

Evaluation of
"Japan's Grant Aid for Economic and Social
Development Program to Cuba in JFY 2016"
and
"Japan's Grant Aid for Economic and Social
Development Program to Cuba in JFY 2017"

January 2023

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Preface

This report is an Evaluation of Grant Aid for Economic and Social Development Program for Cuba in Japanese Fiscal Year (JFY) 2016 and Grant Aid for Economic and Social Development Program for Cuba in Japanese Fiscal Year (JFY) 2017, and was commissioned to Global Group 21 Japan, Inc. by the Ministry of Foreign Affairs (MOFA) in JFY 2022.

Since its commencement in 1954, Japan's Official Development Assistance (ODA) has contributed to the development of partner countries while tackling global issues. Today, the international community acknowledges the necessity to improve the effectiveness and efficiency of ODA. MOFA regularly conducts ODA evaluations, of which most are conducted at the policy-level with two main objectives: to improve the management of ODA, and to ensure its accountability. These evaluations are commissioned to external third parties to enhance transparency and objectivity.

The objective of this Evaluation was to conduct a project-level evaluation for Japan's Grant Aid for Economic and Social Development Program for Cuba in JFY 2016 and Grant Aid for Economic and Social Development Program for Cuba in JFY 2017, deriving lessons learned and recommendations that can be used for similar projects in the future. For accountability purposes, the results in their entirety are available to the general public.

The Evaluation Team in charge of this study consisted of a chief evaluator Professor KATSUMA Yasushi, Graduate School of Asia-Pacific Studies, Waseda University and Global Group 21 Japan Inc. Professor Katsuma supervised the entire evaluation process and provided advice and input on analytical and evaluation processes. In addition, to complete this study, we have received support not only from MOFA and other Japanese officials, but also from government agencies in Cuba, and private companies. We would like to take this opportunity to express our sincere gratitude to all those who supported this study.

Finally, the evaluation team wishes to note that the opinions expressed in this report do not necessarily reflect the views or positions of the Government of Japan.

January 2023

Global Group 21 Japan, Inc.

Note: This English version is a translation of the Japanese Evaluation Report of “Grant Aid for Economic and Social Development Program for Cuba in JFY 2016” and “Grant Aid for Economic and Social Development Program for Cuba in JFY 2017”.

Evaluation of "Japan's Grant Aid for Economic and Social Development Program for Cuba in JFY 2016" (Brief Summary)

Evaluators (Evaluation Team)

- Chief Evaluator: KATSUMA Yasushi, Professor, Graduate School of Asia-Pacific Studies, Waseda University
- Consultant: Global Group 21 Japan, Inc.

Period of Evaluation Study: June 2022 - January 2023

Field Survey Country: Cuba



Garbage compactor

Background, Objectives and Scope of the Evaluation

The main purpose of this study was to conduct a project-level evaluation of "Grant Aid for Economic and Social Development Program for Cuba in JFY2016" (grant amount: 1.05 billion yen) implemented by the Ministry of Foreign Affairs of Japan (MOFA), and to derive recommendations and lessons learned for the planning and implementation of future ODA from the evaluation results, as well as to ensure accountability to the public. The Project under evaluation was implemented to maintain and improve the waste collection capacity in Havana City by providing Japanese waste collection equipment (100 garbage compactors, spare parts and maintenance equipment), thereby contributing to economic and social development through improving the sanitation environment in the country, and supporting the overseas expansion of Japanese companies.

Brief Summary of the Evaluation Results

(1) Relevance of the plan

This project was highly consistent with the waste management needs of Havana City, and is in line with Japan's economic cooperation policy toward Cuba, which emphasizes the environmental protection sectors. The Project was highly significant in helping Cuba return to the international community by providing assistance to improve the country's balance of international payments situation, and was timely in that it coincided with the 120th anniversary of Japanese immigration to Cuba, and the 90th anniversary of the establishment of diplomatic relations between Japan and Cuba. The implementation structure of this project was consistent with the standard implementation structure and workflow of the MOFA's Grant Aid for Economic and Social Development Program. The Japan International Cooperation Agency (JICA)'s experience in technical cooperation was utilized in determining equipment specifications and planning spare parts. Training, the provision of Spanish manuals,

the deployment of maintenance equipment, and the supply of a larger-than-usual number of spare parts ensured that the capacity and systems were in place to properly operate, maintain, and manage the garbage compactors. It took eight months before the agent agreement was signed, but other than that, the project was properly executed according to the standard flow. **(Rating: Satisfactory)**

(2) Effectiveness of results

Due to price reductions achieved through competitive bidding, a greater number of garbage compactors than planned were provided, and these vehicles are being used for waste collection and transportation in Havana City. Although some vehicles were temporarily out of service due to a shortage of tires etc., and some vehicles remain out of service due to a lack of spare parts, the amount of waste collected by the garbage compactors has increased dramatically, and the project is showing positive effects on waste collection and sanitation in Havana City. The diplomatic effects of the project are very pronounced, as it was implemented in conjunction with the 500th anniversary of the Havana City Government, and is widely recognized by citizens as garbage compactors with the Japanese flag painted on them drive around the city on a daily basis. Due to the difficult business environment in Cuba, the contribution to support for overseas expansion of Japanese companies is not evident. Although the response to the U.S. policy toward Cuba affected the procurement schedule, it was properly implemented in accordance with the standard implementation structure and workflow. Follow-up is being conducted appropriately. **(Rating: Satisfactory)**

*Note Rating: Highly satisfactory/ Satisfactory/ Partially satisfactory/ Unsatisfactory

Recommendations and Lessons Learned

<Recommendations>

(1) Continuous operation of equipment through procurement of spare parts

The lack of spare parts is hindering the continued effectiveness of this project. Since there are significant constraints on the procurement of spare parts by the Cuban government, when the Japanese government implements a new Grant Aid for Economic and Social Development Program for Cuba, it should consider including spare parts required for the equipment procured under this project in its contents to promote the continued effectiveness of the project.

(2) Study of waste reduction and securing a new final disposal site based on the experience of neighboring countries

Securing a new disposal site is an urgent issue for Havana City. As Cuba

considers practical solutions, it is highly significant to learn from the various efforts of neighboring countries and form networks with similar organizations and experts. JICA, which has expertise in technical cooperation in neighboring countries and is emphasizing cooperation in urban waste management in Cuba, could take the lead in holding regional workshops on urban waste management, etc., and Cuba could learn from the experiences of neighboring countries through triangular cooperation and other means.

(3) Consideration of assistance to help improve the situation surrounding Cuba's balance of international payments

From the perspective of Japan's national interest, it is important for Cuba to repay its debts in order to encourage Cuba's return to the international community. To this end, it is necessary to improve the situation surrounding the balance of international payments in Cuba. In the short term, food aid such as rice should be provided, while in the medium term, as in this case, assistance could include the provision of equipment that is essential for improving the lives of Cuban citizens but cannot be purchased from overseas due to economic sanctions and lack of foreign currency. It will be important to provide balanced assistance from both short- and medium-term perspectives.

<Lessons Learned>

(1) Grant aid aimed at synergistic effects with continuous technical cooperation

The project benefited from the continuous technical cooperation by JICA provided to the same implementing agency, which led to the accumulation of useful information and experience, a relationship of trust with the implementing agency, and an understanding of Japan's assistance on the part of the implementing agency. By utilizing such information and a good relationship at the planning and implementation stages, the project was implemented smoothly and the project effect was enhanced. In considering grant aid projects, there should preferably be collaboration with prior technical cooperation that shared the same implementing agency, in order to achieve synergistic effects.

(2) Identifying the need for spare parts

If it is difficult to procure spare parts in a timely manner due to the circumstances of the partner government, it is possible to procure spare parts generously at the same time as the provision of the equipment, as was done in this case. Also, there are cases where it is difficult to procure spare parts in a timely manner because the wear and tear of spare parts may be more severe than usual depending on the degree of

operation of the equipment and the operating environment. In such cases, it is necessary to procure as many spare parts as possible at the same time as provision of the equipment, after fully understanding the situation and making a realistic estimation of the wear rate of spare parts.

(3) Diplomatic spillover effects from essential assistance in daily life

The garbage compactor of this project, with the Japanese flag painted on its prominent orange body, drives around Havana City on a daily basis. The assistance, which coincided with the 500th anniversary of Havana City Government, was covered by television, radio, and newspapers. The fact that Japan provided assistance in the form of important equipment essential to the daily lives of citizens is widely known and highly appreciated by Havana citizens. Therefore, in order to achieve a large diplomatic ripple effect in grant aid, it is important to provide assistance for equipment that is indispensable for daily life and often seen by residents.

(End)

Evaluation of "Japan's Grant Aid (Economic and Social Development Program) for Cuba in JFY 2017" (Brief Summary)

Evaluators (Evaluation Team)

- Chief Evaluator: KATSUMA Yasushi, Professor, Graduate School of Asia-Pacific Studies, Waseda University
- Consultant: Global Group 21 Japan, Inc.

Period of Evaluation Study: June 2022 - January 2023

Field Survey Country: Cuba



Disaster waste removal in progress:
Dump truck and skid steer loader

Background, Objectives and Scope of the Evaluation

The main purpose of this study was to conduct a project-level evaluation of the "Grant Aid (Economic and Social Development Program) for Cuba in JFY2017" (grant amount: 1.05 billion yen) implemented by the Ministry of Foreign Affairs of Japan (MOFA), and to derive recommendations and lessons learned for the planning and implementation of future ODA from the evaluation results, as well as to ensure accountability to the public. The project under evaluation was implemented by providing equipment to maintain the urban green space such as streets and parks, and in conjunction with the garbage compactors and other equipment provided in the JFY 2016 project, to further strengthen the waste collection and transportation capacity of Havana City, to support reconstruction and recovery from the devastating hurricane damage, and to improve the country's disaster preparedness capacity.

Brief Summary of the Evaluation Results

(1) Relevance of the plan

The provision of various equipment planned for this project was highly consistent with Havana City's needs for waste management, urban green space management, and disaster response. The assistance was highly significant in helping Cuba return to the international community by providing assistance to improve the country's balance of international payments situation, and was timely in that it coincided with the 120th anniversary of Japanese immigration to Cuba, and the 90th anniversary of the establishment of diplomatic relations between Japan and Cuba. The implementation structure of this project was consistent with the standard implementation structure and workflow of the MOFA's Grant Aid for Economic and Social Development Program. Experience of Japan International Cooperation Agency (JICA)'s technical cooperation was utilized in determining equipment specifications and planning spare parts. Training,

the provision of Spanish manuals, the deployment of maintenance equipment, and the supply of a larger-than-usual number of spare parts ensured that the capacity and systems were in place to properly operate, maintain, and manage the equipment. The planning process for this project was properly executed according to the standard flow.

(Rating: Satisfactory)

(2) Effectiveness of results

The equipment provided for this project is being used for waste management, urban green space management, and disaster response in Havana City. The removal of trash and debris from the city's streets has progressed, and the project is showing positive effects on waste management. Tree management, including preventive cutting, has been streamlined, and the project equipment has been fully utilized to remove fallen trees and disaster waste after the passage of hurricanes, showing the project's effect on disaster countermeasures. Diplomatic ripple effects were high at the local government level, as the project was implemented in conjunction with the 500th anniversary of the Havana City Government. The project was properly implemented and smoothly executed in accordance with the standard implementation structure and workflow. Good communication and coordination have been maintained between the implementing agency (Havana City Provincial Direction of Communal Services: Dirección Provincial de Servicios Comunes, DPSC) and the Japanese side, including JICA in addition to Japan International Cooperation System (JICS) and the Embassy of Japan in Cuba, and follow-up is being conducted appropriately.

(Rating: Satisfactory)

*Note Rating: Highly satisfactory/ Satisfactory/ Partially satisfactory /Unsatisfactory

Recommendations and Lessons Learned

<Recommendations>

(1) Continuous operation of equipment through procurement of spare parts

The lack of spare parts for some of the equipment provided under this project has hindered the continued effectiveness of the project. Since there are significant constraints on procurement of spare parts by the Cuban government, if the Japanese government implements a new Grant Aid for Economic and Social Development Program for Cuba, it should consider including the spare parts required for the equipment procured under this project in its contents to promote the continued effectiveness of the project.

(2) Study of waste reduction and securing a new final disposal site based on the experience of neighboring countries

Securing a new disposal site is an urgent issue for Havana City. As Cuba considers practical solutions, it is highly significant to learn from the various efforts of neighboring countries and form a network with similar organizations and experts. JICA, which has expertise in technical cooperation in neighboring countries and is emphasizing cooperation in urban waste management in Cuba, could take the lead in holding regional workshops on urban waste management, and Cuba could learn from the experiences of neighboring countries through triangular cooperation and other means.

(3) Consideration of assistance to help improve the situation surrounding Cuba's balance of international payments

From the perspective of Japan's national interest, it is important for Cuba to repay its debt in order to encourage Cuba's return to the international community. To this end, it is necessary to improve the situation surrounding the balance of international payments in Cuba. In the short term, food aid such as rice should be provided, while in the medium term, as in this case, assistance could include the provision of equipment that is essential for improving the lives of Cuban citizens but cannot be purchased from overseas due to economic sanctions and lack of foreign currency. It will be important to provide balanced assistance from both short- and medium-term perspectives.

<Lessons Learned>

(1) Grant aid aimed at synergistic effects with continuous technical cooperation

This project had various advantages, such as the accumulation of useful information and experience, a relationship of trust with the implementing agency, and an understanding of Japanese assistance on the part of the implementing agency, due to the fact that there had been prior continuous technical cooperation with the same implementing agency. In grant aid, there should preferably be collaboration with prior technical cooperation that shared the same implementing agency, in order to achieve synergistic effects.

(2) Identifying the need for spare parts

If it is difficult to procure spare parts in a timely manner due to the circumstances of the partner government, it is possible to procure spare parts generously at the same time as the provision of the equipment, as was done in this case. Also, there are cases where it is difficult to procure spare parts in a timely manner because the wear and tear of spare parts may be more severe than usual depending on the degree of operation of the equipment and the operating environment. In such cases, it is

necessary to procure as many spare parts as possible at the same time as provision of the equipment, after fully understanding the situation and making a realistic estimation of the wear rate of spare parts.

