Republic of Kenya

FY 2019 Ex-Post Evaluation of Japanese ODA Loan Project

"Mombasa Port Development Project"

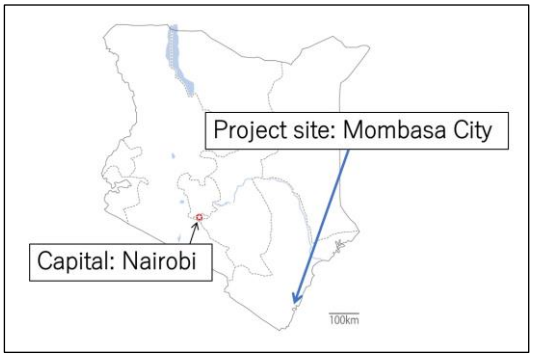
External Evaluator: Takako Haraguchi, International Development Center of Japan Inc.

0. Summary

This project attempted to respond to an increased demand for cargo handling and improve the efficiency of port operation at Mombasa Port, one of the largest international trade ports in East Africa, by constructing a container terminal and installing cargo-handling equipment, thereby contributing to the promotion of trade and social and economic development not only in Kenya but also across East Africa including the neighboring countries. The relevance of the project is high because these objectives are consistent with the development plans and development needs in Kenya and the East African region and with Japan's aid policy. The container terminal was expanded as a result of implementing the project, achieving all targets in the operation and effect indicators, such as container throughput and waiting time. The throughput of the export/import cargo to and from Kenya, that of the transit cargo to neighboring countries, and that of transshipment cargo have increased at Mombasa Port, suggesting that the project has contributed to the economic development in Kenya and its neighboring countries. Therefore, the effectiveness and impact are high. The project outputs were mostly generated as planned, but the project period exceeded the plan. Therefore, the efficiency is fair. The sustainability of the project effects is high because the institutional/organizational, technical, and financial aspects and the status of the operation and maintenance of the project are mostly in good standing.

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

1. Project Description



Project Location

Newly constructed Container Terminal 2

1.1 Background

Mombasa Port was the only international trade port in Kenya (at the time of the ex-ante evaluation of this project) and one of the largest ports in East Africa. It was not only serving as

the import/export hub for Kenya but also providing port functionality to its inland neighbors, such as Uganda. The container throughput at the port doubled in six years, from approx. 240,000 TEU[1] in 2000 to approx. 480,000 TEU in 2006, and the demand for 2015 was expected to be as high as approx. 960,000 TEU. However, the port was facing several challenges. The port's capacity to handle container cargo was limited to approx. 450,000 TEU per year. The port also needed to accommodate the increasing size of container ships, improve access to the port, and improve the efficiency of port operation. The Kenya Ports Authority (hereafter, the "KPA"), which is responsible for operating and managing ports in Kenya, had attempted to respond to the rapidly increasing container cargo at Mombasa Port by converting customs to IT-based operation and introducing additional cargo-handling equipment. However, no measures were in place to fundamentally address a future increase in demand. In order to strengthen the international competitiveness of the East African region as well as Kenya to realize economic development, it was urgently needed to develop a new container terminal, boost the container throughput, and make port operation more efficient.

1.2 Project Outline

The objective of this project is to respond to an increased demand for cargo handling and improve the efficiency of port operation at Mombasa Port in Kenya by constructing a container terminal and installing cargo-handling equipment at this port, thereby contributing to the promotion of trade and social and economic development not only in Kenya but also across East Africa including the neighboring countries.

Loan Approved Amount/Disbursed Amount	26,711 million yen/26,328 million yen
Exchange of Notes Date/ Loan Agreement Signing Date	November 2007/November 2007
Terms and Conditions	Interest Rate: 0.20% (0.01% for consultants) Repayment Period: 40 years (Grace Period: 10 years) Conditions for Procurement: Tied (Special Terms for Economic Partnership (STEP))
Borrower/Executing Agency	Kenya Ports Authority (guaranteed by the Government of the Republic of Kenya)/Kenya Ports Authority

[1] TEU: 20-foot container equivalent unit.

Project Completion	February 2017
Target Area	Mombasa City
Main Contractors (Over 1 billion yen)	• Equipment supply/installation: Toyota Tsusho Corporation (Japan) • Civil works: Toyo Construction Co., Ltd. (Japan)
Main Consultants (Over 100 million yen)	• Construction supervision: Japan Port Consultants, Ltd. (Japan)/ BAC Engineering & Architecture Ltd. (Kenya)/Gachagua Kahoro & Associates (Kenya) (JV) • Selection of a terminal operator: Nippon Koei Co., Ltd. (Japan)/ The Overseas Coastal Area Development Institute of Japan (Japan)/Oriental Consultants Co., Ltd. (Japan)/M.A. Consulting Group (Kenya) (JV)
Related Studies (Feasibility Studies, etc.)	• "The Feasibility Study on the Project for Mombasa Port International Container Terminal Modernization" (Japan External Trade Organization (JETRO), 2000, Feasibility Study (F/S)) • "Master Plan Study of the Port of Mombasa including Development of the Free Zone" (KPA, 2004) • "Study on Mombasa Port Container Terminal Modernization" (Engineering and Consulting Firms Association, Japan (ECFA), 2005, F/S update) • "Special Assistance for Project Formulation (SAPROF) for the Expansion of the Mombasa Port Container Terminal in the Republic of Kenya" (Japan International Cooperation Agency (JICA) (former Japan Bank for International Cooperation) (JBIC), 2006) • "Project Plan Review Report" (KPA, 2009) (A SAPROF review as part of the consulting services of this project)
Related Projects	Technical Cooperation • "Project for Technical Assistance to Kenya Ports Authority on Dongo Kundu Port, Mombasa Master Plan" (2014‐2015) • "Project on Master Plan for Development of Dongo Kundu, Mombasa Special Economic Zone" (2014‐2015) • "Project for Formulation of Master Plan on Logistics in Northern Economic Corridor" (2015‐2016) ODA Loan • "Mombasa Port Development Project (Phase 2)" (January 2015)

	• "Mombasa Port Area Road Development Project" (June 2012) • "Mombasa Port Area Road Development Project (II)" (July 2017) Others • Assistance by TradeMark East Africa (TMEA) on institutional strengthening of KPA/streamlining of cargo handling (2011 through the time of ex-post evaluation) • Assistance by the Export-Import Bank of the Republic of China on the construction of the Mombasa-Nairobi Standard Gauge Railway (hereafter, "SGR") (2014–2017)

This project was designated as the first phase of the three-phase container terminal development plan (to construct new Container Terminal 2 to the west of existing Container Terminal 1) formulated in the SAPROF (2006). At the time of ex-post evaluation, a Japanese ODA Loan, Mombasa Port Development Project (Phase 2) (hereafter, "Phase 2 Project"), is being implemented as the development plan's second phase.

