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**PUBLIC PRIVATE PARTNERSHIP (PPP) AFFORDABLE HOUSING IN
DHAKA, BANGLADESH**

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Abstract

Affordable housing is intimately associated with economic and social state of affairs of country perspectives. Regardless of other social and economic factors, existing policy environment greatly influences affordability issue in housing sector. For urban housing affordability solution, Public Private Partnership (PPP) is a new and challenging to Bangladesh. The aim of the study is to promote urban affordable housing management through PPP projects in Dhaka. The study is accomplished to identify the factors involved in affordable housing and to analyse the strength and weak points in PPP implementation. A combination of both exploratory and descriptive research design was considered. Collected data from questionnaire survey, email and face-to-face interview were analysed. This study reveals several factors linked PPP affordable housing with ranking in terms of relative importance. The top most five of them were identified as project land provided by the government; mode of purchase – installment; construction cost; good governance; and commitment, responsibility and risk sharing between public and private sector organization. However, the three less important were recognized as outright purchase, land provided by other sources (except government, housing company and developer) and any rental market for housing purchase. Considering both qualitative and quantitative data, strengths and weakness of PPP affordable housing were assessed and analyzed. Government role as housing ‘facilitator’ or ‘enabler’ rather than ‘provider’; formulation of PPP legislations; well-structured and unique procurement documents, and vibrant private sector were pioneering as strength in this regard. On the other hand were spot, inaccessible or limited access to housing finance; weak financial institution; very limited PPP experience; bad governance; lack of reliable data; lack of urban housing and land policy; absence of comprehensive approach in regulatory and institutional context, political instability and commitment; and poor risk allocation and risk sharing ted as weakness in PPP affordable housing for lower income people in Dhaka, Bangladesh. This study recommends for formulation of PPP urban housing policy,

integration of housing policy activities, establishment of alternative housing financial market, initiation of risk register and risk data base, establish mutually acceptable risk allocation scheme, develop good relationship with political executives, ensure institutional restructuring and initiation of 'Housing Data Bank' and finally more research and investigation on PPP housing.

Key words: PPP, Affordable housing, Urban Housing Policy, Housing finance, Housing Data Bank

1. INTRODUCTION

1.1 Background

Affordable housing is a crying need for lower income people in developing countries like Bangladesh. According to UN-Habitat (2011), more than one billion people live in slums and this figure will be increased two times within next 25 years. Globally affordable housing and housing affordability are debated and heated issues in housing sector policy formulation. 'Housing affordability' replaced 'housing needs' and attracted the attention of the debate in providing adequate housing for all (Quigley, 2004; Swartz and Miller, 2002). Affordable housing and housing affordability vary with economic and social issues. In fact, no universal definition of affordable housing and affordability is found yet. But they are linked with housing cost and income of household. According to Woetzel *et al.* (2014), affordable housing can be determined by three indicators in which cities need to fix their local perspectives. Firstly, housing cost no more than 30-40 percent of household income and the remaining 60-70 on food, health, and other expenses. Secondly, a standard unit in relation to floor space, water and electricity amenities, and finally commuting time less than one hour. Thirdly, income threshold: 80 percent are as median income.

US Department of Transportation (2009, quoted in Istrate and Puentes, 2011) defined PPPs as "A contractual agreement between a public agency and a private sector entity resulting in greater private sector participation in the delivery and/or financing of infrastructure projects". This partnership is based on some legally binding arrangements where services delivered by the private organization (PPPO, 2015). In true sense, housing PPP varies with nature, type, structure of the project and even with country perspectives. Bangladesh ranked 27th as world investment destination (PPP Global Investors' Forum: Bangladesh, 2012) and branded as "an unlikely corner of Asia, strong promise of growth" (Wassener, 2012). In this scenario, government conceived two strategies for growth and infrastructure development (PPPO, 2010). The first one is to attract more investment and the second is to ensure innovation & sustainability in service sector.

PPP affordable housing projects give assistance to better management of urban housing for lower income people in Dhaka, Bangladesh. Ahmad (2012) studied that existing housing delivery system of urban Bangladesh remained as formal (40%) and informal (60%) sectors. Approximately formal sector accounted as public housing (10%), cooperative housing (nearly 1%), private formal (5%) and individual formal (25%). He also found that the composition of informal sector found as private informal (21%), slum/squatter (35%) and others (4%). Figure 1 shows below the urban housing delivery system in Bangladesh. If affordable housing is developed and managed by PPP approach, it

Tokyo	32530	37833	37190	1	1	1	0.6
Delhi	9726	24953	36060	12	2	2	3.2
Shanghai	7823	22991	30751	20	3	3	3.4
Mexico City	15642	20843	23865	4	4	10	0.8
Beijing	6788	19520	27706	23	8	5	4.6
Dhaka	6621	16982	27374	24	11	6	3.6

Source: World Urbanization Prospects- The 2014 revision

The population of Dhaka city is over 16 million and is projected to grow 27 million in 2030, making the sixth largest city in the world (UN, 2014). Its average annual rate of change during 2010-2015 is 3.6 percent, the world second highest rate followed by Beijing China. In fact, about 70 percent of its population represents 'low income' status and their life-long savings cannot afford to bear the selling price of an apartment (Talukder, 2013). Despite vibrant growth of housing sector in the past decades, no organizations and financing institutions have concerned over the housing needs of the middle and lower income people of Dhaka City. At present, urban population increasing rate is nearly 4% and per annum demand of urban housing is above 150,000 units and more than one-third of them in Dhaka (Rahman, 2009). This statistics far exceeds the formal sector supply (Quasem, 2009) and will be more than twofold within next five years (The Financial Express, 2014, p.24).

