

## **C. LETTERS & MEETING MINUTES (BOTSWANA)**

**JICA Study Team of the Feasibility  
Study on the Proposed Kazungula  
Bridge over the Zambezi River between  
the Republic of Botswana and the  
Republic of Zambia**

c/o Provincial Roads Department  
Sheki Sheki Road  
P O Box 30918, Lusaka  
ZAMBIA  
TEL +260-1-241766  
FAX +260-1-241766

Ref: KZB/28/S-00  
26<sup>th</sup> October 2000

The Permanent Secretary  
Ministry of Works, Transport and Communications  
Private Bag 007  
Gaborone  
**Botswana**

Fax No. 313366

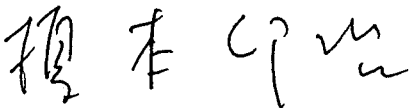
**SUBJECT: NAVIGATIONAL CLEARANCE**

Regarding the Navigational Clearance recommended by the JICA Study Team at the Meeting in Livingstone, 18<sup>th</sup> and 19<sup>th</sup> October 2000, we would like to ask your acceptance and final confirmation with the organization (such as Department of Maritime and Inland Waterways) related to the navigation at the Kazungula Ferry site of the Zambezi River. This confirmation is crucial condition for the Preliminary Design which will be prepared after return of the JICA Study Team to Japan as we requested at the Technical Sub-committee Meeting in Lusaka, Zambia 9<sup>th</sup> October with your technical representatives and the last Joint Steering Committee Meeting held on 18<sup>th</sup> and 19<sup>th</sup> October 2000, at Livingstone in Zambia.

We would like to remind you that this request for acceptance was made in accordance with the Article 6 of page 2 of the Minutes of Meeting, signed 18<sup>th</sup> February 2000 between the related countries and JICA.

Your kind reply of the determination and acceptance on these technical criteria attached herewith before the end of October will be highly appreciated.

Sincerely yours



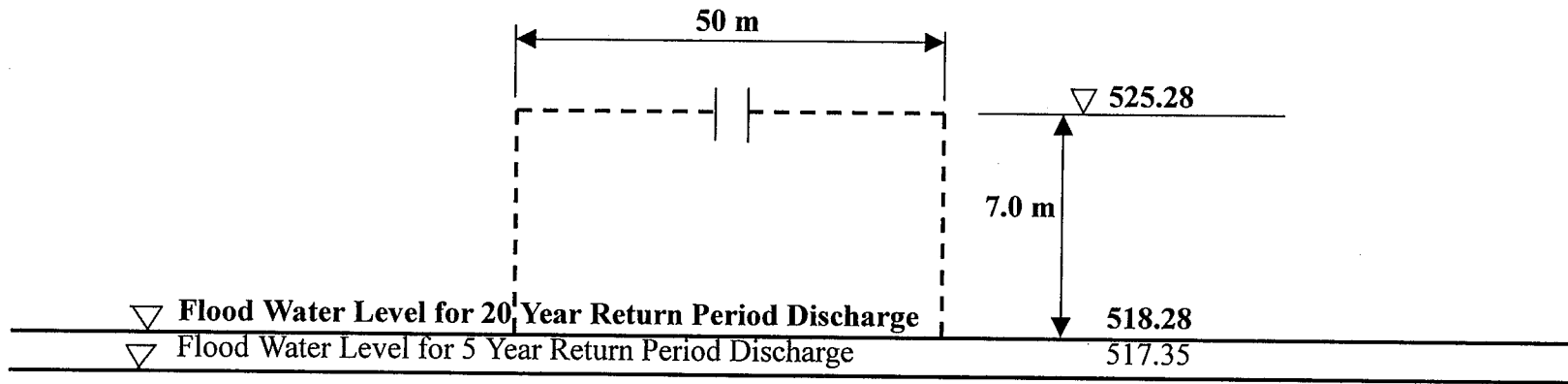
**Koji Enomoto**  
**Team Leader**  
**F/S of Kazungula Bridge**  
**JICA Study Team**

