



Readiness for integrating sustainability issues in public procurement process of Bangladesh

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Abstract: Recognizing the role of public procurement to support sustainable development due to its multiplier effects on the economy, the present study seeks to provide an assessment of readiness of integrating sustainability issues in public procurement process of Bangladesh by analyzing its incentives, barriers and needed supports. A semi structured questionnaire was used to collect primary data from randomly selected 60 public procurement practitioners of Bangladesh. The recorded data were analyzed using SPSS 17 computer package. The highest proportion of the respondents was middle aged and male. Majority of them were from engineering background and involved in the development of specification and tender document for their organization. Almost all of them were trained in public procurement but most of them did not get training on sustainable and ethical procurement and sustainable development. The highest portion of them define SP as procurement based on considering the environmental, social and economic impacts for achieving long term value for money. Improvement of environmental quality, higher labor standard, better health & safety condition of worker and optimize use of natural resources were regarded as highly ranked opportunities arise from addressing sustainability through public procurement. Lack of policy guideline, absence of political will in promoting sustainability and avoidance of complexity for secondary objectives of procurement were the common responses as a barrier. In addition to formulate a sustainable procurement policy, political willingness and a clear commitment is necessary from the government. Limitation with public sector, the proposed typology of sustainable procurement can serve as a basis to develop an emerging thought among policy makers and academic researchers to use procurement as important tool for sustainable development of Bangladesh and future research in this area.

Keywords: Sustainable development, Public procurement, PPR, Bangladesh.

I. Introduction

Bangladesh is among the most densely populated countries in the world, vulnerable to natural disasters and increasingly affected by climate change. Bangladesh needs to balance economic, social and environmental requirements of development in order to ensure the needs of the present generation are met without compromising the ability of the future generations to meet their own needs (GED, 2013). Government expenditure is having a significant share of GDP's in each country because countries are using public procurement to pursue social goals such as reduce unemployment rate, raise labor standard, provide employment opportunities for disable persons and promote gender, racial and ethnic equality (McCrudden, 2004). Foundational to the role of government itself, procurement has been conceptualized as one of four major economic activities performed by government (Thai, 2001). Public procurement (PP) represents 18.42% of the world GDP (Mahmood, 2010). As a developing country, Government expenditure constitutes about 16 per cent of its GDP in Bangladesh. For sustainable development (SD), we should ensure best value for money (Mannan and Islam, 2013). Sustainability is driven by an incorporation of economic, environmental, and equity-driven values and policy aims-further defined as people, profit and planet (Weybrecht, 2010). Sustainable Procurement (SP) worldwide is heavily driven by public procurement agendas and is often viewed as a public sector initiative. While SP activities are common in many developed countries, the awareness and implementation is still comparatively low in most developing countries (Kamruzzaman, 2013). Potential barriers and challenges of implementing SPP have been mentioned mainly based on the European experience as clustered by GIZ (2013) such as economic, political, regulatory policies, cognitive and legal framework. Warner and Ryall (2001) found integration of environmental considerations only rated as moderately successful, with higher costs of green products emerging as the most commonly cited barrier in local authorities of England and Wales. Thomson and Jackson (2007) reported the main barriers to sustainable supply were a perceived lack of priority at senior level. Ning *et al.* (2003) identified that the initial higher cost of green building is than conventional buildings limited by the design and technology level is one of the significant challenges that face practice of SP. Islam and Siwar (2013) mentioned additional costs of more sustainable options, perceptions of inability to offset whole cost and lack of resources and budget to do anything other than what is conventionally expected. After

studied the implementation status of SP in LICs, GIZ (2013) found that there are currently no incentives to implement SPP in Bangladesh, since the enforcement of environmental regulations is weak. Other challenges refer to the level of poverty, low capacity of local contractors, lack of enforcement of the law in general, non-utilization of environmental/economic evaluation criteria in bidding processes and political influence in decentralized procurement.

