

5. テクニカル／ノンテクニカルノート

The Preparatory Survey of
the Juba River Port Expansion Project in the Republic of the Sudan

TECHNICAL NOTE No.1

Sudanese Counterpart Team and JICA Preparatory Survey Team discussed and confirmed tentatively following matters. It is, however, understood that the decision for the Draft Final Report will be made through the discussions with concerned Japanese agencies during the analysis in Japan.

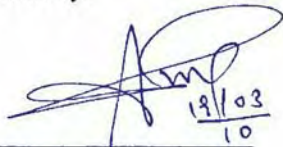
Design Conditions:

- a. Area of the River Port : Approx. 5.4 ha (including Road Reserve & 2nd Phase Expansion Area)
- b. Length of Perimeters : Approx. 620 m (covering above area except river side)
- c. Length of Proposed Quay : Approx. 235 m (including Existing Jetty, excluding 2nd Phase Expansion Area)
- d. Handling Objects : Container / Pallet / Break Bulk / Vehicle / Passenger
- e. Handling Method : Crane / Pontoon (Roll-On & Roll-Off & Passenger) / Slip Way
- f. Design Code : Technical Standards & Commentaries for Port & Harbor Facilities in Japan (the Overseas Coastal Area Development Institute of Japan)
- g. Design Vessel : Standard 500 t Loading Capacity Barge (Length=36m x Width=9.5m x Depth=2.3m, and Max Draft=2.0m)
- h. Design Load (Vertical) : Crawler Crane 150 t (evaluated as 5.0 t/m² against the Berth Structure)
- i. Design Load (Horizontal) : 25 t per Bollard (Mooring Post)
- j. Design Seismic Factor : 0.10~0.15 (Peak Ground Acceleration of 0.8 to 1.6 m/s² based on USGS Africa Seismic Hazard Map)
- k. Design High Water Level : 452.860 ASL (As Same Level as that of Existing Jetty Construction)
- l. Design Low Water Level : 451.360 ASL (As Same Level as that of Existing Jetty Construction)
- m. Design Datum Level : 453.700 ASL (Top of Existing Jetty Deck)

Rough Design Drawings & Standard Specifications will be prepared in Japan based on the above design conditions. The drawings and specifications will be presented to Sudanese side during the explanation of Draft Final Report, which is scheduled in October 2010 after second investigations in Juba scheduled in May and June 2010.

19 March 2010

Noted by:



Eng. Abdu Silye M. Lako
Director General,
Directorate of River Transport,
Ministry of Transport & Roads,
Government of Southern Sudan

Noted by:



Eng. Lino Schebesta D. Kenyi
Director General,
Directorate of Communications
& Transport,
Ministry of Physical
Infrastructure,
Government of Central Equatoria
State

Noted by:



Mr. Kenji Isomoto
Chief Consultant
JICA Preparatory Survey Team
Katahira & Engineers
International

THE PREPARATORY SURVEY OF
THE JUBA RIVER PORT EXPANSION PROJECT IN THE REPUBLIC OF THE SUDAN

THECNICAL NOTE No. 2

Sudanese Counterpart Team and JICA Preparatory Survey Team discussed and confirmed following matters. It is, however, understood that the decision for the Draft Final Report will be made through the discussions with concerned Japanese agencies during the analysis in Japan.

Design Conditions:

- a. Highest High Water Level : 452.920 ASL (Additionally Calculated)*
- b. High Water Level : 452.160 ASL (Amended from Previous 452.860 ASL)*
- c. Low Water Level : 450.820 ASL (Amended from Previous 451.360 ASL)*
- d. Lowest Low Water Level : 450.780 ASL (Additionally Calculated)*
- e. Datum Level : 453.700 ASL (Top of Existing Jetty Deck, as same as Previous One)
- f. Seismic Factor : 0.15 (Peak Ground Acceleration would be from 0.8 to 1.6 m/s² based on USGS Africa Seismic Hazard Map, considering importance of the facility indicated factor to be used)
- g. Pavement (Cargo Area) : Heavy Duty Inter Locking Block (t=100~120) or Reinforced Concrete
- h. Pavement (Other Area) : Standard Inter Locking Block (t=60~80) or Portland Cement Concrete or Asphalt Concrete


* Derived from the water level records between 2006 and 2010 provided by the Directorate of Hydrology and Survey, Ministry of Water Resources & Irrigation, GoSS

Basic Design Drawings & Standard Specifications will be prepared in Japan based on the design conditions indicated in the Technical Note No. 1 signed on 19 March 2010 and this Technical Note No. 2. The drawings and specifications will be presented to Sudanese side during the explanation of Draft Final Report, which is scheduled in October 2010.


