Socialist Republic of Viet Nam

FY2018 Ex-Post Evaluation of Japanese Grant Aid Project

"The Project for E-Customs and National Single Window for Customs Modernization"

External Evaluators: Keisuke Nishikawa / Mikiko Kano,

Japan Economic Research Institute Inc.

0. Summary

This project was planned to make custom clearance procedures in Vietnam more rapid and efficient by establishing an electronic customs clearance system which utilizes the technology of Nippon Automated Cargo and Port Consolidated System and Customs Intelligent Database System being used in Japan. The relevance of this project is high as it was consistent with the development plans and development needs of Vietnam at the time of both planning and ex-post evaluation, and it was also consistent with Japan's ODA policy at the time of planning. Regarding the implementation of this project, the efficiency can be said to be high because the project outputs were largely as planned and the project costs and periods were within the plan. With regard to the project effects, it was confirmed that the 'average customs clearance time' was largely achieved. Moreover, in addition to qualitative effects such as the promotion of the National Single Window¹ (hereinafter referred to as 'NSW') in Vietnam and the decrease of opportunities for arbitrary handlings by individual officials through automation, and homogenization and a paperless environment of the customs system through the introduction of an electronic customs clearance system, other major improvements in Vietnamese customs procedures, such as the prevention of misconduct by declarants and easing of administrative burden on customs officials through IT expected from the introduction of the VNACCS/VCIS and changes to Vietnamese customs procedures-related provisions, were observed. Regarding the impacts of the project, maintenance of trade order, such as the observation of trade rules by custom declarant enterprises and realization of efficient customs tariff collection by the executing agency, was observed. Therefore, the effectiveness and impact of this project are high. With respect to operation and maintenance, there were neither major problems in terms of all institutional/organizational, technical, and financial aspects nor the operation and maintenance status. Therefore, sustainability is judged to be high.

In light of the above, this project is evaluated to be highly satisfactory.

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¹ National Single Window (NSW) is a facility where multiple procedures for export-import and port procedures such as customs clearance and quarantine can be performed in one application in order to further improve the convenience of exporter and importer.

1. Project Description



Project Locations

Server set in the Data Center

1.1 Background

Vietnam has been promoting market-oriented economic reforms since the introduction of the Doi Moi (Renovation) Policy in 1986 and has continuously achieved high economic growth. Behind this was a rapid growth of foreign direct investment after Vietnam joined the World Trade Organization in 2007. Commensurately, the volume of exports and imports increased dramatically. The tariff revenue increased largely with the increase of export and import volume and became an important source of national revenue, as it accounted for 30% of the national tax revenue in 2010. In addition, the number of export and import declarations had increased from 1.16 million in 2002 to 4.16 million in 2010, which led to an increase in workload for customs officials in excess of a rate of increase of the officials. In such circumstances, streamlining export-import and customs clearance procedures utilizing IT was regarded as an important issue for the improvement of the investment environment through trade facilitation and further strengthening of the revenue base.

In order to deal with the issues, the Government of Vietnam has been strongly promoting the modernization of customs administration, such as simplification and international harmonization of customs clearance procedures, to deal with remarkably increased and sophisticated international logistics and to develop the nation's investment and business environment. On the other hand, the General Department of Vietnam Customs (hereinafter referred to as 'GDVC') has adopted a customs declaration system, called 'e-Customs', using it in 13 customs departments (as of December 2010) out of its 33 customs departments in total since the end of 2005, and has processed 10% of the total number of declarations using the system. However, both defects in system control and vulnerability of network were noticed, and

there were complaints from private exporters and importers stating that customs procedures via e-Customs took twice as long as paper-based customs procedures. Therefore, from the viewpoint of improvement of customs services and trade facilitation, it was required to solve and improve the situation immediately.

Although discussions were started among related government agencies and private enterprises to realize the NSW by 2012, which aimed at simplifying and internationally harmonizing export-import and customs clearance procedures, and to establish the ASEAN Single Window² (hereinafter referred to as 'ASW') in the future, the NSW had yet to be introduced before the implementation of this project.

1.2 Project Outline

The objective of this project was to make customs clearance procedures in Vietnam more rapid and efficient by establishing an electronic customs clearance system (hereinafter referred to as 'VNACCS' and 'VCIS'³) which utilized the technology of the Nippon Automated Cargo and Port Consolidated System (hereinafter referred to as 'NACCS') and Customs Intelligent Database System (hereinafter referred to as 'CIS') being used in Japan, thereby contributing to an appropriate response for remarkably increased and sophisticated international logistics.

Grant Limit / Actual Grant Amount	2,661 million yen / 2,661 million yen
Exchange of Notes Date /Grant Agreement Date	March 2012 / March 2012
Executing Agency	General Department of Vietnam Customs (GDVC)
Project Completion	March 2014
Target Area	Customs offices in total throughout Vietnam (GDVC, 33 customs departments in total)
Main Consultant	Nippon Automated Cargo and Port Consolidated System, Inc.
Procurement Agency	NTT DATA Corporation
Basic Design	September 2011 – March 2012
Related Projects	<technical cooperation=""> Project for promoting E-customs in Vietnam (2012 - 2014) </technical>

² The ASEAN Single Window (ASW) is the environment within which the National Single Window of each country among ASEAN member countries operate and within which they are integrated.

³ In order to show the Vietnamese version of the NACCS and CIS, 'V' was added to the beginning of each term and thus renamed VNACCS and VCIS.

