

KOREAN DEFENSE PROCUREMENT FROM FOREIGN COUNTRIES AND INTERNATIONAL COOPERATION PLAN

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ABSTRACT. This paper introduces the Defense Acquisition Program Administration (DAPA) which is responsible for Korean defense acquisition. In the midst of functions of DAPA, this paper focuses on the foreign procurement, analyses the current status of foreign procurement of DAPA, and studies a plan of international cooperation which allows us to attain our joint object – economic, and efficient foreign procurement. As a promising plan, an international cooperation method through the establishment of a Cooperative e-Procurement System is proposed specifically for all countries' benefit. In order to develop this Cooperative e-Procurement System, this paper studies cooperative e-procurement cases in the defense sector which are used in NATO countries and the United States. As a result, the detailed development plan and operational concept for the Cooperative e-Procurement System is explained.

INTRODUCTION

In the Republic of Korea there are two organizations for government procurement. One is the Defense Acquisition Program Administration (DAPA) and the other is the Public Procurement Service (PPS). DAPA is procuring defense articles from local and foreign companies for Korean military services. On the other hand, PPS is procuring commercial items from local and foreign companies for Korean government organizations.

In January of 2006, DAPA was established by consolidating acquisition related organizations in the Ministry of National Defense, Army, Navy, and Air Force. At the moment DAPA is responsible for Korean defense acquisition programs. In this paper, DAPA is introduced with its missions, functions, organization, and policy.

After that, the Korean defense acquisition system is explained.

When procuring defense articles, DAPA makes contracts with local or foreign companies. In this paper, a foreign procurement system is introduced with procurement method, procurement process, contract status, and current issues.

As a method to meet the advanced requirement in the foreign procurement of DAPA, promote the cooperation in the defense foreign procurement with other countries, and moreover establish close partnership with them, a plan to develop the Cooperative e-Procurement System is proposed. To develop this System with other countries, first of all DAPA selected object countries such as Indonesia, Malaysia, Singapore and Turkey which are operating the same platforms as those of Korea. However, we will enlarge the object countries to cooperate in the field of defense foreign procurement.

To find a good model of cooperative e-procurement, the current cases of NATO organization, US Government and companies were studied. By referring to these cases, a model of the Cooperative e-Procurement System was made and its development and operation concept was studied.

KOREAN DEFENSE ACQUISITION SYSTEM

Organization

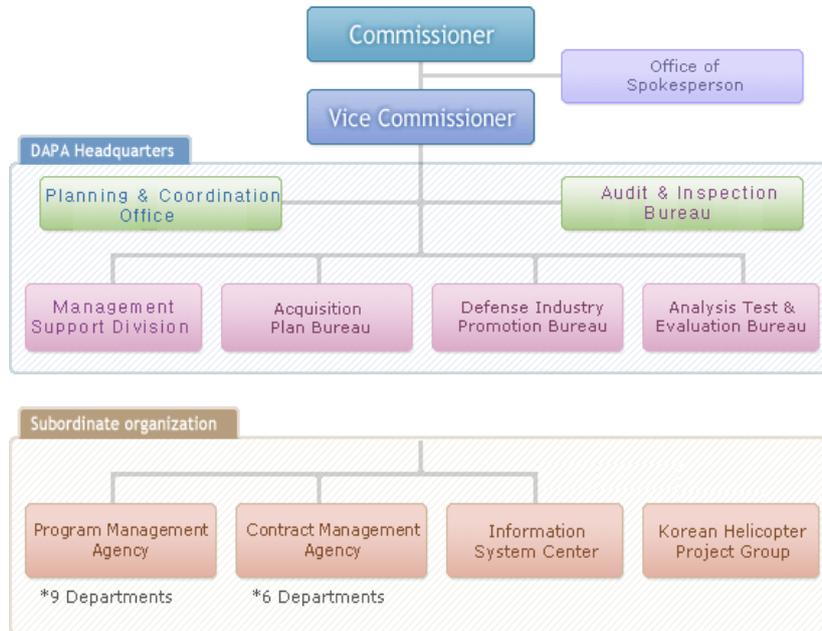
For the purpose of improvement of transparency, efficiency, expertise and competitiveness in the defense acquisition, the Defense Acquisition Program Administration (DAPA) was launched as of January 1, 2006. After that, DAPA is trying to perform more transparent and systematical tasks in the field of defense capability improvement, defense industry promotion, and defense articles procurement.