Juba, Southern Sudan

18 June 2010


Noted by:


Eng. Abdu Silye M. Lako
Director General,
Directorate of River Transport,
Ministry of Transport & Roads,
Government of Southern Sudan

Noted by:


Eng. Emmanuel Matayo Wani
Director General,
Directorate of Housing &
Construction, Ministry of
Physical Infrastructure,
Central Equatoria State

Noted by:


Mr. Kenji Isomoto
Chief Consultant
JICA Preparatory Survey Team
Katahira & Engineers
International

THE PREPARATORY SURVEY OF
THE JUBA RIVER PORT EXPANSION PROJECT IN THE REPUBLIC OF THE SUDAN

NON-TECHNICAL NOTE

JICA Preparatory Survey Team has drawn Sudanese Counterpart Team attentions that the following major undertakings shall be ensured by the Government of the Recipient Country (both GoSS & CES) in the course of (before, during, after) the implementation of the Grant Aid Project with their own funds and own human resources as indicated in the Inception Report presented by the JICA Preparatory Study Team and the Minutes of Discussions signed on 11 March 2010 by both parties.

Major Undertakings:

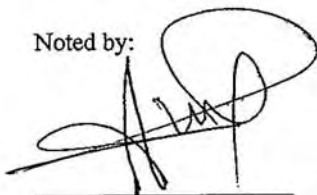
- (1) To ensure the social and environmental considerations for the Project and must comply with the environmental regulation of the recipient country and JICA Guidelines for Environmental and Social Consideration, and provide Resettlement Action Plan (RAP) for those Project Affected Peoples (PAPs) before the explanation of Draft Final Report, which is scheduled in October 2010.
- (2) To secure land necessary for the sites of the Project and to clear, level and reclaim the land prior to commencement of the construction,
- (3) To provide facilities for the distribution of electricity, water supply and drainage and other incidental facilities in and around the sites,
- (4) To secure buildings prior to the procurement in case the installation of the equipment,
- (5) To ensure all the expenses and prompt execution for unloading, customs clearance at the port of disembarkation and internal transportation of the products purchased under the Grant Aid,
- (6) To exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which will be imposed in the recipient country with respect to the supply of the products and services under the verified contracts,
- (7) To accord Japanese nationals, whose services may be required in connection with the supply of the products and services under the verified contracts, such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work.

For quick references, Major Undertakings to be taken by Each Government, Flow Chart of Japan's Grant Aid Procedures, and Tentative Implementation Schedule are re-attached herewith;

Juba, Southern Sudan

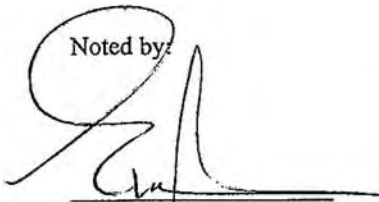
18 June 2010

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Katahira & Engineers
International

MAJOR UNDERTAKINGS TO BE TAKEN BY EACH GOVERNMENT

NO	Items	To be covered by the Grant	To be covered by Recipient side
1	To secure land		•
2	To clear, level and reclaim the site when needed		•
3	To construct gates and fences in and around the site		•
4	To construct the parking lot	•	
5	To construct roads		
	1) Within the site	•	
	2) Outside the site		•
6	To construct the building	•	
7	To provide facilities for the distribution of electricity, water supply, drainage and other incidental facilities		
	1) Electricity		
	a. The distributing line to the site		•
	b. The drop wiring and internal wiring within the site	•	
	c. The main circuit breaker and transformer	•	
	2) Water Supply		
	a. The city water distribution main to the site		•
	b. The supply system within the site (receiving and/or elevated tanks)	•	
	3) Drainage		
	a. The city drainage main (for storm, sewer and others) to the site		•
	b. The drainage system (for toilet sewer, ordinary waste, storm drainage and others) within the site	•	
	4) Gas Supply		
	a. The city gas main to the site		•
	b. The gas supply system within the site	•	
	5) Telephone System		
	a. The telephone trunk line to the main distribution frame / panel (MDF) of the building		•
	b. The MDF and the extension after the frame / panel	•	
	6) Furniture and Equipment		
	a. General furniture		•
	b. Project equipment	•	
8	To bear the following commissions to a bank of Japan for the banking services based upon the B/A		
	1) Advising commission of A/P		•
	2) Payment commission		•
9	To ensure prompt unloading and customs clearance at the port of disembarkation in recipient country		
	1) Marine(Air) transportation of the products from Japan to the recipient country	•	
	2) Tax exemption and customs clearance of the products at the port of disembarkation		•
	3) Internal transportation from the port of disembarkation to the project site	(•)	(•)
10	To accord Japanese nationals whose services may be required in connection with the supply of the products and the services under the verified contract such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work		•
11	To exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which may be imposed in the recipient country with respect to the supply of the products and services under the verified contract		•
12	To maintain and use properly and effectively the facilities constructed and equipment provided under the Grant Aid		•
13	To bear all the expenses, other than those to be borne by the Grant Aid, necessary for construction of the facilities as well as for the transportation and installation of the equipment		•

