

Procurement Risk Assessment for Transportation Sector in Pakistan

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ABSTRACT

In this research the assessment of existing procurement system of Pakistan was studied. It was also considered that the procurement processes with particular reference to the organizational and staff capacity, information management, procurement practices, and effectiveness and accountability measures are capable to meet with the international standards. This study also took into consideration the requirements for procurement of different sectors, the risks involved in procurement practices and forwarding the remedial measures based on the guidance and advice from industrial experts. Population of the study was all management and administrative personnel's of NHA, other departments and construction industry experts from which only 120 respondents were taken for filling out the questionnaire whereas 14 people were selected for interview purposes. After collection of data analysis was made by using Organization for Economic Co-operation and Development (OECD) - Development Assistance Committee (DAC) Methodology for assessing procurement system (MAPS) 2009 model. In light of said model the analysis was made through scoring and categorization of the responses obtained from the study's target population. On the basis of data analysis and subsequent interpretation, findings and recommendations were made. The 14 BLI sub indicators were given a score from 0 to 3 based on the overall assessment of the procurement system in Pakistan. Out of a maximum aggregated score of 42, the aggregated score achieved according to the assessment above 35.5 for country and 31.25 for transport sector selected fields average, equivalent to an overall BLI achievement level of 87% for country system and 75% for transport sector respectively of the maximum score. While if it is compared with the average score of main pillars, the BLI achievement levels are 85% for country and 74% for transport sector i.e. NHA and W&S department Sindh respectively of the maximum score i.e.3 for each pillar.

KEYWORDS: Procurement Risk, Transportation

INTRODUCTION

Procurement is a complex dynamic procedure and an art of best practices applied to managerial procedures for ascertaining the risks involved in terms of both for quality and price while obtaining any product [17]. It is a process of obtaining goods, civil works and services from one another. The purchase of goods for a consumer is usually a simple transaction as one is able to view the goods in its finished stage or one can return if it proves to be faulty etc. Whereas procuring a construction project for example is not as simple as it consists of many processes and has its own challenges for the client etc. Construction is a complex process and its procurement is risky and also each project is unique and is accompanied by varying degree of risks. The rationale of this study is to give chosen aides through a planned layout to employ for assessing and appraise the procurement arrangement in categorizing its strengths and flaws [1]. Supremacy of procurement is fundamental to community faith in government and is an indicator for the quality of public administration, making it a priority target for the growth in most governments [3]. The need and importance for professionalization of public procurement in a country can be realized from the fact that, according to the World Bank 5% to 20 % of GDP of a country goes in public procurements. Therefore, an ineffective and inefficient public procurement mechanism in any country can result in continuous waste of enormous national resources [4].

This study conducted the Procurement Risk Assessment for Transport Sector in Pakistan. Transport sector is mainly engaged in procurement of civil works. At the federal level, National Highway Authority (NHA) while at provincial level, Works and Services (W&S) departments, are carrying out the procurement activities. NHA is the executing agency (EA) for construction, operation and maintenance of national roads [23]. There is a dedicated procurement section (Procurement and contract administration), headed by a General Manager, located in the Planning Wing of NHA. NHA has extensive experience in execution of donor's agencies like World Bank, ADB and JICA-financed projects. There is no issue of lack of or weak capacity in the NHA; the only serious issue is the internal controls and complex centralized bureaucratic set up governed by NHA Code. NHA needs to work closely with PPRA

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to develop effective grievance redressal and anti-corruption mechanisms. At the provincial level, the Works and Services/Roads/Highways Departments are the main implementing agencies (IA) and follow provincial procurement rules. However, knowledge of procurement and implementation of rules is at a much lower level than NHA.

My keen interest, professional experience in the field, recent China-Pak Economic Corridor (CPEC) Projects procurement, PSDP allocations for the transportation sector are the main reasons behind the selection of this topic. It has been noted that significant amount of their respective Gross Domestic Product (GDP) worldwide is allocated in their budget for procurement which is 15%. Developing countries are spending even more to improve their basic infrastructures. Some countries, like Uganda, 70% costing goes for the above mentioned activities [22]. In this regard, PPRA in collaboration with other countries has devised comprehensive strategies to bring transparency and make the procurement process more effective and efficient and also to give a clear vision and mission at national as well as provincial levels. Procurement is done through submissions by the bidders but it differs from reality so we have to ensure if such situation faced what contingency plan we have to deal with. This study has devised in such a way to fill the gaps in on hand procurement management. Thus the objectives of the study are;

- To assess the procurement processes
- Procurement practitioner's capacity
- Organizations capability and ability to carry out the procurement in a systematic way
- To assess procurement risk level in transport sector of Pakistan

2. LITERATURE REVIEW

The available literature in the field of procurement and its associated risks involved is discussed. Procurement approach is devised to procure as per plan; the following flow chart is summarizing the whole story [30]. Open bidding requires numerous steps to be taken while procuring. As a result, business in the country is promoted and saves public money [30].

