government has gained more trust and reliability of the rural citizen. Firstly, the key challenge is to make this initiative financially sustainable, otherwise it will cease to function. But, the study found, in some areas, the financial performance of UDC is at stake. On the other hand, over commercial aspect in some areas might hamper the benevolent mission of the government. So, the fine balance between two is required.

Secondly, the quality of the entrepreneurs matters at the end of the day. The study found that, the entrepreneurs are not up to the mark at their skill level. Despite availability of the training session, the skill has not improved a lot. The recruitment of the entrepreneurs from the Dhaka central office is not monitored. The lack of this monitoring generating unskilled recruitment in UDC that is a serious threat to the sustainability of UDCs. Moreover, many of the female entrepreneurs either merely allow their male counterparts to lead or dropout after getting married or giving birth. It is an issue that is deep-seated in a multitude of social barriers.

Thirdly, the local government representatives are still not so interested to promote the service delivery mechanism of the central government services to the people and thus they cease to campaign in favor of the UDCs. Till date people are not still fully aware of the establishment of LDCs and its purpose or functionalities.

Finally, Infrastructure and Logistics Support for the UDCs are still inadequate. The challenge is to find out to what extent logistics and infrastructural supports are required for each UDC as the logistics and infrastructural requirements vary according to location and service delivery demand pattern.

Clues On Improvement

First and foremost, to maintain the quality of the entrepreneurs there has to a central recruitment system monitored by Access to Information (a2i) Programme. Standard criteria is required to be developed and a franchisee system—to serve as a meta business model for the entire chain of UDCs—could be designed. If the level of income is improved to a remarkable extent, skilled entrepreneurs—both male and female—would be interested to run this centres. In fact, time has come to ameliorate the training module and provide them with the advanced level training on entrepreneurship and development. Business development modules are required to include immediately.

Secondly, Bridging the gap between the UDCs and Upazilla based government offices is required to provide quality service to the people at the door steps. Proper coordination is required to make UDC more effective and service oriented. Monitoring the activities of UDCs should be rigorous to find out the suitable place for the establishment of UDC as the income considerably depends on location. UDC located in frequently visited public places rather than in remote places can generate more income for entrepreneurs.

Thirdly, the study has found that the general level of awareness about the associated services of UDCs is still limited and therefore, it is imperative to raise awareness by doing massive campaign. The campaign of promoting the effectiveness of service delivery of the UDCs has to be done by local government representatives. The key stakeholders including Union Parishad chairman and members, civil society organizations, government officials, political leaders and media should paly pivotal role to organize promotional campaign.

Finally, Infrastructural facilities like hi-speed internet connection and constant supply of electricity are clearly insufficient till date. Alternative sources of power like solar panel can be introduced to reduce the crisis. In fact, reliable and adequate infrastructural facilities are required to consolidate the e-Government services in rural areas. The BTCL may consider a special project to connect the UDCs under its 'super-fast' internet coverage. The government can also take initiative to supply 4G modem to the entrepreneurs to expedite their services.

Conclusion

ICT based government services has changed the life of the rural people, especially woman, considerably; however, it still has some inadequacies. The study has made it apparent that the beneficiaries have begun to apprehend the significance of the UDCs for its massive contribution on the empowerment of the people by providing them with the access to information and livelihood support. Moreover, ICT is working as aninstrument to bridge the gap between poor and rich people as well as increasing the capacity of the government service delivery mechanism, and moreover the capacity of the state in general. However, there is hardly any room for

complacency as UDC based service mechanism is still modest in operations and facing formidable challenges like suffering from financial sustainability and lack of logistics supply. Furthermore, UDC is an innovative model that brings private and government sector together in reaching the unreached. In order to sustain this worthwhile initiative of the government, therefore, direct attention and proper monitoring would be required from the relevant public agencies, academics and development practitioners. The researchers believe that this study will pave the way of future research in this sector as it has ample research scope.

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An Exploration of the Prospects of International Standards in Development Project Planning Process in Bangladesh

Md. Tariqul Islam

Abstract

This study was focused on Traditional and International Standards of the planning process for efficient and timely closure of the development projects in the public sector. It was observed that implementation of development projects through traditional project management process became less effective to achieve the desired impact on socioeconomic development. Comparative analysis depicted that the International Standards of the project management process could be the best alternative for the effective and successful implementation of the development projects. Reviewing the development project planning process, it has been suggested that the International Standards of the project planning process may overcome development project management hurdles in the public sector in Bangladesh.

Key Words: Development Project, Project Planning Process, Project Management, International Standard

1.0 Introduction

The project is “a temporary endeavor undertaken to create a unique product, service, or result” (A Guide to the Project Management Body of Knowledge 2013). The main objective of the project is to generate some positive outputs. Projects are temporary in the sense that it will terminate upon achieving its goals or management decision (Turner 1996). Development projects are implemented to achieve socio-economic development of a country (General Economic Division 2012). Different phases of the development project follow the logical sequence. Each development project should have at least initiation, planning, execution and closing phases. Among them, the planning phase is the most important part for successful implementation of the development project. Mišić and Radujković (2015) studied the “success and failure factors of Megaprojects“ and emphasized on “competent project management” for successful implementation of the project. Bobera and Trninić (2006) identified that “planning and quality in project management” are very significant for the successful completion of the project. Promoting “contemporary project management practices” have been encouraged for getting the desired outcome from the development projects (Zuofa and Ochieng 2012). Globerson & Zwikael (2002) emphasized “both planning and execution” whereas Pülmanis (2013) highlighted on “project management tools and techniques” for

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successful completion of the project. Brioso (2015) suggested for utilizing different methodologies to get better results and concluded that “management systems do not compete with each other; all methodologies are compatible if used appropriately”. The importance of the planning phase to project success has given ultimate importance (Serrador 2012).

Project management scholars are concerned about project management processes and its impact on the successful and efficient implementation of the project. Rondinelli (1976) discussed on difficulties of project management in light of developing countries and advised for management policy change. Abedin and Akhtar (2014) studied some industrial projects in Bangladesh and suggested for the improvement of “project management practices”. Hamiduzzaman (2014) focused on the institutional arrangement for planning and management of development projects in Bangladesh. Development projects are implemented to achieve socio-economic development. It aims to conform to the government policies and priorities in various sectors (General Economic Division 2012). Implementation of development projects follows the logical sequence. Each development project should have at least initiation, planning, execution and closing phase (Economic Relations Division 2010). A large number of development projects implemented in the public sector following traditional project management methods.

Few studies conducted on the implementation of International Standards in the project planning process. This study analyzed the scope of implementing International Standards for development project planning process in the public sector. It investigated the contemporary development project implementation processes and recommended the way out for successful and efficient completion of the development projects in public sector. It explored the prospects of implementation of the International Standards in development project planning process in the public sector of Bangladesh.

1.1 Objectives of the study

The objectives of the study are-

- (i) Analyzing the current planning process of development projects in Bangladesh
- (ii) Investigating the International Standards of the project planning process
- (iii) Evaluating the current planning process and the International Standards of the project planning process for the public sector in Bangladesh
- (iv) Recommendation of the best suited planning process for development projects in the public sector to get the maximum benefit.

1.2 Methodology

Comparative analysis technique has been applied. Various literature, journals, books, publications, websites and other sources have been consulted. Data collected

from various sources have been analyzed and recommended.

1.3 Limitations of the study

Secondary sources have been used to get data for analysis.

2.0 Development planning process in Bangladesh

2.1 Ministry of Planning

Ministry of Planning is the focal point institution for development planning, monitoring and resource allocation for the economic advancement of the country. It consists of three divisions like (a) planning division (b) Implementation, Monitoring and Evaluation Division (IMED) and (c) Statistics and Informatics Division (SID).

The planning division coordinates development planning and synchronizes resources for the socioeconomic advancement of the country. Implementation, Monitoring and Evaluation Division (IMED) support socioeconomic development through monitoring and evaluating the development projects. Statistics and Informatics Division (SID) gives the required data and information to formulate the strategic plan for the socioeconomic development of the country. The National Academy for Planning and Development (NAPD) and Bangladesh Institute of Development Studies (BIDS) working under the Ministry of Planning (MoP) give policy support to formulate development planning. Besides, the Economic Relations Division (ERD) maintains international economic relations with international agencies and foreign countries. It explores external resources to implement development projects successfully. On behalf of the country, it makes arrangement to sign contracts with the foreign countries and international agencies.

2.2 Planning Division

Planning Division is the key government agency for development project planning. It gives secretarial assistance to the National Economic Council (NEC) and the Executive Committee of the National Economic Council (ECNEC). It is entrusted for the coordination of the development activities and policies of ministries, divisions and agencies. It also gives directives to prepare development projects. It synchronizes private investment of the country and looks after various bodies under planning division like Bangladesh Institute of Development Studies (BIDS) and National Academy for Planning and Development (NAPD). It researches the different development aspects of the country.

The planning commission is primarily entrusted for development project planning in Bangladesh. It formulates short and medium-term development plan to achieve long term goals and targets. It achieves its target through (a) Policy Planning (b) Sectoral Planning (c) Programme Planning (d) Project Planning and

(e) Evaluation. Honorable Prime Minister is the chairperson of the planning commission and the minister for planning acts as the vice-chairperson. There are other five members at the policy level. Secretary, planning commission acts as member secretary to the commission. It consists of six other divisions like (1) Programming Division (2) General Economic Division (3) Socio-Economic Infrastructure Division (4) Physical Infrastructure Division (5) Industry & Energy Division and (6) Agricultural, Water Resources and Rural Institution Division.

2.3 National Economic Council (NEC)

National Economic Council decides on economic affairs of the country. It is the highest body of the nation which looks after the policy related to economic development. The honorable Prime Minister is the chairperson and all ministers are the members of the committee. Cabinet Secretary, Governor of Bangladesh Bank, all Members of the Planning Commission and Secretary of concerned ministry or division play the supporting role of the committee.

National Economic Council gives direction and guidance to formulate various development plans, programs and economic policies. It also finalizes and approves policy, program or project which it considers necessary for the socioeconomic development of the country. It also reviews the progress of development programs from time to time.

2.4 Executive Committee of the National Economic Council (ECNEC)

The honorable Prime Minister is the chairperson of Executive Committee of the National Economic Council (ECNEC). It considers and approves project concept papers of all investment projects. It also reviews the progress of development projects and the financial performance of the statutory corporations. It analyzes the economic situation of the country and gives policy directives. The committee evaluates socioeconomic indicators and takes necessary measures to achieve the development goals.

2.5 Development administration of Bangladesh

The planning commission plays the crucial role for development project planning and approval process. It is supported by other ministries and divisions. Development project planning process starts within the ministries/divisions to meet the development targets set for socioeconomic development of the country. They follow the guidelines set by the planning commission. After finalizing development project proposal (DPP), ministries/divisions submit it to the planning commission for necessary approval by the ECNEC/NEC. It takes planning inputs from external sources like Statistics Division, Bangladesh Bank and other sources. Finance Division, Internal Resource Division (IRD) and Economic Relations Division

(ERD) provide necessary inputs to plan internal and external resource allocation for the development projects. They are also responsible for both internal and external resource mobilization and availability.

Implementation, Monitoring and Evaluation Division (IMED) provide the progress report of the individual development project for resource allocation and to take project related other critical decisions. NEC and ECNEC play a vital role for approval, resource allocation and take other decisions for any individual project based on the information provided before it.

