Management Improvement of Contract Laws and Regulations for Public Sector Projects

Kyung-rai Kim¹, Hee-sung Cha¹ and Ju-yeoun Han*²

¹Associate Professor, School of Architecture, Ajou University, Korea
²Research Professor, School of Architecture, Ajou University, Korea

Abstract
Due to rapid changes in today's construction industry, the need for modification of laws and regulations has increased. First of all, the Ministry of Strategy and Finance of the Republic of Korea plans to modify contract laws and regulations for public sector projects. A thorough and comprehensive investigation of the US construction industry concerning the public sector will help the Korean construction industry make strategic plans toward amendment of laws and regulations. The primary purpose of this research is to investigate the project delivery method and contract administration systems for public sector projects of the US construction industry and to propose some suggestions to improve the current systems as found in the Korean construction industry. Through this investigation, various promotional issues as well as obstructions were identified by considering the differences in market conditions between the US and Korea. Frameworks of the suggestions provide for a consistent process of reinforcement of the owner's responsibility, and fair competition among construction companies.

Keywords: project delivery system; contract laws and regulations; public sector projects

1. Introduction
The National Contract Act was enacted as replacement legislation when stipulations regarding contract administration were deleted from Chapter 6 of the Budget Accounting Act of Korea in 1995. The National Contract Act applies to contracts drawn up by the country for any of its citizens, including government procurement contracts based on international bidding and contracts drawn up for tax revenue purposes. Since taking effect, the National Contract Act has been applied hitherto without undergoing much refinement. However, when compared to developed countries, due to differences in the operational methods of the contract system and the conditions of the construction industry, one observes a significant difference in actual operation even if the contract systems are identical. As a result, the showings appear to be different and the influence exerted on the industry also appears different in an important way.

As such, based on the contract system for public sector projects in the US, which is receiving positive appraisal in terms of budget reduction, transparency, and equity, an examination will be made of the areas where there is a significant difference in respect to basic principles and operational methods. Also, this study seeks to recommend a plan for improvement in this area. In other words, while reviewing primarily the operational method of the project delivery system and the contract administration system, this study intends to explore a program of improvement from the level of reestablishing a basic framework of the international contract system in Korea. The basic purpose of this kind of improvement for the system of the International Contract Act is to offer maximum service at a minimum cost. For this purpose, it is intended here to consolidate the sense of responsibility on the part of the project owner and to encourage transparency and fair competition on the part of businesses (industry).

2. Analysis of Korea's National Contract Act
The existing national contract system of public sector projects in Korea is based on the「Ordinance for Contracts with the Country as a Party」and its enforcement ordinance, the enforcement regulation, and the established rules on accounting. Also, the system is administered in connection with the National Accounting Act and ordinances relating to procurement projects. Table 1. provides a summary of the contract system that is based on the existing National Contract Act.
### 3. Proposal of Issues

The following Table 2 shows the problems associated with the system of contracting related to construction projects, as proposed by a professional advisory committee, which met on numerous occasions for the present research. 1) Vague and confusing legal system, 2) Absence of linkage between budget formulation and enforcement among government departments, 3) Difficulty with reflecting the demands of the project owner, 4) Application of the method of selecting the bidding system for which it is difficult to guarantee appropriate project cost, 5) Seeking budget reduction with reliance upon the method of selection of successful bidder, 6) Absence of professional organizations, 7) Absence of performance evaluation of public sector projects and 8) Absence of performance evaluation of project delivery organization.

| Delivery system | Deciding the successful bidder | Legal Basis |
|-----------------|-------------------------------|-------------|
| A Sole source acquisition | Regulation on grounds for a private contract | Article 26, Ordinance 2200.04-159-5, Established Regulation |
| Eligibility Review System | Lowest cost + Review of Capability to Fulfill Terms of Contract | Clause 1, Article 42, Ordinance 2200.04-149-20, Established Regulation |
| The Lowest Cost Award Method | The lowest cost | Clause 5, Article 42, Ordinance 2200.04-156-5 Established Regulation |
| Contract by Negotiation | - Negotiation Based on Technology + Cost - Negotiation after Eligible Selection | Article 43, Ordinance 2200.04-158-2, Established Regulation |
| Alternative Bid | Technology + Cost | Article 86, Ordinance 2200.04-163 Established Regulation |
| Design-Build; | Technology + Cost | Article 87, Ordinance 2200.04-163 Established Regulation |
| Best value contract | Technology + Cost | Article 102, Ordinance |

