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## INLAND WATER TRANSPORT'S CONTRIBUTION TO PEACE BUILDING IN SOUTHERN SUDAN

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### ABSTRACT

Conflicts inside Sudan began soon after its independence in 1956 and continued, with sporadic outbreaks of peace, until an agreement was finally signed between the central government in Khartoum and southern rebels in 2005. It was one of Africa's most deadly civil wars. An estimated 2 million people died and some 4 million were forced to flee their towns and villages. Juba City is the southern terminus of commercial traffic along the River Nile and roads connected it to neighboring countries. It was often surrounded and totally cut off from the outside world during the conflict, and most infrastructures destroyed. When the peace agreement was concluded there was only one paved road functioning in the entire region. Inland water transport on the River Nile plays crucial roles in transporting goods and people after the conflicts. As the region struggles to rebuild its infrastructure and help millions of people to restart their lives, the Japan International Cooperation Agency (JICA) is actively involved in the process. A Nile River port was built with JICA's technical expertise and financed by Japanese assistance. The port rebuilding was a major step forward in the region's rehabilitation efforts.

*Key words:* inland water transport, peace building, Sudan, conflict, reconstruction

### 1 INTRODUCTION

Japan International Cooperation Agency (JICA), the world's largest bilateral development assistance agency with a size of estimated \$10.3 billion dollars, is providing technical assistance, concessionary Official Development Assistance (ODA) loans, and grant aid to developing countries. Since the collapse of cold war structures, JICA has carried out various peace-building support activities, mainly for countries that need post-conflict reconstruction development, such as Cambodia, Bosnia and Herzegovina, and Timor-Leste. The New ODA Charter adopted at a Cabinet meeting in August 2003 clarifies peace-building as an important issue of Japanese ODA. JICA announced a reform plan in March 2004 that includes strengthening of peace-building support. Formulation of guidelines related to peace-building, new installation of the Office of Peace Building, and strengthening human development and security measures were promoted. As a development assistance organization, JICA utilizes medium- and long-term perspectives and its strong points such as knowledge related to human development and capacity development.

Inland water transport (IWT), which does not require huge infrastructural investment, has potential to contribute to quick post-conflict reconstruction development after conflicts. The rehabilitation of roads destroyed during the conflicts needs huge costs and long periods. JICA has supported the development of river ports along the Nile River in Juba City to support the post-conflict reconstruction development in Southern Sudan after devastated civil wars in Sudan.

This study, through examining Southern Sudan cases, argues how IWT can play a key role in the post-conflict reconstruction development. Also, the study discusses the necessity of

capacity development in addition to physical rehabilitation.

## 2 INFRASTRUCTURE REHABILITATION AND PEACE BUILDING

Infrastructure rehabilitation is urgently needed to smoothly transport displaced people to their home and to provide basic services for the public. The key objectives of infrastructure rehabilitation are to provide basic human needs, and to jump-start economy. As economic growth kicks off, sustaining livelihoods and developing production will become easier and dramatically affect the population (JICA 2006)

Infrastructure rehabilitation in post-conflict countries requires more careful arrangement and planning considering sustainability of the facilities than usual development projects. Hoeffler (1999) stresses that infrastructure improvements have to be coupled with good policies. MacDonald (2005) pointed out that international funding may be sudden and substantial but by overloading government capacity in the initial post-conflict period such aid can easily lead to waste, or open the way for corruption. Sole physical infrastructure rehabilitation cannot resolve the issues of post-conflict reconstruction development. The government organizations face financial constraints and have quite limited capacities of developing and managing infrastructures. Schwartz (2004) argues that setting up administrative, accounting, financial management, fiduciary and procurement systems takes time, especially in post-conflict countries that have weakened institutions and little human capacity.

These recent studies have argued the approaches of infrastructures rehabilitation. Most studies, however, have not focused on specific infrastructure rehabilitation cases, such as IWT.



Fig. 1. Location

## 3 CONFLICT IN SUDAN

Conflicts inside Sudan began soon after its independence in 1956 and continued, with sporadic outbreaks of peace until an agreement was finally signed between the central government in Khartoum and southern rebels in 2005. The government and the rebels represented by the Sudan People's Liberation Movement/Army (SPLM/A) were in confrontation for many years, and the southern portion of the country suffered armed conflicts for two decades. It was one of Africa's most deadly civil wars. An estimated 2 million people died and some 4 million were forced to flee their towns and villages during the conflict.