 Project for strengthening the effectiveness of Viet Nam Automated Cargo Clearance System (VNACCS) (2015 - 2018)

<World Bank>

- Customs Modernization Project (2005 2011)
 <United States Agency for International Development (USAID)>
- Gap analysis on legal frame for implementation of National Single Window (2010 2011)

2. Outline of the Evaluation Study

2.1 External Evaluator

Keisuke Nishikawa / Mikiko Kano, Japan Economic Research Institute Inc.

2.2 Duration of Evaluation Study

This ex-post evaluation study was conducted with the following schedule.

Duration of the Study: October, 2018 – October, 2019

Duration of the Field Study: February 12 – February 28, 2019

3. Results of the Evaluation (Overall Rating: A⁴)

3.1 Relevance (Rating: ③5)

3.1.1 Consistency with the Development Plan of Vietnam

At the time of planning of this project, the *Five-Year Socio-Economic Development Plan* for 2011-2015, which was a nationwide development policy in Vietnam, stated goals to maintain export promotion and conduct appropriate import management following the rules set by the World Trade Organization. In addition, in the *Strategy for Customs Development* up to 2020 (formulated in 2011), which was a sector-wide development policy aiming at the modernization of customs, establishment of customs with a mechanism equivalent to that of developed countries in ASEAN through reviewing the legal system and business processes of customs and introducing an IT system corresponding to them were set as goals. Also, the numerical targets for electronic customs were set as follows:

• By 2015, 60% of basic customs operations will incorporate e-customs procedures⁶ and the

⁴ A: Highly satisfactory, B: Satisfactory, C: Partially satisfactory, D: Unsatisfactory

⁵ ③: High, ②: Fair, ①: Low

⁶ As for the 60% (100%) application rate of e-customs for basic customs operations by 2015 (2020), 100% of them was achieved in 2014 (Information provided by the executing agency).

- rate of export and import permits issued at the NSW will be 50%;
- By 2020, 100% of basic customs operations will incorporate e-customs procedures and the rate of export and import permits issued at the NSW will be 90%.

In the *Plan of Reforms, Development and Modernization of Customs Sector for 2011-2015*, which was also a customs development policy, electronic customs clearance procedures were set as a major issue, and 26 specific indices for grasping the effectiveness of customs operations were set in 2013 based on the plan.

Regarding development plans at the time of ex-post evaluation, in the *Five-Year Socio-Economic Development Plan for 2016-2020*, an appropriate import control including prevention of smuggling is mentioned as an element for improvement of the environment for socio-economic development. The *Plan of Reforms, Development and Modernization of Customs Sector for 2016-2020*, which is a development strategy in the field of customs, also includes strategic goals, such as improving the quality and efficiency of management in the field of customs and customs' administrative capabilities through electronic customs, major issues such as the expansion of administrative procedures for the promotion of the NSW, and fourteen specific indices as the plan at the time of planning. Moreover, in order to complement the plan and the *Strategy for Customs Development up to 2020* (formulated in 2011), the *Plan for Information Technology Application of the General Department of Customs for 2016-2020* was formulated.

Thus, in terms of aiming at the modernization of customs through electronic customs, this project can be judged to have been in line with the development policies at the time of planning and ex-post evaluation.

3.1.2 Consistency with the Development Needs of Vietnam

At the time of planning of this project, in Vietnam, the volume of exports and imports had increased dramatically, at an annual rate of more than 10%, in proportion to the increase of foreign direct investment, so streamlining export-import and customs clearance procedures utilizing IT became an important issue. In terms of the actual amounts of exports and imports, according to the General Statistics Office of Vietnam, the amount of exports increased 3.4 times over a period from 2008 to 2017 (from 62,685 million USD to 215,119 million USD), and the amount of imports increased 2.6 times over the same period (from 80,714 million USD to 213,007 million USD), so significant increases were recorded. In addition, each amount of exports and imports until 2018 tended to increase at a rate of 10% each year prior, and an increase in the amount of cargo can be expected in the future; therefore, it can be said that the importance for an efficient customs system has increased from the time of planning

to ex-post evaluation of this project.

Regarding the number of customs declarations for exports and imports, the changes from 2011 to 2018 are displayed in the table below.

Table 1. Change in the number of customs declarations for exports and imports in Vietnam

The number of customs	2011	2012	2013	2014
	2,380	2,655	3,041	3,629
declarations for imports	2015	2016	2017	2018
(thousand)	4,350	5,220	5,899	6,241
The number of customs	2011	2012	2013	2014
dealerations for experts	2,253	2,532	2,880	3,599
declarations for exports	2015	2016	2017	2018
(thousand)	4,160	4,757	5,414	6,002

Source: Documents provided by the executing agency

According to Table 1, the number of customs declarations for imports increased largely, 2.6 times yearly from 2011 to 2018, and the number of customs declarations for exports increased largely, 2.7 times yearly for the same period, so it is considered that the efficient customs system has been continuously important in smoothly dealing with the increased customs declarations.

At the level of the ASEAN region, the "Master Plan of ASEAN Connectivity" was adopted in 2010 to strengthen connectivity between physical, institutional, and human aspects in the ASEAN region before the start of this project. Moreover, the "Master Plan of ASEAN Connectivity 2025" was adopted in 2016 under the establishment of the ASEAN Economic Community at the end of 2015. In it, the realization of seamless logistics, including the improvement of the speed and reliability of customs clearance procedures, was set as one of the strategic objectives, and early realization of the ASW is stated. In this way, the role of a developed electronic customs clearance system can be said to be important, considering that progress of trade facilitation among the member countries is on the way.