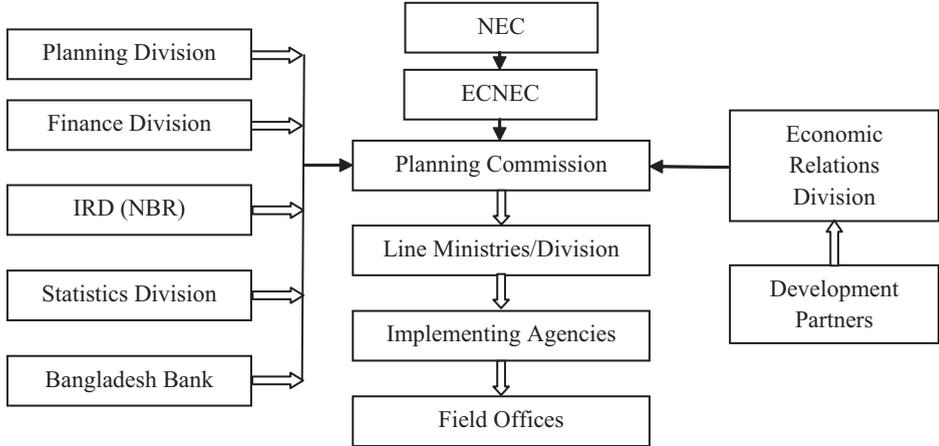


Figure- 01: Development Administration in Bangladesh
 [Source: Economic Relations Division (ERD)]

2.6 Standard Operating Process (SOP)

From initiation to final approval, every project has to follow a series of processes which is called Standard Operating Process (SOP). It includes project inception, formulation, review, assessment, appraisal, evaluation and approval. Different authorities complete different tasks. Implementation agency/department, line ministry/division and planning commission are three main agents involved in project planning and approving process. Every project pass through different stages such as-

(a) Project inception: The implementing agency/department initiates development project under budget allocation, assigned responsibility and previous experience of project implementation. Each agency/department attempts to achieve development goals through implementing various development projects and programs. They conduct various studies/surveys and gather necessary information for project inception.

(b) Project formulation: Agency/department formulates Development Project in Development Project Proposal (DPP) format and Technical Assistance Project in

Technical Assistance Project Proposal (TAPP) format following guidelines issued by the planning commission. They include all necessary information for project appraisal by the ministry/ division. Agency/department submits the project proposal to the ministry/division for further evaluation and approval.

(c) Project assessment: After submitting DPP/TAPP, acceptability is assessed by the planning wing/branch of the ministry/division. If the project proposal meets the necessary criteria set by the ministry/division, it is placed before the Project Evaluation Committee (PEC) for necessary approval. To assess the project proposal, planning wing/branch of the ministry/division considers the national and ministerial strategic policies and other development policies set by the government. They also assess the priority of the ministry/division, prior experience to implement such project, sustainability, possible risk factor, realistic financial and economic analysis, expected benefits and resource allocation and budgetary constraint of the ministry/division.

(d) Project evaluation by line ministry/division: Development and planning wing/branch of ministry/division prepares a working paper for the Project (Special) Evaluation Committee (P(S)EC) based on the information provided by the agency/department. P(S)EC headed by the secretary of the ministry/division considers everything of the project and decides to send it to the planning commission for necessary approval.

(e) Consultation with the Finance Division: If the project contains the proposal of new human resources, then it is referred to the Finance Division for necessary approval of project workforce approval. After scrutinizing the proposal, Finance Division gives consent on the proposal or rejects it and sends it back to the line ministry/division.

(f) Preliminary appraisal by Planning Commission: After submission by the line ministry/ division, respective wing/sector-division of planning commission makes detail appraisal of the DPP/TAPP and prepares the working paper for the Project Evaluation Committee (PEC). If respective wing/sector-division is not satisfied after scrutinizing the documents, they send it back to line ministry/division for necessary amendment or modification. For an appraisal of the DPP/TAPP, Planning Commission coordinates inter and intra-sectoral allocation, consider the national priority, implementation capacity of the ministry/division and coherence of the ongoing projects. It also focuses on resource allocation and mobilization.

(g) Project evaluation by the Planning Commission: Respective wing/sector-division place the DPP/TAPP before the Project Evaluation Committee (PEC) for necessary approval or recommendation. If the Project Evaluation Committee (PEC) satisfies, it would recommend the minister of planning to approve the project or referred it to ECNEC for necessary approval. If the Project Evaluation Committee (PEC) recommends any recast or revision, then the line ministry/ division ensures

recommended recast or revision. Incorporating important recast/revision line ministry/division submits it to the planning commission for necessary approval.

(h) Approval by the NEC/ECNEC: The NEC/ECNEC is the highest body for project approval process. They can approve any project proposal considering appropriate for national interest. The NEC/ECNEC meeting is chaired by the honorable Prime Minister.

(i) Final approval letter issued by the Planning Commission: After getting approval by the appropriate authority, the Planning Commission issues the approval letter to implement the DPP/TAPP. After getting an approval letter issued by the planning commission, the implementing ministry/division implements the development project.

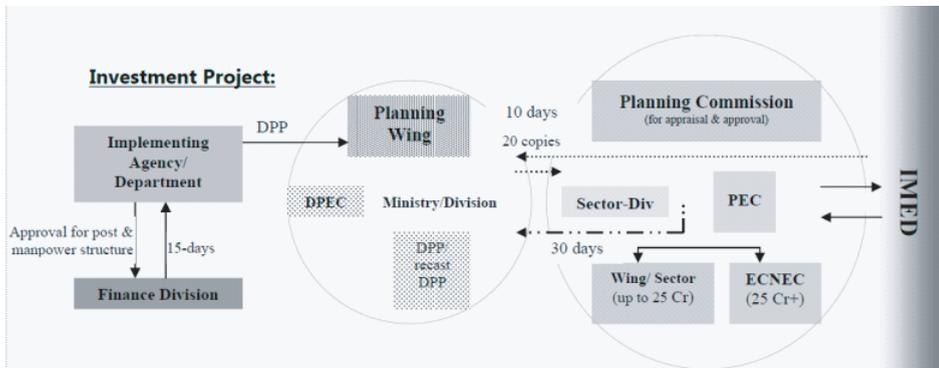


Figure- 02: Project Approving Process [Source: ERD]

3.0 International standard of project planning process

3.1A Guide to the Project Management Body of Knowledge (PMBOK Guide)

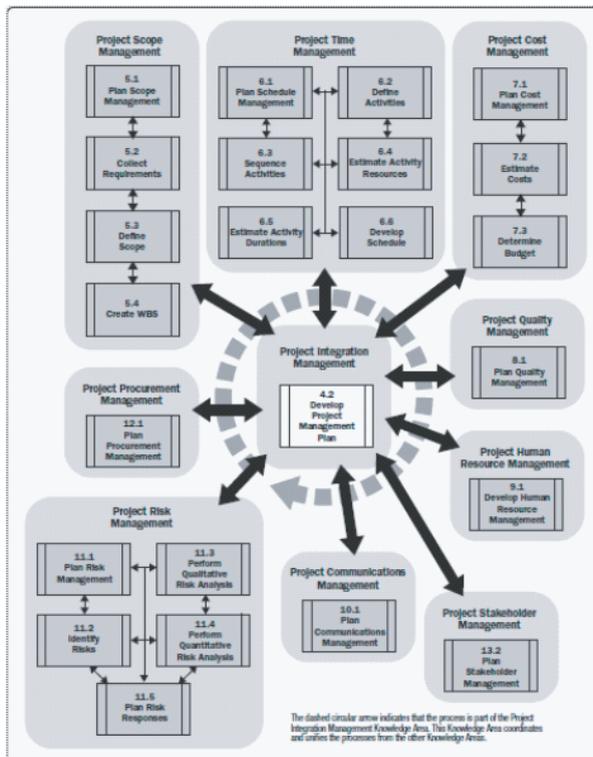
According to A Guide to the Project Management Body of Knowledge (PMBOK Guide), project management is divided into five project management process groups, 47 project management processes and ten project management knowledge areas. The management process groups are inter-dependent and highly interacted with each other. These process groups can interact within the group or among other groups. This interact varies from project to project. It also does not follow any particular fashion. The project management process groups are-

- (1) Initiating process group
- (2) Planning process group
- (3) Executing process group
- (4) Monitoring and evaluation process group
- (5) Closing process group

The planning process group is the most important part of the project management process. It consists of those processes which establish the entire scope

of the effort, define and refine the objectives, and develop the course of actions required to attain the objectives. Among 47 project management processes, 24 project management processes include in this group. It also covers all the ten project management knowledge areas. The project management processes that fall under the Project Planning Group are-

- (1) Develop Project Management Plan (2) Plan Scope Management (3) Collect Requirements (4) Define Scope (5) Create WBS (the process of subdividing project deliverables and project work into smaller, more manageable components) (6) Plan Schedule Management (7) Define Activities (8) Sequence Activities (9) Estimate Activity Resources (10) Estimate Activity Durations (11) Develop Schedule (12) Plan Cost Management (13) Estimate Costs (14) Determine Budget (15) Plan Quality Management (16) Plan Human Resource Management (17) Plan Communications Management (18) Plan Risk Management (19) Identify Risks (20) Perform Qualitative Risk Analysis (21) Perform Quantitative Risk Analysis (22) Plan Risk Responses (23) Plan Procurement Management (24) Plan Stakeholder Management.



3.2 ISO 21500: 2012

ISO 21500:2012 is an international standard issued by the International Organization for Standardization (ISO) for project management which provides guidelines for achieving project goals through the systematic procedure. It helps to achieve project goals and objectives by planning, organizing, motivating and controlling resources. The guideline could be followed in the public, private, corporation or community based organizations. Irrespective of complexity, size or duration of the project, this standard could be applied. It emphasizes the principles and practices of the project management.

In ISO 21500:2012, the management process group has been divided into two categories like process groups for the management of the project and subject groups for collecting the processes by subject. There are 39 project processes within five process groups. There are ten subject groups like Integration, Stakeholders, Scope, Resource, Time, Cost, Risk, Quality, Procurement and Communication.

The planning process group is the most important part of ISO 21500:2012. It includes 16 out of 39 project processes. The project processes which fall under the planning process group are-

- (1) Develop project plans
- (2) Define scope
- (3) Create work breakdown structure
- (4) Define activities
- (5) Estimate resources
- (6) Define project organization
- (7) Sequence activities
- (8) Estimate activity durations
- (9) Develop schedule
- (10) Estimate costs
- (11) Develop budget
- (12) Identify risks
- (13) Assess risks
- (14) Plan quality
- (15) Plan procurements
- (16) Plan communications.

3.3 Projects IN Controlled Environment (PRINCE2)

The PRINCE2 (Projects In Controlled Environment) is a widely used international standard for project management. It is a structured project management method suitable for any size, type, organization or culture. It is a standard generic method based on proven principles. Six variables are very critical for any project. The six aspects of project performance should be managed namely Costs, Timescale, Quality, Scope, Risk and Benefits. This method consists of four integrated elements like principles, themes, processes and the project environment.

There are seven principles in the PRINCE2 standard like (1) Continued business justification (2) Learn from experience (3) Defined roles and responsibilities (4) Manage by stages (5) Manage by exception (6) Focus on products and (7) Tailor to suit the project environment. These principles are indicative of obligations and good practices that decide whether the project is being managed genuinely using PRINCE2.

