

SUITABILITY OF GOVERNMENT BID EVALUATION PROCEDURE FOR BUILDING PROJECTS IN SRI LANKA

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ABSTRACT

In Sri Lanka, a Contractor is selected through a bid evaluation procedure in construction projects and this is be a crucial step in the implementation of the project. The most frequently used bid evaluation procedure in Sri Lanka is the Government Bid Evaluation Procedure (GBEP), the Government being the client in most of the projects. Although GBEP is referred to in government publications, it has so far not been analysed in detail. This study therefore was conducted to identify the suitability of GBEP to local building projects.

Firstly, a literature synthesis and a desk study were carried out. The degree of use of GBEP identified from the literature synthesis was validated through semi structured interviews which also identified the advantages, disadvantages and limitations of GBEP.

The analysis reveals that a well-defined procedure, proper documentation, possibility of selecting the lowest evaluated bid are the major advantages of GBEP while the absence of a minimum eligibility criteria for preliminary bid evaluation, adjustments done by the evaluator, low accuracy of the Engineer's Estimate and non-consideration of the optimum bid are its major disadvantages and/or limitations. Suggestions are made to overcome the disadvantages and limitations. Flexibility on ICTAD registration, making allowance for discounts for variations, introduction of standard formats for reporting and prohibition of adjustments by the evaluator will enhance the transparency and accountability of GBEP.

Keywords: *Construction Industry; Contractor Selection; Engineer's Estimate; Government Bid Evaluation Procedure; Tender Evaluation.*

1. INTRODUCTION

The construction industry is quite complex in that it has both new projects and renovation projects (Wills and Ashworth, 1992). Fellows *et al.* (2002) state that having two separate stages for the design and construction is a unique characteristic of this industry. Before any construction work is undertaken, a suitable contractor has to be selected (Holt, 2010) through a tendering process (Janaka, 2011). Holt (1998) states that this process consists of two stages, pre-qualification and tender evaluation. During tender evaluation (TE), tenders of pre-qualified contractors are evaluated (Wong *et al.*, 2001).

In Sri Lanka, several TE procedures are being used (Aluvihare, 1998) and the GBEP published by the National Procurement Agency (NPA) is one of them (NPA, 2006a, NPA 2006b). According to NPA (2006) the purpose of the GBEP is to determine the lowest evaluated bid that is substantially responsive. The GBEP has four major stages, i.e preliminary examination of bids, detailed evaluation and comparison of bids, post qualification verification and writing the bid evaluation report. It can be applied whenever open and selective tendering methods are used for the selection of a contractor (NPA, 2006).

Therefore, to successfully execute a construction project, tender evaluation procedure should be strong and strict. This paper aims to identify the suitability of exiting GBEP in Sri Lanka and the scope will be re-measurement type building projects. The aim is achieved through studying the GBEP, identifying its degree of usage, identifying its advantages, disadvantages and limitations and suggesting solutions for identified disadvantages and limitations.

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2. GOVERNMENT BID EVALUATION PROCEDURE OF SRI LANKA

GBEP of Sri Lanka was officially implemented in 1996 through the General Treasury by the Ministry of Finance and Planning when the Government issued guidelines on tender procedures (General Treasury, 1996). When in 1997, the General Treasury was made the National Procurement Agency (NPA), a revised version of the guidelines on the tender procedure was introduced (NPA, 2006). As stated by the Ministry of Finance and Planning (1997), the Government has published a procedure for tendering (bidding as used in Sri Lanka) especially for public sector projects. GBEP in Sri Lanka has four major stages as set out in the NPA Procurement Guidelines (2006) which are; preliminary examination of bids, detailed evaluation and comparison of bids, post qualification verification and writing bid evaluation report.