In light of the above, this project can be said to be consistent with the development needs at the time of both planning and ex-post evaluation in terms of the increasing amounts of exports and imports, the number of customs declarations for exports and imports, and trade facilitation in the ASEAN region.

3.1.2 Consistency with Japan's ODA Policy

In Japan's Country Assistance Program for Vietnam (formulated in 2009) at the time of planning, assistance for customs development was stated, and working on the improvement of customs administration as part of 'Business Environment Improvement and Private Sector

Development' was specified in the development issues of the rolling plan.

Additionally, at the time of planning, this project was considered to be positioned as part of the assistance on 'Asia Cargo Highway', which is supported by the Japanese government actively and aims at the realization of seamless logistics between Asian countries and Japan.

This project can be said to have been consistent with Japan's assistance for Vietnam mentioned above because it has assisted the customs development in Vietnam by establishing the electronic customs clearance system.

Based on the above, project implementation is consistent with the development policies and needs of Vietnam, and Japan's ODA policy, and the relevance of this project is judged to be high.

3.2 Efficiency (Rating: ③)

3.2.1 Project Outputs

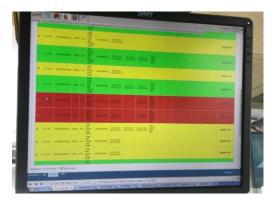
In this project, the software development utilizing the technology of the NACCS/CIS, procurement of hardware (major equipment), and implementation design and procurement supervision were planned in order to introduce the VNACCS and VCIS into the GDVC. Regarding software development, Table 2 shows the content of the plan and the implementation status grasped at the time of ex-post evaluation.

Table 2. The content of the plan and implementation status of software development

No.	Content of the plan	Implementation Status	
1	e-Declaration	Implemented through this project	
2	e-Manifest	Implemented by Vietnam side	
3	e-Invoice	Implemented by Vietnam side	
4	Selectivity	Implemented through this project	
5	e-Payment	Implemented by Vietnam side	
6	e-C/O	Implemented by Vietnam side	
7	Importor / avportor management	Implemented through this project	
/	Importer / exporter management	(not in use now)	
8	Customs Clearance and Release	Implemented through this project	
9	Supervision and Control	Implemented through this project	
	Operation of system tests/acceptance tests, content		
10	of training courses for system users in customs	Implemented through this project	
10	administration, and content of technical support and	implemented unough this project	
	system maintenance		

Source: Prepared using the *Preparatory Survey Report* for this project and documents provided by the executing agency.





Operation screen of the VCIS

Cargo categories by channel⁷

The 'e-Manifest', 'e-Invoice', 'e-Payment', and 'e-C/O' were developed not through this project but by the GDVC in 2014 (in 2012, only for e-Payment), apart from the VNACCS/VCIS, and they are linked with the VNACCS/VCIS through some parts. Although 'Importer/exporter management' was developed through this project, it is not in use now because of unconformity of the system caused by differences in regulations between the Japan side and Vietnam side, so currently, a system developed by the Vietnam side is being used.

As above, regarding software development, 5 out of the 10 areas at the time of planning (including 'Importer/exporter management' developed through this project) were adapted independently to contents developed by Vietnam side⁸, so some changes were observed since the time of planning.

In addition to the above, there were some changes to the detailed design as follows:

- Addition of cargo information inquiry and 29 operations, such as examination of bonded transportation declaration and conducting inspection status inquiry
- Removal of 11 operations, such as procedure for food import notification
- · Addition of item names in the Vietnamese language
- Stopping development of EDIFACT⁹ format function, except the manifest
- Stopping development of WCO data model¹⁰ function for export and import customs

⁷ It shows types of examinations, such as simple examinations and document examinations.

⁸ For instance, in the case of e-Payment, it was revealed after the start of this project that it was possible to move cargo before tax payment in Japan, but it was not allowed in Vietnam. So, changes were made from the outline design to detailed design, and it was decided to use the existing systems of the Vietnamese customs for the realization of more efficient and effective customs clearance procedures.

⁹ 'Electronic Data Interchange for Administration, Commerce and Transport' is the international standard for exchange of electronic data for administration, commerce, and transportation.

¹⁰ The international standard for electronic customs declaration forms for export and import procedures specified by 'World Custom Organization'

operations and XML¹¹ format function for invoice operation

The changes above came about in order to match the actual situation of the Vietnamese customs during the project, so they can be said to be appropriate. On the Vietnamese side, peripheral systems (called satellite systems) other than the VNACCS/VCIS have been developed, and they complement the VNACCS/VCIS. Therefore, the changes are not considered to cause any significant hindrances to the introduction effect of the VNACCS/VCIS for the purpose of modernizing and digitizing the customs system.

The procurement status of the hardware is shown in Table 3, and the hardware removed from the outline design to detailed design is seen in Table 4. The main reason for the removal is that part of the hardware configuration was also removed because of changes in the software specifications which were a result of further study by the executing agency. Additionally, minor changes (such as the addition of middleware and equipment, as well as rearrangement) related to equipment procurement from the detailed design were seen. In this manner, although some changes of hardware were observed with the change of software development, the rest of the design was almost as planned.

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^{11 &#}x27;Extensible Markup Language' is markup language for describing the meaning and structure of documents and data.

