

APPENDIX 1.2

Minutes of Discussion (M/D) with RHD at 26th January

**PREPARATORY SURVEY ON WESTERN BANGLADESH BRIDGES
IMPROVEMENT PROJECT (WBBIP)**

MINUTES OF MEETINGS No.1

Meeting : Bridge Selection Committee with JICA Survey Team

Date/Time : January 26 (Sunday) 2014/ 10:30~13:00

Place : Roads and Highways Department (RHD), Sarak Bhaban, Tejgaon, Dhaka.

Sub: Selection of Candidate Bridges (Top-100) for WBBIP

Attendants:

RHD

Mr. Parimal Bikash Sutradhar : ACE, BMW
Mr. Md. Dalil Uddin : Project Director (ACE), EBBIP
Mr. Md Imdad Hossain : ACE, Barisal zone
Mr. Quazi Mohammad Ali : ACE, Khulna zone
Mr. Md. Arifur Rahman : ACE, Rangpur zone
Mr. Md. Abul Kashem Bhuyan : ACE, Gopalganj zone
Mr. Md. Abdus Salam : ACE, Rajshahi zone
Mr. Md. Ashraful Alam : SE, Bridge design circle
Mr. Khairul Islam : SE, Road Circle, Faridpur
Dr. Md. Waliur Rahman : Project Manager, EBBIP
Mr. Md. Shahadat Hossain : EE, BDD-1
Ms. Rehana Haque : EE, BDD-3

JICA Survey Team

Dr. Masaaki Tatsumi : Team Leader
Mr. Takoma Oguni : Deputy Team Leader
Dr. Ghosh Prosenjit Kumar : Procurement/Cost Estimate
Mr. Hiroki Sakai : Assistant of Bridge Designer/Coordinator

Following matters were discussed in the presentation

(1) Introduction

Mr. Parimal Bikash Sutradhar, ACE, RHD exchanged his greetings to JICA Survey Team, presided over the meeting and invited Dr. Tatsumi to present the bridge selection results.

(2) Presentation on Selection of Project Bridges

On behalf of JICA Survey Team, Dr. Tatsumi presented on 'Selection of Project Bridges' by a Power Point [Attachment]. The main points of the presentation are

briefly explained below

a) Proposed Top-100 Bridge candidates and their selection strategy

A bridge selection approach based on multi-criteria method was explained. This method includes six items such as bridge recommendation by RHD, bridge on the important route, impact on business activity, necessity of community activity, bridge damage level and lack of traffic lane. Using these multi-criteria, Top-200 Bridges were selected. Then, a detailed bridge condition survey was conducted last year in order to assess their current damage status and accordingly the list of the bridges was updated on the basis of survey results obtained. Top-100 Bridges was further ranked in accordance with their score calculated by multi-criteria and proposed as candidate for selection.

(3) Discussion on Presentation

After presentation, the Chairman of the meeting, Mr. Parimal Bikash Sutradhar, ACE, RHD requested the meeting participants to ask the Survey Team if they have any queries on bridge selection. Accordingly, following points were discussed in the meeting.

a) Clarification of multi-criteria method

Top-100 Bridges are selected on the basis of multi-criteria method. RHD requested to clarify each criterion and reason of their selection. Accordingly, a brief explanation is requested to Survey Team.

b) Dropping some bridges due to their inclusion in other projects and planning program

Table 1: List of bridges to be dropped from Top-200

Rank in 200 list	Bridge ID	Zone	Division	Description
37	N8_200c	Barisal	Patuakhali	Under construction by PMP
66	Z8806_46a	Barisal	Patuakhali	Included in PMP
181	N804_030b	Gopalganj	Faridpur	Alternative bridge road has already been constructed
120	N8_096a	Gopalganj	Madaripur	Included in PMP (2013-2014)
97	R860_21a	Gopalganj	Shariatpur	Overlapped by China fund
200	N7_11b(L)	Gopalganj	Rajbari	Right side bridge has already been constructed
126	Z8404_002a	Gopalganj	Faridpur	Included in PMP (2013-2014)
62	N8_91a	Gopalganj	Madaripur	Seem to be good
56	N8_098a	Gopalganj	Madaripur	Included in PMP (2013-2014)
104	R860_17a	Gopalganj	Shariatpur	Overlapped by China fund
57	R860_17d	Gopalganj	Shariatpur	Overlapped by China fund
19	N708_1a	Khulna	Jessore	Under construction by ADP
87	R760_024a	Khulna	Khulna	Present condition is good
50	Z5452_27b	Rajshahi	Naogaon	Under ADP
58	Z6809_7a	Rajshahi	Rajshahi	Included in PMP