(End)

Table of Contents

Chapter 1	Background, Objectives and Evaluation Framework.....	1
1.1	Evaluation Background and Objectives.....	1
1.2	Scope of Evaluation	1
1.3	Evaluation Methodology	2
1.3.1	Framework of the Evaluation	2
1.3.2	Document Retrieval	3
1.3.3	Interview Survey in Japan	3
1.3.4	Field Survey.....	3
1.3.5	Resident Interviews.....	4
1.3.6	Examination of Evaluation Results, Recommendations and Lessons Learned	4
1.4	Evaluation Team	5
Chapter 2	Outline of the evaluation projects	6
2.1	About Cuba	6
2.2	Grant Aid for Economic and Social Development Program	7
2.3	Waste Management in Havana City.....	7
2.4	Disaster Management in Havana City and the Role of DPSC.....	9
2.5	Outline of the Projects	11
2.5.1	JFY 2016 Project.....	11
2.5.2	JFY 2017 Project.....	12
Chapter 3	Evaluation Results	14
3.1	Relevance of the Plan	14
3.1.1	Consistency of Objectives	17
3.1.2	Consistency of planned projects.....	21
3.1.3	Appropriateness of the Planned Implementation Structure	23
3.1.4	Appropriateness of the Planning Process.....	26
3.2	Effectiveness of Results	30
3.2.1	Achievement and Efficiency of the Project.....	32
3.2.2	Appropriateness of Implementation, Monitoring, and Follow-up Process.....	49
Chapter 4	Recommendations and Lessons Learned	53
4.1.1	Recommendations	53
4.1.2	Lessons Learned	54



(Source: UN Geospatial <https://www.un.org/geospatial/content/cuba-0>)

Examples of equipment procured for the evaluated projects
(JFY 2016 and JFY 2017)



Garbage compactor (JFY 2016)



Dump Truck (JFY 2017)



Skid steer loader (JFY 2016)



Chainsaws (JFY 2017)



Aerial work platform
(JFY 2017)



Brush chipper and trailer
(JFY 2017)



Equipment-carrying vehicle
(JFY 2017)

Chapter 1 Background, Objectives and Evaluation Framework

1.1 Evaluation Background and Objectives

Official Development Assistance (ODA) evaluations are made with the aim of improving the quality of ODA, and ensuring accountability to the public by reviewing ODA activities, and feeding the resulting recommendations and lessons learned back into ODA policies and implementation processes. ODA evaluations by the Ministry of Foreign Affairs of Japan (MOFA) focus not only on development, but also on diplomatic perspectives, and it is essential to provide an easy-to-understand explanation of the significance of ODA to Japan's foreign policy and national interests to the public.

Among grant aid projects, those that need to be implemented in a flexible manner or those that are closely related to decisions made in the execution of foreign policy are implemented by MOFA. In order to further strengthen the PDCA cycle of ODA, MOFA has been undertaking third-party evaluations of grant aid projects of 1 billion yen or more since the JFY 2017 ODA evaluation.

The purpose of this work was to conduct a project-level evaluation of "Grant Aid for Economic and Social Development Program for Cuba in JFY 2016" and "Grant Aid for Economic and Social Development Program for Cuba in JFY 2017", and to derive recommendations and lessons learned that will be useful for similar projects in the future.

1.2 Scope of Evaluation

The evaluation covers "Grant Aid for Economic and Social Development Program for Cuba in JFY 2016" and "Grant Aid for Economic and Social Development Program for Cuba in JFY 2017".

For the JFY 2016 project, the waste collection equipment made in Japan (100 garbage compactors, spare parts, and maintenance equipment) was provided to maintain and improve waste collection capacity in Havana City¹ to contribute to economic and social development through improving the sanitation environment in the country and supporting the overseas expansion of Japanese companies.

The purpose of the JFY 2017 project was to strengthen Havana City's waste collection and disaster response capabilities, thereby contributing to the country's economic and social development through the improvement of environmental and disaster prevention issues and the overseas expansion of Japanese companies, and the provision of other equipment for urban development (dump trucks, aerial work platforms, skid steer loaders, etc.) made in Japan.

(For details, see "2.5 Outline of the Projects").

¹ Havana City is a "Province" consisting of several "Municipalities" in terms of administrative classification, but in this report, it is commonly referred to as the "Havana City" in accordance with the descriptions in the existing documents.

1.3 Evaluation Methodology

This evaluation survey was conducted from June 2022 to January 2023.

1.3.1 Framework of the Evaluation

The "Framework of the Evaluation" for this study was prepared by organizing materials provided by MOFA and information disclosed via the Internet. Since the objectives of the Grant Aid for Economic and Social Development Program for Cuba in JFY 2016 and Grant Aid for Economic and Social Development Program for Cuba in JFY 2017 have many parts in common, the following common "Framework of the Evaluation" was used, while the parts that differ from case to case were individually verified.

Table 1-1 Framework of the Evaluation (Abstract)

Evaluation criteria	Evaluation items	Verification contents
1 Relevance of the plan	1-1 Consistency of objectives	1-1-1 Consistency with development needs and policy of Cuba
		1-1-2 Consistency with diplomatic policy and the development cooperation policy of the Government of Japan
	1-2 Consistency of planned projects	1-2-1 Consistency with Cuba's development plans and activities in the sectors of waste management and disaster preparedness
		1-2-2 Consistency with Japan's diplomacy and development plans for assisting the waste management and disaster management sectors in Cuba
	1-3 Appropriateness of planned implementation structure	1-3-1 Consistency with the standard implementation structure expected by the Government of Japan for the Grant Aid for Economic and Social Development Program
		1-3-2 Appropriateness of implementation structure and capability of related agencies in Cuba
	1-4 Appropriateness of the planning process	1-4-1 Appropriateness of planning process compared to the standard workflow of the Government of Japan for the Grant Aid for Economic and Social Development Program
		1-4-2 Points that contributed to or should have been considered in ensuring the relevance and consistency of each evaluation item
2 Effectiveness of results	2-1 Achievement and efficiency of the project	2-1-1 Achievement of financing (Inputs)
		2-1-2 Achievement and efficiency of procuring equipment (Output)

Evaluation criteria	Evaluation items	Verification contents
		2-1-3 Status of use of procured equipment (Output)
		2-1-4 Development impact through the procurement and use of equipment (outcomes)
		2-1-5 Diplomatic effect through the procurement and use of equipment (outcome)
	2-2 Appropriateness of implementation, monitoring and follow-up processes	2-2-1 Appropriateness of processes compared to the standard workflow of the Grant Aid for Economic and Social Development Program indicated by the Government of Japan
		2-2-2 Points that contributed to or should have been considered in ensuring the above effectiveness and achievements

1.3.2 Document Retrieval

The evaluation team collected and analyzed materials provided by MOFA, documents related to economic cooperation with Cuba, articles and photographs published on the Internet related to the projects, and various information related to waste management in Cuba.

1.3.3 Interview Survey in Japan

After getting information based on questionnaire, online interviews were conducted with MOFA of Japan, the Japan International Cooperation Agency (JICA), the procurement agency (Japan International Cooperation System: JICS), and the suppliers (Sumitomo Corporation and Toyota Tsusho Corporation) of the two projects.

1.3.4 Field Survey

The field survey was conducted from September 20 to October 4, 2022.

Table 1-2 Field survey schedule

Date	Activities
September 20 (Tue.)	Departure from Tokyo
September 21 (Wed.)	Arrival in Havana (via Paris)
September 22 (Thu.)	Courtesy visit and hearing with the Embassy of Japan in Cuba Hearing with Havana City's Provincial Direction of Comunal Services (Dirección Provincial de Servicios Comunes, DPSC) and DPSC's Greenery Division (Empresa Provincial de Areas Verdes), and equipment inspection
September 23 (Fri.)	Hearing with the DPSC's Sanitation Corporation (Empresa Provincial de Higiene) Visiting the vehicle maintenance workshop and the final disposal site of Calle 100
September 24 (Sat.)	Observation of garbage collection activities in the city

September 25 (Sun.)	Document organization and analysis
September 26 (Mon.)	Hearing with the Ministry of Science, Technology and Environment (Ministério de Ciência, Tecnologia y Medioambiente, CITMA), Havana City Government, Havana City Provincial Direction of Public Health (Dirección Provincial de Salud Pública), and observation of garbage collection in the city
September 27 (Tue.)	Organizing and analyzing collected information and materials (not allowed to go out due to hurricane)
September 28 (Wed.)	Hearing with the Communal Service Corporation of Havana City's Municipalities of Regla and La Lisa, and visit to vehicle maintenance workshops of each municipality
September 29 (Thu.)	Hearing with the JICA Cuba Office, Ministry of Foreign Trade and Foreign Investment (Ministério de Comercio Exterior y Inversión Extranjera, MINCEX) Observation of garbage collection and disaster recovery work in the city
September 30 (Fri.)	Reporting to the Embassy of Japan in Cuba Wrap-up meeting with DPSC Observation of recovery work in the city
October 1 (Sat.)	Departure from Havana
October 4 (Tue.)	Arrival at Narita (via Paris)

Interviews were conducted with various related agencies, including DPSC, the Sanitation Corporation (Empresa Provincial de Higiene, formerly the Provincial Unit of Hygiene, Unidade Prospuestada Provincial de Higiene, UPPH), and the Greenery Division of Havana City, the Municipal Corporation of Communal Services (formerly the Municipal Direction of Communal Services, Dirección Municipal de Servicios Comunes, DMSC), the Embassy of Japan in Cuba, and the JICA Cuba Office.

In addition, to confirm the operation and maintenance of the equipment in the field, the team visited a final disposal site in Havana City, the Calle 100, and a vehicle maintenance workshop of the Sanitation Corporation. During the field survey period, Hurricane Ian made landfall in Cuba before dawn on September 27. Taking advantage of this opportunity, the team observed the removal of fallen trees and disaster waste in the city after the hurricane passed, and confirmed how the equipment was being used. Interviews with officials and workers at each site were also conducted during the survey.

1.3.5 Resident Interviews

One hundred residents of Havana City were randomly selected through a telephone directory and interviewed by telephone.

1.3.6 Examination of Evaluation Results, Recommendations and Lessons Learned

Based on the results of the evaluation survey, a four-point scale (highly

satisfactory/ satisfactory/partially satisfactory/unsatisfactory) was used to rate the Relevance of the Plan and the Effectiveness of Results. As feedback based on the evaluation results, recommendations for the parties involved in the evaluation and lessons learned, including broader considerations, were discussed.

1.4 Evaluation Team

This evaluation study was conducted by an evaluation team consisting of the following members.

Chief Evaluator	KATSUMA Yasushi (Professor, Graduate School of Asia-Pacific Studies, Waseda University)
Consultant	SONODA Hajime (Global Group 21 Japan, Inc.) KIDA Akiko (Global Group 21 Japan, Inc.)

Chapter 2 Outline of the evaluation projects

2.1 About Cuba

Cuba, with the largest land area and population in the Caribbean region,² is a socialist country established by the Cuban Revolution in 1959. Cuba is positioned as a leading medical country in the Latin America and Caribbean region, and because of its high level of education, Cuba actively sends teachers and medical personnel abroad, and has a great influence mainly on developing countries in Latin America, and the Caribbean region and Africa. Cuba, which has abundant natural resources such as nickel and cobalt, high-quality human resources, and tourism resources such as the Old City of Havana, is trying to take steps toward growth by promoting tourism, expanding self-employment, and revising foreign investment laws, while maintaining its socialist system.

On the other hand, Cuba faces serious shortages of goods and funds due to the ongoing U.S. economic blockade and other factors, and faces many development challenges, including an aging infrastructure, environmental pollution caused by waste and other materials, and low food self-sufficiency.

In December 2015, debt restructuring negotiations were agreed upon at the Paris Club, a group of major creditor countries, regarding claims against Cuba that had been overdue for payment since 1986. And in September 2016, in order to encourage Cuba's return to the international community, the Government of Japan exchanged notes for debt relief measures including the deferral of the Cuban Government's commercial (non-ODA) obligations underwritten by the Japanese government for insurance.

² Cuba has a land area of 109,884 square kilometers (about half the size of Honshu) and a population of approximately 11.48 million (2017: World Bank).



Source: Ministry of Foreign Affairs website

<https://www.mofa.go.jp/mofaj/press/pr/wakaru/topics/vol45/index.html>

2.2 Grant Aid for Economic and Social Development Program

Grant aid implemented by MOFA is carried out in close association with decisions made in the conduct of foreign policy, such as those that need to ensure flexible implementation. Economic and Social Development Programs are designed to provide developing countries that are working on economic and social development, including poverty reduction in their own countries, with grants of funds for the procurement of materials and equipment necessary for such efforts. It is also characterized as foreign currency assistance. Until March 2015, it was called "Non-project Grant Aid" (also known as "Non-pro Grant Aid," and started in 1987).

In implementation, the procurement agency acts as an agent of the recipient government to procure goods. In addition, an intergovernmental committee is organized as a forum for close consultation between the Japanese government and the government of the recipient country. The content of the goods and the supplier are determined on a case-by-case basis based on the intentions of the recipient government, the characteristics of the goods, and other factors. Generally, the contractor is a Japanese company in principle, and the contract tied and procurement untied method is adopted, where the goods are not limited to Japanese products.

