

Ministry of Infrastructure : The Republic of Rwanda

Ministry of Infrastructure Development : The United Republic of Tanzania

PREPARATORY SURVEY REPORT
ON
THE PROJECT FOR CONSTRUCTION OF
RUSUMO INTERNATIONAL BRIDGE AND
ONE STOP BORDER POST FACILITIES
IN
THE REPUBLIC OF RWANDA AND
THE UNITED REPUBLIC OF TANZANIA

November 2010

JAPAN INTERNATIONAL COOPERATION AGENCY

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PREFACE

Japan International Cooperation Agency (JICA) decided to conduct the preparatory survey on the Project for Construction of Rusumo International Bridge and One Stop Border Post Facilities in the Republic of Rwanda and the United Republic of Tanzania, and organized a survey team headed by Masahiko MORI of CHODAI CO., LTD. and consist of CHODAI CO., LTD. and Nippon Koei CO. LTD. between November, 2009 to December, 2010.

The survey team held a series of discussions with the officials concerned of the Government of Rwanda and Tanzania, and conducted a field investigation. As a result of further studies in Japan, the present report was finalized.

I hope that this report will contribute to the promotion of the project and to the enhancement of friendly relations between our three countries.

Finally, I wish to express my sincere appreciation to the officials concerned of the Government of the Republic of Rwanda and the United Republic of Tanzania for their close cooperation extended to the survey team.

December, 2010

Kiyofumi KONISHI
Director General,
Economic Infrastructure Department
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Summary

1. Overview of Recipient Countries

The Republic of Rwanda (hereinafter referred to as "Rwanda") is situated in the central part of the African Continent between 1°4'S and 2°51'S. With a population of some 10 million (UNFPA data for 2009) living in an area of 26,300 km², the population density of Rwanda is the highest in Africa. The Rusumo area has a fairly constant mean monthly temperature throughout the year with highest and lowest mean monthly temperatures of 30°C and 14°C respectively.

Meanwhile, the United Republic of Tanzania (hereinafter referred to as "Tanzania") is situated in the eastern central part of the African Continent. It has a long coastline along the Indian Ocean and is one of the countries in Africa which is well-blessed by nature. It has an area of 945,000 km² and a population of 42.48 million (World Bank data for 2008). The official languages are Swahili and English.

Rwanda is an agricultural country and some 90% of the total population is engaged in agriculture. It is a land-locked country and the country's scarcity of natural resources as well as industrial activities is well-known. The main export items are coffee and tea. As of 2006, the share of each type of industry in the GDP is 39.4% for primary industries, 23.3% for secondary industries and 37.3% for tertiary industries. The GDP in 2008 was US\$ 4.46 billion. The GNI per capita was US\$ 440 and the economic growth rate was 11.2%. The annual GDP rate which had been 6.5% from 1978 to 1980 slowed down to 2.9% from 1980 to 1985. This low GDP growth continued for the next five years from 1986 to 1990. The economy of Rwanda severely declined during the period of civil war which started in 1990 and peaked with the Rwanda Genocide in 1994. Three of the five years of civil war saw an annual decline of the GDP. The worst was in 1994 when the GDP fell more than 40% on the previous year. In 1995, the year after the end of the civil war, however, the real GDP recorded 9% growth, indicating the recovery of the national economy which had been battered by the civil war. In 1996, the annual GDP growth rate was as high as 13%.

In Tanzania, the agricultural sector accounts for some 50% of the GDP and 90% of the working population. The estimated share of each type of industry in the GDP in 2009 was some 30% for primary industries, some 20% for secondary industries and some 50% for tertiary industries. According to World Bank data for 2008, the GNI was US\$ 18.4 billion, the GNI per capita was US\$ 440 and the annual economic growth rate was 7.5%. Despite global concern regarding adverse impacts of the global financial and economic crisis, it is believed that Tanzania achieved a real GDP growth rate of 5 ~ 6% in 2009. The GNI per capita steadily increased from US\$ 210 in 1997 to US\$ 440 in 2008.

2. Background of the Requested Japanese Assistance

The 4th Tokyo International Conference on African Development (TICAD IV) held in May, 2008 adopted several targets for the next five years. Among these targets, the Government of Japan has identified wide-area infrastructure development to be a priority issue for assistance and intends to promote physical distribution through a cross-sectional wide-area infrastructure development programme with a doubling of its financial cooperation during this period. Among the leading economic corridors on the African Continent, the Central Corridor is particularly important along with the Northern Corridor linking Kenya and Tanzania in the geographical zone of the East African Community (EAC). The Central Corridor starts in Dar es Salaam in Tanzania and provides a crucial physical distribution route to Rwanda, Uganda and other land-locked countries. Rusumo Bridge is an international bridge on the Tanzania-Rwanda border in the Central Corridor. However, the use of only a single lane at a time is allowed with restrictions on the axle load. Because of its deterioration, there has long been a call for its replacement to cope with the expected increase of the traffic volume in the coming years. The EAC has been working towards the abolition of intra-regional tariffs in 2010 to stimulate intra-regional trade. As part of this effort, speedy border crossing is considered to be necessary at this border which is regarded as a bottleneck in the Central Corridor. The EAC is seeking overseas assistance for the introduction of a one stop border post (OSBP) system where cross-border entry and exit are simultaneously handled. Japan expressed its target of "expanding support for OSBP in Sub-Saharan Africa to 14 points" in its TICAD IV Action Plan and it has since been actively

Report

pursuing this target.

Against this background, the Government of Rwanda and the Government of Tanzania made a request in July, 2007 and February, 2009 respectively for Japan's grant aid cooperation for the rebuilding of Rusumo Bridge and the construction of OSBP facilities on the Tanzania-Rwanda border. In response to this request, the JICA conducted the Preparatory Study for Cooperation to Facilitate Physical Distribution in the Tanzania-Rwanda Border Region, Including the Rusumo Bridge Site in February, 2009. Based on the findings and recommendations of this study, the Preparatory Study for the Project to Construct Rusumo International Bridge and OSBP Facilities on the Tanzania-Rwanda Border was conducted from November, 2009 to December, 2010 with a view to rebuilding Rusumo Bridge and constructing OSBP facilities for these two countries.

3. Summary of the Study Findings and Project Contents

The present Preparatory Study involved two field surveys and two visits to the recipient countries: first field survey from 15th November to 5th December, 2009, second field survey from 20th January to 20th March, 2010, visit from 7th to 13th June, 2010 to explain the design policies and visit from 28th September to 9th October, 2010 to explain the summary contents of the basic design. Each field survey period was followed by work in Japan to analyse the findings. After the visit to explain the design policies, the Draft Report for the Preparatory Study, incorporating the opinions of the Governments of Tanzania and Rwanda, was compiled. The proposed design contents described in this Draft Report were examined and agreed upon by the said two countries during the visit to explain the summary contents of the basic design.

The field surveys covered wide-ranging matters in view of the planned construction of the new Rusumo Bridge, roads and OSBP facilities. These included the local topography, geology, hydrology, traffic volume and the environment. The state of the local construction industry, prospects of local procurement and likely cost were also examined. The visiting study team members attended meetings of the Joint Technical Committee (JTC) arranged by stakeholders in the two countries and discussed the technical, legal and operational issues of the Project with JTC members.

Based on the findings of these surveys, decisions were made on important technical specifications relating to the road and bridge width, bridge type, paving type and scale of the OSBP facilities. The key specifications for the main structures to be constructed under the Project are shown in the table below.

<p>① Rusumo Bridge</p>	<p>Bridge length: 80 m; width: 9.5m; simple composite steel box girder bridge Road width: two lanes (3.75 m + 3.75 m); sidewalk with a width of 1 m (both sides) Paving: asphalt paving (80 mm thick; only for vehicle lanes) Abutments: reverse T-type abutments on spread foundations</p>
<p>② New Roads on OSBP Premises</p>	<p>Total length: approx. 2,000 m; standard width: 9.5 m (vehicle lanes: 3.5 m x 2; shoulders: 1.25 m x 2) Paving: concrete paving (150 mm thick)</p>
<p>③ OSBP Facilities</p> <ul style="list-style-type: none"> ● Site Area ● Administration Building ● Verification Storage ● Control Shed ● Guard House ● Car Park for Large Vehicles ● Equipment <ul style="list-style-type: none"> - PCs and Peripheral Equipment - Emergency Generator - Forklift - Internal Telephone System 	<p>Rwandan site: 2.6 ha; Tanzanian site: 1.4 ha Rwandan site: 1,116 m²; Tanzanian site: 1,116 m² Rwandan site: 1,408 m²; Tanzanian site: 547 m² Rwandan site: 560 m²; Tanzanian site: 330 m² Rwandan site: 63 m²; Tanzanian site: 54 m² Rwandan site: 33 spaces; Tanzanian site: 22 spaces</p> <p>Each country: 20 PCs, 7 printers and 3 scanners Each country: 1 Each country: 1 Each country: 1 set (25 telephones)</p>

4. Project Period and Estimated Project Cost

The planned overall project period is 40 months, consisting of 9.0 months for the detailed design work and 31.0 months for the construction work. The project cost required for fulfilling the undertakings to be jointly born by Tanzania and Rwanda is estimated to be 123 million yen.