Five ACE's opinioned that some of bridges listed in Top-200 Bridges are now under

construction / planning for construction funded by Bangladesh Government and Chinese Government. These bridges are listed in Table 1 and should be dropped from Top-200 Bridges list.

c) Request to include some bridges

To replace the bridges which are suggested to drop from Top-200, five ACE's recommended to include some other bridges (Table 2), which are listed under Top-200 list as well as out of Top-200. Those out of Top-200 are needed to assess their importance on the basis of their damage status and other criteria proposed in multi-criteria method. For their assessment, Survey Team requested five ACE's to provide pictures by 29th January, 2014. These data will help to assess their current damage status.

Table 2: List of bridges requested for inclusion

Rank in 200 list	Bridge ID	Zone	Division	Rank	Bridge ID	Zone	Division
150	N8_127b	Barisal	Barisal	-	Z8021_6b	Gopalganj	Gopalganj
149	N8_152c	Barisal	Barisal	-	Z8021_10b	Gopalganj	Gopalganj
176	Z8033_005a	Barisal	Barisal	165	R750_22c	Khulna	Narail
177	Z8033_019d	Barisal	Barisal	-	Z6802_5a	Rajshahi	Nawabganj
-	Z8810_13a	Barisal	Barisal	-	Z6802_21a	Rajshahi	Nawabganj
-	R860_31a	Gopalganj	Shariatpur	-	Z5048_21b	Rajshahi	Pabna
-	Z8601_Sa	Gopalganj	Shariatpur	52	Z5025_55a	Rangpur	Dinajpur
-	Z8404_010a	Gopalganj	Faridpur	59	Z5025_60a	Rangpur	Dinajpur
-	Z8065_12a	Gopalganj	Shariatpur	101	Z5024_5c	Rangpur	Rangpur-1
-	Z8012_Sa	Gopalganj	Shariatpur	102	Z5025_46a	Rangpur	Dinajpur
-	Z8012_15d	Gopalganj	Shariatpur	114	R585_80a	Rangpur	Fulbari

d) Request not to include those bridges having good condition in substructure and girder

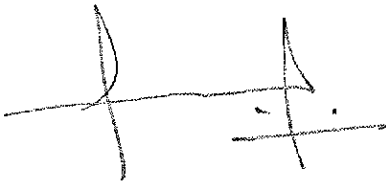
Table 3: List of bridges requested to reconfirm their damage status

Rank in 100 list	Zone	Division	Bridge ID	Rank	Zone	Division	Bridge ID
17	Rajshahi	Natore	N6_97a	10	Rangpur	Gaibanda	N5_265a
35		Serajganj	N5_172a	48		Rangpur	N5_344c
74		Pabna	N6_Sa	70		Joypurhat	R545_115c
42	Khulna	Jessore	N7_141b	75		Gaibanda	N5_260b
78	Barisal	Barisal	N8_129a	86		Joypurhat	R550_28b
				90		Panchagarh	N5_488a
				99		Dinajpur	N5_392a

Prior to inclusion in the candidate list, RHD requested to confirm some bridges (Table 3) whether they are not severely damaged. Specifically, those bridges having good condition in substructure and girder but deteriorated due to damage of the deck and their components only are not necessary to include in the candidate list.

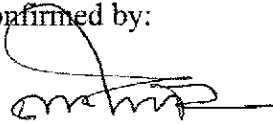
(4) *End of the meeting*

After presentation and discussion, the Chairman ends the meeting with thanking all participants and Survey Team.

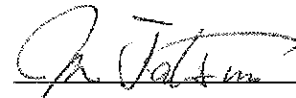


Parimal Bikash Sutradhar
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Confirmed by:



Md. Dalil Uddin
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Dr. Masaaki Tatsumi
Team leader, JICA Survey Team
Oriental Consultants Co., Ltd.
Japan

Date: January 26, 2014

Preparatory Survey on Western Bangladesh Bridges Improvement Project (WBBIP)