According to UNEP (2013), in developed countries, the ratio of housing finance to GDP is 50 percent to 70 percent, whereas this figure for Bangladesh is less than five percent. Housing finance is influenced by higher interest rate, scanty capital, limited lending time, and wanting of transparency regarded as bottleneck in housing finance (Haque, 2012). Formal housing finance system offers mortgage loans for a very small segment of newly built houses and home buying. This is inaccessible and not affordable for many households because of longer period to pay. In addition, banks are not interested to consider long-term lending with small clients due to insecure and undocumented income, absence of housing options for middle to lower income people, involved risks & uncertainty in non-integrated financial systems and higher housing cost (Hoek-Smit, 1998). On the other hand, from banking sector, equity and loan ratio to real buyers is 65-35, (buyer: 65% and Bank: 35%) (The Daily Star, 2014, p.21).

The paucity and higher cost of resources, absence of sufficient housing finance and poor affordability of the middle and low income people stands in the way to housing solution by private and informal sectors (Rahman, 2009). Furthermore, over population, poor land use policy, elevated interest rate, and dearth of land negatively affect housing affordability. No active secondary housing market has been yet established due to burden from transfer tax and land price. In addition, to fulfil increasing housing demand, apartment system has been launched and house rent has been escalated by 250% during 1990-2007. Notwithstanding unusual growth in urban housing, effective research has not yet been conducted. In these circumstances, PPP should be considered to keep the demand-supply gap narrow and to meet the continual increasing demand of affordable housing and its management.

There has been a strong cry and demand for better and more public facilities particularly housing for middle and lower income people in urban Dhaka. Government has also been keen interest to seek alternative methods for large scale housing solution. Some studies on housing attempted to attract different issues in a shattered way. Till today, there is no empirical research and experiential study on PPP affordable housing in Dhaka, Bangladesh. Against this backdrop, this study critically examines the factors associated with the challenges of housing accessibility, affordability and the outcome of PPP affordable housing situation. The research study also recommends some better alternatives and way forward for Bangladesh.

1.3. Research objectives

The main objectives of this research were:

- To foster urban affordable housing management through execution of PPP project in Dhaka, Bangladesh.
- To identify the factors for the successful implementation of PPP affordable housing projects in Dhaka, Bangladesh.
- To assess and analyze the strengths and weakness of the PPP affordable housing projects.
- To recommend a practical solution to the challenges of affordable urban housing development in Dhaka, Bangladesh.

2. Materials and Methods

2.1 Data Collection

The present research study is primarily an exploratory or formulative type of research. The study based on primary data and purposive simple random sampling technique was used for selection of respondents from Bangladesh. On the basis of preliminary investigation, the researcher selected some public and private sector personnel who have relevant experiences. Professional and specialized advices were also taken into account. Project Director, Project Manager or project personnel in housing sector and other construction projects were regarded as key informants for interview. Both structured/open ended questionnaire, such as, email questionnaire, telephone survey and face-to-face interview and informal discussion have been followed with the key respondents from July 2015 to November 2015. The study also uses secondary data from published books, magazines, newspapers, reports, statutes, enactments, project documents, PPP housing projects report, social statistics, official regulation documents, and websites of relevant information on affordable housing, grey literature, archival records and journal articles. Academic dissertations or thesis and organization reports can be used for unpublished sources (Kothari, 2004). PPP Acts, Rules and Regulations of Bangladesh, articles and reports on affordable housing were also taken into consideration. Data have been integrated in the study mostly by descriptive way and have also been coded, presented and analyzed.

2.2 Data Analysis

All the data were analyzed statistically. Statistical analyses were done by SPSS software (version 16.5) and hierarchy analytical process. One-way ANOVA (Analysis of Variance) tests were used to find out any significant differences (if have) between the means of more than two independent groups/factors affecting PPP affordable housing in Dhaka, Bangladesh. Statistical significance was tested at 95% confidence level. The incomplete and inexperienced responses were excluded to ensure credibility of the study outcome. The most common scale, a 5-point Likert scale was deemed fitting to cover all the attributes in the questionnaire. The magnitude of importance of the attributes of PPP affordable housing furnished in the questionnaire was worked out based on their impact in terms of ranking point. Each respondent had five different options corresponding to respective ranking points regarding every attribute.

3. RESULT

The research was done through questionnaire comprising 31 different factors concerned for PPP affordable housing in Dhaka, Bangladesh. These factors were carefully identified and afterwards their strength and weakness were critically analysed. For this purpose, questionnaires were sent 120 expectant participants through email. Phone/e-mail interview was carried out and twelve prospective participants who have vast experience and sound knowledge in this regard were invited by e-mail. Eight of them positively responded and gave their opinion in the open ended question format. Analysis of email/phone interview information revealed some influencing and affected factors in affordable housing construction including some suggestive measures for smooth functioning of project through minimizing the effects of constraints and enhancing role of positive catalyst in project implementation. In addition, face-to-face interview was conducted with four senior and mid-level government executives and two private sector officials & investors while they came to join a two-day investment Road show for Bangladesh at Canary Wharf, London in September 2015. Among them one journalist was also interviewed in this connection.

3.1 Respondents of the research

The total number of completed respondents was 88 which denotes 73.33 % response rate. Out of 88 respondents, 52 were working in government body while 13 were in private and 7 were in corporate organization. The number of government working respondents was four times higher than those of in private organization. Among the respondents 6 were found working with NGO and development partners' organization. Only three (3) of them were self employed and 7 were enjoying their retired life.