5. Evaluation of the Project

(1) Relevance

The Transport Sector Policy of Rwanda sets out the programme for this sector for the period from 2008 to 2012. Its primary targets are reduction of the transportation cost through road improvement and stimulation of people's movement through the development of the nationwide road network. The policy refers to the existing plan for roads around Rusumo Bridge. Meanwhile, the Transport Sector Investment Programme (TSIP) of Tanzania aims at the improvement and better maintenance of international trunk roads and emphasises the construction, upgrading and proper maintenance of international corridors, including the Central Corridor.

The Project aims at facilitating safe and steady physical distribution based on smooth traffic flow on the Central Corridor by means of constructing the new Rusumo Bridge and OSBP facilities to lift restrictions on passing vehicles and to eliminate the traffic congestion caused by large vehicles at the Rusumo border between Rwanda and Tanzania. At present, the existing Rusumo Bridge is subject to traffic restrictions, such as the use of only one lane at a time, a maximum axle load of 8 tons and a maximum travelling speed of 5 km/hour. Its early replacement has been called for in view of its major deflection under the weight of large passing vehicles. The existing border facilities are experiencing chronic traffic congestion, partly due to an insufficient number of parking spaces. This border crossing point has become a major bottleneck on the Central Corridor as it takes large vehicles an average of some 14 hours to complete the border crossing procedure. As the elimination of these problems is an urgent task for both countries, the urgency of the Project is quite high.

The planned new Rusumo Bridge is located in rapids in the immediate downstream of Rusumo Falls. The impossibility of introducing bridge piers in the river means that the bridge must be a single span bridge with a length of 80 m. As neither Rwanda nor Tanzania possess the necessary technical capability to construct such a large bridge without external assistance, the use of Japan's technical capability for the planning, design and construction of this bridge is essential.

(2) Effectiveness

< Quantitative Outputs >

The anticipated quantitative outputs of the Project are described below.

- The replacement of the bridge will make the permanent use of two lanes possible while increasing the axle load restriction from the present 8 tons to 20 tons and the speed limit from the present 5 km/hour to 30 km/hour.
- The introduction of new OSBP facilities means that it will be possible to complete the border crossing procedure at the entry side alone, shortening the overall time required to cross the border and alleviating the current congestion at the car parks. It is planned to shorten the border crossing time for large vehicles from Tanzania to Rwanda from some 14 hours to 5 - 10 hours. The integration of the customs clearance work, which is currently conducted at the Rusumo border and dry port in Kigali, at the new OSBP facilities at Rusumo will shorten the time by at least four hours.
- The shortening of the time to cross the border will reduce the overall transportation cost for a round trip between the Port of Dar es Salaam and Kigali for a 40 foot container from US\$ 3,130 to US\$ 3,050. This translates to an annual cost reduction of some US\$ 1.8 million.
- It will no longer be necessary for large vehicles with an axle load of 8 tons or more to take a detour to the Northern Corridor which involves an additional travelling distance of some 400 km

(round trip transportation cost for a 40 foot container: US\$ 4,352), reducing the transportation cost by US\$ 1,220 for each 40 foot container.

< Qualitative Outputs >

The anticipated qualitative outputs of the Project are described below.

- As safe and steady traffic flow will be secured together with smooth border crossing in the post-project period, the number of vehicles using the Central Corridor will increase, accelerating the overall improvement (at the Port of Dar es Salaam and road conditions along the entire route) of this corridor. This will have positive economic effects.
- For Rwanda, the availability of a reliable alternative route to the Northern Corridor (the value of border crossing cargo on the Rwandan side was US\$ 14 million in 2007) means that physical distribution in Rwanda will become much more stable.
- The increase of the number of vehicles using the Central Corridor will level the international physical distribution which is currently over-dependent on the Northern Corridor. As a result, smoother physical distribution will be achieved throughout East Africa.
- The success of the Project will facilitate the introduction of OSBP facilities within the EAC.
- The number of accidents caused by congestion and parking at sloping sites will decrease.
- The availability of more PCs, peripheral devices, a forklift and other equipment will reduce the work burden of the staff, improving their work efficiency.

In addition to the positive effects described above, the Project is expected to facilitate physical distribution on the Central Corridor with the opening of the new bridge and OSBP facilities and to stimulate the economic development of Rwanda and Tanzania. The successful implementation of the Project will be significant for Rwanda from the viewpoint of securing an alternative route to a port from this land-locked country. Both countries have expressed a strong urgency and necessity for the Project and Japanese assistance for the Project is judged to be highly significant, relevant and effective from the viewpoint of the purpose of Japan's ODA.

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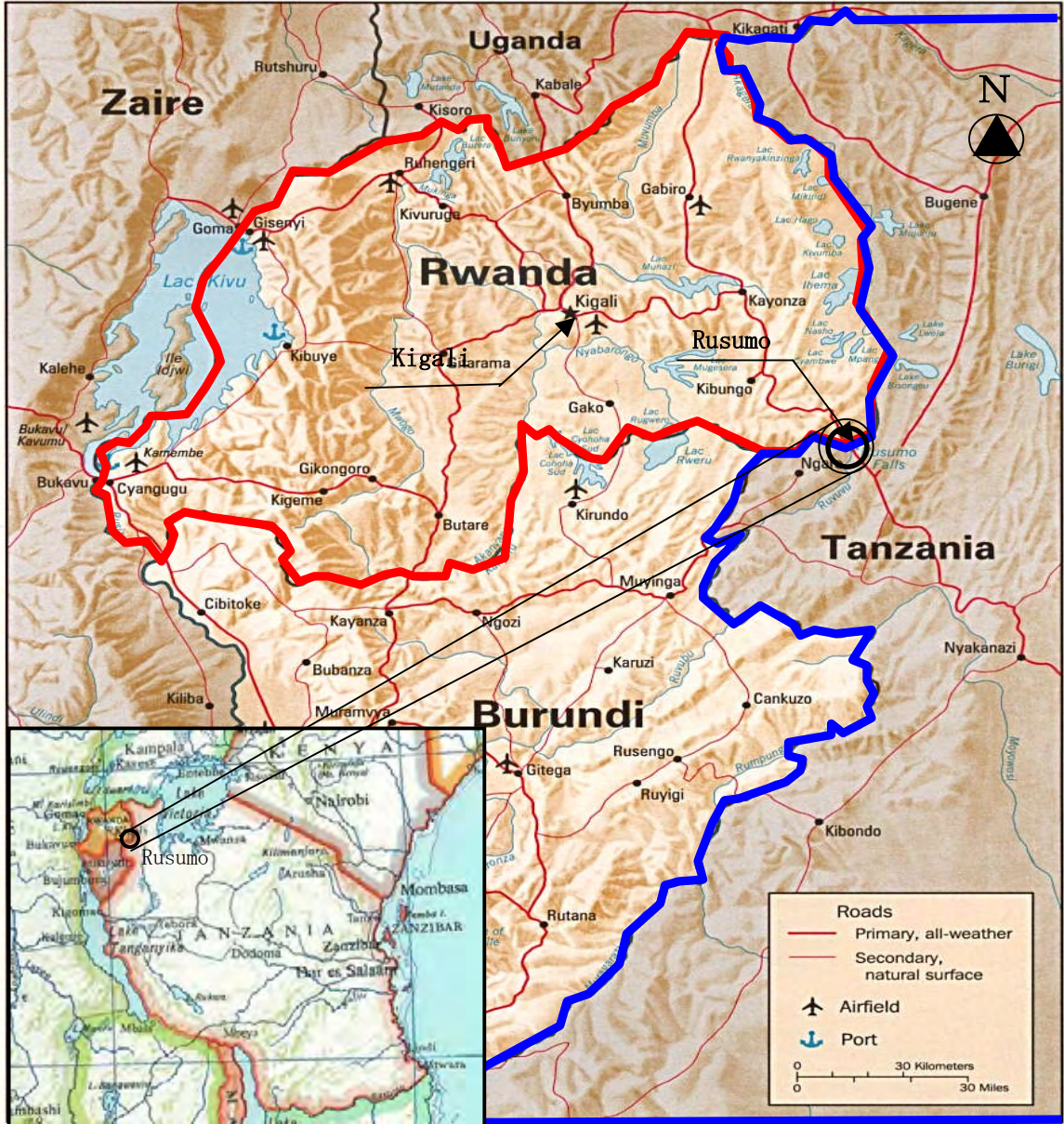
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Rwanda and Burundi