DAPA's functions are;

1. To establish the acquisition policy and execution plan for the Defense Capability Improvement.
2. To establish a Mid-Term Defense Acquisition Plan and budget execution plan according to the guidelines of Ministry of National Defense (MND).
3. To manage defense science technology and establish R&D action plan for the defense industry promotion.

4. To assist the defense industry, enlarge international cooperation in the defense sector and promote defense export.
5. To procure defense articles making contracts with local and foreign companies.

FIGURE 1
DAPA Organizational Chart



DAPA consists of 4 bureaus, 2 subordinate organizations and 2 institutions under the Commissioner who is vice ministerial level. In the DAPA headquarters, the acquisition plan and policy for defense capability improvement and defense industry promotion are made. In the midst of subordinate organizations, the acquisition program is managed by Integrated Project Teams (IPTs) of Program Management Agency which are organized by the function of platforms.

And in the Contract Management Agency, local and foreign contracts are made to procure defense materiel. This Agency consists of 6 departments including International Contract Department that makes foreign contracts to procure defense articles from foreign governments and companies.

Also DAPA has two institutions. One is the Agency for Defense Development (ADD). The other is the Defense Agency for Technology and Quality (DTaQ).

ADD is responsible for developing weapon systems and dual-purpose technology. On the other hand, DTaQ performs technology development planning, defense science technological information management, and quality assurance and management.

Defense Acquisition Policy

The first DAPA acquisition policy is to strengthen the defense technology and the competitiveness of Korean defense industry.

The environment of Korea's national defense research and development has been rapidly changing due to the changes in the domestic security environment, significant progressive changes in science and technology, and improvements in national R&D capabilities. DAPA continuously plans to expand national defense research and development along with core technology development to ensure that Military Services grow highly as elite forces as well as are built with independent defense power. Furthermore DAPA is activating defense R&D which supports the national vision of low carbon green growth by developing a green defense technology.

The enlargement of defense products export is one of the objectives of the establishment of the Defense Acquisition Program Administration. DAPA is seeking to establish a system for export assistance and to strengthen international cooperation for maintaining the current continuous increase of defense exports. To that end, DAPA set up a government council to help meet the requirements of customer nations and to deal with urgent problems. DAPA also supports the export marketing departments of each defense industry enterprise as well as promotes association with the Korea Trade-Invest Promotion Agency (KOTRA). Furthermore, DAPA has increased the number of partner nations of its defense cooperation committee to 25 countries, in an effort to strengthen global partnership.

Also, in order to support and promote Small and Medium-sized Enterprises (SMEs) playing a key role in the domestic spare parts industry, DAPA will encourage and support the participation of SMEs and make continuous efforts to develop foreign spare parts locally.

DAPA's second acquisition policy is to promote transparency, efficiency, and professionalism in defense acquisition process.

To establish the most effective defense acquisition system,

DAPA operates the Integrated Project Teams (IPTs). The IPTs are organized to manage defense acquisition programs efficiently through centralized planning, budgeting, quality assurance, and technology management. A program manager is responsible for all the acquisition process from acquisition planning to the completion of the program. Through the operation of IPTs, DAPA believes that it is able to secure expertise, responsibility, and effectiveness in program management.

Meanwhile, in order to meet the national demand for reducing the defense budget and eradicate any irregularities in arms sales, DAPA will create a system to buy foreign defense products economically and reform the cost management.

In order to help remove unfair and fraudulent activities, such as the submission of defective cost data, in the field of defense acquisition, DAPA has a plan to reform the contract management system and establish a strict legal restriction system similar to the one being used in advanced countries.

Finally, DAPA acquisition policy is to develop an advanced defense program management system.

