

Republic of South Sudan

FY2021 Ex-Post Evaluation Report of Technical Cooperation Project  
“The Project for Enhancement of Operation and Management Capacity  
of Inland Waterway in Southern Sudan<sup>1</sup>”

External Evaluator: Shima Hayase, IC Net Limited

## 0. Summary

This project was to strengthen the capacity for operation and management of the Juba River Port by establishing the foundation for the Juba River Port Administration (JRPA), the maintenance and operation of port facilities, safe and efficient cargo handling and port management, and the compilation of statistics. It also aimed to help facilitate inland water transportation and enhanced the transportation capacity of South Sudan by sharing the knowledge and the learnings at the Juba River Port with personnel of major ports other than Juba.

The consistency of the project with South Sudan’s development plan and needs, and Japan’s assistant policy for South Sudan is high. External coherence was achieved through cooperation with the Japan Self-Defense Forces (JSDF) dispatched to the United Nations Mission in South Sudan (UNMISS). Regarding internal coherence, with a significant delay in port facility development through the Japan International Cooperation Agency (JICA)’s grant aid project<sup>2</sup>, expected synergistic effects did not materialize. As for the project plan and approach, there were some problems in setting indicators of the Project Purposes and changing the Overall Goal and project plans. Therefore, the project’s relevance and coherence are moderately low.

Regarding effectiveness, the two project purposes were mostly achieved at the time of project completion. Among the two purposes, as for Project Purpose 1, which is to strengthen operation and management capability the operation procedures were developed and put into practice through on-the-job training (OJT) and third country training programs. As for Project Purpose 2, which is to continuously share the knowhow on the port management system established at the Juba River Port with other ports in South Sudan, although the functions of regional ports were suspended owing to security issues, training for strengthening the capacity of the personnel of four ports among the six major domestic ones was implemented. In addition, the knowhow was shared with the personnel evacuated to Juba through day-to-day work at the Juba River Port. The Overall Goal, which is to facilitate transportation and enhance the transportation capacity of river ports in South Sudan, was expected to be achieved by enhancing cargo handling efficiency, increasing cargo volumes, and improving services at regional ports. However, it was impossible to identify an impact of this project alone in achieving the Overall Goal because such achievement

---

<sup>1</sup> At the time of the ex-ante evaluation of this project and the project formulation study, Southern Sudan was part of the Republic of Sudan. Upon independence on July 9, 2011, it became a nation named the Republic of South Sudan.

<sup>2</sup> The contract for the grant aid project was renewed in May 2016. However, the project was suspended again due to the conflict in July of the same year. At the time of the ex-post evaluation (2022), port facilities have not been developed through the grant aid project.

was to be derived from the development of infrastructure. Moreover, many external factors<sup>3</sup> worsened considerably, such as the deterioration of the security situation in South Sudan and a drastic decrease in cargo due to the border closure between Sudan and South Sudan. The project's prerequisites were not met owing to delays in the development of port facilities through the JICA's grant aid project and staff deployment to regional ports. Thus, it was not possible to confirm the achievement status of the Overall Goal and identify an alternative indicator to measure the impacts at the level expected at the time of planning. No particular negative impacts on the natural environment due to this project has been observed. Requests for preventive measures against such accidents as fires and fuel spills were made to relevant stakeholders, and the Juba River Port was regularly cleaned. Neither land acquisition nor resettlement occurred. Based on the above, it is impossible to determine the sub-rating for the project's effectiveness and the impacts.

Efficiency is high because the project cost was within the plan, although the project period slightly exceeded the plan.

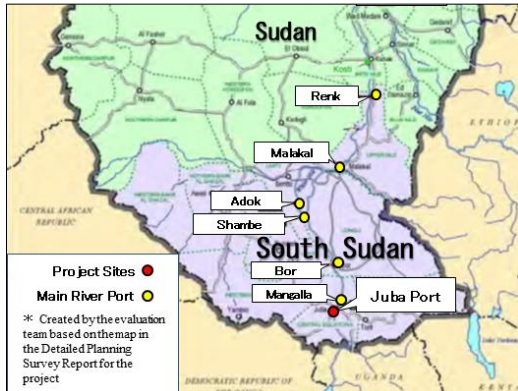
Regarding sustainability, the policy and system aspect has been secured. However, significant problems were observed in the financial aspect owing to chronic government budget shortfalls. Many issues were also found in the institutional/organizational and technical aspect. In the environmental and social aspect, waste dumping, a concern at the time of project planning, was resolved by constructing fences. However, regarding preventive measures to risks, there are a need for spot dredging, and other issues to be addressed such as delays in the recovery of logistics due to ongoing border closures between Sudan and South Sudan, and the collection of tolls at illegal checkpoints. As mentioned above, there are serious concerns, so the sustainability of the project effects is low.

In light of the above, it is impossible to determine the sub-rating for the project's effectiveness and impacts, which are essential evaluation criteria for overall rating. Therefore, the overall rating of the project is indeterminable.

---

<sup>3</sup> As there were logical contradictions in the external conditions and preconditions set in the ex-ante evaluation of this project, in this ex-post evaluation, factors such as conflicts, security, diplomatic relations, national finances, and politics, which are not controllable by the project, are considered as external factors. Factors that must be fulfilled for the project implementation, and are indispensable for the execution, such as the construction of the port through grant aid project, deployment of C/Ps, and securing financial resources for this project, have been reorganized as preconditions in this ex-post evaluation.

## 1. Project Description



Project location



Boats moored in the Juba River Port (February 2022)

### 1.1 Background

In South Sudan, the inland waterway of the White Nile River, which connects Sudan with the capital city of Juba, was a stable and efficient transportation route, so that 60% of the domestic cargo was transported through the route before the Second Sudanese Civil war. However, during the civil war, which started in the 1980s and ended in 2005 with the Comprehensive Peace Agreement (CPA), infrastructure facilities related to internal water traffic were destroyed. In addition, cargo handling and transportation capacity in the Juba River Port were limited owing to problems such as the lack of mooring facilities. South Sudan, which depended on imports, had limited means of transporting them: alternatives to inland water transportation were air transportation with a high cost and land transportation using unpaved highways. Moreover, on top of unpaved roads, a vast wetland stretched along the White Nile, so many roads became impassable during the rainy season, resulting in detours around the wetlands. Thus, it was not fair to say that land transportation was a stable and efficient means of shipping material goods.

Owing to this background, JICA planned to develop facilities at the Juba River Port, such as piers and cranes, under the "Project for Improvement of Juba River Port," a grant aid project.

Then there emerged a need for maintenance and management of port facilities and equipment the grant aid project would provide. Therefore, this technical cooperation project was implemented in order to establish the foundation for port maintenance and strengthen its capacity.

## 1.2 Project Outline

Overall Goal		Inland water transport in South Sudan is facilitated and its capacity enhanced.
Project Purpose	Project Purpose 1	Management capacity of Juba port is continuously strengthened.
	Project Purpose 2	Port management system established at Juba port is continuously shared among other ports in South Sudan.
Output	Output 1	Roles and responsibilities of JRPA are established and executed properly.
	Output 2	Budget and accounting system of JRPA are established.
	Output 3	Facilities of Juba port are properly maintained and managed.
	Output 4	Cargos are handled safely and efficiently at Juba port.
	Output 5	Juba port is managed and operated safely, securely, and environmentally friendly.
	Output 6	Statistical data of Juba port are collected, maintained, and utilized.
	Output 7	Knowledge and experiences accumulated at Juba port is shared among other port staff in South Sudan
Total cost (Japanese Side)		543 million yen
Period of Cooperation		March 2011 - August 2015
Target Area		Juba port and six other major ports in the Republic of South Sudan (Mangalla, Bor, Shambey, Adok, Malakal, and Renk)
Implementing Agency <sup>4</sup>		South Sudan's Ministry of Transport, Roads and Bridges (MTRB), Ministry of Physical Infrastructure of Central Equatoria State (MoPI), and Juba River Port Administration (JRPA)
Other Relevant Agencies/ Organizations		None
Consultant/ Organization in Japan		The Overseas Coastal Area Development Institute of Japan (OCDI) Katahira & Engineers International (KEI)
Related Projects		[Technical Cooperation] "Juba Urban Transport Infrastructure and Capacity Development Study in Southern Sudan" (August 2007–February 2010), The Project on Monitoring Support and Improvement of Operation and Management of River Port in the Republic of South Sudan (March–July 2017) [Grant Aid] "The Project for Improvement of Juba River Port" (GA: January 2013),

<sup>4</sup> When the government system was restructured in 2020, the implementing agencies were renamed as the South Sudan Ministry of Transport (MoT), and the Central Equatoria State Ministry of Road and Bridges (CE MoRB).

### 1.3 Outline of the Terminal Evaluation

#### 1.3.1 Achievement Status of Project Purpose at the Terminal Evaluation

Regarding Indicator 1: “the new terminal at Juba port is operated smoothly,” actual operation of the new terminal was not achieved during the project implementation because of a delay in the construction work under the grant aid project.<sup>5</sup> However, the port management capacity of the existing facilities has improved through the development of the manuals on Juba River Port operation and management and OJT. If the new terminal had been constructed, the enhanced capacity would have contributed to its smooth operation. Regarding Indicator 2: which is “capacity of port staff in South Sudan are improved,” although intensive courses and technical transfers were provided to port masters of the four main ports, it was difficult to share the port management procedures developed at the Juba River Port with other ports by the time of project completion. Therefore, some of the indicators were not to be fulfilled by the end of the project, but the Project Purposes were mostly achieved.

