

## Roads and Highways Department (RHD)

### Preparatory Survey for Dhaka-Chaittagong Highway (NH-1) Bridge Construction and Rehabilitation Project

#### Kanchpur, Meghna and Gumti Bridges

Consultation meeting for disclosure of RAP and EIA policy to the affected people and other stakeholders

Date: 01.09.2012 at 2.30 pm

Venue: Kanchpur Bridge (Chittagong end) Senpara, Sonargaon, Narayanganj

A stakeholder meeting (Third Stage) was held on disclosure of the RAP and EIA policy of the project on September 01, 2012 at 2.30 pm at Kanchpur bridge Chittagong end (under abutment), Senpara, Sonargaon, Narayanganj. The Meeting was presided over by Mr. Md. Golam Mostofa, Sub-divisional Engineer, Bridge Maintenance Division, RHD. Furthermore, Mr. Farid Uddin Ahmed, Sub-divisional Engineer, Narayanganj Road Division, RHD, Toshiyuki Konno, Japanese Environmental Specialist of the JICA Study Team, Md. Nahid Muniruddin, Natural Environmental Engineer (Local), Kh. Khairul Matin Social Environmental Engineer (Local) JICA Study Team and 72 local people (male 32 and female 40) were present in the meeting (list of the participants attached in Appendix-A).

In the consultation meeting, policies of the RAP and EIA (mitigation measures of the project impacts) were disclosed to the affected people using flip chart. On August 01, 2012, these policies were disclosed, but due to JICA requirements and some changes in the policy, disclosure of the policy requires again. The affected people were informed about the meeting through publishing in the national daily newspaper (Both Bengali and English daily), personal contact, announcement in the mosque, etc. The disclosed issues in the meeting were project components and alignment, cut off-date declared during the survey (16 March 2012), Methodologies adopted during survey, findings of the survey, entitlement matrix as prescribed in the RAP, Grievance redress mechanism, compensation payment procedure, relocation requirements & options, timeline of relocation after payment of compensation, etc. The findings of the environmental survey and proposed mitigation measures of any adverse impacts were also disclosed in the meeting.

The president of the consultation meeting welcomed all participants in the discussion session and described the project including the different components. It was disclosed that the Japan International Cooperation Agency (JICA) will finance the project.

The following issues were disclosed in the meeting

1. The new bridge will be constructed parallel to the existing bridge within 30 meter to the downstream.
2. No new land acquisition will be required for any components of this project. All of the project activities will be done in RHD land.
3. Cut-off date of the census survey was 16 March, 2012.
4. Methodologies of the survey such as census and socioeconomic survey, inventory of affected assets, video filming and sketch mapping of all affected structures and other properties
5. Findings of the survey and impact of the project
6. Compensation package as prescribed in the RAP was also disclosed in the meeting as follows:
  1. Replacement value of the affected structures, trees and other assets
  2. Transfer grants and re-installation grants for structure
  3. Grants for alternative housing
  4. Grants for loss of business
  5. Moving assistance for tenants businessmen
  6. Grants for vulnerable households
  7. Grants for female headed households
  8. Grants for wage earners
  9. RHD employees will be eligible for compensation and other assistances for the structures erected by themselves
  10. Training on income generating activities for eligible members of vulnerable HHs
  11. Owners will be allowed to take all salvaged materials free of cost
  12. Eligible affected persons will be preferentially employed in civil construction
13. Grievance redress mechanism and right to submit grievances to the Grievance Redress Committee
14. Compensation payment procedure and role of PAPs, IA and RHD in making payment



*Disclosure meeting at Kanchpur Bridge location*

Regarding Environmental impacts and mitigation measures, the Environmental Specialist explained that about 27 major environmental and social concerns have identified in this project and accordingly mitigation measures have been proposed. It was discussed that the impacts are broadly classified into following 4 categories that will be faced during preconstruction, construction and operation stages of the project:

1. Social Environment
2. Natural Environment
3. Ecological Environment
4. Environmental Pollution

The Social Specialist has explained impacts on social environment. The Environmental Specialist explained the impacts on the following natural and ecological environment and environmental pollution and mitigation measures.

**Environmental Impact/Issue Mitigation Measures**

1. Cultural Heritage	No mitigation measures are required
2. Accident	<ol style="list-style-type: none"> <li>1. Follow BRTA rules and Regulations</li> <li>2. Preparation of Health and Safety Management Plan (HSMP) including prevention of traffic accidents</li> </ol>
1. River Erosion and Siltation	1. Construction of sheet pile steel pipe foundation to encounter scouring
2. River Transport	<ol style="list-style-type: none"> <li>1. Follow BIWTA navigation rules and regulations</li> <li>2. River Traffic control and ensure lighting device</li> </ol>
3. Hydrology	Not required
1. Biota and ecosystem	<ol style="list-style-type: none"> <li>1. Prohibit leaking of oils from construction vessels including of emergency removal system of leaked oils</li> <li>2. Plantation of 3 times of trees to be cut; Tree planting will be carried out through the RHD Tree-planting Unit, in conformity with their existing guidelines</li> </ol>
3. Global Warming	1. No mitigation measures are required
2. Air Pollution	3. Implement dust suppress plan and routine mitigation measure shall be taken to emitting equipments during construction
4. Surface and Ground Water Pollution	<ol style="list-style-type: none"> <li>5. Increase retention time of the outflow hydraulic fills to increase sedimentation, thus, reduce sediment load to the river</li> <li>6. Removal of Arsenic from newly constructed Wells</li> </ol>
1. Soil pollution	1. Oil storage shall be with concrete floor and oil fence
2. Waste	<ol style="list-style-type: none"> <li>1. Contractor will be required to facilitate proper reuse and disposal plan, and manage the construction waste</li> <li>2. Dumping of waste at approved dumping sites</li> </ol>
3. Noise and Vibrations	<ol style="list-style-type: none"> <li>4. Enforce noise emission standards</li> <li>5. Regulate the construction process</li> <li>6. Install barrier if required</li> </ol>
7. Ground Subsidence	1. No action required
2. Offensive Odor	Proper treatment of camp waste and proper maintenance of heavy equipment etc
1. Bottom sediment	Treatment of liquid waste before discharged
2. Landscape	Vegetation of the slope surface of embankment

After disclosing the policy of the RAP and EIA the participants were requested to put comments or question on the project policy. The affected people raised some questions about the policy and impact mitigation measures. All of the questions were on resettlement and compensation issues. There were no questions raised on the environmental issues

Details of the questions and answers are presented below-

Category of SpeakersOccupation (Male/Female)	Comment/Question	Answer and Policy of Countermeasure
Ms. Meher BanuHousewife (Female)	One tube well is affected along with housingtoilets and other secondary structures. Whether the tubebeen enlisted during inventory of losses well was counted or not.(IOL). Compensation has been determined How compensation will bebased on current cost of the tube wells and	All of the structures including tube wells, toilets and other secondary structures have been enlisted during inventory of losses well was counted or not.(IOL). Compensation has been determined How compensation will bebased on current cost of the tube wells and

		paid for tube well	other structures. The unit rate has been collected from businessmen and other knowledgeable people of the locality. So, compensation for all affected structures will be paid at a time during implementation of the project.
Md. Rahman	Moklesur Businessmen	There are some business enterprises beside the bridge. Some laborers are working for loading sand on the truck and unloading it from the barge. Whether they are entitled for compensation or not.	This issue was discussed in last disclosure meeting held on August 01, 2012. There are no structures of the sand businessmen in the bridge location. And we have at least 15 months time to start civil works of the bridge. The sand businessmen will be officially noticed few months ahead of starting construction not to stake sand within required area of the proposed bridge. So, income and livelihood of the businessmen and wage laborers will not be disturbed and this is why they will not be eligible for compensation/assistance.
Ms. Jan (Female)	Banu Housewife (Squatter)	They have some bearing and timber trees their houses. Whether they will get compensation for these trees or not.	All of the fruit trees within the proposed area have been counted and as per policy of the RAP (Mango, Rain tree) beside trees owners will be paid compensation
Md. Omar Ali (Male)	Squatter (Residence)	His residential premises are affected by the project and he demanded adequate compensation for them. Compensation is to be paid directly to the entitled persons but not via the local government representatives or any one.	Compensation will be paid at the door steps of the affected people. A property assessment and valuation committee will be responsible to determine the unit price of the affected properties. Only entitled persons will be paid compensation/assistance through account payee cheques.

The opinion of the participants were sought on the policy so far described in the meeting and requested to put comments on it if there is any confusion or suggestion on it. They raised their voices in favour of the policy and expressed satisfaction on the policy. They requested to implement the policy as it was disclosed

It was ensured that the RAP will be implemented in proper way and hopefully implementation of the RAP will help the APs to uphold their standard of living. There were no issues to discuss more and the meeting was closed with a vote of thanks from the Chair.

**Appendix-A: Attendance Sheet**

**Preparatory Survey for Dhaka-Chittagong National Highway (NH-1) Bridge  
Construction and Rehabilitation Project Kanchpur, Meghna and Gumti Bridge  
Attendance Sheet**

Time:02.30 pm

Date:01-09-2012

Meeting Place: Kanchpur Bridge

Union:

Thana: Sonargong

Sl. No#	Name	Sex	F/H Name	Address	Mobile Number	Signature
1	Atik Hasan	Male	Amzad Hossain	Senpara	01932718542	
2	Sukkar Ali	Male	Md. Rahim Mia	Senpara		
3	Md. Moklesur Rahman	Male	Hazi Abdul Berek	Senpara	01913459212	
4	Japani Raju	Male	Asaduzzaman	Kanchpur	01827594920	
5	Md. Safiqul Islam	Male	Abul Kalam	Kanchpur	01677865994	
6	Shah Jalal	Male	Mahmud Ali	West Bahakoir	01922038197	
7	Hatem Ali	Male	L. Mohid Ali	Senpara	01191482705	
8	Md. Hanif	Male	Ramiz Uddin	Senpara	01714571826	
9	Md. Mohasin	Male	Abdul Razzak	Senpara	01815130509	
10	Ibrahim	Male	Md. Suboj	Senpara	01939411451	
11	Md. Fazlul Haque	Male	L. Sawkat Ali	Senpara	01832700539	
12	Sabbir	Male	L. Abdul Samad	Senpara	01813116172	
13	Md. Mantu	Male	L. Belayet Hossain	Senpara	01823221354	
14	Subuj	Male	L. Asguk Ali	Senpara		
15	Md. Al-Amin	Male	Md. Omar Ali	Senpara	01961550919	
16	Md. Rafiqul	Male	L. Hafiz Ullah	Senpara	01818310827	
17	Hazi Sirajul Islam	Male	L. Abdul Sobahan Monshi	Senpara	01711056580	
18	Shekh Md. Nader	Male	L. Abdul Karim	Senpara		
19	Hossain Mia	Male	Md. Kanchun Mia	Senpara		
20	Sumon	Male	Md. Ali Mia	Senpara	01940398376	
21	Md. Hira	Male	Md. Samad Monsi	Senpara		
22	Taslina	Female	Joj Miah	Senpara		
23	Howya	Female	Hazrat Ali	Senpara	01937429873	
24	Asma	Female	Md. Faruk Hossain	Senpara		
25	Chan Banu	Female	Kadir	Senpara	01674725033	
26	Rabeya	Female	Nur Ali	Senpara		
27	Fazila	Female	L. Sawkat Ali	Senpara	01933898009	
28	Meher Banu	Female	Joynal	Senpara	01923850248	
29	Aysa	Female	Abdul Malek	Senpara		
30	Hazera Khatun	Female	L. Omar Ali	Senpara		
31	Safia Khatun	Female	Md. Omar Ali	Senpara		
32	Sahinur Begum	Female	Sultan	Senpara	01734314547	
33	Minar Begum	Female	Nurul Haque	Senpara		
34	Amena Begum	Female	Ohid Miah	Senpara		
35	Hosne Ara	Female	Jahir Alom	Senpara	01839174682	
36	Rojina Begum	Female	Lokman Hakim	Senpara	01833278182	
37	Sahanaj Begum	Female	Nurul Huda	Senpara	01962419012	
38	Mina Begum	Female	L. Samed	Senpara		
39	Sofada	Female	Samad Mollah	Senpara		