Table 3. Procurement status of the hardware

No.	Equipment name	No. of set
1-1	AP Server, Interface Server [VNACCS]	2
1-2	Operation DB Server, Single Window Server [VNACCS]	2
1-3	Data Translate Server, File Linkage Server [VNACCS]	2
1-4	HTTP Interactive Server, [VNACCS], Administrative Data Retrieve Server [VNACCS]	<u>2(4)</u>
1-5	Integrated Operation Monitoring Server/Batch Operation Server, Patch AP Server [VNACCS]	2
1-6	Integrated Operation Monitoring Terminal [VNACCS]	3
1-7	Custom System Connection AP/Authentication Server for Custom [VCIS]	2
1-8	Custom System Connection DB Server [VCIS]	2
1-9	Basic Web AP Server [VCIS]	2
1-10	Basic DB Server [VCIS]	2
1-11	Basic Batch Server [VCIS]	2
1-12	Operation Monitoring Terminal [VCIS]	<u>2(1)</u>
1-13	Operation Control/Monitoring Server [VCIS]	2
1-14	Information Analysis DB Server [VCIS], Backup Server [VNACCS/VCIS]	<u>2(1)</u>
1-15	Linux Patch Collecting Equipment [VNACCS]	1
1-16	Windows Patch/Virus Pattern Collecting Equipment [VNACCS]	1

^{*}The underlined shows changes from the outline design to the detailed design. The figures in parentheses in the column 'No. of set' show the quantities at the time of the outline design.

Source: Prepared using documents provided by JICA and the executing agency

Table 4. Hardware removed from the outline design

No.	Equipment name	No. of unit
1-17	Terminal for System Operation Division	1
	[VNACCS]	
1-18	Integrated Console Terminal [VNACCS]	2
1-19	Console Terminal [VCIS]	2
1-20	Terminal for Network Maintenance [VCIS]	1

Source: Prepared using documents provided by JICA and the executing agency

Along with procurement supervision, it was planned to conduct system operation trainings for customs officials at the time of planning, and the system operation trainings for officials of the GDVC and local departments were implemented as planned.

In light of the above, although some changes were seen in the software development, it can be said that the project outputs were almost as planned.

Also, the items borne by the Vietnamese side (except for general procedures) are as follows:

Establishment of a data center;

- Establishment of a network;
- Holding briefing sessions for private businesses.

These items were confirmed to have all been executed at the time of ex-post evaluation. The data center was established on the premises of the GDVC in 2012, and the establishment of the network (including cable installation) was also completed in 2012. Regarding the briefing sessions, it was confirmed by the executing agency that more than 60,000 private users and users in customs, as stated above, joined.

3.2.2 Project Inputs

3.2.2.1 Project Cost

This project was planned at a total cost of 3,109 million yen and was composed of Japan's project cost contribution of 2,661 million yen (equipment: 2,594 million yen, implementation design and procurement supervision: 67 million yen) and Vietnam's project cost contribution of 448 million yen.

The actual project cost of the Japanese side was 2,661 million yen, as show in Table 5, and the input amount of the Vietnamese side was uncertain. The input amount of the Vietnamese side was unclear because the input was done as part of the regular work of the executing agency, so it was difficult to estimate the total project cost.

Table 5. Breakdown of the actual cost of this project

(Unit: million yen)

Breakdown		Project cost
Japan	Equipment	2,594
side	Design and supervision	67
Amount borne by Vietnam		Uncertain
Total		Uncertain

Source: Prepared using documents provided by JICA and information provided by the executing agency

Although the total project cost is uncertain because the input amount of the Vietnamese side is unclear, the project cost of the Japanese side was as planned (100% of the plan). 4 pieces of software were eventually developed by the Vietnamese side out of the 10 pieces of software planned, and various trials and errors to establish and adjust the entire system were made by the project consultant and procurement agency, so a lot of man-hours were spent. Therefore, although the number of pieces of software developed by the Japanese side decreased, there arose customization work during the project, such as the addition of item names in Vietnamese, as mentioned above, because of differences in administrative and

customs procedures between the two countries and because a lot of labor was done for the additional work related to the implementation design and procurement supervision (system establishment and adjustment work) that was not expected at first, so the amount of Japanese assistance can be said to be commensurate with the output.

3.2.2.2 Project Period

The period of this project, including the detailed design period, was planned at 24 months. The actual project period was 23 months: from May 2012, when the detailed design survey¹² started, till March 2014, when the delivery was completed. Consequently, the period of this project is judged to have been within the plan (96% of the plan).

Based on the above, the project cost and project period were within the plan in this project, so the efficiency is judged to be high.

3.3 Effectiveness and Impacts¹³ (Rating: ③)

3.3.1 Effectiveness

3.3.1.1 Quantitative Effects

At the time of planning of this project, a decrease in the average time required for customs clearance (simple examination¹⁴ and document examination) was expected as effect indicators, and the actual values are shown in Table 6.

inspections are exempted.

¹² The detailed design period was from May to August 2012, and the tender and main work were executed from August 2012 to March 2014.

Sub-rating for Effectiveness is to be put with consideration of Impact.