2.3 Waste Management in Havana City

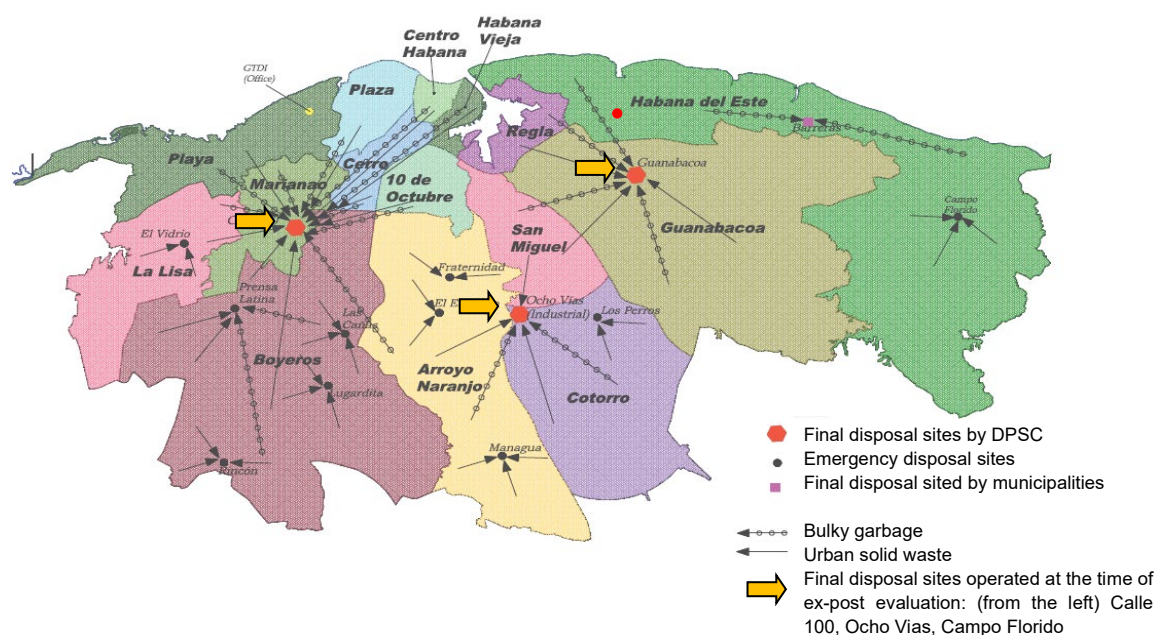
At the time of planning (2017), garbage collection and disposal in Havana City

was carried out as follows: ³

- Waste management in Havana City was carried out by DPSC and the Municipal Direction of Communal Services (Dirección Municipal de Servicios Comunes, DMSC) of the 15 municipalities. The Provincial Unit of Hygiene, a division of DPSC, was located adjacent to the main final disposal site, the Calle 100 final disposal site, and had a vehicle inspection and maintenance workshop on the premises.
- The Provincial Unit of Hygiene had garbage compactors and arm-roll trucks for collecting construction waste, etc. Around 25 garbage compactors were based at the Provincial Unit of Hygiene and collected in 9 municipalities, while around 12 other garbage compactors collected in the distant 6 municipalities. Almost half of Havana City's waste was collected by garbage compactors patrolling the approximately 20,000 waste collection containers located on the streets.
- In peripheral areas of the city, door-to-door collection was conducted by trucks and tractor/horse-drawn carts of DMSCs.
- Arm-roll trucks collected trash (general trash and construction waste, etc.) that had been accumulated in special containers placed on city streets. Dozens of dedicated containers were permanently deployed throughout the city, and were also deployed at construction sites upon request.
- The Provincial Unit of Hygiene had five teams of trash removal units consisting of one wheel loader and two to three trucks, which removes general trash and construction waste left on the streets, and fallen trees after hurricanes, as needed.
- DMSCs used trucks and other vehicles to collect general trash in areas not patrolled by garbage compactors, as well as to clean up trash left behind around trash collection containers. Several municipal offices in each municipality were staffed with park and street cleaning personnel. The municipal offices kept track of the status of trash collection and cleaning in the municipality, and when additional trash collection or trash removal units were needed, they requested DPSC/DMSC to dispatch them.
- Three final disposal sites were in operation in Havana City (Figure 1). The largest was the Calle Cien (Calle 100) Final Disposal Site in the mid-western

³ Based on the JICA evaluation report: FY 2017 Ex-Post Evaluation of Technical Cooperation Project "Improvement of the Capacity for Urban Solid Waste Management in Havana City".

part of the city, which accepted about 70% of the city's waste, but was full and already overdue for closure. The next largest was the Ochovias Final Disposal Site in the eastern part of the city, which received about 25% of the city's waste. Further east, the Campo Florido final disposal site was a smaller site that had been originally established as an emergency final disposal site.



Source: Report of the "Study on Integrated Management Plan of Urban Solid Waste in Havana City", 2007.

Subsequently, in accordance with Cuba's decentralization policy, the decentralization of operations that had been carried out in Havana City (at the provincial level) to the various municipalities was promoted. In line with this, 93 of the garbage compactors provided under the JFY 2016 project were deployed in all 15 municipalities of Havana City.⁴ Some of the skid steer loaders and dump trucks granted under the JFY 2017 project were also deployed in each municipality, and a waste removal unit is now operational in each municipality. DMSC of each municipality became the "Communal Service Corporation" in January 2022, and the Provincial Unit of Hygiene of DPSC became the "Sanitation Corporation" in July 2022. On the other hand, the Calle 100 Final Disposal Site is still in continuous operation as of 2022 and accepts all garbage collected by garbage compactors.

2.4 Disaster Management in Havana City and the Role of DPSC⁵

Located in the Caribbean Sea, Cuba has always suffered damage from

⁴ Seven of the 100 units provided are kept as spares.

⁵ Based on "JICA Country Analysis Paper" (JICA, 2022), "Cuba - Weathering the Storm: Lessons in Risk Reduction from Cuba" (Oxfam America, 2004), and interviews during field surveys.

hurricanes. Seven major natural disasters between 2016 and 2020 alone damaged more than 240,000 houses and caused economic losses of 17.4 billion pesos (about \$700 million). Cuba's center of disaster management system is the National Headquarters of Civil Defense (Estado Mayor Nacional de Defensa Civil) in the capital city of Havana. Civil defense systems also exist at the provincial and municipal levels, which prepare hazard maps and disaster management plans, and conduct evacuation operations.⁶ The civil defense system is activated in four phases: vigilance 72 hours prior to hurricane landfall (Phase 1), preparations and initiation of evacuation 48 hours prior to the storm (Phase 2), during hurricane landfall (Phase 3), and after the hurricane has passed (Phase 4). In phase 4, rescue operations, damage assessment, street cleanup, and restoration of roads, power, and water supply begin.

In Havana City and the 15 municipalities that make up the city, a civil defense system is activated in response to the hurricane, and all government organizations, public organizations, etc. will be alerted, prepared, and respond to the hurricane under the command of the governor of Havana City and municipal mayors.

The Greenery Division of DPSC maintains street trees and parks in Havana City. The division has eight teams that are assigned to all areas of the city during normal times to prune trees, and cut down old trees and branches to prevent fallen trees and power outages. Tree management is carried out in accordance with the annual activity plan established in reference to the results of tree diagnosis by the Forestry Corporation of the Ministry of Agriculture. Preventive felling of old trees that may fall and of branches that may lead to power outage accidents is also carried out. After the disaster, in order to enable rapid restoration and recovery activities, fallen trees and other objects blocking main roads are removed first, followed by the removal of fallen trees and broken branches that caused power outages, as well as fallen trees and debris from streets, parks, green areas, and other areas. This work is carried out under the direction of the governor and municipal mayors, with other government agencies and companies that have heavy machinery in their possession, as well as a mobilized workforce.

⁶ Since the 1960s, Cuba has had a "civil defense system" in which government agencies and communities work together to prevent disasters, and the 1994 National Defense Law established a civil defense measures system that broadly defines all aspects of disaster risk reduction. According to the Law, the "Civil Defense Response System" is a national system whose primary function is to protect the Cuban people and their social and economic achievements in the face of natural disasters and other hazards of all kinds. According to the Law, the Chairman (Head) of the Local Government (Provincial and Municipal) Council is responsible for directing civil defense, and the necessary measures are coordinated and implemented by state agencies, economic organizations, and social institutions, with the participation of the population.

2.5 Outline of the Projects

2.5.1 JFY 2016 Project

Country/Project name	Economic and Social Development Program for the Republic of Cuba in JFY 2016	
Sector	Water and sanitation (Waste management and disposal)	
Aid category	Economic and Social Development Program	
Date of receipt of request	September 8, 2016	
Signing date of Exchange of Notes (E/N)	March 10, 2017	
Partner country's committee members	People's Council of Havana City, Ministry of Foreign Trade and Foreign Investment (MINCEX), Provincial Direction of Communal Services of Havana City (DPSC)	
Procurement Agent Agreement (A/A)	Name of Institution: Japan International Cooperation System (JICS) Contract start: November 23, 2017; Contract completion: March 11, 2020	
Background and needs	<ul style="list-style-type: none">• Despite its abundant natural resources and literate human resources, Cuba faces a chronic shortage of foreign currency and severe shortages of goods and funds due to U.S. economic sanctions and slow economic reforms, and there are numerous development challenges.• With the improvement in relations with the U.S. since the Obama administration, Japanese companies are highly interested in expanding their operations in the country.• In Havana, 37 of the 78 Chinese-made garbage compactors introduced since 2007 were worn out, and the remaining 41 garbage compactors were collecting more than 1,800 tons of waste every day operating nearly 24-hours a day. Therefore, there was a risk that all of the garbage compactors would be out of service by 2019, and the urgent need for new garbage compactors required a quick response.• At the Japan-Cuba summit meeting in September 2016, Japan announced the implementation of grant aid to help improve Cuba's balance of international payments, which is an important initiative for future economic cooperation.• Aid to Cuba, a leading non-aligned and developing country, is expected to have a diplomatic impact.	
Objective and contents of the project		
Objective and outline of the project By providing garbage compactors and other equipment to maintain and improve the waste collection capacity of Havana City, the project would contribute to economic and social development of Cuba through the improvement of the sanitation environment in the country. It would also support the overseas expansion of Japanese companies.		
	Plan and detailed plan	Actual/expected (period)

(1) Amount of the Grant Aid (input)	1,050 million yen	1,050 million yen
(2) Items/equipment (Input)	<p>At the time of planning (at the time of request)</p> <p>64 garbage compactors Spare parts Equipment for vehicle maintenance Manuals, Training</p> <p>At the time of detailed planning (at the time of bidding)</p> <p>72 garbage compactors Spare parts Equipment for vehicle maintenance Manuals, Training</p>	<p>Procured items</p> <p>100 garbage compactors Spare parts Equipment for vehicle maintenance Manuals, Training</p>
(3) Purpose of use and outcome (Output/Outcome)	To maintain and improve waste collection capacity in Havana City (no indicator set)	Refer to "3-2 Effectiveness of Results" in Chapter 3, Evaluation Results, of this report.
(4) Expected development effectiveness and diplomatic significance/ impact(Outcome)	<ul style="list-style-type: none"> • Economic and social development through improved sanitation in Havana City. • Support for overseas expansion of Japanese companies. • Assistance to Cuba, a leading non-aligned country in the face of chronic foreign currency shortages and economic instability, is expected to have a diplomatic impact. (No indicators have been set). 	Refer to "3-2 Effectiveness of Results" in Chapter 3, Evaluation Results, of this report.
External conditions or notes	None in particular.	

2.5.2 JFY 2017 Project

Country/project name	Economic and Social Development Program for the Republic of Cuba, 2017
Sector	Water and sanitation (Waste management and disposal)
Aid category	Economic and Social Development Program
Date of receipt of request	December 21, 2017
Signing date of Exchange of Notes (E/N)	February 16, 2018
Partner country's committee members	People's Council of Havana City, Ministry of Foreign Trade and Foreign Investment (MINCEX), Provincial Direction of Communal

	<u>(at the time of bidding)</u> Dump trucks 40 Skid steer loaders 25 Chainsaws 50 Aerial work platforms 8 Brush chippers 8 Equipment-carrying vehicles 20 Transportation Trailers 30	
(3) Purpose of use and outcome (output/outcome)	Strengthening Havana City's waste collection and transportation capacity and disaster preparedness capabilities (Indicators not set)	Refer to "3-2 Effectiveness of Results" in Chapter 3, Evaluation Results, of this report.
(4) Expected development effectiveness and diplomatic significance/impact(outcome/impact)	<ul style="list-style-type: none"> • Cuba's Economic and Social Development through improvement of environmental and disaster prevention issues • Contribution to overseas expansion of Japanese companies through improvement of environmental and disaster prevention issues (Indicators not set)	Refer to "3-2 Effectiveness of Results" in Chapter 3, Evaluation Results, of this report.
External conditions or notes	None in particular.	

Chapter 3 Evaluation Results

In this study, the evaluation team evaluates each of the two projects separately. However, the two projects have many matters in common, such as objectives, and organizations for operation and maintenance of equipment. Therefore, in each section of this chapter, the matters common to both projects are presented at the beginning, and then an evaluation of each project is described.

3.1 Relevance of the Plan

"Grant Aid for Economic and Social Development Program for the Republic of Cuba" (JFY2016 Project)

Relevance of the plan <Satisfactory>
Consistency of objectives <Satisfactory> (In what ways and to what extent were the objectives of the project and its expected outcome relevant to Cuban and Japanese policies?)
The purpose of this project was to maintain and improve the waste collection

and transportation capacity of Havana City. From the time the project was adopted to the present, waste management has been one of Cuba's priority areas. Waste management in Havana City, which accounts for about 30% of the national waste collection volume, is also an important issue from the perspective of preserving tourism resources. This project fits in with the environmental protection sector, which is considered an important area for Japan's economic cooperation with Cuba. In addition, as an "economic and social development program," it was highly significant to encourage Cuba's return to the international community by providing assistance that would contribute to improving the situation surrounding Cuba's balance of international payments. Based on the above, the objectives of this project were consistent with the policies of both countries and development needs of Cuba.

Consistency of planned project <Satisfactory>

(In what respects and to what extent was the planned project consistent with Cuban and Japanese policies?)

The provision of the garbage compactors planned for this project was extremely consistent with the waste management needs of Havana City. JICA's experience in technical cooperation was utilized in determining equipment specifications and planning spare parts. The assistance was timely in that it coincided with the 120th anniversary of Japanese immigration to Cuba, and the 90th anniversary of the establishment of diplomatic relations between Japan and Cuba, as well as being consistent with the development plans and development needs of the sector.

Appropriateness of the planned implementation structure <Satisfactory>

(In what ways were the planned implementing agencies/end-users, operational structure, and workflow consistent with the relevant Cuban and Japanese institutions and systems?)

Although it took some time to conclude the procurement agent agreement, the implementation structure of this project was consistent with the standard implementation structure and workflow of MOFA' Grant Aid for Economic and Social Development Program. The implementing agency had improved its capacity to operate and maintain the garbage compactors through JICA's technical cooperation, etc. The capacity and system to properly operate and maintain the garbage compactors was ensured by including training on operation, maintenance and repair, provision of Spanish manuals, deployment of maintenance equipment, and supply of a larger-than-usual number of spare parts. In addition, the implementing agency had budgeted for additional personnel for the garbage compactors to be provided. As a result, the the implementation structure planned

for this project was appropriate.

Appropriateness of planning process <Satisfactory>

(To what extent and in what respects was the project planning process adequate or challenging to ensure the adequacy of the plan?)

It took eight months before the procurement agency contract was signed, but the planning process was otherwise properly executed in accordance with the standard workflow of Grant Aid for Economic and Social Development Program by MOFA. Based on the above, the planning process of this project was appropriate.

"Grant Aid for Economic and Social Development Program for the Republic of Cuba"
(JFY2017 Project)

Relevance of the plan <Satisfactory>

Consistency of objectives <Satisfactory>

(In what ways and to what extent were the objectives of the project and its expected outcome relevant to Cuban and Japanese policies?)