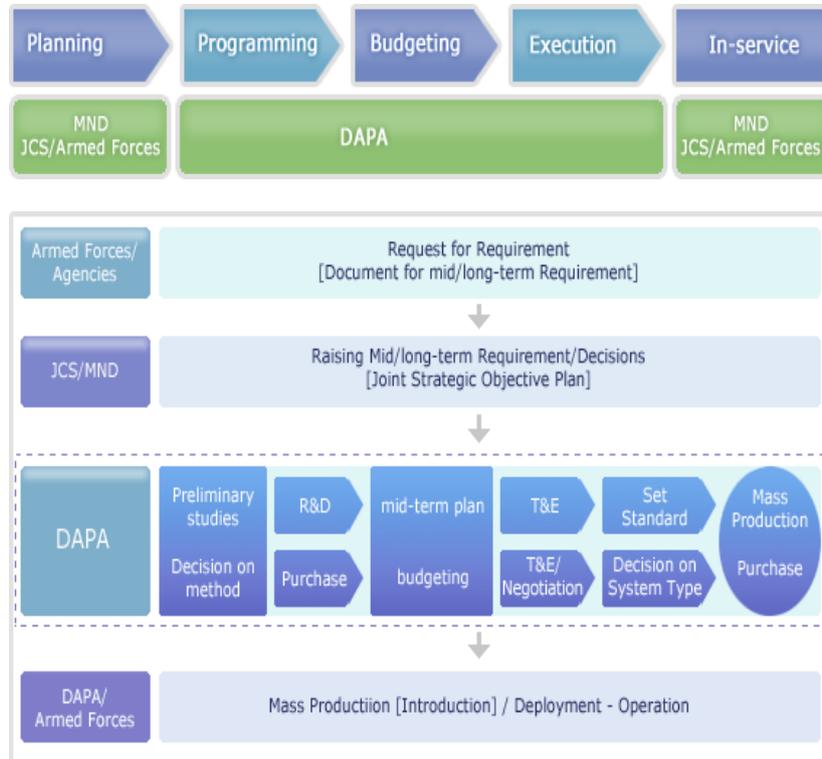
The basic direction of the DAPA regarding information management is to create a foundation for information management system to achieve the mission and vision of the Administration, to pursue the information-oriented plan in relation to electronic government roadmap promotion, and to build a systematic and effective information management system in the field of management of project, contract and pricing.

In order to make scientific and efficient program management possible, DAPA will prepare for an economic acquisition plan to enlarge the application of advanced program management technology, calculating reasonable program costs, and driving forward international cooperative R&D.

Defense Acquisition Procedure

In the defense acquisition, such organizations as Ministry of National Defense (MND), Joint Chiefs of Staff (JCS), each Service and DAPA are involved.

FIGURE 2
Major Steps of Defense Acquisition Process



The MND makes a National Defense Policy (NDP). In accordance with the NDP, JCS makes a Joint Strategic Objective Plan (JSOP) and Integrated Operation Concept (IOC) as a long term requirement. Under the JSOP and IOC, each Service makes a requirement for acquisition and submits it to JCS. JCS makes a decision for the requirement and reports to MND. After that, MND delivers a Mid-term Planning Direction to DAPA.

Under this Direction and each Service’s requirements, DAPA makes a document for Mid-term Plan. And then DAPA makes budget and executes the programs.

In the execution phase, selection of the acquisition method is important to successfully perform the acquisition program. Therefore, before selecting the acquisition method, DAPA has conducted preliminary studies considering R&D feasibility, current technology level, and defense industry fostering policy.

There are two kinds of acquisition methods: Purchase and Research and Development. In the case of the Purchase, it is divided

into Foreign Purchase and Domestic Purchase. In the foreign procurement methods, there are Direct Commercial Sales (DCS) and Foreign Military Sales (FMS).

In the case of the R&D, it is divided into International Cooperation R&D and domestic R&D. The International Cooperation R&D consists of International Joint R&D and Technical Cooperative R&D. The domestic R&D is managed by ADD or defense companies. From programming to execution, DAPA plays an important role in the Korean defense acquisition system.