The basics of procurement are to acquire things in a very translucent, reasonably priced and through effective and efficient way which can add some value and bring profit for the procuring agency [31]. The procuring agencies are required to plan all the procurements which are to be done in advance at least one year in order that the sector can manage all the activities in time keeping in view their resources so that the purpose for which procurement is done can be achieved and also to enhance the performance of the procuring agency [31].

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2.1 Procurement Procedures

It is essential for a procuring agency to ensure the following important aspects while procuring the civil works, goods and services to avoid future complications [31]:

2.1.1. Procurement Advertisements

There are some limits which shall be followed while going for procurement notice. Upto some limit the agency can acquire the required item through quotations from different suppliers i.e. PKR 25,000/- and less or equal than PKR 50,000/- as per PPRA rule. In case, the values ranging between the amount of tender is greater than PKR 50,000/- value and less or equal to twenty lacs should be uploaded on agency website. Over the amount, as prescribed above, should be advertised in wide circulation newspapers and also be uploaded on agency website as well as regulatory agency website, and such information shall remain available on that website until the closing date for the submission of bids [31].

2.1.2. Response Time

Acquiring sector should make a decision regarding response time for receiving of offers/bids or applications as of the date of newspaper of an announcement or note, keeping in view the project complication. Though, at least 15 days should be given to prospective bidders if the method of procurement adopted is national competitive bidding (NCB) while 30 days should be given when the nature of procurement is international competitive bidding (ICB) in order that the bidders should have sufficient time to make comprehensive and responsive bids. The above mentioned time should start from the date when first publication in newspaper is made.

In some cases, the response time can be minimized but events or circumstances under which procurement is being carried out should be recorded properly and prior approval from competent authority should be obtained [31].

2.1.3. Method of Procurement

2.1.3.1. Principal method of procurement

Provision of level playing field to all bidders is the main aim of procurement for all types of procurement like civil works, consultancy services or any goods. It will enhance the competition among the bidders [31].

2.1.3.2. Open competitive bidding

Proper competition should be done through open competitive bidding when the price of works which is to be acquired is larger than the limits as prescribed above [31].

2.1.3.3 Bidding Documents

The executing sectors shall prepare simple but comprehensive bid documents while ensuring its availability soon after the publication of the notice in daily newspapers.

2.2 Definition of Risk

There are numerous definitions of risk that can be extracted from the literature; however, selection of any definition greatly depends on the applicable situation. Risk is uncertainty and the consequence of uncertainty [49]. This is also called uncertainty in the outcome of any planning or execution stage. It is therefore imperative that risk examination, which engages guessing likelihoods, desirable because contribution statistics for the assessment of choice options is carried out. Symbolically, the definition of risk can be expressed as:

$$\text{Risk} = \text{Uncertainty} + \text{Damage} \text{ [32]}$$

2.2.1. Risk Identification

Risk identification involves knowledge and meticulous skill of particular area for which risk identification is required and also demands for that area management *modus operandi*. There are mainly four procedures that may be used in the process of identifying risks namely [32]:

- Knowledge about main stakeholders
- Preparation of risk profile or list
- Historical data and same nature projects knowledge and
- Taking into consideration only those risks which have provisions or covers under the head of budget and time

2.2.2. Risk Assessment

When risk is identified, the next step is to recognize which risks are most important. Evaluate the likelihood and force of recognized risks to conclude their degree and right of way. Risk assessment can be done through following ways [33]:

- Probability/impact matrixes
- The Top Ten Risk Item Tracking
- Expert judgment

2.3. Risk Classification

Risk categorization is the main way for risk evaluation procedure, as it challenges to configure the varied risks that may have an effect on manufacture schemes [52]. There are different methods of classifying risks suggested in the literature used in RBS (Risk Breakdown Structure) arrangement to categorize risks according to their source and position of their contact on the schemes [48]. Risks are classified as per their character and scale, assemblage them into two main assemblages of most important and less important hazards. Some of the risk classification methods procurement, Environmental, Geotechnical, Labor, based on owner/client and design. For details discussion on risk classification from literature, please see referred literature [32]:

2.4. Holistic Procurement Framework

From literature review, one thing is evident that when procurement is done through collaborative environment it is successful and brings confidence and obligations among the collaborators. In some cases, it has

been examined if the above-mentioned spirit is missing then how ultimately the project is failed. Whenever the procurement is done it should be based on mutual benefits, whether it is tendering process, payment to the contractor, evaluation of bids, bonus or incentive clause provision, announcement of award, and signing of contract all these add values [9].