2. Outline of the Evaluation Study

2.1 External Evaluator

Takako Haraguchi, International Development Center of Japan Inc.[2]

2.2 Duration of Evaluation Study

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

Duration of the Study: July 2019–August 2020

Duration of the Field Study: October 12, 2019–November 26, 2019; February 8, 2020–February 28, 2020[3]

3. Results of the Evaluation (Overall Rating: A[4])

3.1 Relevance (Rating: ③[5])

3.1.1 Consistency with the Development Plan of Kenya

For reasons cited below, the consistency between this project and the development plan of Kenya at the time of both appraisal and ex-post evaluation has been high.

[2] Participated as reinforcement from i2i Communication, Ltd.

[3] This period includes the field study period for the ex-post evaluation of the Project for Capacity Building for the Customs Administrations of the Eastern African Region (Phase 2). The evaluation for the latter and the present evaluation were carried out at the same time.

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

[5] ③: High, ②: Fair, ①: Low

Kenya's mid-term national development policies, the *Economic Recovery Strategy for Wealth and Employment Creation* (2003‐2007) and the *Third Medium Term Plan* (2018‐2022), and the country's long-term strategy, *Vision 2030* (2008‐2030), commonly seek to achieve economic development through infrastructure development. Of these, the *Third Medium Term Plan* and *Vision 2030* set forth the development of Mombasa Port as one of the flagship projects.

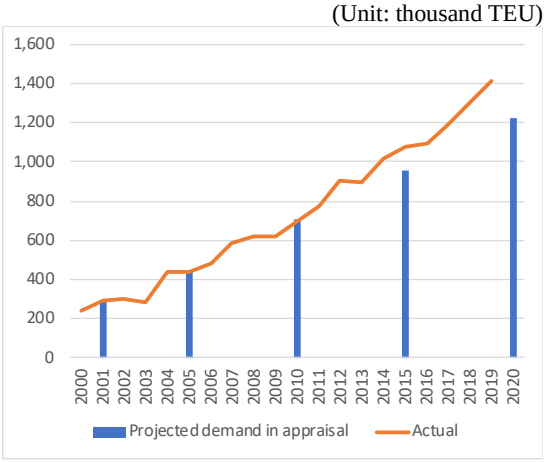
Within the regional policy for Africa, the development of Mombasa Port was set forth as a priority project in the New Partnership for Africa's Development (NEPAD) at the time of appraisal. In addition, the African Union's (AU) *Agenda 2063* (2013–2063) sets forth to accelerate regional integration through infrastructure development and growth through port development. The development of the container terminal in Mombasa Port also constitutes part of the development of the Northern Corridor (originating in Mombasa Port and connecting between Kenya, Uganda, Rwanda, Burundi, and the Democratic Republic of the Congo), a component in the *Programme for Infrastructure Development in Africa* (2013–2022).

3.1.2 Consistency with the Development Needs of Kenya

For conditions specified in "1.1 Background" and below, the consistency between this project and the development needs (the demand for container cargo handling at Mombasa Port) has remained high between the time of appraisal and the time of ex-post evaluation.

As shown in Figure 1, the container throughput at Mombasa Port has increased, surpassing the projected demand at the time of appraisal. As shown in Table 1, the cargo volume handled at Mombasa Port that is transported over the land to neighboring countries has fluctuated due most likely to the diversification of logistical routes. However, the demand within the region remains high, as indicated by the growth of domestic freight and transit cargo to and from countries such as Uganda and the Democratic Republic of the Congo via the Northern Corridor, which originates in Mombasa Port.

(Unit: thousand TEU)



Source: Compiled based on documentation provided by JICA and documentation provided by KPA.

Figure 1. Container throughput at Mombasa Port

Table 1. Cargo for Kenya and its neighbors handled at Mombasa Port (combined exports and imports)

(Unit: thousand ton)

	2006	2014	2018
Kenya	10,183	16,944	19,996
Uganda	2,822	5,522	7,889
DR Congo	226	408	471
Tanzania	270	188	248
Rwanda	253	236	221
South Sudan	-	761	734
Burundi	67	79	22
Others	459	737	1,341
Total cargo throughput at Mombasa Port	14,281	24,875	30,923

Source: Documentation provided by JICA, documentation provided by KPA
Note: Numbers may not add up to totals due to rounding.

3.1.3 Consistency with Japan's ODA Policy

For reasons cited below, the consistency with Japan's ODA policy at the time of appraisal was high. First, JICA (former JBIC) through the *Medium-Term Strategy for Overseas Economic Cooperation Operations* (2005) established "infrastructure development toward sustainable growth" as a priority area in Kenya and focused on assisting the promotion of economic growth through the development of economic and social infrastructure, including the development of the transportation sector. For the Sub-Saharan Africa region, the "development of economic and social infrastructure benefiting broader regions across national borders" was mentioned as one of the priority areas. In addition, economic infrastructure—including the infrastructure development for the promotion of trade and industry—occupied one of the five priority areas in the *Country Assistance Program for the Republic of Kenya* (2000) by the Ministry of Foreign Affairs.

In light of the above, this project has been highly relevant to the country's development plan and development needs, as well as Japan's ODA policy. Therefore, its relevance is high.

3.2 Efficiency (Rating: ②)

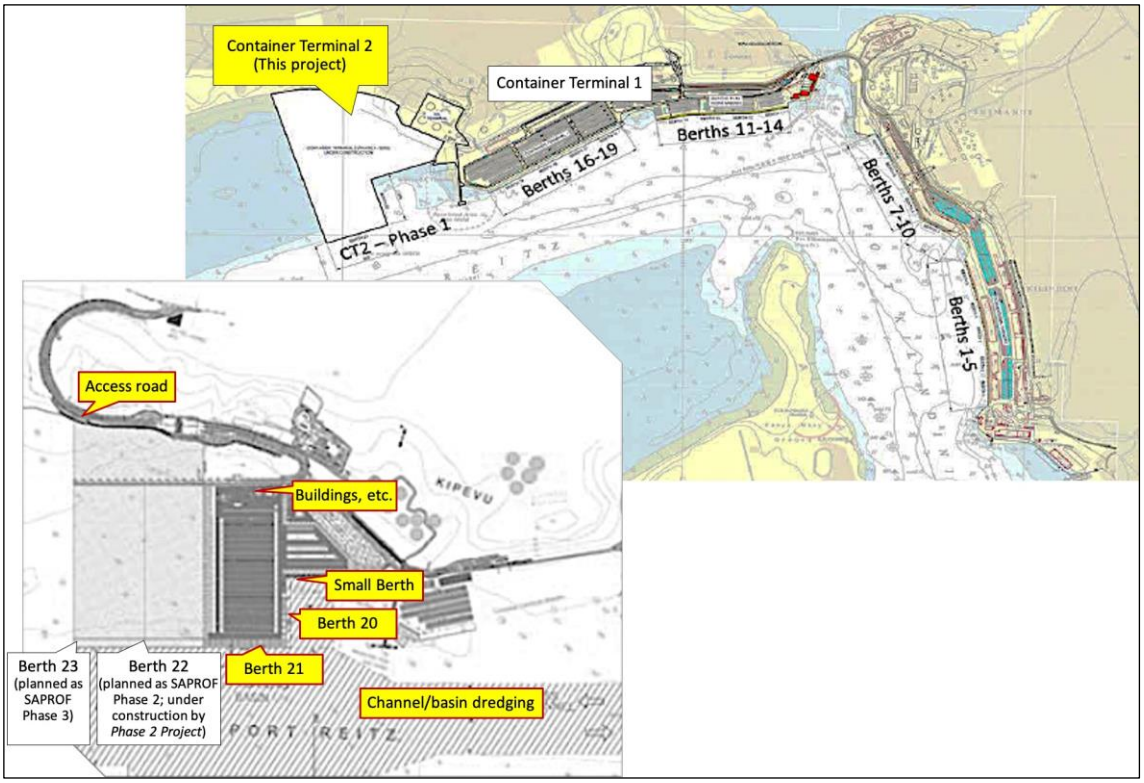
3.2.1 Project Outputs

The outputs of this project consisted of (1) construction of a new container terminal, (2) procurement of cargo-handling equipment, (3) construction of a port access road, (4) dredging for channels and basins, and (5) consulting services. As explained below, they were mostly completed as planned with some changes.