| Table 1. The Structure of the Existing System of National Contract |
|----------------------------------|---------------------------------------------|
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| Design-Build; | Technology + Cost | Article 87, Ordinance 2200.04-163 Established Regulation |
| Best value contract | Technology + Cost | Article 102, Ordinance |

| Table 2. Shows the Details of Each Issue that Arose Above |
|----------------------------------|---------------------------------------------|
| Classification | Content |
| Vague and Confusing Legal System | - While items relating to national contracting are stipulated in the enforcement ordinance, enforcement regulation, and accounting regulation, confusion arises because the contracting system and selection of successful bidder are regulated per case in the enforcement ordinance without clarifying a collective principle in the National Contract Act |

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### Absence of linkage between budget formulation and enforcement among government departments

- There is a limit to doubling the efficiency of budget administration via an organic system of networking between the National Accounting Act related to budget formulation and the National Contract Act related to budget enforcement.

### Difficulty with reflecting the demands of project owner

- Because the system of contracting and selecting a successful bidder based on the criteria of project cost according to stipulations of the National Contract Act is applied, it is not possible to create an environment where the project delivery organization can flexibly apply the contract system using its discretionary power.
- It is difficult to reflect the demands of the project delivery organization which is the client institute because the procurement of a public sector project relies on uniform central procurement of the Public Procurement Service.
- An absence of a professional organization that supervises bidding and contracting within the organization of the project delivery.
- Even though one must realize responsible administration by bestowing the rights and implementation, such a reduction is granted, that is, the method of placing an order, to the bidding institution, such rights and responsibilities belong to the head of the central government office. This means that decisions are made by factoring in budget administration needs rather than construction characteristics.

### Application of the method of selecting the bidding system for which it is difficult to guarantee appropriate project cost

- The decision on bidding cost of the bidder is not made according to the bottom-up method based on the estimate provided by the subcontractor as in the case of developed countries. Instead, the decision is made arbitrarily by the prime contractor, which creates a structure where it is difficult to guarantee appropriate construction cost for subcontractors if the bidding was successful at the lowest cost award method.
- The majority of the construction companies participating in the bid determine their bidding cost not based on market conditions but by aligning it with the prearranged price suggested by the project delivery organization.
- The bidding cost so adopted by this bidding process is accepted without exception as the contracting cost of the successful bidder and under the name of actual construction cost, serves as criteria for calculating the prearranged cost of a similar construction project.

### Seeking budget reduction with reliance upon the method of selecting a successful bidder

- While budget reduction should be achieved in a consistent manner by preparing a plan for budget reduction per stage of public sector project implementation, such a reduction is based on cost competition at the stage of selecting the successful bidder when the project cost and quality standard are almost confirmed.
- As the prearranged cost vis-à-vis the rate of successful bidding has become the criteria of budget reduction, concern is growing over unnecessary construction which creates lack of confidence in the quality of construction.

### Absence of professional organizations

- While the government contract officer plays an important role of enforcing the construction budget, the current state of affairs is such that it is difficult to foster professional officers because no specific structural mechanism is in place to educate and train such officers to develop professionalism.

### Absence of performance evaluation of public sector projects

- Because the performance of public sector projects was viewed until now from the perspective of budget reduction based on a comparison of the predetermined cost with the rate of successful bidding, other elements of the performance according to concerned project characteristics besides such a budget reduction have been ignored.

### Absence of performance evaluation of project delivery organization

- To reduce budget by raising the efficiency of public sector projects, the efforts of the project delivery organization which administers the entire project are more important than the efforts of the worker who implements the project after receiving a fixed price as a subcontractor. To ensure that such efforts of the project delivery organization are sustained, a review of the organization must be conducted by linking it with the performance evaluation of public sector projects.
- However, an evaluation of the project delivery organization that is linked with the performance evaluation of public sector projects has not been conducted with any legal force.
4. Case Studies

The main research methodology applied to this study includes the professional advisory committee, while operational issues regarding construction-related contracting systems have been analyzed. In addition, in order to seek ways for improvement of the national contracting system matrix, literature surveys and case studies\textsuperscript{1} regarding the US public sector construction contracting system, which has gained positive appraisal in various aspects, have been implemented followed by comparative studies, thus developing 8 types of improvement schemes. Among the presented 8 schemes, detailed improvement plans for 3 major items have been specified. In what follows, a summary is provided by Table 3.