The purpose of this project was to maintain and improve the waste collection and transportation capacity of Havana City, as well as to support recovery and rehabilitation from the devastating hurricane damage and improve disaster preparedness capacity. From the time the project was adopted to the present, waste management has been one of Cuba's priority areas. Waste management in Havana, which accounts for about 30% of the country's total garbage collection, is also an important issue from the perspective of preserving tourism resources. This project fits into the environmental protection sector, which is considered an important area for Japan's economic cooperation with Cuba. With regard to disaster countermeasures, Cuba, which is frequently hit by hurricanes, has made efforts to strengthen disaster countermeasures through civil defense organizations. In Havana City, it is important to properly manage trees to prevent them from falling due to strong winds and power outages, and to quickly remove fallen trees and branches after the passage of a hurricane. This is consistent with Japan's cooperation policy, which emphasizes environmental protection and has provided emergency disaster relief assistance. In addition, it was highly significant to encourage Cuba's return to the international community by providing the Grant Aid for Economic and Social Development Program that would contribute to improving the situation surrounding Cuba's balance of international payments. Given the above, the objectives of this project were consistent with the policies of both countries and development needs of Cuba.

<p>Consistency of planned project < Satisfactory></p> <p>(In what respects and to what extent was the planned project consistent with Cuban and Japanese policies?)</p>
<p>The provision of various equipment planned for this project was highly consistent with Havana City's needs for waste management, green space management, and disaster response. The assistance was timely in that it coincided with the 120th anniversary of Japanese immigration to Cuba, and the 90th anniversary of the establishment of diplomatic relations between Japan and Cuba. At the same time, the contents of the project were consistent with the development plans and development needs of these sectors.</p>
<p>Appropriateness of the implementation structure <Satisfactory></p> <p>(In what ways were the planned implementing agencies/end-users, operational structure, and workflow consistent with the relevant Cuban and Japanese institutions and systems?)</p>
<p>The implementation structure of this project was consistent with the standard implementation structure and workflow of MOFA's Grant Aid for Economic and Social Development Program. The implementing agency had improved its capacity to maintain and manage the garbage compactors through technical cooperation, etc., had experience using most of the equipment provided, and had sufficient operational capacity. By providing training in operation, maintenance, repair, Spanish manuals, and a larger-than-usual supply of spare parts, the capacity and system to properly operate and maintain the procured equipment was ensured. Based on the above, the implementation structure planned for this project was appropriate.</p>
<p>Appropriateness of planning process <Satisfactory></p> <p>(To what extent and in what respects was the project planning process adequate or challenging to ensure the adequacy of the plan?)</p>
<p>The planning process for this project, from the request to the determination of procurement items, was properly executed in accordance with the standard flow of the Grant Aid for Economic and Social Development Program by MOFA. Although there were some changes in the procurement details after the intergovernmental committee meeting, JICS, as the procurement agent, consulted with the relevant organizations in both Japan and Cuba and obtained their agreement on the changes. Based on the above, the planning process for this project was appropriate.</p>

3.1.1 Consistency of Objectives

The JFY 2016 project was intended to maintain and improve the waste collection

and transportation capacity of Havana City. In addition to urban waste management, the JFY 2017 project was intended to support recovery and rehabilitation from severe hurricane damage and improve disaster preparedness capacity. Below is a summary of Cuba's development needs and policies in the areas of waste management and disaster management, as well as Japan's foreign policy and development cooperation policy toward Cuba, followed by an evaluation of each project.

3.1.1.1 Urban waste management

In its National Environmental Strategy (2016-2020), the Cuban government has identified and addressed the main problems of the environment, including deforestation, biodiversity and ecosystem degradation, water quality issues, land degradation, and deteriorating sanitary conditions in areas where people live. Urban waste management is considered one of the key issues in the Strategy.

The Environmental Strategy of Havana City (2016-2020) for waste management included the creation of a new organizational structure (e.g., conversion of some departments into public corporations), implementation of sanitary landfills (proper compaction and covering) at final disposal sites, reduction of waste through collection of valuable materials, and securing equipment for waste collection (garbage compactors, etc.)⁷. The amount of garbage collected in Havana City accounts for about 30% of the national total. At the time of planning, Havana City was facing a serious garbage problem, with a significant shortage of garbage compactors and final disposal sites, and a large amount of garbage was left on the streets. Urban waste management was an urgent issue in Havana City, which is the face of Cuba, a country that aims to become a tourist destination and has important tourist resources such as the Old Havana, a World Heritage site.

3.1.1.2 Disaster management

Civil Defense has been practiced in Cuba since the 1960s. Havana City is frequently hit by hurricanes; Hurricane Irma in 2017 flooded roads up to people's waists, caused power outages, forced the evacuation of over 1 million residents, and damaged over 4,000 housing units. In addition, strong winds caused numerous fallen trees, which hampered rapid recovery efforts and civilian life. This disaster caused by Hurricane Irma highlighted the need to further strengthen disaster response capacity in Havana City, and was the background for including disaster preparedness as one of

⁷ The national plan approved in 2022 (Plan Nacional de Desarrollo Económico y Social hasta el 2030) calls for the prevention of environmental pollution through urban waste management and other measures as part of the national environmental strategy, as well as a shift to a circular economy that generates added value through the effective use of stock while reducing resource inputs and consumption in addition to the 3Rs (Reduce, Recycle, Reuse).

the objectives of the JFY 2017 project.

3.1.1.3 Japan's foreign policy and development cooperation policy

Japan and Cuba established diplomatic relations in 1929. After the revolution, relations between Cuba and the United States, which maintained a hard line against Cuba, deteriorated, but Japan recognized the revolutionary regime and continued diplomatic relations, maintaining good relations with Cuba, which has influence in the international community as a leading ally.

Japan's economic cooperation with Cuba began in the 1960s with the reception of trainees, and was in full swing in the 1990s. Since 1993, Japan has provided food aid and infrastructure development aid to hurricane-stricken areas. And since 1998, Japan has also been providing grassroots human security grant aid, mainly in the fields of agriculture, forestry, fisheries, medical care, and civil affairs and environment. In October 2000, the first project verification mission was dispatched to Cuba, where policy discussions were held with the Cuban government, and it was agreed that cooperation would focus particularly on the environment and agriculture (increasing food production). In addition to the above two areas, social infrastructure and economic reforms were also identified as priority areas. From 2004 to 2018, technical cooperation on urban waste management was implemented through JICA for DPSC.⁸ This technical cooperation included capacity building for the operation and maintenance of garbage compactors, and is closely complementary to the projects covered by this evaluation.

Due to a change in the U.S. Obama administration's policy toward Cuba, the United States and Cuba resumed diplomatic relations in July 2015 for the first time in 54 years. In conjunction with this, then Foreign Minister Kishida and then Prime Minister Abe both visited Cuba for the first time as Foreign Minister and Prime Minister, respectively, in 2015 and September 2016, giving a major boost to bilateral relations in various fields.

In December 2015, debt restructuring negotiations were concluded between Cuba and a group of Paris Club creditor countries, consisting of major creditor countries including Japan, regarding claims against Cuba that had been overdue for payment since 1986.

In September 2016, the Government of Japan exchanged notes for debt relief measures in accordance with the Paris Club agreement to encourage Cuba's return to the international community. It was within this sequence of events that the projects

⁸ The "Study on the Integrated Management Plan of Urban Solid Wastes in Havana City" (development study, 2004-2006), the "Support Services for Capacity Improvement on Maintenance of Garbage Compactors in Havana City" (dispatch of experts, August 2015-April 2018), and a short-term expert dispatch (2006) were implemented.

covered by this evaluation (Grant Aid for Economic and Social Development Plan in JFY 2016 and in JFY 2017) were implemented.

Consistency of objectives
<p>JFY 2016 Project <Satisfactory></p> <p>The purpose of this project was to maintain and improve the waste collection and transportation capacity of Havana City. From the time the project was adopted to the present, waste management has been one of Cuba's priority areas. Waste management in Havana City, which accounts for about 30% of the national waste collection volume, is also an important issue from the perspective of preserving tourism resources. This project fits in with the environmental protection sector, which is considered an important area for Japan's economic cooperation with Cuba. In addition, as an "Economic and Social Development Program", it was highly significant to encourage Cuba's return to the international community by providing assistance that would contribute to improving the situation surrounding Cuba's balance of international payments. Based on the above, the objectives of this project were relevant to the policies of both countries.</p>
<p>JFY 2017 Project <Satisfactory></p> <p>The purpose of this project was to maintain and improve the waste collection and transportation capacity of Havana City, as well as to support recovery and rehabilitation from devastating hurricane damage and improve disaster preparedness capacity. From the time the project was adopted to the present, waste management has been one of Cuba's priority areas. Waste management in Havana, which accounts for about 30% of the country's total garbage collection, is also an important issue from the perspective of preserving tourism resources. This project fits into the environmental protection sector, which is considered an important area for Japan's economic cooperation with Cuba. With regard to disaster countermeasures, Cuba, which is frequently hit by hurricanes, has made efforts to strengthen disaster countermeasures through civil defense organizations. In Havana City, it is important to properly manage trees to prevent them from falling due to strong winds and power outages, and to quickly remove fallen trees and branches after the passage of a hurricane. This is consistent with Japan's cooperation policy, which emphasizes environmental protection and has provided emergency disaster relief assistance. In addition, as an "Economic and Social Development Program," it was highly significant to encourage Cuba's return to the international community by providing assistance that would contribute to improving the situation surrounding</p>

Cuba's balance of international payments. Given the above, the objectives of this project were relevant to the policies of both countries.

3.1.2 Consistency of planned projects

3.1.2.1 Consistency of the project with Cuba's development plans and activities in the sectors of waste management and disaster preparedness

Table 3-1 Procured equipment and purpose of use

Planned Equipment	Planned Purpose of Use
JFY 2016 Project	
a. Garbage compactors	Collection and transportation of general urban waste in Havana City
JFY 2017 Project	
b. Dump trucks	Collection and transportation of general urban waste, debris, urban green waste, and disaster waste in Havana City
c. Skid steer loaders + trailers	
d. Chainsaws	Urban green space management, removal of disaster waste
e. Aerial work platforms	
f. Brush chippers + trailers	Urban green space management
g. Equipment-carrying vehicles	Urban waste management and urban green space management

As shown in Table 3-1, all of the equipment planned for the project was intended for urban waste collection and green space management in Havana City. Some of the equipment was also intended to be used to remove fallen trees, debris, and other disaster waste in the event of hurricane damage.

It was estimated that 92 large garbage compactors would be needed to cover the entire city of Havana, but as of 2018, only about half of the approximately 30 large garbage compactors owned by the city were operational. The shortage of garbage compactors has led to a vicious cycle of excessive operation, accelerated aging, and further reduction in the number of garbage compactors, and waste collection by garbage compactors was in a critical situation. Therefore, the procurement of garbage compactors through the JFY 2016 project was extremely consistent with the waste management needs of Havana City.

Of the various equipment procured for the JFY 2017 project, aerial work platforms and brush chippers were equipment that DPSC did not have, both of which were intended to improve the efficiency of tree pruning operations. The other existing equipment of DPSC were not efficient in waste collection and urban green space management, as much of it was outdated and there were few vehicles. Having experienced the landfalls of Hurricane Irma in 2017, the shortage of equipment was an issue for removal of fallen trees and disaster waste after a hurricane, which requires quick work. Therefore, the various equipment planned for the JFY 2017 project was highly consistent with the needs of waste management, urban green space management, and disaster response in Havana City.

3.1.2.2 Consistency of the project with Japan's diplomacy and development plans for assisting in the waste management and disaster management sectors in Cuba

Both projects were planned against the backdrop of the resumption of diplomatic relations between the United States and Cuba by the Obama administration, the Paris Club's debt relief measures for Cuba, and the broad strengthening of bilateral relations triggered by then Prime Minister Abe's visit to Cuba. The diplomatic significance and ripple effect of the planned assistance was to help beautify the city coincident with the 120th anniversary of Japanese immigration to Cuba, the 90th anniversary of the establishment of diplomatic relations between Japan and Cuba, and the 500th anniversary of Havana's city government.

The knowledge gained through technical cooperation projects by JICA was utilized in determining the specifications of the garbage compactors for the JFY 2016 project, as well as in considering the contents and types of spare parts provided for the JFY 2016 and JFY 2017 project. In addition, through these technical cooperation

projects and the provision of Japanese garbage compactors through the "Grant Aid for Grassroots Human Security Projects," the Cuban side's trust in Japanese technology and products had increased⁹, and it was expected that they would continue to procure Japanese garbage compactors after the implementation of the projects. No other donor projects that overlap or complement the two projects have been identified for waste management and disaster management in Havana City.

Consistency of planned projects
<p>JFY 2016 Project <Satisfactory></p> <p>The provision of the garbage compactors planned for this project was extremely consistent with the waste management needs of Havana City. JICA's experience in technical cooperation was utilized in determining equipment specifications and planning spare parts. The project was consistent with the planning and development needs of the area, given the fact that the assistance was timely in terms of diplomacy, taking advantage of the 120th anniversary of Japanese immigration to Cuba, and the 90th anniversary of the establishment of diplomatic relations between Japan and Cuba.</p>
<p>JFY 2017 Project <Satisfactory></p> <p>The provision of various equipment planned for this project was highly consistent with Havana City's needs for waste management, parks and green space management, and disaster response. The project was consistent with the development plans and needs of the sector, given the fact that the assistance was timely in terms of diplomacy, taking advantage of the 120th anniversary of Japanese immigration to Cuba, and the 90th anniversary of the establishment of diplomatic relations between Japan and Cuba.</p>

3.1.3 Appropriateness of the Planned Implementation Structure

3.1.3.1 Consistency with standard implementation structure and workflow

JFY 2016 Project

In November 2017, eight months after the signing of the E/N for this project (March 2017), the procurement agent agreement for this project was signed between the Government of Cuba and JICS. In November 2017, an intergovernmental committee meeting was held, with the participation of the People's Council of Havana

⁹ The Grant Aid for Grassroots Human Security provided six Japanese-made garbage compactors to the Old Havana (Municipality of Havana Vieja) in 2008, and five to the Municipality of Regla in Havana City in 2010.

City, Ministry of Foreign Trade and Foreign Investment (MICEX) and DPSC as the implementing agency from the Cuban side, and the Embassy of Japan in Cuba and JICS from the Japanese side. A committee meeting was also held in April 2018 with the same members.

Based on the above, the implementation structure of this project was consistent with the standard implementation structure and workflow of MOFA's Grant Aid for Economic and Social Development Program, although it took some time to conclude the agent agreement.