Location Map



Perspective of Rusumo International Bridge



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Abbreviations

AfDB : African Development Bank
CRB : Contractor Registration Board
DANIDA : Danish International Development Agency
DRC : Democratic Republic of Congo
EAC : East Africa Community
EATTFP : East Africa Transport and Trade Facilitation Program
EDF : European Development Fund
EDPRS : The Economic Development and Poverty Reduction Strategy
EIA : Environmental impact assessment
ERB : Engineer Registration Board
GDP : Gross Domestic Product
GNI : Gross National Income
IDA : International Development Association
JICA : Japan International Cooperation Agency
JTC : Joint Technical Committee
MININFRA : Ministry of Infrastructure
MOID : Ministry of Infrastructure Development
NELSAP : Nile Equatorial Lakes Subsidiary Action Program
NEMC : National Environment Management Council
NSGRP : National Strategy for Growth and Reduction of Poverty
OFID : OPEC Fund for International Development
OSBP : One Stop Border Post
RDB : Rwanda Development Board
ROW : Right of Way
RRA : Rwanda Revenue Authority
RTDA : Rwanda Transport Development Agency
TANROADS : Tanzania National Roads Agency
TBA : Tanzania Building Agency
TICAD : Tokyo International Conference on African Development
TOR : Terms of Reference
TRA : Tanzania Revenue Authority
TSIP : Transport Sector Investment Program
WB : World Bank

Chapter 1. Background of the Project

1-1 Background of the Requested Japanese Assistance

The 4th Tokyo International Conference on African Development (TICAD IV) held in May, 2008 adopted several targets for the next five years. Among these targets, the Government of Japan has identified wide-area infrastructure development to be a priority issue for assistance and intends to promote physical distribution through a cross-sectional wide-area infrastructure development programme with a doubling of its financial cooperation during this period. Among the leading economic corridors on the African Continent, the Central Corridor is particularly important along with the Northern Corridor linking Kenya and Tanzania in the geographical zone of the East African Community (EAC). The Central Corridor starts in Dar es Salaam in Tanzania and provides a crucial physical distribution route to Rwanda, Uganda and other land-locked countries. Rusumo Bridge is an international bridge on the Tanzania-Rwanda border in the Central Corridor. However, the use of only a single lane at a time is allowed with restrictions on the axle load. Because of its deterioration, there has long been a call for its replacement to cope with the expected increase of the traffic volume in the coming years. The EAC has been working towards the abolition of intra-regional tariffs in 2010 to stimulate intra-regional trade. As part of this effort, speedy border crossing is considered to be necessary at this border which is regarded as a bottleneck in the Central Corridor. The EAC is seeking overseas assistance for the introduction of a one stop border post (OSBP) system where cross-border entry and exit are simultaneously handled. Japan expressed its target of "expanding support for OSBP in Sub-Saharan Africa to 14 points" in its TICAD IV Action Plan and it has since been actively pursuing this target.

Against this background, the Government of Rwanda and the Government of Tanzania made a request in July, 2007 and February, 2009 respectively for Japan's grant aid cooperation for the rebuilding of Rusumo Bridge and the construction of OSBP facilities on the Tanzania-Rwanda border. In response to this request, the JICA conducted the Preparatory Study for Cooperation to Facilitate Physical Distribution in the Tanzania-Rwanda Border Region, Including the Rusumo Bridge Site in February, 2009. Based on the findings and recommendations of this study, the Preparatory Study for the Project to Construct Rusumo International Bridge and OSBP Facilities on the Tanzania-Rwanda Border was conducted from November, 2009 to December, 2010 with a view to rebuilding Rusumo Bridge and constructing OSBP facilities for these two countries.

1-2 Policies Regarding the Natural Conditions

(1) Climate

Meteorological data (maximum temperature, minimum temperature and rainfall) from the Rusumo Observatory (located 15 km northwest of Rusumo Bridge) and Bukora Observatory (located some 10 km north of Rusumo Bridge) was obtained from METEO Rwanda as meteorological data for near Rusumo Bridge. The time span of the data is from 1968 to 1990 for the Rusumo Observatory and from 2005 to 2008 for the Bukora Observatory. Because of the proximity of these areas (around 2°S) to the equator, the monthly temperature variations are relatively small throughout the year. At the Bukora Observatory, the mean monthly maximum temperature is approximately 30°C while the mean monthly minimum temperature is approximately 14°C. In the case of rainfall, the mean annual rainfall is 807 mm for the Rusumo Observatory and 867 mm for the Bukora Observatory, indicating that the rainfall in the project area is relatively low. Rain is often observed from October to May but the highest monthly rainfall of approximately 140 mm is relatively low. As such, the construction work should not be greatly disrupted by rain and it is unnecessary to consider any forced suspension of the work in the rainy season. Fig. 1-1 and Fig. 1-2 show the mean monthly rainfall and annual rainfall records respectively for the Rusumo area.

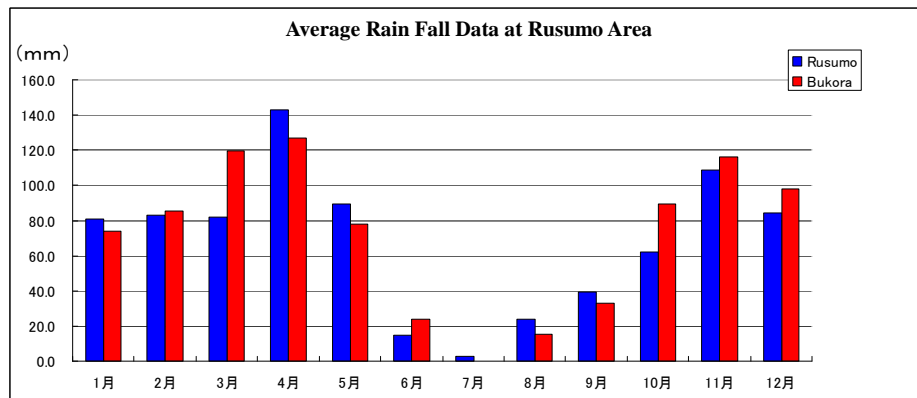


Fig. 1-1 Mean Monthly Rainfall in the Rusumo Area

Source: METEO Rwanda

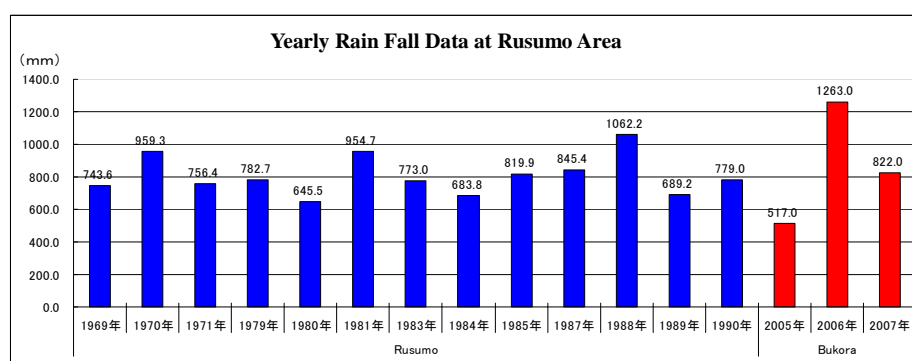


Fig. 1-2 Annual Rainfall in the Rusumo Area

Source: METEO Rwanda

(2) Hydrology

Prior to the hydrological survey at the new Rusumo Bridge construction site, survey data for the Regional Rusumo Falls Hydroelectric and Multi-Purpose Project was obtained in Rwanda and examined. This project plans the construction of the Rusumo Dam some 200 m upstream of the existing Rusumo Bridge and is currently at the feasibility study phase.

The probable maximum flood (PMF) rate, which is believed to be the same as the inflow design flood (IDF), for the Rusumo Dam project was examined.

① IDF = 929 m³/s

→ 1,000 year probable discharge based on the statistical processing of observation data

② Probable maximum flood (PMF): design flood assuming the collapse of the dam = 1,620 m³/s

→ level of flood discharge combining 100 year return period rainfall for rain in the preceding 20 days and 100 year return period rainfall for rain for 72 hours during the period of flooding

Based on the data in ① and ②, the maximum water level of (A)kagera River at the planned new Rusumo Bridge site will be determined in correspondence with a PMF of 1,620 m³/s.

According to data for the Rusumo Dam project and the findings of the field reconnaissance by the Study Team, the water surface gradient at the site in question is believed to be steeper than 1 in 500. The roughness coefficient of the river channel to be used for the Project is 0.05 as the safe side value. Under these conditions, the uniform flow water level when the value of PMF (Q) is 1,620 m³/s was estimated. The estimation result indicates that the water level at the new Rusumo Bridge site with a PMF value of 1,620 m³/s will not affect the bridge (Fig. 1-3).

