

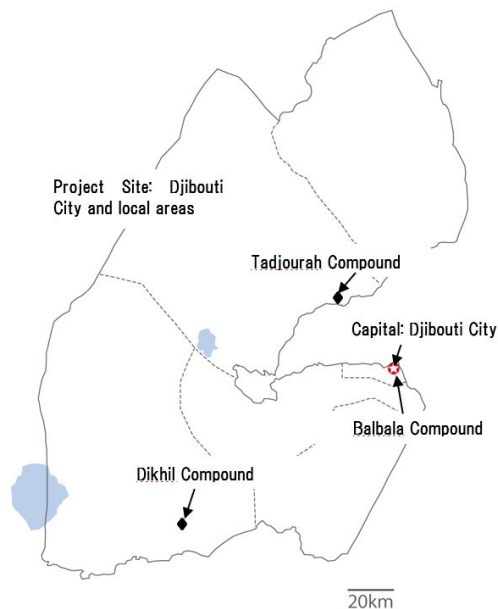
FY2020 Simplified Ex-Post Evaluation Report of Japanese Grant Aid Project

External Evaluator: Kenichi Inazawa, Octavia Japan, Co., Ltd. (March 2021)

Duration of the Study: November 2020 – November, 2021

Duration of the Field Study: January 4 – 16, 2021

Country Name	The Project for the Improvement of Road Management Equipment in the Republic of Djibouti
The Republic of Djibouti	



Location of the Project Sites



Procured Road Maintenance Equipment (Bulldozer)

I. Project Outline

Background	<p>Prior to the start of this project, high economic growth was observed in neighboring Ethiopia, with Djibouti functioning as an outer port; several large-scale infrastructures were constructed in Djibouti, including a new port and railways. Conversely, land transportation depended entirely on the road network. The surfaces of the trunk roads deteriorated as the volume of traffic rapidly increased. In addition, even in the capital city, road conditions were deteriorating because they were not being adequately maintained, due to a lack of road maintenance equipment for small-scale construction. Buses did not operate regularly and there was dust everywhere. These issues greatly affected the lives of citizens. The Road Bureau, under the Ministry for Equipment and Transport (Agence Djiboutienne des Routes, Ministre de l'équipement et des Transport; hereinafter referred to as "ADR"), the executing agency of this project, was the owner of the outdated road management equipment which was no longer fit for purpose. Due to budget shortages, the ADR was unable to replace the old equipment and could not respond to the diversifying needs of road management. Under such circumstances, the government of Djibouti requested that Japan provide assistance in the form of a grant aid to help improve the road maintenance equipment.</p>
Objective of the Project	<p>The objective of this project was to improve the ADR's road maintenance system and capacity, by introducing road development and maintenance equipment at three maintenance bases (Djibouti City, Dikhil City and Tadjourah City), thereby contributing to the development of socio-economic infrastructures, leading to the sustainable development of Djibouti.</p>
Project Outputs	<ol style="list-style-type: none"> 1. Project Sites: Djibouti City, Dikhil City, Tadjourah City 2. Japanese Side: <ol style="list-style-type: none"> 1) Procurement of equipment Road maintenance equipment: bulldozers, motor graders, dump trucks, tank trucks, mobile workshops, asphalt plants, spare parts, etc. Workshop equipment: generators, air compressors, mechanic tool sets, etc. 2) Consulting services/Soft component Consulting services: detailed design, procurement supervision Soft component: improvement of equipment management system, training on equipment inspection/maintenance capacity enhancement, technical guidance through pilot construction, guidance on reinforced maintenance system 3. Djiboutian Side: -securing of handover area for the new equipment provided (preparing workshop facilities).

	-securing of storage space for spare parts. -timely commencement of construction on priority roads following the procurement of equipment. -domestic transportation of the equipment to the construction sites for the aforementioned road development. -placement of necessary technicians and operators to undertake the aforementioned road development. -securing of land required for the aforementioned road development. -appropriate operation and maintenance of the equipment procured by this project and placement of technicians, required for such operations and maintenance work. -appropriate operation and maintenance, as well as continuous utilization of the appliances, procured through this project's soft component, such as PCs and the equipment management systems, established as a result of this project. -road development planning with due consideration for pedestrians, such as children walking to/from school. -sufficient briefing of residents on road construction schedules, with advice on safety when road construction is underway.			
Implementation Schedule	E/N Date	March 28, 2016	Disbursement Date	-
	G/A Date	May 15, 2016	Completion Date	June 14, 2019
Project Cost	G/A Grant Limit: 1,239 million yen		Actual Grant Amount: 1,206 million yen	
Executing Agency	Agence Djiboutienne des Routes, Ministre de l'équipement et des Transport (ADR)			
Conditions	N/A			
Borrower	N/A			
Contracted Agencies	Main Contractor: ITOCHU Corporation Main Consultant: Yachiyo Engineering Co., Ltd. Procurement Agency: N/A			