JFY 2017 Project

The procurement agent agreement for this project was signed between the Government of Cuba and JICS in April 2018, approximately two months after the E/N was signed in February 2018. An intergovernmental committee was held in April 2018, with the participation of the People's Council of Havana City, MICEX, and DPSC as the implementing agency from the Cuban side, and the Embassy of Japan in Cuba and JICS from the Japanese side. Following the experience of the previous year, procedures were able to be implemented swiftly.

Based on the above, the implementation structure of this project was consistent with the standard implementation structure and workflow of MOFA's Grant Aid for Economic and Social Development Program.

3.1.3.2 Appropriateness of implementation structure and capability of the implementing agency in Cuba

The implementing agency for both the JFY 2016 and JFY 2017 projects is DPSC.

JFY 2016 Project

Since DPSC had been JICA's counterpart agency for cooperation projects in the field of waste management for many years¹⁰, technology transfer to the Provincial Unit of Hygiene (now the Sanitation Corporation) under its umbrella, was conducted for the operation and maintenance of equipment, including maintenance of garbage compactors and inventory management of spare parts, and their capacity had been improved. On the other hand, it was found that there were restrictions on procurement of spare parts and a shortage of some maintenance equipment.

Therefore, this project was planned to consider equipment specifications that would meet DPSC's maintenance capabilities, provide training on the operation,

¹⁰ The Study on Integrated Management Plan of Urban Solid Waste in Havana City, Republic of Cuba (Master Plan, 2004-2007), Improvement of the Capacity on Urban Solid Waste Management in Havana City (2008-2014), and Improvement of the Capacity on Waste Collection Vehicles Management in Havana City (2015-2017).

maintenance and repair of garbage compactors, provide Spanish manuals, provide maintenance equipment, and supply a larger-than-usual number of spare parts.¹¹ This ensured that DPSC had the capacity and structure to properly operate and maintain the garbage compactors. In addition, DPSC had budgeted for a sufficient number of drivers and workers for the significantly increased number of garbage compactors. Therefore, the relevant Cuban agencies had the capacity and structure to properly operate and maintain the garbage compactors provided in this project.

JFY 2017 Project

As mentioned above, the implementing agency, DPSC, and its affiliated Provincial Unit of Hygiene (now the Sanitation Corporation), had improved their capacity to operate and maintain garbage compactors through JICA's technical cooperation. In addition, DPSC owned dump trucks, large wheel loaders, chainsaws, and other similar equipment to most of the equipment procured in this project, which were used to dispose of fallen trees and remove construction debris. On the other hand, some of the equipment on this project was new to DPSC, such as aerial work platforms and brush chippers, so training on the operation, maintenance, and repair of the equipment and the provision of Spanish manuals were planned. In addition, due to constraints on procurement of spare parts, a larger-than-usual supply of spare parts was planned.¹² This ensured that DPSC had the capacity and structure to properly operate and maintain the equipment for management of urban waste and green space. Based on the above, the relevant Cuban agencies had the capacity and structure to properly operate and maintain the equipment provided in this project.

Appropriateness of the planned implementation structure
<p>JFY 2016 Project <Satisfactory></p> <p>Although it took some time to conclude the procurement agent agreement, the implementation structure of this project was consistent with the standard implementation structure and work flow of MOFA's Grant Aid for Economic and Social Development Program. The implementing agency had improved its capacity to operate and maintain the garbage compactors through JICA's technical cooperation, etc. The capacity and structure to properly operate and maintain the garbage compactors was ensured by including training on operation, maintenance and repair, provision of Spanish manuals, deployment of maintenance equipment,</p>

¹¹ According to JICS, it is common for about 5% of the total project cost to be allocated to spare parts for general grant aid projects, but considering that Cuba has difficulty purchasing spare parts due to a shortage of foreign currency, more than 15% of the project cost was allocated to spare parts for this project and the FY 2017 project.

¹² According to JICS, follow-up training was also provided for skid steer loaders at the request of DPSC.

and supply of a larger-than-usual number of spare parts. In addition, the implementing agency had budgeted for additional personnel for the garbage compactors to be procured. As a result, the implementation structure planned for this project was appropriate.

JFY 2017 Project <Satisfactory>

The implementation structure of this project was consistent with the standard implementation structure and workflow of MOFA's Grant Aid for Economic and Social Development Program. The implementing agency had improved its capacity to maintain and manage the garbage compactors through technical cooperation, had experience using most of the equipment provided, and had sufficient operational capacity. Providing training in operation, maintenance and repair, Spanish manuals, and a larger-than-usual supply of spare parts ensured that the implementing agency had the capacity and structure to properly operate and maintain the procured equipment. Based on the above, the implementation structure planned for this project was appropriate.

3.1.4 Appropriateness of the Planning Process

3.1.4.1 Appropriateness of planning process compared to the standard workflow

JFY 2016 Project

A request for this project was submitted by Cuba in September 2016. After close examination by the Embassy of Japan in Cuba and consideration by MOFA, discussions were held with the Ministry of Finance in October 2016. Following a subsequent Cabinet decision, an E/N was signed in March 2017.

In November 2017, a procurement agent agreement was signed between JICS, the procurement agency, and the Cuban government, and during an intergovernmental committee meeting in the same month, the parties confirmed various procedures (tax exemption procedures to be borne by the Cuban side, prompt transportation from the port of Havana to the warehouse, post-procurement budget measures, etc.), and agreed on specifications and quantity of equipment, and the procurement schedule. It took eight months to conclude the procurement agent agreement because this project was the first Grant Aid for the Economic and Social Development Program by MOFA

for Cuba.¹³ At the same time, JICA's Grant Agreement¹⁴, which had the same problem, was agreed upon, which led to the conclusion of the procurement agent agreement for this project as well.

In this project, based on JICA's experience with technical cooperation projects, the need for training in operation and maintenance, and the simultaneous provision of sufficient spare parts and maintenance equipment, were pointed out from the outset. In response to these issues, JICS identified the following problems through on-site surveys and interviews with relevant organizations: (1) wear and tear of spare parts was severe, (2) importing spare parts was difficult and time-consuming, and (3) there was a shortage of maintenance equipment. As countermeasures, it was agreed at the first intergovernmental committee meeting to provide training on equipment maintenance and operation, Spanish manuals, maintenance equipment such as welding machines, generators, battery chargers, air compressors, tire changers, and hot water high-pressure washers, and to provide more spare parts than usual. The quantity of garbage compactors to be procured was agreed upon at the first intergovernmental committee meeting based on the initial rough estimate, ranging from 64 to 92 vehicles. The manufacturer's quotation was then obtained again, and as the price was lower than the unit price of the initial rough estimate, the quantity to be procured was set at 72 vehicles.

JFY 2017 Project

A request for this project was submitted by Cuba in December 2017. After careful examination by the Embassy of Japan in Cuba and review by MOFA, discussions were held with the Ministry of Finance during the same month. Following a subsequent Cabinet decision, an E/N was signed in February 2018.

Based on the experience of the JFY 2016 project, a procurement agent agreement was prepared to address the concerns of the Cuban side, and thus a procurement agent agreement was signed between JICS, the procurement agency, and the Cuban government in April 2018, just two months after the E/N.

In April 2018, Japan and Cuba held an intergovernmental committee meeting to confirm various procedures (tax exemption procedures to be borne by the Cuban side, prompt transportation from the port of Havana to the warehouse, budgetary measures after procurement, etc.), and agreed on specifications and quantity of equipment.

For this project, JICS abandoned the procurement of arm-roll trucks, one of the equipment types agreed upon at the April 2018 committee meeting. The reason for this

¹³ According to JICS, it took time to negotiate three points of the Standard Form for Procurement Agent Agreement: (1) Governing Law (Japan), (2) Disputes and Arbitration Clause, and (3) Security Expenses (Cuba's share).

¹⁴ Grant Aid "Agricultural Equipment Improvement Plan for Improving Rice Seed Production Technology".

was that existing arm-roll trucks could not handle the Cuban-made containers that were domestically produced starting in the same year, and the development of new arm-roll trucks would take more than two years, including safety checks. JICS consulted with DPSC and the Embassy of Japan in Cuba, and decided to procure 20 more dump trucks instead of 20 arm-roll trucks.

3.1.4.2 Points that contributed to or should have been considered in ensuring the relevance of plan

The fact that a technical cooperation project on urban waste management had been implemented by JICA for the implementing agency of the JFY2016 project until just prior to planning enabled JICS to gain a detailed understanding of the maintenance and management issues of garbage compactors in Cuba. This enabled JICS to consider, at the time of planning, appropriate equipment specifications in line with Cuba's maintenance capacity and technology level, and to include as many spare parts and maintenance equipment as possible in the equipment to be provided.¹⁵ Based on the experience in technical cooperation, JICS was also able to appropriately determine the need for Spanish manuals, as well as the need for training and its content.

For the JFY 2017 project, as the implementing agency was the same, JICS was able to address some of the issues related to the operation and maintenance of the urban green space management equipment based on the experience of the JFY 2016 project, and they were able to give similar consideration to address such issues.

According to JICS, through information exchanges with JICA and interviews with consultants engaged in technical cooperation during the planning stage of the JFY 2016 project, JICS had obtained information that (1) additional purchase of spare parts was particularly difficult in Cuba due to the shortage of foreign currency, (2) there were certain types of spare parts that are particularly scarce in Cuba, and (3) procurement of maintenance equipment was important for maintenance of garbage compactors. This enabled JICS to prepare more types and quantities of spare parts at the same time in accordance with the needs of the recipient, and also was able to procure maintenance equipment (JFY 2016 project), which was appreciated by the Cuban side. On the other hand, a large quantity of tires could not be included due to their deterioration over time.¹⁶

Regarding the specifications of the garbage compactors for the JFY 2016 project,

¹⁵ According to JICS, through information-gathering in the field, it identified maintenance issues such as a lack of maintenance equipment and the fact that existing garbage compactors frequently break down. Therefore, JICS proceeded to consider that the equipment to be provided should be a garbage compactor with a simple structure that are relatively less prone to breakdowns. In addition, 23% of the total amount for the FY 2016 project and 15% of the total amount for the FY 2017 project were allocated to spare parts.

¹⁶ According to JICS, tires deteriorate significantly over time and cannot maintain factory quality for long. In the JFY 2016 project, 200 spare tires were procured.

DPSC staff reported that the vehicle has fewer gear shifts and is less prone to breakdowns than existing Chinese garbage compactors, and that the simple construction with no collection arm attached is less prone to breakdowns and easier to use.

Appropriateness of the planning process
<p>JFY 2016 Project <Satisfactory></p> <p>The planning process for this project took eight months to complete before the procurement agent agreement was signed, but was otherwise properly executed in accordance with the standard flow of Grant Aid for the Economic and Social Development Program by MOFA. Based on the above, the planning process for this project was appropriate.</p>
<p>JFY 2017 Project <Satisfactory></p> <p>The planning process for this project, from the request to the determination of procurement items, was properly executed in accordance with the standard flow of Grant Aid for the Economic and Social Development Program by MOFA. Although there were some changes in the procurement details after the intergovernmental committee meeting, JICS, as the procurement agent, consulted with the relevant organizations in both Japan and Cuba, and obtained their agreement on the changes. As a result, the planning process for this project was appropriate.</p>

3.2 Effectiveness of Results

"Japan's Grant Aid for the Economic and Social Development Program for Cuba in JFY 2016" (JFY 2016 Project)

Effectiveness of results <Rating: Satisfactory>
Achievement and efficiency of the project <Satisfactory> (In what respects, and to what extent, did the project achieve its planned scope and objectives?)
<p>In this project, a greater number of garbage compactors than planned were procured through price compression by competitive bidding, and are being used for collection and transportation of waste in Havana City. Although some vehicles were temporarily out of service due to a shortage of tires and other parts, and some vehicles remain out of service due to a lack of spare parts, the amount of waste collected by the garbage compactors has increased dramatically, and the project is showing positive effects regarding waste collection and sanitation improvement in Havana City. The diplomatic effect of the project is very high, as it was implemented in conjunction with the 500th anniversary of the Havana City Government, and the collection trucks with the Japanese flag painted on them are widely recognized by citizens as they drive around the city every day. Due to the difficult business environment in Cuba, the contribution of the project to support the overseas expansion of Japanese companies is not evident. Based on the above, the project can be regarded as efficient.</p>
Appropriateness of implementation, monitoring, and follow-up processes <Satisfactory> (In what ways was the process of implementation, monitoring, and follow-up of the project appropriate or challenging to ensure the effectiveness of the results?)

Although the procurement schedule for this project was affected by compliance with the Foreign Assets Control Act and U.S. export control regulations based on the U.S. policy toward Cuba, the project was properly implemented in accordance with the standard implementation structure and workflow, and thanks to the efforts of JICS, the equipment was delivered in time for the 500th anniversary of the Havana City Government, which the Cuban side had requested. Thereafter, good communication and coordination were maintained between DPSC and the Japanese side, including JICA as well as JICS and the Embassy of Japan in Cuba, and follow-up was done appropriately. Based on the above, the implementation, monitoring, and follow-up process of this project were.

"Japan's Grant Aid for the Economic and Social Development Program for Cuba in JFY 2017" (JFY 2017 Project)

Effectiveness of results <Satisfactory>

Achievement and efficiency of the project <Satisfactory>

(In what respects, and to what extent, did the project achieve its planned scope and objectives?)

The equipment procured for this project is being used for waste management, urban green space management, and disaster response in Havana City. The removal of trash and other debris from the city's streets has progressed, and the project is showing positive effects on waste management. Tree management, including preventative cutting, has been streamlined, and the project has been fully utilized to remove fallen trees and disaster waste after the passage of hurricanes, showing the project's effectiveness in disaster preparedness. Diplomatic spillover effects were high at the local government level, as the project was implemented in conjunction with the 500th anniversary of the Havana City Government. Based on the above, the project can be regarded as efficient.

Appropriateness of implementation, monitoring, and follow-up processes <Satisfactory>

(In what ways was the process of implementation, monitoring, and follow-up of the project appropriate or challenging to ensure the effectiveness of the results?)

This project was properly executed in accordance with the standard implementation structure and workflow. Based on the experience of the JFY 2016 project, the project was smoothly implemented in compliance with the Foreign Assets Control Act and U.S. export control regulations based on the U.S. policy toward Cuba. The equipment was delivered in time for the 500th anniversary of the Havana City Government, which the Cuban side requested. Thereafter, good communication and coordination were maintained between the implementing agency and the Japanese side, including JICA as well as JICS and the Embassy of Japan in Cuba, and follow-up was done appropriately. Based on the above, the implementation, monitoring, and follow-up process for this project were appropriate.