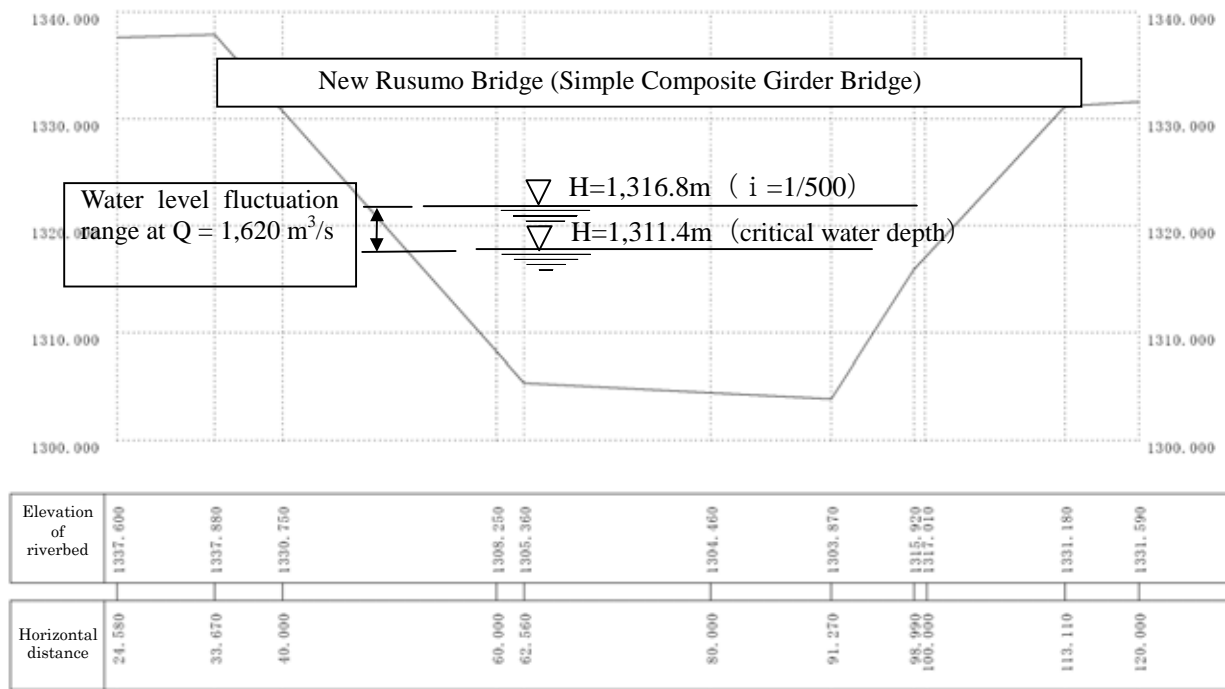
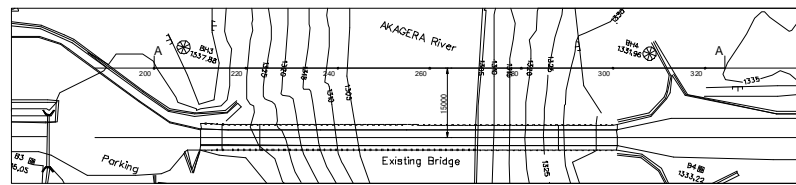


Fig.1-3 Probably Maximum Water Level at the Bridge Crossing Site (Estimated Uniform Flow Water Level)

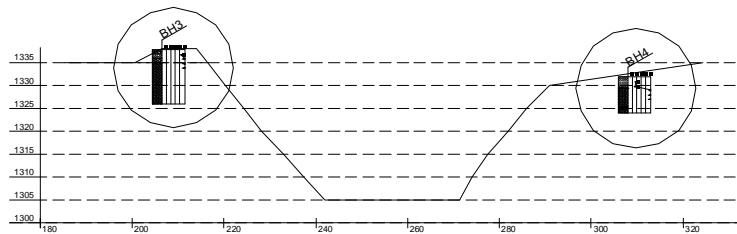
(3) Topography and Geology

The project area has harshly undulating topography and Rusumo Bridge is located in a valley. Both banks of the existing bridge site rise sharply and the bridge is some 30 m above the river water level below. The topography at the planned sites for the new border facilities is equally steep. Weathered schist is found at the planned site for the new Rusumo Bridge. In the case of the planned sites for the new border facilities, a weathered schist layer is found above the silty soil on the Rwandan side and immediately below the surface layer on the Tanzanian side. The field survey by the Study Team included a topographic survey of the project area and geological surveying (boring, standard penetration test and laboratory test) at six points, i.e. two points near the abutments of Rusumo Bridge and four sites for the planned new border facilities (two points on the Rwandan side and two points on the Tanzanian side)

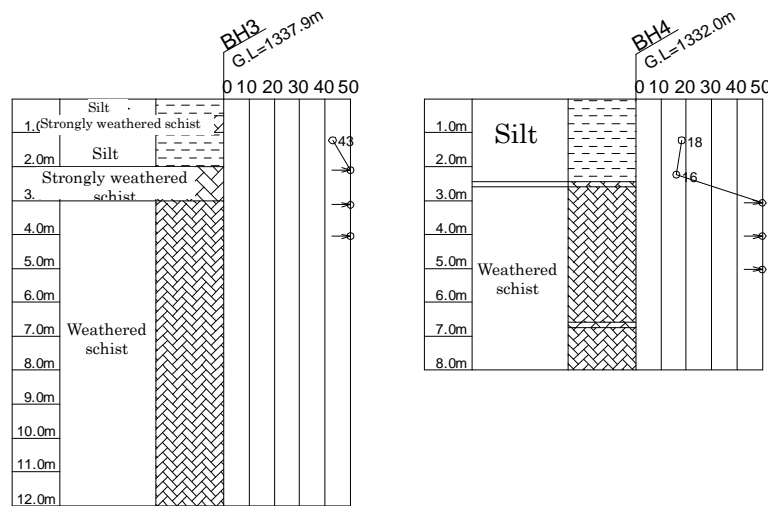
Fig. 1-4 shows the geological survey results for the bridge site.



Booring Hole Position



Longitudinal Section at Rusumo Bridge



Booring Data

Fig. 1-4 Geological Survey Results for the Bridge Site

(4) Earthquakes

The Western Rift Valley runs in the western part of Rwanda along the border with Congo (DRC) and earthquakes often occur along this route. In February, 2008, two large earthquakes (M6.1 and M5.0) occurred in the area, causing severe damage. According to the survey data for the Rusumo Dam project and interview results at the Rwanda Geology and Mines Authority, the epicentres of past earthquakes have been in the western part of Rwanda (west of 30°E). No earthquakes in the past have had the epicentre within a 100 km radius of Rusumo Bridge. The seismic load for the Project will be determined based on this fact while referring to the viewpoint adopted by the Rusumo Dam project. Fig. 2-6 shows the epicentres and strength of past earthquakes in the region.

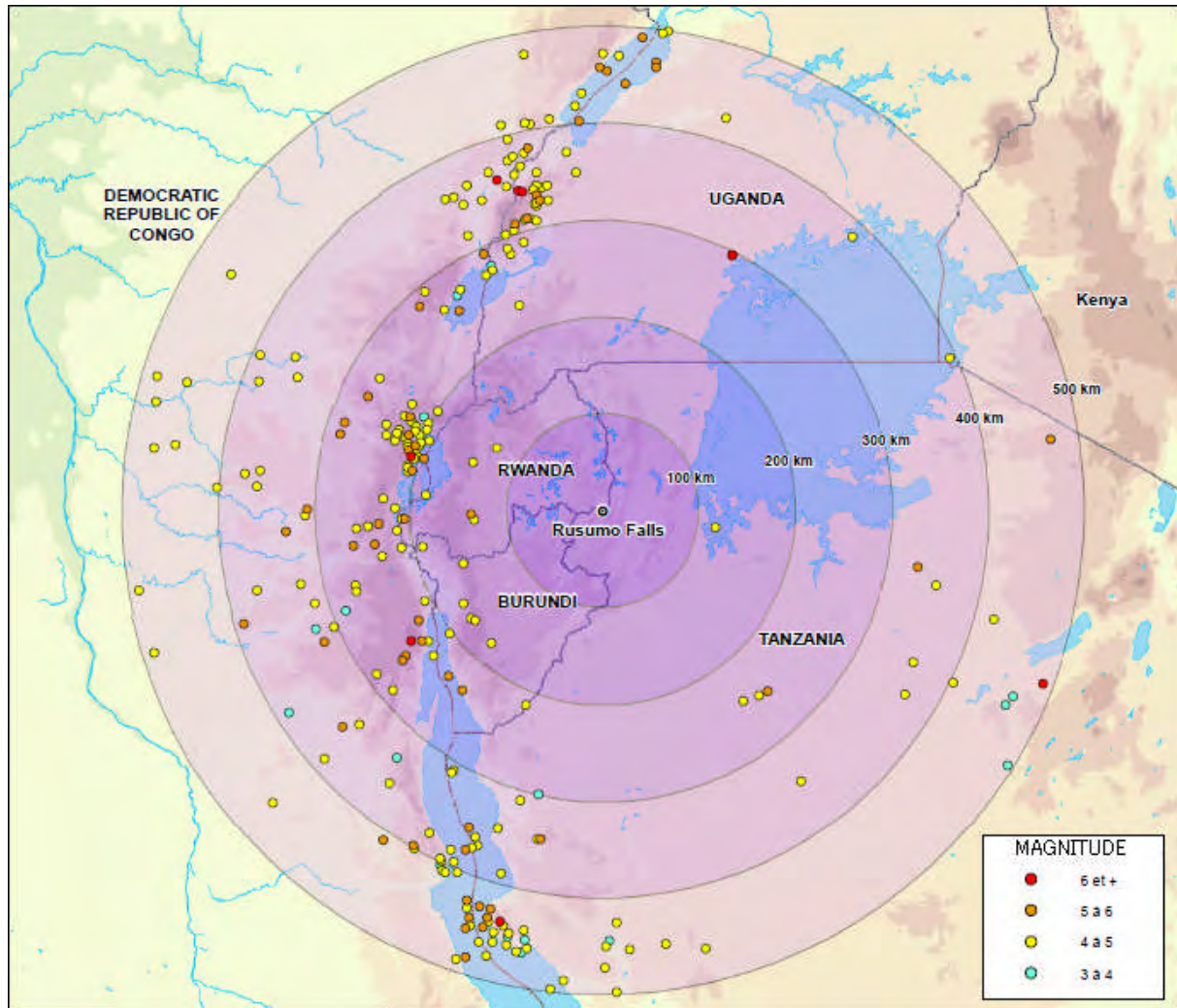


Fig. 1-5 Epicentres and Strength of Past Earthquakes in the Region

Source: Regional Rusumo Falls Hydroelectric and Multi-Purpose Project (F/S)

1-3 Social and Environmental Considerations

As the Project intends the replacement of the existing bridge and improvement of the existing border facilities (to OSBP facilities), its impacts on the natural environment and social environment are inferred to be small. At the planning and design stage, the following special considerations have been given to minimising any possible environmental impacts.