COOPERATIVE e-PROCUREMENT SYSTEM DEVELOPMENT

In the following, the background of the development of a Cooperative e-Procurement System (CEPS) and the reason why DAPA initiates this new procurement system are explained. To realize the System, DAPA has studied other countries' cooperative e-procurement cases. DAPA's plan to develop the CEPS and its detailed development and operation concept are also explained.

Background of CEPS Development

In FY2009, DAPA awarded about 1B dollars DCS contract to procure defense articles from foreign countries. DAPA imports defense articles from foreign countries including the United States, Germany, Indonesia, Singapore and Turkey.

TABLE 1
DAPA Foreign Procurement (DCS)

When procuring spare parts from foreign contractors, DAPA uses an electronic bidding system accessible via the Internet. DAPA publicizes the items to be procured through an e-bidding system. At that time, price analysis team establishes the target price for each bidding item. With this target price, e-bidding is performed. In the event that a bidder is selected as a winner, a contract is made. If not, referring to the end user's review result, DAPA will make a contract negotiation and award a contract.

FIGURE 3
DAPA Foreign Procurement (Sustainment Program Procedure)



Under the sustainment program, spare parts are procured through Firm-fixed price Contract with the winner of bidding or BOA (Basic Ordering Agreement) Contract with OEMs (Original Equipment Manufacturers).

Every year DAPA performs open bidding for about 7,000 spare parts in accordance with WTO agreement and Government Procurement Code. However, in any given year, DAPA is typically not able to identify bidders on 30% of total spare parts to be procured.

That is because most spare parts are for obsolete or old platforms. So it is hard to find the sources of them. Also the quantity and amount for spare parts is small. So it is difficult to induce many companies to participate in the open bidding.

DAPA has tried to identify sources of the no bid items and to localize the procurement of those items but it was not economically feasible. Therefore, DAPA is seeking to develop new e-procurement system to solve this problem.

TABLE 2
Sustainment Program Issue (Source Identification)

Unit : One Mill. USD

DCS	Total	2005	2006	2007	2008	2009
Total	9,861	301	1,817	851	5,873	1,019
Spare Parts	1,590 (16%)	171	193	307	477	442
Equip-ment	8,271 (84%)	130	1,624	544	5,396	577

2009 Bidding Participation Rate

No Bidder (30%)

Bidder (70%)

※ FY2009 Spare Parts(442M\$) : BOA(338M\$) + BID ITEM(104M\$)

The reasons why DAPA wants to procure defense materiel in cooperation with other countries operating the same platforms as the Republic of Korea (ROK) through new e-procurement system are as follows;

First of all, DAPA would like to cope with ROK Services' requirements in a timely manner by sharing contractual information with other countries. By consolidating respective country's procurement information, DAPA would like to make a kind of e-catalog which has such information as contract items, contract price and contractors.

Secondly, DAPA would like to procure defense articles with other countries economically from foreign companies which has good performance capability, consolidating requirements and sharing source information. As a result, DAPA can share benefit with scale effect.

Thirdly, DAPA would like to enlarge the cooperative logistics support with cooperating countries. This would help strengthen DAPA's international defense relationships.

In the beginning phase, DAPA anticipates that the new e-Procurement System would focus on the procurement of mainly parts or components for common systems that DAPA operates with other countries together. Over time, the objective would be to expand the capabilities of the e-Procurement system to accommodate the cooperative procurement of entire weapon systems.

Cooperative e-Procurement Case Study

In order to develop a new e-Procurement System in cooperation with other countries, DAPA studied the current status of a number of the cooperative e-procurement cases in the defense sector.

The first case is the World Wide Warehouse Redistribution Service (WWRS) system developed by the U.S. Air Force. If the Foreign Military Sales (FMS) purchase countries have surplus items after they procured defense articles, they can trade surplus items with other countries under the WWRS system.

FMS customers can search the inventory items with reference number such as National Stock Number (NSN) and Part Number (P/N) through WWRS system. After that, they buy and sell the surplus items under the WWRS system. The U.S. Air Force which operates the WWRS system charges a kind of fee for making use of WWRS system.