Table 2. Planned and actual outputs

Project Outputs	Plan at the Time of Appraisal	Actual	Key Changes
(1) Construction of container terminal	• Wharf: 15 m deep x 350 m long • Wharf: 11 m deep x 190 m long • Wharf: 4.5 m deep x 80 m long • Related facilities (container yard, roads, railway, buildings, utilities, etc.)	• Wharf: 15 m deep x 350 m long (Berth 21) • Wharf: 11 m deep x 210 m long (Berth 20) • Wharf: 4.5 m deep x 283 m long (Small Berth) • Related facilities (container yard, roads, buildings, utilities, etc.)	• Some changes in wharf length (due to changes in channel layout) • Cancellation of the railway siding (due to the implementation of a new, separate project (SGR construction))
(2) Procurement of cargo-handling equipment	• Gantry crane (ship-to-shore gantry crane (SSG)) 50 t x 2 units • Transfer crane (rubber-tired gantry crane (RTG)) 40.6 t x 6 units	• SSG 65 t x 2 units • RTG 45 t x 4 units	• Max. lifting load increased for SSGs (to handle increased container weight) • Max. lifting load increased for RTGs (same reason as above), reduced number of units (to stay within budget)
(3) Construction of port access road	• 1.6 km long (approx.) x 33 m wide (3 lanes per direction)	• 2.1 km long (approx.) x 33 m wide (3 lanes per direction)	-
(4) Dredging for channels and basins	• Dredge volume: approx. 3 million m^3 (outside the scope of the ODA Loan)	• Dredge volume: approx. 7 million m^3 (outside the scope of the ODA Loan)	• Dredge volume increased (addition of maintenance dredging of existing channels/basins)
(5) Consulting services	• Consultants for construction supervision: detailed designs, tendering assistance, construction supervision, etc. • Consultants for operator selection: assistance for terminal operator selection	• Consultants for construction supervision: services as planned • Consultants for operator selection: contract terminated after the service was partially performed (preparation of tender documents, tendering assistance)	• Consultant contract for operator selection canceled after the service was partially performed (due to the suspension of the plan to privatize container terminal operation)

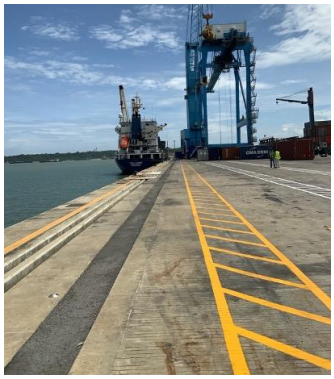
Source: Documentation provided by JICA, documentation provided by/interviews with KPA, interviews with the consultants for construction supervision



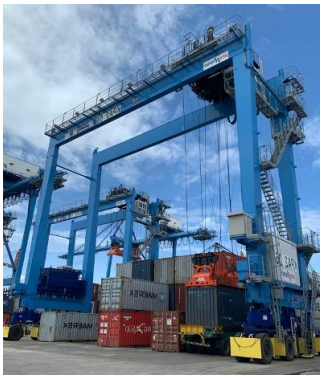
Source: Compiled based on documentation provided by KPA and documentation provided by the consultants for construction supervision.
Note: Yellow markers indicate the target components of this project.

Figure 2. Project layout

Berth 21 and SSGs built/procured in the project



Berth 20 built in the project



Container yard and RTGs constructed/procured in the project

Some of the notable changes in the outputs included in Table 2 above are as follows. All of these changes are considered reasonable as they represented responses to the circumstances that developed after the launching of the project.

- (1) Cancellation of the railway siding in container terminal construction: Due to the new plan assisted by China to construct an SGR between Nairobi and Mombasa (1,435 mm

gauge) including the siding to Mombasa Port, the construction of the siding, which was planned in this project, from the existing Nairobi-Mombasa Metre-Gauge Railway (hereafter, "MGR") (1,000 mm gauge) to Container Terminal 2, was canceled. It is to be noted that the functionality provided by the completed SGR installations sufficiently met what was planned in this project for the MGR siding construction. Because this project and the SGR project were implemented in a coordinated manner, the SGR installations were constructed without causing any major issues to the outputs of this project such as the roads.

- (2) Greater capacity but fewer crane units in the procurement of cargo-handling equipment: In order to accommodate the increased container weight, the maximum lifting load of SSGs was increased from 50 t to 65 t. For RTGs, it was increased from 40.6 t to 45 t. In addition, the number of RTGs was reduced from six units to four units to keep the expenses within the budget when switching the units to these higher-grade models. The efficient operation of the container yard constructed in this project ideally required the installation of 16 or more RTGs. Although it was planned that a private terminal operator would procure the missing units, the privatization of terminal operating rights was suspended (see the next paragraph). For this reason, KPA procured additional units in the ODA Loan, Phase 2 Project, purchased additional units using its own funds, and moved some units from Container Terminal 1. As a result, 18 RTGs are installed at the time of ex-post evaluation.

- (5) Termination of consultant contract for operator selection in consulting services after the service was partially performed: It was planned to select and outsource the operation to a private operator after the completion of Container Terminal 2. This plan was suspended for the time being, and like Container Terminal 1, the new terminal has been operated by KPA. According to KPA's explanation and newspaper reports, the suspension was caused by the opposition to privatization by the dockworkers union, lawsuits that have been filed concerning the tendering for the terminal operator, and political decisions in light of these developments. The current *KPA Strategic Plan* (2018‐2022) continues to mention a policy that sets Mombasa Port as a "landlord port" (port infrastructure owned by public authorities, but operation and maintenance outsourced to the private sector). KPA intends to privatize the operation in the future.

3.2.2 Project Inputs

3.2.2.1 Project Cost

The planned amount at the time of appraisal for the total project cost was 34,800 million yen (of which, the total ODA Loan was 26,711 million yen, with 8,824 million yen in foreign currency and 17,887 million yen in local currency). The actual cost was 31,735 million yen (of which, the total ODA Loan was 26,328 million yen, with 15,770 million

yen in foreign currency and 10,558 million yen in local currency), which was within the plan (91% against the plan). The planned amount at the time of appraisal for the canceled outputs (the railway siding construction and the consulting services on operator selection) was 656 million yen in total. Since this amount was smaller than the difference between the planned amount at the time of appraisal and the actual amount of the total project cost (3,065 million yen), the reduction in the total project cost was in line with the reduction in the outputs.