II. Result of the Evaluation

Summary

This project aimed at improving the road maintenance system and capacity, by introducing road development and maintenance equipment and by providing soft component training at three maintenance bases in Djibouti City and rural areas (Dikhil City and Tadjourah City). When the project was planned, the government of Djibouti aimed to develop and maintain national and city roads in a strategic manner based on its long-term plan, *Vision Djibouti 2035*, and the mid-term plan, *Strategy of Accelerated Growth and Promotion of Employment (SCAPE) (2015-2019)*. In addition, a rapid increase in the volume of traffic resulted in the deterioration of the trunk roads, as maintenance was insufficient due to a lack of road maintenance equipment for small-scale construction. The condition of the roads in the city deteriorated. Buses did not operate regularly and there was a lot of dust. The situation was negatively affecting the lives of the citizens. In addition, the road maintenance equipment, owned by Agence Djiboutienne des Routes, Ministre de l'équipement et des Transport (hereinafter referred to as "ADR"), the executing agency of this project, was outdated and was no longer fit for purpose. The ADR could not update the equipment due to budget shortages. Considering that there was a significant need to improve road conditions through equipment introduction, the project's relevance is high. As for efficiency, while the project outputs and costs were generally within the plan, in terms of the project period, the installation, startup and initial operation of the asphalt plant, one of the main outputs of this project, took longer than initially expected. Therefore, efficiency is fair. Regarding effectiveness, three quantitative effect indicators were set at the time of planning: (1) distance of developed road (new pavement), (2) distance of developed road (rectification of road), (3) average vehicle speed during non-congested periods. At the time of the ex-post evaluation, (1) and (3) had primarily been achieved. (2) had not been achieved, due to the ADR's prolonged internal human resource procedures and delays in relation to the asphalt production systems. On the other hand, the qualitative interview survey confirmed that convenience and road safety had improved, with fewer issues relating to dust on the main roads in Djibouti City and in rural areas. Therefore, the effectiveness and impacts of the project are fair. With respect to sustainability, there is no specific concern in relation to the institutional, technical or financial aspects of the ADR. No problems have been observed in terms of the operation and maintenance of the procured road maintenance equipment. Hence, the sustainability of the project effects is regarded as high.

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

Overall Rating ¹	B	Relevance	③ ²	Effectiveness and Impacts	②	Efficiency	②	Sustainability	③
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<Special Perspectives Considered in the Ex-Post Evaluation/Constraints of the Ex-Post Evaluation>

Due to the COVID-19 pandemic, an external evaluator did not travel internationally for this study. Instead, field surveys were conducted remotely, utilizing local assistants who conducted site inspections, collected information and data, and interviewed the relevant individuals. The external evaluator examined the obtained information, based on which the evaluation and analysis were made.

1. Relevance

<Consistency with the Development Plan of Djibouti at the Time of the Ex-Ante Evaluation>

The government of Djibouti advocated the need for strategic development and maintenance of national and city roads in its long-term development plan, *Vision Djibouti 2035* and the mid-term plan, *SCAPE 2015 – 2019*. *Vision Djibouti 2035*, in particular, developed a priority action plan for the ministry's road traffic field and reorganized/strengthened the related departments within the ministry, as a result of which the ADR was established in November 2013. The establishment of the ADR aimed to reinforce the system used by the government to directly manage the trunk roads and roads in rural areas, as well as in Djibouti City.