- cc: - Mr. Andrew Nkaro, Acting Director of Roads  
Fax No.: 314278  
- Ms. J. S. Nwako, Principal Roads Engineer  
- Mr. H. Hamaoka, JICA Lusaka  
- Mr. Tanaka, JICA Tokyo  
- File

Attached: Schematic Figure of Navigational Clearance

The navigation clearance of 7m is based on the condition of a safari boat height above the risen water level of 20 years return period flood. This clearance has a 0.33m margin above the existing ferry boat height above the water level of 5 years return period.

## NAVIGATIONAL CLEARANCE



- 59 -

<b>Safari Boat Height</b>		<b>Passenger Height</b>		<b>Additional Margin</b>	<b>Total</b>												
3.0 m	+	2.0 m	+	2.0 m	= 7.0 m												
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;"><b>Ferryboat Height</b></td> <td></td> <td style="text-align: center;"><b>Topmast</b></td> <td></td> <td style="text-align: center;"><b>Margin</b></td> <td style="text-align: center;"><b>Total</b></td> </tr> <tr> <td style="text-align: center;">7.6 m</td> <td></td> <td style="text-align: center;">(1.5 m)</td> <td></td> <td style="text-align: center;">0.33 m</td> <td style="text-align: center;">= 7.93 m</td> </tr> </table>						<b>Ferryboat Height</b>		<b>Topmast</b>		<b>Margin</b>	<b>Total</b>	7.6 m		(1.5 m)		0.33 m	= 7.93 m
<b>Ferryboat Height</b>		<b>Topmast</b>		<b>Margin</b>	<b>Total</b>												
7.6 m		(1.5 m)		0.33 m	= 7.93 m												

Note : Figure within the bracket is to be neglected.

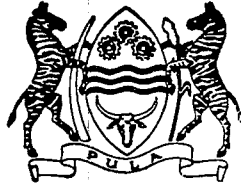
The elevation presented here is based on the survey conducted October 1999.

TELEPHONE: 313511/2/3/4/5/6

TELEGRAMS: ROADS

TELEX: 2743 BD

REFERENCE:



REPUBLIC OF BOTSWANA

MINISTRY OF WORKS TRANSPORT

AND COMMUNICATIONS

ROADS DEPARTMENT

PRIVATE BAG 0026

GABORONE

Our Ref: RD3/1 II (36)

Japanese International Co-operation Agency  
Sheki Sheki Road  
P. O. Box 30918  
Lusaka  
ZAMBIA**Attention: Mr. Koji Enomoto**

November 22, 2000

Dear Sir,

**KAZUNGULA BRIDGE PROJECT**  
**NAVIGATIONAL CLEARANCE**Your letter of the 26<sup>th</sup> of October, 2000 on the above subject matter refers;

Find attached a copy from Botswana Road Design Manual on the above subject. This document was availed to your Design Engineers during one of your visit here.

We would like you to further check your limiting criteria against Fig. 4-602.5. As stated at our last meeting, your proposal is acceptable to us in principle. We would however like to be advised on the Zambian opinion on this matter.

We hope you will find this information useful. We look forward to hearing from you.

Yours faithfully,

A handwritten signature in black ink, appearing to read 'J. Nwako'.

Judith S Nwako

**For Director of Roads**cc. Ministry of Works Transport and Communication  
**Attention: J. Willie**

**JICA Study Team of the Feasibility  
Study on the Proposed Kazungula  
Bridge over the Zambezi River between  
the Republic of Botswana and the  
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Ref: KZB/25/S-00  
26<sup>th</sup> October 2000

The Permanent Secretary  
Ministry of Works, Transport and Communications  
Private Bag 007  
Gaborone  
Botswana

Fax No. 313366

**SUBJECT: TECHNICAL CRITERIA FOR THE PRELIMINARY DESIGN OF THE  
BRIDGE AND ITS APPROACH ROADS AND BORDER CONTROL  
FACILITIES**

Regarding the above subject of the technical criteria in the Minutes of Meeting attached herewith, which were recommended by the IICA Study Team at the Technical Sub-committee Meeting held on 9<sup>th</sup> October at Lusaka in Zambia and the Joint Steering Committee Meeting on the Interim Report held on 18<sup>th</sup> and 19<sup>th</sup> October at Livingstone in Zambia, we would like to ask your final confirmation and acceptance on the technical criteria those were recommended and discussed through both Meetings above.