- The location of the new border facilities on the Rwandan side is planned some 750 m away from the present site to minimise the need for the resettlement of local residents.
- On the Rwandan side, a new bypass road will be constructed between the OSBP facilities and the border to alleviate any negative impacts on economic activities in the existing dwelling area. This bypass road will be provided with safe crossings for local residents whose mobility may be hampered by the new bypass road.
- On the Tanzanian side, the new OSBP facilities will be located at the present border facility site to minimise any negative impacts on the area. For this reason, the construction work will take place in stages to maintain the functions of the existing facilities.
- For the construction of the new Rusumo Bridge, waste water from the construction work and OSBP facilities will be properly treated before its discharge to (A)kagera River.

1-3-1 Procedures for Social and Environmental Considerations

It is judged necessary to invoke the EIA procedure in both Rwanda and Tanzania in view of the proposed type, scale and location of the Project. During the period of the Second Field Survey (February, 2010), the Study Team conducted interviews on the EIA procedure with the RDB, the EIA reviewing body in Rwanda, and the Safety and Environment Section of the MOID, the project implementing body in Tanzania. On both occasions, the Study Team was advised to commence the EIA procedure after the finalisation of further details of the Project in the basic design. Therefore, implementation of the EIA procedure has not yet commenced either country.

Table 1-1 Outline of the General EIA Procedure in Each Country

Item	Rwanda	Tanzania
Body responsible for the EIA for the Project	MININFRA (Transport Sector)	MOID (Safety and Environment Section)
Governing law	Organic Law	Environmental Management Act (Gazette No. 20 of 2004)
EIA guidelines	General Guidelines and Procedure for Environmental Impact Assessment	Environmental Assessment and Management Guidelines for Road Sector
Reason for the need for an EIA for the Project	The above law stipulates that an EIA is a compulsory requirement for the construction of public roads, including international roads and national roads, and of bridges.	The project site falls in a sensitive area (area adjacent to a public water area, such as a river).

Table 1-2 Outline of the Specific EIA Procedure for the Project

Item	Rwanda	Tanzania
EIA reviewing body	RDB (Rwanda Development Board)	NEMC (National Environment Management Council)
Likely environmental issues	Resettlement of residents at the planned OSBP facility site; land acquisition; impacts on the livelihood of residents in the neighbourhood of the existing border facilities (restaurants and shops)	Resettlement of residents; water quality (especially in relation to possible oil contamination by work vehicles) (pointed out by the MOID)
(Envisaged) period of the EIA	45 days for the review with 1 - 3 months required for compilation of the report	120 days for the review with some 2 months required for compilation of the report
Stakeholders' meeting	Necessary (The requirement for such a meeting is specified by law in the case of a full EIA.)	Unlikely to be convened in view of the little envisaged impact (comment by the MOID)

1-3-2 Resettlement of Residents and Acquisition of Land

The number of ordinary households which will be affected by land acquisition for the Project is one which is currently situated at the planned site for the new OSBP facilities on the Rwandan side and 2 - 5 (including stores) currently situated in the planned area for extension under the Project to accommodate the new OSBP facilities on the Tanzanian side. As the preparation of a design will avoid the resettlement of these households, it is highly likely that their resettlement will be necessary. There are also currently houses for the staff who man the border facilities at the planned sites for the new facilities on both sides of the border. As these houses are owned by the government, the present understanding is that they will be rebuilt by the government of each country. Land of which the acquisition is required includes the planned plots for the new OSBP facilities on the Rwandan side and also the planned plots for the extension of the existing border facilities on the Tanzanian side. The said plots in Rwanda are currently used to cultivate bananas or wheat. While a new bypass road from the

border to these facilities will use part of the existing road, the purchase of some banana and other fields from local residents will be necessary.

1-3-3 Environmental Check List and Monitoring Plan

(1) Environmental Check List

The Study Team prepared the environmental check list shown in Table 1-3 based on the findings of the field survey which was conducted in February this year. It will be necessary for the contents of this list to be approved by the MININFRA and MOID which are the EIA implementing bodies in Rwanda and Tanzania. Approval of the implementation of the necessary measures suggested on the list by the government of each country as part of the agreed matters in the official M/D will also be necessary.

Report

Table 1-3(1) Results of the Checking of Environmental Items Using the Check List

Category	Environmental Item	Main Check Items	Confirmation of Environmental Considerations
1 Permits and Explanation	(1) EIA and Environmental Permits	<ol style="list-style-type: none"> 1. Have EIA reports been officially completed? 2. Have EIA reports been approved by authorities of the host country's government? 3. Have EIA reports been unconditionally approved? If conditions are imposed on the approval of EIA reports, are the conditions satisfied? 4. In addition to the above approvals, have other required environmental permits been obtained from the appropriate regulatory authorities of the host country's government? 	<ol style="list-style-type: none"> 1. EIA approval is requested under their laws ('Organic law, Gazette Number No.04/2005 of 08/09/2005' of Rwanda and 'National environmental Policy, Environmental Management Act, No. 20 2004 and Environmental Impact Assessment and Audit Regulation No. 349 2005' of Tanzania) in both countries. EIA reports have not been completed yet because of the lack of necessary information for EIA reports. 2. EIA approval has not been obtained yet. After B/D design is completed, MOID (Tanzania) and MININFRA (Rwanda) will acquire the approval before construction phase. 3. Not yet obtained because EIA has not been approved. 4. Not yet obtained because EIA has not been approved.
	(2) Explanation to the Public	<ol style="list-style-type: none"> 1. Are contents of the project and the potential impacts adequately explained to the public based on appropriate procedures, including information disclosure? Is understanding obtained from the public? 2. Are proper responses made to comments from the public and regulatory authorities? 	<ol style="list-style-type: none"> 1. Implementing agencies of stakeholder meeting of EIA are RDB (Rwanda Development Board) in Rwanda and MOID in Tanzania. RDB is committed to hold public hearing of stakeholders for the project. The stakeholders include relevant government ministries, the municipal authorities and private sector organizations such as trade associations, general public, local communities and NGOs. On Rwanda and Tanzania, stakeholder meetings for EIA will be held during EIA process. 2. Proper response to the public and regulatory authorities is requested in the above-mentioned EIA process. On Rwandan side, RDB holds the public hearing before EIA study, and they prepare result of the meeting and their opinion will be reflected in EIA study. MOID and MININFRA should properly respond to stakeholders' comments based on 'Environmental Code of Practice for Road Work' for MOID and 'REMA's General Guidelines and Procedure for Environment Impact Assessment' for MININFRA.

Table 1-3(2) Results of the Checking of Environmental Items Using the Check List

Category	Environmental Item	Main Check Items	Confirmation of Environmental Considerations
2 Mitigation Measures	(1) Air Quality	<ol style="list-style-type: none"> 1. Is there a possibility that air pollutants emitted from various sources, such as vehicle traffic will affect ambient air quality? Does ambient air quality comply with the country's ambient air quality standards? 2. Where industrial areas already exist near the route, is there a possibility that the project will make air pollution worse? 	<ol style="list-style-type: none"> 1. On Tanzanian side, environmental standards for air and noise pollution, water quality and soil quality are in place. Air pollution caused by traffic would be reduced because current traffic jam will be mitigated by the project once OSBP is operational. During the construction phase, air-pollution substance from construction may increase, but it is temporary and minor. And following measures are proposed to reduce impacts by the construction machines and vehicles: (i) To limit construction time (e.g. at daytime only 8:00-17:00), (ii) To limit driving speed of construction vehicles, (iii) To comply strictly with the technical specification of the construction work. 2. Not applicable. Any industrial area is not located near the project site.
	(2) Water Quality	<ol style="list-style-type: none"> 1. Is there a possibility that soil runoff from the bare lands resulting from earthmoving activities, such as cutting and filling will cause water quality degradation in downstream water areas? 2. Is there a possibility that surface runoff from roads will contaminate water sources, such as groundwater? 3. Do effluents from various facilities, such as stations and parking areas/service areas comply with the country's effluent standards and ambient water quality standards? Is there a possibility that the effluents will cause areas that do not comply with the country's ambient water quality standards? 	<ol style="list-style-type: none"> 1. During the construction phase of the bridge, soil runoff from construction site should be monitored by the contractor. Because the site is located near Akagera River, it is necessary to avoid negative influence on the river water quality. And it is requested to the contractor that surface soil of cutting and filling area will be covered with sheets or green to prevent the soil runoff. 2. Not applicable. Basically, roadway drainage will be installed at the subculture end by drain facilities in the street gutter. 3. The new OSBP facilities include parking area in both countries. The drain water from the new OSBP facilities will be appropriately processed by effluent treatment installation in the facilities.
	(3) Noise and Vibration	<ol style="list-style-type: none"> 1. Do noise and vibrations from vehicle and train traffic comply with the country's standards? 	<ol style="list-style-type: none"> 1. It is necessary to limit the speed of the vehicles which pass through the new bridge and roads for reducing noise and vibration.