¹ A: Highly satisfactory, B: Satisfactory, C: Partially satisfactory, D: Unsatisfactory

² ③: High, ②: Fair, ①: Low

<Consistency with the Development Needs of Djibouti at the Time of the Ex-Ante Evaluation>

Prior to the start of this project, land transportation was completely dependent on the road network. The conditions of the trunk roads deteriorated as the volume of traffic increased rapidly. In addition, even in the capital, Djibouti City, the roads were not well maintained due to the shortage of road maintenance equipment for small-scale construction. As a result, the road conditions worsened in the city, with fewer regular bus services and more reported issues of dust, adversely affecting the lives of citizens. Under such circumstances, the road maintenance equipment, owned by the ADR, was outdated and no longer fit for purpose. The ADR could not update the equipment due to budget shortages and were, therefore, incapable of responding to the road management needs.

<Consistency with Japan's ODA Policy at the Time of the Ex-Ante Evaluation>

"Building socio-economic infrastructures for sustainable development" was stipulated as one of the priority areas in the Japanese government's *Country Assistance Policy for the Republic of Djibouti* (April 2014). In addition, Djibouti acted as a logistics center in East Africa and was actively involved in addressing international issues, including piracy. Assistance for Djibouti through Japan's ODA was expected to help the country tackle its national challenges, and promote stability and development. It was also expected to contribute to the stable development of the East African and global economy as a whole. Considering the above, this project was intended to contribute to the socio-economic infrastructures of Djibouti, and therefore, was in line with Japan's ODA policy.

<Evaluation Result>

In light of the above, the relevance of this project is high.

2. Effectiveness/Impacts

<Effectiveness>

<Quantitative Effects>

This project set out planned construction work on priority roads requiring maintenance, by introducing road maintenance equipment. Three indicators were established at the planning stage to measure the effects of this project: (1) distance of developed road (new pavement); (2) distance of developed road (rectification of road) and (3) average vehicle speed during non-congested periods. The quantitative effect indicators (baseline, target, actual) are shown in Table 1. In addition, the targeted roads and their locations are shown in Figure 1 which is found at the end of this report.

(1) Distance of developed road (new pavement): the target was exceeded for the roads within Djibouti City. According to the ADR, road development has advanced since the time baseline was set (2014–15) and especially in recent years, as the central government has been focusing on road development and improvement; the flow of traffic has also improved, despite the fact that the volume of traffic has increased in many areas of the city. It was also stated that the road maintenance equipment, introduced by this project, was highly utilized. On the other hand, the actual extension of the RN12 (RN9 junction – Day: a mountainous road, heading in a northerly direction from the RN9 to Day, located in Tadjourah City) was 12 km shorter than the target. This was due to the revision of the initial plan resulting in a route change. The area was prone to flooding and road construction was considered difficult in close proximity to a wadi³. Therefore, the initial extension plan of 40 km was amended to 12 km. By the time of the ex-post evaluation, all 12km of pavement has been completed. In other words, the road development was completed as planned after the initial plan was changed.

(2) Distance of developed road (rectification of road): at the time of the ex-post evaluation (February 2021) no construction work had been carried out. According to ADR, it is because the Government of Djibouti has indicated a plan of prioritizing road development and improvement in Djibouti City and the development priority of RN 16 has been lowered, considering the flood damage occurred in 2019. Meanwhile, the ADR concedes that the road surfaces of the RN16 are not in a good condition, and intends to plan for road development in the future⁴.

According to the ADR, the road maintenance equipment, procured by this project, is also being utilized to repair roads in addition to the targeted sections, shown in Table 1⁵. The procured equipment is deemed to be utilized in Djibouti City, Dikhil City and Tadjourah City, where maintenance bases are located and will eventually be used in other areas in the future.

(3) Average vehicle speed during non-congested periods: with the exception of the section along the RN16, the targets have generally been achieved. According to the ADR, one of the main reasons was that the procured equipment was utilized to repair road surfaces and to pave roads⁶. In the paved section along the RN12 (updated plan: 12 km) the speed of 40 km/h was achieved in general. The ADR also states that the installation of pavements and road improvement works have also progressed in other sections, resulting in improved vehicle speeds. On the other hand, the average speed of the section along the RN16 has not reached the set target, as no evidence of progress in road development was noted at the time of the ex-post evaluation as discussed above.

³ It refers to a dry river with no running water in desert climate and arid areas. A seasonal river.

⁴ The construction supervision consultant made a recommendation at the time of the defect inspection (June 2019) that the ADR should invest financial and human resources into promoting the road development budget and personnel, for which the ADR is responsible.

⁵ It is believed that the repairs are primarily being carried out in the capital, Djibouti City, using the equipment.