3.2.1 Achievement and Efficiency of the Project

3.2.1.1 Achievement of financing (input)

JFY 2016 Project

According to data provided by MOFA, the aid funds were disbursed from the Government of Japan to the account of the Government of Cuba on March 24, 2017, and financing was completed as planned. As shown in Table 3-2 List of procured equipment, the total procurement amount for equipment and services was 1.05 billion yen, as originally planned.

Table 3-2 List of procured equipment (JFY 2016 project)

Contractor	Equipment/Services	Quantity	Additional procurement	Amount (yen)
JICS	Procurement Agent	1 service		19,530,000
Sumitomo Corporation	Garbage compactors	72 units		739,342,800
	Garbage compactors	28 units	Additional	277,170,000
	Maintenance equipment	1 package		13,957,200
Total amount				1,050,000,000

Source: Compiled from JICS's completion report.

JFY 2017 Project

From the data provided by MOFA, the aid funds were disbursed from the Government of Japan to the account of the Government of Cuba on March 23, 2018, and financing was completed as planned. As shown in Table 3-3 List of procured

equipment, the total procurement amount of equipment and service was 1.05 billion yen, as originally planned.

Table 3-3 List of procured equipment (JFY 2017 project)

Contractor	Equipment/Services	Quantity	Additional procurement	Amount (yen)
JICS	Procurement Agent	1 service		20,685,000
Toyota Tsusho Corporation	Dump trucks	40 units		326,076,440
	Spare parts for dump trucks	1 package	Additional	7,031,970
	Skid steer loaders	25 units		202,175,000
	Trailers	22 units		103,026,920
	Spare parts for the trailers	1 package	Additional	869,120
	Equipment transporting vehicles	20 units		137,192,220
		10 units	Additional	67,826,110
	Brush chippers	8 units		27,870,880
		2 units	Additional	10,334,170
	Trailers	8 units		32,822,320
		2 units	Additional	8,205,580
	Chainsaws	50 units		9,073,500
		20 units	Additional	3,629,400
	Aerial work platforms	5 units		66,796,750
		2 units	Additional	26,384,620
Total amount				1,050,000,000

Source: Compiled from JICS's completion report.

3.2.1.2 Achievement and efficiency of procuring equipment (output)

Table 3-4 Quantity of procured equipment (planned and actual)

Equipment	Planned number		Actual number
	At the time of the committee meeting	At the time of bidding	
JFY 2016 Project			
Garbage compactors	64-92 units	72 units	100 units
JFY 2017 Project			
Arm-roll trucks	20 units	(None)	(None)
Dump trucks	20 units	40 units	40 units
Skid steer loaders	25 units	25 units	25 units
Chainsaws	50 units	50 units	70 units

Aerial work platforms	5 units	5 units	7 units
Brush chippers	8 units	8 units	10 units
Equipment-carrying vehicles	20 units	20 units	30 units
Trailers	30 units	30 units	32 units

Source: Compiled from the minutes of intergovernmental discussions and JICS's completion report.

JFY 2016 Project

a. Garbage compactors

The equipment procured for this project consisted of 100 garbage compactors and a set of maintenance equipment. 72 garbage compactors were initially procured through a public bidding process, but price competition at the time of bidding resulted in the procurement of 28 additional vehicles due to availability of residual funds (see Table 3-2).

DPSC received garbage compactors in March (24 units), June (48 units), and August (28 units) 2019, and a set of maintenance equipment in April 2019. 10-day operation and maintenance training was carried out in March 2019 after the equipment arrived. A five-day follow-up training to be conducted within the next six months to one year, was given in December 2019. Installation, operation, and maintenance training with maintenance equipment, were carried out in May 2019 and follow-up training was given in January 2020. Training for the garbage compactors was undertaken by Hino Motors for the chassis part and Kyokuto Kaihatsu for the accessory part, with engineers dispatched from each company. A Sumitomo Corporation branch office was set up onsite, and served as the contact point for handling defects and spare parts during the warranty period.

The garbage compactors were secured with a one-year warranty that addressed any malfunction or failure on the part of the supplier or manufacturer, as well as a local distributor available for maintenance and parts procurement, in accordance with the terms of the contract with the procurement agency.¹⁷

JFY 2017 Project

The equipment procured for this project consisted of various types of equipment for waste and urban green space management. As a result of price competition at the time of bidding, a residual amount was generated, and additional procurement was made in accordance with the agreement by the intergovernmental committee (see Table 3-3).

¹⁷ According to JICS and Sumitomo Corporation, the framework of grant aid (Economic and Social Development Program) usually provides a one-year warranty, and this was the case for this project as well.

DPSC received the equipment procured for this project in July 2019, August 2019, and January 2020. Within 45 days of the arrival of each piece of equipment, three-ten days of training was given for the purpose of providing safe operation instruction, including pre-startup inspections, and maintenance and servicing instruction. For skid steer loaders, in addition to this, a five-day follow-up training was given in December 2020 to confirm that there were no problems with equipment use. Each training session was given by engineers from the manufacturer or Toyota Tsusho Corporation, the supplier. As it was difficult to dispatch the engineer from Guatemala in 2020 as originally planned due to the spread of COVID19, follow-up training for the skid steer loaders was given by a Cuban engineer stationed at Toyota Tsusho's Cuba office in Havana under the direction of the same engineer.¹⁸

The procured equipment was secured with a one-year warranty that addressed any malfunctions or failure on the part of the supplier or manufacturer and a local representative of the supplier available for maintenance and parts procurement, in accordance with the terms of the contract with the procurement agency.¹⁹

b. Dump trucks

DPSC received dump trucks in July (10 units) and August (30 units) 2019, and spare parts in July 2019. Training was given in August 2019 to provide safe operation instruction, including pre-startup inspection, and maintenance instruction.

c. Skid steer loaders and trailers

DPSC received skid steer loaders in July (12 units) and August (13 units) 2019, and spare parts in August 2019. In September 2019, training was given to provide safe operation instruction, including pre-startup inspection, and maintenance instruction. A five-day follow-up training was then given in December 2020 to ensure that the equipment was in good working order.

DPSC received 22 trailers for transporting skid steer loaders in August 2019.

d. Chainsaws

DPSC received 70 chainsaws in July 2019.

e. Aerial work platforms

DPSC received seven aerial work platforms in January 2020, and training was

¹⁸ Toyota Tsusho's Cuba office was also the distributor of Toyota Group vehicles, and had engineers on staff.

¹⁹ According to JICS and Toyota Tsusho, the framework of Grant Aid for Economic and Social Development Program usually provides a one-year warranty, and this was the case for this project as well.

given in January 2020 to provide safe operation instruction, including pre-startup inspections, and maintenance instruction.

f. Brush chippers and trailers

DPSC received 10 brush chippers and 10 trailers in July 2019, and training was given in August 2019 for safe operation instruction, including pre-startup inspections, and maintenance instruction.

g. Equipment-carrying vehicles

DPSC received 30 equipment-carrying vehicles in July 2019, and training was given in August 2019 for safe operation instruction, including pre-startup inspections, and maintenance instruction.

3.2.1.3 Use of equipment (output)

Table 3-5 Use of equipment

Equipment provided	Planned purpose of use	Actual purpose of use	Number of operational units as of August 2021 (Number of units procured)
JFY 2016 Project			
a. Garbage compactors	General waste collection and transportation	As planned	67 (100)
JFY 2017 Project			
b. Dump trucks	Collection and transportation of general waste, debris, urban green waste, and disaster waste	As planned.	39 (40)
c. Skid steer loaders (+ trailer)		As planned. Some are used to dispose of utility poles.	25 (25)
d. Chainsaws	Urban Green Space Management Disaster waste removal	Just as planned.	44 (70)
e. Aerial work platforms	Urban Green Space Management Disaster Waste Removal	As planned. Some are used for management of electrical wiring and street light.	7 (7)
f. Brush chippers (+ trailers)	Urban Green Space Management	As planned.	10 (10)
g. Equipment-	Municipal Waste	As planned.	30

carrying vehicles	Management Urban Green Space Management	Some are used as public hearses.	(30)
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Source: Compiled from data provided by DPSC.

a. Garbage compactors

Of the 100 garbage compactors procured by the 2016 project, 10 were deployed to the Sanitation Corporation (formerly the Provincial Unit of Hygiene), and the remaining 90 were deployed to the 15 Municipal Communal Service Corporations (formerly DMSC), which began full operation in 2020. Note that after obtaining the new garbage compactors, 20 of the Sanitation Corporation's existing garbage compactors were sent to other provinces.

Seven of the 10 vehicles at the Sanitation Corporation are kept as spares. In addition, the Sanitation Corporation had 10 existing garbage compactors. The Sanitation Corporation uses garbage compactors to collect garbage on the city's major boulevards, and at 78 medical facilities, and approximately 200 government and public institutions, and also provides garbage compactors to the Municipal Communal Service Corporations as needed. The Municipal Communal Service Corporations define the garbage collection areas for each collection vehicle. All of these vehicles collect garbage from street garbage containers. The new garbage compactors are medium-sized vehicles that are more maneuverable than existing large compactors, and can be easily used in narrow streets such as those in the Old Havana. In addition, the mechanism for lifting the container to dump the garbage and compressing it, and the transmission, are simpler than those of existing vehicles, resulting in fewer problems. These specifications were determined based on JICA's experience in technical cooperation.

According to DPSC records, the average daily mileage per vehicle from January 2020 to August 2022 is approximately 127 km. An average of three trips per day are performed to collect garbage and haul it to the Calle 100 disposal site, which is about twice the number of trips for garbage compactors operated by local governments in Japan.²⁰ The average number of trips per garbage compactor was 3.6 trips/vehicle/day in 2020, 3.4 trips/vehicle/day in 2021, and 1.5 trips/vehicle/day from January to August 2022, with a significant drop in 2022. This is presumably due to an increase in the number of vehicles out of operation due to a lack of spare parts beginning in the latter half of 2021, as described below.

²⁰ According to the "FY2003 Report on the Project for Survey of Actual Conditions of Use and Discharge of Containers and Packaging Waste and Verification of Effectiveness" (Waste Management and Recycling Department of the Ministry of the Environment), the average number of trips for garbage compactors owned by local governments in Japan is about 1.5 trips/vehicle/day.

According to DPSC, the utilization of garbage compactors began to decline in the second quarter of 2021; as of August 2022, only 67 of the 100 vehicles (including seven spares) were in operation, while three others were scrapped and 30 were out of operation. The three scrapped vehicles were all damaged in accidents. 15 of the 30 inoperative vehicles were not operational due to lack of spare tires and batteries, but new tires and batteries were subsequently procured, and all were back in operation by the end of 2022. The remaining 15 vehicles were still out of operation at the end of 2022 due to lack of spare parts for cylinders and clutches. Considering the high number of trips and the harshness of the operating environment of the garbage compactors, it is unavoidable that some of the vehicles were non-operational three years after the grant.²¹ Note that although Cuba is experiencing severe gasoline shortages due to the crushing economic situation, according to the Sanitation Corporation, gasoline is sold to garbage compactors on a priority basis, so gasoline shortages do not seriously affect their operations.

Each collection vehicle is operated by three people: one driver and two collection workers. Before the project, due to the small number of garbage compactors, each garbage compactor operated two shifts per day, with two drivers per vehicle; after the project, there is only one driver. In 2018, the garbage compactor operated up to 18 hours per day, but after the project, due to the increased number of vehicles, this number decreased to about 7 hours per day. These changes have allowed for careful inspection and maintenance by a dedicated driver.

According to DPSC, prior to the project (2018), there were approximately 30 large garbage compactors, but they frequently broke down, and generally only about 10 were in operation. These 10 vehicles operated an average of 18 hours per day in two shifts, with an average trip rate of 5.5 trips per vehicle per day. Based on the total annual number of trips by garbage compactors before and after the project, and the fact that the garbage compactors in this project are medium-sized vehicles with a capacity of about 75% of large vehicles, as shown in the table below, it is estimated that the amount of waste collected by garbage compactors in 2020 increased by about five times compared to that before the project (2018).

Table 3-6 Total number of trips and amount of waste collected by garbage compactors before and after the project

	Before the project (2018)	After the project (2020)

²¹ For reference, the service life of garbage compactor (other than small vehicles) according to Japanese law is 4 years.

Number of trips of large garbage compactors	20,100	7,948
Number of trips of medium-sized garbage compactors	0	125,196
Amount of waste collected by collection trucks (Note)	Approx. 1.2 million m ³	Approx. 6.0 million m ³

Source: Prepared by the evaluation team based on materials provided by DPSC.

Note: Estimated using a large collection truck of 16m³, a medium collection truck of 12m³, and a compression ratio of 3.7 times.

Because a sanitary landfill with soil cover and adequate compaction are not conducted in the Calle 100 disposal site, garbage compactors that enter the site often step on sharp waste and get punctures. About 80% of the punctures occur at the disposal site, affecting the operation of garbage compactors.

b. Dump trucks

40 dump trucks were procured by the JFY 2017 project, 20 were deployed to the Sanitation Corporation (five of which were spares), and 20 were deployed to the Communal Service Corporations of the seven municipalities. With the exception of one truck that was allocated to the Municipality of Centro Habana and damaged in an accident, 39 trucks are in good operational condition.

Dump trucks are used to remove garbage that does not fit into garbage collection containers, i.e., garbage left on streets, etc., and to collect garbage in areas where garbage collection containers are not placed. Trucks deployed by the Sanitation Corporation are dispatched at the request of each municipality. In addition, all trucks will be mobilized for the removal of fallen trees and other debris after a hurricane passes.

c. Skid steer loaders and trailers

25 skid steer loaders and 22 trailers for their transport were procured by the JFY 2017 project. 17 of these were deployed to each of the 15 municipalities, one to the Greenery Division, while seven skid steer loaders and four trailers were dispatched to the Sanitation Corporation.

Skid steer loaders are dispatched with dump trucks, and are primarily used to collect trash, debris, branches, and trees on streets, and load them into trucks. They are also used to remove disaster waste after the passage of a hurricane. The skid steer loader procured for this project is small in size, more convenient to maneuver, and less likely to damage the road surface than the existing larger ones. The trailer is used to transport the skid steer loader to the site, and is towed by a truck. Prior to the project,

seven large wheel loaders were deployed by the Municipal Sanitation Corporation and were self-propelled to sites throughout the city. Compared to this, one or two skid steer loaders are now deployed in each municipality and transported to the site by trailer, dramatically improving the mobility of the street debris removal operation.

d. Chainsaws

70 chainsaws were procured and deployed to the Greenery Division under the JFY 2017 project. As of August 2022, 26 of the 70 chainsaws were out of service due to malfunction. The chainsaws are used for normal green space management by the division, and for removal of fallen trees after hurricanes. Before the project, there were about 20 German-made chainsaws, but most pruning was done with machetes. According to the division, the new chainsaws have improved the efficiency of their work by about three times.