Sl. No#	Name	Sex	F/H Name	Address	Mobile Number	Signature
40	Rokeya	Female	Mintu	Senpara		
41	Anowara	Female	Sirazul Islam	Senpara	01825547790	
42	Johara	Female	L. Motin	Senpara		
43	Joynob	Female	Md. Yakub Ali	Senpara		
44	Nunehar	Female	Abul Kalam	Senpara		
45	Dulufa	Female	Billal	Senpara		
46	Begum	Female	L. Somser	Senpara		
47	Omar Ali	Male	L. Jinnat Ali	Senpara		
48	Sorbanu	Female	Jakir	Senpara		
49	Nazma Begum	Female	Rafiq	Senpara		
50	Sefali Begum	Female	Md. Hossain	Senpara		
51	Sajeda Begum	Female	Altaf	Senpara		
52	Rijia	Female	Riyaz Ali	Senpara		
53	Yakub Ali	Male	Abdul Malek	Senpara	01918159301	
54	Altaf Hossain	Male	Azit Howlader	Senpara		
55	Hossain Miah	Male	L. Kanchon Mia	Senpara		
56	Sirajul Islam	Male	Abdul Gafar	Senpara	01825547790	
57	Jahangir Hossain	Male	L. Abdul Latif	Senpara	01742002993	
58	Nurul Huda	Male	L. Karim	Senpara	01962419012	
59	Arun Begum	Female	L. Hafij Ullah	Senpara		
60	Kolpona	Female	Yakub	Senpara		
61	Noyab Ali	Male	L. Hafij Ali	Senpara		
62	Mokles Miah	Male	Renu Miah	Senpara	01927498244	
63	Md. Monir Hossain	Male	L. Abdul Samad	Senpara	01913951307	
64	Ruma	Female	Mohasin	Senpara		
65	Anoawra	Female	Ohid	Senpara		
66	Aysa Khatun	Female	L. Mofij Uddin	Senpara		
67	Sahar Banu	Female	L. Ramjan	Senpara		
68	Parul Begum	Female	Osman Gazi	Senpara	01814849680	
69	Hasina Begum	Female	Saidul	Senpara	01948755394	

Annex 7 EIA & RAP disclosure meeting -2

Sl. No#	Name	Sex	F/H Name	Address	Mobile Number	Signature
70	Hasan Mahmud	Male	Saidul	Senpara	01938696497	
71	Razia Begum	Female	Kawser	Senpara		
72	Nasima Begum	Female	Saju Miah	Senpara	01935000129	

**Preparatory Survey for Dhaka-Chittagong National Highway  
(N-1) Bridge Construction and Rehabilitation Project  
Kanchpur, Meghna and Gomti Bridge  
Attendance Sheet**

সময় : ২.৩০ pm

তারিখ : ০১.০৭.১২

সভার স্থান : কাঁচপুর

ইউনিয়ন/ওয়ার্ড :

থানা : গোলাপগাঁও

ক্রম নং	নামঃ	পিতার নামঃ	ঠিকানাঃ	মোবাইল নম্বরঃ	স্বাক্ষরঃ
১.	আতিক শাহা	আমজাদ হাঃ	গোলাপগাঁও	০১৭৩২-৭১৪৫৪২	আতিক
২.	শুজুর আলী	হাঃ রশিদুল হাঃ			শুজুর আলী
৩.	শেখ মোস্তাফিজুর রহমান	হাজী হাঃ বাবুল		০১৭১৩-৪৫৭২১২	শেখ মোস্তাফিজুর রহমান
৪.	জালালী হাজী	আখতারুল কামাল	কাঁচপুর পূঃ	০১৪২৭৫৭৪৭২০	হাজী
৫.	হাঃ শাহিনুল হাঃ	আবুল গোলাম		০১৬৭৭-৪৬৫৭৭৭	শাহিনুল হাঃ
৬.	শাহুল কামাল	মাহমুদ আলী	পশ্চিম কাঁচপুর	০১৭২২০৩৪১৭৭	শাহুল
৭.	হাজী আলী	হাজী হাঃ	গোলাপগাঁও	০১১৭১৪৪২৭০৫	হাজী আলী
৮.	হাঃ শাহিন	রশিদুল কামাল		০১৭৬৩৩৭৫৭০১	শাহিন
৯.	হাঃ মাহমুদুল হাঃ	হাঃ বাবুল		০১৪১৫-১৩০৫০৭	মাহমুদুল হাঃ
১০.	ইব্রাহীম	হাঃ আবুল		০১৭৩৭৭১১৪৫১	ইব্রাহীম
১১.	হাঃ ফজলুল হাঃ	হাজী হাঃ		০১৪৩২-৭০০৫৩৭	ফজলুল হাঃ
১২.	মাহমুদ	হাজী হাঃ		০১৪১৩-১১৬১৭২	মাহমুদ
১৩.	হাঃ মাহমুদ	হাজী হাঃ		০১৪২৩-২২৩৫৫	মাহমুদ
১৪.	মাহমুদ	হাজী হাঃ			
১৫.	হাঃ আলী হাঃ	হাঃ ওমর আলী		০১৭৬১৫৫০৭১৭	আলী হাঃ
১৬.	হাঃ রশিদুল	হাজী হাঃ		০১৪১৪৩১০৪২৭	রশিদুল
১৭.	হাজী হাঃ	হাজী হাঃ		০১৭১১০৫৬৫৪০	হাজী হাঃ
১৮.	শেখ হাঃ মাহমুদ	হাজী হাঃ			শেখ হাঃ মাহমুদ
১৯.	হাজী হাঃ	হাজী হাঃ			হাজী হাঃ
২০.	মাহমুদ	হাঃ আলী হাঃ		০১৭৪০৩৭৪৩৭৬	মাহমুদ
২১.	হাঃ হাজী	হাঃ মাহমুদ হাজী			হাজী



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(N-1) Bridge Construction and Rehabilitation Project  
Kanchpur, Meghna and Gomti Bridge  
Attendance Sheet**

সময় : ২.৩০ pm

তারিখ : ০১-০৭-২০১২

সভার স্থান : ২০১৪২০

ইউনিয়ন/ওয়ার্ডঃ

থানা : (গোপালগঞ্জ)

ক্রম নং	নামঃ	পিতার নামঃ	ঠিকানাঃ	মোবাইল নম্বরঃ	স্বাক্ষরঃ
২২	ভাস্করীমা	ভদ্র, মিনা	গোপালগঞ্জ		প্রাচীর
২৬	হাওয়া	হুমায়ুন জামিল	৫	০১৭৩৭৪২৭৪৩	হাওয়া
২৪	লুৎফা	মোঃ ফারুক হোসেন	৫		লুৎফা
২৫	চান বাবু	ফারুক	৫	০১৬৭৪৭১৫০৩৩	চান বাবু
২৬	রাবুয়া	মুহঃ জামিল	৫		
২৭	ফারুয়া	মুহঃ হুমায়ুন জামিল	৫	০১৭৩৩৪৭৪০০৭	
২৫	শেহেরাভূ	ফারুক	৫	০১৭২৩৪৫০২৪৪	শেহেরাভূ
২৮	জামিয়া	জামিল মালিক	৫		জামিয়া
৩০	হাফিজা বেগম	মুহঃ হুমায়ুন জামিল	৫		হাফিজা
৩২	ফারুয়া বেগম	মোঃ হুমায়ুন জামিল	৫		ফারুয়া
৩২	ফারুয়া বেগম	ফারুক	৫	০১৭৩৪৩১৫৫৭	ফারুয়া
৩৩	মিনাত বেগম	মোঃ হুমায়ুন জামিল	৫		মিনাত
৩৪	জামিনা বেগম	মুহঃ হুমায়ুন জামিল	৫		জামিনা
৩৫	ফারুয়া বেগম	মুহঃ হুমায়ুন জামিল	৫	০১৪৩৭-১৭৫৬৩২	ফারুয়া
৩৬	ফারুয়া বেগম	মুহঃ হুমায়ুন জামিল	৫	০১৪৩৩২৭৪৪২	ফারুয়া
৩৭	ফারুয়া বেগম	মুহঃ হুমায়ুন জামিল	৫	০১৭৬২৭১৭০২	ফারুয়া
৩৮	ফারুয়া বেগম	মুহঃ হুমায়ুন জামিল	৫		
৩৯	ফারুয়া বেগম	মুহঃ হুমায়ুন জামিল	৫		
৪০	ফারুয়া বেগম	মুহঃ হুমায়ুন জামিল	৫		
৪১	ফারুয়া বেগম	মুহঃ হুমায়ুন জামিল	৫	০১৪২৫৫১৭৭৭০৮	ফারুয়া
৪২	ফারুয়া বেগম	মুহঃ হুমায়ুন জামিল	৫		
৪৩	ফারুয়া বেগম	মুহঃ হুমায়ুন জামিল	৫		