Public procurement process of Bangladesh is governed by two principal legal instruments; the Public Procurement Act (PPA) 2006 and Public Procurement Rules (PPR) 2008 under the authority of Central Procurement Technical Unit (CPTU) of Ministry of Planning. The main objective of enacting PPA 2006 & introducing PPR 2008 was ensuring transparency, accountability, fair treatment in all public procurement for achieving value for money throughout the public sector organizations of the country. But these two legal instrument lacks special emphasis on all three aspects of sustainability in procurement process (Kamruzzaman 2013). Despite of limited scope to address sustainability, various economic, social and environmental criteria could be incorporated through specifications, selection criteria, awarding the contract and contract performance clauses within the existing framework of PPR. Recognizing this prospect, the objectives of this study are to identify key factors influencing successful incorporation of sustainability issues in public procurement and to assess the its readiness perception by analyzing challenges and needed support for its implementation in Bangladesh. This provides fresh input into the SP discourse to inform policy development at the government and organizational levels of Bangladesh.

II. Methodology

A semi-structured questionnaire was used to gain a better insight and understanding of barriers/opportunities/supports needed for assessing readiness of integrating sustainability issues through public procurement process from 60 randomly selected procurement professionals of various organizations. Both open end and close end questions were included. Two types of variables; independent and dependent were selected. Age, gender, background, education, years of experience, training, volume of procurement, major involvement in types of procurement, role in procurement process, knowledge of SP, their daily sustainable activities. General readiness perception was considered as dependent variable comprising 3 aspects of sustainable procurement; opportunities, barriers and needed supports. Respondents were asked to rank the barriers/opportunities/supports needed for addressing sustainability through PP in a scale of 1 to 10 (1=Least Important and 10=Most Important), a value above “5” would represent that factor is of importance. They were also given the opportunity to add others which would be of importance, but they did not do so. For this purpose, Barrier for Addressing Sustainability Index (BASi), Opportunities for Addressing Sustainability Index (OASI) and Support needed for Addressing Sustainability Index (SASI) were measured by using the formula as used by Rahman *et. al.* (2009).

$BASI/OASI/SASI = P_1 \times 1 + P_2 \times 2 + P_3 \times 3 + P_4 \times 4 + P_5 \times 5 + P_6 \times 6 + P_7 \times 7 + P_8 \times 8 + P_9 \times 9 + P_{10} \times 10$.

Where, P_1 = Percentage of respondents scoring the barrier/opportunity/support needed as 1; P_2 =.....scoring as 2; P_3 =.....scoring as 3; P_4 = ...scoring as 4; P_5 = ...scoring as 5; P_6 = ...scoring as 6; P_7 =..... scoring as 7; P_8 =..... scoring as 8; P_9 = ...scoring as 9; P_{10} =.....scoring as 10.

Index for a category could range from 100 to 1000, where 100 indicated low barrier/opportunity/support needed and 1000 high barrier/opportunity/support needed. Collected data have been cleaned, edited, arranged and coded before statistical analysis. The analysis was performed by using SPSS 17. Descriptive analyses such as number and percentage, mean, standard deviation were calculated to find out the differences between selected item variables of the study. The correlation between dependent and independent variables were carried out to find the relationship and to measure the strength (Gomez and Gomez, 1984).

III. Result and Discussion

Reliability

Cronbach's alpha was calculated through SPSS 17 version for identifying the coefficient of questionnaire items and its consistencies (Table 1).

Table 1 The reliability testing of the questionnaire item

Variables	Items	Cronbach's Alpha value
Daily sustainable activities	10	0.679
Training	04	0.723
Opportunities	10	0.677
Barriers	13	0.694
Needed supports	09	0.742

Age: Fewer young practitioners in the study might be due to the fact that young professional lacks experience and confidence to run procurement efficiently and effectively. Poorer participation of older persons in procurement might be related to their change of role from clerical/administrative to supervisory (Table 2).

Years of experience: According to classification, Majority (47%) of the procurement practitioner were mid level professionals while 21 per cent and 32 per cent were young and senior professionals respectively.

Gender: Lower representation of female might be due to the fact that procurement happens to be one of the vital areas, where women are usually deprived off. Less participation of women in public procurement process might reflect the lower representation of women's in government service of Bangladesh as a whole.

Background: The highest proportion of development budget has been allocated for various engineering divisions which might necessitate large numbers of engineering graduate in procurement activities by default of their allocation of business in Bangladesh.

Level of Education: Most of the procurement practitioners (60%) had post graduate level education. Possession of some professional degree on procurement by some of the respondent is a positive aspect to develop and adopt best practice management in the country's procurement sector. This might be the outcome of the ongoing commitment of the government of Bangladesh to develop organizational human capital in procurement sector in association with Chartered Institute of Procurement and Supply (CIPS), UK.