Especially, we would like to remind you that the Technical Sub-committee Meeting was held in order to determine the technical criteria for the Preliminary Design in accordance with the Article 6 of page 2 of the Minutes of Meeting on Scope of Works for the Feasibility Study on the Proposed Kazungula Bridge, signed 18<sup>th</sup> February 1999 between the related countries and JICA.

Your kind reply in writing of the final determination and acceptance on these technical criteria to be adopted to the Preliminary Design which will be carried out following the schedule agreed at the Joint Steering Committee Meeting held on 30<sup>th</sup> and 31<sup>st</sup> August 2000 at Gaborone in Botswana. Your kind reply of the determination and acceptance on these technical criteria in the Minutes of Meeting attached herewith and the Interim Report before the end of October as requested by the Team Leader of the JICA Study Team at the Joint Steering Committee held on 18<sup>th</sup> and 19<sup>th</sup> October at Livingstone in Zambia, will be highly appreciated.

Sincerely yours,



**Koji Enomoto**  
Team Leader  
F/S of Kazungula Bridge  
JICA Study Team

- cc: - Mr. Andrew Nkaro, Acting Director of Roads - Fax No.: 314278  
Ms. J. S. Nwako, Principal Roads Engineer  
- Mr. H. Hamaoka, JICA Lusaka  
- Mr. Tanaka, JICA Tokyo  
- File

Attached: Minutes of Meeting, 18 and 19 October 2000

## MEETING MINUTES

Technical Meeting between Representatives from the Government of Botswana and the JICA Study Team for the Feasibility Study on the Proposed Kazangula Bridge over the Zambezi River between the Republic of Botswana and the Republic of Zambia

Date : 9<sup>th</sup> November 2000, 10:00 a.m. – 13:00 a.m.

Venue : Conference Room, Roads Department, Gabarone

Attendees : Botswana delegation:

- Mr. M. Kono (Roads Dept.) (Chairman of Meeting)
- Mr. M. Kgano (Roads Dept.)
- Ms. Judith Nwako (Roads Department)
- Mr. P.G. Alpajora (Roads Dept.)
- Mr. B. Kemsley (Roads Dept.)
- Mr. Gregory Mojobe (Accident Statistics Officer – Police)
- Mr. Augustine Tema (Roads Engineer - Roads Department)
- Mr. O.B. Keitheile (Snr. Roads Engineer – Planning, Roads)
- Mr. B.A. Majola (Asst. Chief Imm. Officer – Immigration Dept.),
- Mr. B.M. Mudongo (Asst. Director – Customs & Excise)
- Mr. E. Karkari (Principal Natural Resource Officer / NCSA)
- Mjr. M. Mahupela (B.D.F.)
- Mr. S. Gabanakgosi (Roads Dept.)
- Ms. B.P. Matenge (DOCD / DA)

: JICA Study Team

- Mr. T. Nakagawa (Bridge Engineer)
- Mr. T. Inami (Highway Engineer)
- Mr. M. Lenczner (Building Engineer, Border Facilities)

Items (numbers refer to original Agenda items)

### 4.1 General

#### 4.1.1 - Comments on Interim Report

Botswana side agreed to hand over formal comments to Study Team by 24/11/00, when the remaining Study team members visit the Roads Dept. on their return to Japan.