(B/A: Banking Arrangement, A/P: Authorization to Pay, N/A: Not Applicable)

6. MoE/GoSS 環境許可書



**Government of Southern Sudan
Ministry of Environment**



Certificate for Implementation of the Proposed Project

This is to Certify that the Environmental Impact Assessment Report for Juba River Port Expansion Project, situated on The Western Bank of River Bahar El Jebel, in Kator Payam, Juba Town submitted by the Department of River Transport, Ministry of Transport and Roads (the Proponent) to The Ministry of Environment for Review. In accordance with the Environmental Regulations and EIA requirements; the report has been reviewed and a provisional Certificate for the Implementation of the Project is hereby issued subject to the attached Conditions..

Issued on this date 21st Dec- 2010.....

Victor Wurda Lo Tombe
Director General for Environmental Affairs
Ministry of Environment
GoSS/Juba



Amb. Alor Kuol
Undersecretary,
Ministry of Environment
GoSS/Juba

7. 事業事前計画表(概略設計時)

1. 案件名
<p style="text-align: center;">スーダン国ジュバ河川港拡充計画</p>
2. 要請の背景（協力の必要性・位置付け）
<p>スーダン共和国（以下「ス」国）は、約 250 万km²の面積を有するアフリカ大陸最大の国であり、東北部を紅海と接し、北部にサハラ砂漠、南部に熱帯雨林地帯、その中間には山岳地帯を含むサバンナ地帯と変化に富んだ地形・気候を有し、推計人口 4,135 万人（世銀、2008）のうち、約 43%が都市部に、残りが農村部に居住している。</p> <p>ジュバ市は、内戦中、北部スーダン政府が管轄する要塞都市であったが、2005 年 7 月に南部政府の管轄下に移管され、同年 9 月には暫定首都とされていたルンベックから遷都され、南部スーダンの首都機能を担っており、同市の最新の推計人口は約 40 万人、首都機能の集積及び帰還難民の流入によって人口は増加傾向が継続しており、2025 年には 100 万人規模まで増加するものと予測されている。</p> <p>過去 30 年間に及ぶ内戦の結果、人々の生活の基盤となるジュバの都市インフラは荒廃・老朽化するなど、復興に向けた社会経済活動のボトルネックとなっているため、給水施設、道路などの基礎インフラの整備が緊急の課題になっており、同時に帰還難民の定着を促進するために、基礎的社会サービスの迅速な整備・拡充が求められている。</p> <p>このような状況に対し、2015 年を目標にしたジュバ市の開発計画策定、コミュニティ給水施設を整備するため、JICA は 2006 年 1 月から「ジュバ市内・近郊地域緊急生活基盤整備計画調査」を実施し、同調査により「ス」国の南北間交通で重要な役割を果たしているジュバ河川港（暫定港）について、パイロット事業として、栈橋（一艘分/35m）、荷役ヤード、クレーン、係留設備、倉庫、アクセス道路を整備するとともに、2008 年 8 月から開始された同フォローアップ協力により、荷役用資機材の供与、栈橋の補修、港湾管理事務所及び附帯施設を整備し、港湾管理能力向上に係る支援を行った。</p> <p>その後、復興が進むにつれて同港の取り扱い貨物量は急速に回復し、2006 年に月間約 3,000 トンであったものが 2008 年には約 7,000 トンへと増加している。現在、ジュバ河川港では上記パイロット事業にて整備された施設とその周辺の自然堤防への接岸によって増加貨物に対応している。しかしながら自然堤防への接岸は、荷役作業時の安全上問題が多く、荷役作業自体が非効率な状況となっている。</p>
3. プロジェクト全体計画概要
<p>(1) プロジェクト全体計画の目標</p> <p>未整備状態である河川港を拡充・整備するとともに、荷役機械を導入することにより、南部スーダン首都圏での内陸水運取扱貨物量の増大並びに荷捌安全性の確保を目標とする。</p> <ul style="list-style-type: none"> ・裨益対象の範囲及び規模：ジュバ市民及び中央エクアトリア州民約 110 万人 <p>(2) プロジェクト全体計画の成果</p> <ul style="list-style-type: none"> ・ナイル河沿いの河川港を持つ各都市の経済発展を促進させる。 ・スーダン南部地域へのアクセス改善を通じて、投資・開発を促進させる。 <p>(3) プロジェクト全体計画の主要活動</p> <ul style="list-style-type: none"> ・港湾施設（栈橋・荷役ヤード・維持管理建物）を整備する ・荷役用機材を整備する <p>(4) 投入</p> <ul style="list-style-type: none"> ・日本側：「(施工・調達業者契約認証まで非公開)」 ・南部スーダン政府側：(ア) 必要な人員：維持管理要員：36 名 (イ) 施設の運営維持管理に係る経費：1,000 千 SDG/年
<p>(5) 実施体制</p> <ul style="list-style-type: none"> ・主管官庁：南部スーダン政府運輸道路省（MOTR/GOSS） ・実施機関：中央エクアトリア州政府都市インフラ省（MOPI/CES）