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সময় : ২:৩০ pm

তারিখ : ০১-০৯-০১২

সভার স্থান : ২৪৬ পুর

ইউনিয়ন/ওয়ার্ডঃ

থানা : সোনালপুর

ক্রম নং	নামঃ	পিতার নামঃ	ঠিকানাঃ	মোবাইল নম্বরঃ	স্বাক্ষরঃ
৪৪	মুনোয়ার	শ্রীমতী-আবুল কালাম	সোনালপুর		
৪৫	দুলাহ	শ্রীমতী-আবুল কালাম	সোনালপুর		দুলাহ
৪৬	বেগম	শ্রীমতী-আবুল কালাম	৫		
৪৭	সমর আলী	শ্রীমতী-আবুল কালাম	৫		সমর আলী
৪৮	মুরব্বা	শ্রীমতী-আবুল কালাম	৫		মুরব্বা
৪৯	নাজমা বেগম	শ্রীমতী-আবুল কালাম	৫		নাজমা
৫০	মোস্তাফিজ	শ্রীমতী-আবুল কালাম	৫		মোস্তাফিজ
৫১	শাহজাদা বেগম	শ্রীমতী-আবুল কালাম	৫		শাহজাদা
৫২	সুবিজিয়া	শ্রীমতী-আবুল কালাম	৫		
৫৩	ইয়াছুব আলী	শ্রীমতী-আবুল কালাম	৫	০১৭৪১৫৭৭০১	ইয়াছুব
৫৪	আলম আলী	শ্রীমতী-আবুল কালাম	৫		
৫৫	হোসেন মিয়া	শ্রীমতী-আবুল কালাম	৫		হোসেন
৫৬	শ্রীমতী-আবুল কালাম	শ্রীমতী-আবুল কালাম	৫	০১৪২৫৫৪৭৭৭০০	শ্রীমতী
৫৭	আবুল কালাম	শ্রীমতী-আবুল কালাম	সোনালপুর	০১৭৪২০০২৭৩৩	আবুল কালাম
৫৮	নাজমা বেগম	শ্রীমতী-আবুল কালাম	৫	০১৭৬২৪১৭০১২	নাজমা
৫৯	আবুল কালাম	শ্রীমতী-আবুল কালাম	৫		আবুল কালাম
৬০	ফাতেমা বেগম	শ্রীমতী-আবুল কালাম	৫		ফাতেমা
৬১	আবুল কালাম	শ্রীমতী-আবুল কালাম	৫		আবুল কালাম
৬২	মোস্তাফিজ মিয়া	শ্রীমতী-আবুল কালাম	৫	০১২২৭৭৪২২৪১	মোস্তাফিজ
৬৩	আবুল কালাম	শ্রীমতী-আবুল কালাম	৫	০১৭১৩৭৫১৩০৭	আবুল কালাম
৬৪	আবুল কালাম	শ্রীমতী-আবুল কালাম	৫		আবুল কালাম
৬৫	আবুল কালাম	শ্রীমতী-আবুল কালাম	৫		আবুল কালাম

২৪৬ পুর  
২৪৬ পুর

**Preparatory Survey for Dhaka-Chittagong National Highway  
(N-1) Bridge Construction and Rehabilitation Project  
Kanchpur, Meghna and Gomti Bridge  
Attendance Sheet**

সময় : ২:৩০ pm

তারিখ : ০১-০৭-২০১২

সভার স্থান : ৯০৬ স্ট্র

ইউনিয়ন/ওয়ার্ডঃ

খানা : ১০১০১০১০

ক্রম নং	নামঃ	পিতার নামঃ	ঠিকানাঃ	মোবাইল নম্বরঃ	স্বাক্ষরঃ
৬৬	জায়েদা হাভু	শ্রীঃ মঈনুদ্দীন	(সোনাগাজী)		✓ জায়েদা
৬৭	জায়েদা হাভু	শ্রীঃ বমজাম	u		✓ জায়েদা
৬৮	সাকিল বেগম	শ্রীঃ ওসমানগলী	u	০১৬১৪৫৭৬৪০	সাকিল
৬৯	কামরুন্নাহা বেগম	শ্রীঃ সাইফুল	u	০১৭৪৮৭৫৩৩৫৭	সাকিল
৭০	হুসান হাভু	শ্রীঃ সাইফুল	u	০১৭৪৮৬৭৬৫৭৭	সাকিল
৭১	বাজিয়া বেগম	u	u		✓ বাজিয়া
৭২	নাছিম বেগম	শ্রীঃ সাইফুল	u	০১৭৩৫০৭২৭	✓ নাছিম

## Roads and Highways Department (RHD)

### Preparatory Survey for Dhaka-Chaittagong Highway (NH-1) Bridge Construction and Rehabilitation Project

#### Kanchpur, Meghna and Gomti Bridges

Consultation meeting for disclosure of RAP and EIA policy to the affected people and other stakeholders

Date: 01.09.2012 at 12.00 pm

Venue: Meghna Bridge (Chittagong end)  
Baluakandi, Gozaria, Munshiganj

A stakeholder meeting (Third Stage) was held on disclosure of the RAP and EIA policy of the project on September 01, 2012 at 12.00 noon at Meghna Tetuitola Bazar (Chittagong end) Baliakandi, Gozaria, Munshiganj. The Meeting was presided over by Mr. Farid Uddin Ahmed, Sub-divisional Engineer, Narayanganj Road Division, RHD. Furthermore, Mr. Md. Golam Mostofa, Sub-divisional Engineer, Bridge Maintenance Division, RHD, Toshiyuki Konno, Japanese Environmental Specialist of the JICA Study Team, Md. Nahid Muniruddin, Natural Environmental Engineer (Local), Kh. Khairul Matin Social Environmental Engineer (Local) JICA Study Team and 79 local people (male 18 and female 61) were present in the meeting (list of the participants attached in Appendix-A).

In the consultation meeting, policies of the RAP and EIA (mitigation measures of the project impacts) were disclosed to the affected people using flip chart. On August 01, 2012, these policies were disclosed, but due to JICA requirements and some changes in the policy, they requires disclosing again. The affected people were informed about the meeting through publishing in the national daily newspaper (Both Bengali and English daily), personal contact, announcement in the mosque, etc. The disclosed issues in the meeting were project components and alignment, cut off-date declared during the survey (16 March 2012), Methodologies adopted during survey, findings of the survey, entitlement matrix as prescribed in the RAP, Grievance redress mechanism, compensation payment procedure, relocation requirements & options, timeline of relocation after payment of compensation, etc. The findings of the environmental survey and proposed mitigation measures of any adverse impacts were also disclosed in the meeting.

The president of the consultation meeting welcomed all participants in the discussion session and described the project including the different components. It was disclosed that the Japan International Cooperation Agency (JICA) will finance the project.

The following issues were disclosed in the meeting

1. The new bridge will be constructed parallel to the existing bridge within 30 meter to the upstream.
2. No new land acquisition will be required for any components of this project. All of the project activities will be done in RHD land.
3. Cut-off date of the census survey was 16 March, 2012.
4. Methodologies of the survey such as census and socioeconomic survey, inventory of affected assets, video filming and sketch mapping of all affected structures and other properties
5. Findings of the survey and impact of the project
6. Compensation package as prescribed in the RAP was also disclosed in the meeting as follows:
  1. Replacement value of the affected structures, trees and other assets
  2. Transfer grants and re-installation grants for structure
  3. Grants for alternative housing
  4. Grants for loss of business
  5. Moving assistance for tenants businessmen
  6. Grants for vulnerable households
  7. Grants for female headed households
  8. Grants for wage earners
  9. RHD employees will be eligible for compensation and other assistances for the structures erected by themselves
  10. Training on income generating activities for eligible members of vulnerable HHs
  11. Owners will be allowed to take all salvaged materials free of cost
12. Eligible affected persons will be preferentially employed in civil construction Grievance redress mechanism and right to submit grievances to the Grievance Redress Committee
13. Compensation payment procedure and role of PAPs, IA and RHD in making payment



*Disclosure meeting at Meghna Bridge location*

Regarding Environmental impacts and mitigation measures, the Environmental Specialist explained that about 27 major environmental and social concerns have identified in this project and accordingly mitigation measures have been proposed. It was discussed that the impacts are broadly classified into following 4 categories that will be faced during preconstruction, construction and operation stages of the project

1. Social Environment
2. Natural Environment
3. Ecological Environment
4. Environmental Pollution

The Social Specialist has explained impacts on social environment. The Environmental Specialist explained the impacts on natural and ecological environment and environmental pollution.

<b>Environmental Impact/Issue</b>	<b>Mitigation Measures</b>
1. Cultural Heritage	No mitigation measures are required
2. Accident	<ol style="list-style-type: none"> <li>1. Follow BRTA rules and Regulations</li> <li>2. Preparation of Health and Safety Management Plan (HSMP) including prevention of traffic accidents</li> </ol>
1. River Erosion and Siltation	1. Construction of sheet pile steel pipe foundation to encounter scouring
2. River Transport	<ol style="list-style-type: none"> <li>1. Follow BIWTA navigation rules and regulations</li> <li>2. River Traffic control and ensure lighting device</li> </ol>
3. Hydrology	Not required
1. Biota and ecosystem	<ol style="list-style-type: none"> <li>1. Prohibit leaking of oils from construction vessels including of emergency removal system of leaked oils</li> <li>2. Plantation of 3 times of trees to be cut; Tree planting will be carried out through the RHD Tree-planting Unit, in conformity with their existing guidelines</li> </ol>
3. Global Warming	1. No mitigation measures are required
2. Air Pollution	3. Implement dust suppress plan and routine mitigation measure shall be taken to emitting equipments during construction
4. Surface and Ground Water Pollution	<ol style="list-style-type: none"> <li>5. Increase retention time of the outflow hydraulic fills to increase sedimentation, thus, reduce sediment load to the river</li> <li>6. Removal of Arsenic from newly constructed Wells</li> </ol>
1. Soil pollution	1. Oil storage shall be with concrete floor and oil fence
2. Waste	<ol style="list-style-type: none"> <li>1. Contractor will be required to facilitate proper reuse and disposal plan, and manage the construction waste</li> <li>2. Dumping of waste at approved dumping sites</li> </ol>
3. Noise and Vibrations	<ol style="list-style-type: none"> <li>4. Enforce noise emission standards</li> <li>5. Regulate the construction process</li> <li>6. Install barrier if required</li> </ol>
7. Ground Subsidence	1. No action required
2. Offensive Odor	3. Proper treatment of camp waste and proper maintenance of heavy equipment etc
1. Bottom sediment	2. Treatment of liquid waste before discharged
3. Landscape	4. Vegetation of the slope surface of embankment

After disclosing of the RAP and EIA policy the participants were requested to put comments or question on the policy. The local Union

Category of Speakers (Male/Female)	Occupation	Comment/Question	Answer and Policy of Countermeasure	
Md. (Male)	Shahjahan (Squatter)	Business	My business is affected by the approach road. How many times we will get from now to dismantle the affected structures? What is the expected time of starting construction work	The compensation will be paid as per policy of the RAP before displacement from the project site. During survey all of the affected structures have been counted and accordingly budget has been prepared. At least 15 months will be on hand to dismantle structures. Because, expected time of starting the construction is early 2014.