#### 1.3.2 Achievement Status of Overall Goal at the Terminal Evaluation (Including other impacts.)

As international river logistics between Sudan and South Sudan was stagnant due to the border closure between the two countries, and the use of inland waters was limited to the transport of UN relief items, the movement of returnees, and the cargo by small boats. At the time of the terminal evaluation, the transport capacity was unlikely to be enhanced significantly. However, it was expected that, when the border between Sudan and South Sudan opens up in the future, the capacity might grow rapidly, and prospects for achieving the Overall Goal were regarded as moderate. In this regard, the terminal evaluation also indicated that it was necessary to develop the facilities and equipment of the Juba River Port through grant aid projects, improve the facilities and system of the ports covered by this project, and develop more human resources.

#### 1.3.3 Recommendations from the Terminal Evaluation

The following are the recommendations from the terminal evaluation on both achieving the Project Purposes and the Overall Goal and the direction of future assistance.

##### (1) Short-Term Recommendations to Achieve the Project Purposes

- 1) to share the items developed by the project, such as manuals, with the right personnel to smoothly manage and operate the existing facilities and equipment and new ones the grant aid project will develop
- 2) to ensure continuity in improving technical capabilities through port management activities based on the existing facilities and equipment

---

<sup>5</sup> In the terminal evaluation in April 2015, PDM Version 3, the final version, was applied. The indicators of Version 2 were used only with the assessment of the Project Purposes. The reason for this was not stated in the evaluation report. Although the evaluator asked about the reasons in the interviews with experts and JICA officials, the cause was unknown.

(2) Long- and Mid-Term Recommendations to Achieve the Overall Goal

Improving inland water transportation needs not only development of port facilities but also various efforts related to the following: vessel traffic lane, navigation rules and regulations, ship registration and inspection, ship's crew training and license, search and rescue, pollution prevention, navigation aids, and spot dredging, etc. As MTRB has been working on the River Transport Bill, this legal system should cover all of the above.

(3) Direction of Future Assistance

Some activities have not started yet, and follow-up is needed. Delays in the grant aid project and the recovery of cargo volume caused restrictions in implementing these activities. Information must be collected on such activities. After examining the results and progress of the activities, the content of cooperation for subsequent projects would be reviewed.

## **2. Outline of the Evaluation Study**

### 2.1 External Evaluator

Shima Hayase, IC Net Limited

### 2.2 Duration of Evaluation Study

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

Duration of the Study: October 2021–October 2022

Duration of the Field Survey: January 23–February 13, 2022, and June 1–22, 2022

### 2.3 Constraints during the Evaluation Study

At the time of the ex-post evaluation, seven years had passed since the completion of the project. In addition to the passage of time, some data and records related to the project's effect were difficult to obtain owing to two major conflicts and organizational restructuring. For the evaluation, some information and data were also collected through recollections in interviews with JICA staff, experts and counterparts (C/P) concerned in the project.

As the Overall Goal of this project, the indicators were to improve cargo handling efficiency, increase cargo volume, and improve services at river ports throughout South Sudan. However, these were indicators mainly to measure the effects of infrastructures, and it was not possible to identify the intangible impacts yielded solely by this project. In addition, during the project's implementation, external conditions worsened considerably, such as the deterioration of security in South Sudan and the drastic decrease in cargo due to the closure of the Sudan-South Sudan borders. The prerequisites for the projects, such as the development of port facilities through the grant aid project and deployment of staff to regional ports, were not realized. Thus, it was not possible to measure the achievement status of the Overall Goal set at the time of planning. Discussions to apply alternative indicators based on the actual situation in conflict-affected countries were held. However, as the planned construction by the grant aid project was not implemented, it was not possible to set alternative indicators that matched the impact of port facility development expected at the time of project planning. Regarding "Performance" in "5. Non-Score Criteria", considering the background and the significance of the project implementation and the importance of contribution to nation-building which was the goal of peacebuilding, the item was also especially noted in the section of "Appropriateness of the Project Plan and Approach" in Relevance Section.

### 3. Results of the Evaluation (Overall Rating: N.A.<sup>6</sup>)

#### 3.1 Relevance/Coherence (Rating: ②<sup>7</sup>)

##### 3.1.1 Relevance

###### 3.1.1.1 Consistency with the Development Plan

The development plan at the time of the ex-ante evaluation was called the *Sudan Joint Evaluation Mission Report (2005-2011)*, which was the interim framework of North and South Sudan development formulated by CPA. The plan's priority was the development of transportation infrastructure. As a mid-term prospect of inland transportation development, it mentioned the need for comprehensive investment in the development of inland water transport between the Juba River Port, a hub port in southern Sudan, and the Kosti port, in northern Sudan. Moreover, the *Transport Sector Policy 2007* of the Ministry of Transport and Roads of the Southern Sudan government stated the importance of inland water transport in economic development. The policy also included the importance of building a safe and efficient waterway system and the need to develop port facilities such as piers, wharves, and warehouses and spot dredging work to expand routes. At the time of project completion, the *South Sudan Development Initiative 2013–2020* (January 2013) had set the development of inland water transportation infrastructure, navigation aid facilities, and relevant laws as high-priority issues. It also emphasized the development of staff training programs and stated the need for technical assistance to develop and implement the training. Regarding policy for the transportation sector, the *Transportation Sector Policy* (MOT/RSS, April 2013) referred to the importance of establishing an efficient logistics network, providing safe transportation services, and strengthening the operational capacity of MoTRB as a key of the policy.

At the time of the ex-ante evaluation and the project completion, both the government development plans and sector ones emphasized inland water transportation. The project's consistency with the development plans is high because the project was to strengthen the capacity of personnel in charge of inland water transportation services.

###### 3.1.1.2 Consistency with the Development Needs

Inland water transportation along the White Nile River has been an essential means of transportation for people's lives and economic activities in South Sudan, which has wetlands where roads are submerged and impassable during the rainy season. The approximately 1,500-km transport route connecting the Kosti port at the southern tip of Sudan with Juba, the capital of South Sudan, runs through five states. The river ports in the route have been the vital infrastructure for the people living nearby. The importance remained the same at the time of the ex-ante evaluation and the project completion. Development needs for inland water transportation and

---

<sup>6</sup> A: Highly satisfactory, B: Satisfactory, C: Partially satisfactory, D: Unsatisfactory

<sup>7</sup> ④: Very High ③: High, ②: Moderately Low, ①: Low



river ports have been consistently high.

### 3.1.1.3 Appropriateness of the Project Plan and Approach

#### (1) Appropriateness of the Project Scope

##### 1) Project in a Conflict-Affected Country

According to the JICA South Sudan Office at the time of the ex-ante evaluation, South Sudan, which became independent after years of conflict, was at the stage of starting nation-building, and it was necessary to build a relationship of trust between the government and society. The project plan emphasized showing early visible effects so that people could see the dividends of peace. As this project aimed not only to provide technical transfer but to assist C/P organizations in their effort to contribute to nation-building through administrative services, emphasis was placed on the development of ownership.

Therefore, the project formulated task forces and working groups for each activity so that the C/Ps would recognize their responsibility for the activity. In addition, while the amount of cargo at the Juba River Port was almost nonexistent, and the work of JRPA was decreasing, C/P staff recognize through the activities that they were contributing to forming the foundation of JRPA and establishing the operation and maintenance procedures for the port facilities so that their motivation was maintained and boosted by the working group activities.

The technical transfer activities involved not only the implementing agencies but also those related to the operation and management of each relevant port. In the operation of a port, many other parties were involved, such as barge operators and ship owners who use the port, as well as shipbuilding companies, port workers, truck transport, and the port police and fire departments responsible for safety management. Therefore, the project held seminars and workshops inviting the parties above, and used the occasions as a platform for exchange of opinions between river port users and JRPA. In the beginning, the participation rate of the parties was low. However, as the seminars and workshops were held numerous times, the participants deepened their understanding and even made presentations. Eventually, they acquired a sense of camaraderie that they would work together at the existing port and hold discussions for smooth operation of the new port.

##### 2) Additional Project Purpose

In January 2011, a meeting on detailed planning of the project was held between JICA and the South Sudanese side.<sup>8</sup> The latter raised the following points: (1) Training was essential for not only the personnel of the Juba River Port, which was the cargo recipient, but also those of other regional ports, which were senders; (2) As the gap between Juba and other regions had been

---

<sup>8</sup> The Detailed Planning Survey Report for the Project for Enhancement of Operation and Management Capacity of Inland Waterway in Southern Sudan, January 2011

widening in South Sudan, input for regional ports was also essential from the viewpoint of promoting balanced development. Therefore, Project Purpose 2, which is “Port management system established at Juba River Port is continuously shared among other ports in South Sudan,” was added. Six main ports other than the Juba River Port (Renk, Malakal, Adok, Shambey, Bor, and Mangalla) were added to the target areas for the project. On the other hand, according to the ex-ante evaluation sheet, the six ports above were not managed by the government and had no personnel assigned. Moreover, it was noted that the activities in the regional ports would be limited to on-site studies by Japanese experts for collecting information and finding issues within the areas where the security situation allowed access.