The themes of PRINCE2 emphasize on aspects of project management which should be observed throughout the project continuously. There are seven themes

like Business Case, Organization, Quality, Plan, Risk, Change and Progress. These themes address the chronological flow of the project management process throughout the project cycle. The themes may be tailor made to fit depending on nature, scale and complexity of the project.

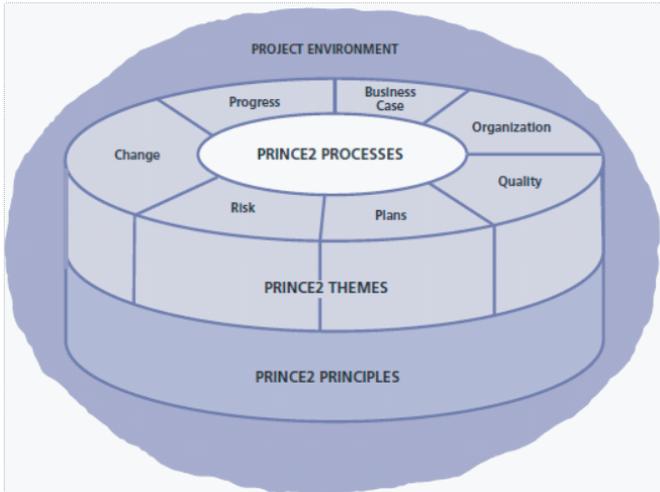


Figure- 04: Structure of PRINCE 2 [Source: Managing Successful Projects with PRINCE2™, 2009]

PRINCE2 is a process based project management system which elaborately describes every step from starting to the closure of the project life cycle. The seven processes provide guidelines for activities to direct, manage and deliver a project effectively and successfully. The processes in PRINCE2 are (1) Starting up a project (2) Directing a project (3) Initiating a project (4) Controlling a stage (5) Managing product delivery (6) Managing a stage boundary and (7) Closing a project.

4.0 Discussion

Development projects are implemented “to drive development and to contribute toward the alleviation of the effects of most social, political, and economic problems” (Zuofa and Ochieng 2012). Zuofa & Ochieng (2012) emphasized to engage highly competent and trained personnel and to establish project management culture and standard within the organization and government establishment. Stuckenbruck and Zomorrodian (1987), Kerzner (2009) and Hyvari (2006) suggested for standardized project management techniques. They have argued that such techniques will allow the project management team in the developing countries to plan and implement development projects with the higher level of precision and synergy which will result in more efficient and faster project outcomes. Project success depends on completion of the project within specified timeframe and budget following the desired specification. According to Globerson and Zwikael (2002) proper planning and execution of the project are the key factors for successful

project completion. They argued that if planning is formulated properly, it will improve the quality of the project. Time spent on planning and analysis will reduce risk and increase project success (Serrador 2012). Alternatively, inadequate analysis and planning may lead to a failed project (Morris 1998, Thomas et al. 2008). If poor planning has led to failed projects, then perhaps lots of resources will go in vain (Sessions 2009). Mintzberg (1994) as cited by Serrador (2012) stated that “planning as the effort to formalizing decision-making activities through decomposition, articulation, and rationalization”. Thomas et al. (2008) emphasized on project planning and stated that “the most effective team cannot overcome a poor project plan”. Projects started down the wrong path can lead to the most spectacular project failures. Morris (1998) argued that the decisions made at early stages of the project would affect the strategic framework and inadequate planning hampered the project execution for a long time. Munns and Bjeirmi (1996) stated that for a project that is flawed from the start, successful execution might matter only to the project team, while the wider organization would see the project as a failure. Blomquist et al. (2010) affirmed that “plans are a cornerstone of any project; consequently, planning is a dominant activity within a project context”. Serrador (2012) concluded that “planning associated with project success; both project efficiency and overall project success”.

International bodies like Project Management Institute (PMI), International Organization for Standardization and Office of Government Commerce, UK have issued various International Standards for project management. A Guide to the Project Management Body of Knowledge (PMBOK Guide) issued by the Project Management Institute, Inc. “provides guidelines for managing individual projects and defines project management related concepts. It also describes the project management lifecycle and its related processes, as well as the project life cycle” (PMBOK Guide 2013). It has given ultimate emphasis on project planning. Among 47 project management processes, 24 project management processes include planning which touch all process seven groups and ten project management knowledge areas. It has elaborately described all the processes of successful and efficient project closure and delivering project benefits.

International Organization for Standardization has issued a set of project management standard called ISO 21500:2012. It is a set of project management standard widely used for successful completion and effective project management purpose for all kinds of projects regardless of sector, size, location and complexity. It provides “guidance on concepts and processes of project management that are important for, and have impact on, the performance of projects” (Zandhuis and Stellingwerf 2013).

PRINCE2 is an International Standard for project management issued by the Office of Government Commerce, UK. It is also a widely used International Standard for managing projects irrespective of project type, organization or

complexity. It has an option to tailor the processes based on project nature, organizational need, project environment and other related issues. It is a well designed project management method which fulfill necessities of the project management team, improve communication and control over the project activities throughout the lifecycle of the project. Especially, it gives emphasis on planning process of the project which provides information to all project personnel on:

- What is required
- How it will be achieved and by whom, using what specialist equipment and resources
- When events will happen
- Whether the targets (for time, cost, quality, scope, risk and benefits) are achievable

Development projects in the public sector are prepared in a wider range. These are diversified in size, nature, organizational need, project environment and complexity. The project management team is more complex and diversified and at the same time less result oriented. International Standards of project management can guide the project management team in the public sector to more result oriented. Planning of the development projects following the International Standard of project management processes will provide a good start. It may lead to successful and efficient closure of the projects in such a complex and diversified environment, thus to achieve the desired impact on socioeconomic development of the country. The International Standards of project management processes are widely used both in the public and private sectors. It may overcome development project management hurdles in the public sector, especially for developing countries like Bangladesh.

5.0 Conclusion and Recommendation

Planning process of the development project provides credible control over the lifecycle. It sets baseline to measure progress and provides indication for required adjustment. The traditional method of development project planning process resulted frustrated consequence over successful and timely closure. International Standards set widely accepted parameters and indicators of the project management processes both in the public and private sectors. It could be followed from the inception of the development project to its closure and final evaluation. Development Project Proposal (DPP) or Technical Assistant Project Proposal (TAPP) preparation process could be modified and redesigned according to the International Standards of project management processes. The approval and monitoring procedure of the development project could be customized and updated following the above standards. The following steps could be taken for successful, efficient implementation and timely closure of the development projects in the public sector to get the desired outcomes for socioeconomic development:

- (a) Every development project should follow the International Standard of the project planning process from its very inception
- (b) The International Standards Should be followed throughout the project lifecycle
- (c) Required policy support and amendment should be done to implement the International Standard of the project management processes for development projects in the public sector
- (d) Ongoing development projects should be reviewed and redesigned to ensure desired benefits and outcomes from the projects by implementing the International Standards
- (e) Project management personnel should be trained and well conversant with the International Standards for project management processes. Sufficient training should be given to the project management personnel who are involved throughout the lifecycle of the development projects including project inception, planning, management and closure of the project
- (f) The institutional and legal framework should be redesigned to cope with the International Standard of project management processes to get the maximum benefit.

6.0 References

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Impact of Psychological Variables on Investment Decision: Empirical Evidence from Bangladeshi Investors

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Abstract

Investors' (in fact, human) psychology is mysterious to comprehend. The ultimate aspiration of this study was to find out how psychological variables manipulate investors' rational investment decisions into irrational decisions. Traditional finance by and large ignores psychological aspects of investors' investment decisions though it has an enormous impact on investment decisions. In this study researcher tried to demonstrate how investors' psychological variables play imperative role on investment decision. To conduct this research, 200 investors (From DSE and CSE) were considered as sample to collect primary data through a structured questionnaire consisting 30 questions on dependent and independent variables to analysis and interpret their psychological aspects on investment decision. Mainly, regression analysis was adopted to analyze and interpret data using statistical tool like 'Statistical Package for the Social Sciences' (SPSS). From the results of the analysis, researcher found that psychological variables play immense role to be irrational behavior on investment decision of the investors in Bangladesh. This paper also suggested some courses of action to the investors, policymakers and researchers to consider in the future.

Keywords: Psychological Variables, Investment Decisions, Investors, Bangladesh.

1.0 Introduction

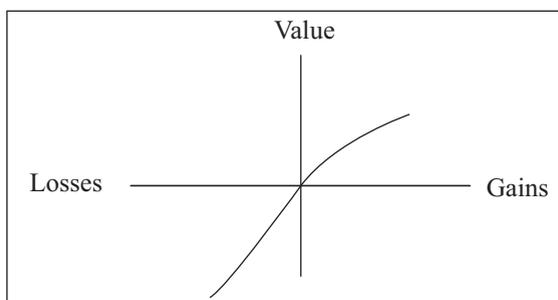
Behavioral aspect of finance is being emphasized across the world. Since traditional aspect of finance does not pay attention to the psychological behavior of investors, behavioral finance has been gripping a big part of investors' investment decision. As per conventional financial theory investors are considered that they are rational and wealth can maximize in financial decisions. However the idea of fully rational investors that have perfect control on their decisions to maximize their utility is becoming less popular. In efficient markets investors are considered as rational, unbiased and consistent who make optimal investment decisions without the effects of psyche and emotions. Investors do not make always rational decision while making investment decision. Different anomalies are observed when investors try to make their investment decisions. On other hand, Efficient Market Hypothesis (EMH) states that markets are always efficient, but in reality markets are not always efficient. An abnormal market behavior can occur, such as the January effect,

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Monday effect, which means that human behavior influences securities prices and, therefore, markets - Pompian, M. M. (2006).

Different psychological variables contribute to be irrational investment behavior in investors in Bangladesh. Basically, this paper deals with five independent psychological variables i.e. overconfidence, representativeness, mental accounting, regret aversion and loss aversion long with a dependent variable investment decision. In Bangladesh investors were found irrational behavior in terms of their investment decisions. Markets were found volatile, again and again market crash took place, investors left from this kind of markets immediately due to market behavior which led by irrational behavior of investment decision - Molla, M. E. (2018).

Figure 1: Prospect Theory, Kahneman, D., & Tversky, A. (1979)



Reference dependence and loss aversion are ingredients of prospect theory claimed by Kahneman, D., & Tversky, A. (1979); Kahneman, D., & Tversky, A. (1992), wherein individuals maximize a weighted sum across states of the states of the world of value functions (utilities), value depends on gains or losses rather than levels, and where the weights are functions of probabilities. In the figure 1, suggesting that value is an S-shaped function of gain or loss (dual risk attitudes) resulting in risk aversion in the gain domain and risk seeking in the loss domain. Loss aversion is reflected in a kink in the value function at zero gain or loss.

1.1 Problem Statement

In this study psychological variables were considered to find out the impact of these variables on investment decision of Bangladeshi investors. While collecting data it was found that the current subject matter seemed to be unknown to the investors. They actually did not know how would react on the variables of research questions. Some investors were found unwilling to share their information to researcher. Few investors even did not want to talk for a single moment and reacted badly. For being psychological variables it was tough to analyze and interpret all the variables during the research work. Since, Bangladeshi investors' psychological aspects were

considered to examine in this current field, researcher needed to have sufficient secondary data on this field from previous studies. But researcher found inadequate data while searching available secondary data sources on Bangladeshi investors' in this research field.