Bridge Selection Committee

Subject: Project Bridges Selection

Place: Roads and Highways Department

Sarak Bhaban, Tejgaon, Dhaka, Bangladesh






































List of Attendants

Name	Affiliation	Contact no
Md. Imdad Hossain	ACE, Barisal	01730782782
QUAZI MOHAMMAD ALI	ACE, KHULNA	01711-882619 And 01730-782754
MD. ARIFUR RAHMAN	ACE, Rangpur Zone	01730-782725
Md. Abul Kashem Bhuiyan	ACE, Comilla Zone	01730-782801
Md. Salahat Hossain	EE, BDD-1	01730782553/ 01915482935
MD. ASHRAFUL ALAM	SE, Bridge Design (RHD)	01730782552 01711-609137 (Personal)
Khairul Islam Khan	SE, Road Circle, Fariapur	01730782812
MD. Abdus Salam	ACE, Rhd, Rajshahi	01730782703
Rehema Haque	EE, BDD-3	01552308166 01730782556

APPENDIX 1.3

List of 105 Bridges with Score and Photos

Bansal Zone

Rank	Bridge ID	District	Bridge Data										Score Calculation										Observed Damages	Remarks on Damage Section
			Bridge Type	Total length with span (m)	Damage level	Recomm span level	Evaluate traffic volume on the span	Corridor to India	Impact by SIZ	Impact by EPZ	Foreign business	Population Score	RGDP Score	Damage level	Balky type	Lane of Lane	Total Score							
1	N8.178a	Bansal	Balloy with Steel Deck	39.7	D	120	200	0	20	0	20	0	40	200	80	160	800	     	<ul style="list-style-type: none"> Damage in bridge approach Damage in steel deck River channel obstruction Scouring at abutment 					
12	N8.182a	Bansal	Balloy with Steel Deck	33.6	C	120	200	0	20	0	20	0	40	100	80	160	780	     	<ul style="list-style-type: none"> Major damage in deck Damage in bridge approach 					
42	R8804.45a	Bhola	Balloy with Steel Deck	82.3	C	120	100	0	0	0	0	20	20	100	80	160	600	     	<ul style="list-style-type: none"> Missing bolt in steel deck Piers are mostly damaged 					
56	N8.152c	Bansal	PC Girder Bridge	57	A	120	200	0	20	0	20	0	40	0	80	80	520	     	<ul style="list-style-type: none"> No damage but narrow 					
57	N8.127b	Bansal	RCC Girder Bridge	34	B	120	200	0	20	0	20	0	40	0	80	80	520	     	<ul style="list-style-type: none"> Erosion in abutment Damaged railing 					
58	Z8952.009d	Patakhali	Balloy with Steel Deck	22.8	D	120	0	0	0	0	0	0	20	200	80	80	520	     	<ul style="list-style-type: none"> Major crack in abutment Steel deck is mostly damaged Scouring at abutment 					
64	N8.123a	Bansal	RCC Cor Girder Bridge	30.8	D	0	200	0	20	0	20	0	40	200	0	0	520	     	<ul style="list-style-type: none"> Damage and spalling in deck Damaged railing Crack in abutment, wing wall separation 					
65	Z8701_3d	Phojaur	Balloy with Steel Deck	22	D	120	0	0	0	0	0	0	20	200	80	80	520	     	<ul style="list-style-type: none"> Steel deck is mostly damaged Damage in wing wall and abutment is unsupported due to soil erosion 					
69	N8.126a	Bansal	RCC Girder Bridge	27.4	C	0	200	0	20	0	20	0	40	100	0	80	500	     	<ul style="list-style-type: none"> Concrete spalling in deck Scouring at wing wall, separated from abutment Damaged railing 					