At the time of the mid-term review in February 2013, Malakal was the only port that had personnel among the six main ports, and it was difficult to conduct technical transfer to all the ports. Therefore, the review assessed that Project Purpose 2 would be difficult to achieve. However, as it was indicated that the C/Ps would continue to take responsibility for staffing, Project Purpose 2 was not revised. Moreover, it was known that human resource development for personnel of the six ports would be conducted at the Juba River Port before their assignment. Based on these, the mid-term review suggested that the technical transfer to JRPA at the Juba River Port would also include support for the personnel to be assigned to the six regional ports. As the indicator of Project Purpose 2 was "to share the port management procedures established at Juba River Port among the ports in South Sudan", a detailed development scenario with details should have been presented, such as how to develop human resources of the regional ports including how to contribute to solving the gap between Juba and other areas, and how the achievement was to be measured. At the time of the ex-ante evaluation, there was little information on the baseline, and it is presumed that the project was to start with what could be done in the ports that could accommodate any relevant activity. As the indicator was just the number of participants in the training and seminars held by the organization managing the six regional ports, it turned out that the project went on without a clear scenario, and the path from the outcome to the impact was left ambiguous. It can be assumed that assistance toward nationwide development was considered necessary from the perspective of peacebuilding. However, from project management’s perspective, it would have been better to make an achievable plan which was consistent with the actual circumstances. For example, the Project could have added Output 7 at the stage when personnel had actually been deployed or started with establishing a model of JRPA organizational structure and port maintenance and management at the Juba River Port first and then could have considered expanding it to other regions in stages.

### 3) Setting the Overall Goal in the Project Plan

The project’s objective was to strengthen the operation and maintenance capacity of port facilities through a grant aid project. The project's logic was based on the grant aid project's

construction and installment of Juba River Port terminals and cargo handling facilities. Therefore, the project's Overall Goal was to increase the cargo volume handled at inland water ports in South Sudan, improve cargo handling efficiency, and improve services at the ports. In reality, the construction of the facilities through grant aid project did not take place in time, and technical transfer using the facilities was not conducted before the project completion. Therefore, it was not possible to measure the project's effectiveness with the indicators that measure the combined effects of this project and the grant aid project's facility and equipment development. At the stage when it was decided that the new facilities could not be used for technical transfer because the construction of the facilities under the grant aid project was way behind schedule, it was decided that technical transfer could not be conducted in the facilities as planned, and then the project plan was changed. At that time, the Overall Goal and its indicators should have been changed to measure the effects of capacity development by the project.

Moreover, there was also a leap in logic from the Project Purposes to achieving the Overall Goal. The project aimed to strengthen the port management and operation capacity of the Juba River Port and to share the port management know-how developed at the port with the personnel of major ports in South Sudan through training and seminars. Therefore, this project was expected to have some impacts, such as improving cargo handling efficiency, cargo handling volume, and services at the Juba River Port and other inland water ports in South Sudan. However, to realize such impacts, the following conditions needed to be met: as for intangible conditions, a foundation for the operation and management of not only the Juba River Port but also the regional ports should have been formed, personnel should have been deployed as security was restored, and as the result, the ports should have been properly operated and maintained; as for tangible conditions, the Juba River Port and its facilities should have been improved through grant aid project, and regional ports and facilities should have been developed. The project started with establishing the basis of a structure for port maintenance operation. It was necessary to ensure that the port management and operational capabilities established by the project take root in the actual operation of the Juba River Port. In addition, the activities to disseminate the knowhow at Juba River Port to national level were limited to information sharing through training and seminars. With all those things considered, the Overall Goal of the project was the one that could only be achieved through efforts beyond this project's scope, and logically higher level.

## (2) Revisions of PDM

As indicated in Table 1, the Project Design Matrix (PDM) of the project was revised three times. All the revisions were made through the formal procedures by examining the revision proposal with the C/P organization, then approved by the Joint Coordination Committee (JCC).

**Table 1: History of PDM Changes**

PDM version*	Time of PDM change	Contents of change
Version 1	May 2011 1 <sup>st</sup> JCC	<ul style="list-style-type: none"> <li>Revision of indicators based on the baseline survey</li> </ul>
Version 2	February 2013 4 <sup>th</sup> JCC	<ul style="list-style-type: none"> <li>Partial revision of the Outcome indicators (Outcomes 2 and 4) based on the findings in the mid-term evaluation.</li> <li>Addition of PR activities requested by C/Ps.</li> </ul>
Version 3	November 2013 5 <sup>th</sup> JCC	<ul style="list-style-type: none"> <li>Since the provision of facilities through the grant aid project was not completed in time, the Project Purposes, indicators, and means of obtaining indicators were revised on the premise that the new terminal could not be used.</li> </ul>
Version 4	No change was made	<ul style="list-style-type: none"> <li>Owing to the travel restrictions on the experts, the activities were shifted to the development of JRPA's operational manuals in Japan and technical transfer using training in Japan and third-country training. A revised PDM was drafted 3is, but it was not kept as a record.</li> </ul>

Source: materials provided by JICA

\* The PDM for this project did not have a version number, but the evaluator assigned a number to each version to make the chronological explanation more understandable.

At the time of the ex-ante evaluation, it was expected that the construction of a new terminal at the Juba River Port through grant aid project would start in April 2013, and OJT was to be conducted using the partially completed facilities of the new terminal. However, it turned out that the start of the construction was delayed significantly.<sup>9</sup> Therefore, a revision of the PDM was proposed including changes in the activities and an indicator of the Project Purposes (Table 2) based on the precondition that OJT could not be conducted by using the new terminal. PDM Version 3 was presented and approved in the JCC in November 2013.

**Table 2: Changes in PDM Version 3**

Project Purposes	Indicator	Means of Verification
1. Management capacity of Juba port is continuously strengthened. 2. Port management system established at Juba port is continuously shared among other ports in South Sudan.	Before the Revision (Version 2)	
	1. The new facility of Juba River Port is operated efficiently.	1. Operation records of each division of JRPA
	2. Capacity of staff at the ports in South Sudan is strengthened.	2. Interview with the C/Ps and port users. 3. Evaluation of port management and operation by checklist
	After the Revision (Version 3)	
1. <u>Efficient operation of the new facility of Juba port is examined.</u>	1. <u>Understanding of JRPA operation manuals</u>	
2. <no change>	2. <no change> 3. <eliminated>	

<sup>9</sup> According to the JICA South Sudan Office at the time, the exchange of notes (E/N) for the grant aid project had been concluded before the start of this project. However, owing to the country's independence, the name of the country was changed, and the E/N had to be revised. The delay was also caused by the procedures for handing over international agreements signed with the Sudanese government to the South Sudanese government and replacing all the personnel in charge. Furthermore, after the E/N was re-contracted, the government of South Sudan requested the withdrawal of the input items that it was supposed to cover, which also caused a significant delay.

In December 2013, a conflict occurred shortly after the approval of PDM Version 3. The project was suspended for half a year to wait for the restoration of security. Subsequently, although the project was resumed, owing to travel restrictions, it continued under the constraint that Japanese experts were unable to visit the project sites. The project was completed by taking alternative measures as the experts communicated with C/Ps remotely and developed JRPA operation manuals in Japan, and technical transfer to the C/Ps was done by training in Japan or a third country. Because of such changes in the project contents, the experts prepared PDM Version 4<sup>10</sup>. However, no change for Version 4 was made because it was impossible to discuss changes at the JCC. For the terminal evaluation, PDM Version 3 was applied. Considering the communication environment at the time, it was difficult to coordinate things remotely. Although formal approval could not be obtained, Version 4 should have been kept on record. For the terminal evaluation, it was desirable to use Version 4, which reflected the reality on the ground better than Version 3.

### 3.1.2 Coherence (Rating: ③)

#### 3.1.2.1 Consistency with Japan's ODA Policy

In the *Project Deployment Plan for the Republic of South Sudan* (October 2011), at the time of planning, infrastructure development for nation-building was one of the priority areas, and transportation infrastructure development was expected to bring benefits not only for the target country but also the neighboring countries and contribution to peacebuilding. In the *Yokohama Action Plan*, formulated in the *Tokyo International Conference on African Development (TICAD IV)*, held in Yokohama in May 2008, infrastructure development was one of the pillars, and transportation infrastructure development was emphasized. These issues continue to be recognized as a priority at *TICAD V* (2013).

No other donor was involved in inland water transportation, and Japan was the only donor. Since the CPA, Japan has been supporting the development of basic infrastructure directly linked to the lives of the people and economic activities of South Sudan. The project was intended to strengthen the capabilities to continuously operate, maintain and manage infrastructure. Therefore, it is highly consistent with Japan's assistance policy.