This very first stage of the bid evaluation process is preliminary examination of bids which eliminates the bids that do not meet the minimum standards or requirements given in the bidding document (NPA, 2006). All bids received before the dead line for submission of bids are considered for the preliminary bid evaluation and the Procurement Entity (PE) has to establish reasonable criteria for the elimination of bids that do not meet the stated requirements (NPA, 2006). During the second stage; detailed evaluation and comparison of bids, all substantially responsive bids are evaluated to determine the lowest evaluated bid. A systematic and logical sequence is stated in the NPA Procurement Manual to carry out this stage (NPA, 2006). Post qualification verification; the third stage has become important when there is no requirement for pre-qualification (NPA, 2006). North American Development Bank (NADB) (2012) recommends this highly for uncomplicated building contracts. Pre-qualification does not offer much advantage at this stage as its purpose is only to determine whether the lowest responsive evaluated bid can meet the contractual requirements. The final stage; writing bid evaluation report is carried out after the confirmation of the lowest responsive bid (NADB, 2012). Once the bid evaluation is completed, the PE has to prepare a bid evaluation report using standard formats (NPA, 2006).

The level of usage of GBEP in Sri Lanka is high since it is necessary to follow government bidding procedure for the public sector projects (Abeyasinghe, 2006). Further, the Government is the largest client of the local construction industry, with 73% of its total investment (Central Bank of Sri Lanka, 2012) in 2012 being on construction related activities. Colombo Page (2013) has confirmed that the Government's public sector investment was 5.9% of the GDP. As per the Department of Census and Statics (2011), the degree of use of GBEP in Sri Lanka is also high, as most public sector projects are in the construction sector.

The exiting GBEP has several disadvantages and limitations. The main disadvantage is being the 'Winner's Curse'. According to Abeyasinghe (2006), 'Winner's Curse' occurs when a contract is awarded to the lowest responsive bidder whose bid price has a high estimating error. Jayasena and Uhanowitz (2008) define 'Winner's Curse' as the situation when a winning contract either carries negative profits or below average profits. Moreover, Abeyasinghe (2006) state that, Winner's Curse makes construction firms insolvent. A contractor may also try to compensate his poor cash flow through the Winner's Curse, by submitting claims that cause post contract difficulties to clients (Jayasena and Uhanowitz, 2008).

Abeyasinghe (2006) has argued that there are disadvantages and limitations of GBEP other than 'Winner's Curse'. Eriksson and Westerberg (2001) discussed that GBEP has a disadvantage of producing conflicts. Ngobeni (2001) mentioned that corruption may exist during tender evaluation. Expert opinions also indicate the necessity to examine the suitability of GBEP. Watt *et al.* (2009) have mentioned that many experts and academic institutions have made suggestions for contractor selection and evaluation. Mahdi *et al.* (2002), Rajaie *et al.* (1997) and Turskis (2008) stated that the only criteria for selecting a contractor should not be the fact that he has submitted the lowest responsive bid. The strict bid evaluation procedures followed in other countries have encouraged the researcher to explore the suitability of the existing GBEP. The Republic of Kenya gives preference to best value for money and not the lowest responsive bid (Public Procurement Oversight Authority, 2009). In South Africa, Finland and UK, it is the most advantageous bid that is selected (Ngobeni, 2001; Tikkanen and Kaleva, 2011 and Holt *et al.*, 1995). Construction industry requirements also make it necessary to examine the suitability of the existing GBEP. According to 2013 Annual Report of the Central Bank and the report of the Colombo Page (2013), the largest client of the construction industry in Sri Lanka is the Government. ICRA Lanka

(ICRA Lanka Limited) and IMaCS (ICRA Management Consulting Services Limited) (2011) as well as Amarapathy (2013) state that with the end of the war the construction activities initiated by the Government have increased during the last five years. Hence, there is a need to follow both the NPA guidelines and GBEP, as most of the construction projects are funded by the Government. In addressing the requirements of literature as well as the industry, the existing GBEP has to be examined and updated. To achieve these purposes, the qualitative approach was chosen for this study. The methodology to analyse suitability of GBEP is discussed in detail in the following section.

3. RESEARCH METHODOLOGY

Social constructionism was adopted as the research philosophy of the study, and a qualitative approach was used to assess subjective data (expert opinions). A desk study, preliminary interviews and semi structured interviews were used to collect data.

The desk study was carried out mainly by referring to the Procurement Manual, Procurement Guidelines and the Government Tender Procedure published by the NPA. Its objective was to analyse GBEP and divide its stages into sub stages. Thereafter, four preliminary interviews were conducted mainly with experts in consultancy organisations to validate the outputs of the desk study. Semi structured interviews were used as the third data collection technique. The interview guidelines validated through preliminary interviews, were followed in conducting ten semi structured interviews with experts, who have had long experience and vast knowledge on GBEP. The software program NVivo 10 developed by QSR (Qualitative Solutions and Research Ltd.) was used for this research as it could handle rich text based data and analyse same in detail. The details of the desk study, preliminary interviews and semi structured interviews and their outcomes are given below.