1.2 Significance of the Study

This paper shows how behavioral aspects of finance can be impactful on investors' investment decisions. Many countries like Bangladesh investors have been experiencing a number of times massive market collapses. Researchers usually used to investigating and relating the reasons and consequences of the market behavior using traditional finance tools like time value of money, risk and return calculation, capital budgeting technique, cost of capital etc. for the investors investment decision. In contrast, investors' psychological aspects were generally ignored by the researchers, investors and other agencies in Bangladesh, practitioners and related agencies - Molla, M. E. (2018). As a result, this study would have been considered an empirical evidence to contribute in the field of behavioral finance.

1.3 Scope of the Study

Understanding investors' psychological impact on investment decision, this paper would contribute splendidly. As it has been observing that concentrating and practicing behavioral aspects of finance has been inadequate in Bangladesh, this study will certainly unlock the current situations to concentrate and practice more behavioral finance as a basic courses for the students, investors, researchers and concerned parties.

1.4 The Study Objectives

The main objective of this study was to explore how actually psychological variables impactful on investors' investment decisions in Bangladesh. To some extent precise objectives of this paper were;

- a. To know the major psychological variables.
- b. To find out how psychological variables play crucial role on investment decision.
- c. To analyze data, interpret on findings and present some recommendations to concern parties.

1.5 Research Gap

The most common way cross pragmatic cams is to spot various gaps in the literature - Sandberg, J., & Alvesson, M. (2011). Especially in Bangladesh, researchers emphasize and pay attention on traditional finance. Therefore, adequate research works relating to traditional finance were available in this country. On the other hand, behavioral or psychological aspects of finance were somehow ignored over

the years. Even in the higher studies students were being taught a little on behavioral finance. Psychological aspects always play a big part of financial decisions that should be remembered by all stakeholders of the country. As, in this field was ignored for a long period of time by the researcher and policymakers, no remarkable research works had been conducted on this current field in Bangladesh. Therefore, researcher tried to contribute on behavioral aspects of finance as much as possible.

1.6 Limitations of the Study

Collection of data sets was somehow seemed to be inconsistent because the respondents (investors) were reluctant to convey their opinion for the sake of confidentiality. If they conveyed their opinion perfectly this would have made the study more exact and factual. Opinion of respondents was collected from Dhaka metropolitan areas for the convenience sampling of the study though it was thought that geographic, demographic sates would largely contribute to change psychological behavior of the investors. Therefore, the opinion presented in this study might be seemed as a prejudiced one. Besides, Psychological variables were actually hard to interpret. Therefore, anyone could make their opinion differently.

2.0 Review of Literature

A review of prior, relevant literature is an essential feature of any academic or research work. An effective review creates a firm foundation for advancing knowledge. It facilitates theory development, closes areas where a plethora of research exists, and uncovers areas where research is needed - Webster, J., & Watson, R. T. (2002). As per understanding the impact of psychological variables and investment decision, researcher should review sufficient studies on the research filed. There were different books, published articles; seminar & conference papers and research reports had been reviewed in this part of this paper. This would be helpful to highlight the research gap of the study.

Chen, G. (2007) et al. found that investors were highly overconfident to make investment decision which led to poor returns from their investments. Doukas, J. A., & Petmezas, D. (2007) claimed that overconfidence played a greater role in higher order acquisition deals predicting lower wealth effects for higher order acquisition deals. Researcher also suggested that overconfident bidders realized lower announcement returns than rational bidders and exhibited poor long-term performance. Erceg, N. et al. (2014) explored that the occurrence of the overconfidence bias and the conjunction fallacy in betting behavior among frequent and sporadic bettors and to test whether it was influenced by the task format (probability vs. frequencies). Pompian, M. M. (2006) described that overconfidence could be summarized as unwarranted faith in one's intuitive reasoning, judgments and cognitive abilities. Scott, J., Stumpp, M., & Xu, P. (2003) suggested that overconfidence variable most likely to occur. Besides, researchers found that people

(investors) were particularly overconfident on their abilities. Winman, A. (2004) et al. demonstrated that overconfidence bias occurred when investors produced intervals for an uncertain quantity was abolished when they evaluated the probability that the same intervals included the quantity. Zaidi, F. B., & Tauni, M. Z. (2012) showed that there was a high degree of association between overconfidence and investors irrational investment decisions.

Chan, W. S. (2004) examined a central psychological bias, representativeness, which was underlying many behavioral-finance theories. Researchers added that representativeness bias formed in individuals predictions about future outcomes based on how closely past outcomes fit certain categories. Chen, G. (2007) et al. found that investors were highly found representativeness biased to make investment decision which led to poor investments decisions with poor returns from their investments. Coval, J. D., & Shumway, T. (2005) explained if traders afflicted with a representativeness bias view morning trading conditions as overly reflective of those they (traders) could expect to face in the afternoon, profitable mornings were followed by amplified afternoon risk-taking. Hirshleifer, D. (2015) claimed that by the representativeness heuristic investors seemed to fixate on that pattern and overcorrect. Researcher also described that combination of effects generated return momentum and reversal, and an overcorrection pattern in response to trends in public value signals (e.g. earnings news sequences). Molla, M. E. et al. (2018) found that investors were biased due to behavioral variables that formed in their (investors) predictions about how future outcomes would be based on close past outcomes fit certain categories that was why investors lost their capital over the years. Pompian, M. M. (2006) summarized that some investors tended to rely on stereotype when making investment decisions. Individuals prone to sample-size neglect were quick to treat properties reflected in such small samples as properties that accurately described universal pools of data. The small sample that the individual had examined, however, might not be representative whatsoever of the data at large.

Thaler, R. H. (1990) found in empirical evidence that investors tried to save their money in the different accounts i.e. pension fund, savings account and so on which might cost them high level of return from investment in the portfolios. Prelec, D., & Loewenstein, G. (1998) proposed a double entry mental accounting theory that described the natures of reciprocal interactions between pleasure of consumption and pain of paying and drew out their implication on investors' investment behavior. Pompian, M. M. (2006) stated that mental accounting would describe how distinct financial decision (investment decisions) might be evaluated jointly (i.e. as though they pertain to the same mental accounting) or separately. Grinblatt, M., & Han, B. (2005) found that if the relevant accounts were profits in individual stocks, mental accounting would generate a disposition effect. Due to that in risk attitudes, investors subjected to mental accounting have a greater

tendency to sell stocks that had gone up in value as purchased. Soman, D. (2004) claimed that traditionally thought investors were rational but practically they were irrational in terms of considering different accounts rather than investing in a profitable portfolio. Cherry, T. L. (2001) proposed that investors behaved different way over money from different sources with investors possessing different marginal propensity to consume for every element of wealth.

Zeelenberg, M. et al. (1996) explained that the large disparity often observed between the minimal amount that people were willing to accept to give up a good they owned and the maximal amount they would be willing to acquire it. Seiler, M. (2008) presented that regret aversion needed to explain behavior in low-payoff settings would imply absurd level of regret aversion in high-payoff settings. Pompian, M. M. (2006) claimed that people exhibiting regret aversion avoid taking decisive actions because they feared that, in hindsight, whatever course they select would prove less than optimal. Molla, M. E. (2018) found that investors did not want to invest due to regret aversion behavior because already they got several devastating experience from their investment in the stock market. Zeelenberg, M., & Pieters, R. (2004) explained that investors tried to avoid investing due to regret aversion. They felt that if loss took place of their investment that might not be tolerable and they actually did not expect be.

Kahneman, D. (1991) et al. concluded that the study of risky choice had been such choices explained by assuming the significant carriers of utility were not states of wealth or welfare, but changed relative to a neutral reference point. Another central result was that changed making things worse (losses) loom larger than improvements of gains. Tversky, A., & Kahneman, D. (1991) demonstrated that losses and disadvantages had greater impact on preferences than gains and advantages. Implications of loss aversion for economic behavior were considered. Pompian, M. M. (2006) stated that the possibility of a loss was on average twice as powerful a motivator as the possibility of making gain of equal magnitude that was a loss-averse person might demand, at minimum, a two-dollar gain for every one dollar placed at risk. Genesove, D., & Mayer, C. (2001) showed that loss aversion was an important feature in explaining sellers' behavior in the housing market. Besides, it was mentioned that the larger the prospective loss, the smaller the marginal mark-up of list price over expected selling. Li, Y. J., Kenrick, (2012) revealed that mating motives selectively erased loss aversion in men. In contrast, self-protective motives led both men and women to become more loss averse. Overall, loss averse appeared to be sensitive to evolutionary important motives, suggesting that it might be a dominant-specific bias operating according to an adaptive logic of recurring threats and opportunities in different evolutionary domains.

3.0 Development of Conceptual Framework

In this study, especially five psychological variables were considered as independent variables along with one dependent variable of investment decision. These variables were examined by the thirty (30) specific questions relating to the individual variable. To some extent, the study focused on why and how overconfidence, representativeness, mental accounting, regret aversion and loss aversion variables persuade investors' investment decision. Following model was developed by the researcher specifically for this study that might open the unexplored gates of behavioral finance.

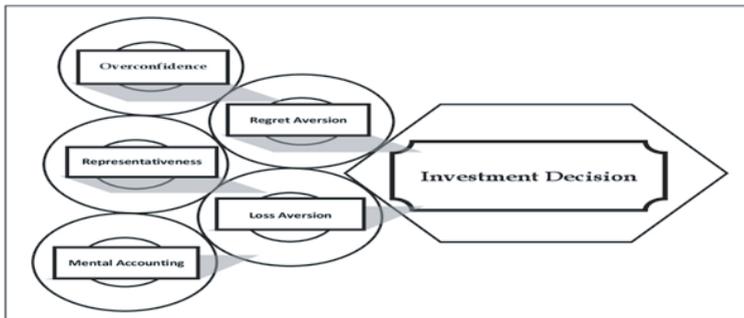


Figure 2: Conceptual Model for understanding of psychological variables on investment decision

In the above figure 2, researcher tried to showcase different psychological variables on investment decision. Overconfidence represents cognitive behavior, by the variable researcher explained that investors overestimate on decision making capability but underestimates risk. Besides, representativeness indicates cognitive behavior. It was mentioned, investors believe that past and present performance would consistently continue in the future. Mental accounting prescribes as cognitive behavior. By the variable it was meant, investors maintain different accounts of a particular amount of funds. On the other hand, regret aversion prescribes as emotional behavior. By which, investors avoid taking decisive actions of an investment on account of fear of making less than optimal decision and finally, loss aversion explains as emotional behavior of the investors. It was elucidated that investors feel stronger impulse to avoid losses than to acquire gains.

4.0 Development of Hypotheses

To conduct further study, some hypotheses were developed to know the impact of psychological variables on investors' investment decision. H_0 , indicated that null hypothesis which might be accepted or rejected as per results of developed model.

H₀₁: There would be no significant impact of overconfidence on investors' decision making.

H₀₂: There would be no significant impact of representativeness on investors' decision making.

H₀₃: There would be no significant impact of mental accounting on investors' decision making.

H₀₄: There would be no significant impact of regret aversion on investors' decision making.

H₀₅: There would be no significant impact of loss aversion on investors' decision making.