#### 3.1.2.2 Internal Coherence

This project was to develop human resources to maintain and operate the port facilities developed by a grant aid project named the "Project for Improvement of Juba River Port." Based on the premise of the expansion of piers, the provision of cargo handling equipment, and a new terminal through grant aid project, the project was to develop manuals and conduct training on

---

<sup>10</sup> At the time of the ex-post evaluation (2022), the evaluator searched for the revised PDM (version 4), but there was no record of it in the materials provided by JICA. The evaluator also interviewed the project's experts, but none of them remembered the background or content of the draft for revision.

the operation and maintenance of the new facilities and equipment. However, as the grant aid project was not completed by the time of this project's completion, the expected synergistic effects could not be generated.

### 3.1.2.3 External Coherence

At the time of the ex-ante evaluation, there was no plan for coordination with other Japanese organizations or development donors. Japan was the only donor supporting the river transportation field, and there was no donor coordination. The only cooperation was the maintenance of the Juba River Port by the JSDF dispatched to UNMISS. As part of the preparations for the grant aid project "the Project for Improvement of Juba River Port", a grant aid project, the JSDF used their heavy equipment to remove bulk waste and abandoned vehicles scattered around the port and constructed fences around the port. In grant aid projects, these are usually the responsibility of the recipient country, but the government of South Sudan was unable to undertake them owing to a lack of budget. Through this cooperation, the problem of the South Sudanese government's responsibility was resolved, and discussions with the Japanese government on the construction of the port proceeded. In addition, the construction of the fences helped to prevent unauthorized individuals from entering into the port and reducing illegal dumping, contributing to improving the operation of the port and the natural environment. Although it was not envisioned at the time of the ex-ante evaluation, concrete cooperation was realized. Thus, external coherence was confirmed.

This project is highly consistent with South Sudan's development policy, development needs, and Japan's development cooperation policy. Regarding internal coherence, the expected synergistic effects were not realized because collaboration with the JICA grant aid project did not materialize. Regarding external coherence, collaboration with the JSDF dispatched to UNMISS contributed to the promotion of negotiations with the partner country's government, and to improving the port environment. Regarding the project plan and approach, there were efforts for nation-building, but problems were observed in the setting of the Project Purposes and Overall Goal, as well as in the process of changing the project plan.

Therefore, the project's relevance and coherence are moderately low.

### 3.2 Effectiveness and Impacts<sup>11</sup> (Rating: N.A.)

#### 3.2.1 Effectiveness

##### 3.2.1.1 Project Outputs

The purpose of this project was to strengthen the management and operation capabilities of the Juba River Port terminal facilities that were to be developed through a grant aid project. The project consists of seven outputs. By establishing the roles and responsibilities of JRPA (Output 1) and the budget and accounting system (Output 2), JRPA was to form its basis. By improving the operation and maintenance capacity of port facilities (Output 3, 4, 5) and the collection and management of port statistical data (Output 6), the operation and maintenance procedure of port facilities was to be established. Through seminars and training for personnel of six other main commercial ports in South Sudan, the knowledge and experience accumulated at the Juba port (Output 7) were to be shared, and the project was intended to strengthen the maintenance and management capacity of regional ports in South Sudan.

Table 3 presents the achievement of each output at the time of project completion. The new facilities could not be operated because the grant aid project's construction work was not completed. However, according to the status of operation and maintenance of the existing facilities of Juba River Port, it can be said that Outputs 1 to 6 were mostly achieved. Although there was no specific numerical target for Output 7, such as the number of trainees and skill level, training and seminars were held inviting four port staff out of six regional ports. Owing to security problems, staffing for six regional ports was delayed, so it is not possible to confirm the effects at each regional port. However, as the personnel of the regional ports evacuated to Juba, there were opportunities to share knowledge and experience through the day-to-day work at the Juba River Port. Therefore, it can be estimated that Output 7 was mostly achieved.

---

<sup>11</sup> When providing the sub-rating, Effectiveness and Impacts are to be considered together.

**Table 3: Achievement of Outputs at the Time of Project Completion**

<p><b>Output 1: Roles and responsibilities of JRPA are established and executed properly.</b></p> <ul style="list-style-type: none"> <li>➤ A draft port management bill was made and submitted to the Ministry of Justice.</li> <li>➤ A manual describing the roles and responsibilities of JRPA was developed and is used in the operation of the existing facilities.</li> <li>➤ PR magazines for the Juba River Port were issued.</li> </ul>
<p><b>Output 2: Budget and accounting system of JRPA are established.</b></p> <ul style="list-style-type: none"> <li>➤ JRPA prepared budget request materials and submitted a budget request to the Ministry of Finance.</li> <li>➤ Tariffs for ports and regulations on leasing facilities have been drafted. However, none of them were implemented by the time of project completion.</li> </ul>
<p><b>Output 3: Facilities of Juba port are properly maintained and managed.</b></p> <ul style="list-style-type: none"> <li>➤ Surveying techniques were transferred, and facility management and inspection manuals were developed.</li> <li>➤ The existing facilities are managed, but inspection and maintenance of the new facilities have not been conducted because the grant aid project was not completed.</li> </ul>
<p><b>Output 4: Cargos are handled safely and efficiently at Juba port.</b></p> <ul style="list-style-type: none"> <li>➤ Cargo handling manuals, berth adjustment systems, and materials on safe cargo handling for the existing and new facilities and equipment were developed.</li> </ul>
<p><b>Output 5: Juba port is managed and operated safely, securely, and environmentally friendly.</b></p> <ul style="list-style-type: none"> <li>➤ In addition to developing manuals for safety and environmental management, technical transfer was implemented through OJT. However, repeated training was not possible.</li> </ul>
<p><b>Output 6: Statistical data of Juba port are collected, maintained and utilized.</b></p> <ul style="list-style-type: none"> <li>➤ Statistical data were formatted, digitized, and stored in a database. Through OJT, the data were entered in the database and updated. However, the data were not used for port management.</li> </ul>
<p><b>Output 7: Knowledge and experiences accumulated at Juba port are shared among other port staff in South Sudan.</b></p> <ul style="list-style-type: none"> <li>➤ Port administrators of four among six ports were invited to training and seminars.</li> <li>➤ Through day-to-day work, knowledge and experience of the Juba River Port were shared with the personnel of regional ports who were evacuated to Juba.</li> </ul>

Source: Terminal Evaluation Report

### 3.2.1.2 Achievement of the Project Purposes

By the time of project completion, the operation and management manuals, including contents on the existing facilities and the new terminal were developed, and a series of activities related to the manuals were executed. In addition, discussions on the procedures for operating the new terminal smoothly were conducted with stakeholders' participation. Therefore, it is fair to say that Project Purpose 1, which aimed to strengthen port management and operation capacity, was mostly achieved. Regarding Project Purpose 2, because the function of regional ports has stopped due to security issues, the extent of the project's effects cannot be determined. However, efforts were made to improve the capacity of the personnel of four out of the six main ports and state government officials were implemented, and it is assumed that technical transfer through day-to-day work was done because the personnel of the regional ports were evacuated to Juba. Thus, both Project Purposes 1 and 2 were mostly achieved.



**Table 4: Achievement of the Project Purposes at the Time of Project Completion**

Indicator	Achievement
<b>Indicator 1:</b> Efficient operation of the new facility of Juba River Port is examined.	<p><u>Mostly achieved because the procedures to operate the new terminal smoothly were examined.</u></p> <ul style="list-style-type: none"> <li>Stakeholder meetings and seminars were held to have port administrators and stakeholders exchange opinions and information on the use and problems of the Juba River Port and examine how to operate the existing facilities and the new terminal smoothly.</li> </ul>
<b>Indicator 2:</b> Capacities of staff at the ports in South Sudan are strengthened.	<p><u>It is assumed that the capabilities of personnel at other ports had improved to a certain extent.</u></p> <p>The experience of the Juba River Port was shared with the Malakal, Shanbey, Mangala, and Renk port personnel through the training for Output 7. However, the extent of improvement in the personnel’s capacity cannot be measured because the operation of local ports stopped almost completely.</p>

Source: Project Completion Report

\* As PDM Version 2’s indicators were used in the terminal evaluation, the achievement status was reconfirmed by applying the indicators in the final version (Version 3).

### 3.2.2 Impacts

#### 3.2.2.1 Achievement of the Overall Goal

The project's Overall Goal was to facilitate inland water transport in South Sudan and enhance its capacity. The achievement of the Overall Goal was to be confirmed by the extent of an increase in the country's domestic cargo volume, and improvement in both cargo handling efficiency and service level. Table 5 presents the results on the Overall Goal's indicators. It was impossible to confirm the achievement status of any indicator. Given the situation of South Sudan, a conflict-affected country, the possibility of verifying the achievement status through alternative indicator was considered. However, it was not possible to set appropriate indicators for the project and matching the scale envisaged at the time of project planning. As a result, it was impossible to confirm the achievement level of the Overall Goal.