3.2.2.2 Project Period

According to the plan at the time of appraisal, the period between the signing of the loan agreement for this project and the project completion (as defined as the end of consulting services and the defect liability period) was 97 months between November 2007 and November 2015. In the actual project, the loan agreement was signed during the month specified in the plan, but the project did not complete until February 2017, exceeding the plan (116% against the plan). The reason for the extra time was the delay in the commencement of the access road construction due to the delay in the land acquisition procedure. Nevertheless, the construction itself was completed within the planned duration. Also, the container terminal component was mostly completed on the original schedule.

3.2.3 Results of Calculations for Internal Rates of Return (Reference Only)

At the time of appraisal, the financial internal rate of return (FIRR) and the economic internal rate of return (EIRR) of this project were 7.5% and 12.1%, respectively.[6] At the time of ex-post evaluation, when the actual project cost and the actual container throughput are used, theoretical recalculations[7] performed on the same calculation conditions used at the time of appraisal resulted in 6.6% for FIRR and 8.2% for EIRR. For both FIRR and EIRR, recalculations resulted in smaller numbers because of the increase in the cost (the civil works cost and the equipment purchase cost within the project cost exceeded[8] the plan at the time of appraisal; as a result, there was an increase in the operation and maintenance cost, which was calculated as 1% of the civil works cost and 4% of the equipment purchase cost) and the

[6] The expenses added to FIRR were project expenses and operation/maintenance expenses. The benefits included the income from port usage fees. The expenses added to EIRR were project expenses (excluding tax) and operation/maintenance expenses. The benefits were defined as the reduction in maritime transport costs due to the use of larger ships, reduction in transport costs due to the reduction in the berthing time, and reduction in related costs due to the reduction in the container dwell time. In both cases, the project life is 30 years after the start of the project. Note that the ex-ante evaluation sheet specified the project life as "30 years after the start of construction" and calculated FIRR as 8.5% and EIRR as 12.2%, but this study recalculated these rates of return based on "30 years after the start of the project" in accordance with JICA's IRR recalculation guideline for ex-post evaluations.

[7] Generally, actual values of the benefits were calculated by multiplying the unit price per container (of cargo-handling fees, berth fees, maritime transport fees, etc.) used at the time of appraisal by the actual container throughput; thus, they should be considered simplified/theoretical values aligned to the assumptions at the time of appraisal rather than reflecting the actual income of KPA.

[8] "3.2.2.1 Project Cost" reports that the total project cost was within the plan, but this was because price escalation and contingencies were appropriated to cover the increases in the civil work cost and equipment purchase cost.

decrease in the benefits (the facilities did not become operational on time due to the project delay; in addition, as will be discussed later, the container throughput at the project's facilities grew at a rate slower than anticipated at the time of appraisal).

In light of the above, although the project cost was within the plan, the project period exceeded the plan. Therefore, the efficiency of this project is fair.

3.3 Effectiveness and Impacts[9] (Rating: ③)

3.3.1 Effectiveness

As a result of the expansion of container terminals, all operation and effect indicators, such as the cargo volume and waiting time at Mombasa Port, achieved respective targets. The operating status of Container Terminal 2 constructed in this project was also mostly satisfactory. Therefore, this study considers that the objective of the project (direct outcome), "responding to an increased demand for cargo handling and improving the efficiency of port operation," has been achieved.

3.3.1.1 Quantitative Effects (Operation and Effect Indicators)

(1) Responding to an increased demand for cargo handling and improving the efficiency of port operation

As shown in Table 3, all four operation and effect indicators established at the time of appraisal exceeded and achieved their respective targets by 2019[10] (target year). The container throughput (Operation Indicator 1) has consistently increased, exceeding approx. 1.40 million TEU in 2019. In addition to the increases in total tonnage of the vessels arriving in the port (Operation Indicator 2) and the annual containerization rate (Operation Indicator 3), the container throughput at Mombasa Port has increased both in terms of the absolute volume and its proportion within the total cargo, indicating that the expansion of the container terminals and cargo-handling equipment have successfully responded to an increasing cargo demand. The operation of the port appears to have become more efficient considering that the containership average waiting time (Effect Indicator 1), which was roughly 1.5 days/ship until 2015, has dramatically decreased since the facilities under this project became operational in 2016.

[9] Sub-rating for Effectiveness is to be put with consideration of Impacts.
[10] The target year at the time of appraisal was 2017, two years after the project completion (expected in 2015), but the actual completion was in 2017. For the purpose of the ex-post evaluation study, the target year is adjusted to 2019.

Table 3. Operation and Effect Indicators

Indicator[a]	Baseline	Target	Actual			
	2006	2017	2016	2017	2018	2019
		2 Years After Completion	1st Year of Operation	Completion Year	1 Year After Completion	2 Years After Completion
<Operation Indicators>						
Operation Indicator 1: Container throughput (thousand TEU)	480	990	1,091	1,190	1,304	1,416
Operation Indicator 2: Total tonnage of vessels (thousand GRT)[b]	9,000	15,430	14,209	17,996	17,779	17,996
Operation Indicator 3: Annual containerization rate (%)[c]	62.0	73.0	80.2	79.0	82.9	82.2
<Effect Indicators>						
Effect Indicator 1: Containership average waiting time (day/ship)	1.49	1.00	0.26	0.71	0.50	0.48

Source: Documentation provided by JICA, documentation provided by KPA
Note: [a] The four operation and effect indicators established at the time of appraisal were classified by the ex-post evaluator into three operation indicators and one effect indicator based on each indicator's nature.
[b] GRT (Gross Registered Tonnage): Gross registered tonnage of a vessel.
[c] "Containerization rate" refers to the ratio of container cargo within cargo throughput.

These figures include actual data from existing Container Terminal 1[11] where KPA has expanded berths, reassigned berths, and upgraded cargo-handling equipment alongside this project, not just the data from Container Terminal 2 (Berths 20 and 21) constructed under this project. However, considering that this project reduced the congestion and improved the efficiency of cargo handling at the existing terminal, the actual values appear to be correct representations of the operation and effect of this project (see also "3.3.1.2 Qualitative Effects (Other Effects)").

The container handling capacity at Mombasa Port in 2019 was approx. 1.65 million TEU in total (1.10 million TEU at Container Terminal 1 and 550,000 TEU at Container Terminal 2[12]). The completion of the Phase 2 Project (Berth 22) under construction is being awaited because the throughput is expected to reach the capacity within a few years if it continues to increase at the current rate.