Md. Abul Hassan (Squatter)	Business (Squatter)	We need compensation on time and without hassle. Sufficient time is required after getting compensation. Compensation will be paid in cheques (account payee) at the door steps of the affected people. The EPs will be allowed for at least 30 days times to stay in the present location after payment of compensation.
Ms. Rasheda Khatun (Female)	Squatters	We are very poor and have a little scope of income. I have adult son but jobless. Is there any provision of getting work in the project. During construction of the bridge local people will be deployed (based on eligibility) on priority basis in civil construction on.

The opinion of the participants were sought on the policy so far described in the meeting and requested to put comments on it if there is any confusion or suggestion on it. They raised their voices in favour of the policy and expressed satisfaction on the policy. They requested to implement the policy as it was disclosed

It was ensured that the RAP will be implemented in proper way and hopefully implementation of the RAP will help the APs to uphold their standard of living. There were no issues to discuss more and the meeting was closed with a vote of thanks from the Chair.

**Appendix-A: Attendance Sheet**  
**Preparatory Survey for Dhaka-Chittagong National Highway (NH-1) Bridge**  
**Construction and Rehabilitation Project Kanchpur, Meghna and Gumti Bridge**

**Attendance Sheet**

Time: 12 pm

Date: 01/09/2012

Venue: Meghna Bridge

Union: Baliakandi

Thana: Gazaria

S. No	Name	Sex	F/H Name	Address	Mobile No.	Signature
1	Md. Shahjahan	Male	L. Asa mia	Shantinagor		
2	Golapjar	Male	L. Hafiz uddin	Tetuitola	01840016612	
3	Mihinullah	Male	Hasem Dewan	Tetuitola	01815700482	
4	Md. Sumon	Male	Md. Nurul Islam	Harira	01913847753	
5	Md. Shah Alom	Male	Abdur Rashid Prodan	Jamaldi	01711462377	
6	Md. Abul Hassan	Male	Nurul Haque	Char Mazli	01829289137	
7	Abdur Rob	Male	L. Anor Ali	Char Ali	01731370247	
8	Md. Azanur	Male	Md. Hobi	Tetuitala	01813955442	
9	Swapan	Male	L. Rihuni	Pirojpur	01826516661	
10	Sujon	Male	Vanu	Mugdapara	01670181598	
11	Moshiur Rahman	Male	L. Nazir Uddin	Dhaka	01675421716	
12	Mohidul Hassan	Male	Abdul Malek	Dhaka	01712084450	
13	Mojammel Hossain	Male	Waliullah	Chandpur	01714373008	
14	Oliul Islam	Male	Sheikh Shahabuddin	Barishal	01716900842	
15	Md. Shahab Uddin	Male	Abul Hossain	Noakhali	01822309644	
16	Sumi Begum	Female	Md. Faruk	Noakhali	01964501047	
17	Jorina	Female	Azahar	Tetuitola		
18	Rasheda Khatun	Female	Abdur Rashid	Tetuitola		
19	Nasima	Female	Musha	Tetuitola		
20	Farida Begum	Female	Mannan Sheikh	Tetuitola		
21	Koruna Bibi	Female	Arshad	Tetuitola		
22	Moji Begum	Female	Abdul Awal	Tetuitola		
23	Momotaz Begum	Female	Abdul Mannan	Tetuitola		
24	Fatima Begum	Female	Boshir	Tetuitola		
25	Minara Begum	Female	Anis Rahman	Tetuitola		
26	Kulsum	Female	Yassin	Tetuitola		
27	Morshed	Male	Ripon	Tetuitola		



Sl. No	Name	Sex	F/H Name	Address	Mobile No.	Signature
28	Nasimia	Female	Hazrat Ali	Tetuitola		
29	Rukia Begurr	Female	L. Asadul Haque	Tetuitola		
30	Taslina	Female	Masud	Tetuitola		
31	Beauty Begum	Female	Aslam	Tetuitola		
32	Asimon Bibi	Female	L. Fola Gazi	Tetuitola		
33	Sefali	Female	Saiful	Tetuitola		
34	Hosnewara	Female	L. Mizan	Tetuitola		
35	Soleha Begum	Female	L. Adom Ali	Tetuitola		
36	Fatima	Female	Faruk	Tetuitola		
37	Shahana	Female	Monir Hossain	Tetuitola		
38	Jobeda	Female	Dudu Mia	Tetuitola		
39	Shahinur	Female	Anar Hossain	Tetuitola		
40	Joyeda	Female	Sukkur Ali	Tetuitola		
41	Ruma	Female	Hatim	Tetuitola		
42	Rina	Female	Jaman	Tetuitola		
43	Karimon	Female	Dil Mahmud	Tetuitola		
44	Sufia	Female	Monir Hossain	Tetuitola		
5	Rashida	Female	Hobi	Tetuitola		
46	Lipi	Female	Anwar Hossain	Tetuitola		
47	Nasima	Female	Abu Taher	Tetuitola		
48	Minu	Female	Jorj Mia	Tetuitola		
49	Rojina	Female	Ruman	Tetuitola		
50	Khadeza	Female	Amir Hossain	Tetuitola		
51	Majeda	Female	Iman Hossain	Tetuitola		
52	Sharmin	Female	Helal	Tetuitola		
53	Shilpi	Female	Nizam	Tetuitola		
54	Hajera	Female	Abu Bokkor	Tetuitola		
55	Nasima	Female	Hazrat	Tetuitola		
56	Joabeda	Female	Dudu Mia	Tetuitola		

Sl. No	Name	Sex	F/H Name	Address	Mobile No.	Signature
57	Khodeza	Female	Babul	Tetuitola		
58	Rabia Khatun	Female	Jinnat Ali	Tetuitola		
59	Rokeya	Female	Samsul	Tetuitola		
60	Nur Jahan	Female	Mahfuz mia	Tetuitola		
61	Khorsheda	Female	Ripon	Tetuitola		
62	Hasena	Female	Eskendar	Tetuitola		
63	Khadiza	Female	Delwar	Tetuitola		
64	Shadia	Female	Shahajan	Tetuitola		
65	Shommetara	Female	Chad mia	Tetuitola		
66	Amena	Female	Liton	Tetuitola		
67	Moni Begum	Female	Isha Ullah	Tetuitola		
68	Jahanara	Female	Hazrat Ali	Tetuitola		
69	Junia Begum	Female	Milon	Tetuitola		
70	Hobian	Female	Askor Ali	Tetuitola		
71	Runa Begum	Female	Akter Hossain	Tetuitola		
72	Tania	Female	Alamin	Tetuitola		
73	Sumi	Female	Imran	Tetuitola		
74	Nur Jahan	Female	Mizan	Tetuitola		
75	Helal	Male	Amir Hossain	Tetuitola		
76	Mozina Begum	Female	Gofor Mollah	Tetuitola		
77	Shimu	Female	Shahadat	Tetuitola		
78	Rekha	Female	Saiful Islam	Tetuitola		
79	Abul Kasem Sheikh	Male	L. Answar Ali	Tetuitola		

**Preparatory Survey for Dhaka-Chittagong National Highway  
(N-1) Bridge Construction and Rehabilitation Project  
Kanchpur, Meghna and Gomti Bridge  
Attendance Sheet**

সময় : ২০২০ ০২ ১৮

তারিখ : ০১/০২/২০২০

সভার স্থান : মেঘনা

ইউনিয়ন/ওয়ার্ডঃ

থানা : মেঘনা

ক্রম নং	নামঃ	পিতার নামঃ	ঠিকানাঃ	মোবাইল নম্বরঃ	স্বাক্ষরঃ
১	শ্রীঃ সাহেবুল হক	শ্রীঃ মোছাঃ মিয়া	শ্রীঃ কান্দিয়া		শ্রীঃ কান্দিয়া
২	শ্রীঃ মঞ্জুর	শ্রীঃ হাফিজুল হক	শ্রীঃ কান্দিয়া	০১৪৫০০১৬৬২	শ্রীঃ কান্দিয়া
৩	শ্রীঃ মঞ্জুর	শ্রীঃ হাফিজুল হক	শ্রীঃ কান্দিয়া	০১৪১৫৭০০৫৪২	শ্রীঃ কান্দিয়া
৪	শ্রীঃ মুমিন	শ্রীঃ মুহাম্মদ ইমাম	শ্রীঃ কান্দিয়া	০১৭১৩৪৫৭৫৩	শ্রীঃ কান্দিয়া
৫	শ্রীঃ মোঃ আলী	শ্রীঃ মুক্তি মুহাম্মদ	শ্রীঃ কান্দিয়া	০১৭১১-৫৬২৩৭৪	শ্রীঃ কান্দিয়া
৬	শ্রীঃ মোঃ আলী	শ্রীঃ মুক্তি মুহাম্মদ	শ্রীঃ কান্দিয়া	০১৪৩৪-৩৩৩০২৩	শ্রীঃ কান্দিয়া
৭	শ্রীঃ মোঃ আলী	শ্রীঃ হাবিব	শ্রীঃ কান্দিয়া	০১৪২৭২৪৭১৩৭	শ্রীঃ কান্দিয়া
৮	শ্রীঃ রব	শ্রীঃ মোঃ আলী	শ্রীঃ কান্দিয়া	০১৮১৩৭৫৫৫৭	শ্রীঃ কান্দিয়া
৯	শ্রীঃ মুনসুর	শ্রীঃ হাবিব	শ্রীঃ কান্দিয়া	০১৬৩৬৫১৬৬৬১	শ্রীঃ কান্দিয়া
১০	শ্রীঃ মুনসুর	শ্রীঃ হাবিব	শ্রীঃ কান্দিয়া	০১৬৭৫৫২৭৬৬	শ্রীঃ কান্দিয়া
১১	শ্রীঃ মোঃ আলী	শ্রীঃ মোঃ আলী	শ্রীঃ কান্দিয়া	০১৬৭০৪১৫১৭৪	শ্রীঃ কান্দিয়া
১২	শ্রীঃ মোঃ আলী	শ্রীঃ মোঃ আলী	শ্রীঃ কান্দিয়া	০১৭১২-০৪৫৫৫০	শ্রীঃ কান্দিয়া
১৩	শ্রীঃ মোঃ আলী	শ্রীঃ মোঃ আলী	শ্রীঃ কান্দিয়া	০১৭১৫-১৪৩০০৪	শ্রীঃ কান্দিয়া
১৪	শ্রীঃ মোঃ আলী	শ্রীঃ মোঃ আলী	শ্রীঃ কান্দিয়া	০১৭১৬-৩০০৪৪২	শ্রীঃ কান্দিয়া
১৫	শ্রীঃ মোঃ আলী	শ্রীঃ মোঃ আলী	শ্রীঃ কান্দিয়া	০১৪২২৩০৭৬৫৫	শ্রীঃ কান্দিয়া
১৬	শ্রীঃ মোঃ আলী	শ্রীঃ মোঃ আলী	শ্রীঃ কান্দিয়া	০১৭৬৭৫০১০৫৭	শ্রীঃ কান্দিয়া
১৭	শ্রীঃ মোঃ আলী	শ্রীঃ মোঃ আলী	শ্রীঃ কান্দিয়া		শ্রীঃ কান্দিয়া
১৮	শ্রীঃ মোঃ আলী	শ্রীঃ মোঃ আলী	শ্রীঃ কান্দিয়া		শ্রীঃ কান্দিয়া
১৯	শ্রীঃ মোঃ আলী	শ্রীঃ মোঃ আলী	শ্রীঃ কান্দিয়া		শ্রীঃ কান্দিয়া
২০	শ্রীঃ মোঃ আলী	শ্রীঃ মোঃ আলী	শ্রীঃ কান্দিয়া		শ্রীঃ কান্দিয়া
২১	শ্রীঃ মোঃ আলী	শ্রীঃ মোঃ আলী	শ্রীঃ কান্দিয়া		শ্রীঃ কান্দিয়া
২২	শ্রীঃ মোঃ আলী	শ্রীঃ মোঃ আলী	শ্রীঃ কান্দিয়া		শ্রীঃ কান্দিয়া