¹⁴ Simple examination means an examination classification called Green Channel under which document and cargo

Table 6. Transition of effect indicators in this project

(Unit is hour: minute: second)

			1		
	Baseline	Target		Actual	
	2010	2017	2015	2017	2018
		3 Years After	1 Year After	3 Years After	4 Years After
		Completion	Completion	Completion	Completion
		Import declar	ration		
Average time required for customs clearance (simple examination)	0:15:00	0:03:00	0:00:00	0:00:00	0:00:00
Average time required for customs clearance (document examination)	0:60:00	0:15:00	0:14:21	0:15:34	0:19:48
		Export declar	ration		
Average time required for customs clearance (simple examination)	0:15:00	0:03:00	0:00:00	0:00:00	0:00:00
Average time required for customs clearance (document examination)	0:60:00	0:15:00	0:04:12	0:05:35	0:08:41

Source: Summary of ex-ante evaluation and information provided by the executing agency

The targets for the average time required for customs clearance (simple examination) in 2017 for both exports and imports were 3 minutes at the time of planning, and the actual time for the both exports and imports was less than one second (practically, examinations are completed at the same time as declarations) for the year, so the targets were largely achieved. Regarding the average time required for customs clearance (document examination), the targets for 2017 were 15 minutes, and it was observed that that of imports was almost achieved and that of exports was largely achieved. In addition, the time required for both exports and imports had a tendency to slightly increase from 2015 to 2018, and according to the executing agency, this was due to a number of reasons, such as increased complexity of customs clearance arising from changes of types of import items caused by changes in export and import demand.

In the *Preparatory Survey Report* (issued in 2012) at the time of planning, evaluation values of the Logistics Performance Index (LPI), biennially released by the World Bank, are described in a reference index in addition to the average time required for customs clearance, and the actual values are provided in Table 7. Although some fluctuations can be seen, depending on the year and as the actual value of 2016 does not reach the target at the time of planning, the value increased 0.27 from 2010 to 2018 and 0.14 from 2014, the year of the completion of this project, to 2018. It is difficult to measure the correlation between this project and the upward trend of the LPI accurately, but the rise of the LPI can be thought to reflect the introduction effect of the VNACCS/VCIS, which is a major

part of the electronic customs system of Vietnam.

Table 7. Transition of the LPI (efficiency of the clearance process) in Vietnam

	Baseline	Target		Actual		
	2010	2016	2020	2014	2016	2018
		2 Years	6 Years	Completion	2 Years	4 Years
		After	After	Completion Year	After	After
		Completion	Completion	i ear	Completion	Completion
LPI (efficiency of the clearance process)	2.68	3.00	3.20	2.81	2.75	2.95

Source: 'Connecting to Compete 2018 Trade Logistics in the Global Economy - The Logistics Performance Index and Its Indicators' from the website of the World Bank

3.3.1.2 Qualitative Effects (Other Effects)

At the time of planning of this project, the following items were expected mainly as the qualitative effects of this project.

- Promotion of the NSW in Vietnam
- Decrease of opportunities for arbitrary handlings by individual officials

Regarding the NSW, it has been promoted over a short period of time after the introduction of the VNACCS/VCIS as the linkage among ministries and agencies became strengthened more than before, and 173 procedures could be carried out within 13 ministries and agencies, such as the Ministry of Finance, the Ministry of Industry and Trade, and the Ministry of Information and Communications, at the time of ex-post evaluation. Moreover, a technical connection to the ASW has become possible since September 2015 and a data exchange for certificates of origin within the ASEAN region between 5 countries¹⁵ including between Vietnam started in January 2018.

As for the decrease in opportunities for arbitrary handlings by individual officials, transparency of customs clearance procedures done by customs officials inside the customs office increased through the introduction of the VNACCS/VCIS. In addition, since the VNACCS/VCIS is operated by specific customs officials and managers who are authorized in their respective operation areas, it can be said that arbitrary handlings over the counter by individual customs officials became restricted under the system.

Furthermore, the following items were mentioned as other major improvements in the Vietnamese customs procedures expected after the introduction of the VNACCS/VCIS and after changes of the Vietnamese customs procedures-related provisions.

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¹⁵ Vietnam, Indonesia, Malaysia, Singapore, and Thailand

- Easing of administrative burdens on customs officials
- Mitigation of burdens on declarants by automated tax calculation function and decrease of incorrect declarations
- Prevention of misconduct when using the system facilitated by the need for customs permission to withdraw customs declarations

Regarding the easing of administrative burden on customs officials, it can be said to have been eased because the VNACCS/VCIS has made the customs clearance procedures homogenized and IT has been adopted nationwide. Moreover, according to the executing agency, a paperless environment was realized through the VNACCS/VCIS and burdens of paper documents have been reduced. On the other hand, it is also necessary to use the satellite systems developed by the Vietnamese side besides the VNACCS/VCIS, and it takes time to transfer data from the VNACCS/VCIS to the systems manually, on top of doing the verification process, so it was heard from customs officials of local departments that the administrative burden was still large.

With regard to the mitigation of the burden on declarants by the automated tax calculation function and the decrease in incorrect declarations, it became possible to select the tax rate, calculate the tax amount, and calculate the taxation value and tax payment automatically after the introduction of the VNACCS/VCIS, so customs administration became easier in terms of customs, and transparency, effectiveness, and accuracy of administration improved. In addition, it was also heard from customs officials that the burden on enterprises that used to come to counters for re-declarations was eased because it became possible for declarants to amend declarations through the VNACCS.

As for the prevention of misconduct when using the system facilitated by the need for customs permission to withdraw customs declarations, it was heard that the VNACCS/VCIS was able to track the declaration status and contribute to the prevention of illegal actions through the use of the system by declarants.

Other than the above, according to some local departments, the function of automatic channel selection by the VNACCS/VCIS has improved the speed and efficiency of customs clearance procedures. On the other hand, there were some opinions stating that there were some systematic issues with the VNACCS/VCIS, such as the inability to extract data from the VCIS in the form of Excel file and the possibility for declarants to be able to proceed with applications without entering required information.