70	R800.15a	Bhola	Bailey with Steel Deck	37.7	A	120	100	0	0	0	0	0	0	0	0	0	0	20	0	80	100	500	<ul style="list-style-type: none"> • Some missing bolts in steel deck
71	R800.21a	Bhola	Bailey with Steel Deck	34.35	B	120	100	0	0	0	0	0	0	0	0	0	0	20	0	80	100	500	<ul style="list-style-type: none"> • Abutment is unsupported due to soil erosion
72	R800.28a	Bhola	Bailey with Steel Deck	30.95	B	120	100	0	0	0	0	0	0	0	0	0	0	20	0	80	100	500	<ul style="list-style-type: none"> • Missing bolt • Damage in steel deck
78	Z8708.1c	Jhalokati	Bailey with Steel Deck	26	D	120	0	0	0	0	0	0	0	0	0	0	0	0	0	200	80	480	<ul style="list-style-type: none"> • Major damage in steel deck • Major damage in abutment
81	Z8708.12b	Jhalokati	Bailey with Steel Deck	51	D	120	0	0	0	0	0	0	0	0	0	0	0	0	0	200	80	480	<ul style="list-style-type: none"> • Major damage in concrete deck • Damaged railing entirely • Concrete spalling in girder due to aging
82	Z8033.017a	Bansal	RCC Girder Bridge	42.4	D	120	0	0	0	0	0	0	0	0	0	0	40	200	0	80	480	<ul style="list-style-type: none"> • Severe damage in deck • Damaged railing • Concrete spalling and rebar exposure in girder 	
92	Z8810.13a	Bansal	Bailey with Steel Deck	50	C	120	0	0	0	0	0	0	0	0	0	0	40	100	80	80	460	<ul style="list-style-type: none"> • Damage in abutment 	
94	Z8033.008a	Bansal	Bailey with Steel Deck	105	C	120	0	0	0	0	0	0	0	0	0	0	40	100	80	80	460	<ul style="list-style-type: none"> • Damaged section in steel deck • Steel pier Corroded 	
95	Z8033.018a	Bansal	Bailey with Steel Deck	31	C	120	0	0	0	0	0	0	0	0	0	0	40	100	80	80	460	<ul style="list-style-type: none"> • Steel deck is mostly damaged • Missing bolt 	
96	Z8033.011a	Bansal	Bailey with Steel Deck	34	C	120	0	0	0	0	0	0	0	0	0	0	40	100	80	80	460	<ul style="list-style-type: none"> • Deformed section in steel deck 	

- Partly damaged in steel deck
- Minor damage in girder
- Old masonry abutment



97	Z804_004a	Barrel	Barrel	31	C	120	0	0	0	0	0	0	40	40	100	80	80	460
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Khulna Zone







Rank	Bridge ID	Division	Score Calculation										Observed Damages	Remarks on Damage Section					
			Bridge Data					Score Calculation											
			Bridge Type	Total length (m)	Damage level	Recomm span (m)	Exclude traffic volume on the main	Coverage to India	Impact by SEZ	Impact by EPZ	Foreign business	Population Score			RGDP Score	Damage level	Bridle type	Lack of Lane	Total Score
21	N704.43a	Kuaitia	RCC Girder Bridge	31.5	D	120	200	0	0	20	20	40	20	20	200	0	80	700	<ul style="list-style-type: none"> Major damage in deck Major damage in girder Damaged railing
22	N7248c	Bagerhat	RCC Box girder bridge	25.7	D	120	200	80	20	20	0	20	20	200	0	0	680	<ul style="list-style-type: none"> Major damage in deck Settling of bridge approach Rebar exposure in abutment 	
25	N7246a	Bagerhat	RCC Girder Bridge	56	D	120	200	80	20	20	0	20	20	200	0	0	680	<ul style="list-style-type: none"> Major crack in girder Major crack in pier Damaged railing 	
39	N7141b	Jessore	RCC Girder Bridge	30.9	D	0	200	80	20	20	0	40	40	200	0	0	600	<ul style="list-style-type: none"> Abutment is unsupported due to soil erosion Concrete spalling in deck and wearing pavement surface Damaged railing 	
40	R720.44a	Narail	RCC Girder Bridge	33	D	120	100	0	0	0	0	0	20	200	0	160	600	<ul style="list-style-type: none"> Major damages in deck (path hole) Crack in abutment Damaged railing Settling of approach road 	
41	N703_Sd	Jhenaidah	RCC Girder Bridge	134.5	D	0	200	0	0	0	0	20	20	200	0	160	600	<ul style="list-style-type: none"> Major crack in deck Concrete spalling in girder Crack in abutment Damaged railing Exposed pier base 	
43	N704.14a	Jhenaidah	RCC Girder Bridge	97.9	D	0	200	0	0	20	40	20	20	200	0	80	560	<ul style="list-style-type: none"> Crack in abutment Major crack in deck Rebar exposure in girder Damaged railing 	
44	N704.33b	Kuaitia	RCC Girder Bridge	26	D	0	200	0	0	20	40	20	20	200	0	80	560	<ul style="list-style-type: none"> Wing wall separation Crack in abutment Crack and rebar exposure in deck Damaged railing 	
63	R760.048c	Saikhira	RCC Girder Bridge	36.1	C	120	100	80	0	0	0	20	20	100	0	80	520	<ul style="list-style-type: none"> Concrete spalling and rebar exposure in deck Concrete spalling in girder Wing wall partly damaged 	