- Public Private Partnership (PPP) Procurement, and
- Public Private Partnership (PPP) Effective Strategy

2.5. Organization for Economic Co-operation and Development (OECD) - Development Assistance Committee (DAC) MAPS Model

To make the procurement system effective, series of meetings were held at different fora; and after detailed deliberation by the World Bank and DAC as joint venture, the above model was devised. The model devised can be used for international level procurement as well as at national level. The model can also be used for sub national or agency level procurement with slight changes in the contents of the model. As discussed above, a joint venture has been formed for further enhancing the strength of procuring agency [15]. The idea which was taken from the model has been used for country as well as transportation sector procurement risk assessment. Gauges or indicators used in the above model can be used to assess the procurement risk level at country level as well as agency or sector level with little bit modifications.

2.5.1. Indicators

The JV as mentioned above used two types of indicators: Base-Line Indicators (BLIs) and Compliance/Performance Indicators (CPIs). The BLIs compare the existing procurement regulatory framework against the international standards with four pillars. Every post has a number of main indicators and sub-indicators required to be evaluated [15]:

- the existing legal framework
- Institutional Framework and Management Capacity
- the operation of the system and competitiveness of the national market and
- the integrity of the procurement system [15].

2.5.2. Function of the Indicators

The indicators based on Base-Line Indicators (BLIs) can be used to review the accessible dictatorial structure and the institutional and prepared planning. Every baseline sub-indicator is headed by a small transcript explanation those features that the sub-indicator efforts to evaluate and some deliberation about the character and significance of the article in inquiry. This small content endeavors to direct the evaluator to the pertinent features to be evaluated and to the satisfactory customary to be met. Subsequent to the report of the sub-indicator, there is a table having four circumstances with scores associated to each scenario. The indicators unaided cannot give a full image of a procurement arrangement that is by its character composite. They must be seen as an instrument used to identify in wide terms the strengths and weaknesses of the system and as hold up for more systematic examination to be carried out by the evaluators.

This study presents complete picture of country procurement system and extensive set of recommendations (risk mitigation measures) for strengthening the existing system. Preparation activities including desk review, reviewing procurement related documents, studies, responses received to the questionnaires about various aspects of public procurement in Pakistan, interviews with counterparts and discussions with stakeholders and ADB's ongoing procurement experience.

2.5.3. Aggregation of Scores

Baseline indicators have sub-indicators which are scored. By aggregating the score at the indicator level or pillar level is to obtain a profile of strengths and weaknesses of the system at that level. The method of aggregation is open and the decision also left open to the user to use which way they want as it can be done in many ways.

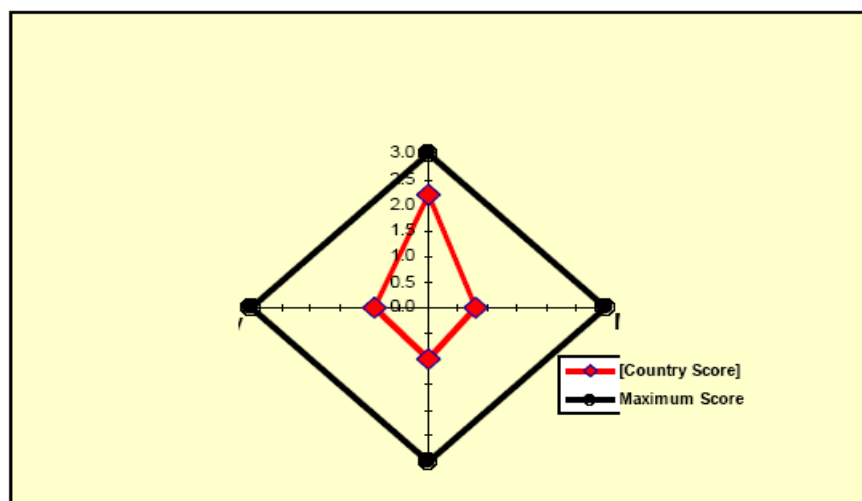


Figure-1: Methodology for assessing procurement system (MAPS) 2009

In above referred figure shows how the scores thus achieved have been aggregated by taking average of the sub-indicators under the main ones. The average scores for each pillar are compared to the maximum score of 3.

The chart enables the viewer at glance to see that the country assessed is strongest in Pillar I, but has weaknesses in the other three Pillars. Similarly, it can be applied for others pillars.

2.5.4. Pillar I – Legislative and Regulatory Framework

This indicator envelops the officially permitted and authoritarian instruments from the highest level (national law, act, regulation, verdict, etc.) down thorough to guidelines, procedures and bidding documents formally in use. This indicator is further broken down into sub-indicators which are individually scored as explained above.

2.5.5. Pillar II. Institutional Framework and Management Capacity

Pillar II looks at how the procurement system, as defined by the legal and regulatory framework in a country, is operating in practice through the institutions and management systems that are part of the overall public sector governance in the country.

2.5.6. Pillar III. Procurement Operations and Market Practices

Pillar III looks at the outfitted usefulness and effectiveness of the procurement system at the level of the implementing entity accountable for issuing individual procurement actions. It looks at the market as one means of judging the quality and effectiveness of the system when putting procurement procedures into practice. This Pillar is distinguished from Pillars I and II in that it is not looking at the legal/regulatory or institutional systems in a country but more at how they operate.