#### 4.1.2 - Technical Criteria

same as above

#### 4.1.3 - Navigational Clearance

same as above

4.1.4 - Budget and Expenditure for Road and Bridge Maintenance

same as above

4.1.5 - Counterpart Training in Japan

same as above

4.1.6 - Organization Chart

Organization charts of the Ministry of Finance and Development Planning, the Department of Immigration and Citizenship and the Roads Department were handed over after the meeting.

**4.2 Bridge**

4.2.1 - Optimum bridge type selection

JICA Study team elaborated the pros and cons of each alternative, and explained why the extra-dosed PC bridge was recommended as the optimum bridge type. They were requested to further evaluate all the alternatives, including cable-stay type, from aesthetic aspects, and to highlight the reasons for selecting the PC extra-dosed type. Perspective of the proposed bridge should be provided in the draft final report.

4.2.2 - Optimum foundation type

JICA Study team presented and explained reasons for multi-column pile foundation being optimum type, and the Team's recommendation was basically accepted by the Botswana side.

**4.3 Highway.**

4.3.1 - Pavement Design

JICA Study Team presented and explained the proposed pavement structure and design criteria, which were generally accepted by the Botswana side

4.3.2 - Right of way

Proposed rights of way were similarly explained, including adoption of 61m width standard on Botswana side, which was accepted.

4.3.3 - Pavement type within border facility

It was explained that both reinforced concrete and asphalt pavement surfaces were being considered. Selection to meet performance and cost objectives.

**Other**

- JICA Study Team were requested to review the proposed alignment, which had been previously agreed at the earlier Steering Committee meeting, in view of concerns on minimizing possible adverse environmental impact to the area on the south-west side of the existing Border Facilities, and also in view of the mentioned possibility of the B.D.F. vacating their existing premises. The final proposed alignment should consider the pros and cons of each alternative.



#### **4.4 Border Facility**

##### **4.4.1 - Processing procedures under one-stop system**

JICA Study team briefly presented and explained the procedures and concepts adopted for the facility planning incorporating the one-stop system. (drawings also distributed showing detailed facility layout). It was agreed that the design work could continue following the proposed scheme. A separate meeting was held after the main meeting to discuss more detailed issues on the planning operations (see Appendix-1).

##### **4.4.2 - Summary of facilities to be provided**

This was discussed in the separate meeting (see Appendix-1)

##### **4.4.3 - Design Criteria and Concept for Border Facility**

Those present from the Botswana side were unable to provide any detailed comments on these items (structure, architecture etc.), and would distribute them to other authorities (e.g. building departments) and would forward any comments by 24 November.

#### **Closing Comments**

- As meeting minutes would need to be distributed and reviewed by all attendees, the Botswana side are to prepare copies for signing prior to next visit by JICA Study team to Gabarone on 24 November.

#### **Signatures**

-----  
**Ms. Judith Nwako** (for Botswana delegation)

-----  
**Mr. Koji Enomoto** (JICA Study Team)

### **Appendix-I: Memo of Separate Discussion on Border Facilities**

Discussion was held in separate meeting on the same afternoon (9/11/00), with attendees from the Customs & Excise Dept, the Immigration Department, the Botswana Police and the B.D.F., with the Building Designer Engineer of the JICA Study team)

#### **- Design concept and planning for one-stop system**

JICA Study Team presented and explained in further detail the design concept. The Botswana side are to provide any further comments, if any, by 24 November. In the meantime, preliminary design could proceed as proposed concept.

#### **- Facilities to be provided**

Botswana side provided the following comments on the proposed design:

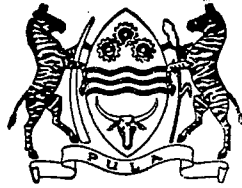
- Provision of a booth system should consider the affect of car fumes on booth workers. Preference was expressed for all passengers being processed by foot in the main building, possibly omitting requirement for separate booths
- The different social-cultural conditions of the three countries (Botswana, Zambia, Zimbabwe) should be considered in the report.
- Bus passengers should be processed the same as foot passengers
- 12-hour limit operation was considered preferable in view of various security concerns
- Certain rooms were considered surplus to requirements (e.g. Deputy Chief Immigration Officer, VIP State rooms, Anti-corruption offices, special service police room, vehicle theft room, drug enforcement rooms etc. These could either be omitted or combined with other functions, or left as spare rooms. Drug strong room need not be specified
- Secure detained vehicle compound should be provided (up to 20 cars)