The Second case is the e-procurement system of NATO Maintenance and Supply Agency (NAMSA). NAMSA is NATO's principal logistics support management agency. NAMSA's main tasks are to assist NATO nations by organizing common procurement and supply of spare parts and arranging maintenance and repair services necessary for the support of various weapon and other systems.

NAMSA manages an e-procurement system through an online portal known as NATOLOG which consolidates requirements of NATO countries, performs solicitation and awards contract for their member countries. Procurement is conducted according to the agreed NAMSA Procurement Regulations which codify procurement procedures and general terms and conditions for fixed-price contracts.

The third case is the Parts and Repair Ordering System, known as PROS III managed by the United States Air Force Security Assistance Center (AFSAC), Wright-Patterson Air Force Base in Ohio, USA. PROS III supports logistics requirements for Foreign Military Sales (FMS) customers, and procurement and maintenance for a wide range of nonstandard and standard items hard to support.

PROS III also provides a contracting vehicle for specialized engineering and technical services through task orders. This is a tri-service program supporting Army, Navy and Air Force of FMS customers. PROS III delivers purchase requisitions to AFSAC's prime vendor, LSLI Incorporated, which receives orders on a daily

basis and begins the logistics review, solicitation, shipment and billing.

Finally, two commercial companies' cases will be introduced. In the DCS procurement, it is difficult and important to identify the available sources for procuring spare parts of obsolete or old weapon systems. To address this problem, many countries are using a few sourcing data bases to identify manufacturers and suppliers for various spare parts in the defense and commercial sector.

The most famous databases are those operated by two companies, Inventory Locator Services (ILS) and PartsBase. Each of these companies provide an online interface that gives customers the capability of reference information such as an item's NSN, P/N, name or CAGE (Commercial and Government Entity) code.

As a result, it is possible in many circumstances to identify potential sources of supply as well as information about product condition and available quantity of the various items. Based on this information it is possible to request a quotation from potential vendors and subsequently purchase from one or more vendors. (It is important to note, however, that neither ILS or Partsbase is responsible for subsequent purchases made by using their system.)

At the moment, DAPA is using ILS system to find the sources, but the award result is insignificant. That is because the small suppliers typically do not want to make a contract to provide items with small quantity and amount accepting DAPA's strict contract terms and conditions.

Referring to these e-procurement systems of other countries, DAPA wants to develop a new Cooperative e-Procurement System (CEPS).

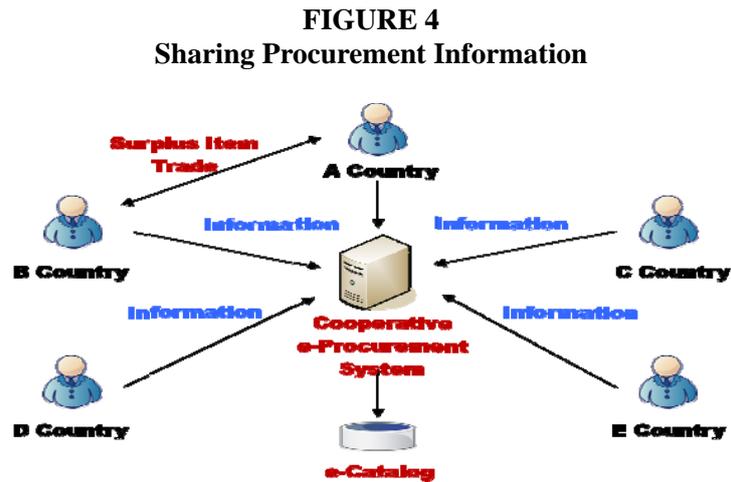
CEPS Development and Operation Concept

In order to develop and operate a new Cooperative e-Procurement System to procure defense articles with other countries, DAPA wishes to find countries that have interest in this CEPS and are motivated to participate in developing and operating this CEPS. After that, DAPA will make a kind of MOU with those countries and proceed to develop the CEPS.

In the following, the concept of the CEPS development and

operation is explained briefly in order to introduce DAPA's plan to other countries and invite them to be member countries of the CEPS.