2.5.7. Pillar IV. Integrity and Transparency of the Public Procurement System

Pillar IV covers four indicators that are considered necessary to provide for a system that operates with veracity, has suitable controls that support the implementation of the system in accordance with the legal and regulatory framework and has appropriate measures in place to attend to the potential for corruption in the system. It also covers important aspects of the procurement system that include stakeholders as part of the control system. This Pillar takes aspects of the procurement system and governance environment and seeks to make sure that they are defined and planned to put in to integrity and transparency.

3. RESEARCH METHODOLOGY

Evaluation or assessment of any system is the key to identifying gaps especially in a public procurement system and hard works are made to advance the on hand and to work out new systems. From the procurement management point of view, performance assessments are required to determine how effective procurement strategies and practices have been to meet the declared objectives. It is essential to ensure accountability and make

improvements in the public procurement system while focusing on performance assessment. Increasing the usefulness, effectiveness and precision of procurement systems is an unending apprehension at national as well as international level especially of donor agencies, which are willing to finance projects. All have recognized and realized that increasing the usefulness of the use of public funds or tax money of the country people, including funds provided through official development assistance (ODA) requires the existence of an adequate national procurement system that meets international standards and that operates as intended.

To ensure transparency and make the procurement more effective for the purpose for which it is meant, a joint venture (JV) was established with the collaboration of World Bank and development assistance committee of OECD-DAC for under developed countries, worked together. Developed a set of tools and international best standards having less probability of risk and also result oriented based system and guidance. They have taken the base line indicators tools to severe the purpose. For this research, the BLIs were used for the existing system study and effectiveness to set an example and guidance to save public money and huge loss to the national exchequer. The effectiveness can be enhanced if an individual or an organization uses CPIs with associated BLIs. The tools are used for the assessment of national procurement systems.

- **Baseline Indicators (BLIs):** Measure the quality of the legal system, formal arrangements, and structures in place in a given area. In the case of Pakistan, the assessment of BLI indicators was conducted mainly as a desk review of legal, strategic and policy documents in combination with interviews with a broad range of stakeholders. The assessment result for each indicator is summarized in a score between 0 and 3, three being the highest score. A number or score of 3 indicates that full achievement has been made in that specific area of the declared standard. A score of 2 is given when the system demonstrates less than full achievement and needs some improvements in the area being assessed and a score of 1 is for those areas where substantive work is required for the system to meet the standard. A rating of 0 is the residual, demonstrating a collapse to meet the planned standard.
- **Compliance and Performance Indicators (CPIs):** Measure the level of compliance and performance in practice achieved in the area. While in this research only BLIs were used.

It should be noted that the methodology presented in this research has capacity development as a core objective and progress is dependent upon country ownership and obligation to running the development program. The methodology used includes numeric scoring with defined criteria that will provide scoring of the country's procurement system and contribute to the primary objective of supporting capacity development in the area of procurement by helping to more specifically and consistently identify the strengths and weaknesses of the systems assessed and increase the ability to track progress of restructuring initiatives. While scoring is included in this methodology, there has been no definition on aggregation of scores or of weighting of scores since this is considered to be most useful in the context of specific country applications and within donor organizations that may choose to assign weights or priorities to reflect concerns that are unique to the country or the donor organization.

3.2. Assessment Design

The assessment of existing procurement system of Pakistan was carried out as follow:

Throughout all six steps of the assessment, the OECD-DAC Methodology for Assessment of Procurement Systems (MAPS) was applied. This tool offers a detailed and operational assessment framework categorized under four pillars [46]:

- Pillar I: Legislative and regulatory framework
- Pillar II: Institutional framework and management capacity
- Pillar III: Procurement operations and market practices
- Pillar IV: Integrity and transparency of the procurement system

The four pillars are sub-divided into sub indicators. Moreover, each sub-indicator consists of a double set of indicators i.e. **Baseline Indicators (BLIs)** and **Compliance and Performance Indicators (CPIs)** which were explained above:

3.3. Method and Procedure of the Study

The whole process consisted of 4 stages:

Stage 1: Development of the Tool

Stage 2: Selection of Population and Sample

Stage 3: Data collection Phase

Stage 4: Analysis and Interpretation of Data

3.3.1. Stage 1

It consisted of the following sub-stages

3.3.1.1. Questionnaire Design

The design of the questionnaire is very simple and direct to enable the respondents understand what is required of them. The questionnaire contains three sections:

3.3.1.2. Personal Information

This part consists of general information that shows the respondents background.

3.3.1.3. Critical Success factors for projects

This part investigates the critical success factors the respondent identifies.

3.3.1.4. Critical success factors ranking

Here the respondents will rank the factors they have identified using a given scale.

3.3.1.5. Interview Design

Interview was considered an authentic and reliable tool for collection of first hand data from the data. In this phase, interview items were developed in order to elicit information from the respondents.