Annual volume of procurement: Based on the classification, about 40 per cent of the respondents were responsible for low volume, 43% medium volume and 17% high volume of procurement. Variation in volume of procurement might be due to their respective position and role within organisation, capability and managerial ability.

Type of procurement: About half of the respondents were involved mainly in procurement of works. Another 47 per cent respondent highlighted their major responsibility for procurement of goods. Only 3 per cent mentioned that procurement of services constituted a major part of procurement activity for them. Variation in the proportion of goods, works and services might be due to the nature of job of their respective department.

Training: Almost all of the respondents (92%) were trained on procurement of goods, works and services. CPTU in collaboration with World Bank providing trainings of various durations in different procuring entities which might explains the findings. Only 45 per cent were well familiar with sustainable development, 30 per cent for sustainable procurement and 25 percent for responsible procurement. Mannan and Islam (2013) found poor education and practices in honesty, morality and professional ethics were prevailing among human resources involved in public procurement. Such a scenario signals the importance of training on sustainable procurement for using PP as a policy instrument for sustainable development of Bangladesh.

Place of Training: All of the respondents (98.3%) were trained on procurement in their professional life.

Major responsibility of the respondent in public procurement process

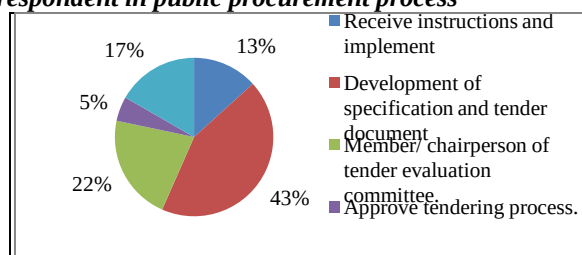


Figure 1 Role of respondent in public procurement process

Table 2 Selected characteristics of respondent involved in public procurement

Item	Category and scoring system	Respondents (N=60)		Mean	SD	Chi-Sq. (Asym. Sig.)	Observed range (Possible)
		No.	%				
Age of respondent (years)	Young (≤ 30)	6	10.0	40.10	7.71	22.8 (0.000)	28-57 (Unknown)
	Middle (30-50)	36	60.0				
	Old (≥ 50)	18	30.0				
Years of Experience in Public procurement (years)	Young (≤ 7)	13	21.7	12.18	6.11	5.70 (0.058)	2-30 (Unknown)
	Mid level (08-14)	28	46.7				
	Senior (≥ 15)	19	31.7				
Gender	Male (1)	53	88.3	1.12	0.32	35.26 (0.000)	1-2 (1 or 2)
	Female (2)	7	11.7				
Background	Engineers (1)	42	70.0	1.30	0.46	9.60 (0.002)	1-2 (1 or 2)
	Non engineer (2)	18	30.0				
Level of education	Graduate (1)	12	20.0	2.00	0.64	19.2 (0.000)	1-3 (1 or 2 or 3)
	MS/MBA (2)	36	60.0				
	Professional degree (3)	12	20.0				
Training on Public procurement	Yes (2)	55	91.7	1.92	0.28	41.66 (0.000)	1-2 (1 or 2)
	No (1)	5	8.3				
Training on Sust. development	Yes (2)	27	45	1.45	0.50	0.60 (0.439)	1-2 (1 or 2)
	No (1)	33	55				
Training on Sust. procurement	Yes (2)	18	30	1.30	0.46	9.60 (0.002)	1-2 (1 or 2)
	No (1)	42	70				
Training on ethical procurement	Yes (2)	15	25	1.25	0.44	15.0 (0.000)	1-2 (1 or 2)
	No (1)	45	75				
Place of Training	University education(1)	1	1.70	1.98	0.13	56.07	1-2

Annual volume of procurement	Professional life (2)	59	98.3			(0.000)	(1 or 2)
	Low (≤ 99 million)	24	40.0	623.97	1451.83	47.20	8-8000
	Medium (100-500)	26	43.3			(0.002)	(Unknown)
	High (≥ 500 million)	10	16.7				
Type of procurement	Goods ($\geq 50\%$)	28	46.7	43.15	27.41	--	0-50
	Works ($\geq 50\%$)	30	50	47.42	30.05		(0-100)
	Services ($\geq 50\%$)	2	3.3	9.35	11.83		
Daily sustainable activities	Least (≤ 19)	16	26.7	21.32	2.68	23.7	16-28
	Medium (20-24)	37	61.7			(0.000)	(0-30)
	High (≥ 25)	7	11.7				

Practice of daily sustainable activities of the respondents

Based on their extent of daily sustainable activities, respondents were classified into least sustainable (≤ 19), medium sustainable (20-24) and highly sustainable (≥ 25). Daily sustainable activities of about 62 per cent of the respondents were categorized as medium sustainable, 27% least and 12% highly sustainable. Variation in the extent of daily sustainable activities among the respondents might be due to their respective awareness and education level.