**Preparatory Survey for Dhaka-Chittagong National Highway  
(N-1) Bridge Construction and Rehabilitation Project  
Kanchpur, Meghna and Gomti Bridge  
Attendance Sheet**

সময় : দুপুর ১২:৪০

তারিখ : ০৯/০৭/২০২২

সভার স্থান : মেঘনা

ইউনিয়ন/ওয়ার্ডঃ

থানা : মেঘনা

ক্রম নং	নামঃ	পিতার নামঃ	ঠিকানাঃ	মোবাইল নম্বরঃ	স্বাক্ষরঃ
২৩	রাসেল বেগম	আঃ আলী	তেঁতুলতলা		২৩/৭/২২
২৪	ফাতেমা বেগম	বসির	৷	২০৬৬৩৩	
২৫	নসির হোসেন	আবুল হোসেন	৷		
২৬	ফাহিম বেগম	শ্রী হোসেন	তেঁতুলতলা		ফাহিম
২৭	শ্রী হোসেন	বসির	৷		
২৮	নাসির হোসেন	শ্রী হোসেন	তেঁতুলতলা		
২৯	ফাহিম বেগম	শ্রী হোসেন	৷		
৩০	আবুল হোসেন	আবুল হোসেন	৷		
৩১	ফাতেমা বেগম	আবুল হোসেন	৷		
৩২	আবুল হোসেন	শ্রী হোসেন	৷		
৩৩	ফাতেমা বেগম	আবুল হোসেন	তেঁতুলতলা		
৩৪	ফাতেমা বেগম	আবুল হোসেন	৷		
৩৫	ফাতেমা বেগম	আবুল হোসেন	৷		
৩৬	ফাতেমা বেগম	আবুল হোসেন	তেঁতুলতলা		২০৬৬৩৩
৩৭	ফাতেমা বেগম	আবুল হোসেন	৷		
৩৮	ফাতেমা বেগম	আবুল হোসেন	৷		
৩৯	ফাতেমা বেগম	আবুল হোসেন	তেঁতুলতলা		
৪০	ফাতেমা বেগম	আবুল হোসেন	৷		
৪১	ফাতেমা বেগম	আবুল হোসেন	৷		
৪২	ফাতেমা বেগম	আবুল হোসেন	৷		
৪৩	ফাতেমা বেগম	আবুল হোসেন	৷		
৪৪	ফাতেমা বেগম	আবুল হোসেন	৷		
	ফাতেমা বেগম	আবুল হোসেন	তেঁতুলতলা		
	ফাতেমা বেগম	আবুল হোসেন	৷		

**Preparatory Survey for Dhaka-Chittagong National Highway  
(N-1) Bridge Construction and Rehabilitation Project  
Kanchpur, Meghna and Gomti Bridge  
Attendance Sheet**

সময় : দুপুর ১২:৩০

তারিখ : ০১/০৭/২০১৫

সভার স্থান : মেঘনা

ইউনিয়ন/ওয়ার্ডঃ

থানা : মেঘনা

ক্রম নং	নামঃ	পিতার নামঃ	ঠিকানাঃ	মোবাইল নম্বরঃ	স্বাক্ষরঃ
৪৫	রাফিয়া	হুসৈন	তেলুলতলা		ডাঃ ডাঃ
৪৬	মিসি	জামাল হোসেন			
৪৭	নাতিমা	জামাল হোসেন			নাতিমা
৪৮	মিসু	ডেব মিয়া			মিসু
৪৯					
৫০	রফিয়া	সুমন			রফিয়া
৫১	মাসুমা	জামাল হোসেন			
৫২	মাসুমা	ইমরান হোসেন			মাসুমা
৫৩	মাসুমা	হোসেন			মাসুমা
৫৪	মাসুমা	মিসু			মাসুমা
৫৫	হাসিনা	জামাল হোসেন		০১৮১৫৭৫৭৬৭	হাসিনা
৫৬	নাতিমা	হাসিনা			নাতিমা
৫৭	জামাল	হুসৈন মিয়া			জামাল
৫৮	জামাল	সুমন			জামাল
৫৯	রাফিয়া	জামাল হোসেন			রাফিয়া
৬০	রাফিয়া	সুমন			রাফিয়া
৬১	রাফিয়া	মাসুমা মিয়া			রাফিয়া
৬২	রাফিয়া	সুমন			রাফিয়া
৬৩	রাফিয়া	ইমরান হোসেন			রাফিয়া
৬৪	রাফিয়া	হোসেন			রাফিয়া
৬৫	রাফিয়া	হোসেন			রাফিয়া
৬৬	রাফিয়া	হোসেন	তেলুলতলা		রাফিয়া

**Preparatory Survey for Dhaka-Chittagong National Highway  
(N-1) Bridge Construction and Rehabilitation Project  
Kanchpur, Meghna and Gomti Bridge  
Attendance Sheet**

সময় : ৫৫০ ৩২৪৪

তারিখ : ০২/০২/২০২২

সভার স্থান : মেঘনা

ইউনিয়ন/ওয়ার্ডঃ

থানা : কুষ্টিয়া

ক্রম নং	নামঃ	পিতার নামঃ	ঠিকানাঃ	মোবাইল নম্বরঃ	স্বাক্ষরঃ
৬৫	সালেমভাড়া	চাঁদ বিয়া	তেঁতুলতলা		সালেমভাড়া
৬৬	আমিনা	বুলুদে	৫		আমিনা
৬৭	সফি বেগম	হুদা বেগম	৫		সফি
৬৮	হাবিবুন	আবদুল আজিম	৫		আবদুল আজিম
৬৯	জাহাঙ্গীর	হুদা বেগম	৫		জাহাঙ্গীর
৭০	জুবিনা বেগম	মিনন	৫		জুবিনা
৭১	সুনাম বেগম	আবদুল আজিম	৫		সুনাম
৭২	আবদুল	আবদুল আজিম	৫		আবদুল
৭৩	সুজি	হুদা বেগম	৫		সুজি
৭৪	নূর জাহান	মিনন	৫		নূর জাহান
৭৫	হেলাল	আবদুল আজিম	৫		হেলাল
৭৬	মোতিনা বেগম	আবদুল আজিম	৫		মোতিনা
৭৭	সিদ্দিক	আবদুল আজিম	৫		সিদ্দিক
৭৮	বেলা	আবদুল আজিম	৫		বেলা
৭৯	আবদুল আজিম	আবদুল আজিম	তেঁতুলতলা		আবদুল আজিম

Roads and Highways Department (RHD)

Preparatory Survey for Dhaka-Chaittagong Highway (NH-1) Bridge Construction and Rehabilitation  
Project  
Kanchpur, Meghna and Gomti Bridges

Consultation meeting for disclosure of RAP and EIA policy to the affected people and other  
stakeholders

Date : 01.9.2012 at 10.00 am  
Venue : Gumti Bridge  
(Chittagong end)  
Doudkandi, Comilla

A stakeholder meeting (Third Stage) was held on disclosure of the RAP and EIA policy of the project on September 01, 2012 at 10.00 noon at Gumti bridge site (Chittagong end) Daudkandi, Comilla. The Meeting was presided over by Mr. Mr. Md. Golam Mostofa, Narayan Road Division, RHD. Furthermore, Sub-divisional Engineer, Bridge Maintenance Division, RHD, Toshiyuki Konno, Japanese Environmental Specialist of the JICA Study Team, Md. Nahid Muniruddin, Natural Environmental Engineer (Local), Kh. Khairul Matin Social Environmental Engineer (Local) JICA Study Team and 56 local people (male 28 and female 28) were present in the meeting (list of the participants attached in Appendix-A).

In the consultation meeting, policies of the RAP and EIA (mitigation measures of the project impacts) were disclosed to the affected people using flip chart. On August 01, 2012, these policies were disclosed, but due to JICA requirements and some changes in the policy, disclosure of the policy requires again. The affected people were informed about the meeting through publishing in the national daily newspaper (Both Bengali and English daily), personal contact, announcement in the mosque, etc. The disclosed issues in the meeting were project components and alignment, cut off-date declared during the survey (16 March 2012), Methodologies adopted during survey, findings of the survey, entitlement matrix as prescribed in the RAP, grievance redress mechanism, compensation payment procedure, relocation requirements & options, timeline of relocation after payment of compensation, etc. The findings of the environmental survey and proposed mitigation measures of any adverse impacts were also disclosed in the meeting.

The president of the consultation meeting welcomed all participants in the discussion session and described the project including the different components. It was disclosed that the Japan International Cooperation Agency (JICA) will finance the project.

The following issues were disclosed in the meeting

- a. The new bridge will be constructed parallel to the existing bridge within 30 meter to the downstream.
- b. No new land acquisition will be required for any components of this project. All of the project activities will be done in RHD land.
- c. Cut-off date of the census survey was 16 March, 2012.

- d. Methodologies of the survey such as census and socioeconomic survey, inventory of affected assets, video filming and sketch mapping of all affected structures and other properties
- e. Findings of the survey and impact of the project
- f. Compensation package as prescribed in the RAP was also disclosed in the meeting as follows:
  - i. Replacement value of the affected structures, trees and other assets
  - ii. Transfer grants and re-installation grants for structure
  - iii. Grants for alternative housing
  - iv. Grants for loss of business
  - v. Moving assistance for tenants businessmen
  - vi. Grants for vulnerable households
  - vii. Grants for female headed households
  - viii. Grants for wage earners
  - ix. RHD employees will be eligible for compensation and other assistances for the structures erected by themselves
  - x. Training on income generating activities for eligible members of vulnerable HHs
  - xi. Owners will be allowed to take all salvaged materials free of cost
- g. Grievance redress mechanism and right to submit grievances to the Grievance Redress Committee
- h. Compensation payment procedure and role of PAPs, IA and RHD in making payment





Regarding Environmental impacts and mitigation measures, the Environmental Specialist explained that that about 27 major environmental and social concerns have identified in this project and accordingly mitigation measures have been proposed. It was discussed that the impacts are broadly classified into following 4 categories that will be faced during preconstruction, construction and operation stage:

- Social Environment
- Natural Environment
- Ecological Environment
- Environmental Pollution

The Social Specialist has explained impacts on social environment. The Environmental Specialist explained the impacts on natural and ecological environment and environmental pollution.