3.3.2. Stage 2 and Stage 3:

These stages focused on the following sub-stages

3.3.2.1. Population and Sample of the Study

The study targeted a population of 200 personnel's out of which the questionnaires were sent to 150 experts of different departments in Pakistan, whereas for interview purposes only 14 persons were selected.

These respondents were asked to return the questionnaire in time. The response rate was 80% (120 participants). Similarly, Interviews were conducted of 14 experts but before interviewing them they were requested for time and date for interview that readily consented for it.

3.3.3. Stage 4:

This stage was specifically related to the analysis phase of the methodology section

3.3.3.1. Data Analysis and Assessment

For analysis of collected data, scoring and categorization were used. The received data analyzed through OECD-DAC MAPS Model. Risk level thresholds are given below:

Range	Risk Level
0.1 ↔ 1.82	High
1.83 ↔ 2.75	Medium
2.76 ↔ 3	Low

On the basis of above criteria, the procurement risk assessment for transportation sector was assessed.

3.4. Validation

As a means of validating and interpreting the results of the assessment, validation meetings were held with contactors association members (CAP), consultant association members (ECAP), and construction industry professionals etc.

4. RESULTS AND ANALYSIS

The results thus obtained from questionnaires and interviews as mentioned above of country and transport sector i.e. National Highway Authority (NHA) and Works and Services department, Sindh is summarized as under:

COUNTRY AND TRANSPORT SECTOR PROCUREMENT RISK ASSESSMENT

Summary Sheet

Indicators	Verified Country Score, During this exercise	Sector Scores Average of NHA & W&S	Comments
1. Legislative and Regulatory Framework	<i>Average of the below sub-sections</i> 2.75	<i>Average of the below sub-sections</i> 2.63	
1.1 Does the national public procurement law (including supporting regulations, standard bidding documents and operational manuals/guides) apply to the sector?	3	2.5	National Highway Authority follows public procurement Rules 2004 at federal level; Works and Services Department Sindh follows Sindh Public Procurement Rules 2010 of Sindh Province; PPRA at federal level adopted PEC bidding documents for Works through a regulation; SPPRA Board has approved bidding documents for works (large and small), goods and services; available on its website for provincial procuring agencies to use; Both agencies uses donor's procurement documents in case of donor's funded projects; There is no separate operation manuals for procuring agencies at federal or provincial levels;
1.2 Is the supply market for the sector sufficiently competitive to give full effect to the national procurement law and/or open competitive tendering?	3	3	Open competitive bidding is the principle method of procurement for all types of procurement of goods, works and services in the sector. SPPRs set a financial threshold of below \$10million for NCB contracts; Federal PPRs leave it up to the procuring agency to decide the method of procurement.
1.3 If there is a sector specific legal framework, does it support non-discriminatory participation, transparent tender processes (including advertisement, tender documentation, tender evaluation, complaints mechanism)?	3	3	Both procurement regulatory frameworks at federal and provincial level promote wide dissemination of information through electronic and print media. Both frameworks advocate and support non-discriminatory participation, transparent documentation etc.
1.4 Is the sector subjected to excessive regulation or government control such that competition is limited or non-existent?	2	2	The sector is not subjected to excessive regulation or government control at both federal and provincial levels.
2. Institutional Framework/Mgmt Capacity	<i>Average of the below sub-sections</i> 2.75	<i>Average of the below sub-sections</i> 2.06	
2.1 Is the procurement cycle in the sector required to be tied to an annual budgeting cycle (i.e. can a procurement activity commence only when budget has been duly appropriated for it)?	3	2	As a matter of Planning practice, PC-1 is prepared and approved by the concerned competent authority. Procurement activity is initiated after budget is duly appropriated for in advance. Occasionally, based on political priorities of the government procurement activity of very few projects is initiated without budget appropriation in advance. However, budget allocation is managed during the procurement process.
2.2 Does the system foster efficiency through the use of adequate planning?	3	1.5	Both federal and provincial frameworks provide enough guidelines on achieving efficiency through planning. However, actual enforcement is slow.
2.3 Does the procurement system in the sector feature an oversight/regulatory body?	3	2.75	In case of federal agencies, the concerned ministry and executive board are the overseeing bodies. PPRA's are mandated to regulate procurement policies and regulations.
2.4 Is there a public procurement capacity development or professionalization program?	2	2	No. Both PPRA (federal) and SPPRA, Sindh run training programs on awareness of Public Procurement Rules.
3. Procurement Operations/ Market Practices	<i>Average of the below sub-sections</i> 2.5	<i>Average of the below sub-sections</i> 1.83	
3.1 Is private sector competitive, well organized and able to access the sector market?	3	2.5	Yes. Both contractors and consultants have professional associations.