5.0 Methodology of the Study

Both primary and secondary data were collected to conduct this research. This paper emphasized on quantitative and qualitative data to analyzed. Primary data were collected through a structured questionnaire from the investors in Bangladesh which administrated personally towards investors consisting 30 questions. In which five independent variables (overconfidence, representativeness, mental accounting, regret aversion and loss aversion) consisted 25 questions and one dependent variable (investment decision) consisted 5 questions. The questionnaire was developed by using 5 point Likert Scale, where: 1= Strongly Disagree, 2= Disagree, 3= Neutral, 4= Agree and 5= Strongly Agree. Basically, population (investors) of this study was considered to Dhaka Stock Exchange (DSE) and Chittagong Stock Exchange (CSE) those who were investing at least last ten consecutive years precisely from 2010 to 2018. Around 500 investors (from both DSE and CSE) were considered as population for this research. Statistical tests of significance tell, the likelihood that experimental results differ from chance expectations, effect-size measurements tell that the relative magnitude of the experimental treatment - Thalheimer, W., & Cook, S. (2002). Among them 200 (from DSE 120 and CSE 80) were picked up from Dhaka city which partitioned into 4 strata or batches to conduct this research. Elements were selected according to each spectrum or batch by a random sampling technique. In contrast, secondary data were collected from scholars' research articles of different impactful international and national journals, books and other authentic web links relating to psychological variables and investors' investment decisions.

In this study, popular statistical methods were applied to test of hypotheses and variables to relate with the objectives of the research. Linear regression models, their variants and extensions are among the most useful and widely used statistical tools for research - Fox, J. (1997). Mainly, test of reliability, regression analysis were considered to carry out this research using software tool like 'Statistical Package for the Social Sciences' (SPSS) - 23 version.

6.0 Data Analysis and Discussion on Findings

Results are the most important part of the paper. It is required to present them clearly by avoiding long and confusing sentences. Presenting analyzed data shorter in tables and figures, the better - Alexandrov, A. V. (2004). In this section, data were analyzed

and discussed on findings. A set of tests had been applied to understand impact of psychological variables on investors' investment decision in Bangladeshi investors. It is mentionable that all outputs of model information were generated from 'Statistical Package for the Social Sciences' (SPSS) software.

6.1 Data Reliability Test

The question of reliability rises as the function of scales is stretched to encompass the realm of prediction. One of the most reliability statistics in use today is Cronbach's alpha - Santos, J. R. A. (1999). Cronbach's alpha is the convenient test used to estimate reliability or internal consistency of a composite score. Usually it gives a result 0 to 1 but sometimes negative results may provide. Negative result indicates data in not fit for the test. On the other hand, general rule of thumb, Cronbach's alpha .70 and above is the good result, .80 and above better result and .90 and above is the best. Therefore, in the Table 1, Cronbach's alpha for the thirty items was .90, suggesting that the items had the best internal consistency of the independent variables (overconfidence, representativeness, mental accounting, regret aversion and loss aversion) on dependent variable of investment decision to carry out further analysis.

Table 1: Test of Reliability through Cronbach's Alpha

Reliability Statistics	
Cronbach's Alpha	Number of Items
.898	30

6.2 Regression Analysis: Independent Variables on Dependent Variable

Statistical data analysis programs commonly compute the p-values during the execution of hypothesis test. Adjusted R-squared, on the other hand, gives the percentage of variation explained by only those independent variables that in reality affect the dependent variable.

6.2.1 Overconfidence on investment decision (H₀₁)

A simple linear regression was calculated to find out whether independent variable (overconfidence, a psychological variable) had significant impact on dependent variable (investment decision). Null hypothesis (H₀₁) was stated that there was no significant impact between independent variable on dependent variable. In the Tables 4, 5: $b = .93$, $t(198) = 2.76$ and $p < .05$, on the other hand, results shown in the tables by calculations in the Tables 3, 4: $F(1, 198) = 1169.24$, $p < .001$, with an adjusted $R^2 = .85$. The linear regression equation is; $Y = a + bX$ (where, Y = dependent variable, b = slope, X = independent variable and a = constant). Therefore, the equation was found as, $Y = .33 + .93X$. The regression model states that if p value (probability value) is lesser than alpha value (standard level of

significance, $\alpha = .05$) then the model is significant. In this study, developed model was highly significant with p value ($p < .001$) at the standard level of significance level ($\alpha = .05$). On the other hand, adjusted R^2 (adjusted R^2 indicates that the percentage of variation explained by only the independent variables that actually affect the dependent variable) .85 or 85% of variance in dependent variable (investment decision) could be explained by independent variable (overconfidence). Precisely, it was found that there was significant impact on independent variable (overconfidence, a psychological variable) on dependent variable (investment decision). So, Null hypothesis was rejected. Finally, it was concluded that overconfidence had significant impact on investment decision.

Table 2: Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	Overconfidence ^b	.	Enter

a. Dependent Variable: Investment Decision, b. All requested variables entered.

Table 3: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.925 ^a	.855	.854	.270

a. Predictors: (Constant), Overconfidence

Table 4: ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	85.091	1	85.091	1169.238	.000^b
	Residual	14.409	198	.073		
	Total	99.500	199			

a. Dependent Variable: Investment Decision, b. Predictors: (Constant), Overconfidence

Table 5: Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.329	.119		2.758	.006
	Overconfidence	.923	.027	.925	34.194	.000

a. Dependent Variable: Investment Decision

6.2.2 Representativeness on investment decision (H_02)

A simple linear regression was calculated to find out whether independent variable (representativeness, a psychological variable) had significant impact on dependent variable (investment decision). Null hypothesis (H_0) was stated that there was no significant impact between independent variable on dependent variable. In the Tables 8, 9: $b = .87$, $t(198) = 4.72$ and $p < .05$, on the other hand, results shown in the tables by calculations in the Tables 7, 8: $F(1, 198) = 613.928$, $p < .001$, with an adjusted $R^2 = .76$. The linear regression equation is; $Y = a + bX$ (where, Y = dependent variable, b = slope, X = independent variable and a = constant). Therefore, in this study, the equation was found as, $Y = .70 + .87X$. The regression

model states that if p value (probability value) is lesser than alpha value (standard level of significance, $\alpha = .05$) then the model is significant. On the other hand, adjusted R² (adjusted R² indicates that the percentage of variation explained by only the independent variables that actually affect the dependent variable) .76 or 76% of variance in dependent variable (investment decision) could be explained by independent variable (representativeness). Precisely, it was found that there was significant impact on independent variable (representativeness, a psychological variable) on dependent variable (investment decision). So, Null hypothesis was rejected. Finally, it was concluded that representativeness had significant impact on investment decision.

Table 6: Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	Representativeness ^b	.	Enter

a. Dependent Variable: Investment Decision, b. All requested variables entered.

Table 7: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.870 ^a	.756	.755	.350

a. Predictors: (Constant), Representativeness

Table 8: ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	75.236	1	75.236	613.928	.000^b
	Residual	24.264	198	.123		
	Total	99.500	199			

a. Dependent Variable: Investment Decision, b. Predictors: (Constant), Representativeness

Table 9: Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.704	.149		4.719	.000
	Representativeness	.843	.034	.870	24.778	.000

a. Dependent Variable: Investment Decision

6.2.3 Mental Accounting on investment decision (H₀₃)

A simple linear regression was calculated to find out whether independent variable (mental accounting, a psychological variable) had significant impact on dependent variable (investment decision). Null hypothesis (H₀) was stated that there was no significant impact between independent variable on dependent variable. In the Tables 12, 13: $b = .96$, $t(198) = 2.02$ and $p < .05$, on the other hand, results shown in the tables by calculations in the Tables 11, 12: $F(1, 198) = 2354.95$, $p < .001$, with an adjusted R² = .92. The linear regression equation is; $Y = a + bX$ (where, Y = dependent variable, b = slope, X = independent variable and a = constant). Therefore, in this study, the equation was found as, $Y = .18 + .96X$. The regression model states that if p value (probability value) is lesser than alpha value (standard

level of significance, $\alpha = .05$) then the model is significant. In this study, developed model was highly significant with p value ($p < .001$) at the standard level of significance level ($\alpha = .05$). On the other hand, adjusted R^2 (adjusted R^2 indicates that the percentage of variation explained by only the independent variables that actually affect the dependent variable) .92 or 92% of variance in dependent variable (investment decision) could be explained by independent variable (mental accounting). Precisely, it was found that there was a high impact on independent variable (mental accounting, a psychological variable) on dependent variable (investment decision). So, Null hypothesis was rejected. Finally, it was concluded that mental accounting had high impact on investment decision.

Table 10: Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	Mental Accounting ^b	.	Enter

a. Dependent Variable: Investment Decision, b. All requested variables entered.

Table 11: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.960 ^a	.922	.922	.197

a. Predictors: (Constant), Mental Accounting

Table 12: ANOVA^a

Model	Sum of Squares	df	Mean Square	F	Sig.	
1	Regression	91.783	1	91.783	2354.950	.000^b
	Residual	7.717	198	.039		
	Total	99.500	199			

a. Dependent Variable: Investment Decision, b. Predictors: (Constant), Mental Accounting

Table 13: Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.176	.087		2.023	.044
	Mental Accounting	.955	.020	.960	48.528	.000

a. Dependent Variable: Investment Decision

6.2.4 Regret Aversion on investment decision (H_04)

A simple linear regression was calculated to find out whether independent variable (regret aversion, a psychological variable) had significant impact on dependent variable (investment decision). Null hypothesis (H_0) was stated that there was no significant impact between independent variable on dependent variable. In the Tables 16, 17: $b = .97$, $t(198) = 3.32$ and $p < .05$, on the other hand, results shown in the tables by calculations in the Tables 15, 16: $F(1, 198) = 3289.868$, $p < .001$, with an adjusted $R^2 = .94$. The linear regression equation is; $Y = a + bX$ (where, Y = dependent variable, b = slope, X = independent variable and a = constant). Therefore, in this study, the equation was found as, $Y = .24 + .97X$. The regression

model states that if p value (probability value) is lesser than alpha value (standard level of significance, $\alpha = .05$) then the model is significant. In this study, developed model was highly significant with p value ($p < .001$) at the standard level of significance level ($\alpha = .05$). On the other hand, adjusted R^2 (adjusted R^2 indicates that the percentage of variation explained by only the independent variables that actually affect the dependent variable) .94 or 94% of variance in dependent variable (investment decision) could be explained by independent variable (regret aversion). Precisely, it was found that there was a high impact on independent variable (mental accounting, a psychological variable) on dependent variable (investment decision). So, Null hypothesis was rejected. Finally, it was concluded that regret aversion had significant impact on investment decision.

Table 14: Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	Regret Aversion ^b	.	Enter

a. Dependent Variable: Investment Decision, b. All requested variables entered.

Table 15: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.971 ^a	.943	.943	.169

a. Predictors: (Constant), Regret Aversion

Table 16: ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	93.852	1	93.852	3289.868	.000^b
	Residual	5.648	198	.029		
	Total	99.500	199			

a. Dependent Variable: Investment Decision, b. Predictors: (Constant), Regret Aversion

Table 17: Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.241	.073		3.319	.001
	Regret Aversion	.949	.017	.971	57.357	.000

a. Dependent Variable: Investment Decision

6.2.5 Loss Aversion on investment decision (H_05)

A simple linear regression was calculated to find out whether independent variable (loss aversion, a psychological variable) had significant impact on dependent variable (investment decision). Null hypothesis (H_0) was stated that there was no significant impact between independent variable on dependent variable. In the Tables 20, 21: $b = .88$, $t(198) = 3.79$ and $p < .001$, on the other hand, results shown in the tables by calculations in the Tables 19, 20: $F(1, 198) = 684.07$, $p < .001$, with an adjusted $R^2 = .77$. The linear regression equation is; $Y = a + bX$ (where, Y = dependent variable, b = slope, X = independent variable and a = constant).