4.1 Contracting System for Public Sector Projects in the US

The principle behind the procurement for public sector projects is competition. This kind of competition denotes the provision of fair opportunity for suppliers, who are qualified for government contracts, while competing with one another based on proposals stating the most competitive cost or prime cost, quality, and service. The objective of the National Contract Act is to determine the appropriate level of competition.

Among a set of laws and regulations related to contracting, the highest priorities are given to the United States Code, the United States Code of Federal Regulation, and the Federal Acquisition Regulation (FAR). In particular, FAR defines all regulations addressing the issue of bidding and contracting. From the above mentioned regulations, basic details are derived which form the foundation of the contract system. Table 3 shows a summary of these elements.

4.2 Clarification of the rights and responsibilities of the public organizations

For the most part, the project delivery organizations for public sector projects belong to the federal, state, or local government. The project public delivery

| Classification | Key Details | Legal Grounds |
|----------------|-------------|---------------|
| Principle of bidding and contracting | 1. An adequate amount of time for PR and preparation necessary to make a bid must be given to the bidder. 2. Bidding documents must be detailed and clear. 3. The results of bidding must be made public. 4. The successful bidding for public sector projects must be awarded to the bidder who is responsive to bidding guidelines and who made the lowest bid as a responsible bidder. | US Code Title 41 Public contracts |
| Specify bidding regulation and contract conditions | 1. Specify bidding rates and contract terms and provide a guideline for use of such rates and terms 2. Solicitation provisions and contract clauses matrix | FAR Part 52 (Solicitation provisions and contract clauses) |

| Registrations of businesses | 1. Registration of DUNS (Data Universal Numbering System) Number 2. Central Contractor Registration • This is a DB registration for businesses seeking to work with the federal government • A business that is not registered on the DB cannot engage in contact with the federal government 3. Annual Representations and Certifications • Register and approve administrative details online each year • Utilize the Online Representations and Certifications Application | FAR Sub Part 4.11 Central Contractor Registration |

| The party fulfilling the terms of contract | Individual/Partnerships/Corporation Joint Ventures/Agents | FAR Part 4 Administrative matters |
| Contract Administration | 1. Contract Audit Services 2. Contract Administration Services | FAR Part 42 (Contract administration and audit services) |
| The method of budget allocation | 1. Multiple year contracts 2. Multi-year contract | FAR Part 17 Special contracting methods |
| The possibility of competition | 1. Determining successful bidder at competitive bidding (sealed bidding) • 1st stage procedure: Review of cost only 2nd stage procedure: 1st stage review of technology; review of cost for bidders who passed the 1st stage 2. Contracting by negotiation • Sole source acquisition • Competitive acquisition | FAR Part 14 Sealed Bidding Part 15 Contracting by Negotiation |
| The payment of compensation | 1. Fixed-Price Contracts • Firm-fixed-price contract • Fixed-price contracts with economic price adjustment • Fixed-price incentive contracts • Other Fixed-price contracts with prospective price redetermination, Fixed-allowing-price contracts with retroactive price redetermination, Fixed-price, level-of-effort term contracts 2. Cost-Reimbursement Contracts • Cost sharing contracts (no fee) • Cost-plus-incentive-fee contracts (or target estimate contract) • Cost-plus-award-fee contracts • Cost-plus-fixed-fee contracts | FAR Part 16 (Types of Contracts) |

| Warranty | 1. The Miller Act requires performance bond and payment bond for construction contracts worth over $100,000. 2. These bonds can be substituted by a surety bond issued by an insurance company with the approval of the project delivery organization | FAR Part 28 (Bonds and Insurance) |

| Performance Evaluation | 1. Conduct a review of the project performance after completion of the project and transfer of responsibility; according to the following details • Quality, construction time, management efficiency, capability of technicians, conformity to safety standards, overall satisfaction level | FAR Part 36.291 (Evaluation of contractor performance) |
organizations for the federal government can again be categorized as belonging to either the General Services Administration (GSA) or the federal administrative agency. The public delivery organizations for the state government can be categorized as being affiliated with the Department of General Service, the administrative agency of the state administration. And, the public delivery organizations of the local government are affiliated with the administrative agency of the local administration, the school district, or the special district.