Table 1-3(3) Results of the Checking of Environmental Items Using the Check List

Category	Environmental Item	Main Check Items	Confirmation of Environmental Considerations
3 Natural Environment	(1) Protected Areas	1. Is the project site located in protected areas designated by the country's laws or international treaties and conventions? Is there a possibility that the project will affect the protected areas?	1. Not applicable. The project site is not located in protected areas.
	(2) Ecosystem	1. Does the project site encompass primeval forests, tropical rain forests, ecologically valuable habitats (e.g., coral reefs, mangroves, or tidal flats)? 2. Does the project site encompass the protected habitats of endangered species designated by the country's laws or international treaties and conventions? 3. If significant ecological impacts are anticipated, are adequate protection measures taken to reduce the impacts on the ecosystem? 4. Are adequate protection measures taken to prevent impacts, such as disruption of migration routes, habitat fragmentation, and traffic accident of wildlife and livestock? 5. Is there a possibility that installation of roads will cause impacts, such as destruction of forest, poaching, desertification, reduction in wetland areas, and disturbance of ecosystems due to introduction of exotic (non-native invasive) species and pests? Are adequate measures for preventing such impacts considered? 6. In cases where the project site is located at undeveloped areas, is there a possibility that the new development will result in extensive loss of natural environments?	1~6. The project site will not encompass primeval forest, tropical rain forest and other important habitats. The project site is located in already developed areas as a residential area, banana and wheat field. The project's main purpose is construction of a new bridge at the same location as the existing one and the improvement of border system between Rwanda and Tanzania. The project will not require a large scale of grading. On Rwandan side, the new OSBP facilities site needs land grading, however the existing environmental condition of the construction site is agricultural land, not including important natural environmental area. Therefore, the project appears not to affect important ecosystem. However, during EIA study the consultant will collect all the relevant information to have a clear picture on existing natural environment within the project site in order to scrutinize every possible impact on ecosystem around the project site

Table 1-3(4) Results of the Checking of Environmental Items Using the Check List

Category	Environmental Item	Main Check Items	Confirmation of Environmental Considerations
3 Natural Environment	(3) Hydrology	1. Is there a possibility that alteration of topographic features and installation of structures, such as tunnels will adversely affect surface water and groundwater flows?	1. It is possible that River Akagera will be impacted during the construction period. During EIA study the consultant will collect all the relevant information to have a clear picture on existing natural environment within the project site in order to scrutinize every possible impact from the aspect of hydrology.
	(4) Topography and Geology	1. Is there a soft ground on the route that may cause slope failures or landslides? Are adequate measures considered to prevent slope failures or landslides, where needed? 2. Is there a possibility that civil works, such as cutting and filling will cause slope failures or landslides? Are adequate measures considered to prevent slope failures or landslides? 3. Is there a possibility that soil runoff will result from cut and fill areas, waste soil disposal sites, and borrow sites? Are adequate measures taken to prevent soil runoff?	1. There are no slope failures and landslides in the project area. It is proposed to use the geotextile method to the high filling parts in the project area. As the measure will make it possible to ensure safety in high filling area and to protect natural environment by using vegetation capability. And it is requested to the contractor that surface soil of cutting and filling position will be covered with sheets or vegetation to prevent the soil runoff. 2. The above appropriate measures are implemented to prevent sand collapse and landslide for earth fill and cut earth on the new OSBP facilities site. In addition, there is a need for environmental consideration for the sites where the contractor excavates to get necessary materials for construction and deposit excavated materials. The implementing agencies will monitor the contractor to properly execute appropriate measures. 3. As mentioned above, appropriate measures are implemented to reduce negative impact for soil runoff. The measures are; i) To cover the cut and fill areas when it rains, ii) To do planting along cut areas by the contractor, if necessary. The implementing agencies monitor the contractor to properly execute appropriate measures.

Table 1-3(5) Results of the Checking of Environmental Items Using the Check List

Category	Environmental Item	Main Check Items	Confirmation of Environmental Considerations
4 Social Environment	(1) Resettlement	<ol style="list-style-type: none"> 1. Is involuntary resettlement caused by project implementation? If involuntary resettlement is caused, are efforts made to minimize the impacts caused by the resettlement? 2. Is adequate explanation on relocation and compensation given to affected persons prior to resettlement? 3. Is the resettlement plan, including proper compensation, restoration of livelihoods and living standards developed based on socioeconomic studies on resettlement? 4. Does the resettlement plan pay particular attention to vulnerable groups or persons, including women, children, the elderly, people below the poverty line, ethnic minorities, and indigenous peoples? 5. Are agreements with the affected persons obtained prior to resettlement? 6. Is the organizational framework established to properly implement resettlement? Are the capacity and budget secured to implement the plan? 7. Is a plan developed to monitor the impacts of resettlement? 	<ol style="list-style-type: none"> 1. Large scale involuntary resettlement is not generated in the project, since the project aims to reconstruct existing facilities. However, land acquisition is required for the construction of the new OSBP facilities. One household on Rwandan side and five households on Tanzanian side are supposed to be required involuntary resettlement by the project. In the original plan, there was a possibility of the resettlement of over 100 households on Rwandan side. However, JICA study team reconsidered the OSBP design, scale and facilities configurations to minimize the number of effected households. 2. Resettlement Action Plan (RAP) is planned in the responsibility in both countries. The responsible sections for resettlement are MOID and MININFRA in this project. Under the national laws, the ministries are responsible for sufficient explanation to the affected persons. 3.4 MOID and MININFRA responsible sections closely contact each other to prepare resettlement plan for affected persons. The sections provide the necessary information of resettlement progress to JICA. On Rwandan side, to reduce the negative impact on existing socioeconomic condition by the project, the management measures proposed are ; i) To set up a connecting road link to the new OSBP and town areas, ii) Not to include restaurants and other shops for eating in the new OSBP facilities. 5. The responsible sections have to obtain agreement from all affected persons in appropriate RAP process such as a stakeholder meeting. 6. MOID and MININFRA have the resettlement unit in their own organization to coordinate resettlement actions. MOID and MININFRA have responsibility of securing the budget for the resettlement. On Tanzanian side, resettlement process will follow the Compensation and Resettlement Guidelines of 2009 and existing laws. 7. Monitoring is necessary for appropriate implementation of resettlement and land acquisition in the project. Therefore, MOID and MININFRA establish implementing agencies for environmental monitoring based on the proposed monitoring form.

Table 1-3(6) Results of the Checking of Environmental Items Using the Check List

Category	Environmental Item	Main Check Items	Confirmation of Environmental Considerations
4 Social Environment	(2) Living and Livelihood	<ol style="list-style-type: none"> 1. Where roads or railways are newly installed, is there a possibility that the project will affect the existing means of transportation and the associated workers? Is there a possibility that the project will cause significant impacts, such as extensive alteration of existing land uses, changes in sources of livelihood, or unemployment? Are adequate measures considered for preventing these impacts? 2. Is there a possibility that the project will adversely affect the living conditions of inhabitants other than the affected inhabitants? Are adequate measures considered to reduce the impacts, if necessary? 3. Is there a possibility that diseases, including communicable diseases, such as HIV will be introduced due to immigration of workers associated with the project? Are adequate considerations given to public health, if necessary? 4. Is there a possibility that the project will adversely affect road traffic in the surrounding areas (e.g., by causing increases in traffic congestion and traffic accidents)? 5. Is there a possibility that roads and railways will cause impede the movement of inhabitants? 6. Is there a possibility that structures associated with roads (such as bridges) will cause a sun shading and radio interference? 	<ol style="list-style-type: none"> 1. No significant adverse impact is expected, because the project main purpose is construction of a new bridge at the same location as the old one. However, on Rwandan side, the project may give negative impact on the existing restaurants and shops for the drivers in the border town, as the new OSBP facilities would be moved to Kigali side about 1km. On Tanzanian side, it is necessary to remove some shops and houses. The proposed management measures are ; i) To set up connecting road link between the new OSBP and town areas, ii) Not to plan restaurants and other shops in the new OSBP facilities. 2. During the construction phase of the new bridge, old bridge is operated by both countries for cross-border transfers. 3. Construction activities may affect the social environment such as access to the existing infrastructures, infectious diseases (e.g. HIV). During the construction phase, educational program for construction workers and local residents will be organized by the contractor. During the operation phase, no significant impact is expected by the project, because no large population will inflow based on the character of the new facilities. 4. Positive impact is expected by the project, because the existing traffic jam surrounding the border will be mitigated. 5. On Rwandan side, connecting roads which are from border to the new OSBP facilities will prevent mountain side residents from coming to the town. The mitigation measures are proposed to reduce the impacts by setting up access roads and doorway of fences for the movement of inhabitants. 6. Not applicable. It is expected to be negligible.
	(3) Heritage	<ol style="list-style-type: none"> 1. Is there a possibility that the project will damage the local archeological, historical, cultural, and religious heritage sites? Are adequate measures considered to protect these sites in accordance with the country's laws? 	<ol style="list-style-type: none"> 1. Not applicable.