Therefore, in this study, the equation was found as, $Y = .56 + .88X$. The regression model states that if p value (probability value) is lesser than alpha value (standard level of significance, $\alpha = .05$) then the model is significant. In this study, developed model was highly significant with p value ($p < .001$) at the standard level of significance level ($\alpha = .05$). On the other hand, adjusted R^2 (adjusted R^2 indicates that the percentage of variation explained by only the independent variables that actually affect the dependent variable) .77 or 77% of variance in dependent variable (investment decision) could be explained by independent variable (regret aversion). Precisely, it was found that there was a high impact on independent variable (loss aversion, a psychological variable) on dependent variable (investment decision). So, Null hypothesis was rejected. Finally, it was concluded that loss aversion had significant impact on investment decision.

Table 18: Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	Loss Aversion ^b	.	Enter

a. Dependent Variable: Investment Decision, b. All requested variables entered.

Table 19: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.881 ^a	.776	.774	.336

a. Predictors: (Constant), Loss Aversion

Table 20: ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	77.165	1	77.165	684.069	.000 ^b
	Residual	22.335	198	.113		
	Total	99.500	199			

a. Dependent Variable: Investment Decision, b. Predictors: (Constant), Loss Aversion

Table 21: Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.557	.147		3.791	.000
	Loss Aversion	.872	.033	.881	26.155	.000

a. Dependent Variable: Investment Decision

7.0 Conclusion and Recommendation

Conclusions have to be based on the present study findings - Alexandrov, A. V. (2004). The study was begun to understand the impact of psychological variables; overconfidence, representativeness, mental accounting, regret aversion and loss aversion variables influence investors' investment decisions. Through some particular analyses during the study, it was found that data set was more consistent (result of Cronbach's alpha .90) to further analysis. Besides, on the different variables analyzed as per hypotheses using regression model. By the analyses it was understandable that overconfidence, representativeness, mental accounting, regret aversion and loss aversion psychological variables were highly impactful (as

highly significant results,) on investment decision among Bangladeshi investors. In addition, adjusted R^2 (the percentage of variation explained by only the independent variables that actually affect the dependent variable) for the all variables were indicating respectively 86%, 76%, 92%, 94% and 77%. Hence, this was clear indication that investors of Bangladesh used to making their investment decision influencing by the psychological variables like overconfidence, representativeness, mental accounting, regret aversion and loss aversion.

In Bangladesh especially investors are required to train up psychologically to make proper decision in the time of investment. The course of behavioral finance should be included as a basic course for all students in education curriculum at least from secondary level. All the related agencies should have basic knowledge on behavioral aspects of finance. Last but not the least, this paper would be helpful for the students, investors, researchers and related stakeholders in future for further studies regarding understanding the impact of psychological variables on investment decision.

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Factors of population movement towards Dhaka: An Empirical Study

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Abstract

Internal Migration is a very common phenomenon in Bangladesh. The pressure of people is increasing day by day in urban areas, especially in Dhaka city. It is predicted that Dhaka will be more populous than Mexico City, Beijing or Shanghai by 2021. If population pressures cannot be controlled now, then the unplanned city may face serious threat in future. Overcrowding and lack of planning in Dhaka city is creating traffic jam, land grabbing, imbalance in climate, pollution and never ending demands for energy and water. Though migration is necessary but it is vital to control when it impedes the development of a city. Nonetheless, before any policy measures are adopted to control this increasing trend of migration, it is important to know ground realities behind such internal movements. This study has been conducted, adopting both quantitative and qualitative social research tools, to know the different underlying factors which induce the rural people to migrate in Dhaka city. The findings suggest such migration is taking place owing to both push and pull factors. However, the economic and socio-cultural factors have been stronger reasons of migration than the pull/motivating forces. Although the process of migration has improved the condition of few migrants, most of them still suffer from poverty and low standard of living. In order to reduce the wave of increasing migration in Dhaka, government needs to adopt regional development policy with the availability of social and cultural facilities of city standard. Moreover, the big industries and garment factories should be shifted away from Dhaka which will not only reduce the pressure on the city but also ease the workers livelihood.

Keywords: Internal, migration, rural, urban, factors, Dhaka, city, push, pull, economic.

1.0 Introduction

Migration, in a broad sense is the rearrangement of residence for different period and natures. Lee (1996) considered migration as all the permanent or semi-permanent movements, changes of residence whether forced or voluntary. Internal migration is termed as the transform of residence from one administrative border line to another within the same nation, whereas international migration is the movement of a national border line. Very fast an unintended expansion of cities and towns is one of the main reasons for this movement from rural to urban area

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nowadays. However, internal migration rate is always higher due to emergent urban growth for developing countries. A distinctive selectivity with respect to age, sex, marital status, education, occupation etc. turn up for these socio-economic groups for rural-urban migration (Lee, 1996 and Sekhar,1993).

Like other developing nations, internal migration in Bangladesh from rural area to urban area is very common phenomenon. Migration has long been an important livelihood strategy for the people of Bangladesh. Cities are always a center point of interest. Every year, thousands of destitute victims of natural disasters pour into the cities from the rural areas. Others come in the hope of a better life whenever the population rise to such an extent that people can no longer pursue migration as a livelihood strategy (Yasmin, 2016). In the recent years, most of the cities in Bangladesh are experiencing rapid but unplanned urbanization. While the annual population growth rate is 1.7 percent at the national level, the percentage of urban growth is increasing faster and it is expected more than 50 percent of the population in Bangladesh will live in urban areas by the year 2025 (ESCAP, 2007).

The rapid growth of population and consequent landlessness along with other factors of population displacement in the rural areas lead to rural unemployment, which generates a growing flow of migrants. It seems to be an inevitable process where the urban sector absorbs the surplus rural populace. The pressure of people is increasing day by day in urban areas, especially in Dhaka city. Everyday new faces are adding here. The World Bank projected the population of Dhaka City will be 20 million in 2025 from what was 15 million back in 2010; which then will be more populous than Mexico City, Beijing or Shanghai (Yasmin, 2016).

About 63 percent of the total growth of Dhaka's population is due to migration and only 37 percent growth comes from natural increase. Currently, about one third of the people in Dhaka live in slums and squatter settlements and this number is increasingly with the increased number of migrants (RAJUK, 2015). According to World Bank approximately 3, 00,000 to 4, 00,000 people migrate to Dhaka each year. If population pressures cannot be controlled now, then the unplanned city may face serious threat in future. Overcrowding and lack of planning in Dhaka city is creating traffic jam, pollution, land grabbing, imbalance in climate, impossible demands for energy and water day by day. Though migration is necessary but it is vital to control when it impedes the development of a city. Hence, it is important to know the real factors behind the migration of the migrants in Dhaka city.

1.1 Objective of Study

The key purpose of this paper is to know the various underlying factors which has resulted the migrants to migrate in Dhaka city. The study also attempts to know what impact the migration had on the lives of the migrants.

2.0 Methodology

This study has been conducted by collecting data from both primary and secondary sources. Both qualitative as well as quantitative tools of social research were used to carry out this research. Primary data was obtained by in-depth interviewing of 60 migrants who are currently residents of Shahjahanpur, kamalapur, Shobujbagh, Bashabo and Khilgaon. Purposive random sampling was used in order to track the migrants. Structured questionnaire was used for interviewing the respondents. The pattern of questionnaire was so designed such that some key informations about the migrants can be obtained like-

- What are the push/pull factors behind migration?
- For how long are they living here in Dhaka?
- The place from where they have migrated
- Who helped them before/after migration?
- Has their standard of living improved after migration or not?

Although the questionnaire was structured one, probing questions were asked when it was needed. The secondary sources from where the data was obtained include various academic articles published in national and international journals, policy documents, ministerial reports, books etc.

3.0 Literature Review

The topic 'Rural-urban migration' in the field of social research is not a new one. Scholars have shown keen interest in this field and so several studies have been conducted in this related topic. Some of those existing literature were reviewed to get some insights of those previous research works.

Farhana and Rahman (2012) conducted an empirical research in Rajshahi city to explore the causes of migration of the poor migrants along with the identification of the impacts of urban migration on poverty reduction. The study results highlight the significant reason behind such rural urban migration is driven by poverty. The migration of the rural poor to the urban centers has caused a direct transmission of rural poverty and backwardness to the towns. Hence, the study recommended targeting migrant groups and urban poor within urban areas in the provision of availability of work and social care services.

Randall S. Kuhn (2004) investigated the determinants of rural-urban migration by adult males. The age pattern of migration for married and unmarried men, depicts the strong effect of marriage on out-migration at any particular age. Household land holdings have been found to be a key determinant of rural-urban migration in most settings, and typically individuals are more likely to move if their households own less land. Moreover, the study found various reasons for differences between family migration and individual migration.

Akhter (2014) conducted a study to analyze the migration process of the rural population of Bangladesh. The study found that more young male members are migrating to the cities for working in non-farm sectors due to their negligence in working in the agricultural sectors. However some people from farm households are migrating due to holding less agricultural land and to take responsibility of the rest of the family members. The study also found that more members from the same households migrate to the city when the households having more number active males and experienced household head.

The study conducted by Golam (2011) highlighted the major push-pull and self-selective factors of seasonal rural-urban migration during the lean period using survey data from northern Bangladesh. It was found from the study that seasonal rural-urban migration occurs frequently at early stage of life of an individual and then decreases with age. Choice of favorable destinations consisting availability of higher income opportunity, lower cost of migration, and the favorable shelter at destination areas are significantly related to individual decision of being a migrant. Lower per capita food expenditure is another determining factor of voluntary migration. The study also found that probability of temporary migration decreases, if migrants income increases after the migration is taken place.

Hossain (2001) studied rural urban migration in ten villages of Comilla district of Bangladesh. His study mainly focuses on differentials and determinants of migration and finds that persons involved in the process of rural out-migration are adults and more educated. Most of them were engaged in studies or unemployed before migration. About half of the migrants migrated for temporary service and about one quarter migrated for permanent jobs. Further, educational attainment of the migrants is found related with the permanent type of migration, whereas temporary types of migration are mainly associated with illiterate migrants. The migration rate is found to be significantly higher for educated as well as unemployed, and also for those belonging to the ages 20-29. Poverty, job searching and family influence are the main push factors for out migration, while better opportunity, prior migrants and availability of job are the main pull factors behind migration.

Several studies of (Connel etal; Sekhar, 1993 and Upton, 1967) illustrated that family size as positively related with the migration process. On the other hand, respondents from large households lean to migration procedure very often because of to hold up the family responsibilities. Tullberg (2009) depicted that if the respondents had economic possibilities in the place of origin that they would not be convinced to migrate even if they knew that their rewards may be larger in the place of destination. Mazumder and Oberai (1987) illustrated that the internal migration from rural to urban area also taken place for the progression of industrialization in Bangladesh i.e. garments factory which implied huge demand in the urban labor market. Several study depicted that adult males showed more propensity to migrate than others. Most of the studies observed that determinants of migration diverge

from country to country, even various cities within a country. The tendency of the migration depends on the socio-economic, demographic and cultural factors of the population. Nabi (1992) and Sekhar(1993) discussed the significant determinants for migration were high unemployment rate, low income, elevated population growth, uneven distribution of land, demand for higher schooling, prior migration patterns and natural disasters.