<b>Environmental Impact/Issue</b>	<b>Mitigation Measures</b>
• Cultural Heritage	No mitigation measures are required
• Accident	<ul style="list-style-type: none"> <li>• Follow BRTA rules and Regulations</li> <li>• Preparation of Health and Safety Management Plan (HSMP) including prevention of traffic accidents</li> </ul>
• River Erosion and Siltation	• Construction of sheet pile steel pipe foundation to encounter scouring
• River Transport	• Follow BIWTA navigation rules and regulations
• Hydrology	• River Traffic control and ensure lighting device Not required
• Biota and ecosystem	<ul style="list-style-type: none"> <li>• Prohibit leaking of oils from construction vessels including of emergency removal system of leaked oils</li> <li>• Plantation of 3 times of trees to be cut down; Tree planting will be carried out through the RHD Tree-planting Unit, in conformity with their existing guidelines</li> </ul>
• Global Warming	• No mitigation measures are required
• Air Pollution	• Implement dust suppress plan and routine mitigation measure shall be taken to emitting equipments during construction
• Surface and Ground Water Pollution	<ul style="list-style-type: none"> <li>• Increase retention time of the outflow hydraulic fills to increase sedimentation, thus, reduce sediment load to the river</li> <li>• Removal of Arsenic from newly constructed Wells</li> </ul>
• Soil pollution	• Oil storage shall be with concrete floor and oil fence
• Waste	<ul style="list-style-type: none"> <li>• Contractor will be required to facilitate proper reuse and disposal plan, and manage the construction waste</li> <li>• Dumping of waste at approved dumping sites</li> </ul>
• Noise and Vibrations	<ul style="list-style-type: none"> <li>• Enforce noise emission standards</li> <li>• Regulate the construction process</li> <li>• Install barrier if required</li> </ul>
• Ground Subsidence	• No action required
• Offensive Odor	• Proper treatment of camp waste and proper maintenance of heavy equipment etc
• Bottom sediment	• Treatment of liquid waste before discharged
• Landscape	• Vegetation of the slope surface of embankment

After disclosure of the RAP and EIA policy the participants were requested to raise comments/questions on the policy. At least 3 affected people raised their voices on the compensation payment process and project facilities

The issues so far raised by the participants are presented below-

Category of Speakers (Male/Female)	Occupation	Comment/Question	Answer and Policy of Countermeasure
Ms. Halima Akter (Female)	Housewife	Living on Government land for last 15 years. We did sand filling and constructed housing structure. We have no sufficient income. We need adequate compensation and job opportunity for our male members in civil construction.	Compensation will be paid for structures only but not for land as because the land is owned by RHD. Compensation will be paid as per policy of the RAP. Compensation for structure, transfer and re-installation grants and other assistance as per policy will be pad that will make the affected persons well off. The affected people will be preferentially deployed in civil construction based on eligibility.
Ms. Chjan Tara (Female) Wife of Enamul Haque (businessmen)	Housewife	They have only one source of income (shop at Gumti ghat) is getting affected. They have bank loan and have to pay by monthly installment. Demanded adequate compensation in time.	Compensation for the structures and as well as business will be paid. They have more than 1 year time in hand to relocate. Adequate compensation will be paid for the affected properties at the door steps of the affected people.
Md. Abdul Zalil (Male)	Business (Squatter)	The local people especially the affected people should get opportunity to work in civil construction of the project.	According to the policy of the Resettlement Action Plan, the affected people will be preferentially employed in civil construction as per eligibility of the APs
Renu Bibi (Female)	Housewife	As per discussion the project will arrange training on income generating activities. Will our family members get that opportunity.	During implementation of the RAP, the vulnerable Aps will be brought under income and livelihood restoration program and arranged training on income generating activities. One member of each affected households will be selected based on need assessment survey.

The opinion of the participants were sought on the policy so far described in the meeting and requested to put comments on it if there is any confusion or suggestion on it. They raised their

voices in favour of the policy and expressed satisfaction on the policy. They requested to implement the policy as it was disclosed

It was ensured that the RAP will be implemented in proper way and hopefully implementation of the RAP will help the APs to uphold their standard of living. There were no issues to discuss more and the meeting was closed with a vote of thanks from the Chair.

**Appendix-A: Attendance Sheet**

**Preparatory Survey for Dhaka-Chittagong National Highway (NH-1) Bridge Construction  
and Rehabilitation Project Kanchpur, Meghna and Gumti Bridge  
Attendance Sheet**

Time 10 am

Date: 01/09/2012

Venue: Gumti Bridge, Chittagong end  
(under abutment)

Thana: Daudkandi

Sl. No.	Name	Sex	F/H Name	Address	Mobile No.	Signature
1	Ms. Halima Akter	Female	Md. Rana Mia	Gumti	01821985260	
2	Renu Begum	Female	Md. Jolil Mia	Gumti		
3	Josna	Female	L. Lalu Bepari	Gumti		
4	Md. Kabir	Male	Alomgir	Gumti		
5	Md. Shahjalal	Male	L. Md. Mowla Mia	Donar Chor	01674989216	
6	Kishnodas	Male	Md. Sidikur Rahman	Rayer Kandi	01815555205	
7	Shanti Mia	Male	Jamal Das	Uttar Satandi	01832459632	
8	Md. Monir	Male	L. Hatu Mia	Chashir Chor		
9	Rupa	Female	Romiz Uddin	Kamlapur	01830935460	
10	Md. Mahshin	Male	Alomgir	Gumti		
11	Abul Kasehm	Male	Tofazol Munshi	Chashir Chor	01816178632	
12	Abul Kasem	Male	L. Rahmali Bepari	Chashir Chor		
13	Rafik Mollah	Male	L. Edris Mollah	Chashir Chor	01924619071	
14	Abdul Sattar	Male	L. Rani Mia	Chashir Chor	01949515819	
15	Kajol	Female	L. Mono Ranzon	Mohammadpur	01812170044	
16	Md. Khokon	Male	Rafiq Mollah	Chashir Chor	01924268632	
17	Md. Alom	Male	Satu Munshi	Chashir Chor		
18	Shukumar Gosh	Male	Surendro Gosh	Ramnagar	01760008851	
19	Prodip Gosh	Male	L. Gopal Gosh	Shahparan	01828553597	
20	Shahid Ullah	Male	L. Asmot Ali Bepari	Chorkata Khali	01935108841	
21	Ali Ashram	Male	Hasan Mia	Uttoron		
22	Anu Mia	Male	L. Neyaz Uddin	Golar Chor	01677215419	

## Appendix 7 EIA &amp; RAP disclosure meeting-2

Sl. No.	Name	Sex	F/H Name	Address	Mobile No.	Signature
23	Jakir Hossain	Male	L.Mokbul Hossain	Uttor Nosaruddin	01767654518	
24	Aroch Rani	Male	Sukomar Rongon	Ramnagor	01760008851	
25	Shafia	Female	L.Abdul Malak	Nurdi		
26	Rina Begum	Female	Md.Salem	Gomti		
27	Fatima Begum	Female	Moslam	Sobjikandi		
28	Rashida Begum	Female	Ali Arsab	Sobjikandi		
29	Shahinur Begum	Female	Babu	Sobjikandi		
30	Md.Sahajalal	Male	Abdul Jolil	Sobjikandi	01821985260	
31	Chad Tara	Female	Anam	Sobjikandi		
32	Md. Babu	Male	Md. Jolil	Sobjikandi	01821985260	
33	Sadib Chondro Ghosh	Male	L. Gopal Chondro	Sha Poran	01728135124	
34	Shafia Begum	Female	Mollah	Dolar Chor		
35	Shahida Begum	Female	Abdul Aziz	Dolar Chor		
36	Sunati Ghosh	Male	Sadib Ghosh	Sha Poran	01728135124	
37	Zuel	Male	Md. Azi Rahman	Dolar Chor		
38	Nazmul Hossain	Male	Anu Miah	Dolar Chor	01677215419	
39	Aklima	Female	Nur Nobil	Uttar Naser Uddin	01822819662	
40	Noyon Ghosh	Male	Prodip Ghosh	Uttar Naser Uddin		
41	Rina Begum	Female	Shirajul Islam	Uttar Naser Uddin	01828553597	
42	Md. Khokan	Male	Rafik Mollah	Chor Chasi	01924619071	
43	Shafali Begum	Female	Md. Khokan	Chor Chasi		
44	Muslim	Male	Arnal Haque	Chor Chasi		
45	Kohinur	Female	Mizanur Rahman	Dolar Chor		

Sl. No.	Name	Sex	F/H Name	Address	Mobile No.	Signature
46	Kabita	Female	Kajel Chondro	Mohammadpu		

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			Shil			
47	Aysha	Female	Ainal Haque	Dolar Chor		
48	Kanjoni	Female	Habi Miah	Dolar Chor		
49	Halim	Male	Siddiqu Miah	Dolar Chor		
50	Setara	Female	Latif Miah	Dolar Chor		
51	Kahinur	Female	Joherun Sarker	Pairapur	0194024143	
52	Rabea	Female	Abdul Baten	Maisa Para		
53	Shahenur	Female	Ali Hossain	Chor Chasi	01749039938	
54	Nur Islam	Male	L. Kanai Miah	Chor Chasi		
55	Ms. Tasirun	Female	L. Ibrahim Kholil	Chor Chasi		
56	Ms. Ranu	Female	Toto Miah	Dowladia		

**Preparatory Survey for Dhaka-Chittagong National Highway  
(N-1) Bridge Construction and Rehabilitation Project  
Kanchpur, Meghna and Gomti Bridge  
Attendance Sheet**