(2) Operation of Container Terminal 2

Field visits during the ex-post evaluation study confirmed that all of the facilities and equipment at Container Terminal 2 developed under this project are operational. As shown in Table 4, the container throughput surpassed 500,000 TEU. Berth 21, as the only 15-meter-deep container berth at Mombasa Port, accommodates large container ships that are nearly 300 m long. The number of moves of containers per hour, which shows the

[11] Container Terminal 1 has Berths 16‐19. In addition to these, part of Berths 5 and 11‐14 of the berths for bulk cargo is used for container cargo at the time of ex-post evaluation. The throughput at these berths is counted as part of Container Terminal 1's container throughput.
[12] The capacity of Container Terminal 2 at the time of its design was 450,000 TEU, but it has increased because the installation of one additional SSG at Berth 21 by KPA improved its cargo handling productivity.

productivity of cargo handling, has also increased. Several challenges were observed, however. The growth of the container throughput was initially slow after the facilities became operational. In addition, berth occupancy was too high at Berth 21 (i.e., congested) and too low at Berth 20. Moreover, the number of moves of containers per hour was not optimal at either berth.[13] Specifically:

- Slow initial increase in container throughput: Container Terminal 2 became operational immediately after the completion of the construction in February 2016. However, it did not become fully operational until 2018 because the installation of the cargo-handling equipment outside the scope of this project was delayed. The delay was caused by the longer time it took for the installation because, as mentioned above, the original plan to have a private operator install part of the cargo-handling equipment was suspended and switched to the procurement by KPA (the procurement process at government authorities is said to take 12 to 18 months).

- The low occupancy and the low number of moves of containers per hour at Berth 20: SSGs are not installed at this berth. The plan at the time of appraisal concerning SSGs specified to install the two SSGs procured in this project at Berth 21 but install only the rails for SSGs at Berth 20. These were implemented as planned. Even though it was written in the plan to have a terminal operator install SSG units at Berth 20, this was not undertaken due to the suspension of the privatization plan. As an alternative plan, KPA installed two mobile harbor cranes at this berth and assigned feeder ships (small container ships that provide secondary transports to and from major ports), which does not require the cargo-handling efficiency of SSGs, to these cranes. KPA installed one additional SSG at Berth 21 in January 2019 to further improve its cargo-handling efficiency as Container Terminal 2's main berth. The number of moves of containers per hour has indeed increased (but it had the issue described in the next paragraph). According to KPA, it intends to purchase SSGs for Berth 20. However, no actual plan is in place as of February 2020.

- Failure to achieve the target number of moves of containers per hour at Berth 21: According to the gross moves (the quotient when dividing the number of moves of containers per hour per vessel by the total number of hours between the start and finish of loading/unloading) shown in Table 4, the actual number of moves in 2019 (46 containers) did not reach KPA's target, 19 moves per hour per crane (or 57 moves per hour for three SSGs). With this being noted, the net moves (the quotient when dividing the number of moves of containers per vessel by the number of hours in which the crane was actually in operation among the total number of hours above) were 24 containers per hour in 2017, 43 containers per hour in 2018, and 54

[13] This project constructed the "Small Berth" in addition to Berths 20 and 21. It is used to transport construction materials for the Phase 2 Project and other purposes at the time of ex-post evaluation, and KPA explained that it would be used for tugboats after the project completion.

containers per hour in 2019. These values exceeded the target for 2018 (38 moves per hour for two SSGs) and were close to the 2019 target (57 moves per hour for three SSGs). Thus, this implies that the gross value failed to achieve the target because there were times when the SSGs were not operating. Factors cited by KPA include the halting of the operation for inclement weather and terminal congestion. In addition, the shipping lines interviewed in this study mentioned that crane operators were sometimes late to their cargo-handling shifts and that there were hours unattended by crane operators. These factors, in conjunction with the congestion at the berth, appeared to have affected the productivity.

Table 4. Status of Operation at Container Terminal 2

	2016	2017	2018	2019
Container throughput (TEU) (Annual capacity = 552,000 TEU)	144,368	280,828	406,545	514,755
Number of arriving vessels	81	174	198	168 (through Sept.)
Average length of arriving vessels (m)	(median) 210 (max) 299	(median) 220 (max) 295	(median) 221 (max) 304	NA
Berth occupancy rate (%) (KPA target = 75%)	(Berth 20) 8 (Berth 21) 68	(Berth 20) 18 (Berth 21) 86	(Berth 20) 53 (Berth 21) 90	(Berth 20) 60 (Berth 21) 90
Number of moves of containers per hour (containers/hour) (KPA target (Berth 21): 38 through 2018 and 57 for 2019) [a]	(Berths 20/21 average) 21	(Berth 20) 7 (Berth 21) 23	(Berth 20) 9 (Berth 21) 34	(Berth 20) 7 (Berth 21) 46

Source: Data provided by KPA

Note: [a] KPA's targets for the number of moves of containers per hour are the products of multiplying 19 moves per hour per SSG by the number of installed SSGs (0 unit at Berth 20; at Berth 21, two units through 2018 and three units in 2019). The actual values were the gross values (the quotient when dividing the number of moves by the number of hours per vessel between the start and finish of loading/unloading).

3.3.1.2 Qualitative Effects (Other Effects)

The qualitative effects of this project anticipated at the time of appraisal included "ripple effects of the increased cargo throughput at Mombasa Port on the economic development in Kenya and neighboring countries," "the improvement in port services," and "an increase in the added value of port-related facilities." Based on interviews with KPA and beneficiaries, all of these effects appeared to have materialized. The first qualitative effect (ripple effects on economic development) will be discussed under "3.3.2.1 Intended Impacts," as it can be classified as an indirect outcome.

(1) Improvement in port services

The five shipping lines interviewed as part of the qualitative study in this ex-post evaluation and the Kenya International Freight & Warehousing Association[14] representing freight businesses reported that the congestion at Mombasa Port was clearly alleviated and the cargo-handling efficiency improved after this project.

However, shipping lines also pointed out that the terminal operation by KPA had certain issues. Examples include: (a) Since berths are generally assigned based on shipping lines (Berth 21 is almost exclusively used by the largest company, MAERSK), not based on the number of containers carried on the ship, shipping lines with a large number of containers that are assigned to a berth with low cargo-handling efficiency found this practice unfair; (b) Even though the operation is 24/7, there have been hours when cargo handlers (including crane operators) are absent; and (c) Containers are often stacked in incorrect areas (adding extra steps to look for and restack containers that were stacked in areas different from the specified areas). Some of the shipping lines that use Container Terminal 1 reported that "the cargo-handling efficiency at Container Terminal 1 has gone down because high-performing cargo handlers have been reassigned to Container Terminal 2." These shipping lines reported that even though KPA held daily and weekly meetings with them and other related companies, there still were problems that had not been unaddressed for many years. It appears that the issues concerning cargo handlers and cargo-handling equipment were impacted by the fact that a private terminal operator was not selected.

(2) An increase in the added value of port-related facilities

According to KPA, the congestion in and around the port has been alleviated and container transportation became smoother because the access road under this project and the development of the Dongo Kundu Bypass (completed in 2018 in the Japanese ODA Loan project, Mombasa Port Area Road Development Project) to which the access road would be connected were completed at the same timing.