**Table 5: Achievement of the Overall Goal at the Time of the Ex-Post Evaluation**

Indicator	Achievement at the time of the ex-post evaluation
Indicator 1: Cargo handling capacities and performances at the ports in South Sudan are enhanced.	After the conflicts in 2013 and 2016, operations at all the ports except Juba have been suspended. Since the independence, cargo volume has been almost zero because of the border closure between Sudan and South Sudan. Some humanitarian relief items are loaded at the Juba River Port, but there is no JRPA engagement. It is impossible to measure the changes in cargo handling performance because the cargo handling volume has decreased drastically.
Indicator 2: The service level of the ports in South Sudan is improved.	After the conflicts, facilities in most ports in South Sudan have been inoperable. The port personnel have been evacuated to Juba, and no personnel have been assigned to local ports. Therefore, it is impossible to assess whether the service level improved by using the operating procedures of the Juba River Port shared by the project.

(1) Indicator 1: Enhancement of cargo handling capacities and performances at the ports in South Sudan

#### 1) Changes in Cargo Volume

After the two conflicts in 2013 and 2016, operations at all the regional ports except Juba were suspended. Table 6 indicates the changes in the cargo handling volume at the Juba River Port until the time of the ex-post evaluation. The commissioned logistic companies transported the relief items of the World Food Programme (WFP). The shallow waters around Juba in the White Nile route make it difficult for barges to pass through. Thus, transportation to the Juba River Port has been continued by taking measures such as transferring cargo to small boats at other ports or reducing cargo and raising the barge's waterline.

Although the cargo volume increased significantly in 2018, it was relief items to support the victims of the floods that occurred in the central and northern parts of South Sudan. At the time of the ex-post evaluation, the number of internally displaced people is still significant, and the transportation of relief items through inland waterways is expected to continue. Recently, relief items have been sent directly to the hardest-hit areas without going through Juba.

WFP's relief items have been unloaded by a logistics companies entrusted with cranes. Thus,

there has been no unloading work by JRPA. Moreover, as humanitarian relief items are exempt from port tariffs, no tariff collection work has been conducted by JRPA, and no revenue has been generated.

**Table 6: Changes in Cargo Handling Volume at the Juba River Port**

Year	Relief items by WFP		Boat transport by the private sector	
	Food items (MT)	Non-food items (CBM)	Fish and fish products (MT)	Food items, etc. (MT)
2016	900	N.A	15	3
2017	1,215	1,559	19	7
2018	504,315	1,019	25	10
2019	23,185	N/A	35	6
2020	12,647	1,857	20	10.6
2021	12,317	N/A	N/A	N/A

Source: JRPA's response to the questionnaire

\* MT = metric ton, CBM = cubic meter

Before the independence, the cargo volume by private barges sailing between Sudan and South Sudan averaged 75,000 MT annually. Around the time of the independence in July 2011, the border was closed because of the tensions between the two countries, and the cargo volume significantly decreased. Since then, the relations between the two countries have improved. At the time of the ex-post evaluation, there were moves such as discussions between the two countries at the political level regarding lifting the border closure.<sup>12</sup>

Since the 2013 and 2016 conflicts, more illegal checkpoints have been set up along the shipping lanes, and tolls have been collected, affecting the cargo volume changes.

## 2) Cargo Handling Efficiency

Regarding the cargo handling efficiency at the Juba River Port, the only ongoing unloading has been the WFP humanitarian relief items. Logistic companies contracted with WFP have been dealing with the items and are entrusted with cranes. Therefore, there is no JRPA cargo handling. As a result, at the time of the ex-post evaluation in July 2022, JRPA decided to outsource cargo handling operations. If JRPA continued its cargo handling operation, machine maintenance and management costs and labor costs would be incurred, which is not cost-effective given the small cargo volume.

### (2) Indicator 2: The service level of the ports in South Sudan is improved.

The conflicts in 2013 and 2016 prevented the operations of many regional port facilities in South Sudan. Port personnel have been evacuated to Juba and are expected to be deployed to each port when security is restored. Even at the time of the ex-post evaluation, as personnel had not

<sup>12</sup> There are moves toward resuming the ports' operation, including talks between the South Sudanese and Sudanese governments and an agreement by the South Sudanese president to restore economic relations. Sudan Tribune, June 7, 2022 (<https://sudantribune.com/article259941/>)

been assigned to the regional ports, it was impossible to confirm whether their service had improved by using the port operation procedures of the Juba River Port shared by the project.

Furthermore, in the evaluation team’s interviews with private barge ship companies on the status of service provision at the Juba River Port, the companies answered that they did not know if there had been any change in the service provision status due to the capacity enhancement by the project. The companies, the service users, expected improvement in the ports' infrastructure through the “Project for Improvement of Juba River Port” rather than any improvement in the ports’ services by capacity building.



Dried fish unloaded at the port (left), sacks of salt being transported by a small boat (right)  
Photos taken at the shipyard on a tributary of the White Nile River

### 3.2.2.2 Emergence of Project Effects after the Completion of the Project

Table 7 shows the emergence of the project effects from the project’s completion to the ex-post evaluation. Even at the time of the ex-post evaluation (June 2022), it was unclear when the Juba River Port expansion construction by grant aid project would take place. Moreover, the cargo volume, which saw a sharp drop due to the tensions between Sudan and South Sudan, has not recovered. Furthermore, owing to the conflict in 2016, regional ports have suspended their operation. As a result, it was impossible to achieve Output 4 related to cargo handling at the Juba port. Outputs 1, 2, 3, 5, and 6 continued only as much as possible within the constraints above. At the time of the ex-post evaluation, evacuation of the regional port personnel was continuing. As they have been engaging in day-to-day work with the JRPA personnel at the Juba River Port, sharing experiences related to Output 7 has been taking place.

**Table 7: Emergence of Project Effects at the Time of the Ex-Post Evaluation**

<p><b>Output 1: Roles and responsibilities of JRPA are established and executed properly.</b></p> <ul style="list-style-type: none"> <li>➤ Although the bill prepared for this project was submitted, the approval of the Ministry of Justice and the National Legislature has been delayed.</li> <li>➤ The project developed a manual to define the roles and responsibilities of JRPA. It has been applied in the operation of the existing facilities.</li> <li>➤ Information dissemination through the media (South Sudan national television, newspapers, South Sudan Cooperation Radio, and international broadcasts) has been continuing.</li> </ul>
<p><b>Output 2: Budget and accounting system of JRPA are established.</b></p> <ul style="list-style-type: none"> <li>➤ JRPA has been preparing and requesting budgets. However, the JRPA budget and accounting system has not operated continuously because no budget was allocated.</li> <li>➤ The draft bill on tariff and lease was prepared but not implemented. A provision was enacted so that all the collected tariffs would be incorporated into national revenues but would not be allocated to the cost of maintaining the ports.</li> </ul>
<p><b>Output 3: Facilities of Juba port are properly maintained and managed.</b></p> <ul style="list-style-type: none"> <li>➤ Surveying has not been implemented because the surveying equipment has not been handed over to JRPA. Only depth measurement and recording have been done using a stick with the depths painted on it.</li> <li>➤ Although there was a ledger of facilities and equipment, it was not updated since 2016. The staff member in charge of the ledger died of COVID-19, but it has not been handed over to any staff member, so nobody knows where it is. As a result, the ledger must be recreated.</li> </ul>
<p><b>Output 4: Cargos are handled safely and efficiently at Juba port.</b></p> <ul style="list-style-type: none"> <li>➤ No cargo handling has been implemented by JRPA. The reason is that the Juba River Port has not been renovated by the grant aid project, so the port has not had necessary equipment items in place, such as cranes. The original cargo handling equipment was transferred to the Mangala port in preparation for the construction by the grant aid project.</li> <li>➤ The number of large barges has decreased sharply, and there was almost no cargo handling at the Juba River Port. There were some humanitarian relief items and UNMISS cargo, but each logistics contractor has been hiring cranes and porters.</li> <li>➤ It was decided that until the completion of the construction by the grant aid project, JRPA outsource the cargo handling work to external contractors (two South Sudanese companies) for cost-effectiveness and efficiency.</li> </ul>
<p><b>Output 5: Juba port is managed and operated safely, securely, and environmentally friendly.</b></p> <ul style="list-style-type: none"> <li>➤ No regulations have been approved for port management services, including proposed regulations on suppliers of port-related services. Therefore, the draft regulations produced by the project have been applied to the current port-related services. The Risk Management Department has been responsible for security planning and risk management (such as fires and oil spills). Because of delays in approval, the rules and regulations of the Ministry of Transport have been applied.</li> </ul>
<p><b>Output 6: Statistical data of Juba port are collected, maintained and utilized.</b></p> <ul style="list-style-type: none"> <li>➤ The JRPA statistics department has been collecting data on loading and unloading, and recording and updating them regularly. The department personnel gained skills in data collection and management. Because the number of available PCs has been limited, data have been recorded on paper. Analysis and use of data have not been achieved.</li> </ul>
<p><b>Output 7: Knowledge and experiences accumulated at Juba port are shared among other port staff in South Sudan.</b></p> <ul style="list-style-type: none"> <li>➤ Owing to security issues, personnel of major ports other than Juba continue to be evacuated to Juba. Although it is being considered, it has not been possible to assign personnel to the regional ports.</li> <li>➤ The personnel of other regional ports have been working daily in Juba River Port. Therefore, the experiences at the Juba port have been shared among other staff of the regional ports.</li> </ul>

Source: C/Ps' responses to the questionnaire and interviews in the field survey

### 3.2.2.3 Other Positive and Negative Impacts

#### (1) Impact on the Natural Environment

No negative impact on the natural environment by the project has been observed. Measures to prevent negative impacts on the environment, such as measures for preventing fuel spills, ship inspection, and fire prevention, were taken. Moreover, the Ministry of Transport has been calling for the stakeholders to participate in cleaning up the existing port.