TELEPHONE: 313511/2/3/4/5/6

TELEGRAMS: ROADS

TELEX: 2743 BD

REFERENCE:



REPUBLIC OF BOTSWANA

MINISTRY OF WORKS TRANSPORT

AND COMMUNICATIONS

ROADS DEPARTMENT

PRIVATE BAG 0026

GABORONE

**Our Ref: RD3/1 II (37)**

Japanese International Co-operation Agency  
Sheki Sheki Road  
P. O. Box 30918  
Lusaka  
ZAMBIA

**Attention: Mr. Koji Enomoto**

November 22, 2000

Dear Sir,

**KAZUNGULA BRIDGE PROJECT**  
**Comments on Minutes of the 9<sup>th</sup> of November 2000**

We are still awaiting comments from other members of the Sub-Technical Committee.  
We hope to submit these comments to you before the end of week starting 27<sup>th</sup> of  
November, 00.

Yours faithfully,

A handwritten signature in black ink, appearing to read 'J Nwako'.

Judith S Nwako  
**For/Director of Roads**

TELEPHONE: 313511/2/3/4/5/6

TELEGRAMS: ROADS

TELEX: 2743 BD

REFERENCE:



REPUBLIC OF BOTSWANA

MINISTRY OF WORKS TRANSPORT  
AND COMMUNICATIONS  
ROADS DEPARTMENT  
PRIVATE BAG 0026  
GABORONE

Reference N<sup>o</sup> RD 3/1 II (34)

JICA Study Team  
Sheki Sheki Road  
P.O. Box 30918  
Lusaka  
Zambia  
Attention: Koji Enomoto

Dear Sir,

November 20, 2000

**KAZUNGULA BRIDGE PROJECT**  
**COMMENTS ON INTERIM REPORT**

Reference is made to the minutes of the Joint Steering Committee held in Livingston, Zambia on the 18-19 October 2000 and minutes of meeting of Sub-Technical Committee (Botswana) which was held in Gaborone on the 9<sup>th</sup> November 2000.

Below are comments on the Interim Report which submitted by the Department of Environment (National Conservation Strategy Agency) NCSA.

- \* Page 6-7 It is suggested that the last paragraph should be recast as follows:-  
  
A Draft EIA Bill has been prepared for enactment in June 2001, and the government is taking steps to prepare and introduce formal procedures, manuals, sector guidelines for the smooth implementation of the impending legislation. The Department of Roads in May 2000, published Sector guidelines for EIA of Road Infrastructure and development.
- \* Page 6-24 Paragraph 6-7..... Add additional bullet to cover Impact on tourism industry.
- Add another paragraph 6.9 to cover **the Environmental Management Plan (EMP)**.

This plan which will guide and bind developers and/or lease holders, as well as affected personnel and authorities on what is expected of them during construction of the bridge, operation of the

bridge, and in relation to the operations of lease holders. The EMP, should be detailed enough to indicate:

- Identified impacts
- Where in the site they are most likely
- The corresponding mitigation measures and how mitigation activities are to be carried out,
- Who is responsible for such mitigation and monitoring activities

To avoid having to refer to the EIS when leases/contracts are issued in future, it could help now to determine all the environmental parameters under each land use and to develop the management plan to cover the diverse interests, users and managers of the activities in the development area.

Other comments if any on Environmental Issues will be forwarded to you after consultation meeting.