4. RESEARCH FINDINGS

Research findings are discussed under four main headings, i.e study of GBEP, identification of the current degree of use of GBEP, advantages, disadvantages and limitations of GBEP and expert suggestions.

4.1. STUDYING GOVERNMENT BID EVALUATION PROCEDURE

In studying and identifying the advantages, disadvantages and limitations of GBEP and making suggestions, it is convenient to divide it into stages and sub stages. Table 1 indicates the stages identified through the desk study.

Table 1: Sub Stages of GBEP Identified through the Desk Study

Main stage	Sub Stages
1.0 Preliminary bid evaluation	Checking preliminary requirements
	Identifying deviations
2.0 Detailed bid evaluation	Excluding VAT, contingencies and provisional sums
	Correcting arithmetical errors
	Applying discounts
	Adjusting for omissions
	Adjusting for deviations
	Adjusting for the delivery period
	Adjusting for inland transportation
	Computing operational and life cycle costs
	Converting to common currency
	Domestic preferences
	After sales services
	Examining unbalanced bids
Comparing with Engineer's Estimate (EE)	

	Rejecting all bids
	Seeking clarifications during evaluation
	Studying alternative bids
	Identifying the lowest evaluated bid
3.0 Post qualification verification	Checking technical feasibility
	Checking financial feasibility
4.0 Writing the bid evaluation report	

Subsequent to the desk study and the validation process, ‘Adjustment for delivery period’ and ‘Adjustment for inland transportation’ were removed from the sub stages as they were found not to be relevant to the scope of the study. Table 2 below shows the profile of the participants of the preliminary interview all of whom were from the construction industry.

Table 2: Profile of the Participants of the Preliminary Interview

Interviewee Code	Designation	Years of Experience	Category of Organisation	Type of Organisation
A	Chairman	40	Consultant	Private
B	Director	20	Consultant	Private
C	Deputy General Manager	18	Consultant and Contractor	Government
D	Chief Quantity Surveyor	18	Consultant and Contractor	Government

4.2. IDENTIFYING CURRENT DEGREE OF USE OF GOVERNMENT BID EVALUATION PROCEDURE

The objective of this section is to identify the degree of use of GBEP in building projects in both public and private sectors. Hence, ten semi-structured interviews were conducted and Table 3 presents the profile of the interviewees. Accordingly, it was found that the current of usage of GBEP is high and it confirmed the literature findings.

Table 3: Profile of Participants of Semi Structured Interviews

Interviewee Code	Designation	Years of Experience	Category of Organisation	Type of Organisation
E01	Deputy General Manager	18	Consultant and Contractor	Government
E02	Chief Quantity Surveyor	18	Consultant and Contractor	Government
E03	Director	20	Consultant	Private
E04	Project Manager	35	Client	Government
E05	Senior Quantity Surveyor	16	Consultant and Contractor	Government
E06	Asst. Director	28	Regulatory body	Government
E07	Asst. General Manager	30	Client and Consultant	Government
E08	Chartered Quantity Surveyor	12	Consultant and Contractor	Government
E09	Contracts Manager	19	Consultant	Private
E10	Commercial Director	22	Project Manager	Private

Percentage Use of Government Bid Evaluation Procedure

Even though GBEP is not adapted 100% in public and private sector construction projects, its degree of use is comparatively higher as shown by Figure 1.