Among the 88 respondents, government working comprises 59% while working in private organization represents about 15%. Respondents from corporate sectors and retired people are found with equal representation (8%). Percentage distribution of respondents' working organization is shown below in figure 2.

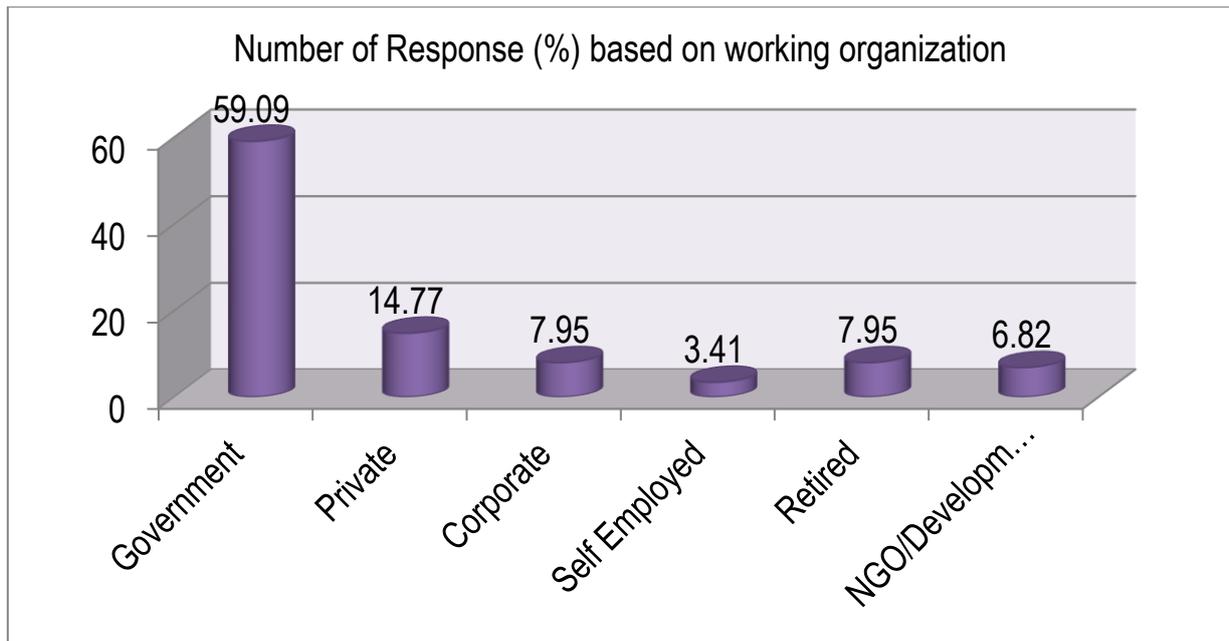


Figure 2: Distribution of respondents' working organization in percent.

Most of the respondents had a wide experience ranging from six to thirty five years in the field of construction, procurement, planning, land management, developing and administration. Among them 6-10, 11-15 and more than 15 years of relevant working experiences were found with twenty five respondents separately. Only 12 respondents had five and less than five years of relevant experiences in this regard. Respondents working experience in years is shown below in table 2.

Table 2: Respondents' relevant working experience in years.

Serial No.	Relevant Working Experience (Years)	Number of Respondents	Number of Response (%)
1.	0 - 5	12	13.64
2.	6 - 10	25	28.41
3.	11 - 15	26	29.55
4.	15 or more	25	28.41
Total		88	100

Figure 3 shows that the highest and lowest percent of respondents were found in 11-15 and 0-5 years of relevant working experiences group. The figures were reported 30% and 14% respectively. The same responses (28%) were observed in the working experience group of 6-10 and 15 or more year(s).

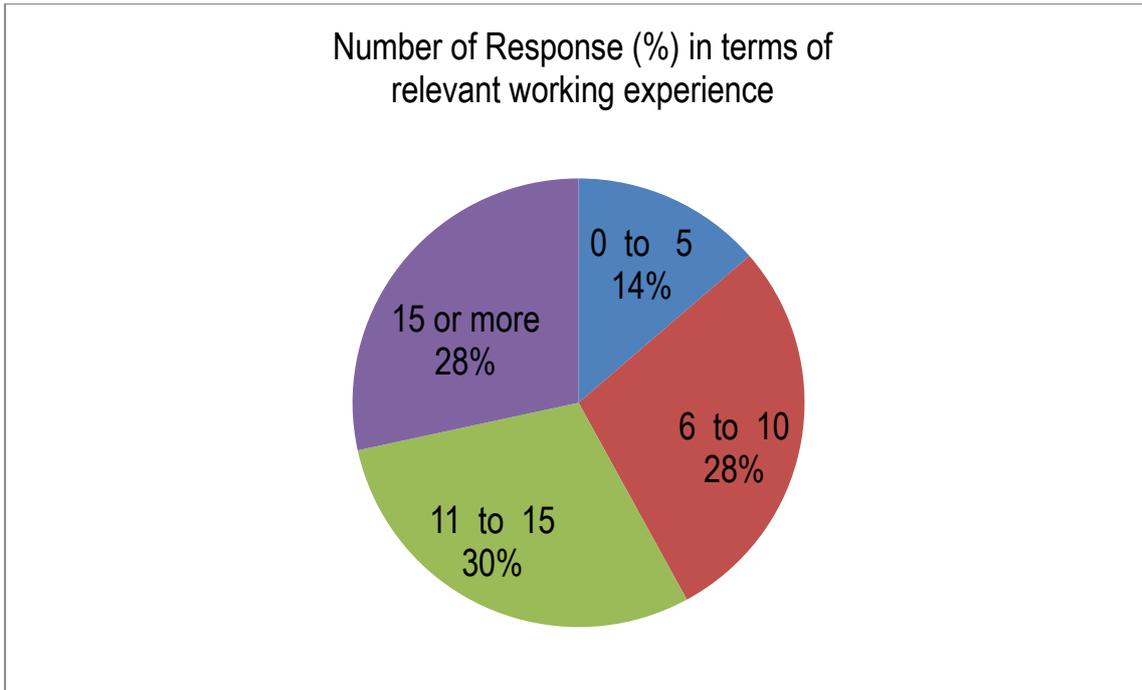


Figure 3: Percentage distributions of respondents based on relevant working experience in years.