The General Services Administration, which is the central procurement department of the federal government, performs project delivery services especially relating to purchasing and managing the design, engineering, and construction of facilities for the federal government through the PBS (Public Building Service). Administrative institutions of the federal government like the Department of Defense or the Department of Transportation have enacted exclusive regulations on procurement and operate professional engineering and project delivery organizations such as the US Army Corps of Engineers and the DOT (Department of Transportation). This enables the Departments to conduct project delivery operations including the purchase and management of design, engineering, and construction of facilities. As such, public delivery organizations of the federal government have independent and professional capacity for design and engineering as well as for budget formulation and management.

However, the GSA, which is the central procurement institution of the state government, does not engage in project delivery or supervisory operation for contracting construction projects. Instead, administrative institutions like the Transportation Administration perform project delivery responsibilities under federal oversight by operating a separate engineering and project delivery organization. Even state universities carry out project delivery responsibilities by operating a separate engineering and project delivery organization, for reasons of safeguarding the academic independence and freedom of the campus. At the local government level, the administrative institution or the office of education fulfills the project delivery responsibilities, but the government lacks professional organizational structure for such responsibilities. Thus, when sponsoring a utility project like water supply jointly with the federal government, the local government commissions the pertinent engineering and project delivery work to a professional organization of the federal government's administrative institution such as the US Army Corps of Engineers. Generally, such a commissioning requires the approval of the congress in the case of a public sector project development jointly implemented by the federal and local governments. However, when the US Army Corps of Engineers executes specific social overhead capital projects for the federal government (e.g., construction work to renovate rivers or ports), the Title 33 U.S.C. section 622 bestows upon the Secretary of the Army the right to proceed with such projects for the benefit of the government and in a most economical way. Besides, in such projects as a renovative work on water resources, the Secretary of the Army has the right to proceed directly with the project development via the Continuing Authorities Program without the approval of the congress for delegation of authority. In the case of main project delivery organizations of the local government, the California Department of Transportation has placed the OOE (Office of Office Engineer), which oversees all operations relating to the preparation of construction contract and bidding under the Division of Engineering Services. The OOE is in turn subdivided into departments overseeing: i) Project Scheduling and Support, ii) Plans, Specifications, and Estimates, iii) Contract Awards and Services, iv) Construction Contract Standards, and v) Electronic Bidding Project. Generally, while contract administration denotes bidding, contracting, and contract administration, the OOE of CALTRAN, as shown above, not only contracts administration in the narrower sense of 'contract awards and services' but also possesses a comprehensive structure that includes scheduling, estimation, and contract standard which support contract administration.

As shown above, the contract administration system of the US federal, state, and local governments is based on the Federal Acquisition Regulation and operates by reflecting the distinctive characteristics and autonomy of each project delivery organization.

### 4.3 Role and Function of the GSA

The GSA not only engages in the act of purchasing conference like the Public Procurement Service in Korea, that administers central acquisitions such as execution and management of bidding and contract, but also engages in purchasing on a wide scale, which
entails not only ordering and managing a project but also engineering and design services by implementing project development, management, performance evaluation, and policy support. Nonetheless, the GSA only supports the purchasing activity of the administrative institutions of the federal government and not that of the state and local government, which the Public Procurement Service in Korea supports. That is, while the GSA performs a greater variety of functions than Korea's Public Procurement Service, in terms of scope, its service is limited to federal institutions.

4.4 Professional Organization
The current state of affairs is that many public purchasers have to receive practical training through a lifelong learning process while they perform existing operational tasks. For this, the National Institute of Government Purchasing (NIGP)\(^5\), the Institute for Supply Management (ISM)\(^6\), and the National Contract Management Association (NCMA)\(^7\) have developed a professional training program for such public purchasers and give instruction and training. Moreover, because this kind of public purchasing is a sphere belonging to experts, based on the opinion that only those individuals who have attained a predetermined qualification standard can make a responsible purchase, institutes like the NIGP, ISM, and NAPM developed a system of certificates in relation to this. Some of the more representative certificates include the Certified Public Purchasing Officer and Certified Public Purchasing Buyer, the Certified Federal Contracts Manager, the Certified Commercial Contracts Manager, and the Certified Professional Contracts Manager.