4. 無償資金協力案件の内容					
(1) サイト ・南部スーダン 中央エクアトリア州ジュバ市コニコニコ地区					
(2) 概要 ・ジュバ河川港の整備（棧橋・荷役ヤード・維持管理建物・荷役用機材）					
(3) 相手国負担事項 ① プロジェクト用地確保、一時占有者移転 ② ライフライン（ユーティリティ）の接続					
(4) 概算事業費 「（施工・調達業者契約認証まで非公開）」					
(5) 工期 ・詳細設計・入札期間を含め約 25 ヶ月（予定）					
(6) 貧困、ジェンダー、環境および社会面の配慮 ・港湾用地内で営業中の一時占有事業者の移転もしくは収容計画との調整					
5. 外部要因リスク（プロジェクト全体計画の目標達成に関して）					
南北分離独立問題、Mangala 港整備計画の進捗					
6. 過去の類似案件からの教訓の活用					
アフリカ地域における平和構築・復興支援事業、マルチモーダル・クロスボーダー施設					
7. プロジェクト全体計画の事後評価に係る提案					
(1) プロジェクト全体計画の目標達成を示す成果指標					
	歴年	2010	2012	2016	2024
	指標	1.00	1.18	1.89	2.99
日換算 取扱貨物量	（ト／日）	300	360	600	900
	（バージ／日）	1.0	1.2	2	3
	（フリート／日）	0.25	0.30	0.50	0.75
週換算 取扱貨物量	（ト／週）	1,800	2,160	3,600	5,400
	（バージ／週）	6.0	7.2	12.0	18.0
	（フリート／週）	1.5	1.8	3.0	4.5
月換算 取扱貨物量	（ト／月）	7,200	8,640	14,400	21,600
	（バージ／月）	24	29	48	72
	（フリート／月）	6.0	7.2	12.0	18.0
年換算 取扱貨物量	（ト／年）	86,400	103,680	172,800	259,200
	（バージ／年）	288	345.6	576	864
	（フリート／年）	72.0	86.4	144.0	216.0
(2) その他の成果指標 ・特になし（技プロによる成果指標とリンク要）					
(3) 評価のタイミング ・2014 年（施設供用開始後 2 年、短期整備目標年次中間年）					

8. 参考資料／収集資料リスト

収 集 資 料 リ ス ト

調 査 名: スーダン国 ジュバ河川港拡充計画準備調査

番号	資料の名称	形態 図書・ビデオ 地図・写真等	オリジナル・コピー	発行機関	発行年
1	Transport Sector Policy	図書	コピー	GOSS	2007
2	Sudan National Transport Master Plan	図書	コピー	GONU	2009
3	Law of Southern Sudan, Environmental Protection Bill (Draft)	図書	コピー	GOSS	2010
4	Law of Southern Sudan, The Land Act	図書	コピー	GOSS	2009
5	Law of Southern Sudan, Wild Conservation and National Parks Act	図書	コピー	MOTR, GOSS	2003
6	Environment Guideline for the Directorate of River Transport	データ	オリジナル	MOTR, GOSS	2007
7	Preliminary Environmental and Social Assessment Framework for MDTF Investment Southern Sudan (Draft)	図書	コピー	Multi Donor Trust Fund	2008
8	Statistical Yearbook for Southern Sudan 2009	図書	オリジナル	Southern Sudan Center for Census Statistics and Evaluation	2010
9	River Cargo Transportation Assessment, White Nile River	図書	コピー	UNJLC	2009