Several studies (Deshingkar and Grimm, 2005; Narayan et al, 2002) also suggest that an increasing number of poor migrant every year migrate either permanently or seasonally to Rajshahi city. They move on their own, in groups or with siblings in search for job opportunities available in the city or to escape from unemployment and poverty situations at rural areas. The poverty argument in Bangladesh is strong, where many poor and landless migrants are forced to migrate to support themselves or their families (Ahmad, 2004).

The review of these literatures show that although many studies have been conducted on this relevant topic, however no such study has yet been conducted with the intention of knowing the factors which induce the migrants to migrate in the capital of Bangladesh, Dhaka city. Thus, this empirical study will help to fill this void in the field of social research.

4.0 Theoretical Perspectives

Theoretical understandings of internal migration (rural urban migration) can be grouped under two broad headings: geographical push-pull models, under which movements are governed by a balance of attracting and repelling factors and economic models rooted in productivity and livelihood differentials, notably those offered by Lewis(1954) and Harris and Todaro (1970)

4.1 Lee's Theory of Migration (The Push and Pull Factors Approach of Rural-Urban Migration)

In 1966, Lee revised the basic push-pull concept. He developed a “general schema into which a variety of spatial movements can be placed” (Lee, 1966:49). He also tried to figure out a number of conclusions with regard to the factors in the act of migration, the volume of migration, the development of streams and counter streams, and the characteristics of migrants. With regard to the factors in the act of migration he divided into “push” factors (factors associated with the area of origin), “pull” factors (factors associated with the area of destination), intervening obstacles and personal factors (Lee, 1966:50). Lee also hypothesized that both area of origin and destination have positive forces which hold people within the area or pull others to it, negative forces which repel or push people from the area, and zero forces which has no effect. Lee hypothesized that factors associated with origin area conditions would be more important than those associated with destination areas.

These factors associated with the areas of origin and destination are governed by personal factors “which affect individual thresholds and facilitate or retard migration” (Lee, 1966: 51). The final element in Lee’s model is the notion of “intervening obstacles” interposed between origin and destination. These constitute “friction” in the migration process (transport costs, migration controls etc.) and may reduce or retard migration, or even (in the case of a law) prevent it altogether. It is worth noting that push-pull type explanations have been cited most frequently in the Bangladesh context within studies examining the impact of environmental vulnerabilities.

Economic models are rather more sophisticated in their formulation and certainly more parsimonious, given they are driven by economic differentials between localities (which in turn provide incentives for individuals and families to relocate)

4.2 Dual Economy Models of Rural-urban Migration

Lewis (1954) offers a classical model of migration decisions in low income countries which tries to explain the transition from a stagnating economy based on a traditional rural sector to a growing economy driven by the development of a modern urban sector (Lall, Selod and et. al, 2006:8). They further add that according to Lewis theory, subsistence areas referring to rural - the agricultural sector where the labor force is suffering from unemployment and underemployment, and modernized areas - the industrial sector where many employment opportunities are being generated and are also suffering from a labor shortage. Along the development course, the industrial sector is expanding and it requires more and more labor while the agricultural sector is stagnant with a labor surplus. Under these circumstances, the labor surplus in rural areas will supplement the labor shortage in urban areas, and in this way the rural-urban migration begins. In this model, Lewis assumes that rural economies initially present a specific context in which there is surplus labor in the agricultural sector. On this consideration, the agricultural sector is able to supply labor force to the modern industrial sector which can grow by accumulating capital and steaming labor from the traditional agricultural sector. The transfer of the labor between two economic sectors involves the reallocation of the labor force across space through migration from low population density rural to high density of urban areas. Lewis adds that migration occurs until surplus labor is absorbed by the modern sector (Lall, Selod and et. al, 2006:9). Clearly, his account has a strong resonance with the pattern seen in Bangladesh in the recent years.

4.3 Todaro and Harris-Todaro Expected Model of Rural-Urban Migration

The economic motive of migration is best articulated in the Todaro and Harries-Todaro model. Todaro and Smith (2003) postulate that, migration responds to

urban-rural difference in expected income rather than actual earnings. Normally, people move from their place of origin for higher income and better job. The assumption in the Todaro and Harris-Todaro model is that, migration is primarily an economic phenomenon. Migrants are assumed to consider the various opportunities available in the urban sector (Todaro and Smith 2003). However, the theory also explains that, rural-urban migration can exist despite low opportunity in the major towns. Todaro (1997) and Todaro and Smith (2003) state most of the poor, uneducated and unskilled migrants will either seek casual and part-time employment as vendors, repair persons in the urban traditional or informal sector or become totally unemployed and languish in slums and shanty towns. This theory is very much relevant for understanding the rural urban migration towards Dhaka city.

Apart from these theories, the network theory of rural-urban migration gives another dimension for understanding the reasons of internal migration.

4.4 Network Theory of Rural-Urban Migration

By network theory migrants set up interpersonal ties that connect migrants, former migrants, and non-migrants in the place of origin through bonds of kinship, friendship, and shared community origin (Massay et al, 1993 cited in De Haas, 2008). An important concept around the importance of migration network, locally as well as internationally put simply, migrants move to place where friends, family members, neighbors or others from their village have moved before because it decreases their psychological and financial costs as well as increase social security. As a result, migrants in a particular destination tend to come from specific areas of origin; particularly when the migratory jobs are relatively attractive and have higher returns (De Haan and Yakub, 2009). This theory will help us explaining the fact why the respondents have chosen Dhaka city particularly for migrating.

5.0 Findings

The data which was obtained from in-depth interviewing of the 60 respondents have been presented here.

5.1 Factors of Migration

This portion will discuss the various push factors, more specifically the reasons which has forced the respondents to migrate to Dhaka city.

1. Economic Push factors of the migrants

The table 01 shows the various economic push factors that have induced the respondents in taking the decision to migrate in Dhaka city. Maximum number of migrants (60 percent) mentioned lack of employment and struggle for livelihood as economic push factors for migration. Rural areas are still lagging behind in terms

of industrialization and thus unemployment is the general feature of this country. People did not find satisfactory employment. So they move to city area looking for employment (Haider, 2010:313). 43.64% of migrants mentioned economic insecurity/depression/poverty as economic push factors. Bangladesh is one of the poorest countries of the world and poverty is pervasive in Bangladesh. Poverty is inability to attain minimal standard of living. It is understood as a multi-dimensional

SL. No.	Name of the economic Push Factors	Frequency	%
1.	Lack of industrialization/crisis in small and cottage industry	03	5.45
2.	Lack of employment	33	60
3.	Economic Insecurity/depression/poverty	24	43.64
4.	Struggle for livelihood	33	60
5.	Problems in doing Business	04	7.27

Table 01: Economic Push Factors of migration

concept involving identifiable minimum standard of nutrition, clothing, shelter, healthcare, education and political liberty (Rahman, 2010:17). This poverty has compelled them to migrate to Dhaka city. One of the respondents Md. Shahjahan Miah, who is a salesman by profession mentioned his story behind migration as-

‘My father was a farmer. Sometimes he had to remain jobless. Whatever he earned was too little for us. Usually we lived from hand to mouth. Sometimes we would take dal-bhat, sometime rice with a pinch of salt only. It was very hard to run an 8 member family including my grandfather and grandmother by one earner. I was a school going boy. My father was unable to afford my educational expenses. At last my schooling was stopped. For this extreme poverty, my father decided to migrate from Gaibandha to Dhaka. After few months, he brought me to Dhaka as well.’

However, factors like lack of industrialization/crisis in small and cottage industries and problems in doing business was not found that much significant enough for prompting the respondents doing migration.

2. Climatologic push factors of the migrants

Flood is perennial problem of Bangladesh. Almost every year there is flood in one or other part of the country. In an average year, about 20% of the land area of the country is flooded (Choudhury, 2009:50). Flood is an important climatologic push factor of the migrants. 3.64% respondents mentioned flood as climatologic push factor. 7.27% respondents mentioned river erosion as another factor. A substantial area of Bangladesh is affected by river bank erosion. The major factors responsible

for riverbank erosion are: rapid rise and fall in water level; high variation in maximum and minimum discharges; rate of sedimentation and scouring bed material; formation and movement of large bed forms; social condition of bank materials flow pattern and deflecting current to the bank line (Q LAhmed, 1994:101). One of the migrants Md. Anowarullah who is a computer operator by profession said,

Chagolnaiya of feni district is a no flood area rather drought occurs here. Farming is fully dependent on rainwater. Now, rainfall in this area is being irregular. During rainy season i.e. the month of Ahsar and Srabon, only one crop is produced whereas in the past the production was double as the rain used to begin from the moth of Chaitra & Baishakh. Moreover, there is no rain in winter, the land become dry. there is no available canal and pond to get water by irrigation'

SL. No.	Name of the Climatologic Push	Frequency	%
1.	Flood	02	3.64
2.	River Erosion	04	7.27

Table 02: Climatologic Push factors

3. Political Push factors of the migrants

It was found from the study that two kinds of political factors were responsible for migration. One is political threatening/terrorism (3.64%) and another one is involvement in politics (3.64%). Bangladesh is a relatively homogenous country, yet politics here is intensely factional-fission, fusion, and proliferation are pervasive aspects of political culture of Bangladesh (khan, 1996:3). It was reflected in this study. Among the respondents some have migrated to the town because their supported political party has been defeated in the election and they feared the torture of rival party, some feared the case which might be filed against them and some faced the threat of life.

4. Socio-cultural push factors of the migrants

The following table shows various socio-cultural push factors for which they were compelled to migrate from their origin. Among them, influence of family members have been the most dominant one as 58.18% respondents agreed on this factor which pushed them. However, 38.18% respondents thought otherwise. They believed that the presence of their relative in Dhaka city have forced them to take such a decision. This phenomenon can also be explained with the 'network theory of rural urban migration' where someone takes the decision regarding migration in case he/she has his/her relatives in the place of destination.

12.73% of the respondents opined that their reasons of migrating were related to their marital factors. One of our respondents, Hazera begum, who is currently residing in North Mughda and House Assistant by profession also migrated to Dhaka for such reasons. In her words,

“After few months of my marriage, my husband said, ‘we will go to Dhaka, will work there and save money. We will be well-off. Giving me such false assurance he married somewhere else. I fell into endless miseries with three children. I could not afford food or cloth; faced harsh words from my own family and in laws. Finding no other way, I came to Dhaka from Rangpur. My husband lived on my income for 3 years, compelled me to work’. I was with my mother for 3 years and she worked as a house assistant too in others’ houses. I had two sisters and a brother. Now, both of my two daughters are employed in a garments factory and my son works in a press. Now I am living well”.