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Table 1-3(7) Results of the Checking of Environmental Items Using the Check List

Category	Environmental Item	Main Check Items	Confirmation of Environmental Considerations
4 Social Environment	(4) Landscape	1. Is there a possibility that the project will adversely affect the local landscape? Are necessary measures taken?	1. The bridge and OSBP institution design will be in harmony with the surrounding environment.
	(5) Ethnic Minorities and Indigenous Peoples	1. Where ethnic minorities and indigenous peoples are living in the rights-of-way, are considerations given to reduce the impacts on culture and lifestyle of ethnic minorities and indigenous peoples? 2. Does the project comply with the country's laws for rights of ethnic minorities and indigenous peoples?	1. Not applicable. No mitigations are proposed because any ethnic minorities or indigenous people do not live in the project areas. 2. Not applicable. There is no law for rights of ethnic minorities and indigenous people in both countries..
5 Others	(1) Impacts during Construction	1. Are adequate measures considered to reduce impacts during construction (e.g., noise, vibrations, turbid water, dust, exhaust gases, and wastes)? 2. If construction activities adversely affect the natural environment (ecosystem), are adequate measures considered to reduce impacts? 3. If construction activities adversely affect the social environment, are adequate measures considered to reduce impacts? 4. If necessary, is health and safety education (e.g., traffic safety, public health) provided for project personnel, including workers?	1. Following measures are proposed to reduce impacts during the construction: (i) for noise and the vibration; To limit construction time (e.g. at daytime only 8:00-17:00), (ii) for contaminated water; To execute proper treatment before discharging, (iii) To organize education program for construction labors and (iv) To include environmental consideration matters in the technical specification of the construction work. C/P will monitor compliance with the measures if necessary. 2. During the construction phase, the project will not give significant negative impacts on natural environment (ecosystem) because the project site is already developed area. And implementing agencies particularly make consideration about impacts on Akagera River. 3. The proposed management measures are: (i) To educate construction workers about environmental impacts, (ii) To stipulate environmental consideration measures in the technical specification of the construction works, (iii) To limit construction time, (iv) To explain purpose and periods of construction to local community and (v) To recycle materials from construction works. Positive impacts by construction are: (i) sales of daily goods to construction workers, (ii) getting job opportunity. Negative impacts are expected to be negligible. 4. The educational program for construction workers and local residents will be organized by the contractor.

Table 1-3(8) Results of the Checking of Environmental Items Using the Check List

Category	Environmental Item	Main Check Items	Confirmation of Environmental Considerations
5 Others	(2) Monitoring	<ol style="list-style-type: none"> 1. Does the proponent develop and implement monitoring program for the environmental items that are considered to have potential impacts? 2. Are the items, methods and frequencies included in the monitoring program judged to be appropriate? 3. Does the proponent establish an adequate monitoring framework (organization, personnel, equipment, and adequate budget to sustain the monitoring framework)? 4. Are any regulatory requirements pertaining to the monitoring report system identified, such as the format and frequency of reports from the proponent to the regulatory authorities? 	<ol style="list-style-type: none"> 1. The detail monitoring plan has not been prepared yet. Expected significant negative impacts are; (i) the water quality (drainage water from construction site), (ii) the soil erosion, and (iii) socioeconomic situation (including resettlement and land acquisition). The items should be monitored by MOID and MININFRA in a responsible manner. 2. The detail monitoring plan has not been prepared yet. However, the national laws oblige that implementing agencies prepare monitoring plan in EIA process. MOID and MININFRA will be involved in monitoring. 3. On Tanzanian side, under Environment Management Act, 2004 the environmental monitoring tools are in place which includes standards (air, water, soil and ozone). Inspection manual for environmental inspector and Checklist for monitoring pollutants in water soil air and noise are also in place. On Rwandan side, under REMA's General Guidelines and Procedure for Environment Impact Assessment, the monitoring will be undertaken. Monitoring program is proposed to be carried out in the responsibility of MOID and MININFRA as they are the owner of the project. 4. The implementation of monitoring plan is obligated depending on project scales and types under the EIA regulation as needed. The consultant will include in the EIA report the Chapter of Monitoring which will show what to be monitored and responsibility including monitoring costs (EMP).
6 Note	(1)Reference to Checklist of Other Sectors	<ol style="list-style-type: none"> 1. Where necessary, pertinent items described in the Forestry Projects checklist should also be checked (e.g., projects including large areas of deforestation). 2. Where necessary, pertinent items described in the Power Transmission and Distribution Lines checklist should also be checked (e.g., projects including installation of power transmission lines and/or electric distribution facilities). 	<ol style="list-style-type: none"> 1. Not applicable. The project site has already been developed, and no need to carry out large-scale deforestation. 2. Not applicable. This project does not include new installation of power transmission lines and/or the new electric distribution facilities.
	(2)Note on Using Environmental Checklist	<ol style="list-style-type: none"> 1. If necessary, the impacts to transboundary or global issues should be confirmed, if necessary (e.g., the project includes factors that may cause problems, such as transboundary waste treatment, acid rain, destruction of the ozone layer, or global warming). 	<ol style="list-style-type: none"> 1. Not applicable. The project main purpose is upgrading and improvement of existing border system between Rwanda and Tanzania. No transboundary issues will be involved.

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(2) Monitoring Plan (Draft)

Table 1-4 lists the environmental items for which monitoring is believed to be necessary at present. As the Project will necessitate the resettlement of residents albeit in a small number, monitoring of their proper resettlement will be necessary. At present, restaurants are located near the border which serve drivers crossing the border and the impact of the construction of the OSBP facilities on the local economy cannot be accurately assessed. It will, therefore, be necessary to continually monitor the situation with a view to formulating and implementing adequate measures if necessary.

Table 1-4 Monitoring Items (Draft)

Environmental Item Requiring Monitoring	Contents	Method	Timing
Non-voluntary resettlement of residents and acquisition of land	Adopt implementation Resettlement and land acquisition	Interview to PAPs and resettlement section	Pre-construction phase
	Received requests / complaints from PAPs	Interview to PAPs	Pre-construction phase
	Preparation of resettlement sites	Interview to resettlement section	Pre-construction phase
	Progress of Payment	Interview to PAPs and resettlement section	Pre-construction phase
Soil Erosion	Occurrence of Soil Erosion from the construction sites (Soil erosion condition)	Visual check	After raining
Water quality SS, Oil and Grease	Waste water discharge from the construction sites	Visual check	After raining
Non-voluntary resettlement of residents and acquisition of land	1) State of payment for the resettlement cost (cost of acquiring new land)	Interview to PAPs and resettlement section	After the opening of the new facilities
	2) State of support for the restoration of livelihood after resettlement	Interview to PAPs and resettlement section	After the opening of the new facilities
	3) Acquisition of land for resettlement	Interview to resettlement section	After the opening of the new facilities
	4) Socioeconomic conditions	Interview to PAPs	After the opening of the new facilities
	5) Requests and complaints expressed by residents affected by the Project	Interview to PAPs	After the opening of the new facilities
State of local economy, including employment and livelihood	1) State of support for the restoration of livelihood	Interview to PAPs and resettlement section	After the opening of the new facilities
	2) Socioeconomic conditions	Interview to PAPs	After the opening of the new facilities
	3) Requests and complaints expressed by residents affected by the Project	Interview to PAPs	After the opening of the new facilities

1-4 Other relation project

(1) Rusumo Falls Hydroelectric and Multipurpose Project

The Rusumo Falls Hydro-electric and Multipurpose Project is one of the NELSAP power projects. Its development objective of is "to provide multi-purpose use of water and enegy resources with investment in sustainable livelihoods in the project area".

The project output is tproduction of renewable hydroelectric energy (about 60MW) to supprt development in Burunde, Rwanda and Western Tanzania and in the project area which will allow for sustainable development through multi-objective public and private sector development including basun, water shed and environment management.

Fig. 1-6 shows relationship of Rusumo Falls Hydroelectric and Multipurpose Project and Japanese Grant Aid Project.