As above, by automation, homogenization, and the paperless environment of the customs system after the introduction of the VNACCS/VCIS and with the addition of qualitative effects such as the promotion of the NSW in Vietnam and the decrease in

opportunities for arbitrary handlings by individual officials, some major improvements expected after the introduction of the VNACCS/VCIS and after changes of the Vietnamese customs procedures-related provisions could be seen, such as the prevention of misconduct by declarants and easing of administrative burdens on customs officials through IT. On the other hand, requests were heard from some local departments for compatibility between the VNACCS/VCIS and the satellite systems (such as e-Manifest) developed separately by the Vietnamese side. Although a database connecting both systems was developed, it is not complete, and it still requires time and man-hours for data transfer between both systems, so some local departments stated that the time required for the entire customs clearance procedures on the customs side, other than procedures with the VNACCS/VCIS, increased after this project. It is thought that establishing compatibility between both sides, such as through a renewal of the VNACCS/VCIS, would lead to further improvement in the efficiency of the customs system in Vietnam in the future.

3.3.2 Impacts

3.3.2.1 Intended Impacts

The following impacts were expected upon implementing this project.

- Contribution to appropriate reactions to remarkably increased and highly developed international logistics
- Maintenance of trade order
- Securing of national revenue

Regarding contribution to appropriate reactions to remarkably increased and highly developed international logistics, although Vietnam's exports and imports values and the number of exports and imports declarations have tended to increase, as shown in '3.1 Relevance' above, the average time required for customs clearance from 2015 to 2018 (refer to 'effectiveness') has generally had a tendency to shorten, so the improvement of efficiency implemented through this project can be thought to contribute to the smooth customs clearance.

With regard to the maintenance of trade order, the order for customs clearance procedures, such as compliance with trade rules and laws by declarant enterprises and adopting international trade standards, was brought about by the automatic channel selection of the VNACCS/VCIS and risk management functions such as information management of export and import enterprises and automatic detection of suspicious items

of VCIS; moreover, for the international aspect, the implementation of this project has promoted participation in the ASW and contributes to regional trade facilitation.

As for securing of national revenue, the automatic calculation of tax amount became possible after the introduction of the VNACCS/VCIS, and tax payment procedures and checks can be done online, so it can be said that efficient customs collection was realized.



Poster to explain e-Payment



Customs counter
(Saigon Hi-Tech Park Customs Branch)

3.3.2.2 Other Positive and Negative Impacts

1) Impacts on the Natural Environment

The components of this project were those such as software development and procurement of hardware which were related to the introduction of the VNACCS/VCIS, and it was judged that undesirable impacts on the society and natural environment were not significant based on the 'JICA guidelines for environmental and social considerations' (issued in April 2010). According to the executing agency, there were no elements that cause significant environmental impacts in this project and no specific environmental issues arose during or after this project.

Therefore, it can be said that no negative impacts occurred to the natural environment and no problems could be seen during the project.

2) Resettlement and Land Acquisition

The establishment of the data center where the hardware procured in this project was installed was carried out on the premises of the executing agency and there was neither resettlement nor land acquisition, so it can be said that no problems occurred.

3) Other Impacts

Trade facilitation was realized through improvement in the efficiency of customs clearance procedures, and positive impacts on private businesses involved in trade occurred, in addition to those on customs. For instance, a private logistics company commented that the transparency and efficiency of procedures increased, labor productivity related to operations for declarations improved, and a reduction in printing cost with the paperless environment was achieved after the communication method with customs officials switched to an online system from a face-to-face one at counters.

The effect indicators expected in this project were more or less achieved and the qualitative effects, that is, the promotion of the NSW and a decrease in opportunities for arbitrary handlings by individual officials, were seen, and positive effectiveness was confirmed. On the other hand, the link with the satellite systems developed by the Vietnamese side is still not enough, and there seems to be room for improvement on this matter in the future.

With regard to the impacts, the introduction of the VNACCS/VCIS can be said to have contributed to maintenance of trade order, such as compliance with trade rules and laws by declarant enterprises, the realization of efficient customs collection by the executing agency, and the improvement of operations related to trade at declarant enterprises. Moreover, there were neither negative impacts on the natural environment or resettlement nor land acquisition through this project, and no issues occurred in terms of social and environmental aspects.

In light of the above, this project has achieved its objectives to some extent. Therefore, the effectiveness and impacts of the project are high.

3.4 Sustainability (Rating: ③)

3.4.1 Institutional/Organizational Aspects of Operation and Maintenance

The operation and maintenance of the VNACCS/VCIS are taken care of by the GDVC, which had a total of around 10,100 staff members as of February 2019 (the number of staff members at the central organization was around 1,400).

At the time of planning, a cross-organizational operation team headed by the Deputy Director General was mainly in charge of project implementation, and the Board of Customs Modernization and Reform, that carried out the administrative function (overall coordination), had 61 staff members, the International Cooperation Department, that served as a contact and coordination point with the Japanese side, had 35, and the Customs IT and Statistics Department, which was responsible for the operation and maintenance after the introduction of the VNACCS/VCIS, had 91.

The total number of staff members for the GDVC at the time of ex-post evaluation was

around 10,100, as stated above, and there were 36 staff members for the Board of Customs Modernization and Reform, 29 for the International Cooperation Department, and 93 for the Customs IT and Statistics Department. Although the number of staff members for the Board of Customs Modernization and Reform decreased to almost half from the time of planning, this board was originally an ad hoc board established for customs modernization efforts and all functions related to management of the VNACCS/VCIS had been transferred from the board to the Customs IT and Statistics Department in 2013. The Customs IT and Statistics Department consists of 9 divisions and assigned members to be in charge of managing daily operation and maintenance of the VNACCS/VCIS and communication with vendors, as planned in 2018.