⁶ The local consultant tested the speed personally, the result of which was no different from the data provided by the ADR.

Table 1: Quantitative Effect Indicators of this Project (Baseline, Target, Actual)

Indicators	Baseline 2015 Baseline Year	Target 2021 3 Years After Completion	Actual		
			2019	2020	2021 3 Years After Completion
(1) Distance of developed road (<u>new pavement</u>) (Djibouti City roads, RN12)	0 (Djibouti City roads)	1.4 km (Djibouti City roads)	N/A	1.3 km	5.6 km
	0 (RN12)	21 km (RN12)	N/A	N/A	12 km *Note
(2) Distance of developed road (<u>rectification of road</u>) (RN16)	0 (RN16 (Junction of RN14 and Gorriliyita))	40 km (RN16 (Junction of RN14 and Gorriliyita))	N/A	N/A	0 km
(3) Average vehicle speed during non-congested periods	45 km/h (RN1 Dikhil – Galafi)	60 km/h (RN1 Dikhil – Galafi)	45 km/h	45 km/h	60 km/h
	40 km/h (RN9 (Junction with RN1, PK51 – Tadjourah))	60 km/h (RN9 (Junction with RN1, PK51 – Tadjourah))	40 km/h	40 km/h	50 km/h
	25 km/h (RN12)	40 km/h (RN12)	25 km/h	25 km/h	40 km/h
	30 km/h (RN16 (Junction with RN14 – Gorriliyita))	50 km/h (RN16 (Junction with RN14 – Gorriliyita))	30 km/h	30 km/h	30 km/h
	15 km/h (Djibouti City road)	30 km/h (Djibouti City road)	15 km/h	50 km/h	50 km/h

Source: JICA document (baseline, target), answers to the questionnaire and ADR interviews (actual)

Note: the initial plan was revised and the route was changed. As a result, the extension became shorter than initially anticipated (the initial plan was 40 km, which was reduced to 12 km following the change of plan. At the time of the ex-post evaluation, all 12km of pavement has been paved).

<Qualitative Effects>

In this study, the ADR's management and its maintenance base staff were interviewed regarding the improvements in terms of convenience and driving safety, as well as the status of the operation of public transport (buses). The following comments were received: "Before the road maintenance equipment was procured (prior to the start of this project), the roads in Djibouti City, as well as in rural areas, had many potholes⁷. At present, the road development and repairs are progressing. Drivers must be benefiting from the comfortable road surface." "Public transport vehicles (buses) used to take other routes, due to the damaged road surfaces, which affected smooth travel. As a result of the introduction of the road maintenance equipment and the road surface repairs, buses are using the original routes." "The users of public transport (buses) are increasing. As potholes and damage have been repaired, the number of passengers during the day is on the rise." "On the other hand, some roads are still unpaved or have potholes and noticeable damage." With respect to reduced levels of dust, the following comments were received: "with more asphalt paved sections, dust has been reduced." "Residents along the roads seem to be becoming more aware of the environment because there is less dust." "As the road maintenance equipment was introduced and the number of paved sections has increased, we have noticed a positive impact on the roads after flooding, that is, water disperses fairly quickly. I think the improved roads contribute to the reduction of flood damage." Considering the aforementioned comments, it can be said that the implementation of this project has improved convenience and driving safety on the major trunk roads in Djibouti and the surrounding rural areas; dust is also decreasing, due to the progress being made in terms of road paving (asphaltization).

<Impacts>

(1) Contribution to Socio-Economic Infrastructure Development for Sustainable Development

Table 2 shows Djibouti's GDP growth rates; Table 3 shows the handling volume of dry cargo (general cargo) and Table 4 shows the changes in the number of disembarking passengers, between the start of this project and the ex-post evaluation.

(Reference) Table 2: Djibouti's GDP Growth Rates

(Unit: %)

2016	2017	2018	2019
6.9%	5.1%	8.5%	7.5%

Source: International Monetary Fund (IMF)

(Reference) Table 3: Handling Volume of Dry Cargo (General Cargo)

(The upper row represents imports, while the lower row represents exports)

(Unit: thousand ton)

2016	2017	2018	2019
11,668	9,554	10,012	9,809
2,248	2,168	1,989	2,085

Source: Directorate of Economy and Planning (Direction de l'Economie et du Plan), MEFI

⁷ A phenomenon that causes the pavement surface to deteriorate, due to cracks on the road surface, resulting in holes appearing.