Customer services, including the KPA office and other related authorities (such as the Kenya Revenue Authority (hereafter, "KRA") in charge of the customs administration), were established in Container Terminal 2's administration building constructed under this project. KPA also set up a joint monitoring center (by KPA, KRA, and Kenya Railways Corporation (operator of SGR)) in this building to provide real-time monitoring of containers' movement at Mombasa Port and the Inland Container Depot Nairobi. These

[14] Shipping lines for the qualitative study were selected among the companies that operated scheduled container services at Mombasa Port. By following KPA's recommendations, companies representing large and small/medium companies were selected. The berths used by these companies cover all container berths at the existing terminal and the terminal constructed in this project. It is estimated that these companies accounted for 77% of the container throughput at Mombasa Port as of November 2019 when their average weekly container throughput (including the one for the joint services they provide with other companies) is added together. For these reasons, their opinions expressed in interviews are presumed to be reasonably representative of all companies. Due to time constraints, a business association was interviewed instead of freight companies. Although the interview provided information about the overall trend, insights into the circumstances of individual companies could not be collected.

offices and capabilities have contributed to the integration and greater efficiency of container handling operation.

3.3.2 Impacts

3.3.2.1 Intended Impacts

This study considers that the intended impact of this project, "the contribution of the increased cargo throughput at Mombasa Port to the economic development in Kenya and neighboring countries," has been materialized.

The export/import cargo to and from Kenya, the transit cargo to and from neighboring countries, and transshipment cargo have increased at Mombasa Port, suggesting that the project contributed to the economic development in Kenya and its neighboring countries. Table 5 indicates that among the full containers handled, containers for import (including transit cargo to neighboring countries) and transshipment have increased. Even though the export increased only marginally, the facilities developed under this project also contribute to the export. For example, container cargo accounted for approx. 80% of the total export cargo in 2018 (approx. 575,000 TEU) (KPA statistics).

Table 5. Breakdown of cargo throughput at Mombasa Port

(Unit: thousand TEU)

		2013	2014	2015	2016	2017	2018	2019 (through Sept.)
Import	Full	441	482	514	528	554	591	440
	Empty	8	7	6	8	7	10	8
	Total	449	489	520	536	561	602	448
Export	Full	130	131	122	129	134	149	111
	Empty	299	332	392	378	407	425	342
	Total	428	462	513	507	541	575	453
Transship-ment	Full	12	53	37	43	61	86	115
	Empty	4	8	5	5	20	36	38
	Total	16	61	43	48	81	122	153
Restowage	Full	0	0	0	0	5	6	5
	Empty	0	0	0	0	1	0	0
	Total	0	0	0	0	6	6	6
Total	Full	583	666	673	699	755	832	671
	Empty	311	346	403	392	435	472	389
	Total	894	1,012	1,076	1,091	1,190	1,304	1,060

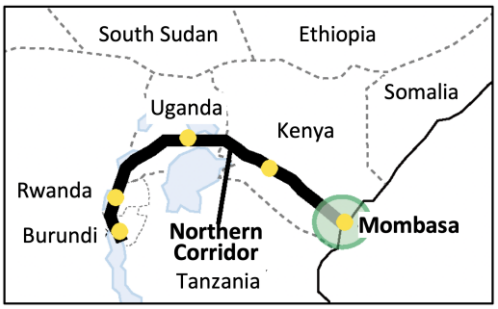
Source: Documentation provided by KPA
Note: "Full" refers to full containers (containers with cargo). "Empty" refers to empty containers (containers without cargo).

Factors outside this project that facilitated the improvements mentioned above included (i) the expansion of the Inland Container Depot Nairobi by KPA (the cargo-handling capacity at the Inland Container Depot Nairobi increased from 180,000 TEU to 450,000 TEU in 2018), (ii) rail container transport to Nairobi via SGR (since 2018) (SGR transports about a third of the container cargo at Mombasa Port), (iii) various programs by the East African Community (EAC) to promote trade, and (iv) the development and construction of

Mombasa Port, surrounding roads, and the Northern Corridor, and the improvement of efficiency of customs through the One Stop Border Post (hereafter, "OSBP") by JICA and other donors (including TMEA) (see "Related Projects" under "1.2 Project Outline"). Thus, the development of the Northern Corridor made the truck transport of containers to Uganda and other destinations beyond Uganda smoother, and the improved efficiency in the customs operation reduced the customs clearance time, contributing to more effective logistics in the East African region. These development efforts seem to have generated synergy as each of them is designated as an important component in the *Northern Corridor Master Plan* (2016), designed under the support of JICA, as one of the outcomes based on the pledges in the Fifth Tokyo International Conference on African Development (TICAD V) (2013). The Ministry of Transport, Infrastructure, Housing, Urban Development and Public Works (KPA's supervisory authority) commented that "the simultaneous development of these improvements contributed to the higher efficiency of logistics in the East African region."

Container depot in Nairobi linked directly to Mombasa Port via railway (SGR)

One of the border facilities assisted by a JICA technical cooperation project: Busia OSBP at the Kenya-Uganda border along the Northern Corridor



Source: Documentation provided by JICA

Figure 3. Northern Corridor

3.3.2.2 Other Positive and Negative Impacts

(1) Impacts on the Natural Environment

No negative impacts on the natural environments were observed. According to the documentation provided by KPA and consultants, the environmental mitigation measures (a measure against the pollution from ship's discharge water, mangrove planting, the

processing of dredged soil, etc.) formulated in the Environmental Impact Assessment (approved by the National Environmental Management Authority of Kenya (hereafter, "NEMA") in May 2007) have been implemented. Environmental monitoring has been conducted by KPA, measuring the ambient water quality and the health of the corals in the offshore dumping areas of dredged sediment, air pollution, water quality, and noise. These measurements were regularly reported to NEMA and published on the KPA website. Measured values were within standard values. At the time of ex-post evaluation, environmental monitoring is handled in the ongoing Phase 2 Project.

Among the issues raised during the project implementation was the claim by a fisherman group that the sand harvesting impacted fishing. However, when KPA, NEMA, the consultants for construction supervision, and fishermen formed a committee and conducted a study involving water quality monitoring, site examinations, the collection of the trend data in the last 10 years, the results suggested no evidence of negative impacts on the environment. If anything, the results showed that the catch has increased. As a result, an agreement was signed between KPA the fisherman group to preclude compensation (see also the next section, "(2) Resettlement and Land Acquisition" for the compensation for fishermen).

Table 6. Excerpts from the environmental monitoring results for Container Terminal 2 (September 2019)

Category	Parameter	Standard value [a]	Measured value
Ambient water quality in offshore dumping areas of dredged sediment	Total suspended solids (TSS)	5.6mg/l	5.2mg/l
Health of corals in the above-mentioned areas	Proportion of the corals assessed as "healthy" [b]	-	81%
Noise	Noise (daytime)	65.0dBA	64.0dBA
Air quality	Sulfur dioxide (SO_2)	200.0 μ g/m^3	28.0 μ g/m^3
	Nitrogen dioxide (NO_2)	80.0 μ g/m^3	14.9 μ g/m^3
	Particulate matter (PM10)	200.0 μ g/m^3	21.9 μ g/m^3

Source: Documentation provided by KPA

Note: [a] The standard value for the ambient water quality in offshore dumping areas of dredged sediment is the measured value before the start of Phase 2 construction. The noise and air quality thresholds are set by the 2009 and 2012 regulations under the *Kenya Environmental Management and Coordination Act* (EMCA), respectively.