67	N704.27b	Kuankta	RCC Girder Bridge	33.5	C	120	200	0	0	0	0	0	0	20	40	20	20	100	0	0	520	<ul style="list-style-type: none"> Concrete spalling in deck and girder Rebar exposure in deck Damaged railing 	
68	R750.22c	Nerail	RCC Girder Bridge	31.2	C	120	100	0	0	0	0	0	0	0	0	0	20	100	0	160	500	<ul style="list-style-type: none"> Wing wall is separated Concrete spalling and rebar exposure in deck Old masonry pier and abutment 	
88	R760.005a	Khuajna	RCC Girder Bridge	57.6	D	0	100	80	0	0	0	40	40	200	0	0	0	0	0	0	460	<ul style="list-style-type: none"> Crack in deck Concrete spalling and rebar exposure in girder 	
I	N706.14b	Jansore	RCC Girder Bridge	118.87																		<ul style="list-style-type: none"> Additional bridge on Asian highway Broken at articulation. 	
III	N704.12c	Jhemidaha	RCC Girder Bridge	24.2	C	0	200	0	0	0	0	0	0	0	0	20	40	20	100	0	0	460	<ul style="list-style-type: none"> Additional bridge on Asian highway Crack at deck Missing section railing
V	R750.25a	Nerail	RCC Girder Bridge	91.5	C	0	100	0	0	0	0	0	0	0	0	0	30	200	0	0	130	<ul style="list-style-type: none"> Additional bridge on Asian highway Spalling at pier and deck 	
VI	Z7503.5a	Nerail	RCC Girder Bridge	26.1	C	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	120	<ul style="list-style-type: none"> Additional bridge on Asian highway Crack at abutment 	



Gopalnigami Zone

Rank	Bridge ID	Division	Score Calculation										Observed Damages	Remarks on Damage Section				
			Bridge Type	Total height (m)	Damage level	Recom span (m)	Examine traffic volume on the main	Corridor to India	Impact by SEZ	Impact by EPZ	Foreign business	Population Score			RGDP Score	Damage level	Bailey type	Lack of Lane
13	N7.023a	Fardpur	RCC Girder Bridge	27.4	D	120	200	80	20	20	0	20	20	200	0	80	760	<ul style="list-style-type: none"> Major crack in abutment Deck is severely damaged, rebar exposure Rebar exposure in girder Damaged railing is repairing
14	N7.038a	Fardpur	RCC Girder Bridge	51.05	D	120	200	80	20	20	0	20	20	200	0	80	760	<ul style="list-style-type: none"> Wing wall and abutment are severely damaged Wing wall is unsupported due to soil erosion Concrete spalling and rebar exposure in deck
15	N7.046a	Fardpur	RCC Girder Bridge	24.7	D	120	200	80	20	20	0	20	20	200	0	80	760	<ul style="list-style-type: none"> Major crack in wing wall Concrete spalling and rebar exposure in deck Damaged railing is replacing
23	N7.054a	Fardpur	RCC Girder Bridge	82.6	D	120	200	80	20	20	0	20	20	200	0	0	680	<ul style="list-style-type: none"> Concrete deck is severely damaged (path hole, spalling, rebar exposure) Concrete spalling in girder Pier base is exposed Damaged railing
26	N8.095a	Masipur	RCC Girder Bridge	37	D	120	200	0	20	20	0	20	0	200	0	80	660	<ul style="list-style-type: none"> Major crack in abutment Concrete spalling and rebar exposure in pier's base Damaged railing Tilting at wing wall
29	N7.038c	Fardpur	RCC Girder Bridge	27.5	C	120	200	80	20	20	0	20	100	0	80	660	<ul style="list-style-type: none"> Micro crack in deck Major crack in wing wall Damaged railing 	
30	N7.046a	Fardpur	RCC Girder Bridge	24.0	C	120	200	80	20	20	0	20	100	0	80	660	<ul style="list-style-type: none"> Major crack in wing wall Damaged railing 	
32	N7.047a	Fardpur	RCC Girder Bridge	50	D	0	200	80	20	20	0	20	200	0	80	640	<ul style="list-style-type: none"> Scouring at abutment Major crack in wing wall Pier base is exposed Damaged railing 	
77	R860.31a	Shwanipur	Bailey with Steel Deck	28.89	A	120	100	0	0	0	0	20	0	0	80	160	480	<ul style="list-style-type: none"> Narrow Bailey bridge