(Reference) Table 4: Changes in the Number of Disembarking Passengers
(Tourism Sector Indicator)

(Unit: person)

2016	2017	2018	2019
126,179	132,829	141,941	167,474

Source: Department of Statistics: DMT-DCT-PDSA

Djibouti plays a key role in the maritime trade of Ethiopia, a landlocked country. Ethiopia, followed by France, accounts for a large proportion of Djibouti's trade. While Table 3 shows that the handling volume of dry cargo (exports) has not increased dramatically, Table 2 indicates that GDP growth has been stable at around 5–8% in recent years. In addition, Table 4 shows that the number of Djibouti Port's disembarking passengers has been increasing. The ADR's management was interviewed in relation to the aforementioned situations, namely the way in which they are related to this project and the circumstances surrounding the road sector; a representative commented: "in 2016–2017 when this project began, approximately 62% of Djibouti's main roads (totally 148 km) were not developed and needed improvement. As a result of the road maintenance equipment of this project becoming available, the proportion of undeveloped/unimproved roads has been reduced to approximately 50%. Through continued utilization of the road maintenance equipment and the government's continued support for the road sector with specific budgets, the proportion of the undeveloped/unimproved roads could be further reduced to approximately 24%. Progress in road maintenance will support various economic activities." Since such statistical data are also influenced by factors other than this project, it is not possible to clearly establish the economic and social impact of this project. Nevertheless, considering the comment received in the interview survey, it can be said that this project has contributed to the smoothness of Djibouti's transport network, making it efficient in terms of logistics and supporting urban development, as well as economic and social progress.

(2) Other Positive and Negative Impacts

1) Impact on the Natural Environment

The questionnaire and interviews confirmed that the procured road maintenance equipment has specifications suitable for the natural environment of the construction sites, such as climatic conditions, and that the project does not have a negative impact on the environment. It was also confirmed by means of the questionnaire and interviews that there was no negative impact on the natural environment, including air pollution, noise/vibration and the ecosystem during the project or after the project's completion, in the areas surrounding the roads on which the road maintenance equipment, procured by this project, was used.

2) Impact on the Social Environment (Land Acquisition and Resettlement)

This project mainly concerned procuring road maintenance equipment. Land acquisition was not necessary as the project involved the improvement of existing roads. In addition, the road development did not require any residents or households to resettle.

3) Impact on Gender

In this study no particular impact on gender was observed as a result of the questionnaire, interview survey or the site visits conducted by the local consultant.

4) Other Impacts

In this study no other impacts were observed as a result of the questionnaire, interview survey or the site visits conducted by the local consultant.

<Evaluation Result>

The following three quantitative effect indicators were set for this project at the planning stage: (1) distance of developed road (new pavement); (2) distance of developed road (rectification of road) and (3) average vehicle speed during non-congested periods. (1) and (3) had primarily been achieved at the time of the ex-post evaluation. Due to the ADR's internal personnel reshuffles and delays in establishing an asphalt production system, (2) had not been achieved. On the other hand, the qualitative interview survey confirmed that comfort and safety levels had improved along the main roads in Djibouti City, as well as in rural areas, with fewer issues relating to dust. Therefore, this project has achieved its objectives to some extent, and the effectiveness and impacts of the project are regarded as fair.

3. Efficiency

<Outputs>

The project outputs on the part of the Japanese and Djiboutian counterparts, outlined in the "I. Project Outline," were implemented as planned.

<Inputs>

The planned project period was from April 2016 to February 2017 (21 months). In reality, the project lasted from April 2016 to May 2018 (26 months), which was slightly longer than planned (approximately 124% of the plan). The main reason was that the on-site installation of the asphalt plant, which was one of the project outputs, required more time than expected, as did the startup and initial operation. Consequently, the schedule of the training which was a part of the soft component (support function for the operation and maintenance utilizing the plant) was affected, delaying the project schedule.

The planned total cost of this project was approximately 1,250 million yen (of which 1,239 million yen was to be financed by an ODA loan and approximately 11 million yen was to be financed by Djibouti). In reality, the total cost was approximately 1,216 million yen (of which 1,206 million yen was financed by an ODA loan and approximately 10 million yen by Djibouti), which was generally as planned (approximately 97% of the plan).