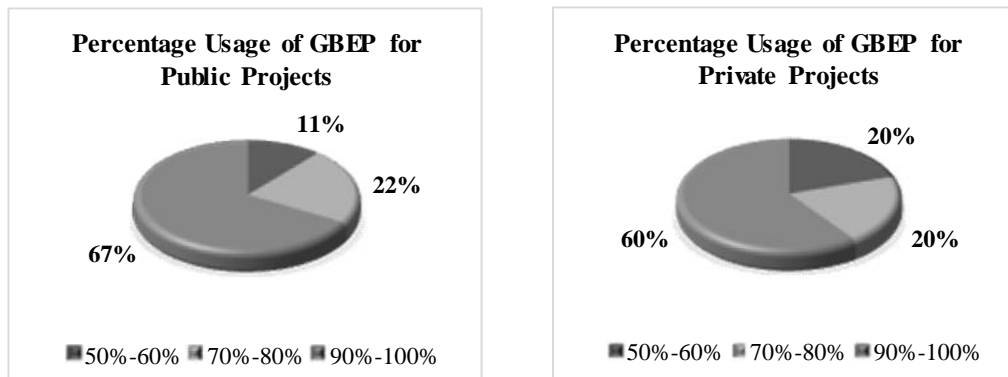


Figure 1: Percentage Usage Ranges of GBEP

Percentage of Deviations from Government Bid Evaluation Procedure

The extent of deviation from GBEP is higher in the private sector as shown by Figure 2.

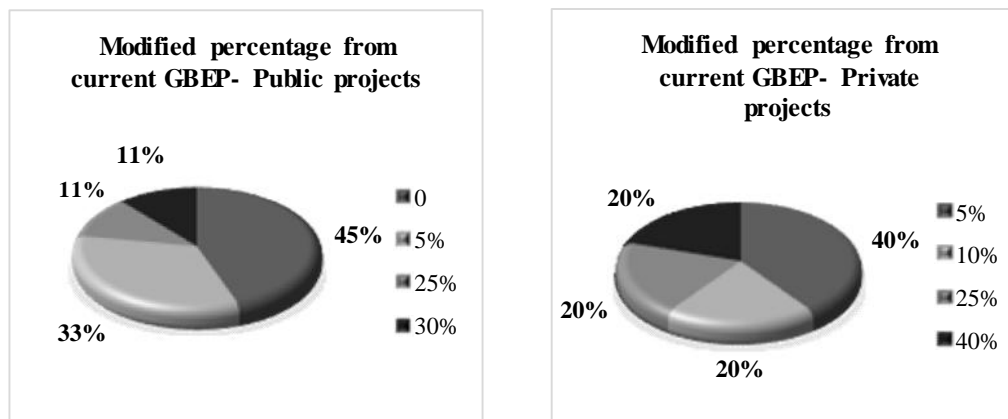


Figure 2: Modified Percentage from Current GBEP

Deviations from Government Bid Evaluation Procedure

The areas of deviations are shown in Table 4 and Category 1 is found to be the most deviated area and Category 6 the least deviated area. Furthermore, the figure 2 shows the percentage deviations of public projects and the private projects under the scale of ‘very often, seldom and no modifications’ and the considered areas of deviations are shown by the Table 4.

Table 4: Areas Deviated from GBEP

Areas	Category
Extension of bid validity	1
Categorization of deviations	2
Preliminary bid evaluation	3
Detailed bid evaluation	4
Post qualification verification	5
Determination of substantially	6

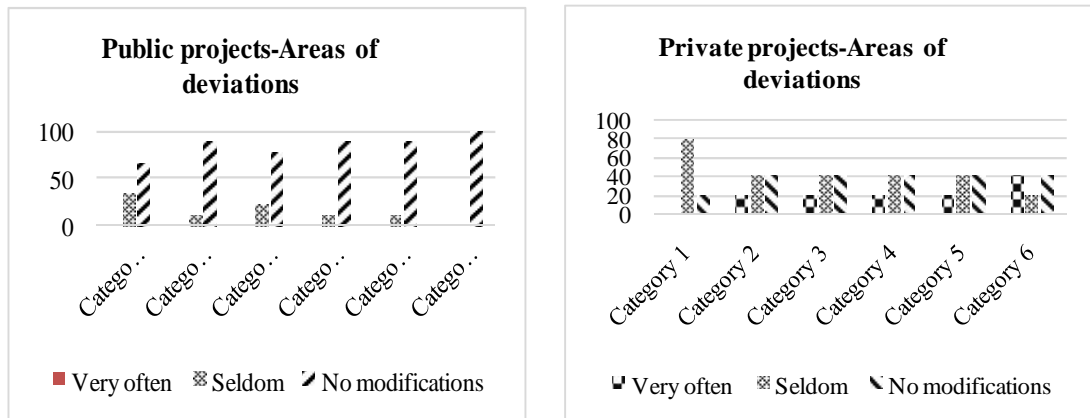


Figure 2: Percentage Deviations from GBEP

Reasons for deviating from Government Bid Evaluation Procedure

While GBEP is used strictly in state sector construction projects, ad-hoc bid evaluation procedures are used in private sector projects. Public accountability is a major requirement of the public sector whereas client’s satisfaction is the primary concern of the private sector which can therefore afford to deviate from GBEP.