Indicators	Verified Country Score, During this exercise	Sector Scores Average of NHA & W&S	Comments
3.2 Do measures exist in the sector to ensure the adequacy and accuracy of cost estimates before bidding, and to manage contract price variations?	2	1	There is a system of preparing composite schedule of rates (CSRs). However, these rates are not updated regularly. As a result, there are more contract price variations, which are managed through addition of a premium to the engineer's estimate.
3.3 Is there a mechanism in the sector to receive and handle observations, complaints and protests?	2.5	2	Both frameworks cater for such mechanisms. However, SPPRs provide detailed guidelines on complaint handling mechanism.
4. Integrity and Transparency of the Public Procurement System	<i>Average of the below sub-sections</i> 2.33	<i>Average of the below sub-sections</i> 2.33	
4.1 Is there a formal internal control and audit framework in the sector?	2	2	Yes, at both the agencies
4.2 Is information pertaining to public procurement in the sector easy to find, comprehensive and relevant?	3	3	Yes
4.3 Does the sector have ethics and anticorruption measures in place?	2	2	Yes. There are rules to govern the ethics of procurement practitioners. However, the PPRAs are not fully aware of having a mechanism to determine incidences of misprocurement. SPPRs, in this regard, provide detailed anticorruption measures. The enforcement part needs improvement.

The 14 BLI sub indicators were given a score from 0 to 3 based on the overall assessment of the procurement system in Pakistan. Out of a maximum aggregated score of 42, the aggregated score achieved according to the assessment above 36.5 for country and 31.25 for transport sector selected fields average, equivalent to an overall BLI achievement level of **87% for country system and 75% for transport sector** respectively of the maximum score. While if it is compared with the average score of main pillars, the BLI achievement levels are **86% for country and 74% for transport sector** i.e. NHA and W&S department Sindh respectively of the maximum score i.e.3 for each pillar.

As represented by the diagrams above, Pakistan's public procurement system is assessed to be somewhat stronger on the legal and regulatory procurement framework (Pillar I) and Institutional Framework/Management Capacity (Pillar II), than on the other two pillars i.e. Procurement Operations/ Market Practices (Pillar III) and Integrity and Transparency of the Public Procurement System (Pillar IV) , while none of the pillars are assessed as coming close to the maximum score of 3, thus still leaving room for improvement in all four main areas. However, the average score of all four pillars exceeds the middle of 1.5, indicating that a certain level of formal structure is in place in all major areas.

5. CONCLUSION

The overall procurement risk assessment for transportation sector is medium. The public procurement regulatory framework in the country is fairly new which was established in 2002. The PPRA is mandated to regulate public procurement of goods, works and services with a view to achieve transparency, accountability, competition, fairness and value for money. The rules and regulations notified by the authority are largely based on international best practices, applicable to the procurement of goods, works and services by the federal government ministries, departments and the state-owned enterprises. The Public procurement rules promote wide dissemination of procurement related information from uploading of Invitation for Bids (IFB) to the award of contract. Open competitive bidding is the principal method of procurement. PPRs allow procuring agencies (PAs) to follow the procurement guidelines of the donor(s) for the projects where the government has signed a loan agreement or a treaty.

The country's standard bidding documents (SBDs) are not in place. As an interim arrangement, Public Procurement Regulatory Authority (PPRA) has adopted Pakistan Engineering Council (PEC's) standard bidding documents (SBDs) for works through a regulation. Implementing regulations for the rules have yet to be developed. The country system is also facing following issues:

- absence of detailed guidelines on issues such as poor planning, packaging, designing of specifications, evaluation, contract management, conflict of interest, value for money, life cycle costing etc.
- Weak and complex internal control mechanisms usually leading to delays in procurement activity.
- Ineffective external controls which aims at compliance with the rules only;
- Absence of effective grievance redressal mechanism.
- absence of a sustainable procurement M&E framework and
- Weak enforcement for penalizing those accountable for corruption in public procurement (At present, there is no comprehensive anti-corruption program aimed directly at all stakeholders in the procurement regime and which assigns clear responsibilities thereof).

At the federal level, transport sector follows a comprehensive legislative and regulatory framework which is comparable to international standards. The PPRA Ordinance, promulgated in 2002, provides the basis of legislative and regulatory framework. This ordinance established the PPRA which notified Public Procurement Rules (PPRs) in 2004, Public Procurement Regulations in 2008 and Consultancy Services Regulations in 2010.

The sector does not have its own standard bidding documents. Under public procurement regulations, PPRA adopted the Pakistan Engineering Council (PEC) bidding documents. These bidding documents are now used in the sector, tailored according to the needs and specific requirements of the sector, agency and project. At the provincial level, legislative and regulatory frameworks are being set up. Sindh and Punjab are ahead of the other two provinces.

Open competitive bidding is defined as the principal method of procurement both at federal and provincial level. Other methods can only be used under specific conditions. More than 90% of sector's procurement is undertaken through open competitive bidding. Supply markets for the sector are sufficiently competitive and on average five bids are received for publicly bid contracts. A core of bidders, contractor and consultants regularly submit responsive bids and their quality and the quality of material available in the domestic market is relatively good.