However, the chainsaws are utilized on a daily basis, and are subject to wear and tear. The Greenery Division has been using the equipment on this project while repairing it, but the spare parts procured at the same time were already depleted, and it was observed that some were being repaired by combining parts from German-made chainsaws.

e. Aerial work platforms

Seven aerial work platform vehicles were procured by the JFY 2017 project. Initially, all were deployed to the Greenery Division, but later one was deployed to the Electric Power Corporation, and one to the Provincial Direction of Traffic Engineering, so five are now deployed in the Greenery Division. As of August 2022, all are in good working order. The division's eight working teams utilize aerial work platform in their daily operations. Prior to the project, the division did not have an aerial work platform, and the pruning of tall branches and trees was done manually by workers using ropes to climb up the trunks, and machetes. With the introduction of the aerial work platforms, this work can now be carried out safely and efficiently. The vehicles deployed at the Electric Power Corporation and the Provincial Direction of Traffic Engineering are used for tree management near power lines and traffic signals, as well as for maintenance of street lights and traffic signals.

f. Brush chippers and trailers

Ten brush chippers and ten trailers for their transport were procured under the JFY 2017 project, of which eight were deployed to the Greenery Division of DPSC, and two to the Electric Power Corporation. All are in good operating condition as of August

2022. Each of the eight working teams in the Greenery Division utilizes one brush chipper and trailer in their daily operations. This is a type of equipment that did not exist before the project. Its introduction has increased the number of pruned branches and trees that can be turned into wood chips and transported to the disposal site efficiently by a factor of seven to eight times the amount that can be carried by one dump truck. In addition, sales of wood chips to a company that produces solid fuel from wood chips began in 2022.

g. Equipment-carrying vehicles

30 equipment-carrying vehicles were procured under the JFY 2017 project and deployed to the Havana City Council, DPSC and the Municipal Communal Service Corporations. Later, 20 of the vehicles deployed to each municipality and other institutions were redeployed to DPSC's Funeral Services Corporation as hearse vehicles, with the Japanese Embassy's approval, due to the spread of COVID19 that brought many patients from various regions to Havana City's hospitals where they died. Instead, smaller vehicles were deployed to each municipality.

As of August 2022, all vehicles are in good operating condition, with the exception of one vehicle that has been in an accident and is under repair. These vehicles are used by the Havana City Council and DPSC for on-site supervision and participation in meetings, and by the Sanitation Corporation to evaluate the work of the Municipal Communal Service Corporations. Hearse vehicles are utilized for funeral services by the Funeral Service Corporation under DPSC, including the transportation of bodies to the localities of those who have died after coming to Havana City from the provinces to receive medical treatment.

3.2.1.3.1 Operation and maintenance structure

Operation and maintenance of the equipment procured for both projects are being carried out as follows;

- The Energy and Mechanization Division of DPSC, the implementing agency for both projects, maintains equipment inventory and operational records, and monitor equipment operation and maintenance. The division procures imported spare parts such as tires and batteries through the government, and distributes them to the equipment deployment sites.
- Operation of the equipment and daily inspection and maintenance, as well as simple repairs such as puncture repairs, are performed by the agencies to which the equipment is deployed. The main agencies are the Sanitation Corporation,

the Greenery Division, the Funeral Service Corporation, and the Municipal Communal Service Corporations of Havana City under DPSC.

- The Sanitation Corporation has a vehicle maintenance workshop, under JICA's technical cooperation, where routine maintenance, inspection, and to some extent repair of garbage compactors is possible.
- Each of the above agencies has a contract with a vehicle maintenance workshop under the Ministry of Industry to perform periodical maintenance and major repairs based on vehicle mileage and other factors. For skid steer loaders, there is a similar maintenance contract with a separate company.

The site visit gave the impression that the equipment in both projects was generally well maintained and used with care. No particular technical issues were reported in the operation and maintenance of the two projects thanks for the training provided by the manufacturers for operators and maintenance management, technical cooperation on garbage compactors, and other factors.

DMSC of each municipality became public corporations in January 2022.²² A fee structure has been established for the various services provided by each public corporation, and they are expected to become financially self-sufficient. The Municipal Communal Service Corporations are paid by the municipal governments for general garbage collection based on the target population, but the fee level is low, and is compensated for by a business garbage collection fee collected based on contracts with businesses in the municipality. The performance of the Municipal Communal Service Corporation is also reflected in the salaries of its employees; therefore, the efficiency of their activities and services is expected to improve.

Although a relatively large number of spare parts were obtained together in the JFY 2016 project that procured garbage compactors, the initial quantity of tires was limited due to their deterioration over time. In Cuba, the system is such that imported materials for the public sector are procured collectively by the government, and then distributed to the sectors that need them. For both projects, DPSC purchases from the government, and sells to the Sanitation Corporation and the Municipal Communal Service Corporations. However, the quantity that can be procured is limited due to the government's shortage of foreign currency, and the long time required from application for procurement to delivery makes it difficult to obtain the necessary spare parts in a timely manner, which is the biggest constraint in the operation of the garbage

²² This organizational change reflects the policies of the Havana Municipal Environmental Strategy (see above) and the 2019 constitutional amendment that strengthened the authority of municipalities. Note that prior to the project, garbage collection services were already publicly owned in two of the 15 municipalities.

compactors.

3.2.1.4 Development effects through procurement and use of equipment (outcome)

3.2.1.4.1 Development effects on municipal waste management in Havana City

Based on the response of DPSC to the questionnaire, interviews with the Communal Service Corporations in the municipalities of Regula and La Riza visited during the field survey, and telephone interviews with residents, the following conditions were found regarding waste collection and sanitation improvement in Havana City.

- As mentioned above, it is estimated that the amount of garbage collected by waste collection trucks has increased approximately five-fold compared to the pre-project level.
- According to DPSC, there have been significant improvements in trash collection in three of the 15 municipalities (Dies de Octubre, Centro Habana, and Habana Vieja), and recent monitoring has determined that the municipalities of Regula and Cotorro are the cleanest.²³
- According to the Communal Service Corporations in the municipalities of Regula and La Riza, the waste collection used to be done mainly by dump trucks, but now that garbage compactors have been deployed, efficient waste collection has become possible. Previously, the collection frequency was once every two to three days, but now garbage is collected daily. The number of collection containers deployed in the wards has increased by about 1.5 times in the municipality of Regla and by about 2 times in the municipality of La Riza. Regla, located in the center of Havana City and compact, is considered the cleanest municipality in Havana City, as mentioned above. On the other hand, La Riza, on the outskirts of the city, has a rapidly growing population, and the number of existing garbage compactors and collection containers is not sufficient, so it is not necessarily cleaner than before.
- According to an interview with Havana City's Provincial Direction of Public Health, the collection of medical garbage from hospitals by the Sanitation Corporation was good for a while, but now only one collection vehicle dedicated to medical garbage is in operation, which is not good.²⁴ It was noted that the general

²³ DPSC makes weekly visits to each ward to check street cleaning conditions, and trash and debris left on the streets, and to assess whether the streets are clean.

²⁴ Medical waste generated by the city's hospitals is collected by the City's Sanitation Corporation using special waste collection vehicles, and is also disposed of separately from general waste at the final disposal site.

garbage in the city was also good for a while, but since the beginning of 2022, the frequency of garbage collection has decreased and the situation has deteriorated again, with garbage overflowing from collection containers.

- A telephone interview survey of residents revealed the following.²⁵
 - 66% of residents are served by DPSC garbage compactors. This is 1.7 times the 38% before the project (4-5 years ago).
 - Currently, collection occurs on average three times a week, which is slightly more than before the project.
 - To households served by a garbage compactor, to the question “Is your neighborhood cleaner than it was four to five years ago?”, 20% of households responded that it is cleaner and 34% that it is dirtier, suggesting that conditions may have worsened in recent years.
 - Given that the above results may reflect the fact that the utilization rate of garbage compactors has declined significantly since 2022, households currently serviced by collection trucks were asked if there was a time when their neighborhood was clean for a period of time but has since deteriorated, and 40% said yes. 58% of households served by garbage compactors indicated that the neighborhood was cleaner than before, or that it had been cleaner at one time, i.e., at least temporarily.
- The current conditions at several locations in the city, which had been photographed in 2018, were inspected, and it was found that large piles of abandoned trash and debris had been cleared away. It is believed that the trash removal teams deployed in each municipality were utilized for this work. On the other hand, there were places where there was no clear improvement in the situation of overflowing trash around collection containers, and where broken containers could not be replaced. (See photos)

Comparison of trash conditions before and after the project (at the same location)

²⁵ One hundred households were randomly selected from the telephone directory and interviewed by telephone based on the questionnaire. The number of households surveyed in each municipality was allocated according to the total population of each.



Old Havana (left: 2015, right: 2022): piles of trash on the streets are gone.



Municipality of Ayoro Naranjo (left: 2015, right: 2022): illegal dumping has been eliminated



Municipality of Centro Habana (left: 2015, right: 2022): no more trash around containers

The above suggests that waste collection in Havana has improved, at least temporarily, from pre-project levels, and that the city has become cleaner, although the degree varies from place to place. The garbage compactors of the JFY 2016 project and the skid steer loaders, trailers and dump trucks of the JFY 2017 project have

contributed to this improvement. However, the effects of the project have been hindered by the fact that some vehicles have recently been temporarily out of service due to a shortage of tires and other spare parts, and that some vehicles remain out of service due to a lack of other spare parts.

All the garbage collected by garbage compactors is taken to the Calle 100 Final Disposal Site for disposal, but the site is already full and should be considered for closure. Havana City has been considering the promotion of the 3Rs (reduce, reuse, and recycle), waste reduction through incineration, and new suitable disposal sites, but no conclusion has been reached. It can be pointed out that in order to achieve a healthy urban waste management in Havana City, it is necessary to address not only the collection and transportation of waste, to which both projects contributed, but also waste reduction and final disposal.

3.2.1.4.2 Impact of development projects on disaster management in Havana City

The chainsaws, aerial work platforms, and brush chippers (plus trailers) procured by the JFY 2017 project were considered to have contributed to disaster management on the preventive side through streamlining tree management, including preventive felling. However, the evaluation team could not observe actual site of their operation during the field survey. On the other hand, the skid steer loaders, dump trucks, chainsaws, and aerial work platform procured in the JFY 2017 project, along with the garbage compactors procured in the JFY 2016 project, were fully utilized to remove fallen trees and disaster waste after the hurricane passed, and were confirmed to have contributed to disaster management in terms of emergency response.

Equipment utilized for street cleaning after the passage of Hurricane Ian
(September 2022)



3.2.1.4.3 Other effects

As a result of the procurement of a large number of garbage compactors under the JFY 2016 project, 20 existing garbage compactors (large Chinese-made vehicles) that were in operation in Havana City were donated to all 15 Cuban provinces and the Youth Island Special Municipality after maintenance at the Ministry of Industry's maintenance workshop. This is believed to have contributed to increasing waste collection and transportation capacity in other provinces.

In July 2021, 20 of the 30 equipment-carrying vehicles procured under the JFY 2017 project were redeployed to the Funeral Services Corporation under DPSC as hearse vehicles. At the time, Havana City had a significant shortage of hearses compared to the number of deaths and was unable to provide adequate service, leading to growing citizen dissatisfaction.²⁶ The conversion of the vehicles used to transport equipment for this project into hearses has helped to improve the quality of service closely related to the lives of citizens.

3.2.1.5 Diplomatic effects through the procurement and use of equipment (outcome)

The handover ceremony for the JFY 2016 project took place in April 2019, and the one for the JFY 2017 project was held in December of the same year. For both projects, Cuban government officials expressed their appreciation on various occasions, saying that the projects have contributed greatly to solving the problems faced by Havana City, and that it was significant that the projects were implemented on the special occasion of the 500th anniversary of the Havana City Government.²⁷

Both cases have been reported in newspapers, and on television and the radio²⁸, and garbage compactors with the Japanese flag on their orange bodies travel daily throughout Havana City, so the public is well aware of Japanese aid. According to a telephone interview with residents, 47% of the residents serviced by the garbage compactors are aware that the vehicles are Japanese aid. According to the Embassy of Japan in Cuba, many diplomats of other countries and officials of international organizations living in Cuba praised the provision of the garbage compactors as a good project that will enhance Japan's presence in Cuba. In addition, the equipment procured under the JFY 2017 project also has the Japanese flag painted on it, but as these vehicles do not drive around the city every day like the garbage compactors, the

²⁶ See Tribuna newspaper article

(<http://www.tribuna.cu/capitalinas/2019-04-22/contratiempos-mas-alla-de-la-muerte>).

²⁷ As mentioned in "3.1.4. Appropriateness of Planning Process", it took some time to conclude the procurement agent agreement for the FY 2016 project, but after the signing of the agreement, the Cuban side requested that the project be implemented in time for the 500th anniversary of the Havana City Government, and through the efforts of both sides, this was achieved.

²⁸ For an example, see Granma newspaper article for FY2016 projects (<https://www.granma.cu/cuba/2019-04-01/entrega-japon-a-cuba-lote-de-camiones-colectores-de-basura-01-04-2019-04-28>). For FY2017 projects, see ACN article (<http://www.acn.cu/cuba/46030-comienzo-segunda-fase-del-donativo-japones-a-cuba>).

general public is not much aware of them.

According to interviews with the suppliers of each project (Sumitomo Corporation and Toyota Tsusho Corporation), at the time the projects were awarded, there were hopes that the two projects would lead to business expansion in Cuba. However, since then, the Trump administration drastically changed the U.S. policy toward Cuba and regulations have become even stricter, making it extremely difficult to conduct business with Cuba. Therefore, the expected "contribution to support Japanese companies' overseas expansion" for the JFY 2016 project is not evident.