Although the project cost was mostly within the plan, the project period slightly exceeded the plan. Therefore, efficiency of the project is

fair.

4. Sustainability

<Institutional/Organizational Aspect>

At the time of the ex-post evaluation (as of February 2021), the executing agency of this project was the ADR. The ADR's Balbala maintenance base, located in Djibouti City, manages all road and maintenance equipment. The Balbala maintenance base carries out the road maintenance works by collaborating with the Dikhil and Tadjourah maintenance bases in rural areas. The Balbala maintenance base has 35 staff members, while the Dikhil and Tadjourah maintenance bases have 15 and two staff members, respectively. According to the questionnaire and the ADR interviews, all bases have a sufficient number of staff and there are no particular concerns in relation to staff shortages which could potentially affect the work.

<Technical Aspect>

While many of the ADR staff members do not have technical qualifications, they are very experienced in maintenance and equipment operations. It was confirmed as a result of the questionnaire, site visits by the local consultant and staff interviews that there was no shortage in terms of technical expertise. Although the ADR does not provide any training courses for its new recruits, many of those hired are graduates of technical colleges, and the ADR strives to recruit personnel who are above average in terms of capability. After joining the agency, the new staff strive to improve their abilities and knowledge through their work experiences.

To ensure that the technical levels from an operation and maintenance perspective are being maintained, the ADR conducts regular training sessions for its staff. The ADR's Equipment Maintenance Management and Storage Department offers training courses, such as "Equipment Maintenance" and "Emergency Responses." In addition, an equipment ledger management database (general-purpose software) was provided by the training program within this project (soft component), which enabled easy understanding of the warehousing status of the ADR's road maintenance equipment and spare parts, including those introduced by the project. According to the ADR, this database has enabled them to efficiently capture and manage the equipment maintenance cycles and timings of spare parts' procurement. In addition, during the project implementation, the Japanese consultant provided the ADR with a manual for the operation and maintenance of the construction equipment, as well as an operation record manual. The ADR's maintenance bases refer to these maintenance manuals as required, when carrying out their duties.

<Financial Aspect>

Table 5 shows the annual maintenance costs (most recent three years) for the road maintenance equipment owned by the ADR (including those procured by this project). According to the ADR's Finance Department, the number of road maintenance projects is increasing in Djibouti City and its suburban areas, and the quantity of road maintenance equipment used is also increasing, which explains the higher costs. These costs form part of the ADR's own budget, which is mainly funded by the government. According to the ADR, the necessary budget is allocated without excess or deficiency.

Table 5: Maintenance Cost for ADR's Road Maintenance Equipment
(Unit: Djiboutian franc)

2018	2019	2020
13,901,270	17,643,480	24,548,820

Source: ADR

Note: it was difficult to calculate or obtain information on the specific costs relating to the road maintenance equipment, procured by this project.

<Current Status of Operation and Maintenance>

The questionnaire and interviews confirmed that there were no major concerns regarding the maintenance status of the procured equipment and no anticipated problems. There was no damage deemed substantial enough to affect the road surfaces that had been improved using the road maintenance equipment. The status of the operation and maintenance of the developed sections was generally good.

The spare parts of the road maintenance equipment are stored in the ADR's own storage facilities. The spare parts are recorded and managed by the equipment ledger management database provided in this project, whereby storage facility managers provide the required parts as soon as they are requested by the local sites or the equipment managers. The ADR's interviews confirmed that there was no problem with the storage status or the quantities of spare parts at the time of the ex-post evaluation. Spare parts are primarily purchased from Europe and Asia. However, there are some concerns regarding the future. For example, the spare parts of the maintenance vehicle safety devices (crash pad discs, crash assemblies, etc.) and brake valves need to be purchased directly from Japan, and it takes at least one month from the point of order to delivery. The ADR pointed out that should a parts replacement be delayed, it could affect the progress of the road construction projects, the number of which is increasing throughout Djibouti. While the mandate of a grant aid project does not often extend to establishing a robust spare parts procurement system, it will be necessary to face the issue of establishing a timely and efficient procurement system, should the volume of road maintenance be expected to increase in the future.

<Evaluation Result>

Therefore, the sustainability of the project effect is high.