A Comprehensive Peace Agreement (CPA) was signed in January 2005. This ended the civil war except for some parts like the Darfur region, and created two governments in one

country: the government of national unity and the Government of South Sudan (GOSS). Southern Sudan's main figures are as follows.

- area: around 597,000 Km<sup>2</sup> consisting 10 states
- population: around 8.5 million
- GDP per capita: less than US\$184 in 2006 (estimated by JICA study)

Although the conflict in Sudan has been commonly attributed to historical enmity on religious or racial grounds, in fact resource scarcity lies at the root of the conflict. Drought and desertification have increased pressure on water and land resources, forcing group migration into areas historically settled by others (Fukuda-Parr 2008). CPA stipulates equal revenue sharing of oil between the south and the north.

Southern Sudan has been granted a high level of independence within the Sudan until 2011 when a popular referendum will decide on whether or not the South will secede. Furthermore, on the basis of CPA's power sharing and security arrangements the dominant political force in the South is the former rebel movement, SPLM/A, and the ruling party in Khartoum, the National Congress Party, is the junior partner (Unger, et. al, 2007).

#### **4 JUBA CITY AND TRANSPORT SITUATION**

Juba City is located in Juba County of Central Equatoria State (former Bahr al Jebel State). This city, which was a fortress town under the control of the Government of Sudan during the civil war, came under GOSS's control in July 2005 and became the capital of Southern Sudan transferred from Rumbek in September 2005.

During the civil war, the city was a virtual ghost town, and hardly had any public facilities to start with. No urban infrastructure, such as administrative buildings, facilities, roads, water supply lines, electricity, and communications networks, were developed or maintained in the past 30 years due to the war. Until recently the city had only 2 kilometers of paved road. The remaining facilities were all superannuated and require refurbishment or construction.

The population of the city is estimated at about 250,000 and expected to drastically increase in the future due to accumulation of urban functions as a capital combined with the increased IDP (Internally Displaced Person) returnees. It is reputedly the fastest growing city in Africa. It is a mad mosaic of traditional mud-straw conical tribal huts, container homes and shops, tent cities, new bars, restaurants, cyber cafes and air-conditioned hotels.

To promote the settlement of returning IDP in communities in the surrounding areas, it was necessary to urgently develop and expand basic social services. In the communities in rural areas surrounding the town, urgent development of basic social services including water, sanitation, education and health care was required.

JICA started cooperation projects in January 2006. As the region struggles to rebuild its infrastructure and help millions of people to restart their daily lives, JICA is actively involved in the process. JICA opened a representative office in the capital in 2007, which was closed its operations in 1992 because of difficult political circumstances.

The following JICA activities were initiated in Juba City: (1) formulation of Juba Urban Planning by 2015; (2) cooperation for the development of water supply facilities to benefit communities in the vicinity areas of the city as emergency reconstruction of living infrastructure; (3) training to impart basic skills necessary to develop basic infrastructures in the community. The city is the southern terminus of commercial traffic along the River Nile, and roads connected it to Kenya, Uganda, and the Democratic Republic of Congo. However, it was often surrounded and totally cut off from outside during the conflict, and most infrastructures destroyed.

Shares of river, air and road transport modes from and to Juba City in 2005 were 61 percent, 23 percent, and 16 percent respectively. Goods transportation from and to other cities in the north mainly depends on IWT on the White Nile River running through the eastern side

of Juba City, because there is no passable and reliable roads. WFP's food transportation to the city relied largely upon IWT in 2005. Also, IWT is used for the return of IDPs evacuated to the southwestern part of Sudan.



Photo 1. road condition

Transportation with the south mainly depends on land transport, although it is still gravel-surfaced in poor condition and only one road is connecting to the city. Five regional arterial roads, formed in a radial pattern, connect the city with neighboring regions and countries. The city is narrowly linked with Uganda and Congo, and Kenya. World Food Programme (WFP) has been implementing emergency road repair programmes for upgrading at least basic international road transport conditions.

Air transportations are used for urgent transportation, such as foods transportation by WFP mainly from Kenya, and the transportation of construction materials and equipment by private construction companies from Uganda.

The River Transport Corporation (RTC) runs the transportation by barges with cities in the north. Cargo barges run usually in convoy of four barges pushed by a push boat. Average frequency of services was 16 cargo barges and one passenger barge per month in 2005. The share of RTC was about 75 %. RTC's handling volume was shown in Table-1.