Yours faithfully,



Judith S. Nwako  
**For/Director of Roads**

**Cc:** Ministry of Works Transport and Communications.  
**Attention:** Mr. J. Willie

**SEMINAR PROGRAM**  
**THE FEASIBILITY STUDY ON THE PROPOSED KAZUNGULA BRIDGE**  
**OVER THE ZAMBEZI RIVER BETWEEN THE REPUBLIC OF BOTSWANA AND THE REPUBLIC OF ZAMBIA**

1. Date: 8th March (Thursday), 2001
2. Place: Conference Center in Gaborone Sun Hotel
3. Program:

Time	Topics	Name of Presenter	Designation/Organization	Remarks
08:00~08:10	Opening Remarks	Representative of Botswana	Botswana	None
08:10~08:20	Opening Remarks	Koji Ota	Deputy Resident Representative, Zambia Office JICA	None
08:20~08:50	Methods of Economic Evaluation	Katsuyoshi Matsuda	Economist, JICA Study Team	Power Point
08:50~09:10	Methodology for Traffic Forecast using JICA STRADA Software	Koichi Arakawa	Administrator, JICA Study Team	Power Point
09:10~09:40	Advanced Technology for Bridge Construction	Masaaki Tatsumi	Bridge Engineer, JICA Study Team	Power Point
09:40~10:10	Outline of the Honshu-Shikoku Bridge Project	Atsushi Nitta	Team Leader, JICA Advisory Team	Power Point & VTR
10:10~10:40	Recent Highway Technologies in Japan	Ryo Nakatani	Highway Expert, JICA Advisory Team	Power Point & VTR
10:40~11:00	Tea Time (To be prepared by the JICA Study Team)			
11:00~11:30	The Administration of Roads in Zambia	Bupe Kaonga	Acting Director, Planning Monitoring, Ministry of Works and Supply, Zambia	None
11:30~12:00	Is Kazungula Toll Bridge, a Myth or Reality	J.T. Willie	Planning Officer, Ministry of Works Transport and Communications, Botswana	Power Point
12:00~12:30	Development of Roads and Investment in Botswana	L.A. Nkaro	Director, Roads, Botswana	Power Point
12:30~14:00	Luncheon (To be prepared by the JICA Study Team)			
14:00~15:00	Discussion	Organized by Koji Enomoto	Team Leader, JICA Study Team	
15:00~15:10	Closing Speech	Representative of Zambia	Zambia	

**ATTENDANT LIST FOR TECHNICAL SEMINAR**  
**Gaborone, Botswana 8<sup>th</sup> March 2001.**

<b>BOTSWANA DELEGATION</b>			
<b>NO.</b>	<b>NAME</b>	<b>DESIGNATION/ORGANISATION</b>	<b>TEL/FAX</b>
1	L.A. Nkaro	Director, Roads	313511/314278
2	B.F. Karata	Director, Traffic Police	357337/357453
3	J.S. Nwako	Principal Roads Engineer,	313511/314278
4	P.G. Alpajora	Bridge Engineer	313511/314278
5	J.T. Willie	Planning Officer, Ministry of Works, Transport and Communications	358577/313303
6	P.L. Phiri	Senior Immigration Officer	3611300/352996
7	E. Karkari	Principal Natural Resource Office, National Conservation Strategy Agency	302050/301051
8	A.P. Kalasi	Technician, Roads	313511/314278
9	T.G. Gontse	Senior Tech Officer, Roads	313511/314278
10	G.M. Motsewabagale	Acting Assistant Director, Custom & Excess	3642169/322781
11	B.Phutohego	Roads Engineer, Road Department	313511/314278
<b>ZAMBIAN DELEGATION</b>			
1	Bupe Kaonga	Acting Director, Planning Monitoring, Ministry of Works and Supply	252321/2523108
2	P.C. Chisanga	Desk Officer, Regional Co-operation, Ministry of foreign Affairs	252666
3	B.S. Tilasi	Deputy Chief Immigration Officer, Department of Immigration, Ministry of Home Affairs	254384/251725
4	David P. Zulu	Senior Transport Economist, Ministry of Communications and Transport	2254063/253260
<b>ZIMBABWEAN DELEGATION</b>			
1	T.G. Msusa	Director, Public Works, Ministry of Local Government, Public Works and National Housing	727539/742757
2	D. Musana	Chief Engineer – Bridges, Ministry of Transport and Communications	708863
3	G. Odhong	Principal Architect, Ministry of Local Government, Public Works and National Housing	704561-9
4	N. Kuoenga	Director, Department of Roads	726726