1. Member Countries will develop and operate the CEPS in which they can share historical foreign procurement information.



Member Countries will then submit to the CEPS Development Host Country their historical foreign procurement information with Excel file.

The contents of this file are composed of NSN, P/N, Item Name, Quantity, Unit Price, Total Price, Contract Date, Contractors, Platform, and so on.

After the CEPS is developed, Member Countries will submit the aforementioned file with historical procurement information to the CEPS Operation Host Country on a biannual basis.

2. Member Countries will develop and operate the CEPS in which they can consolidate their requirements and identify the items to be procured together.

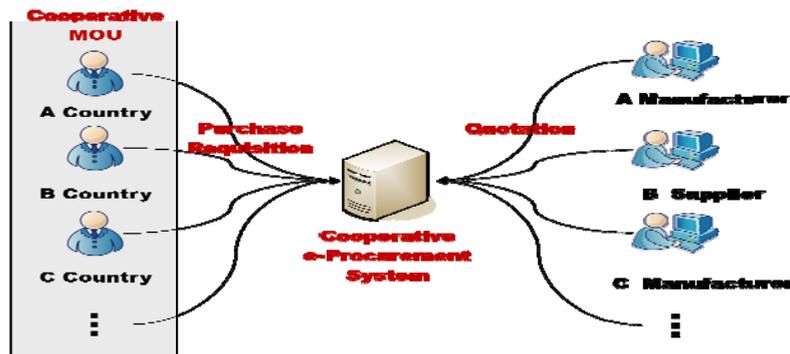
For the CEPS development and operation, Member Countries will submit to the CEPS Operation Host Country their annual procurement plan by way of an Excel file until the end of December of the year before procurement plan year.

The contents of this file are composed of NSN, P/N, Item

Name, Quantity, Budgeted Unit Price, Budgeted Total Price, Delivery Due Date, Platform, and so on.

3. Member Countries will develop and operate the CEPS in which they can perform electronic bidding.

FIGURE 5
e-Procurement Process



In the new system, Member Countries will release the bid notice and bid items. Bidders will input their bid price into the CEPS. Then the CEPS Operation Host Country will identify the bid winner and notify member country and the winner of the bid result.

In an effort to procure spare parts for obsolete or old weapon systems, DAPA is especially thinking about the application of Prime Vendorⁱ to the CEPS. The Prime Vendor means a large-scale sourcing company which has a lot of manufacturers and suppliers as its vendor.

FIGURE 6
Prime Vendor Application

In DAPA's proposed scenario, the bidder in the CEPS will be restricted to Prime Vendors which are selected by Member Countries' recommendation and agreement. The selected Prime Vendors will compete to make contract under the CEPS. After contracting, the Prime Vendor is responsible for providing contracted items and guaranteeing their quality.

As the CEPS uses Prime Vendors in procuring spare parts of obsolete or old platforms, DAPA thinks it is possible to procure the spare parts that DAPA could not find the bidder in its electronic bidding system because the items are small quantity and amount. Prime Vendors could consolidate these items using their vendors and provide them to DAPA and member countries.

4. Member Countries will develop and operate the CEPS in which they can write and make electronic contract. When making contract, Member Countries will use a standardized contract format and general terms and conditions agreed decided upon by Member Countries in advance.

When making contract with consolidated requirements, Member Countries will use special terms and conditions including quantity optionⁱⁱ clause to share contract.

5. Member Countries will develop and operate the CEPS in which they can issue Purchase Order on the basis of other Member Countries' contract.