Table 1. Cargo Handling Volume Per Month at Juba Port by RTC (April to December 2005)

To Juba Port (ton/ month)				From Juba Port (ton/ month)				
Bulk cargo	Fuel	Building material	Total	Grain	Various goods	Scrap	Logs	Total
3101	320	200	3621	101	10	22	6	139

The number of passengers carried by RTC was about 400 per month. About 60 % of cargos carried into the city were foods and drinks, and about 70 % of cargos carried out from the city were grains.

Average transportation volumes per month in 2005 including private transporters were estimated as follows: 4,800 tons for cargos to Juba City, 200 tons for cargos from the city, and 530 persons for passengers from and to the city.



Photo 2. Situation of new port area

An old port, developed with necessary facilities, was abandoned, since heavy sedimentation made the port facilities unworkable. A new river port is located 2km upstream of the old port on the river bank of the River Nile's main stream. The site of the new port used to be leased to private sector as an orchard yard before the port functioned. There were no port facilities, such as loading and unloading machines and warehouses. A natural riverbank of some 350m in length was used as a mooring or natural wharf. Back yards were transferred from the orchard yards of mango trees.

These poor port facilities and lack of space for barge docking always caused the congestion of barges. Loading and unloading activities were inefficient because of manual labors. If consignees delayed picking up goods, these goods could not be unloaded from barges because there were no warehouses or open-air stock yards for temporary storage. There was only small space to load and unload cars and containers. Since there were no facilities to protect the safety of vessels, all vessels were moored to natural trees on riverbank with a single wire rope. Safety for workers, hazardous cargos, such as fire-extinguishing equipment, vehicles were completely lacked.

## 5 JICA PROJECT

To promote returning IDP and transporting commodities, JICA has supported the development of the river ports. The River Nile is expected to once again be the major transportation link with the outside world, particularly for heavy duty items. Project objectives are: (a) to meet the transport demand of people and goods and to activate socio-economic activities, and (b) to enhance capacities for port planning, design, construction and maintenance.

Demands of cargo handling volumes for 2015 were estimated as follows:

- Low Estimate: The demands increase at the same rate as 4 % of population growth rates in Juba City projected by GOSS.
- High Estimate: Taking into account the increase in per-capita transport demand in addition to the low estimate, the growth rate of demand is assumed to be 6 % per year.

JICA supported the following port facilities construction (photo-3):

- (a) **Berthing Facility (Jetty):** Since water depth near the riverbank is not enough in a dry season, a piled pier was constructed to secure required water depth. The size of the pier is 35 m long based on the length of barges and 16 m wide to secure the required water depth in dry season.
- (b) **Cargo Handling Yard:** A area of 35 m in length and 30 m in width was provided for the cargo handling yard, including the 16 m wide pier area and excavating the shore behind the pier for the remaining width of 14 m.



- (c) **Pier Facility:** A gantry crane with lifting capacity of 1.5 ton equipped with generator
- (d) **Mooring Facility:** Four mooring posts
- (e) **Construction of Storage Facility:** A fuel storehouse and a tools storehouse of 4 m x 4 m each in size adjacent to the cargo handling yard
- (f) **Improvement of Access Road:** Access roads from the cargo handling yard to the arterial road network of the city with a length of about 680 m were improved with pavement and drainage. The road width is 10.0 m composed of 7.0 m carriageway and 1.5 m shoulders on both sides.



Photo 3. Juba Port

These new port facilities were inaugurated in August 2007. However, these new facilities were rarely utilized. The new government capacities of managing the facilities were quite limited, while these facilities do not require difficult operations and maintenance. JICA recommended enhancing the administrative organization, including establishment of adequate organization, reinforcement of the staff and capacity development of the staff at the end of the construction project. Any actual actions, such as assigning new staff or staff trainings were not conducted.



Photo 4. Current situation of unloading

After low operation for around one year, JICA started new support activities in operation in August 2008. JICA provided basic operation training for staff. Also, JICA expert supported coordination among concerned organizations, the establishment of an operation unit, the produce of operation rules. After these supports, average monthly transportation increased to 10,000 tons, which was equal to estimation in 2020.

## 6 CONCLUSIONS

The Sudan case shows that IWT can play crucial roles in post-conflict reconstruction development after conflicts. While roads, major transport mode in other areas, require huge investment and long periods for rehabilitation, IWT can easily start operation with small inputs. IWT could share major portion in the transport sector.

The JICA projects in Sudan shows that capacity development is required to support rehabilitation. New government agencies have only quite limited capacities of managing infrastructures. Careful arrangement in capacity development is required to support infrastructure rehabilitation in peace building.

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