SL. No.	Socio Cultural Push factors	Frequency	%
1.	Influence of family members	32	58.18
2.	Presence of relatives	21	38.18
3.	Lack of better education facilities	13	23.64
4.	Lack of food	09	16.36
5.	Marital factors(divorced, newly married)	07	12.73
6.	Lack of interest in farming	07	12.73
7.	Social insecurity	06	10.91
8.	Homelessness/unequal distribution of land	06	10.91
9.	Change in hereditary profession	05	9.09
10.	Reluctance to village life	04	7.27

Table 03: Socio-Cultural Push Factors

10.91% of the respondents had such opinions that ‘social insecurity’ was their socio-cultural push factor of migration. Razeya Banu, a resident of Shekertek, Mohammadpur, who is a sex worker by profession, shared her harsh story how social insecurity has compelled her to migrate here in Dhaka. She said

“I got married before my early youth at the age of 15 that to with a person of 30.He always used to torture me. Alongside, I was abused by my brother-in-law. The

matter was no more secret and the so called patriarchal society declared me guilty and I was excommunicated in the family. I could not get any legal support. All on a sudden, on one fine morning, I was awarded with a divorce letter and was thrown out from the house. Going to parents house for shelter, I found that door was also closed for me. Hence, I was compelled to come to Dhaka from Nilphamari accompanied by a relative”.

Thus, it is evident that among various push factors, it is the economic as well as the socio-cultural push factors which have significantly prompted these migrants to take the decision in favor of migrating to the capital city of Bangladesh.

5.2 Pull/Motivating factors of migration in Dhaka city

Earning makes a man relatively independent; it gives him/her self-reliance and social status. And consequently it raises awareness towards self-development. It should be emphasized that financially better life is the precondition of health and education as well as awareness and upliftment of social status. In this study through the open discussion with the migrants, it was found that maximum migrants had some sort of future plans to be self-sufficient. They thought that all their dreams will be fulfilled by going to Dhaka. They prepared themselves to engage there in different types of income earning activities. These activities are grouped into major occupational categories’ i.e. self-employment and wage employment. The table below reveals that 83.64% respondents identified higher income probabilities, 80% respondents identified better life and 74.55% respondents identified higher rate of remuneration as important pull/motivating factors of migration. Other significant pull factors that infused migration of the respondents are employment opportunities in RMG sector, kinship sector, positive information about the city life, joining with relatives, better service facilities including education facilities etc. However, factors like communication facilities, better medical facilities, and favorable social conditions were not that much significant motivating ones

Sl. No.	Pull/Motivating Factors of Migration	Frequency	%
1.	Higher Income Probabilities	46	83.64
2.	Higher rate of remunerations	41	74.55
3.	Better life	44	80
4.	More employment opportunities e.g. RMG	24	43.64
5.	Kinship network	18	32.73
6.	Positive information about city life	17	30.91
7.	Joining with relatives	16	29.09
8.	Better Service facilities	11	20
9.	Education facilities	06	10.91

Table 04: Pull/Motivating factors of Migration

Shahadat Hossain, who is currently as resident of Shantibagh and a tailor by profession, shared his views about his migration. In his words,

“A boy named Mamun was my primary school mate .After passing primary level he went to Dhaka and started working as a tailor in a market. I wanted to go and join him but was afraid of unknown. My sisters, residing at Dhaka always encouraged me to go to Dhaka. Later my father decided to go to Dhaka with me for better earning. And he entrusted me to Mamun for learning tailoring. I learnt sewing, cutting and other technical works day by day. There are large numbers of customers in Dhaka than Madaripur village. Customers make the payments in cash not in credit. Now I have my own tailoring shop. I think Dhaka is a place of better earning and more learning than Madaripur”.

5.3 Persons who help the migrants before and after migration

From the discussion above, it is evident that the migrants have migrated in Dhaka city owing to various push and pull factors although the degree of intensity of those factors did vary from one migrant to another. Network theory of rural urban migration suggest that migrants set up interpersonal ties that connect migrants, former migrants, and non-migrants in the place of origin through bonds of kinship, friendship, and shared community origin (Massay et al, 1993 cited in De Haas, 2008). This study did find such empirical evidences. While trying to inquire the fact those usually have helped these migrants before and after migrants, it was found that in case of 70.71% respondents, relatives staying in Dhaka city played this facilitating role. Friends, Non-relatives, people from the same village, in-laws, neighbors, parents and siblings- were also found to help the migrants before and after the migration. The table below better illustrates the fact.

SL. No.	Who have helped the migrants	Frequency	%
1.	Relatives staying in Dhaka	39	70.91
2.	Friends	28	50.91
3.	Non-relatives	12	21.82
4.	Same Village	17	30.91
5.	In laws	10	18.18
6.	Neighbors	24	43.64
7.	Parents and Siblings	09	16.36

Table 05: Who have helped the migrants?

5.4 Number of Migrants from various divisions

All the migrants who migrated to Dhaka for various reasons do not have the same place origin. We tried to find out the place from where they have come from. It was found that the migrants have their migrated from different places of Bangladesh

like Dhaka, Chittagong, Rangpur, Barisal, Khulna, Rajshahi and Sylhet divisions. Significant number of migrants has migrated from Dhaka division (30.91% respondents) and Chittagong division (23.64% respondents).

SL. No.	Divisions	Frequency	%
1.	Dhaka	17	30.91
2.	Chittagong	13	23.64
3.	Rangpur	09	15.45
4.	Barisal	07	16.36
5.	Khulna	07	12.73
6.	Rajshahi	03	7.27
7.	Sylhet	02	3.64

Table 06: Migrants from various destinations

However, the number of migrants who have migrated from Rajshahi and Sylhet were not that much significant (7.27% and 3.64% respectively). The reason of high number of people migrating from Dhaka division can be attributed due to nearness to the place of destination. The final element in Le’s model is the notion of “intervening obstacles” interposed between origin and destination. These constitute “friction” in the migration process (transport costs, migration controls etc.) and may reduce or retard migration, or even (in the case of a law) prevent it altogether. Thus, this particular point of Lee’s theory certainly explains the fact why more people are migrating from Dhaka division compared to Sylhet or Rajshahi.

5.5 Duration of Living

After finding the place from where the respondents have migrated, we tried to figure out for how many years these migrants have been living in Dhaka. The table below gives us a better idea about the duration of stay of the migrants in Dhaka city. It is interesting to note here that the rate of migration has increased over the last 15 years, since more than 75% the respondents have agreed to fact that they have been living in Dhaka for last 15 years. On the other hand,

	Range	Frequency	%
1.	1-5 years	10	18.18
2.	6-10 years	18	32.73
3.	11-15 years	14	25.45
4.	16-20 years	03	5.45
5.	21-25 years	04	7.27
6.	26-30 years	05	9.09
7.	31-35 years	01	1.82

Table 07: Duration of Living

Comparatively few numbers of respondents was found who have been residing here for more than 15 years. Various push and pull factors which have already been discussed earlier elucidates the reasons behind such increase of migrants in the recent years compared to the past.

5.6 Level of expectations of the migrants

In terms of level of expectations of the migrants, the data above reveals the fact that 41.82% of migrants are moderately fulfilled. However, the expectations of significant portion of migrants (40 percent) are not fulfilled. It was found from the study that only 20 percentage of migrants’ expectations level are fulfilled.

Sl. No.	Conditions of expectations	Frequency	%
1.	Fulfilled	11	20.00
2.	Not fulfilled	22	40.00
3.	Moderately Fulfilled	23	41.82

Table 08: Level of Expectation of the Migrants

Moreover, when the respondents were asked whether they had any regret about their decision of migration, 49.09% of migrants said that they have regret and 27.27% said in the negative that they have no regret about their migration. The table below shows the various reasons which the migrants believed have resulted in the non-fulfillment of their expectations after migration.

SL. No.	Problems	Frequency	%
1.	Financial Problems	32	58.18
2.	Family Problems	12	21.82
3.	Surrounding Problems	10	18.18
4.	Personal Problems	20	36.36
5.	Lack of Planning	04	7.27

Table 09: Why the Expectations have not been fulfilled?

Majority of the respondents 58.18% identified financial problems as a reason for non-fulfillment of their expectations. It is interesting to note that for this economic reason, they were forced to come in Dhaka. Despite their migration, their economic expectations were not fulfilled. Their fate did not change, rather their nomenclature only change. Previously, they were regarded as rural poor and after migration; they are termed as ‘urban poor’. They face problems of sanitation facility, lack of safe water, shortage of water and poor congested shelter which makes them vulnerable to various inconveniences.

6.0 Concluding Remarks

The current study has found the various causes behind the migration of the individuals and the families from the different rural areas of Bangladesh to its

capital hub. Broadly, those factors can be divided into two groups-push and pull factors as per Lee's theory of internal migration. It was found from the study that push factors were more dominant ones than the pull factors behind the migration of the respondents. However, the economic hardships and socio-cultural factors were the most significant ones among these push factors. This study found relevance with the economic theories of migration given by Harris-Todaro and Lewis where they explained the economic rationales behind the internal migration. Most of the respondents agreed to the fact that lack of industrialization and lack of livelihood opportunities in their place of origin forced them to come here in Dhaka. More than 80 per cent of the garment industries of the country are located in Dhaka which allures a large number of young females who come to Dhaka to earn their living (Yasmin, 2016). The findings from the study also suggest some of the respondents were allured seeing such opportunities along with better education and facilities in Dhaka. Moreover, they dreamt of having a better standard of life than the rural life has them to offer. These were some of the motivating reasons which have pulled some of the migrants from the rural areas to Dhaka city.

Another significant finding of this study is that since the last 15 years, the rate of internal migration in Dhaka city has increased and large numbers of the migrants who are entering Dhaka city are coming from greater Dhaka division. As it has been said, the respondents came with a hope of better livelihood in the capital city but the tangible scenario is totally different. Only 20% of the respondents have agreed that they were satisfied with their way of life after migration while 40% of them felt that their migration was a mistake and they have regrets for coming in Dhaka. It was found from the study that these poor people find their shelter in the informal settlements initially. They face problems of sanitation facility, lack of safe water, shortage of water and poor congested shelter which makes them vulnerable to various inconveniences. Hence, the migration of the rural \ poor to the urban centers has caused a direct transmission of rural poverty and backwardness to the towns, engendering the process of 'ruralization' of the urban areas. The pull factors, which attract the rural people and induce them to migration to urban locations, are in a large measure the direct or indirect results of government's development policy and effort, that have always been biased towards the urban areas (Farhana, Rahman & Rahman, 2012).

Though the government has taken some pragmatic initiatives recently to alleviate poverty but migration control is necessary to continue development activities. The issue of internal migration needs to be addressed properly by the policy making bodies and the government should take necessary action to support the migrants. It is time to think afresh before it gets too late. Firstly, government should actively plan for more effective and dynamic cities, linked and supported by their hinterlands. This implies a stronger focus on local economic development

rooted in private sector growth, with a view to absorbing surplus labor. Equally, at the local level, new forms of decartelization and devolution are required, empowering urban localities to resolve the challenges faced. Secondly, development of rural areas is necessary alongside of urban areas in order to halt the rural urban migration. The government needs to adopt a stronger regional development policy for broadening the footprint of the current growth model to the secondary cities, and to hasten the development of agriculture and non-farm activities, especially in the more lagging regions. Thirdly, social and cultural facility available in the capital city should be made available in regional levels too. Fourthly, garment factories with many workers need to be decentralized and set up away from Dhaka city. Government might also provide incentives, (tax holidays and abatements) to encourage developments away from the congested core. The shifting of big industries and garment factories from Dhaka will not only reduce the pressure on the city but also ease the workers livelihood. It is firmly believed that if the above mentioned policy recommendations are translated into reality, the current trend of Dhaka centric internal migration will definitely decline which will help to facilitate the process of sustainable development of our country.

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