#### (2) Resettlement and Land Acquisition

There was no land acquisition or resettlement because the project was for capacity building related to the operation and maintenance of port facilities.

#### (3) Gender Equality

None.

#### (4) Marginalized People

None.

#### (5) Social Systems and Norms, Human Well-Being, and Human Rights

The project was expected to establish a basis for efficient inland water transportation, enabling mass transportation and the economic effects of lowering commodity prices. However, in reality, after the conflicts of 2013 and 2016, illegal checkpoints that collect tolls continue to increase and they have become the cause of raising transport costs and, in turn, the higher commodity prices that reflect those transport costs. The increase in illegal checkpoints has been hindering the recovery of security and cargo volume. It was also one of the reasons why the project's impacts did not materialize as expected.

#### (6) Other Positive and Negative Impacts

At the time of the ex-ante evaluation, as a negative impact, there were concerns about the loss of employment opportunities for porters with mechanization. It was avoided because JRPA decided to outsource cargo handling at the time of the ex-post evaluation and then it was also decided that the contractors would employ the porters and provide them with safety management and insurance.

As for other positive impacts, the project helped South Sudanese government officials raise their sense of mission and take ownership of their work. It also had the effect of raising the Ministry of Transport's awareness of the importance of policy development and helping the ministry start drafting policies on transportation and river ports.

By the time of the project's completion, an operation and management manual including items corresponding to the existing facilities and the new terminal was prepared, and all activities related to the manual were put into practice through OJT and third-country training. Of the six main regional ports except Juba, the capacity building of port personnel of four ports and state government officials was implemented. Owing to security issues, the personnel of regional ports have been evacuating to Juba, and knowledge and experiences at the Juba River Port were shared with them through day-to-day work. Therefore, it is fair to say that the Project Purposes were mostly achieved. On the other hand, many of the external conditions worsened considerably, such as the deterioration of the security situation, and the drastic decrease in cargo due to the closure of the border between Sudan and South Sudan. Moreover, the prerequisites of the project were not met owing to significant delays in port facility development by the grant aid project and the uncertainty of port personnel deployment to regional ports. As the project was implemented under such circumstances, it was not possible to assess the achievement of the Overall Goal. Moreover, it is impossible to identify alternative indicators equivalent to the level of the original plan.

In light of the above, the project's sub-rating for effectiveness and impacts cannot be determined.

### 3.3 Efficiency (Rating: ③)

#### 3.3.1 Inputs

Table 8 presents the planned and actual inputs of the project.

**Table 8: Comparison of Planned and Actual Inputs**

	Plan (at the time of ex-ante evaluation)	Actual (at the time of project completion)
Dispatch of Experts	Short-Term: 11 people (120 MM)	Short-Term: 19 people (105 MM)
Trainees Received	Training in Japan, training in a third country	Training in Japan: 12 people; Training in a third country: 30 people (Kenya: 19; Cambodia: 4; and Sudan: 7)
Local Operation Cost	20 million yen	36 million yen
Japanese Side Total Project Cost	631 million yen	537 million yen

Source: materials provided by JICA

\* MM stands for man month.

#### 3.3.1.1 Elements of Inputs

##### (1) Dispatch of Experts

Against the plan of dispatching 11 short-term experts (120 MM in total), 19 were actually dispatched (105 MM in total, 88% to the plan). The whole dispatch period was shorter than the plan. The reason for the decrease was that the conflict that occurred in December 2013 prevented

experts from traveling to South Sudan for five months, and the activities that were planned to be implemented during that time were substituted for the development of manuals in Japan. Although the number of experts has increased from 11 to 19, multiple experts were taking part in the same field (Table 9). Because the project was a technical cooperation one to strengthen the C/P organization by forming its basis, JICA proposed increasing the number of experts not to create a vacuum period. The project was able to support the C/P organizations in a relay-like fashion by minimizing the absence period of experts.

**Table 9: Changes in Experts' Fields**

Plan	Actual
(1) Port Laws and Regulations, (2) Chief Advisor/ Port Policy, (3) Port Administration, (4) Accounting System, (5) Port Management, (6) Port Statistics, (7) Cargo Handling, (8) Security and Safety Management, (9) Operation and Maintenance of Port Facilities, (10) Operation and Maintenance of Port Equipment, (11) Project Coordination/ Junior Port Management	(1) Team Leader/ Port Policy, (2) Assistant Leader/ Port Administration, (3) Port Administration/ Public Relations, (4) Port Management, (5) Port Accounting System / Port Statistics, (6) Port Operation, (7) Port Safety Management, (8) Port Safety Management / Port Security / Port Operation, (9) Facility Maintenance (Infrastructure) / Training Planning / Project Administration, (10) Facility Maintenance (Equipment), (11) Project Administration / Port Management Assistant / Training Planning

Source: materials provided by JICA

### 3.3.1.2 Project Cost

Regarding the project cost, as opposed to the planned amount of 631 million yen, the actual amount of 537 million yen (85% of the planned amount) was within the plan. The actual cost was less than planned because the experts had to evacuate from South Sudan owing to the conflict, and the travel expenses during that period were reduced. It can be said that the outputs were at the same level as planned because manuals were prepared in Japan instead of the activities planned. Regarding the addition of public relations activities requested by the C/Ps, there was almost no cost increase because other experts covered the activities.

### 3.3.1.3 Project Period

The actual project implementation period was from October 2011 to August 2015 (4 years and 6 months), while the planned period was from March 2011 to February 2015 (4 years). Owing to the conflict in December 2013, the experts were evacuated, and the activities were suspended for 5 months (January to May 2014). Excluding this period, the project period was 4 years and 1 month (102% of the plan), slightly longer than planned.

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



### 3.4 Sustainability (Rating: ①)

#### 3.4.1 Policy and System

South Sudan's development policy at the time of the ex-post evaluation, the *South Sudan National Development Strategy 2018–2021*, held the objective of “Consolidate Peace and Stabilize the Economy” and aimed at “people’s safety, stable price, and provision of basic services.” Priority issues were set for each of the four clusters (governance, economy, social services, and cross-cutting); the social services cluster included “improvement and expansion of social infrastructure.” Since inland water transport was a social infrastructure that contributed to improving the lives of the people of South Sudan, its construction and maintenance were included in the priority issues of the national development plan. Therefore, there are no issues with the sustainability in the aspect of policy and systems.

#### 3.4.2 Institutional/Organizational Aspect

The implementing agencies, Ministry of Transport, the Central Equatoria State Ministry of Roads and Bridges (CE MoRB), and JRPA have developed their organization charts, so the division of roles and the chain of command are clear. At the time of the ex-post evaluation, the number of large barges calling at ports and the cargo volume had not recovered and there was almost no practical work; thus, there was no shortage of personnel in each organization. However, once the port facilities are completed with grant aid project, the number of personnel must be increased to operate and manage them.

At the time of the ex-post evaluation, JRPA, which is responsible for the operation and management of the Juba River Port, had been jointly operated by 12 staff members of the Ministry of Transport and 10 staff members from CE MoRB. Owing to the small amount of cargo, no operator for cargo handling equipment was placed; it is planned to outsource the task to an external contractor for cost-effectiveness.

At the time of the ex-post evaluation, the functions of the Juba River Port were divided into two: one at the existing Juba River Port located in the mainstream of the White Nile River, and the other at the shipyard in the tributary. In addition to the existing facilities, the shipyard has been used since May 2016 when the contract for the grant aid project, “Project for Juba River Port Improvement Project,” was renewed. The functions of the Juba River Port were moved in preparation for the construction. The JRPA office and stakeholders such as the National Boats Union, the Porter Union, ship repair companies, and many vendors also moved to the shipyard. Once the grant aid project's construction of the port facilities is completed, the functions are expected to be integrated into the new facilities at the Juba River Port. However, the functions have been divided as the grant aid project has been suspended.

Since the ex-ante evaluation, the Ministry of Transport and CE MoRB have jointly managed the Juba River Port. However, both ministries have been claiming ownership of the port. The

argument was still going on at the time of the ex-post evaluation.

No issue was observed regarding the organizational structure and number of personnel of the implementing agencies for the existing Juba River Port. However, it is necessary to resolve the differences in recognition of the ownership of the Juba River Port and the division of port functions between the Juba River Port and the shipyard.

### 3.4.3 Technical Aspect

After the completion of the project, each implementing agency had few opportunities to update the technical level regarding maintenance and management of port facilities, and technical transfer among personnel had depended mainly on OJT. No mechanism was established for regular and systematic technical transfer. Moreover, the manuals developed by the project have not been updated. At the time of the ex-post evaluation, a self-evaluation of JPRA's technical levels was conducted. According to the results of the self-evaluation, the individuals' technical level was maintained at the time of the ex-post evaluation while the level as the organization declined because the opportunities to use the acquired skills were limited.<sup>13</sup>

There was no outflow of C/Ps for the project because transfers were limited to related departments. However, seven years have passed since the completion of the project, four of the C/Ps have died, and the senior engineers are approaching their retirement age. A mechanism to transfer skills within the organization must be formed immediately. The senior engineers were trained during the pre-independence period in Sudan and have experience in port management, repair, and maintenance of port facilities, such as diving and underwater work.