সময় : সকাল ১০ টা  
সভার স্থান : জামাতা

ইউনিয়ন/ওয়ার্ডঃ

তারিখ ৩০/০৭/২০২৪  
থানা : চাঁদপুর জেলা

ক্রম নং	নামঃ	পিতার নামঃ	ঠিকানাঃ	মোবাইল নম্বরঃ	স্বাক্ষরঃ
১	জি.সেম হাশিমিয়া	মোঃ বাবুল হাশিমিয়া	জামাতা	০১৪২১৭৪১২৬০	জি.সেম হাশিমিয়া
২	বেহু বারি	মোঃ জাহিদুল হাশিমিয়া	৷	৷	বেহু বারি
৩	চাঁদা বণী	মৃতঃ দেবুল হাশিমিয়া	৷		চাঁদা বণী
৪	জোহান্না	জাহিদুল হাশিমিয়া	৷		জোহান্না
৫	মোঃ হাবিব	মৃতঃ মোঃ হাফিজুল হাশিমিয়া	ফকরাপুর	০১৬৭৭৭৪৭২১৬	হাবিব
৬	মোঃ মোহাম্মদ হাফিজ	মোঃ শিখিরুল হাশিমিয়া	বাংলাদেশ	০১৪১৫৫৫১২০৫	মোহাম্মদ হাফিজ
৭	মুহম্মদ হুম	আবদুল হুম	জামাতা	০১৪৩৩৩৩৩৩৬৩	মুহম্মদ হুম
৮	আব্দুল হামিদ	মৃতঃ মুহম্মদ হুম	জামাতা		আব্দুল হামিদ
৯	মোঃ মনির	বাবুল হাশিমিয়া	ফকরাপুর	০১৪২০৭৩৫৫৬০	মনির
১০	সুপা	জাহিদুল হাশিমিয়া	জামাতা		সুপা
১১	মোঃ মাহমুদ	জাহিদুল হাশিমিয়া	জামাতা	০১৪১৬১৭৪৬৩২	মোঃ মাহমুদ
১২	আবদুল হামিদ	মৃতঃ বাবুল হাশিমিয়া	জামাতা		আবদুল হামিদ
১৩	বাবুল হাশিমিয়া	মৃতঃ হুম	৷	০১৭২৫৬১৩০৭১	বাবুল হাশিমিয়া
১৪	মোঃ হুম	মৃতঃ রনিয়া	৷	০১৭৫৭৫১৫৪৭	মোঃ হুম
১৫	কাজেম	মৃতঃ মাহমুদ	ফকরাপুর	০১৪১২১৭০০৫৫	কাজেম
১৬	মোঃ মোহাম্মদ	বাবুল হাশিমিয়া	জামাতা	০১৭২৫২৬৪৬৩২	মোঃ মোহাম্মদ
১৭	মোঃ মোহাম্মদ	হুম	৷		মোঃ মোহাম্মদ
১৮	মুহম্মদ হুম	মুহম্মদ হুম	ফকরাপুর	০১৭৬০০৪৪৫১	মুহম্মদ হুম
১৯	মুহম্মদ হুম	মৃতঃ জাহিদুল হাশিমিয়া	ফকরাপুর	০১৪২৪৫৫৩৫৭৭	মুহম্মদ হুম
২০	মুহম্মদ হুম	মৃতঃ জাহিদুল হাশিমিয়া	ফকরাপুর	০১৭৩৫১০৪৪৫১	মুহম্মদ হুম
২১	মোঃ মোহাম্মদ	মৃতঃ হুম	ফকরাপুর		মোঃ মোহাম্মদ
২২	মুহম্মদ হুম	মৃতঃ বাবুল হাশিমিয়া	ফকরাপুর	০১৬৭৭২১৫৫১০	মুহম্মদ হুম



**Preparatory Survey for Dhaka-Chittagong National Highway  
(N-1) Bridge Construction and Rehabilitation Project  
Kanchpur, Meghna and Gomti Bridge  
Attendance Sheet**

সময় : ২০১০

তারিখ : ০২/০৭/২০১২

সভার স্থান : গোমতি

ইউনিয়ন/ওয়ার্ডঃ

থানা : চাঁদপুর

ক্রম নং	নামঃ	পিতার নামঃ	ঠিকানাঃ	মোবাইল নম্বরঃ	স্বাক্ষরঃ
২৩	জাহিদ হোসেন	মৃত: মোকুব্বুলাহা	উত্তর-নাজিরপুর	০১৭৬৮-৬৫৪৫১৪৮	
২৪	বিরচরানী	শেখরুল ইসলাম	রামনগর	০১৭৬০০৯৪৫১	
২৫	স্মাফিয়া	মৃত: মা: মোকুব্বুলাহা	নুরনগর		
২৬	বিনা বেগম	মো: মোকুব্বুলাহা	গোমতি		
২৭	ফাতিমা বেগম	মো: মোকুব্বুলাহা	সবজীয়া		
২৮	রাশিদা বেগম	মো: মোকুব্বুলাহা	"		
২৯	স্মাফিয়া বেগম	বাবু	"		
৩০	মো: মোকুব্বুলাহা	মো: মোকুব্বুলাহা	"	০১৪২১৯৪৫২৬০	
৩১	চাঁদু তরফ	শেখরুল	"		
৩২	মো: বাবু	মো: মোকুব্বুলাহা	"	০১৪২১৯৪৫২৬০	
৩৩	স্মাফিয়া বেগম	মৃত: মোকুব্বুলাহা	স্বপ্ননগর	০১৭২৪১৩৫১২৫	
৩৪	স্মাফিয়া বেগম	মো: মোকুব্বুলাহা	উত্তরনাজিরপুর		
৩৫	স্মাফিয়া বেগম	মো: মোকুব্বুলাহা	"		
৩৬	স্মাফিয়া বেগম	স্মাফিয়া বেগম	স্বপ্ননগর	০১৭২৪১৩৫১২৫	
৩৭	স্মাফিয়া	মো: মোকুব্বুলাহা	উত্তরনাজিরপুর		
৩৮	নাজিরুল হোসেন	মো: মোকুব্বুলাহা	"	০১৬৭৭২১৫৪১৯	
৩৯	মো: মোকুব্বুলাহা	নুরনগর	উত্তর-নাজিরপুর	০১৪২২৪১৯৬৬২	
৪০	নাজির বেগম	মো: মোকুব্বুলাহা	"		
৪১	বিনা বেগম	মো: মোকুব্বুলাহা	"	০১৪২৪৫৫৩৫৯৭	
৪২	মো: মোকুব্বুলাহা	মো: মোকুব্বুলাহা	৬য় চাখা	০১৭২৫৬১৭০৭১	
৪৩	মো: মোকুব্বুলাহা	মো: মোকুব্বুলাহা	"	"	
৪৪	মো: মোকুব্বুলাহা	মো: মোকুব্বুলাহা	"		
৪৫	মো: মোকুব্বুলাহা	মো: মোকুব্বুলাহা			

Preparatory Survey for Dhaka-Chittagong National Highway  
(N-1) Bridge Construction and Rehabilitation Project  
Kanchpur, Meghna and Gomti Bridge  
Attendance Sheet

সময় : ১৫:০০-১৬:০০

তারিখ : ০৮/০৯/২০১২

সভার স্থান : জগন্নাথ

ইউনিয়ন/ওয়ার্ডঃ

থানা : হুগলি কান্দা

ক্রম নং	নামঃ	পিতার নামঃ	ঠিকানাঃ	মোবাইল নম্বরঃ	স্বাক্ষরঃ
৪৬	কবিতা	ফজল হুসেইন	মোহাম্মদপুর		কবিতা
৪৭	আখতার	আখতার হুসেইন	মোহাম্মদপুর		আখতার
৪৮	ফাহিম	ফাহিম হুসেইন	u		ফাহিম
৪৯	হানিম	হানিম হুসেইন	u		হানিম
৫০	ছায়া	ছায়া হুসেইন	u		ছায়া
৫১	ফাহিম	ফাহিম হুসেইন	মহাম্মদপুর	০১৭৪০২৪০১৭৩	ফাহিম
৫২	রাবেয়া	রাবেয়া হুসেইন	মহাম্মদপুর		রাবেয়া
৫৩	ফাহিম	ফাহিম হুসেইন	মহাম্মদপুর	০১৭৪০৩৩৩৩৮	ফাহিম
৫৪	ফাহিম	ফাহিম হুসেইন	মহাম্মদপুর		ফাহিম
৫৫	ফাহিম	ফাহিম হুসেইন	u		ফাহিম
৫৬	ফাহিম	ফাহিম হুসেইন	মহাম্মদপুর		ফাহিম

**ATTACHMENT : TOR for SOCIAL CONSIDERATION**

This is attached as TOR for RAP Preparation for the study team and is only reference for DOE.

Although all the land for project area has been already acquired by RHD and no compensation for land is required, there many occupants residing within the project area and large scale of involuntary resettlement is predicted. Therefore based on JICA Guidelines, preparation of Resettlement Action Plan (RAP) is required. RAP shall include contents as are mentioned in Annex A Resettlement Plan of World Bank Safeguard Policy OP4.12 and they are as sections as below. In the preparation of RAP, also referred is “Involuntary Resettlement Sourcebook Planning and Implementation in Developing Projects”. To get advises from JICA Advisory Committee on each time at preparation of Resettlement Policy and RAP respectively, support is required. Results shall be submitted of socioeconomic survey (census, assent inventory, livelihood and life levels interviews), replacement cost survey, survey for the needs of livelihood restoration program , etc All these results shall be submitted to JICA.

Section 1. Analysis of legal framework for resettlement

- To analyze gaps between Bangladesh Laws about resettlement and JICA Guidelines, and propose the necessary measures to fulfill these gaps if any. Among all, gaps about entitlements for compensation and assistance for livelihood restoration, estimation process of compensation amount, time for that payment, livelihood restoration program, and grievance redressing mechanism are always compared.

Section 2. Description of the necessity of resettlement

- To describe project outline, project area and components which involve involuntary resettlement activity. Also to describe several alternatives, at initial design stage, for the purpose to avoid/minimize the land acquisition and involuntary resettlement

Section 3. Socioeconomic survey (census, assets inventory, livelihood and life level survey, etc)

- Census is implemented to all the project land occupants (Directly Affected Households: DAHs) to count numbers to entitled (land owner, tenant, business person, shop employee, illegal occupants included). It is noted encroachers after Cut-Off-Day are not entitled for any compensation or livelihood assistances at all. When relocation site is provided, the host community shall be consulted as well.
- Assets inventory shall be made for all of the physical and economical properties of DAHs. They shall be itemizes and quantified. Asset inventory shall be made together with census as much possible.
- Survey for livelihood and life level is implemented to 20%, in the minimum, of the total number of DAHs, and clarified are general characteristics of DAHs, baseline data about livelihood and life level, information about socially vulnerable groups such as people below poverty line, landless, aged, female, children, indigenous people, ethnic minorities and those who are not covered by the law.

Section 4. Compensation for lost assets and planning of livelihood restoration

- Establish the policy of entitlement for land owner, tenant, business person, shop employee, illegal occupant
- For the DAHs whose livelihood are land-base, provision of alternative land with equivalent

location and equivalent productivity is preferred to monetary compensation. In case sufficient land is not available, the evidence of lack of adequate land shall be indicated.

- Described are procedure of perfectly replacement cost compensation payment as specified in OP4.12 and its responsible agencies. For the examination of compensation procedure, replacement cost survey shall be properly implemented for the cost estimation of assets of entitled households and presence of legal gaps between Bangladesh Laws and JICA Guidelines shall be confirmed. If gaps are noted, additional compensation procedure shall be required to fulfill the gap and its responsible agency shall be studied. For DAHs who physically move to other location, transportation fee shall be provided.
- Livelihood restoration program shall be proposed for the purpose to restore, in the minimum, or to improve the livelihood compared to the before project. This program includes provision of compensation for lost assets, priority employment, salary compensation, loan, job training etc. This program shall be, of course, technically and feasibly applicable and will be determined after the consultation with entitled households.