Respondents’ main duties and responsibilities in their respective working organization are shown in table 3 and figure 3. Here respondents were categorized based on their professional role and activities. It is observed that 27 respondents had key professional activities in construction sector while 6 had in developer. Among them, the principal duties and responsibilities of 17 and 10 respondents were seen in procurement and finance sector arena respectively. Administration/facilitation and land management sector had been experienced with same number (14) of respondents.

Table 3: Respondents’ prime duties and responsibilities in working organization

Serial No.	Respondents’ key Responsibilities	Number of Respondents	Number of Response (%)
1.	Land Management	14	15.91
2.	Finance	10	11.36
3.	Developer	6	6.82
4.	Procurement	17	19.32
5.	Construction	27	30.68
6.	Administration and Facilitation	14	15.91
Total		88	100

Figure 4 clearly shows that the highest and lowest percent of respondents were found in construction and developer sectors. The figures were about 31% and 7% respectively. While the core area of

concern of 19%, 16% and 11% respondents were observed in procurement, land management and finance sector respectively.

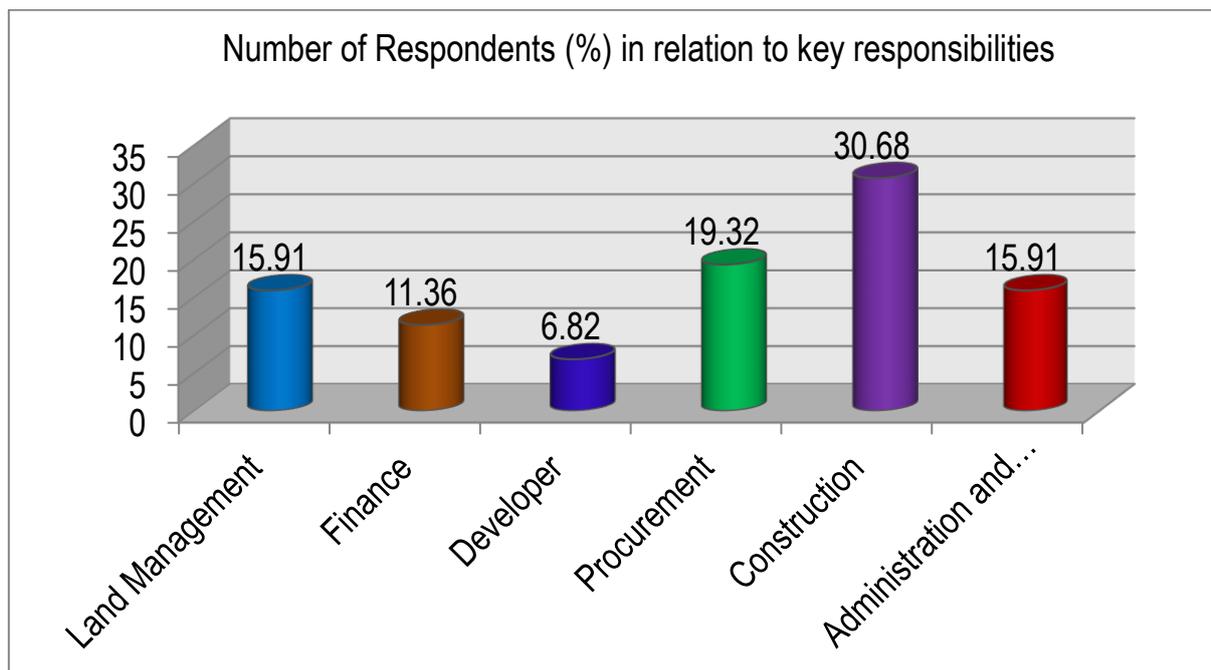


Figure 4: Respondents' principal duties and responsibilities in working environment (percent).

3.2 Factors affecting PPP affordable housing

According to the survey, factors affecting PPP affordable housing in relation to number of respondents' ranking points are shown below in table 4. In this regard, ranking points were kept in bracket.

Table 4: Factors affecting PPP affordable housing in relation to number of respondents' ranking points

Serial No.	Factors affecting PPP affordable housing	Number of respondents (Ranking points)				
		Most important (4)	Important (3)	Moderate important (2)	Least important (1)	Not applicable (0)
1.	Availability of land for PPP project provided by					
	a) Government	64	19	5	0	0
	b) Private Housing Association/Company	12	51	23	1	1
	c) Housing developer	9	40	28	9	2
	d) Other source	3	2	10	27	46
2.	Appropriate location of land for PPP project	51	21	15	1	0