4.3. ADVANTAGES, DISADVANTAGES AND LIMITATIONS OF GOVERNMENT BID EVALUATION PROCEDURE

The advantages, disadvantages and limitations of each sub stage organised using NVIVO 10 coding structures are summarised in Tables 5, 6, 7 and 8.

Preliminary Bid Evaluation Stage

Table 5: Advantages, Disadvantages and/or Limitations of GBEP

Sub Stage	Advantage/s	Disadvantage/s and/or Limitation/s
Checking preliminary requirements	<ul style="list-style-type: none"> ▪ Short listing of bids is possible ▪ Form of bid, validity of bid and power of attorney could be checked 	<ul style="list-style-type: none"> ▪ Not all qualifications can be checked ▪ Setting up of a minimum qualification criteria is not possible ▪ ICTAD registration could be made mandatory ▪ Level of authority given to the Bid Opening Committee (BOC)
Identifying deviations	<ul style="list-style-type: none"> ▪ Non availability of historical data could be considered as a minor deviation ▪ All areas of deviations could be addressed 	<ul style="list-style-type: none"> ▪ It is possible to be flexible in respect of bid validity ▪ It is not possible to be flexible with bids that provide shorter construction periods than what is specified

Detailed Bid Evaluation Stage

Table 6: Advantages, Disadvantages and/or Limitations of GBEP

Sub Stage	Advantage/s	Disadvantage/s and/or Limitation/s
Excluding VAT, contingencies and provisional sums	<ul style="list-style-type: none"> ▪ Reasonable when <ul style="list-style-type: none"> • they have not been quoted by bidders • this does not create differences among bidders • they are not required for evaluation • they are not contractual 	
Correction of arithmetical errors	<ul style="list-style-type: none"> ▪ Bid price could be considered as the governing amount ▪ Words over figures could be considered to avoid manipulations ▪ Form of bid could be adjusted in re-measurement type projects 	<ul style="list-style-type: none"> ▪ Corrected bid price could be considered as the governing amount ▪ Amount quoted in the BOQ could be considered as the governing amount ▪ Words over figures cannot be considered when the corrected bid price is taken as the bid price
Application of discounts	<ul style="list-style-type: none"> ▪ It is beneficial to the client ▪ It is similar to what is set out in World Bank and Asian Development Bank bid evaluation guidelines 	<ul style="list-style-type: none"> ▪ Applicability for variations is not mentioned ▪ Mal functions could be possible ▪ Establishing and mentioning of the applicable parameters could be avoided
Adjustment for omissions	<ul style="list-style-type: none"> ▪ Items which are not quoted could be covered by rates quoted for other items ▪ Clarifications will not be permitted when certain items have not been quoted ▪ Rejection of bids is possible if critical items have not been quoted for 	<ul style="list-style-type: none"> ▪ Average prices could be amended because of unquoted items ▪ Bids could be rejected without seeking rejection clarifications ▪ Applicability of the Invitation to bids (ITB) clause
Adjustments for departures	<ul style="list-style-type: none"> ▪ Clarifications could be sought in the absence of historical data 	<ul style="list-style-type: none"> ▪ Adjustments could be done by the Technical Evaluation Committee (TEC)
Operational and Life Cycle Costing (LCC)	<ul style="list-style-type: none"> ▪ This will be applicable to only certain components of building projects ▪ This will be applicable only in building projects where there is a considerable quantity of Mechanical, Electrical and Plumbing (MEP) components 	<ul style="list-style-type: none"> ▪ This will not be applicable for re-measurement building projects ▪ A common system for evaluation will not be available ▪ An evaluation format will not be available
Conversion to common currency	<ul style="list-style-type: none"> ▪ Mean of the selling and the buying prices could be considered ▪ Prejudices could be avoided ▪ This is similar to other bid evaluation guidelines ▪ A reference is possible 	<ul style="list-style-type: none"> ▪ It will not be possible to convert to Sri Lankan Rupees ▪ It will be possible to quote in foreign currencies ▪ This will not be applicable to public re-measurement type projects as foreign bidders will not be involved
Domestic preferences	<ul style="list-style-type: none"> ▪ Local bidders are encouraged ▪ The percentage 15% is sufficient ▪ National construction industry is promoted 	<ul style="list-style-type: none"> ▪ Quality of output is disregarded ▪ The percentage 15% is too high
After sales services	<ul style="list-style-type: none"> ▪ This is applicable to mechanical components of the buildings ▪ Maintenance is available after the Defects Liability Period (DLP) 	<ul style="list-style-type: none"> ▪ This is applicable only to design and build projects ▪ Maintenance is considered only during DLP ▪ Minimum standards are mentioned in the bidding document
Examination of	<ul style="list-style-type: none"> ▪ Separate methods are available 	<ul style="list-style-type: none"> ▪ There will be high reliance on EE