Regarding the technical aspect, it seems that the individual technical skills that the project has strengthened have been maintained. However, some issues are observed in ensuring sustainability because there is no mechanism for updating or transferring technical in organizations.

### 3.4.4 Financial Aspect

As shown by the changes in the annual budget up to the time of the ex-post evaluation (Table 10), the national budget has fluctuated yearly. Therefore, it is hard to say that stable financial resources are secured for conducting port facility operations and management systematically.

Looking at the budget and execution amount of the Ministry of Transport (Table 11), the execution rate was low at 51% for 2019–2020 and 21% for 2020–2021. It is uncertain whether there is an actual allocation for the budget. JRPA submits a budget request for maintenance and management work every year. Nevertheless, only the staff salaries and fuel costs have been allocated, and the cost of maintaining the port facilities was not included. Moreover, although the

---

<sup>13</sup> According to the respondents, regarding the skill level regarding Outputs 1 through 6, the average score of JRPA as an organization was 2 on a 5-point scale. On the other hand, the average score of the individual skill level was 4.

project formulated a draft bill on tariffs for port use, the port tariffs have been collected by the national treasury owing to an announcement by the national government; thus, the tariffs will not be allocated to the port operation management cost. In South Sudan, the budget is allocated in order of priority. Therefore, once the grant aid project starts, there is a possibility that it might get prioritized and the budget might be allocated. However, even at the time of the ex-post evaluation, the outlook for its start is unknown.

Based on the above, there are significant concerns on financial sustainability.

**Table 10: Changes in the Annual Budget** Unit: million U.S. dollars

	2015–2016	2016–2017	2017–2018	2018–2019	2019–2020	2020–2021
<b>South Sudan National Budget</b>	<b>1,240</b>	<b>54,000</b>	<b>53,843</b>	<b>526</b>	<b>1,343</b>	<b>N/A</b>
<b>CE MoRB</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>144.8</b>

Source: Report on the Implementation Review Study on the Project for Construction of the Bridges in Juba (December 2021)

**Table 11: Budget and Execution Amount of Ministry of Transport**

unit: million South Sudanese pounds

	2019–2020		2020–2021		2021–2021
	Budget	Actual	Budget	Actual	Budget
<b>Ministry of Transport</b>	<b>1,653</b>	<b>839</b> (51% to the budget)	<b>1,206</b>	<b>252</b> (21% to the budget)	<b>1,779</b>
Of Inland Water Transport Department	N/A	N/A	2.9	N/A	5.7

Source: Draft Budget Book Ministry of Finance and Planning

#### 3.4.5 Environmental and Social Aspect

At the time of the ex-ante evaluation, illegal dumping into the Port of Juba was confirmed, and it was suggested to implement awareness-raising activities targeted not only the port personnel but also the residents of the port area to improve the environment. During the project's implementation, fences were constructed around the Juba River Port to restrict the entry of residents around the area. Awareness-raising activities were not implemented, but the problem of illegal dumping was solved because of the entry restriction. At the time of the ex-post evaluation, the Ministry of Transport was calling for cleaning activities every week, and the port has been kept in good condition. Therefore, the sustainability in social and environmental aspect is expected to hold.

#### 3.4.6 Preventative Measures to Risk

At the time of the ex-ante evaluation, an independence referendum was scheduled, and there was a risk that the political situation could hinder the movement of goods and people. Therefore, the project was to be conducted while paying close attention to the situation. The border between Sudan and South Sudan was closed around the time of independence in July 2011. Even at the

time of the ex-post evaluation, river cargo transport between Sudan and South Sudan remains stagnant. At the time of the ex-post evaluation, dialogues between Sudan and South Sudan at the political level are underway, and there are good prospects for the situation to improve.<sup>14</sup>

In addition, although it was not assumed to be a risk at the time of the ex-ante evaluation, many illegal checkpoints have been set up in South Sudan on both land and waterways. They are a factor in hindering smooth and safe traffic. Illegal checkpoints collect tolls, which inevitably add to the retail prices of goods transported and negatively affect people's lives with a decrease in goods distribution and soaring prices. In response, the National Boats Union and JRPA petitioned the Vice President to address this issue. Moreover, the Ministry of Transport proposed to hold a meeting with UNMISS and WFP, which uses barges to transport humanitarian aid, and security agencies. Despite the efforts described above, prospects for solving the risk are dim.

Moreover, at the time of the ex-ante evaluation, the need for spot dredging work was pointed out, but it was not implemented until the ex-post evaluation. A survey conducted in 2018<sup>15</sup> pointed out that the riverbed on the section between Bor and Juba, a part of the White Nile route that cuts through South Sudan, had sediment, making it difficult for barges to pass. According to interviews with the logistic companies that transports humanitarian relief supplies, when they travel to the shallow area owing to sediment accumulation, they have been taking countermeasures such as reloading the cargo onto smaller boats, reducing barge loading to raise the waterline, and shortening the operation section to Bor. Occasionally, they switch to land transportation. However, additional labor and costs have been incurred. At the time of the ex-post evaluation, there was almost no barge transport other than humanitarian aid supplies. Nonetheless, once relations between Sudan and South Sudan are restored, and barge operations are to be resumed, cargo volume is expected to increase significantly. It is ideal to conduct dredging work on the section before barge operations are restored. However, as was the case at the time of the ex-ante evaluation, there is no prospect of securing the budget for the spot dredging. Appeals to donors are a way to ensure funding for it.

As mentioned above, the sustainability in policy and systems and social and environmental aspects has been ensured. However, there are serious concerns because there are major issues with financial aspect, and many issues are found with the institutional/organizational and technical aspects, and risks.

Therefore, the sustainability of the project effects is low.

---

<sup>14</sup> Kiir lauds South Sudan-Sudan border reopening, Sudan Tribune, June 7, 2022  
<https://sudantribune.com/article259941/>

<sup>15</sup> Report on River Barge System Feasibility Study Project, South Sudan, UNOPS, March 2018

## **4. Conclusion, Lessons Learned, and Recommendations**

### 4.1 Conclusion

This project was to strengthen the capacity for operation and management of the Juba River Port by establishing the foundation for the JRPA, the maintenance and operation of port facilities, safe and efficient cargo handling and port management, and the compilation of statistics. It also aimed to help facilitate inland water transportation and enhanced the transportation capacity of South Sudan by sharing the knowledge and the learnings at the Juba River Port with personnel of major ports other than Juba.

The consistency of the project with South Sudan's development plan and needs, and Japan's assistant policy for South Sudan is high. External coherence was achieved through cooperation with the JSDF dispatched to the UNMISS. Regarding internal coherence, with a significant delay in port facility development through the JICA's grant aid project, expected synergistic effects did not materialize. As for the project plan and approach, there were some problems in setting indicators of the Project Purposes and changing the Overall Goal and project plans. Therefore, the project's relevance and coherence are moderately low.

Regarding effectiveness, the two project purposes were mostly achieved at the time of project completion. Among the two purposes, as for Project Purpose 1, which is to strengthen operation and management capability the operation procedures were developed and put into practice through OJT and third country training programs. As for Project Purpose 2, which is to continuously share the knowhow on the port management system established at the Juba River Port with other ports in South Sudan, although the functions of regional ports were suspended owing to security issues, training for strengthening the capacity of the personnel of four ports among the six major domestic ones was implemented. In addition, the knowhow was shared with the personnel evacuated to Juba through day-to-day work at the Juba River Port. The Overall Goal, which is to facilitate transportation and enhance the transportation capacity of river ports in South Sudan, was expected to be achieved by enhancing cargo handling efficiency, increasing cargo volumes, and improving services at regional ports. However, it was impossible to identify an impact of this project alone in achieving the Overall Goal because such achievement was to be derived from the development of infrastructure. Moreover, many external factors worsened considerably, such as the deterioration of the security situation in South Sudan and a drastic decrease in cargo due to the border closure between Sudan and South Sudan. The project's prerequisites were not met owing to delays in the development of port facilities through the JICA's grant aid project and staff deployment to regional ports. Thus, it was not possible to confirm the achievement status of the Overall Goal and identify an alternative indicator to measure the impacts at the level expected at the time of planning. No particular negative impacts on the natural environment due to this project has been observed. Requests for preventive measures against such accidents as fires and fuel spills were made to relevant stakeholders, and

the Juba River Port was regularly cleaned. Neither land acquisition nor resettlement occurred. Based on the above, it is impossible to determine the sub-rating for the project's effectiveness and the impacts.

Efficiency is high because the project cost was within the plan, although the project period slightly exceeded the plan.