From the above, there was no significant change in the organizational structure from the time of planning, except that the functions of the Board of Customs Modernization and Reform related to the VNACCS/VCIS were transferred to the Customs IT and Statistics Department, and it can be considered to be a sufficient structure for operation and maintenance of the VNACCS/VCIS developed through this project from the fact that several staff members were regularly assigned to maintain the VNACCS/VCIS.

The functions of the VNACCS/VCIS are centralized in the data center on the premises of the GDVC and 9 main local departments, and it is possible for the other local departments to search and extract data through the VCIS on a national level. Regarding the legal system, some necessary legal systems (laws, decrees, circulars) for the operation of the VNACCS/VCIS have been formulated through the assistance of the technical cooperation 'Project for promoting E-customs in Vietnam' (2012 - 2014) conducted in parallel with this project, so the foundation for continuous operations of the VNACCS/VCIS has been established.

<Related JICA projects implemented for operation and maintenance>

There were two technical cooperation projects implemented by JICA related to this project. In the 'Project for promoting E-customs in Vietnam' (2012 - 2014), an environment including legal systems and operation processes for customs clearance was developed for proper operation of the VNACCS/VCIS, and in the 'Project for strengthening the effectiveness of Viet Nam Automated Cargo Clearance System (VNACCS)' (2015 - 2018), activities for operational improvement of customs such as improving maintenance capability for the VNACCS/VCIS were conducted. It was confirmed at the time of ex-post evaluation that the electronic customs clearance system had been smoothly introduced on a nationwide scale and had been effectively used as a result of the development of systems and operational improvement for smooth operation as well as overall assistance on operation and maintenance when implementing the project to establish a large-scale system. It can be said that the related technical cooperation projects were planned and implemented at the appropriate timings and led to the generation of project effects.

3.4.2 Technical Aspects of Operation and Maintenance

The occurrences of technical operational issues after the introduction of the VNACCS/VCIS have been solved in a timely manner by the Customs IT and Statistics Department in charge of operation and management, and in particular, by the Center for Management and Operation of Customs Information Technology System under it. Although the department already had considerable experience and know-how for operation and maintenance of the IT system at the time of planning, programming for simple modification and other skills were newly provided to the staff within the department through training by the related technical cooperation projects mentioned above, and it seems that the necessary technologies for operation and maintenance of the VNACCS/VCIS have been transferred to the Vietnamese side.

From 2013 to 2014, training sessions on operation of the VNACCC/VCIS had been conducted for customs officials and private businesses. Although there were no nationwide training sessions conducted after the technical cooperation project mentioned above, OJT such as training for new employees using VNACCS/VCIS manuals developed through the technical cooperation project was being conducted at each site. As for the instruction manuals for the VNACCS/VCIS, a handbook on business processes for the VNACCS/VCIS and other operation manuals have been prepared, and they have actually been used in training sessions for core officials at the GDVC headquarters and local departments. These operations manuals are deployed with the system and can be referred to regardless of department and are widely shared among customs officials who operate the system.

Therefore, there were no specific technical issues on operation and maintenance of the VNACCS/VCIS seen on this matter.

3.4.3 Financial Aspects of Operation and Maintenance

The estimated budgets for both the GDVC and the Customs IT expenses under it at the time of planning are shown in Table 8, and the transition of actual budgets and values is shown in Table 9.

Table 8. Estimated budgets of the GDVC (as of 2012)

(Unit: billion dong)

	2012	2013	2014	2015
GDVC	4,254	5,232	6,435	7,916
Customs IT expenses	383	471	579	712

Source: Preparatory Survey Report for this project

Table 9. Transition of budgets and actual values of the GDVC

(Unit: billion dong)

	2011	2012	2013	2014
	3,336	5,100	5,393	4,896
	2,251	3,240	4,177	4,086
GDVC	2015	2016	2017	2018
	5,031	5,969	6,405	6,089
	4,045	4,868	5,413	5,890
	2011	2012	2013	2014
	376	244	342	338
Customs IT expenses	84	200	273	190
Customs 11 expenses	2015	2016	2017	2018
	344	348	364	375
	210	284	397	354

**Upper row: budgets; lower row: expenditures

Source: Information provided by the executing agency

Regarding the actual budgets of the GDVC, although the growth rates were lower than expected at the time of planning of the project, they were confirmed to have had a tendency to increase year by year, as the actual budget increased 1.8 times from 2011 to 2018. With regard to the customs IT expenses, although the budget had been expected to tend to increase at the time of planning and the actual budget had trended to remain unchanged, the budget was expected to increase with the increase of expenditures, as the expenditure had increased 4.2 times from 2011 to 2018.

With regard to the amounts collected by the GDVC (tariff avenue), the transition is shown in Table 10 as having increased largely, to around 1.5 times from 2011 to 2018 on a

performance basis.

Table 10. Transition of amounts collected by the GDVC

(Unit: billion dong)

	2011	2012	2013	2014
Target	180,700	223,900	237,500	224,000
Actual	217,015	197,480	221,433	253,422
	2015	2016	2017	2018
Target	260,000	270,000	285,000	283,000
Actual	262,310	271,388	297,076	314,904

Source: Information provided by the executing agency

As seen above, the financial situation from the amounts collected by the GDVC, which are the source of operation and maintenance costs for the VNACCS/VCIS, is sound and the budget setting of the GDVC has been increasing year by year; therefore, it is considered that the operation and maintenance costs will continue to be fully covered.