The EAs in the sector tend to make sufficient efforts to attract bids. NHA always invites bids using national newspapers, its own website and the PPRA website, as given in the PPRs. At the provincial level, the Works and Services/Roads/Highways Departments are the main implementing agencies (IA) and follow provincial procurement rules. Rules are similar but their compliance is not always satisfactory. Bids are sometimes not uploaded on the department and PPRA websites and in some cases websites simply do not exist.

There is no sector specific legal framework that supports non-discriminatory participation and transparent tendering processes. However, sector follows general legal framework for procurement regulation at both federal and provincial levels. The rules notified by all PPRAs support non- discriminatory participation and a transparent tendering process, with well-publicized advertisements, easily accessible bidding information and adequate response times.

Transport sector does not suffer from excessive regulation. Governments or PPRAs do not have specific rules/regulations for this sector and PPRs are applied to transport sector as to other sectors. There are no restrictions on the basis of nationality of bidder/consultant. State owned enterprises do not enjoy any preference under the legal framework, although there is a domestic preference scheme as per policies of the federal government. Registration by the contractors with Pakistan Engineering Council is mandatory for participation however no pre-registration or enlistment is applied and bidders fulfilling the criteria are free to participate.

There is no sector specific regulatory body. However, as discussed above, the sector is regulated by respective procurement regulatory authorities at federal and province levels. In some aspects, PEC also functions as a regulatory body as it regulates engineering profession in Pakistan. For example, PPRA has adopted PEC bidding documents and blacklisting of firms is also done mainly by the PEC.

There is no capacity building program related to procurement in the PAs. At the federal level, NHA has benefited from the trainings provided by NIP. Most of the NHA staff, dealing with procurement, is trained and has the requisite knowledge. There are also some training programs under the NHA Highway Research and Training Center.

At the provincial level, not only the professionalization level is lower than federal level but there are also not many training opportunities. Sindh and Punjab PPRA have started procurement training programs but these programs are insufficient. In case of KPK and Balochistan, the PPRA trainings are yet to start. Both provinces are sending few of their procurement practitioners to training programs held in NIP.

The private sector is competitive, with more than five bids for every advertised opportunity. It is also well organized and able to participate in the competition of public procurement contracts and there are no major

constraints inhibiting private access to NHA procurement. Associations of consultants and contractors also exist in the sector.

The cost estimates are generally accurate but under-estimated. Long delays in the completion of projects are a routine matter due to a variety of reasons, leading to contract variations. The major cause of delay is problems in land acquisition. Seventy percent of the contracts are awarded for values more than the original cost estimates but contract variations are also common and are required in 20-30% of the contracts.

There are no sector-specific procedures to receive and handle observations, complaints and protests but there are rules/ regulations issued by the PPRAs. The complaint mechanisms are followed by the PAs and bidders use them. These mechanisms, however, give unfair advantage to the PAs as they are both respondent and adjudicator in case of complaints by the bidders. At the provincial level, delays in hearing and deciding of complaints are also common as the timelines given by provincial procurement rules are rarely observed.

REFERENCES

- [1] Procurement Assessment Guide (2015).
- [2] White Paper on Transit Procurement Risks, 2007.
- [3] E-Procurement Strategy and Roadmap Pakistan 2014.
- [4] Training need assessment and training strategy for public procurement in Pakistan 2014.
- [5] Aritua, Bernard, Nigel J. Smith, and Denise Bower. "What risks are common to or amplified in programmes: Evidence from UK public sector infrastructure schemes." *International journal of project management* 29.3 (2010): 303-312.
- [6] Association for Project Management (2006) *APM Body of Knowledge* 5th edn. High Wycombe: Association for Project Management
- [7] Chan, Daniel WM, et al. "Risk ranking and analysis in target cost contracts: Empirical evidence from the construction industry." *International Journal of Project Management* 29.6 (2011): 751-763.
- [8] De Schepper, Steven, Elvira Haezendonck, and Michaël Doms. "Understanding pre-contractual transaction costs for Public-Private Partnership infrastructure projects." *International Journal of Project Management* 33.4 (2014): 932-946.
- [9] Eriksson, Per Erik, and Mats Westerberg. "Effects of cooperative procurement procedures on construction project performance: A conceptual framework." *International Journal of Project Management* 29.2 (2010): 197-208.
- [10] <http://sindh.gov.pk/dpt/irrigation/index.htm> accessed on 10-06.2015
- [11] Hwang, Bon-Gang, Xianbo Zhao, and Mindy Jiang Shu Gay. "Public private partnership projects in Singapore: Factors, critical risks and preferred risk allocation from the perspective of contractors." *International Journal of Project Management* 31.3 (2012): 424-433.
- [12] Lehtiranta, Liisa. "Risk perceptions and approaches in multi-organizations: A research review 2000–2012." *International Journal of Project Management* 32.4 (2012): 640-653.
- [13] Lu, Wenxue, and Jian Liu. "Research into the moderating effects of progress and quality performance in project dispute negotiation." *International Journal of Project Management* 32.4 (2013): 654-662.
- [14] Manavazhi, Mohan R., and Dinesh K. Adhikari. "Material and equipment procurement delays in highway projects in Nepal." *International Journal of Project Management* 20.8 (2013): 627-632.
- [16] Pesämaa, Ossi, Per Erik Eriksson, and Joseph F. Hair. "Validating a model of cooperative procurement in the construction industry." *International Journal of Project Management* 27.6 (2008): 552-559.
- [17] Procurement Contracts by Bajari, Patrick and Steven 2010.
- [18] Project Management Institute (2004) *A Guide to the Project Management Body of Knowledge (PMBOK © Guide)* 3rd edn. Project Management Institute
- [19] Risk Management for Project Driven organizations by Andy Jordan (2011)
- [20] Shi, Qian, et al. "Delivery risk analysis within the context of program management using fuzzy logic and DEA: A China case study." *International Journal of Project Management* 32.2 (2013): 341-349.