Such certificates are administered by private organizations, which are issued after a review of qualification requirements and a qualifying examination. For such qualifying examination, each institution has developed various courses and seminars, and a range of monthly publications and journals are published to facilitate the activities of certificated professionals. Besides these kinds of wide ranging instructions offered by external organizations, there are some project delivery organizations which implement on their own, work training programs for contract officers.

4.5 Performance Evaluation
The FAR in the US requires an evaluation of the Performance of the constructor after completion of work and transfer of responsibility by giving a grade of: i) very satisfactory, ii) satisfactory, and iii) unsatisfactory, for the items of: i) quality, ii) construction period, iii) efficiency of management, iv) capability of technicians, v) conformity to safety standards, and vi) overall satisfaction level. Complying with FAR regulations, the GSA requires an assessment of the contractor during the final stages of construction\(^8\), and the purpose of such an assessment is to refer to it when selecting a contractor in the future and it thus exercises a determinative influence on future government contracts. In principle, for a contract of more than $100,000, a performance evaluation is to be conducted at the time of completion of the contract. However, for a contract lasting longer than 1 year, an intermediate assessment must be conducted at regular times even if the terms of the contract are in the process of being fulfilled, in order to be able to refer to it for selecting a contractor for another contracting case. Information on the assessment area and rating criteria are provided in yet greater detail in the OPI's Best Practices Guide for Past Performance. The assessment area includes quality, observance of construction period, cost management, work relationship, customer satisfaction, and the central personnel relating to the contract. The more specific assessment details vary according to contract terms and must be both sufficient and succinct enough to provide answers to questions that may be posed when a contracting officer selects a contractor. Once the assessment is completed, a notification should be given to the contractor without any delay, and the contractor can lodge any complaints within 30 days. The details about which a complaint was lodged will be reviewed again by staffs who supervise the contracting officer.

5. Programs of Improvement
The US public sector construction contract system has received acclaim from the industry in terms of cost saving, transparency and fairness. Thus studies were conducted on the basic principles of the system as well as on administrative method and based on the study, improvement schemes for Korea's National Contracting System have been developed and proposed. Therefore, Table 4. is a summarization of the improvement scheme that describes the purpose as well as implementation of evaluation on the project delivery organization, which is linked with the public sector project performance evaluation result.

Among the programs of improvement for national contract laws and regulations which have been comprehensively suggested in Table 4., are 1) improvement of the system of the National Contract Act, 2) program of clarifying the rights and responsibilities of the project owner, and 3) program of applying the priority of public procurement. Table 5. and Fig.1. show the Proposal for National Contract Act System and Applying Priority for Public Procurement of the details concerning these three programs.

6. Conclusion
To address comprehensively the problems suggested in the area of bidding and contracting while administering public sector projects in accordance with the existing national contract laws and regulations
Table 4. A Summary of the Programs of Improvement for National Contract Laws and Regulations of Korea