[b] The health of corals is assessed visually as either "healthy," "settled sediment," "mucus shaths" (mucus release indicating stress), "bleaching," or "mortality."

(2) Resettlement and Land Acquisition

Resettlement and compensation associated with land acquisition were implemented in accordance with the resettlement plan (its draft was submitted to NEMA before the start of this project, and the plan was finalized during the project). The number of affected households/organizations (landowners, tenants (individuals and organizations), unofficial residents) was 27; of these, 17 households/organizations were eligible for resettlement. Even though the compensation program was delayed due to the extra time needed for its processing, the relocation was completed after paying compensations to all eligible parties

according to the resettlement plan and in accordance with Kenyan laws. Per the plan at the time of appraisal, the implementation of this plan was monitored by this project.[15]

In addition, compensations were provided to fishermen whose livelihood was deemed to have been affected by this project. The number of eligible individuals was 491. Of these, 449 individuals received compensation in the form of motorboats and fishing equipment. According to KPA, the reasons some of the fishermen were not eligible included the failure to submit required documents, inability to contact them, and the failure to appear to receive the goods.

(3) HIV/AIDS prevention program

As per the plan at the time of appraisal, an HIV/AIDS prevention program to strengthen social development was implemented according to the plan by the consultants for construction supervision (Table 7). There was a concern over a "possible rise in HIV infection," but it did not increase after all.

Table 7. Results of HIV/AIDS prevention program

Program	Implemented by	Description/Results
HIV prevention program for construction workers	KPA, Toyo Construction	439 HIV tests (of these, positive = 5), 7,800 individuals participated in the voluntary HIV counseling and testing (VCT) service (of these, positive = 0), distribution of 8,928 condoms.
Comprehensive HIV/AIDS prevention program for nearby residents	Dzarino CBTO (a Kenyan NGO)	2,235 instances of VCT via door-to-door visits, training of 98 peer educators, establishment of 11 condom distribution kiosks.

Source: Documentation provided by KPA

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

3.4 Sustainability (Rating: ③)

3.4.1 Institutional/Organizational Aspect of Operation and Maintenance

The port facilities and equipment developed under this project are owned and operated/maintained by KPA, the project's executing agency. KPA was founded when the authorities of its predecessor, the East African Harbours Corporation, was transferred to it in 1978. KPA became a national authority under the Ministry of Transport, Infrastructure, Housing, Urban Development and Public Works. It merged with the nationally run Kenya Cargo Handling Corporation in 1986 to create a state corporation in charge of Kenya's entire port development and operation.

The organizational structure of KPA has changed little since the time of appraisal. Under its board of directors and managing director, KPA has about 6,800 employees (as of the end

[15] The environmental and social considerations in this project were addressed by adopting the *Japan Bank for International Cooperation Guidelines for Confirmation of Environmental and Social Considerations* (2002).

of 2018). As mentioned above, unlike the expectation at the time of appraisal, the operation of Container Terminal 2 has not been privatized and is carried out by the KPA's Container Terminal Operations Department as it does for Container Terminal 1. As of November 2019, the department had 1,788 employees. Not only did the department fall short of its approved number of staff positions, 2,212, but it was also based on the organizational structure in 2012 (when Container Terminal 1's Berth 19 and Container Terminal 2 did not exist). As a result, there is especially a shortage of skilled workers, such as gantry operators. KPA has made efforts to increase workers, and it had 296 gantry operators as of November 2019, exceeding the approved number of staff positions of 220. However, the number of workers is insufficient for the full operation of all of the 69 existing gantry cranes (13 SSGs, 50 RTGs, and six Rail Mounted Gantries (RMGs) because each gantry crane requires six workers (two per shift, with each worker working for four hours) in three shifts per day (eight hours per shift). In addition, KPA acknowledged that it would need more thorough supervision to address the aforementioned issue concerning the hours when cargo handlers are absent.

The operation and maintenance of cargo-handling equipment are carried out by KPA's Container Terminal Engineering Department. The personnel included 25 employees in charge of SSGs and 32 employees in charge of RTGs. The department stated that these numbers were sufficient.

Thus, although there are some issues concerning the number of cargo handlers and supervision, the institutional/organizational aspect of operation and maintenance has generally been developed adequately.

3.4.2 Technical Aspect of Operation and Maintenance

In terms of the operation of SSGs and RTGs, KPA has hired employees who received professional training at institutions such as the Bandari Maritime Academy (the national vocational training institution) and are certified for gantry operation. Operators receive training at the time of equipment purchase and on-the-job training (OJT), and their skills are regularly checked.

Regarding the maintenance and management of SSGs and RTGs, KPA has hired mechanics who have mechanical engineering degrees (diploma or above). Mechanics receive training at the time of equipment purchase and OJT, and their skills are regularly checeked. KPA stated that repairs are usually carried out by the mechanics of KPA's container terminal engineering division, but it outsources repairs to suppliers as needed.

Since the roads and buildings constructed under this project except for the wastewater treatment system were ordinary facilities, their operation and maintenance did not experience any technical issues. This project adopted a biodigester system (wastewater receives final processing by microorganisms and is used as reclaimed water after filtration through filters) for the wastewater treatment system by following the notice from NEMA. However, KPA reported that its electrical and pump systems developed problems that KPA could not repair.

According to the consultants for construction supervision, this is an advanced system that requires technologies, such as the constant monitoring of water quality in the system. There was a branch office of this system's (European) specialized company in Mombasa. However, KPA maintained and managed the system on its own without signing a maintenance contract with this company. KPA reported that the system stopped working properly. For this reason, at the time of ex-post evaluation, KPA processes wastewater by installing conventional wastewater tanks.

Thus, although some issues were present, the technical aspect of operation and maintenance generally did not experience major issues for the purpose of continuing the handling of container cargo.

3.4.3 Financial Aspect of Operation and Maintenance

KPA does not receive subsidies from the Government of Kenya, and more than 60% of its income comes from the maritime and land service fees paid by shipping lines and consignees. In terms of balance, KPA has always been in the black, with no issues with its equity ratio. According to KPA, necessary amounts have been spent on the operation and maintenance of Container Terminal 2.

Table 8. Financial indicators of KPA

(Unit: %, million KES)

	2016	2017	2018
Equity ratio	51%	51%	61%
Ordinary income	10,628	10,346	13,886

Source: KPA Annual Report & Financial Statements 2016/2017, 2017/2018, 2018/2019
Note: The average exchange rate in 2016-2018 was 1 KES = 1.08 yen

Table 9. Balance of KPA Container Terminal 2

(Unit: million KES)

	2016	2017	2018
Income	2,000	6,500	8,500
Operation/maintenance Expenditure	700	2,050	2,100

Source: Documentation provided by KPA
Note: The same exchange rate as in Table 8.

Thus, the financial aspect of operation and maintenance did not experience any significant problem.