3.	Price of available land	40	36	10	1	1
4.	Competitiveness and transparency in procurement process	38	35	7	5	3
5.	Funding/credit availability	37	39	12	0	0
6.	Value for money in PPP	27	37	19	1	4
7.	Government and Political concern					
	a) Political commitment in project planning and execution	51	24	8	4	1
	b) Well-organized and efficient public agency	34	41	12	1	0
	c) Political stability	40	32	12	3	1
	d) PPP legislations (Rules, Regulations, Acts)	35	40	12	1	0
8.	Mode of Purchase					
	a) Mortgage	14	24	34	14	2
	b) Instalment	46	35	7	0	0
	c) Outright Purchase	0	20	32	27	9
	d) Any other rental market	1	3	10	21	53
9.	Management commitment to home ownership	22	46	15	2	3
10.	Risk Management					
	a) Residual value after concession period	11	49	16	10	2
	b) Risk allocation	19	45	22	2	0
	c) Commitment, responsibility and risk sharing between public and private	47	30	10	1	0
11.	Legal and regulatory sphere including arbitration	20	53	13	2	0
12.	Construction of project					
	a) Construction cost	44	38	6	0	0
	b) Environmental concerns	34	35	14	5	0
	c) Health & safety	41	29	16	1	1

	matters					
	d) Design specification	43	38	6	1	0
	e) Technological innovation	23	37	20	8	0
13.	Other factors					
	a) Good governance	49	30	7	1	1
	b) Strong and good private consortium	28	50	9	1	0
	c) Communication and coordination among stakeholders	27	45	16	0	0
	d) Local involvement and active support	17	46	16	9	0

Table 5: Determination of mean value in terms of PPP affordable housing attributes.

Serial No.	Factors affecting affordable housing	Number of respondents (Ranking points)					Mean Value
		Most important (4)	Important (3)	Moderate important (2)	Least important (1)	Not applicable (0)	
1.	Land provided by Government	64	19	5	0	0	3.67

Table 6: Mean values of factors affecting PPP affordable housing with marked position.

Serial No.	Factors affecting affordable housing	Mean value	Position
1.	Available land for PPP project provided by		
	a) Government	3.67	1
	b) Private Housing Association/Company	2.82	20
	c) Housing developer	2.51	23
	d) Other source	0.74	26
2.	Project land location	3.39	6
3.	Land price	3.28	8
4.	Competitiveness and transparency in procurement process	3.14	13

5.	Funding/credit availability	3.28	8
6.	Value for money in PPP	2.93	17
7.	Government and Political concern		
	a) Political commitment	3.36	7
	b) Well-organized and efficient public agency	3.23	10
	c) Political stability	3.22	11
	d) PPP legislations	3.24	9
8.	Mode of Purchase		
	a) Mortgage	2.39	24
	b) Instalment	3.44	2
	c) Outright Purchase	1.71	25
	d) Any other rental market	0.61	27
9.	Management commitment to home ownership	2.93	17
10.	Risk management		
	a) Residual value after concession period	2.65	22
	b) Risk allocation	2.92	18
	c) Commitment, responsibility and risk sharing between public and private	3.40	5
11.	Legal issues including arbitration	3.03	16
12.	Construction of project		
	a) Construction cost	3.43	3
	b) Environmental concerns	3.11	15
	c) Health & safety matters	3.23	10
	d) Design specification	3.4	5
	e) Technological innovation	2.85	19
13.	Other factors		
	a) Good governance	3.42	4
	b) Strong and good private consortium	3.19	12
	c) Communication and coordination among stakeholders	3.12	14
	d) Local involvement and active support	2.81	21

It is observed from the table 6 that the mean value of available land provided by government, private housing association and / or company, housing developer and land from any other source are seen as 3.67, 2.82, 2.51 and 0.74 respectively. It clearly signifies that land for affordable housing provided by the government is considered as the most important one with first (1st) position. Supply of land from private housing association, company and housing developer can be considered as moderately significant for PPP housing project. In addition, land given by any other source is not feasible in this regard. The respondents considered the land location and price of project land with mean value 3.39 and 3.28 which are positioned in the hierarchy as 6th and 8th respectively. Both mean value and their marked position in case of land price and location specify that they are immensely important for PPP project.

Accordingly the government and political attributes such as political commitment, well-organized and efficient public agency, political stability, and PPP legislation are found with mean value of 3.36, 3.23, 3.22 and 3.24 and those are positioned in the hierarchy as 7th, 10th, 11th, and 9th respectively. These findings indicate that government and political factors are to be considered with great care individually and collectively. Furthermore, the observed mean value of mortgage purchase, instalment payment, outright buying and any other rental market were 2.39, 3.44, 1.71 and 0.61 along with their marked position as 24th, 2nd, 25th, and 27th respectively. These data distinctly shows that instalment payment for affordable housing needs to be considered seriously. On the contrary, outright purchase and any other rental market are far away for taking into review.

It is observed from the table 6 that residual value after concession period with 2.65; risk allocation with 2.92 and commitment, responsibility and risk sharing between public and private consortium with 3.40 and these can be positioned in the hierarchy as 22th, 18th, and 5th respectively as well. These findings reveal that commitment, responsibility and risk sharing between public and private organization is significantly considered by the respondents.

The construction cost, environmental concerns, health & safety matters, design specification and technological innovation were found with the mean value of 3.43, 3.11, 3.23, 3.40 and 2.85 and these factors are marked their position in the hierarchy as 3rd, 15th, 10th, 5th, and 19th respectively just as well. These responses state that construction cost and design specification are strongly recommended for PPP affordable housing project. In addition, health & safety issues and environmental matters also considered carefully. It also suggests that technological innovation in such type of project cannot be overlooked.

The calculated mean value of competitiveness and transparency in procurement process, funding/credit availability, value for money, legal issues and regulatory sphere including arbitration and management commitment to home ownership were observed as 3.14, 3.28, 2.93, 3.03, and 2.93; can be ordered as 13th, 8th, 17th, 16th, and 17th in the hierarchy. Considering the mean value and order in hierarchy, it is found that funding and credit availability is crucially important. Competitive and transparent procurement process is also badly needed for PPP implementation. Legal issues and regulatory sphere including arbitration, value for money and management commitment to home ownership are desirable to consider.