Achievements and efficiency of the project
<p>JFY 2016 Project <Satisfactory></p> <p>In this project, a greater number of garbage compactors than planned were procured through price compression by competitive bidding, and are being used for collection and transportation of waste in Havana City. Although some vehicles were temporarily out of service due to a shortage of tires and other parts, and some vehicles remain out of service due to a lack of spare parts, the amount of waste collected by the garbage compactors has increased dramatically, and the project is showing positive effects regarding waste collection and sanitation improvement in Havana City. The diplomatic effect of the project is very high, as it was implemented in conjunction with the 500th anniversary of the Havana City Government, and the collection trucks with the Japanese flag painted on them are widely recognized by citizens as they drive around the city every day. Due to the difficult business environment in Cuba, the contribution of the project to support the overseas expansion of Japanese companies is not evident. Based on the above, the project can be regarded as efficient.</p>
<p>JFY 2017 Project <Satisfactory></p> <p>The equipment procured for this project is being used for waste management, urban green space management, and disaster response in Havana City. The removal of trash and other debris from the city's streets has progressed, and the project is showing positive effects on waste management. Tree management, including preventative cutting, has been streamlined, and the equipment has been fully utilized to remove fallen trees and disaster waste after the passage of hurricanes, showing the project's effectiveness in disaster preparedness. The diplomatic effect of the project was high, as it was implemented in conjunction with the 500th anniversary of the Havana City Government. Based on the above, the project can be regarded as efficient.</p>

3.2.2 Appropriateness of Implementation, Monitoring, and Follow-up Process

3.2.2.1 Appropriateness compared to standard implementation structure and workflow

According to JICS, both projects were properly executed in accordance with the standard implementation structure and workflow. As an issue specific to Cuba, which is subject to U.S. sanctions, it was necessary to confirm with the Japanese bank that the U.S. Foreign Assets Control Act regulations and U.S. export control regulations were not violated at each stage of the bidding process: prior to the announcement of bids, during bid evaluation, prior to the issuance of awards, and prior to payment. This procedure required clarification of the country of origin of all parts of the equipment to be delivered, and the entire commercial flow in the transaction. If even 1% of the products contained U.S. products, it would take more than three months to obtain a license from the U.S. Department of Commerce, as well as legal fees and other costs. This required certification by the manufacturer of the percentage of U.S. products, which affected the procurement schedule.

After delivery of the equipment for each project, JICS, the Embassy of Japan in Cuba, and the contractor (local branch) maintained communication with the implementing agency, and provided consultation regarding problems, operational issues, and spare parts. The contractor performed repairs for normal defects as a warranty response during the one-year warranty period. Defects due to usage reasons were basically repaired for a fee, but in some cases the cost was borne by the contractor. The Cuban side submitted a bid for the spare parts, but the contractor did not respond to the bid due to the lack of trade insurance coverage as a result of stricter regulations by the United States.

The JICA Cuba office, which has been providing technical cooperation on waste management in Havana City, also maintains an interest and is in regular contact with the implementing agency, while dispatching senior volunteers to the implementing agency for the maintenance of garbage compactors.

With regard to implementation, monitoring, and follow-up, the following details are worth mentioning for each project.

JFY 2016 Project

The additional procurement for this project due to residual finance from the initial bid was made through a negotiated contract from the same contractor. For this project, the Cuban implementing agency and the Embassy of Japan in Cuba requested early delivery in time for the 500th anniversary of the Havana City Government in November

2019. On the other hand, if there were more than one contractor, implementation could be further delayed in order to comply with the aforementioned regulations by the United States. Under these circumstances, this additional procurement fell under the category of "Additional Procurement: Procurement of the Same Products, etc." for which the "Implementation Guidelines for Procurement Procedures for Non-Project Grant Aid" allowed procurement by direct contract at the same unit price, and was therefore carried out under a negotiated contract with the approval of the implementing agency and the Embassy of Japan in Cuba.

There was already a delay of several months before the procurement agent agreement was signed for this project, and additional work was required to comply with regulations by the U.S. and to procure additional equipment using the remaining funds. However, thanks to the efforts of the procurement agency, as well as the cooperation of the Cuban implementing agency and the Embassy of Japan in Cuba, and the efforts of the contractor, the equipment was delivered in April and August 2019, as requested by the Cuban side, in time for the 500th anniversary of the Havana City Government. Training on the operation and maintenance of the garbage compactors was given on site in March 2019 using the first equipment that arrived, and follow-up training was given in December 2019.

JFY 2017 Project

The smooth implementation of this project was made possible by applying the lessons learned from the JFY 2016 project regarding compliance with U.S. regulations. Most of the equipment arrived in July-August 2019, and a handover ceremony was held in December 2019 to coincide with the 500th anniversary of the Havana City Government. For aerial work platforms only, the equipment was scheduled to arrive in January 2020. Operations and maintenance training was given on site in August 2019 (January 2020 for aerial work platforms).

As with the JFY 2017 project, additional procurement was undertaken for equipment except for dump trucks and trailers due to a residual amount generated from the initial bidding. This additional procurement fell under the category of "Additional Procurement: Procurement of the Same Products, etc.", which the "Implementation Guideline for Procurement Procedures for Non-Project Grant Aid" permits procurement by direct contract at the same unit price, and was therefore carried out under a negotiated contract with the approval of the implementing agency and the Embassy of Japan in Cuba.

In this project, delivery of some equipment was delayed by up to 10 days due to the low number of vessels delivering products to Cuba, resulting in a late payment of

approximately 700,000 yen. This was used to purchase spare parts that were needed for garbage compactors procured in the 2016 project.²⁹

3.2.2.2 Points that contributed to, or should have been considered in, ensuring the appropriateness of implementation, monitoring, and follow-up process

According to JICS, the experience of JICA's technical cooperation enabled it to obtain information from the JICA Cuba office, Embassy of Japan in Cuba, and other sources on issues specific to Cuba, which is subject to US sanctions. In addition, JICS had conducted a field survey in advance of the project to gather information. These factors led to the relatively smooth implementation of the JFY 2016 project and the smooth implementation of the JFY 2017 project based on the experience of the previous year's project.

In both cases, a relatively large number of spare parts were procured together after discussions between JICS and the implementing agencies on the vehicle manufacturers' proposals. However, due to the harsh operating environment of the vehicles and equipment, the actual wear rate of some spare parts exceeded JICS' expectations.

Appropriateness of the implementation, monitoring, and follow-up processes
<p>JFY 2016 Project <Satisfactory></p> <p>Although the procurement schedule for this project was affected by compliance with the Foreign Assets Control Act and U.S. export control regulations based on the U.S. policy toward Cuba, the project was properly implemented in accordance with the standard implementation structure and workflow, and thanks to JICS' efforts, the equipment was delivered in time for the 500th anniversary of the Havana City Government, which the Cuban side had requested. Thereafter, good communication and coordination has been maintained between DPSC and the Japanese side, including JICA as well as JICS and the Embassy of Japan in Cuba, and follow-ups have been done appropriately. Based on the above, the implementation, monitoring, and follow-up process of this project were appropriate.</p>

²⁹ Cylinders on the mounts of six garbage compactors were damaged due to operator error, etc. With the approval of DPSC, the Embassy of Japan in Cuba, and the International Cooperation Bureau of MOFA, the missing replacement parts were procured. The reasons for the damage were that rubble and other debris were mixed in with general trash, and that the operators mishandled the operation procedures. Compensation for the delay is outside the scope of the grant aid, and the implementing agency can decide the use of the funds.

JFY 2017 Project <Satisfactory>

This project was properly executed in accordance with the standard implementation structure and workflow. Based on the experience of the JFY 2016 project, the project was smoothly implemented in compliance with the Foreign Assets Control Act and U.S. export control regulations based on the U.S. policy toward Cuba. The equipment was delivered in time for the 500th anniversary of the Havana City Government, as the Cuban side requested. Since then, good communication and coordination has been maintained between DPSC and the Japanese side, including JICA as well as JICS and the Embassy of Japan in Cuba, and follow-ups have been done appropriately. Based on the above, the implementation, monitoring, and follow-up process for this project were appropriate.

Chapter 4 Recommendations and Lessons Learned

(Common to both JFY 2016 and JFY 2017 projects)

4.1.1 Recommendations

4.1.1.1 Continuous operation of equipment through procurement of spare parts

As of January 2023, 15 garbage compactors in the JFY 2016 project were not in operation due to lack of spare parts such as clutches and cylinders. Similarly, one-third of the chainsaws included in the JFY 2017 project is not in operation due to lack of spare parts, and these deficits are hindering the continued effectiveness of the project. Havana City recognizes the need to procure spare parts and is working to secure them, but the shortage of government foreign currency and U.S. economic sanctions have placed significant constraints on their procurement.

Therefore, when the Japanese government implements a new Grant Aid for Economic and Social Development Program to Cuba, it should consider including spare parts needed for the equipment procured in the JFY 2016 and JFY 2017 projects, to encourage their continued effectiveness. This would provide foreign currency assistance to Cuba and could be a significant cost-effective support.

4.1.1.2 Study of waste reduction, and securing a new final disposal site based on the experience of neighboring countries

Final disposal is important in waste management along with collection and transportation. Securing a final disposal site in Havana City is an extremely urgent issue, and a fundamental solution by securing a new disposal site is urgently needed. In addition, the Cuban government aims for a recycling-oriented society, and waste reduction should be considered in line with this policy. Havana City hopes to solve this problem as a profitable business by introducing foreign capital through the 3Rs and power generation using waste heat from the waste incineration plant, but the closure of the existing final disposal site is imminent, and a realistic solution needs to be considered as soon as possible.

On the other hand, various efforts have been made in neighboring countries to address various issues related to the urban waste problem. In considering solutions, it is highly significant for Cuba to learn from their experiences, and form a network with similar institutions and experts in neighboring countries.

In this connection, JICA has provided a number of technical cooperation projects in urban waste management in the Latin American region since the 1990s.³⁰

³⁰ For example, JICA has implemented a series of technical cooperation projects in the Dominican Republic,

Furthermore, in 2020, JICA launched its Clean Cities Initiative, which also emphasizes cooperation in urban waste management in Cuba. In line with this, JICA may take the lead in holding regional workshops on urban waste management, etc., and Cuba may learn from the experiences of neighboring countries through triangular cooperation, etc.

4.1.1.3 Consideration of assistance to help improve the situation surrounding Cuba's balance of international payments

A December 2015 agreement between Cuba and the Paris Club's Creditor Countries Group³¹ determined debt relief measures for claims against Cuba that had been overdue for payment since 1986. Based on this agreement, Japan exchanged notes in September 2016 for debt relief measures, including the deferral of commercial (non-ODA) obligations of the Cuban government assumed by trade insurance.

From the perspective of Japan's national interest, it is important that Cuba repay its debt in order to return to the international community, and it is effective to implement debt relief measures that will lead to such repayment. In order to encourage Cuba to repay its debt, it is necessary to improve the situation surrounding the balance of international payments in Cuba. One short-term approach is for Japan to provide essential goods that Cuba is forced to purchase from abroad using foreign currency. For example, Japan could provide food aid such as rice. On the other hand, in the medium term, it would be useful to provide equipment that is essential for improving the lives of the Cuban people but that cannot be purchased from abroad due to economic sanctions or lack of foreign currency, as in the case of the projects that were the subject of this evaluation. In this way, it will be important to provide Cuba with well-balanced assistance from both short- and medium-term perspectives.

4.1.2 Lessons Learned

4.1.2.1 Grant aid aimed at synergies with continuous technical cooperation

Both projects had various advantages, including the accumulation of useful information and experience from prior continuous technical cooperation with the same

including the "The Study on Integrated Solid Waste Management Plan in Santo Domingo de Guzman, National District Dominican Republic" (2007), the "Project for Appropriate Waste Management in Santo Domingo de Guzman, National District, Dominican Republic" (2009-2012), the "Project for Institutional Capacity Development on Nation-Wide Solid Waste Management in Dominican Republic (FOCIMIRS)" (2014-2017), and the "Project for Institutional Capacity Development on Nation-Wide Integrated Solid Waste Management in the Dominican Republic (Phase 2)" (2020-2023). In El Salvador, the "The project on Integrated Solid Waste Management for Municipalities in El Salvador" (2005-2009) was also implemented, and in Peru, the "Solid Waste Management Project" (2012-) and "Solid Waste Management Project (Phase 2)" (2022-) have implemented yen loans including the construction of a final disposal facility.

³¹ In addition to Japan, the group of creditor countries consists of Italy, the United Kingdom, Australia, Austria, the Netherlands, Canada, Switzerland, Sweden, Spain, Denmark, Finland, France, and Belgium.

implementing agency, a relationship of trust with the implementing agency, and an understanding of Japanese assistance on the part of the implementing agency. The information accumulated on the situation in the target areas, the systems and capabilities of the implementing agencies, challenges in the operation and maintenance of equipment, and implementation issues due to Cuba's unique circumstances was utilized in the planning and implementation phases to ensure that the projects went smoothly and enhance project effectiveness. Therefore, in grant aid, there should preferably be collaboration with preceding technical cooperation that shared the same implementing agency, in order to achieve synergistic effects.

4.1.2.2 Identifying the need for spare parts

Sometimes, as in Cuba, it is difficult to procure spare parts in a timely manner due to the financial situation of the partner government or implementing agency, the procurement system, or the economic environment. In such cases, it is conceivable to procure spare parts at the same time in a generous manner, as was done in the both projects. On the other hand, wear and tear of spare parts may be more severe than usual, depending on the degree of equipment operation and the operating environment. The content and quantity of spare parts procured for both projects were determined through discussions between JICS and the implementing agencies on the list of spare parts proposed by the vehicle manufacturers, but the rate of wear and tear of the spare parts exceeded expectations at the time of planning.

Therefore, if it is difficult to procure spare parts in a timely manner, it is necessary to procure all possible spare parts together with a realistic estimate of the wear rate of spare parts based on a thorough understanding of the degree of equipment operation and the operating environment.

4.1.2.3 Diplomatic spillover effects from essential assistance in daily life (JFY 2016 projects)

The garbage compactors for the JFY 2016 project have a prominent orange body with the Japanese flag painted on them, and they drive around Havana City every day. The aid, which coincided with the 500th anniversary of Havana's municipal government, was reported on television, on the radio, and in newspapers. The fact that Japan provided aid to Havana City with important equipment essential to the daily lives of its citizens is widely known and appreciated by them. According to telephone interviews with residents, 32% of all residents and 47% of residents serviced by garbage compactors are aware of the Japanese aid. Similarly, residents are highly aware that the public bus service in Havana City, which Japan supported in the Grant Aid for

Economic and Social Development Program for Cuba in JFY 2018, is also a Japanese aid.³²

Therefore, in order to achieve a large diplomatic ripple effect in the grant aid, it is important to provide assistance for equipment that is indispensable for daily life and that is frequently seen by residents.

³² 37% of all residents were aware that the buses were Japanese aid.