III. Recommendations and Lessons Learned

Recommendations to Executing Agency: Should the need for road development and repairs be expected to increase in the future in Djibouti City and in rural areas, it is recommended that the ADR operate and inspect the road maintenance equipment thoroughly, manage the procurement of spare parts, including inventory controls, and continue to ensure prompt and high-quality operation and maintenance works.

Recommendations to JICA: None

Lessons Learned: While the ADR has been securing the spare parts necessary for its road maintenance works at the time of the ex-post evaluation, the procurement system is not necessarily well established for the future, considering the increasing number of road constructions throughout Djibouti. In particular, due consideration must be given to spare parts that require a lead time from the point of order to delivery. While a grant aid project's mandate does not often extend to establishing an efficient system for spare parts' procurement, it is desirable that JICA and its partner country's government should enter into discussions from the initial planning stage, so that a delivery date and stock level of each spare part is always accessible and a prompt and efficient procurement system established, should there be an increasing need for road development and repairs in the future. The issue may not be limited to this project. As similar situations could arise in other grant aid projects, it is always important to consider working on establishing a spare parts' procurement system at the formation of the project where possible.



Photo 1: Procured Road Maintenance Equipment (Road Roller)



Photo 2: Road in Djibouti City, Developed by Utilization of the Road Maintenance Equipment

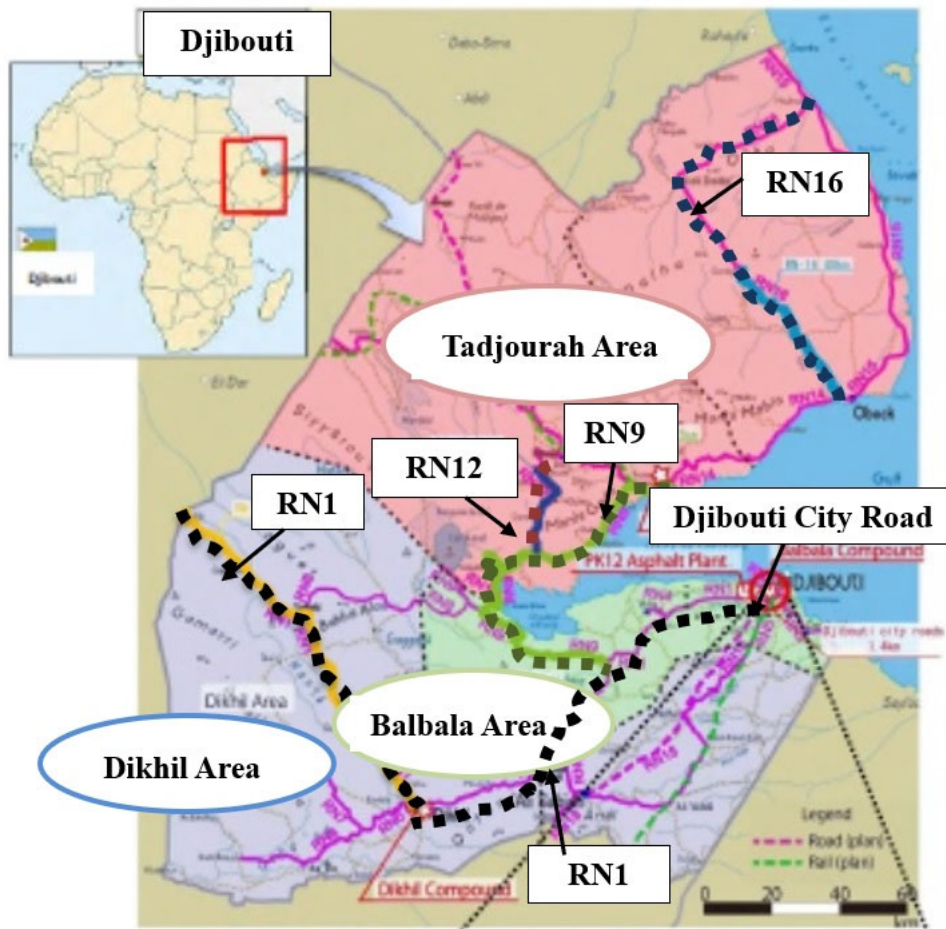


Figure 1: Roads Covered by this Project (dotted lines are the targeted sections)
 (Source: prepared by the evaluator, based on the figure from JICA document (preparatory survey report))