Some other factors were also taken into consideration in this study. Among them, good governance with mean of 3.42; strong and good private consortium with 3.19; communication and coordination among stakeholders with 3.12 and local involvement and active support with 2.82; can be positioned in order as 4th, 12th, 14th, and 21st respectively. It is inferred that good governance can be regarded as one of the most important attributes for PPP project. Strong and good private consortium and communication and coordination among stakeholders can also be taken into consideration with due care.

Table 7: One –way ANOVA test

Sources of Variation	Sum of square (SS)	Degrees of freedom (df.)	Mean Square	F- statistic	F- critical
Between Groups/factors	1333.33	30	44.44	65.56	1.46
Within Groups/factors	1828.27	2697	0.68		
Total	3161.61	2727			

From the able 7 it was found that F-statistic (65.56) > F- critical value (1.46), therefore null hypothesis (H_0) is rejected i.e. there are significant differences in the factors affecting PPP affordable housing in Dhaka, Bangladesh.

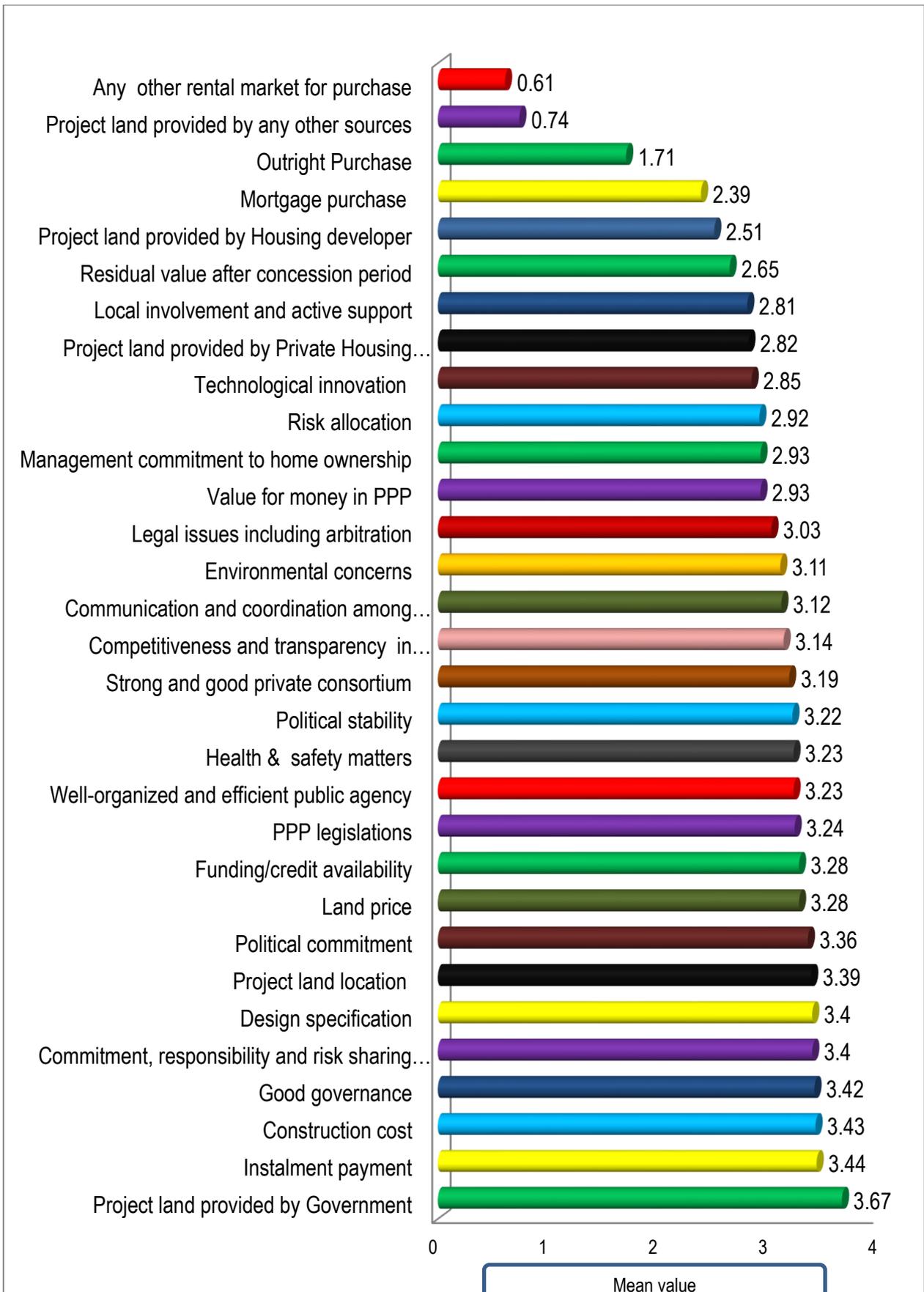


Figure 5: Mean values of factors affecting PPP affordable housing with ascertained position.

4. DISCUSSION

The research study revealed that project land provided by the Government is the most important factor in PPP affordable housing project. Similar findings were also reported from email / phone and face-to-face interview techniques. Literature review findings supported the above claim clearly. Ibe (2011) found that government provision of subsidized land and mortgage financing played key role in ensuring housing affordability in Lagos, Nigeria. Evidence shows that land provided by the government would reduce 25-30 percent of total cost of construction.