unbalanced bids	<ul style="list-style-type: none"> for projects of different scales Provision is available for obtaining higher performance security 	<ul style="list-style-type: none"> It will be possible to obtain a higher performance security
Comparison with Engineer's Estimate (EE)	<ul style="list-style-type: none"> A basis for evaluation will be available It will be possible to deviate from EE A validation process is available ICTAD price indices could be considered Dependence on the evaluator or the accuracy of EE could be avoided 	<ul style="list-style-type: none"> There will be high reliance on EE There will be dependence on the accuracy of the EE There will be dependence on the evaluator A proper EE validation procedure is not available There will be a possibility of rejecting bids which have deviated considerably from EE An ICTAD standard is not available A reasonable margin is not available The schedules of rates could be non-logical There is no proper procedure for appointing the TEC Price fixing committees are not available Trend analysis for evaluation is not available
Rejection of all bids	<ul style="list-style-type: none"> A reasonable level of authority is vested with the client Saving of time and cost is possible Negotiations will not be possible during evaluation 	<ul style="list-style-type: none"> Shortcomings of the procurement strategy will be highlighted Consultants can avoid liability All bids could be rejected unreasonably due to the absence of effective tendering All of the bids could be rejected due to unethical behaviour of bidders
Clarifications during evaluation	<ul style="list-style-type: none"> Historical data could be clarified Price modifications will be disallowed This will be beneficial for emergency projects 	<ul style="list-style-type: none"> This will take a long time It will not be possible to avoid unethical clarifications completely
Alternate bids	<ul style="list-style-type: none"> This will be beneficial to the client Acceptance will not be mandatory when quality is substandard 	<ul style="list-style-type: none"> This will not be applicable for re-measurement projects Quality could get reduced Only the lowest bidder will be successful Bidder will not be able to submit more than one bid security
Identifying the lowest evaluated bid	<ul style="list-style-type: none"> Only the lowest bidder having qualifications will be identified Winner's curse could be avoided through a higher performance security and an accurate EE 	<ul style="list-style-type: none"> Winner's Curse could be present Lowest will not always be the best The term 'responsiveness' will not be very clear

Post Qualification Verification Stage

Table 7: Advantages, Disadvantages and/or Limitations of GBEP

Sub Stage	Advantage/s	Disadvantage/s and/or Limitation/s
Checking technical feasibility	<ul style="list-style-type: none"> Separate stages will be available for short listing and detailed verification 	<ul style="list-style-type: none"> There will be repetition of work Verifying the legal history will not be possible New contractors will not be able to enter the industry A procedure to verify the validity of the submitted details will not be available There will be a requirement for experience in similar work during previous five years
Checking financial feasibility	<ul style="list-style-type: none"> Separate stages will be available for short listing and detailed verification 	<ul style="list-style-type: none"> There will be repetition of work A formula for the annual turnover will be available