Table 3 Distribution of respondent according to their daily sustainable practices

Daily sustainable activities	Number of respondents			Mean	SD
	(3)	(2)	(1)		
DSA.a. Turned off electric fan, computer etc. after use	49	11	0	2.28	0.39
DSA.b. Buy energy saving electrical and IT equipment	40	19	1	2.65	0.52
DSA.c. Use less water for all activities	33	27	0	2.55	0.50
DSA.d. Avoided using plastic bags	7	49	4	2.05	0.43
DSA.e. Avoided buying products with lots of packaging and no biodegradable packaging	1	44	15	1.77	0.47
DSA.f. Thrown food and organic materials into waste bin	21	34	5	2.27	0.61
DSA.g. Used recyclable and renewable goods	3	45	12	1.85	0.48
DSA.h. Sharing knowledge of SD and how to make public procurement more social and environmental friendly	9	44	7	2.03	0.52
DSA.i. Buying recycled paper	3	38	19	1.73	0.55
DSA.j. Using or procuring vehicles running on alternative fuels	9	18	33	1.60	0.74

(Always=3; Sometime=2; Never=1)

Knowledge of Sustainable Procurement

Sustainable public procurement is a process whereby public institutions meet their needs for goods, services and works in a way that achieves value for money on a whole life cycle basis in terms of generating benefits not only to the organization, but also to society and the economy, while minimizing damage to the environment (DEFRA, 2006).

The highest portions of the respondents (55%) were able to define SP in line with the definition of DEFRA (2006). Variation in the concept of sustainable procurement might be due to their different academic background and education level, cosmopolitaness and level of familiarity about SP.

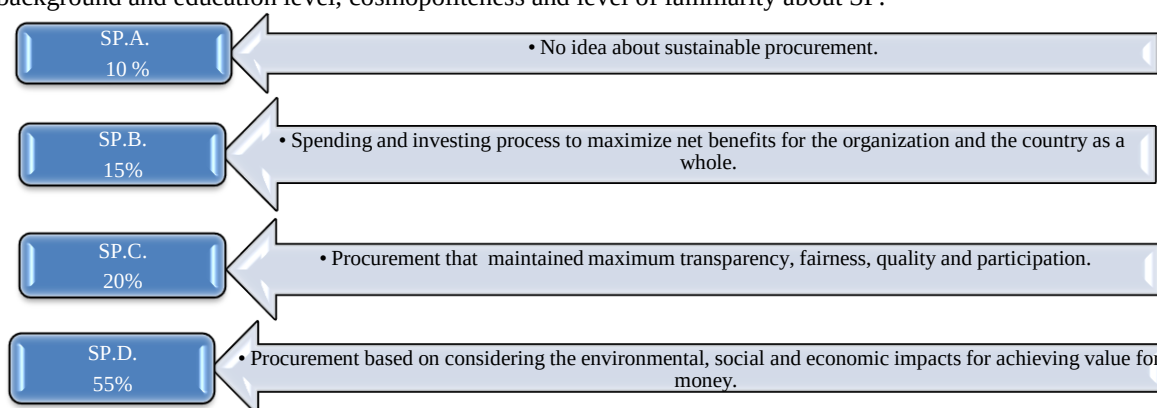


Figure 2 Knowledge of Sustainable Procurement

Opportunity for Addressing Sustainability

The attractive factors, barriers and support needed of addressing sustainability through public procurement have been discussed by many previous researchers. Through public procurement, governments can “raise the bar” for the respecting of labor and environmental standards by all market operators, thereby facilitating sustainable development. Ten attractive factors for adopting SP were rated by the respondents (Figure 5). A value above “5” would represent that the reason for implementing sustainability issues through public procurement process of Bangladesh is of importance. The mean value for the attractive factors as rated by respondents ranged from

5.45 to 8.83. This observation has reflected that variation in their responses are relatively high which represents that responses are not consistent because of different understanding about attractive factors.