Land price in Dhaka is higher than imagination. Therefore, it is not practically viable for affordable housing project to get required land from private housing association, housing company or any developer. To ensure housing affordability, Government may provide its own land with a lower price than actual market value or make long time lease in favor of project. In addition, land transfer within government departments is easier than multiple ownership property. Furthermore, government may acquire or buy private land for this purpose. One good thing for project authority is that no need of immediate cash money in case of government as a land provider. According to email interview, land purchase money may be returned to government fund through installment after completion of project. Indirectly credit availability is ensured for smooth project functioning. In addition to that land litigation is a common and complex phenomenon in urban Dhaka. There are lots of chance of getting disputed land and third party involvement, if land transfer from multiple owner. Corrupt practices will join in the race. Face-to-face interview revealed that single ownership belonging big size of land is not usually available. For private organization, buying land from government by minimum price is quiet difficult due to lengthy process and bureaucratic complexity. Email interview disclosed that high interest rate of banking and other lending organization will increase house price and will make stringent access to affordable housing market. People were also sometimes deceived even after investing whole money for a house to private housing company and developer. For ensure safety and security, they emphasized on tri-party (government, private organization and the buyer) agreement on buyers' paid money (at least 40% down payment) at the initial stage of the project activities. Thus private partner has no absolute authority on the deposited money paid by the buyer and therefore, buyers will be entrusted and encouraged to invest.

The results of questionnaire survey found that land location and its price were closely related in evaluating the factors involved in PPP affordable housing. Land price is a big contributor in determining the purchasing cost of housing unit. Email interview pointed out that considering the future prospect of the property, employment generation, connectivity and development activities; land location would be selected with great care. Therefore, projects future largely depends on these two critical attributes.

It was observed in questionnaire survey that preferred mode of purchase was installment payment. Mortgage was found as not convenient as installment payment. However, Hoek-Smit (1998) defended that mortgage was regarded as crying need to access to housing market for low income people in Dhaka. According to survey, outright purchase and any other rental market were treated as least important to consider. Similar findings were also found in email and face-to-face interview. Five out of eight in email and four of seven in face-to-face interviewees gave importance on installment payment. Considering higher interest rate and poor socio-economic condition of the

people, this payment system is best-suited. Most of the people live in rented houses in urban area. Installment system helps in transformation from tenant to home ownership. However, lot of cash money is required in outright purchase which is unmanageable to the tenant. This is why it was regarded as less feasible compared to installment. However, Trangkanont and Charoenngam (2014a) argued not only method but also limitation of housing finance criteria resulted in project failure. Inflexible installment method, on time payable high interest rate, borrower selection criteria and mortgage finance criteria constraint were regarded as limiting housing finance.

Construction cost was observed as the third most important factor in PPP affordable housing in questionnaire survey. Email and face-to-face interview regarded cost of construction as significant one also. Building construction materials constitute 50% - 60% of housing construction cost in Nigeria and therefore increasing cost of housing is must (UN-HABITAT, 2006). Three important things to be followed in procurement process: participation of good bidding firms, perfect specifications and competitive environment to ensure transparency. Email interviewees suggested some probable measures in minimizing cost such as transparency in procurement, free flow of credit/fund, safety and prior protective measures during construction works, control in corrupt practices. Results from reviewed literature found almost same picture in terms of credit availability. It was observed that credit /fund availability would be the 'main barrier' in ensuring affordability and accessibility to housing provision (Aziz *et al.*, 2007 and Trangkanont & Charoenngam, 2014a).

It was also observed in survey data that political commitment and stability, skilled public agency, communication & coordination and risk sharing between public and private organization were badly needed. In Bangladesh, political influences are very common in every sphere of daily activities. Without political stability and commitment results in non-cooperation from public body, deterioration of law and order situation, chance of increasing 'muscle men' and rampant corruption. The study findings of Trangkanont and Charoenngam (2014b) also concerned with political stability and commitment because of its high impact on project implementation. Similar study findings were reported by Li *et al* (2005a). They pointed out that positive political viewpoint to PPP investors result in growth of PPP. If not, projects would be threatened by serious risks.

Local involvement and active support was not regarded as important attributes in affordable housing survey. On the other hand, interviewees expressed serious concern on this issue. Face-to-face interviewees (70%) treated local demand as 'feel good factor' in successful project outcome. They emphasized more on local emotion, needs and local interest in sharing and negotiation process. In this regard, one notable example is Arial Bill in Faridpur district where earlier decided to construct international airport but unfortunately government compelled to come back due to strong opposition from local people (Tushar, 2011).

According to the study it was observed that PPP legislation, legal issues with arbitration, design specification, health & safety matters, and environmental issues regarded as significant factors. Regarding these attributes, both types of interview information were found with indistinguishable results. Face-to-face interviewees pointed out on PPP housing sector policy formulation with penalty options and legal protection including arbitration systems. On the other hand, email interview stressed on PPP housing policy making with special attention in environmental and health & safety issues, design and innovation, independent judiciary along with arbitration system. Local and foreign

investors' especially private organizations do not eager to invest in any sector, if not any policy directives.

Questionnaire survey pointed out well-organized and efficient public agency regarded as one of the strong attributes in PPP implementation. However, about 62% e-mail interviewees and 70% face-to-face interviewees concerned over competency of public bodies. Likewise, inexperienced public sector officials in selecting and managing PPP projects were reported as common problem (Li, *et al.* 2005a). Lack of knowledge of public authorities on PPP documentation and procurement process results in project hampered in terms of cost escalation and lengthy lead time.