- [21] Strain, John D., and David A. Preece. "Project management and the integration of human factors in military system procurement." *International Journal of Project Management* 17.5 (1999): 283-292.
- [22] www.ppra.org.pk accessed on 11-05-2015.
- [23] www.nha.gov.pk accessed on 16-5-2015.
- [24] www.wapda.gov.pk accessed on 28-05-2015.
- [25] www.punjab.gov.pk accessed on 10-06-2015.
- [26] The Chartered Institute of Purchasing & Supply (CIPS) and US organization the National Institute of Governmental Purchasing (NIGP) David Noble, Rick Grimm, 2011.
- [27] Republic of Cyprus, Treasury of the Republic, Public Procurement Directorate, 2007.
- [28] Procurement Guidelines (ADB) 2015.
- [29] Best Practice Procurement in a development environment by Christopher Browne Chief Procurement Officer – World Bank 2014.
- [30] Public Procurement Best Practice Guide, Version 1.1 2008
- [31] Public Procurement Rules, 2004.
- [32] Risk Management in the Procurement of Community-Based Construction Projects in Zambia by Inambao Manelele, 2008.
- [33] Chapman, C and Ward, S. (2011) How to Manage Project Opportunity and Risk. Chichester: John Wiley & Sons, Ltd.
- [34] Degraeve, Z. & Nicholson, N. (2004) Risk: how to make decisions in an uncertain world. Norwich: Format
- [35] Gardiner, P.D. (2005) Project Management: A Strategic Planning Approach Basingstoke: Palgrave McMillan
- [36] Gray, C.F. and Larson, E.W. (2008) Project management: the managerial process 4th edn. McGraw-Hill Irwin
- [37] Hillson, D. (2009) Managing Risk in Projects. Farnham: Gower
- [38] Kerzner, H. (2009) Project Management: a systems approach to planning, scheduling and controlling. 10th edition. Hoboken, New Jersey: John Wiley & Sons, Inc
- [40] Marchewka, J.T. (2006) Information Technology Project Management: Providing Measurable Organizational Value. 2nd edition. J. Wiley & Sons, Inc.
- [41] Country Procurement Assessment Report Consulting Services Operations Policy and Country Services (OPCPR) 2006.
- [42] Standard Bidding Documents Under Japanese ODA Loans Japan International Cooperation Agency (JICA) July 2015 Trial Version.
- [43] Asian Development Bank (ADB) Procurement Guidelines April 2015.
- [44] World Bank Procurement Guidelines 2014.
- [45] Asian Development Bank (ADB), Pakistan Resident Mission (PRM) Islamabad (2016).
- [46] Assessment of the procurement system in Kenya, October 2007.
- [47] Chapman, C and Ward, S. (2015) How to Manage Project Opportunity and Risk. Chichester: John Wiley & Sons, Ltd
- [48] Degraeve, Z. & Nicholson, N. (2013) Risk: how to make decisions in an uncertain world. Norwich: Format.
- [49] Bernard Aritua, Nigel J Smith, Denise Bower: What are common risks and its effect on project or amplified in program: Evidence from UK public sector infrastructure schemes, (2014)
- [50] Bon-Gang Hwang, Xianbo Zhao, Mindy Jiang Shu Gay: Public private partnership projects in Singapore: Factors, critical risks and preferred risk allocation from the perspective of contractors, 2012
- [51] Condition of Contract for Works of Civil Engineering Construction (1999) FIDIC 4th Edition (Federation International Des Ingenieurs Conseils)
- [52] Olga Spackova: Risk management of tunnel construction projects June, 2012.
- [53] Ossi Pesamaa, Per Erik Eriksson, Joseph F. Hair: Validating a model of cooperative procurement in the construction industry, 2008.