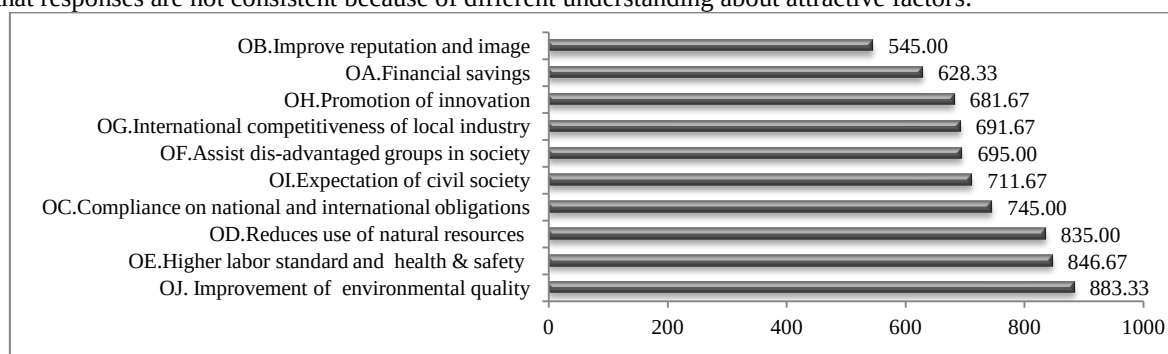


Figure 3 Ranking of opportunities based on OASI.

Barriers for Addressing Sustainability

Thirteen barriers for addressing sustainability through PP were rated by the procurement professionals with mean ranged from 5.78 to 8.98. In general, the barrier factors are rated higher by the respondents because considerations of country context factors are deemed to be more challenging. It also implies that respondents are not very much confident about practicing sustainable public procurement process.

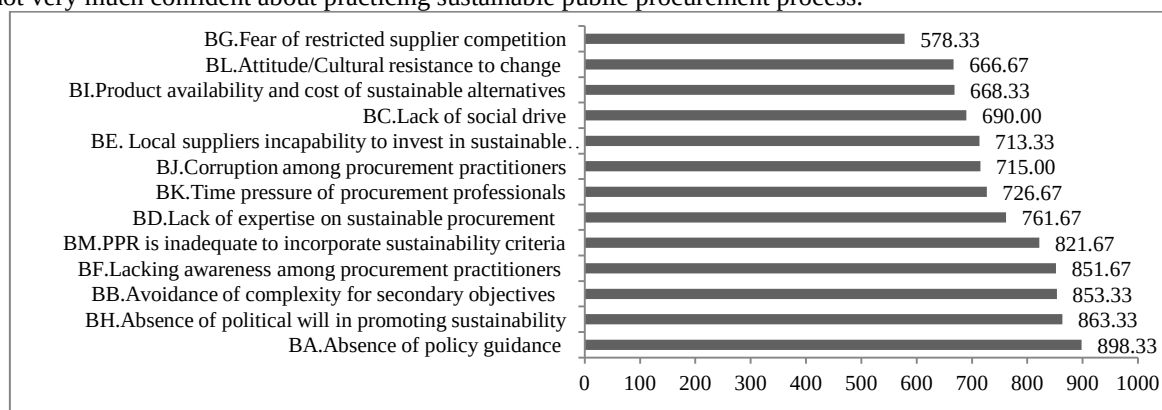


Figure 4 Ranking of Barriers based on BASI.

Support required for Addressing Sustainability

The mean values for the support factors as rated by respondents ranged from 5.95 to 9.05. This observation has reflected that the variation in their responses is relatively high. The finding shows that the respondents rated the support factors much more inconsistently with larger variation.