Although the annual maintenance costs are allocated as described above, costs for significant system renewal, required within 5 to 10 years (can be around 2 billion yen if implemented entirely on the same scale as this project with software and hardware renewal), have not been saved, and no direction was seen for the renewal costs at the time of ex-post evaluation.

3.4.4 Current Status of Operation and Maintenance

According to the executing agency, service packages¹⁶ including service support and parts procurement for operation and maintenance of the VNACCS/VCIS had been provided by vendors at the time of ex-post evaluation. When a failure occurs in a device, it is dealt with by exchanging a part or the hardware device itself depending on the degree of damage. Procurement of necessary parts are being conducted by the vendors responsible in Vietnam. In this way, external maintenance services are being provided in the event of failures and it is considered that no specific issues on the situation of operation and maintenance have been seen.

Furthermore, it was confirmed that staff of the Customs IT and Statistics Department were on duty at all times for management of the data center as well as that for each facility and equipment, such as the hardware developed through this project.

¹⁶ According to the executing agency, the next four types of service packages for operation and maintenance are currently being provided with the VNACCS/VCIS: (1) operation, maintenance, and minor update support of software, (2) maintenance service for middleware, (3) purchase of copyright of software, and (4) maintenance service for hardware devices.

In light of the above, there were no issues in terms of institutional/organizational, technical, or financial aspects of operation and maintenance or in terms of the maintenance condition, and it can be judged that the sustainability of the project effects generated through this project is high.

4. Conclusion, Lessons Learned and Recommendations

4.1 Conclusion

This project was planned to make custom clearance procedures in Vietnam more rapid and efficient by establishing an electronic customs clearance system which utilizes the technology of Nippon Automated Cargo and Port Consolidated System and Customs Intelligent Database System being used in Japan. The relevance of this project is high as it was consistent with the development plans and development needs of Vietnam at the time of both planning and ex-post evaluation, and it was also consistent with Japan's ODA policy at the time of planning. Regarding the implementation of this project, the efficiency can be said to be high because the project outputs were largely as planned and the project costs and periods were within the plan. With regard to the project effects, it was confirmed that the 'average customs clearance time' was largely achieved. Moreover, in addition to qualitative effects such as the promotion of the National Single Window in Vietnam and the decrease of opportunities for arbitrary handlings by individual officials through automation, and homogenization and a paperless environment of the customs system through the introduction of an electronic customs clearance system, other major improvements in Vietnamese customs procedures, such as the prevention of misconduct by declarants and easing of administrative burden on customs officials through IT expected from the introduction of the VNACCS/VCIS and changes to Vietnamese customs procedures-related provisions, were observed. Regarding the impacts of the project, maintenance of trade order, such as the observation of trade rules by custom declarant enterprises and realization of efficient customs tariff collection by the executing agency, was observed. Therefore, the effectiveness and impact of this project are high. With respect to operation and maintenance, there were neither major problems in terms of all institutional/organizational, technical, and financial aspects nor the operation and maintenance status. Therefore, sustainability is judged to be high.

In light of the above, this project is evaluated to be highly satisfactory.

4.2 Recommendations

4.2.1 Recommendations to the Executing Agency

At the time of ex-post evaluation, a plural customs system, that is, the VNACCS/VCIS and satellite systems, as the peripheral systems were operated individually, and some data transfer between the VNACCS/VCIS and the satellite systems had been implemented

manually by customs officials. It is desirable to integrate the systems in the future in order to minimize the burden of data entry work and make the linkage between each system (function) smoothly.

Moreover, as some systematic issues with the VNACCS/VCIS, such as an inability to extract data from the VCIS in the form of Excel file and the possibility for declarants to be able to proceed with applications without entering required information, were heard in the ex-post evaluation; therefore, it is desirable to share foreseeable errors between departments and on a national level in advance and to take measures to prevent the occurrence of errors beforehand.

Lastly, it seems important to plan and secure budgets in advance for renewal of the VNACCS/VCIS, including hardware renewal, which will be conducted on a regular basis in the future¹⁷.

4.2.2 Recommendations to JICA

None.

4.3 Lessons Learned

Importance of linkage with technical cooperation projects for projects with system development

The related technical cooperation projects, operation teaching during this project, and related technical cooperation after this project, were implemented, and activities for building a framework for operation and maintenance of the VNACCS/VCIS and for assistance on human resource development, such as holding briefing sessions on the operation of the VNACCS/VCIS. By conducting these, it became possible to smoothly operate and maintain the VNACCS/VCIS, which is the first core system introduced into the executing agency. For establishing and maintaining an entire system, not only the introduction of the system but also adjustments for unexpected failures, teaching, and proficient processes such as trainings for staff who will be in charge of the operation and maintenance are required. Therefore, in implementing similar projects with system development in the future, it is important to conduct an integrated assistance when implementing a financial assistance project in parallel with technical cooperation projects.

Necessity to estimate costs and secure budgets systematically for system installation projects

At the planning stage of this project, the cost estimate for the system renewal expected in the near future had not been conducted, and there were concerns about the future stable operation

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¹⁷ Although the Japanese side requested the Vietnamese side in 2017 to prepare for the hardware renewal on a self-financing basis, they have yet to agree with each other.

from a long-term perspective. In addition to annual costs necessary for maintenance of system, long term cost calculations for operation and maintenance, including costs for periodic system renewal and hardware replacement, which are indispensable for system development, are necessary at the time of planning, and it is important to secure a budget, for example by accumulating funds for the long-term costs of projects with system development.

(End)