6. Member Countries will develop and operate the CEPS in which they can manage the contract.

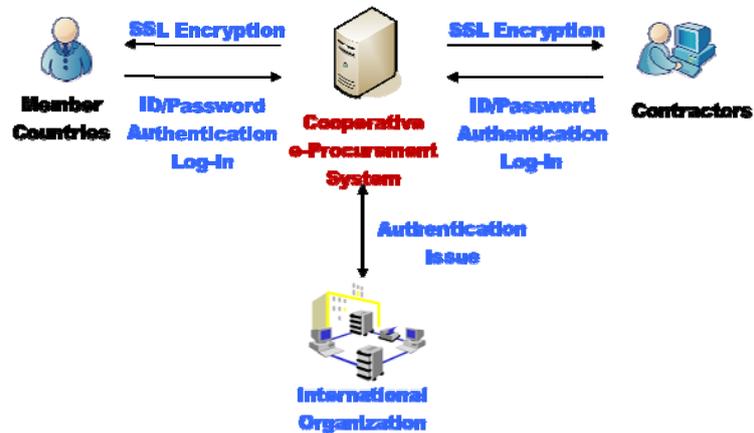
In the CEPS, contractors will input estimated shipment notice and shipment date. Member Countries will refer to the shipment information. In the CEPS, Member Countries will input Supply Discrepancy Report and refer to the on-going status of cure of discrepancy.

7. Member Countries will develop and operate the CEPS in which they can manage the contractors.

In the CEPS, Contractors-to-be will apply for the registration and Member Countries will notify the result.

8. Member Countries will develop and operate the security program to protect user information and data of the CEPS.

FIGURE 7
e-Procurement System Security



At the moment, DAPA plans two-step development of the CEPS. In the first phase, DAPA will develop the simplified CEPS which has no bidding system but mainly exchanges procurement information of Member Countries. After operating the simplified CEPS with Member Countries, DAPA will develop the advanced CEPS explained at the above, referring to Member Countries' opinion and making up for the weak points of the simplified CEPS.

CONCLUSION

In this study, the Korean defense acquisition system was introduced and a development and operation of a Cooperative e-Procurement System (CEPS) in the defense sector as a method to cooperate with other countries especially in the field of procuring parts or components for common systems was proposed.

Most countries have their own specialized organization for defense acquisition under the Ministry of Defense. They all do their best to procure defense articles efficiently and economically. At the same time, they want to develop their defense industry and export their defense products to other countries.

For the purpose of promoting export of defense articles, they spend a lot of money on R&D programs to produce weapon systems with their own technology through their defense companies. So every country recognizes the importance of cooperation with other

countries in the field of joint defense technology development, defense technology trade, and joint investment to the R&D program.

However, as it stands today, cooperation among countries in the realm of defense procurement is insignificant. Only a few advanced countries in the defense industry are sharing their defense technologies and investing money to develop new weapon systems together.

As a sort of cooperation improvement plan, the CEPS Development with other countries including Indonesia, Singapore, Malaysia and Turkey that especially operate the same platforms as those of Korea was studied and proposed.

DAPA are importing spare parts for the platforms that are purchased from foreign contractors and are trying to localize the procurement of the spare parts of obsolete or old platforms. So in the new Cooperative e-Procurement System DAPA hopes it can share the historical procurement information and trade each country's localized parts sharing the information of its own defense companies and their product items among member countries.

DAPA will explain its plan to develop the CEPS to many countries. After that, the countries that are interested in participating in this plan will meet and discuss the detailed development concept. They will make an MOU to develop and operate the CEPS. After that, the new System will be developed. DAPA hopes that the CEPS will play an important role to improve defense cooperation and give many benefits to member countries. ●

NOTES

- i. The Defense Logistics Agency (DLA) has developed a supply chain management concept called Prime Vendor that has improved the efficiency and effectiveness of its logistics support.
Prime Vendor eliminates the layering of supplies at multiple echelons and shifts inventory, inventory management, transportation, and personnel costs from the Government to commercial firms.
The development of Prime Vendor was made possible by the growth of electronic commerce - the use of computer networks to conduct business transactions.
The Prime Vendor provides the product either at the cost paid to obtain it or at a price agreed upon in advance with DLA plus a handling fee.
- ii. See the FAR (Federal Acquisition Regulations) Subpart 17.2 Options.
In the CEPS, cooperative purchase means option contract with optional quantities which a Member Country enters into for consolidated requirements of all Member Countries. On the basis of this contract, other Member Countries issue purchase orders (P/O) and receive the items they have ordered from contractors.

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