| Classification | Purpose | Content |
|----------------|---------|---------|
| **Purpose**    | • In public sector procurement, competition denotes providing fair opportunity to qualified suppliers, thus can conclude contracts with the government, to compete with each other in order to propose the best possible cost or prime cost, quality, and service. |
| **System - General** | • For selecting the 1) standard items for cost competition bidding or best value negotiation based on the US FAR model, and 2) optional items that suggest various necessary options. |
| **System - Standard items** | • The standard items refer to making a decision after analyzing the characteristics for applicable construction projects in terms of appropriate level of competition as declared in the objectives of public sector procurement and determines whether to 1) implement a cost competition or a 2) negotiation of best value foundation. |
| **System - Optional items** | • Cost competition bidding - Classify as 1st stage and 2nd stage according to the bidding procedure based on either implementing only a cost competition in the state of no limitation on qualification for registered bidders (1st stage procedure) or implementing a 2nd stage cost competition restricted to those who have passed the 1st stage advanced qualification assessment, after it has been administered (2nd stage procedure). |
| **System - Optional items** | • Best value foundation bidding - Classify as 1) sole source acquisition where there is no bidding but a concluding of an agreement by negotiating cost factors and non-cost factors with a single contractor or 2) competing by carrying out a bidding with multiple bidders. |
| **System - Optional items** | • In the case of competition, the pre-qualification system should be applied and RFP needs to be utilized. |
| **Implement performance evaluation for all public sector projects** | • The optional items are made up of decision making items that determine each optional item including 1) bidding participation qualification, 2) contract implementing party, 3) budget allocation method, 4) contract scope, 5) compensation payment method, and 6) private sector commissioning, which form the rest of the optional items necessary for deciding the project delivery system of a construction project according to the selected standard items, and by considering utility, these are clearly identified as follows according to the process of implementing a construction project. |
| **Implement performance evaluation for all public sector projects** | • Qualification for bidding participation - When requiring the participation qualification of the bidder of a construction project besides the legally required license, registration, and report |
| **Implement performance evaluation for all public sector projects** | • Contract implementing party - The contract implementing party is classified as 1) single implementation where a company or corporation implements contract terms on its own or as 2) joint implementation where multiple companies or corporations jointly implement contract terms |
| **Implement performance evaluation for all public sector projects** | • Method of budget allocation - A construction project is classified as 1) a long term, continuing project where budget is allocated based on multiple year contracts of budget allocation or as 2) a continuing expenditure project where budget allocation is made by multi-year contract |
| **Implement performance evaluation for all public sector projects** | • The budget should be allocated by multi-year contract to the case of a turn-key project, which is a best value foundation type negotiation contract. And, in the case of a cost competition type bidding, the budget should be allocated as the method of multi-year contracts. In this way, budget management should be carried out efficiently by enhancing predictability. |
| **Implement performance evaluation for all public sector projects** | • Contract scope - The contract scope is classified as 1) miscellaneous projects where a contract is made only for construction as in existing cost, 2) turnkey and 3) alternative project where design and build are both included, and 4) best value contract where design and construction can be chosen selectively. |
| **Implement performance evaluation for all public sector projects** | • Method of compensation payment - The type of contract according to the method of compensation payment is classified broadly as 1) fixed price contract and 2) cost reimbursable contract |
| **Implement performance evaluation for all public sector projects** | • The guaranteed maximum price contract is again classified as 1) firm fixed price and 2) fixed price with economic price adjustment. As the firm fixed price contract makes no adjustment of contract price for inflation, the bidder must take note of this at the time of bidding, and the contract applies when the method of budget allocation is the budget allocation by multi-year contract for the purpose of ensuring the efficiency of budget management. The fixed price with economic price adjustment is a contract that recognizes contract price adjustment due to inflation and applies to the method of budget allocation by multiple year contracts |
| **Implement performance evaluation for all public sector projects** | • The guaranteed maximum price contract is classified as 1) general cost reimbursable settling of accounts, and 2) GMP cost settling of accounts according to whether a cost reimbursable price has been set or not. |
| **Implement performance evaluation for all public sector projects** | • Method of deciding the successful bidder - The existing method of deciding the successful bidder, as regulated in each bidding for turn-key project, alternative project, and best value contract is independently defined by separately distinguishing it from these. |
| **Expand professional contract administration organization to regular organization** | • The existing method of deciding the successful bidder is classified according to 3 standards of 1) lowest cost, 2) appropriateness cost, and 3) best value |
| **Expand professional contract administration organization to regular organization** | • The best value is again classified as 1) design appropriateness lowest cost, 2) bidding cost adjustment, 3) design grade adjustment, 4) weight standard, and 5) confirmed cost best design. |
| **Expand professional contract administration organization to regular organization** | • Private sector commissioning - If professional management capacity is lacking on the part of the project owner, 1) supervision and 2) construction project management are commissioned to an external private business. |
| **Expand professional contract administration organization to regular organization** | • Upon annual completion of the method of budget allocation by multiple year contracts - The head of the client institution implements a performance evaluation for each public sector project, and after collecting all the results of the evaluation of public sector projects conducted by the client institution, forwards them to the Public Procurement Service. |
| **Expand professional contract administration organization to regular organization** | • The head of the Public Procurement Service should bring together the processed results of performance evaluation per client institution and forward them to the minister of the Ministry of Strategy and Finance. |
| **Expand professional contract administration organization to regular organization** | • The minister of the Ministry of Strategy and Finance should reflect the results of the performance evaluation of client institutions on the budget allocation priority at the time of compilation of a budget for the following multi-year contract |
| **Expand professional contract administration organization to regular organization** | • Upon building completion of the method of budget allocation by multiple year contracts or multi-year contract - The head of the client institution conducts a performance evaluation of the project concerned and drafts a plan for budget reduction by reflecting the implications of those results on the project plan including selecting the project delivery system for a similar future project. |
| **Expand professional contract administration organization to regular organization** | • Expand and bestow responsibility upon a professional who can perform contract administration work to the regular organization of the project deliverer. |
| **Expand professional contract administration organization to regular organization** | • By developing a matrix for evaluating contract administration capability, assess the work capacity of the contract officer |
| **Expand professional contract administration organization to regular organization** | • Implement professional training for improving inadequate capability based on evaluation results |
| **Expand professional contract administration organization to regular organization** | • In order to pursue professionalism for contract administration work, introduce a system of professional certification |
in Korea, an overall improvement of the system of such laws and regulations is necessary. The problems include: i) a vague and confusing legal system, ii) an absence of connection between the compilation and execution of a budget among government departments, iii) difficulty with reflecting the demands of public delivery organizations, iv) application of the method of selecting the presumption of total construction cost for which it is difficult to guarantee proper construction