<b>NAMIBIAN DELEGATION</b>			
1	K.C. Kellerhals	Senior Engineer- Namibian Roads Authority	(061)2082064/(061)226920
<b>JICA HQ</b>			
1	K. Tanaka	Officer of 1 <sup>st</sup> Social Development Study Division, Social Development Study Department, JICA HQ	81-3-5352-5201
<b>JICA ADVISORY TEAM</b>			
1	A. Nitta	Team Leader, JICA Advisory Team, Honshu-Shikoku Bridge Authority	81-78-291-1000
2	R. Nakatani	Advisory Team, JICA, Japan Highway Public Corporation	81-6-6344-9923
<b>JICA STUDY TEAM</b>			
1	K. Enomoto	Team Leader, JICA Study Team, Nippon Koei	81-3-5276-3871
2	M. Tatsumi	Study Team, JICA, Sub-structure of Bridge, Oriental Consultants	81-3-3409-7251
3	K. Matsuda	Economist, JICA Study Team, Tokyo	81-3-5276-3873
4	A. Morioka	Border Facility Planner, JICA Study Team	81-3-5276-3636
5	K. Arakawa	Administrator, JICA Study Team	81-3-5276-3866
<b>JICA BOTSWANA DELEGATION</b>			
1	S. Miura	Resident Representative, JICA Botswana	312176
2	B. Motshwari	Administrator, JICA Botswana	312176
<b>JICA ZAMBIAN DELEGATION</b>			
1	Koji Ota	Deputy Resident Representative	291075
2	M. Takeuchi	Transport Policy Advisor, Ministry of Communications and Transport	291075
<b>SADC DELEGATION</b>			
1	M. Hagino	Technical Advisor, SADC Secretariat	351863
<b>UNITED NATIONS VOLUNTEERS DELEGATION</b>			
1	H. Iitoyo	Advisor to the Managing Director, Enterprise Botswana	356044/356045



**NIPPON KOEI CO., LTD.**

Consulting Engineers

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5, Kojimachi 2-Chome, Chiyoda-Ku, Tokyo

To Ms. Mmapula Modise  
Permanent Secretary  
Ministry of Works, Transport & Communication  
Ministry of Works and Supply  
Botswana

From: Koji Enomoto  
JICA Study Team  
Kazungula Bridge

Telex : J24557 KOEICO  
Telephone : 81-3 (5276) 3871  
Facsimile : 81-3 (5276) 3081  
E-mail :

Your ref.

Our ref.

Date March 15, 2001

**Subject: Further Information for Finalizing the Draft Final Report for the  
Kazungula Crossing**

Thank you very much for your kind cooperation for the Feasibility Study on the Kazungula Crossing.

To finalize the Draft Final Report of the above Feasibility Study in Japan before submission of the Final Report, we would like to ask your kind opinions on the Kazungula crossing of the following items:

- 1) Intangible benefits such as strengthening regional integration, promotion of local industries, inducement of community area development.
- 2) Regional economic development in the SADC and COMESA areas.
- 3) Importance of Kazungula crossing as the central point of linking South Africa and Northern or Central Africa countries, affecting development and integrity of economic and communications.
- 4) Economic expansion and trades flow to the surrounding countries such as Congo, Burundi and Rwanda.

We appreciate your prompt reply on the above matters by fax.

Sincerely yours,

Koji Enomoto  
Team Leader  
JICA Study Team

C.C : - Mr. L.A. Nkaro, Director Roads,  
- K. Tanaka, JICA Tokyo  
- File



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