Writing of the Bid Evaluation Report Stage

Table 8: Advantages, Disadvantages and/or Limitations of GBEP

Advantage/s	Disadvantage/s and/or Limitation/s
<ul style="list-style-type: none"> ▪ Non-disclosure of the evaluation report to bidders ▪ A Standard format will not be necessary as; <ul style="list-style-type: none"> • following the guideline will not be mandatory • the report could vary from project to project 	<ul style="list-style-type: none"> ▪ A standard format will not be available ▪ Submission of technical literature and specifications will not be mandatory ▪ There will be insufficient input from the Quantity Surveyor

4.4 EXPERT SUGGESTIONS

Expert suggestions were collected on each sub stage also as the general comments. Preliminary bid evaluation and establishment of a minimum qualification criteria were suggested for the first stage while ICTAD registration and bid validity were considered as minor deviations. For the detailed bid evaluation stage, it was suggested to consider as the governing amount, the quoted bid price or the corrected bid price whichever is lower, setting out parameters for applying discounts, making provision for variations, obtaining an express understanding for unquoted items before rejecting a bid, avoiding the increase of the average prices for comparison purposes to account for unquoted items, avoiding adjustments by the TEC/evaluator, allowing bidding in foreign currencies and evaluation by using lowest fluctuated currency and/or in Sri Lankan rupees, reducing domestic preference from 15% to 4%, setting out criteria for after sales services, not requesting higher performance security in case of unbalanced bids, rejecting unbalanced bids or informing bidders to re-price, increasing the accuracy and reliability of EE and establishing a reasonable margin for the comparison of bids, establishing an accurate procurement strategy to avoid rejection of all bids, rejecting all bids when unethical behaviour of bidders is disclosed, introducing novel clarification procedures, evaluating all alternative bids and identifying the lowest evaluated optimum bid. Checking the legal history of bidders and the validity of details submitted by them, reducing the requirement for experience in similar work in the preceding three to five years, establishing separate criteria to check the capability of new contractors and adjustments to annual turnover formula are the suggestions made for the post qualification verification stage. Similarly, suggestions made for the final stage of writing the bid evaluation report, include the introduction of standard formats, getting the evaluator to justify his decisions and calculating the annual turnover. Further, it is suggested to make mandatory the requirement for technical literature and specifications and to have more input from QS to the report.

As the general suggestions, it is explained that the appointment of members to the TEC should be transparent and that their qualifications should be well established. Majority of them should be technically qualified personnel. It is suggested to remove the authority devolved to Provincial Councils. The relevant Minister should clarify the decision pertaining to the award of the contract. The submission of the construction program and the method statement should be made mandatory. It is found that the Winner's Curse exists because of the inaccuracies in the EE and due to evaluation errors. The selection of the lowest evaluated bid also results in the Winner's Curse. There is corruption because of the slowness of various processes that require documentation. As GBEP is a well-defined procedure, the risk of conflicts is less. GBEP provides transparency to a certain extent and promotes competition. Its final outcome is to determine the lowest responsive bidder.

5. CONCLUSIONS AND RECOMMENDATIONS

There are four stages of GBEP, i.e preliminary bid evaluation, detailed bid evaluation and comparison of bids, post qualification verification and writing the bid evaluation report. The degree of its use in both the public and private sectors was identified separately for convenience and it is confirmed that almost all organisations in the two sectors use GBEP with or without deviations from the existing procedure.

Advantages, disadvantages and/or limitations of each sub stage of GBEP were identified in general. Thereafter, reliable expert suggestions were collected to improve the bid evaluation procedure. Minimum

qualification criteria, making clarifications in an accepted manner, checking the validity of details submitted by bidders, identifying the lowest evaluated optimum bid, using standard formats wherever possible, justifications provided by the TEC/evaluators for each and every evaluation decision, making necessary calculations and submitting necessary evidence etc., are the critical suggestions made.

The industry practitioners and regulatory and legal bodies in the construction industry are advised to appoint bid evaluation authorities in a transparent manner having a majority of technically qualified members. It was suggested to remove the authority devolved to Provincial Councils to maintain consistency. The need to clarify the final decision with the TEC by the relevant Minister was discussed with a view to increasing the transparency of the bid evaluation procedure. One recommendation was to make the construction program and method statement mandatory to increase the accuracy and the reliability of bids even though this information is not contractually required.

These recommendations if implemented, would improve the quality and the standard of the construction industry. Hence, it is recommended that the stake holders consider these recommendations.

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