| Cost Competition | Best Value Foundation Negotiation | Competition |
|------------------|----------------------------------|-------------|
| Bidding Qualification | Restricted Competition | Pre-qualification | Independent Performance |
| Contract Performance | Joint Contracting | Budget allocation by yearly unit contract | Amended Act 23 |
| Other | Turn-key | Act 85 |
| Contract Scope | Alternative | Act 85 |
| Best value contract | | |

Table 5. Proposal for National Contract Act System

be stipulated as 1st rank of centralized procurement and 2nd rank of decentralized procurement.
- Accordingly, the client institution selects the 1st centralized procurement and commissions it to the Public Procurement Service.
- If there are circumstantial constraints, the client institution selects the 2nd rank of decentralized procurement and independently implements it.
- The work process of public sector projects in accordance with the priority of public sector procurement as above is suggested Fig.1.

### Conduct evaluation of the project delivery organization that is linked with the results of the performance evaluation of public sector projects

In Korea, an overall improvement of the system of such laws and regulations is necessary. The problems include: i) a vague and confusing legal system, ii) an absence of connection between the compilation and execution of a budget among government departments, iii) difficulty with reflecting the demands of public delivery organizations, iv) application of the method of selecting the presumption of total construction cost for which it is difficult to guarantee proper construction

| Optional Items | Standard Items | Legal Grounds |
|----------------|----------------|---------------|
| 1st Stage * | Restricted Competition | Ordinance Article 12 |
| 2nd Stage * | Pre-qualification | |
| A Sole source acquisition | Independent Performance | |
| Competition | Joint Contracting | Act Article 25 |
| Budget allocation by yearly unit contract | Budget allocation by total project budget contract | |
| Other | Amended Act 23 | |
| Turn-key | Act 85 | |
| Alternative | Act 85 | |
| Best value contract | Ordinance Articles 103 and 104 | |
| Fix price | Subject to Change* | Ordinance Article 64 |
cost, v) seeking budget reduction with reliance upon the method of selection of successful bidder, vi) an absence of professional organizations, vii) an absence of a review of public sector project performance evaluation, and viii) enforcement of performance evaluation of the project delivery organization linked performance evaluation of public sector projects.

For this purpose, this study has examined the US national contract system, which is receiving positive appraisal not only for its budget reduction but also from the perspective of transparency and equity. Based on the results of the literature surveys and case studies, this study has recommended a number of programs for improvement, and they include: i) reestablishment of purpose, ii) reestablishment of the system, iii) clarification of the rights and responsibilities of the project delivery organizations, iv) establishment of priority for public procurement, v) expansion of new functions and roles of the Supply Administration, vi) expansion of professional organization for contract administration as a regular organization, vii) operation of performance evaluation for all public sector projects, and viii) enforcement of performance evaluation of the project delivery organization linked performance evaluation of public sector projects.

These programs for improving the National Contract Laws and Regulations of Korea can be differentiated from other studies conducted thus far, because they greatly improve the overall framework of existing National Contract Laws and Regulations unlike the proposed programs of improvement hitherto implemented in a partial manner. However, since the programs of improvement recommended in the present study is a comprehensive proposal for system improvement, an in depth research is needed in the future in terms of the application of each program of improvement.

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Notes

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3 ER 1105-2-100 stipulates a detailed policy and procedure on CAP.
4 http://www.ca.gov/, Engineering – Office Engineer – About us, State of California Department of Transportation
5 http://www.nigp.org
6 http://www.ism.ws, fmrly., NAPM (National Association of Purchasing Management)
7 http://www.ncmahq.org
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