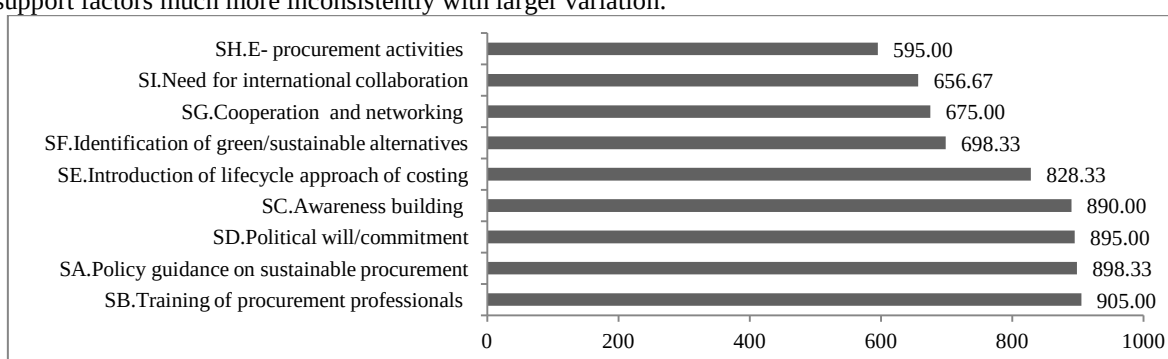


Figure 5 Ranking of supports needed based on SASI.

Relationship between the Selected Characteristics of Respondents and Their Perception of Opportunities, Barriers and Support needed for Addressing Sustainability in Public Procurement Process of Bangladesh.

The Pearson two-tailed correlation coefficient was used to ascertain the degree of association among the variables. Thirteen characteristics of the respondents were selected for exploring the relationship with their perception of opportunities, barriers and support needed for addressing sustainability through public procurement. It is revealed that respondent's age, education, years of experience, training, DSA and extent of knowledge on SP had significant positive relationships with their exploring / scoring of various opportunities. On the other hand, respondent scored higher barrier confrontation who had higher level of education, work

experiences and training. Age, years of experiences, role in the procurement process and DSA were positively correlated with the respondent's responses in scoring needed support for addressing sustainability in the public procurement process of Bangladesh.

Table 4 Relationship between the Selected Characteristics of Respondents and Their Perception of Opportunities, Barriers and Support needed for Addressing Sustainability

Variables	Computed R value		
	Opportunities	Barriers	Supports
.1 Age	.274*	.240	.288*
.2 Gender	-.017	-.050	-.076
.3 Background	.028	.005	-.056
.4 Education	.467**	.421**	.245
.5 Years of Experience	.347**	.265*	.289*
.6 Training	.380**	.270*	.200
.7 Volume of procurement	.157	.170	-.031
Involvement in .8 Goods Procurement	-.055	.077	-.038
Involvement in .9 Works Procurement	-.064	-.175	-.016
Involvement in .10 Service Procurement	.282*	.267*	.128
.11 Role in Public Procurement	.025	.060	.280*
.12 DSA	.397**	.238	.336**
.13 Knowledge of SP	.366**	.057	.249

* = Significant at 0.05 level of probability, ** = Significant at 0.01 level of probability

V. Conclusion and Recommendation

Having a multiplier effect and purchasing power of public sector to promote sustainability, the findings indicate that there are many actual or perceived barriers which need to be removed for making ready to integrate sustainability issues in public procurement process of Bangladesh. Improvement of environmental quality, higher labor standard, better health & safety condition of worker were regarded as highly ranked opportunity arise from addressing sustainability. Lack of policy guideline, absence of political will in promoting sustainability and avoidance of complexity for secondary objective of procurement were the responses as high barriers. Formulation of a national policy and awareness building is badly needed for addressing sustainability issues through public procurement. Based on the above conclusions some specific recommendations for addressing sustainability in an appropriate way are given below:

- Awareness campaign should be arranged focusing on how to take account of non-monetary benefits of SP. As part of CPTU's awareness programs, it should also highlight the necessity of addressing sustainability in public procurement process through a solid multi-stakeholder approach.
- There is the need for a higher degree of collaboration and engagement between all parties, such as the government, contractors and suppliers, who are found to be the member of supply chain.
- As engineers are mainly involved in procurement activities, all engineering degree should include a course on Contract and Procurement Management.
- The government should provide training to incorporate sustainable procurement techniques into ongoing training programs of CPTU. The key intervention points in the procurement process for sustainability are the same as with traditional procurement which might be applicable within the existing framework of PPR-2008.
- Public sector procurement professionals should be given clear direction from the top of their organizations with sustainability targets and performance measuring systems and progress monitoring.
- Procurement should be done by the full-time procurement professionals. Abrupt transfer and posting to other professional areas might affect their career plan as well as achieving professional competence for addressing sustainability imperatives through their practices.
- There is scope to further study about the sustainability issue. Advanced research needs to be conducted in order to get a deeper insight into the sustainability issue in relation to the public procurement of Bangladesh.

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