High price of land makes middle and lower income people inaccessible to land market. NGOs concentrate on rural area and government intervention is insignificant towards middle and lower income people. Private sectors effort is visible only who can bear the burden of housing cost. It is an irony that huge amount of government land under different ministries remain vacant or undeveloped such as Tejgaon Old Airport area. So far, no land recovering initiatives by the authority is yet seen. Absence of urban land policy make housing situation more vulnerable.

Another important impediment is urban population growth. Population density of urban Dhaka is three times higher than other urban areas where lower income people are worst sufferer. National Housing Policy 1993 (revised 1999 and 2004) is not implemented yet but acknowledged the role of government as 'facilitator' or enabler rather than provider. This policy neither address urban housing crisis nor consider the context of developing country like Bangladesh. Rather World Bank's 'enabling housing strategies' has been incorporated into policy paper (Chowdhury, 2013).

No provision of social or affordable housing exists in urban Dhaka. Profit-driven private sector is playing pioneer role in absence of significant government intervention. Nearly 57% residents, have to pay more than half of their monthly income to renting a house in Dhaka (Chowdhury, 2013). Furthermore, housing sector reliable data is not available. There is always exist demand –supply gap in housing statistics (World Bank, 2007). As housing market is finance-dependent, mortgage housing finance is badly needed to buy an affordable house for middle and lower income people in Dhaka (Hoek-Smit, 1998). In this connection, National Housing Policy concerns on establishment of private sector housing finance institutions.

Both public and private organizations are found with mortgage financing in Bangladesh. The result of a study by Nenova (2010) stated that housing finance system is too small and severely segmented. Housing finance to GDP ratio for developed country, India and Bangladesh were 50-70 percent, 7percent and less than three percent respectively. Chowdhury (2013) reported that loan term and rate of interest also limit middle and lower-middle income group to mortgage financing.

5. RECOMMENDATIONS

Based on the findings of this study, following recommendations are made:

- 1. Formulation of PPP urban housing policy:** The study recommended that formulation of urban housing policy is one of the important prerequisite to ensure affordable housing. It is also suggested that special attention shall be poured on limited resource, land pricing, environmental and health & safety issues, innovative design in building layout planning.

2. Integration of housing policy activities: Better coordination and cooperation among all the sectoral agencies is essential which can be supported through introduction of integrated PPP housing management policy.

3. Develop alternative housing financial market: Housing finance is crucial impediment in housing solution of lower and middle income people. Development of alternative housing financing scheme such as 'Bond' and 'Housing Fund' may be established. Security instrument may be launched to ensure credit accessibility for urban lower income people.

4. Maintain risk register and risk data base: The risk register and risk data base should be introduced to list risk factors particularly financial consequences in risk matrix. The risk allocation process will have to frame before in PPP contract agreement with private organization. Which risk allotted for whom and how they can be identified, measured, evaluated and managed.

5. Establish mutually acceptable risk allocation scheme: Achievement in value for money depends on the mutual understanding and trustworthiness. To meet this notion, risk allocation strategy should be justified and established prior award in PPP projects. Risk response must be kept pace with project proficiency rather than opportunities; if not, opportunities will come back as project threat.

6. Develop good relationship with politician: Relationship should be developed and maintained with both government and opposition political executives. It will help in well-functioning and smooth-operation of the project. Most of the PPP policy and projects are maintained by politician and political backing rather than public interest.

7. Selection of project location: Identification of a suitable and developable location which have reasonable prospect to meet housing demand of that locality through its own approach under certain circumstances. Un-used, limited used, undeveloped and vacant government land may be considered in this regard.

8. Ensure restructuring of institutions including installation of 'Housing Data Bank': Introduce comprehensive approach especially restructuring the regulatory institutions is badly needed for housing affordability. Housing data bank will help effectively in formulating planning, policy, strategies in this sector. This data bank may be established under Statistical Division of the country. The proposed data bank will encompass population projection with housing stock, price of housing and land over time and location, trend of construction material cost, provision of housing finance and key housing providing institutions and organizations.

9. Explore more research on PPP housing: Further research can explore the hidden constraints based on local perspective. For this, universities, research institutions and research organizations can be involved and more allocation of funding must be ensured for housing solution.

6. Conclusion

According to the research it was found that there were significant differences among the factors affecting PPP affordable housing in Dhaka, Bangladesh. Among them, provision of land provided by government is regarded as the most important one. Land is very expensive commodity in Dhaka where house price to income ratio is one of the highest (18.75) in South Asia. Due to high land price, private land may be acquired and then fitted for long-term lease to ensure affordability. Moreover, there is a scarcity of required amount of land in urban Dhaka. It is very difficult thing to buy land from multiple ownership property. Otherwise skyrocketed land price will contribute in increasing housing price. Installment as mode of housing purchase regarded as second most important factor in PPP project. Inaccessibility of housing financial and land market of lower income people resulted from ineffective mortgage financing, high interest rate, and higher house rent. Housing finance market is too small and serves the particular high income group. Nearly 70% urban populations are land less. Furthermore, lack of government intervention in housing rent and land price aggravated the affordability situation from bad to worse. Middle and lower income people are unable to bear the cost of outright purchasing. Construction cost is another crucial factors identified by the study analysis. Some other most important factors are commitment, responsibility and risk sharing between public and private organization; design specification; land price and location; political commitment; funding/credit availability; PPP legislation; well-organized and efficient public agency; health & safety matters; political stability; strong and good private consortium; competitiveness and transparency in procurement process; environmental concerns; and legal issues including arbitration system are noteworthy. The discussion and analysis satisfied the aim and objectives of the study and fulfilled the gap remaining in the literature. Taking active consideration of factors involved, strength and weakness, this study suggests that PPP in housing provision has significant prospects in providing affordable and accessible housing for all particularly urban lower income people.

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