Regarding sustainability, the policy and system aspect has been secured. However, significant problems were observed in the financial aspect owing to chronic government budget shortfalls. Many issues were also found in the institutional/organizational and technical aspect. In the environmental and social aspect, waste dumping, a concern at the time of project planning, was resolved by constructing fences. However, regarding preventive measures to risks, there are a need for spot dredging, and other issues to be addressed such as delays in the recovery of logistics due to ongoing border closures between Sudan and South Sudan, and the collection of tolls at illegal checkpoints. As mentioned above, there are serious concerns, so the sustainability of the project effects is low.

In light of the above, it is impossible to determine the sub-rating for the project's effectiveness and impacts, which are essential evaluation criteria for overall rating. Therefore, the overall rating of the project is indeterminable.

## 4.2 Recommendations

### 4.2.1 Recommendations to the Implementing Agency

Large barges cannot pass through the waterway around Juba owing to sediment accumulation on the riverbed. At the time of the ex-post evaluation, almost no barge traffic was seen because of the border closure between South Sudan and Sudan. However, before the cargo volume increases and the barge ships resume operation, spot dredging on the section between Bor and Juba must be conducted. The implementing agencies should continue their efforts to secure the budget within the organization and start asking donors for necessary funds.

At the time of the ex-post evaluation, many illegal checkpoints have been set up along the White Nile route. Tolls are collected at these checkpoints, which are detrimental to the safety and efficiency of river transportation, hinder the distribution of materials, and cause soaring prices of goods. As a countermeasure, the first step would be to petition politicians to take action. It is desirable that the Ministry of Transport organize a forum inviting UNMISS, WFP, which is the shipper of relief supplies, and security-related organizations such as the port police to discuss ways to secure the safety of the shipping route and countermeasures for checkpoints as soon as possible.

#### 4.2.2 Recommendations to JICA

After the completion of the project, the implementing agencies were supposed to monitor the continuation of activities and report to JICA what they find on a quarterly basis, but this task was discontinued at some point. At the time of the ex-post evaluation, the prospects for constructing facilities at the Juba River Port under the grant aid project are unclear. Nonetheless, it is desirable to resume and continue monitoring to maintain the capacity of the personnel of the implementing agencies. On the other hand, from the perspective of the implementing agencies, the postponements of the construction by the grand aid project could lead to disappointment in Japan and JICA and loss of motivation for nation-building.

When the grant aid cooperation is resumed, it is desirable to consider cooperation such as training opportunities related to port operation and facility maintenance. As seven years have passed since the completion of the project, the implementing agencies have indicated a high need for refresher training, which is believed to contribute to the establishment and sustainability of the project's effects.

At the time of the ex-post evaluation, four C/Ps have passed away, and the older C/Ps are approaching retirement age. Senior engineers have been trained during the Sudanese time and have skills related to the maintenance and management of port facilities, such as diving and underwater work, and port management. It is also necessary to promote technical transfer from these personnel to the younger generation and prepare for the maintenance of port facilities which may be developed through grant aid project in the future.

#### 4.3 Lessons Learned

When developing a project plan, if there are uncertainties, set attainable plans and goals first, then add activities when preconditions are in place.

At the time of project planning, JICA faced many uncertainties such as the system and finances, the relationship between the national and state governments, and public order in a project in a conflict-affected emerging country. However, the project plan was formulated on the assumption that these issues would be resolved during the project's implementation. For example, six main ports other than Juba were targeted in the logic leading from activities to the Overall Goal. Except for the Malakal port, operation by the government had not started, and no specific staffing arrangements had been made. In addition, owing to the closure of the border between Sudan and South Sudan, the distribution of goods was reduced to almost zero, and cargo handling, which was the original purpose of the port, was hardly performed. If the conditions essential for project implementation and the realization of effects are not in place, or if the prospects for them being met are uncertain, the outputs and the Project Purposes that require those conditions should be added at the later stage when the conditions are actually in place to make the project plan feasible. Moreover, it may be worthwhile to consider an alternative plan in anticipation of the project's

preconditions not being fulfilled.

For the terminal evaluation, use a PDM that reflects realities of the project. If it is not possible to hold a JCC, consider using a draft or un-signed version of the PDM.

Owing to the conflict during the project's implementation, travel restrictions were imposed on experts, and the project's content had to be changed significantly. However, the PDM, which was the basis of the project plan, was not changed because the JCC could not be held. Although the experts drafted the revised PDM (Version 4), PDM Version 3 was applied for the terminal evaluation. It was difficult to hold discussions with C/Ps and obtain signatures because of travel restrictions and communication in distance, but the Japanese side (JICA and experts) alone could have considered the draft, and it would have been important to keep its own records. It might have been worth considering using a draft or unsigned version for project management purposes such as evaluation.

For a capacity-building project to strengthen personnel for operation and management of infrastructure, clarification of roles and raising awareness of ownership as well as cooperative relationships with stakeholders involved in operation and management, are effective in vitalizing activities and promoting sustainability.

With the border closures between Sudan and South Sudan, suspension of the operation of regional ports due to deteriorating security, and illegal checkpoints on the White Nile route, smooth operation of waterway transportation and safety have been hindered. In addition, the project to expand the Juba River Port through grant aid project, a prerequisite for this project, has been suspended. Although many of the premises and external conditions were either not met or deteriorated considerably, the good practices below kept the project's activities going at a certain level at the time of the ex-post evaluation.

(1) Clarification of C/Ps' roles and raising their sense of ownership: The project established the task forces to make the C/Ps' roles clear and held opportunities for OJT by their expertise field. This helped establish the awareness of responsibility and ownership as administrators and show concrete tasks to the person responsible. Moreover, although it was not included in the original project plan, C/Ps were able to identify the formulation of policies related to river transport as the most critical issue and involved a legal advisor from the Ministry of Justice and the ministry itself in forming such policies.

(2) Activities involving stakeholders: Technical transfer activities included not only the implementing agencies but also stakeholders on port operation and management. This contributed to smooth execution of the technical transfer and increased interest in river ports and implementing agencies. Stakeholder meetings (13 times in total; including such parties as shipping companies, the Porters Union, and the Truck Drivers Union) were held as a forum for



exchanging opinions between the implementing agencies and port users. It created a sense of commitment and an excellent cooperative relationship among the stakeholders. Furthermore, it was used for discussions to consider smooth operation of the new port.

## **5. Non-Score Criteria**

### 5.1. Performance

#### 5.1.1 Objective Perspective

See section 3.1.1.3 Appropriateness of the Project Plan and Approach, (1) Appropriateness of the Project Scope, 1) Project in Conflict-Affected Country.

#### 5.1.2 Subjective perspectives (Look-back)

##### Clarification C/Ps' roles and raising their sense of ownership

Government officials in South Sudan, an emerging country that had just become independent from Sudan, lacked mid-level and field-level human resources. The director-general class had to make direct judgments on details of all the projects. The project intended to focus on developing mid-level and field-level staff. However, it had to start with clarifying overall port administration schemes and establishing a system for each organization and collaboration among them. The Japanese experts tried various measures to have the central government and state governments, which had never worked together, sit at the same table and cooperate to create a mechanism for port administration.

For example, at the first JCC, three task forces (TFs) were established for each activity area. Moreover, four working groups were formed under TF-3, which covers all the field-related activities, and had a wide variety of responsibilities. The groups became the platform for the project within the implementing agencies. Since the groups were subdivided for each activity, the members clearly understood their roles in their work and the organization's goals. Moreover, they led to agreements among the departments related to the activities and the discovery of additional C/Ps.

Although it was not included in the original project plan, with the cooperation of the relevant departments of the Ministry of Justice, the project was able to start drafting bills on transportation and river port policies, which were a priority of the Ministry of Transport.

For the JRPA personnel, who almost lost their day-to-day work due to delays in the construction of a new terminal with the grant aid project, and a drastic decrease in cargo due to the closure of the Sudan-South Sudan border, the working groups served as a place where they could participate in port management and operation and maintain the awareness of their work and motivation. As a result, this initiative contributed to the entire JRPA, the creation of administrative systems, and changes in the awareness of administrative officials.

### Efforts to Involve Stakeholders Related to Port Operation and Management

At the beginning of the project, the C/P agencies were aware that JRPA was the organization in charge of the operation and management of the ports and had no intention of cooperating with other stakeholders. Japanese experts organized seminars and workshops involving stakeholders such as barge ship logistic companies and boat owners that use the ports, as well as shipbuilding companies, porters, truck logistics, port police, and fire departments responsible for safety management. The occasions were also used as a forum for collecting and sharing their opinions and a place to think of solutions to the problems facing them. At first, the participation rate was low because the parties did not understand the importance of the seminars and workshops. Gradually, a sense of working together at the existing port began to emerge, and JRPA and the stakeholders were able to consider the operation of the new port together.

Even after the project's completion, good relations with the stakeholders are lasting. A C/P of the project became the director of the River Traffic Department of the Ministry of Transport and has demonstrated leadership to involve stakeholders such as the National Boats Union, the Porters Union, and shipbuilders. Close working relations with stakeholders have been established. For example, the cooperation includes thorough cleaning of the port every Friday, disseminating safety management practices of boats, the submission of cargo manifests, procedures for permits to enter and leave the port, and the issuance of boat registrations and licenses.

#### 5.2 Additionality

None.

End