83	R860_34a	Sharanpur	Bailey with Steel Deck	33.5	A	120	100	0	0	0	0	0	0	0	0	0	0	80	100	480		<ul style="list-style-type: none"> • Missing bolt
84	R860_44c	Sharanpur	Bailey with Steel Deck	111.2	B	120	100	0	0	0	0	0	0	0	0	0	0	80	100	480		<ul style="list-style-type: none"> • Major damage in steel deck • Missing bolt
85	R860_55d	Sharanpur	Bailey with Steel Deck	93	A	120	100	0	0	0	0	0	0	0	0	0	0	80	100	480		<ul style="list-style-type: none"> • Missing bolt and damage in steel deck
86	N8_69a	Madaripur	DCC Girder Bridge	110	C	120	200	0	20	20	0	20	0	0	0	0	0	100	0	480		<ul style="list-style-type: none"> • Wing wall separation • Crushing in pier • Wearing pavement surface • Damaged railing
89	R860_35a	Sharanpur	Bailey with Steel Deck	31	C	0	100	0	0	0	0	0	0	0	0	0	80	100	480		<ul style="list-style-type: none"> • Severe damage in masonry abutment • Damage in pier 	
IV	N805_24a	Bhatlapara	PC Girder Bridge	105.05	C	0	200	0	0	0	20	40	20	20	0	0	0	100	0	400		<ul style="list-style-type: none"> • Additional bridge on Asom highway











Bank	Bridge Data			Score Calculation										Observed Damages	Remarks on Damage Section				
	Bridge ID	Division	Bridge Type	Total length (m)	Damage level	Revenue estimation point	Examine traffic volume on the main	Corridor by India	Impact by SEZ	Impact by EPZ	Foreign business	Population Score	RGDP Score			Damage level	Balley Type	Lack of Traffic Lane	Total Score
3	NS_119a	Pabna	RCC Girder Bridge	43.3	D	120	200	80	0	20	40	40	40	200	0	80	820	      <ul style="list-style-type: none"> • Rebar exposure in girder • Spalling and rebar exposure in deck • Wing wall is separated 	
4	NS_127a	Pabna	RCC Girder Bridge	43.2	D	120	200	80	0	20	40	40	40	200	0	80	820	      <ul style="list-style-type: none"> • Rebar exposure in pier • Wing wall is separated • Major crack in deck 	
5	NS_176a	Srengganj	RCC Girder Bridge	72.8	D	120	200	80	0	20	40	40	40	200	0	80	820	      <ul style="list-style-type: none"> • Concrete spalling and crack in deck • Crack in girder • Abutment is partly unsupported • Pier base is exposed 	
7	NS_120a	Pabna	RCC Girder Bridge	41.4	D	120	200	80	0	20	40	40	40	200	0	80	820	      <ul style="list-style-type: none"> • Concrete spalling, major crack and rebar exposure in deck • Concrete spalling in girder • Wing wall is separated 	
8	NS_128a	Srengganj	RCC Girder Bridge	43.7	D	120	200	80	0	20	40	40	40	200	0	80	820	      <ul style="list-style-type: none"> • Rebar exposure in pier • Wing wall is severely damaged • Major crack in deck • Crack in masonry railing 	
9	NS_158a	Srengganj	RCC Girder Bridge	70	D	120	200	80	0	20	40	40	40	200	0	80	820	      <ul style="list-style-type: none"> • Wearing surface is severely damaged • Concrete spalling and rebar exposure in deck • Damaged cross beam • Major crack in abutment 	
16	NS_134a	Srengganj	RCC Girder Bridge	44.8	D	120	200	80	0	20	40	40	40	200	0	740	740	      <ul style="list-style-type: none"> • Crack and rebar exposure in deck • Concrete spalling and rebar exposure in girder • Damaged railing • Pier base is exposed 	
17	N6_97a	Natore	RCC Girder Bridge	30	D	120	200	80	0	20	0	20	20	200	0	80	740	740	      <ul style="list-style-type: none"> • Concrete spalling and rebar exposure in deck • Damaged approach road • Damaged railing • Wearing surface is entirely damaged
18	R681_10a	Rajshahi	Balley with Steel Deck	39.3	D	120	100	0	0	0	0	40	40	200	80	160	740	      <ul style="list-style-type: none"> • Abutment is severely damaged and unsupported • Major crack in deck • Corroled railing 	