(2) Railway Project

There is a railway project connecting from Tanzania to Rwanda and Brundi funded by AfDB. The purpose of the project is to promote the circulation of industrial and agricultural product for the activation of the international trade within three countries showing economic growth. As the railway section between Dal es Salaam and Isaka has been already operated, the new railway section between Kigali and Isaka shall be extended. The survey of the project is planed to execute during the period between September 2010 and March 2012. The new railway may pass near the existing Rusumo Bridge.

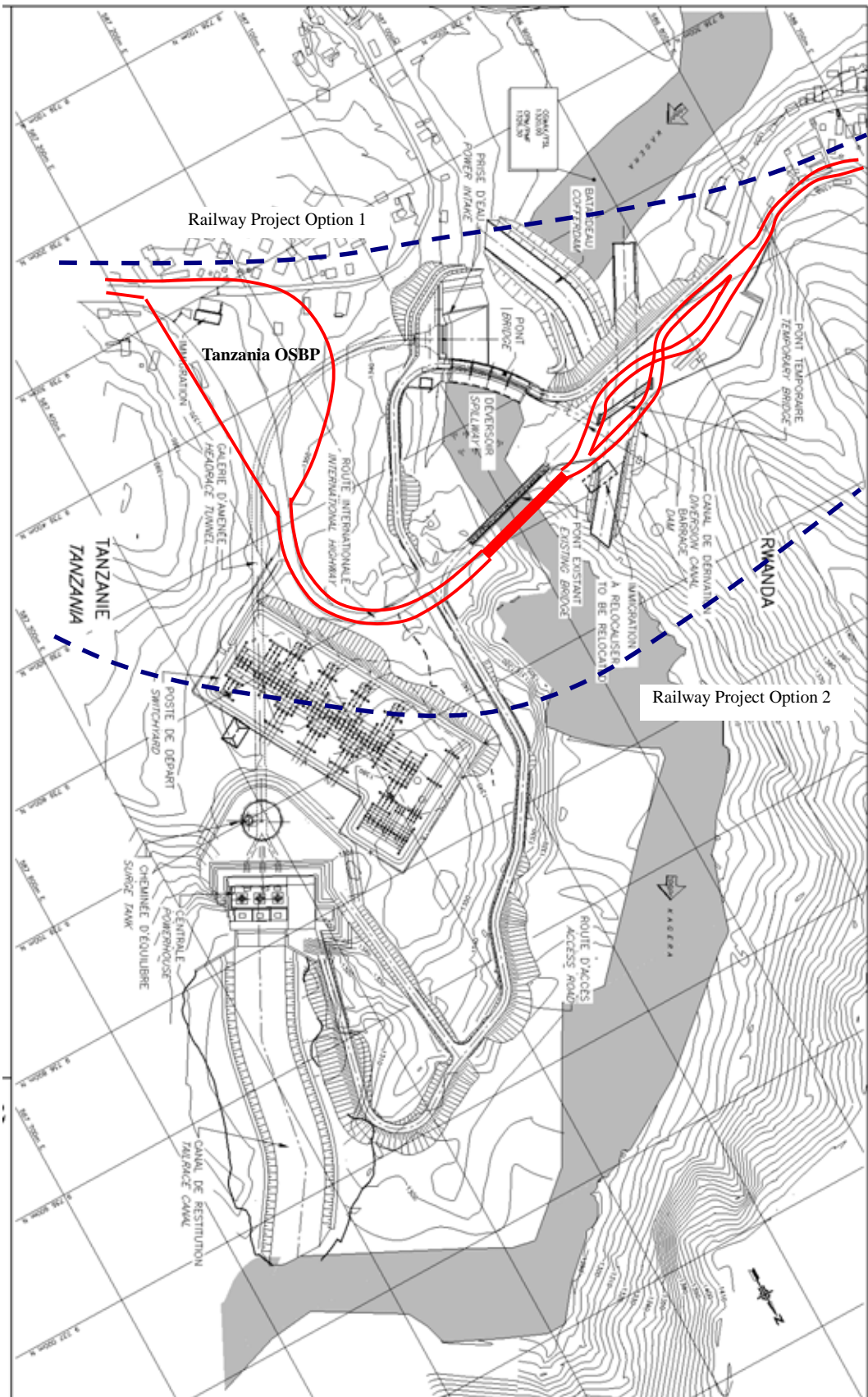


Fig. 1-6 Rusumo Falls Hydroelectric and Multipurpose Project and Japanese Grant Aid Project

Chapter 2 . Contens of the Project

2-1 Basic Concept of the Project

2-1-1 Higher Goals and Project Goals

The Rusumo Border Post, i.e. target site of the Project, is located on the Central Corridor. Of the leading economic corridors on the African Continent, the Central Corridor is an important economic corridor in the geographical zone of the East African Community (EAC) along with the Northern Corridor which links Kenya and Uganda. The Central Corridor starts at Dar es Salaam in Tanzania, providing a crucial physical distribution route to Rwanda, the Democratic Republic of the Congo and Burundi. As such, it functions as an essential physical distribution pipeline for landlocked countries. In 2010, the EAC has abolished intra-regional tariffs to vitalize intra-regional trade while seeking assistance for the introduction of a one stop border post (OSBP) system capable of simultaneously handling departure and entry procedures at border points to eliminate the bottlenecks of economic corridors. The East Africa Transport and Trade Facilitation Project (EATTFP) launched by the World Bank identifies 10 border posts for this purpose and the Rusumo Border Post is one of these.

The Sector Development Plan for Roads of Rwanda calls for the rebuilding of Rusumo Bridge to facilitate international trade for poverty reduction. In Tanzania, the rebuilding of Rusumo Bridge is understood to be part of the rehabilitation and maintenance of prioritised trunk roads in the National Strategy for Growth and Reduction of Poverty (NSGRP).

Rusumo Bridge is an arch bridge of which the construction commenced in 1966 with completion in 1972. It has now reached almost 40 years of service life and there is a strong possibility of some of its members being subject to a surcharge load in excess of the allowable stress due to (i) the passing of heavier vehicles than the design load and (ii) flaws in the bearings, presumably dating from the time of construction. Given the present restrictions on the axle load and the use of only a single lane at a time, its replacement is required to cope with the expected increase of the traffic volume in the coming years. Meanwhile, the border facilities at Rusumo are insufficient. The small number of parking spaces and insufficient staff strength to properly man the border crossing facilities cause perpetual traffic congestion in the area by vehicles crossing the border. Particularly slow-moving traffic is experienced by vehicles heading to Rwanda from Tanzania. The border checking of vehicles at Rusumo mainly relies on papers while physical verification is mainly conducted at the dry port in Kigali. The elimination of the present traffic congestion through the introduction of an OSBP system will greatly improve the efficiency of cargo transportation between Rwanda and Tanzania with the end result of an increase of the physical distribution volume and a reduction of the transportation cost.

The Project is essential to ensure safe and swift cross-border cargo transportation. Its early implementation is highly desirable to achieve the following beneficial outcomes.

- Safe and stable traffic (departure from the single lane operation of Rusumo Bridge with restrictions on the axle load)
- Unhindered passage by larger vehicles (elimination of restrictions on the axle load at the bridge)
- Shorter transportation time (through the introduction of an OSBP system)
- Reduction of the transportation cost
- Increased volume of physical distribution

2-1-2 Outline of the Project

The Project aims at replacing the existing Rusumo Bridge over the Rwanda-Tanzania border and introducing OSBP border-crossing facilities to achieve the goals/beneficial outcomes described in 1.1. The actual border is believed to be at the centre of (A)kagera River which runs under Rusumo Bridge. Through consultations between the two countries, it has been decided that the border point of the road is at the central part of Rusumo Bridge. Fig. 2-1 is an aerial photograph of the Rusumo border area. The border facilities of the two countries are situated not far from either side of the border point. As far as new border facilities on the Rwanda side are concerned, their siting some 750 m away from the existing facilities towards Kigali is also considered under the Project. On the Tanzanian side, relocation of the existing facilities is difficult because of the topographical restrictions and the basic concept is the construction of new border facilities at the site of the existing facilities. As the separate discussion of the various conditions regarding the new Rusumo Bridge and border facilities with each of the two countries is difficult, the joint discussion of these conditions with the two countries is essential. Rwanda and Tanzania have, in fact, established the Joint Technical Committee (JTC) to discuss and coordinate the technical, legal and management issues relating to the Project. In regard to a bilateral treaty between Rwanda and Tanzania which is essential for the operation of OSBP facilities, the JICA has conducted a separate study to establish a comprehensive treaty involving all EAC countries as well as a bilateral treaty between Rwanda and Tanzania featuring the border crossing at Rusumo. This bilateral treaty was successfully signed in March, 2010.

The signing of this bilateral treaty makes it legally possible to construct OSBP facilities at the Rusumo Border Post. The Project aims at construction new OSBP facilities and Rusumo Bridge with Japanese grant aid to eliminate the traffic congestion and restrictions on large vehicles at the border in order to facilitate safe and stable physical distribution on the Central Corridor.