3.4.4 Status of Operation and Maintenance

Through interviews with KPA, the examination of records, and site visits, this study confirmed that the plan and the implementation of the operation and maintenance of the facilities/equipment developed under this project are in good standing. Regarding cargo-handling equipment, KPA uses an operation management system by SAP to create, implement, and manage a maintenance/management plan for each machine (routine inspection, regular

maintenance, overhauls, etc.). The machines procured in this project are generally in good condition,[16] and KPA has been able to procure and restock spare parts without major issues.

The facilities constructed in this project are also generally in good condition, but there were signs outside the administration building indicating that wastewater had seeped out. KPA explained that KPA installed wastewater tanks in place of the wastewater treatment system mentioned above, but one of them had a breakage due to the consolidation subsidence of the landfill. According to the consultants for construction supervision, the current level of consolidation subsidence is within expectations.

Thus, although some issues were present, the status of operation and maintenance is generally in good standing for the purpose of container cargo handling.

In light of the above, no major problems have been observed in the institutional/organizational, technical, financial aspects and the current status of the operation and maintenance system. Therefore, the sustainability of the project effects is high. The few issues that were observed can be reasonably dismissed because they would not obstruct the continuation of the project effect—the handling of container cargo.

4. Conclusion, Lessons Learned and Recommendations

4.1 Conclusion

This project attempted to respond to an increased demand for cargo handling and improve the efficiency of port operation at Mombasa Port, one of the largest international trade ports in East Africa, by constructing a container terminal and installing cargo-handling equipment, thereby contributing to the promotion of trade and social and economic development not only in Kenya but also across East Africa including the neighboring countries. The relevance of the project is high because these objectives are consistent with the development plans and development needs in Kenya and the East African region and with Japan's aid policy. The container terminal was expanded as a result of implementing the project, achieving all targets in the operation and effect indicators, such as container throughput and waiting time. The throughput of the export/import cargo to and from Kenya, that of the transit cargo to neighboring countries, and that of transshipment cargo have increased at Mombasa Port, suggesting that the project has contributed to the economic development in Kenya and its neighboring countries. Therefore, the effectiveness and impact are high. The project outputs were mostly generated as planned, but the project period exceeded the plan. Therefore, the efficiency is fair. The sustainability of the project effects is high because the institutional/organizational, technical, and financial aspects and the status of the operation and maintenance of the project are mostly in good standing.

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

[16] One of the SSGs had an electrical system issue in 2018, but it was repaired (parts replacement). At the time of site visit in November 2019, one of the RTGs had a generator issue and was being repaired.

4.2 Recommendations

4.2.1 Recommendations to the Executing Agency

Of the following recommendations, (1) through (3) are in response to the fact that the privatization of the container terminal operating rights as originally envisioned failed to take place.

(1) KPA is recommended to expedite its plan to install SSGs in Berth 20 to improve the cargo-handling efficiency and berth occupancy so that it can alleviate the excessive congestion at Berth 21 and achieve the project effect more extensively across container terminals at Mombasa Port.

(2) KPA is recommended to review the berth assignment soon and improve the current situation in which ships with a large number of containers are assigned to berths with low cargo-handling efficiency.

(3) KPA is recommended to hire additional skilled cargo handlers and carry out more thorough supervision of cargo handlers to improve administrative aspects promptly, such as correct shift changes and fewer incidents of incorrect container placement.

(4) KPA is recommended to thoroughly carry out the repair and operation/maintenance of the wastewater tank and reexamine the possibility of hiring a specialized company in Mombasa for the repair and operation/maintenance of the wastewater treatment system installed under this project to improve the sanitary environment at Container Terminal 2.

4.2.2 Recommendations to JICA

None.

4.3 Lessons Learned

(1) Risk analysis and actions concerning the plan to privatize container terminal operation

The plan for the privatization of the operating rights was suspended, yet the design that was premised on privatization was not revised. As a result, the operation of the facilities developed under this project was affected. Issues included staff shortage and an insufficient number of cargo-handling equipment in some berths (however, indicators' targets have been achieved thanks to the actions taken by the executing agency after the project and the existence of high demand for container handling). The status of privatization was specified in the documentation in the appraisal as one of the "Measures to be Adopted/Points Which Require Special Attention" (things to consider concerning the project implementation/supervision), but the intention was to implement the consulting service for selecting an operator in the project by aligning its timing with the progress of privatization. That is, it assumed that privatization would take place by the time of project completion. This study could not verify that the project analyzed the possible

presence of risk factors that might interfere with its implementation or had a plan concerning necessary actions in case the privatization fails. In projects in which the privatization of facility operation is assumed, efforts should be made at the time of appraisal to anticipate the factors that might hinder the privatization (such as the opposition from the labor union in the case of this project) and lay out specific actions to take should the privatization stall (such as, in the case of this project, the need for adding extra staff and equipment if KPA becomes in charge of the terminal operation). JICA can also encourage these responses during the project implementation. These efforts would allow highly efficient operation as soon as facilities become operational even if the privatization stalls.

(2) Analysis and actions concerning the impacts on existing container terminal

The construction of Container Terminal 2 in this project mitigated the congestion in the existing Container Terminal 1 and improved the handling of container cargo throughout Mombasa Port. At the same time, shipping lines that have been assigned to berths with low cargo-handling efficiency found this practice unfair. In projects in which new container terminals are constructed, it is necessary, at the time of appraisal and during the implementation, to analyze how the utilization of existing terminals might change and discuss with the executing agency to consider practices that can maximize the efficiency (berth assignment based on the volume of container handling and the expansion of the facilities at existing terminals).

Comparison of the Original and Actual Scope of the Project

Item	Plan	Actual
1. Project Outputs (1) Construction of container terminal	Wharf: 15 m deep x 350 m long, 11 m deep x 190 m long	Wharf: 15 m deep x 350 m long, 11 m deep x 210 m long
(2) Procurement of cargo-handling equipment	Gantry Crane (SSG) 50 t x 2 units; Transfer Crane (RTG) 40.6 t x 6 units	SSG 65 t x 2 units; RTG 45 t x 4 units
(3) Construction of port access road	33 m wide x 1.6 km long	33 m wide x 2.1 km long
(4) Dredging for channels and basins	Dredge volume: approx. 3 million m^3	Dredge volume: approx. 7 million m^3
(5) Consulting services	Detailed designs, tendering assistance, construction supervision: 303 man-months (foreign consultants) / 581 man-months (local consultants) Assistance for terminal operator selection: 132 man-months (foreign consultants) / 127 man-months (local consultants)	Detailed designs, tendering assistance, construction supervision: 316.35 man-months (foreign consultants) / 584.63 man-months (local consultants) Assistance for terminal operator selection: contract terminated after the service was partially performed
2. Project Period	November 2007–November 2015 (97 months)	November 2007–February 2017 (112 months)
3. Project Cost		
Amount Paid in Foreign Currency	8,824 million yen	15,849 million yen
Amount Paid in Local Currency	25,976 million yen (15,280 Kenyan shilling)	15,886 million yen (13,238 Kenyan shilling)
Total	34,800 million yen	31,735 million yen
ODA Loan Portion	26,711 million yen	26,328 million yen
Exchange Rate	1 Kenyan shilling = 1.7 yen (as of May 2007)	1 Kenyan shilling = 1.2 yen (2007–2016 average)
4. Final Disbursement	October 2017	