19	NS_140a	Srangani	RCC Girder Bridge	53	D	120	200	80	0	20	40	40	40	200	0	0	740	<ul style="list-style-type: none"> Concrete spalling and rebar exposure in girder Crack in deck Abutment is unsupported due to hole formation at base
20	NS_118a	Pabna	RCC Girder Bridge	82	C	120	200	80	0	20	40	40	40	100	0	80	720	<ul style="list-style-type: none"> Major crack in abutment Damaged railing Bearing seat inactive
27	NS05_2a	Pabna	Truss with Steel Deck	135.2	C	120	200	0	0	0	40	40	40	100	0	160	660	<ul style="list-style-type: none"> Severely damaged deck Missing bolt Pier base is threatening due to ponding
28	RS48_28b	Naugam	Truss with Steel Deck	140.1	D	120	100	0	0	0	40	40	40	200	0	160	660	<ul style="list-style-type: none"> Deck is severely damaged Missing bolt Pier base is exposed
33	NS_156a	Srangani	RCC Girder Bridge	43	C	120	200	80	0	20	40	40	40	100	0	0	640	<ul style="list-style-type: none"> Concrete spalling and rebar exposure in deck and girder Channel obstruction
34	NS_172a	Srangani	RCC Girder Bridge	43.3	C	120	200	80	0	20	40	40	40	100	0	0	640	<ul style="list-style-type: none"> Concrete spalling and rebar exposure in deck
35	NS_179a	Srangani	RCC Girder Bridge	54.1	C	120	200	80	0	20	40	40	40	100	0	0	640	<ul style="list-style-type: none"> Concrete spalling and rebar exposure in deck Concrete spalling in girder
37	NS_126a	Pabna	RCC Girder Bridge	59.1	B	120	200	80	0	20	40	40	40	0	80	0	620	<ul style="list-style-type: none"> Damaged railing
54	NSxx_Sa	Srangani	Steel Beam & RCC Sub.	39.1	C	0	200	0	0	0	40	40	40	100	0	160	540	<ul style="list-style-type: none"> Old pier and abutment Crack in pier head Wing wall is separated, Damaged railing
73	RS48_40a	Natore	Balley with Steel Deck	33	B	120	100	0	0	0	20	20	0	80	160	0	500	<ul style="list-style-type: none"> Crack in wing wall

74	R451_1a	Srangani	Bailey with Steel Deck	50	C	120	100	0	0	20	0	0	0	0	0	40	40	100	80	0	500	 <ul style="list-style-type: none"> • Crack in steel deck • Abutment base is unsupported
75	R451_7a	Srangani	Bailey with Steel Deck	50.2	C	120	100	0	20	0	0	0	0	0	0	40	40	100	80	0	500	 <ul style="list-style-type: none"> • Scouring at abutment • Pier base is exposed
87	Z6010_12b	Rajshahi	RCC Girder Bridge	21.7	D	120	0	0	0	0	0	0	0	0	40	40	200	0	80	480	 <ul style="list-style-type: none"> • Bridge deck is fully damaged • Wing wall is separated • Major damage in pier 	
100	Z5041_2a	Srangani	Bailey with Steel Deck	60	C	120	0	0	0	0	0	0	0	0	40	40	100	80	80	460	 <ul style="list-style-type: none"> • Concrete spalling and crack in pier head • Abutment and pier base is exposed 	

Rangpur Zone

Bridges	Score Calculation										Observed Damages	Remarks on Damage Section						
	Bridge ID	Division	Bridge Type	Total length (m)	Damage level	Recomm span (m)	Examine traffic volume on bridge	Corridor to India	Impact by SEZ	Impact by EPZ			Foreign business	Population Score	RGDP Score	Damage level	Bridges type	Lack of Lane
2	NS10_19a	Lalmohai	RCC Girder Bridge with Steel Deck	56.2	D	120	200	80	0	0	0	20	0	200	80	160	860	<ul style="list-style-type: none"> • Damages in masonry pier • Scouring at abutment • Settlement in approach road • Damaged railing • Rebar exposure in deck
6	NS_235a	Bagra	RCC Girder Bridge	77.3	D	120	200	80	0	20	40	40	40	200	0	80	820	<ul style="list-style-type: none"> • Concrete spalling in pier • Cracks and spalling in girder • Damaged railing • Concrete spalling in deck
10	NS_266a	Gaibanda	RCC Girder Bridge	42.2	D	120	200	80	0	20	40	20	200	200	0	80	800	<ul style="list-style-type: none"> • Crack and scouring at pier • Damage in deck • Settling of approach road • Scouring at abutment and pier
11	NS_350b	Rangpur	RCC Girder Bridge	135.4	D	120	200	80	0	20	0	40	40	200	0	80	780	<ul style="list-style-type: none"> • Major Crack in deck • Vegetation growth at wing wall • Damage and scouring at abutment
24	NS_356a	Rangpur	RCC Girder Bridge	20.7	C	120	200	80	0	20	0	40	40	100	0	80	680	<ul style="list-style-type: none"> • Major crack in abutment
31	NS_378a	Dinajpur	RCC Girder Bridge	53.9	D	0	200	80	0	20	0	40	40	200	0	80	660	<ul style="list-style-type: none"> • Major damages in abutment • Major damage in deck • Damaged railing
36	NS_188a	Bagra	RCC Girder Bridge	52	B	120	200	80	0	20	40	40	40	0	0	80	620	<ul style="list-style-type: none"> • Scouring at pier base • Damage in wearing surface
38	NS18_4a	Nalpanari	RCC Girder Bridge	49.5	D	0	200	0	0	0	0	20	20	200	0	160	600	<ul style="list-style-type: none"> • Brick masonry • Damage in deck • Damaged in girder
45	NS_344c	Rangpur	RCC Girder Bridge	26.2	B	120	200	80	0	20	0	40	40	0	0	80	580	<ul style="list-style-type: none"> • Minor damages in deck • Crack in wearing surface

46	NS_382a	Dinajpur	RCC Girder Bridge	55	D	0	200	80	0	0	0	0	0	0	0	0	0	0	200	0	0	580	 <ul style="list-style-type: none"> Major crack in wing wall and girder Damaged railing Crack in wearing surface
47	NS_360a	Rangpur	RCC Girder Bridge	49.2	C	0	200	80	0	0	0	0	0	0	0	0	0	0	100	0	80	560	 <ul style="list-style-type: none"> Concrete spalling in deck and girder Crack in railing
48	Z8025_55a	Dinajpur	Bailey with Steel Deck	153.9	D	120	0	0	0	0	0	0	0	0	0	0	0	0	200	80	80	560	 <ul style="list-style-type: none"> Scouring at pier base Missing bolt in steel deck Crack in wing wall
49	Z8025_64a	Dinajpur	Bailey with Steel Deck	73.6	D	120	0	0	0	0	0	0	0	0	0	0	0	0	200	80	80	560	 <ul style="list-style-type: none"> Major damage in steel deck Pier base is exposed and damaged
50	Z5401_45a	Bogra	Bailey with Steel Deck	61.8	D	120	0	0	0	0	0	0	0	0	0	0	0	0	200	80	80	560	 <ul style="list-style-type: none"> Major damage in steel deck Abutment is unsupported due to soil erosion
51	Z8072_14a	Bogra	Bailey with Steel Deck	57.8	D	120	0	0	0	0	0	0	0	0	0	0	0	0	200	80	80	560	 <ul style="list-style-type: none"> Major damage in steel deck Damage in bridge approach
52	Z8025_60a	Dinajpur	Truss with Steel Deck, Bailey with Steel Deck	87	D	120	0	0	0	0	0	0	0	0	0	0	0	0	200	80	80	560	 <ul style="list-style-type: none"> Major damage in steel deck Settling of bridge approach Missing bolt at truss member
53	Z5472_6a	Bogra	Bailey with Steel Deck	60.9	D	120	0	0	0	0	0	0	0	0	0	0	0	0	200	80	80	560	 <ul style="list-style-type: none"> Major damage in steel deck No wing wall
55	Z5552_10a	Gaibandha	Bailey with Steel Deck	52.5	D	120	0	0	0	0	0	0	0	0	0	0	0	0	200	80	80	540	 <ul style="list-style-type: none"> Major damage in steel deck Scouring at abutment and pier
59	Z8015_22a	Niphamari	Bailey with Steel Deck	189	D	120	0	0	0	0	0	0	0	0	0	0	0	0	200	80	80	520	 <ul style="list-style-type: none"> Major damage in steel deck Scouring at pier base Damage in wing wall

91	Z5040_4a	Bagra	RCC Girder Bridge	27	D	120	0	0	0	0	0	0	0	0	0	0	0	200	0	80	480	<ul style="list-style-type: none"> -Concrete spalling in slab -Damaged railing -Crack in pier -Pier base exposed
95	R55_80a	Dinajpur	Bailey with Steel Deck	25	B	120	100	80	0	0	0	0	0	0	0	0	0	0	80	0	460	<ul style="list-style-type: none"> -Missing bolt in steel deck
II	N5_435a	Thakurgaon	RCC Girder Bridge	38	C	0	200	80	0	20	0	20	0	20	0	0	0	100	0	0	440	<ul style="list-style-type: none"> -Additional bridge on Asian Highway -Damaged expansion joint -Spalling at deck