#### Section 5. Preparation of program for relocation site setting up

- Potentially superior relocation site as productivity and feasibility shall be chosen compared to the land to be lost. In the proposed relocation site, planned are program of preparation of housing, infrastructures (tap water and sub-divisional roads, etc) and social services (school, medical care, etc). In addition, EIA/IEE, environmental mitigation measures planning and EMP shall be prepared as required.

#### Section 6. Examination of grievance redressing procedure

- Study is required for the determination whether to utilize the present system or to propose a new system based on views of easiness, accessibility and reliability. It is required to describe the mandate of responsible agency, members, file application procedure, recommendation preparation process, time limits and information dissemination process, etc.

#### Section 7. Evaluation of implementation agency

- Identify responsible agencies (Implementing agency, local governments, consultants, NGO, etc) and describe mandate of each agency (organization's responsibility and its detailed chart, each section's role, staff's duty and qualification, cost including personnel expenses).
- Evaluate capacities of implementing agencies responsible and, if found to be necessary, capacity building is proposed

#### Section 8. Evaluation of implementing schedule

- Time to start relocation shall be after 1) provision of compensate and assistances necessary for relocation including transportation allowance and 2) preparation of infrastructures and social services (medical care, education, etc) have been completed at the relocation site.

#### Section 9. Cost and resources of budget

- Cost for compensation, preparation of relocation site, livelihood restoration, administrative activities, etc that are necessary for resettlement shall be itemized and estimated and the expenditure schedule shall be prepared. Compensation amount is determined by the assets inventory of respective entitled household, based on the rare obtained from replacement cost

survey of typical land type and properties. To secure the additionally necessary cost as is not covered by Bangladesh Law, budget source shall be studied.

Section 10. Monitoring and post project evaluation

- To study the system of internal monitoring by implementing agency and to prepare monitoring form required. In the monitoring form, indices for input and output are proposed.
- To study the system of external monitoring by the independent agency and propose the form for public disclosure.
- To confirm if the resettlement activities are proceeded as per scheduled and prepare data for public disclosure.

Section 9. To secure involvement of affected people

- The strategy shall be planned to secure the involvement of affected people from the preparation stage of RAP and its implementation stage, especially for the purpose to protect the vulnerable and indigenous people. In the strategy following shall be included:
  - Public discussion for alternatives of earlier design stage
  - Explanation of project outlines to affected households through door to door interview for socioeconomic survey
  - Discussion with key stakeholders
  - Focus group discussion with vulnerable group
  - Discussion about RAP with affected people
  - Delivery of leaflet of RAP
  - To secure the attendance of DAHs at the meeting
  - Monitoring
- It is required to assist the meetings for explanation to affected people and discussion with affected residents. Minutes of meetings shall be prepared, describing opinions raised and their responses, which were incorporated to RAP.

At the survey of study area and affected people, identification of accurate gender profile is required and necessity of special compensation/assistance shall be studied so that females are not treated unfairly.

Table of Content for RAP Report covering World Bank OP 4.12

- Executive Summary
- Main Text
  1. Project Description
  2. Potential Impacts
    - Project component or activities that give rise to resettlement
    - Impact zone
    - Alternatives to minimize resettlement including zero option
    - Mechanism to minimize resettlement impact during implementation
  3. Objectives of Resettlement Program

4. Socioeconomic Studies
  - Perception about the project
  - Social conditions
  - Economic conditions
  - Education/Culture
  - Security
5. Legal Framework
  - Land Law
  - Compensation Policy
6. Institutional Framework
  - Agencies related to resettlement
7. Eligibility
  - Titled
  - No-titled
8. Valuation and Compensation for Losses
  - Market Price Survey
  - Asset Inventory Survey
  - Negotiation and contract
  - Payment
9. Compensation Matrix
  - Resettlement Site Preparation
  - Selection of Site
  - Provision of Housing and Infrastructures
  - Integration with Host population
10. Environmental Protection and Management
11. Community Participation
  - Stakeholders Meeting
  - Focus Group Discussion
12. Grievance Procedures
13. Organizational Responsibilities
14. Implementation Schedule
15. Cost and Budget
16. Monitoring and Evaluation

# গনপ্রজ্ঞাপ্তি বাংলাদেশ সরকার

সড়ক ও জনস্বাস্থ্য অধিদপ্তর (স ও জ)

কৌচপুর, মেঘনা ও মেঘনা-নোয়াতি সেতু নির্মাণ প্রকল্প

“দ্রবিশেষজ্ঞত ও সামাজিক প্রভাব নিরূপন”

## মতবিনিময় সভা

তারিখ: ১৫/০৩/১২ ইং সময়: দুপুর ০২:৩০

স্থান: মেঘনাঘাট (তেতুইতলা বাজার) সঙ্গাবিয়া, মুন্সিংগ জেলা

প্রকল্প অধিকারী: জাহাঙ্গীর (GICA)

## প্ৰকল্পৰ বৰ্ণনা:

- মূল মেতু
- নৰ্দা খামন ব্যৱস্থা
- মংযোজ মজ্কা
- মেতুৰ দুই প্ৰান্তৰে মুৰিবাৰি  
(দৈল, মাৰ্জিম এলাকা ইত্যাদি)
- প্ৰকল্পৰ কাৰ্য্য ও নিৰ্মান সামগ্ৰীৰাখাৰ স্থান

প্ৰকল্প (নিৰ্মান কাজ) শুরুৰ মন্থাৰ্য্য অধিষ্টি- ২০১৪



## প্রবন্ধ এলাকা

### কাঁচপুর ব্রজি -

জেলা - নারায়ন নক্স

উদজেলা - নারায়ন নক্স মদর ও যোনার নাঁও

ইউনিয়ন - মিন্দির নক্স, কাঁচপুর

### মেঘনা ব্রজি -

জেলা - নারায়ন নক্স, মুন্সী নক্স

উদজেলা - যোনার নাঁও, নজারিয়া

ইউনিয়ন/দোরমত - দিবাঙ্গপুর, বামিয়া কান্দি

### মেঘনা-ভোমর্গ ব্রজি -

জেলা - মুন্সী নক্স, কুমিল্লা

উদজেলা - নজারিয়া, দাউদ কান্দি

ইউনিয়ন/দোরমত - বাউমিয়া, দাউদ কান্দি

সুৰক্ষাপূৰ্ণ সামাজিক ও পরিবেশনত প্ৰভাব

নিৰ্মান প্ৰকল্পনিৰ সময়

সামাজিক প্ৰভাব

জমি আধিষ্ণতন ও পুনৰ্বাসন

এই প্ৰকল্পৰ কাৰণে নতুনভাৱে কোন  
জমি আধিষ্ণতন কৰা হবেনা

বৰ্তমান যেতু নিৰ্মানেৰ সময় আধিষ্ণতনকৃত  
জমিৰ সীমানাৰ মৰ্চেই নতুন যেতু  
নিৰ্মান কৰা হবে।

যও তু এৰ জমিতে প্ৰকল্প সীমানাৰ মৰ্চে  
কিছু ব্যস্তভাৰ্জী ও দোকান রয়েছে, যেনুনি  
প্ৰকল্পৰ পুঠ কাজ শুরু হওয়ার পূৰ্বেই  
মৰিয়ে নিতে হবে।

- ☐ প্রকল্পৰ সীমানাৰ মৰ্য্যে অবস্থিত বসত  
 বাৰ্জী ও দোকানেৰ মালিকেৰ নাম, অবকাঠামোৰ  
 ধৰন ও পরিমান এবং অবকাঠামোৰ ব্যবহার  
 ইত্যাদি জৰিদি ফৰমেৰ মাৰ্ফিমে সংগ্ৰহ কৰা হ'লৈ।
- ☐ বৰ্ণিত তথ্য সংগ্ৰহেৰ চূড়ান্ত সময় সীমা  
 (CUT OF DATE)

  - ☐ কাঁচপুৰ বৰ্জী: ৮ মাৰ্চ, ২০১২ ইং
  - ☐ মেঘনা বৰ্জী: ১৫ মাৰ্চ, ২০১২ ইং
  - ☐ মেঘনা-লোমতী বৰ্জী: ১৫ মাৰ্চ, ২০১২ ইং
- ☐ জমি অধিগ্ৰহন না কৰাৰ কাৰনে প্রকল্পেৰ  
 মাৰ্ফিক প্রভাব বিহীৰ্ণ কম হ'বে।
- ☐ সমূহৰ ঞ্চতিগ্ৰহন বসতবাৰ্জী সমূহকে  
 বসবাসেৰ নতুন স্থান নিৰ্বাৰন কৰতে হ'বে।
- ☐ ঞ্চতিগ্ৰহন কৰমা প্রতিষ্ঠান সমূহ নতুন  
 স্থানে স্থানান্তৰ কৰতে হ'বে।
- ☐ নতুন ভাবে জীবিৰ মস্কান কৰতে হ'বে।



## পরিবেশগত প্রভাব

- দুর্ঘটনা/ দুর্ভাগ্য
- মাটি ক্ষয় (নদীর তীরে ভাঙন/অন্যদিকে থাকা)
- গাছ অক্ষয়
- লক্ষ্য হার্ট স্থানান্তর
- প্রকল্পের কামড় ও নির্মাণ সামগ্রী স্থান হতে দূষণ
- জীব ধ্বংস

- ⊙ লৌহান চলাচল ব্যাঘাত হৃষ্ট।
- ⊙ মূলদ্বয় ও লৌহয়ে নিৰ্মান সামগ্ৰী বহুবে জ্ঞান্য  
পৰিবেশনত দুভাব।
- ⊙ মাৰ্চি নিচের দিকে ডেবে যাওয়া।
- ⊙ প্রকল্পদ এককায় মানুষ চলাচল বৃদ্ধি।
- ⊙ নদীর পানির স্নানত মান স্থায়।  
(নদী খননের জ্ঞান্য)
- ⊙ জলজ স্থানীর আবাস ভূমির স্থিতি।
- ⊙ মাছের চলাচল ব্যাঘাত।
- ⊙ খননের ফলে বানু মজুত রাখা।
- ⊙ দার্শনিক এৰ সময় মাছ চলাচল  
দখে বিঘ্ন হৃষ্ট।

শব্দ দুখন দ্বারা জলজ প্রাণীর চলাচল  
বিঘ্ন সৃষ্টি।

৩ প্রাকৃতিক পানি প্রবাহ।

৩ যানযাট সৃষ্টি।

৩ স্বাস্থ্য, নিরাপত্তা ও পরিচ্ছন্নতা।

৩ যান্ত্রিক পরিবর্তন।

৩ মোবাইল ফোন পরিবর্তন।

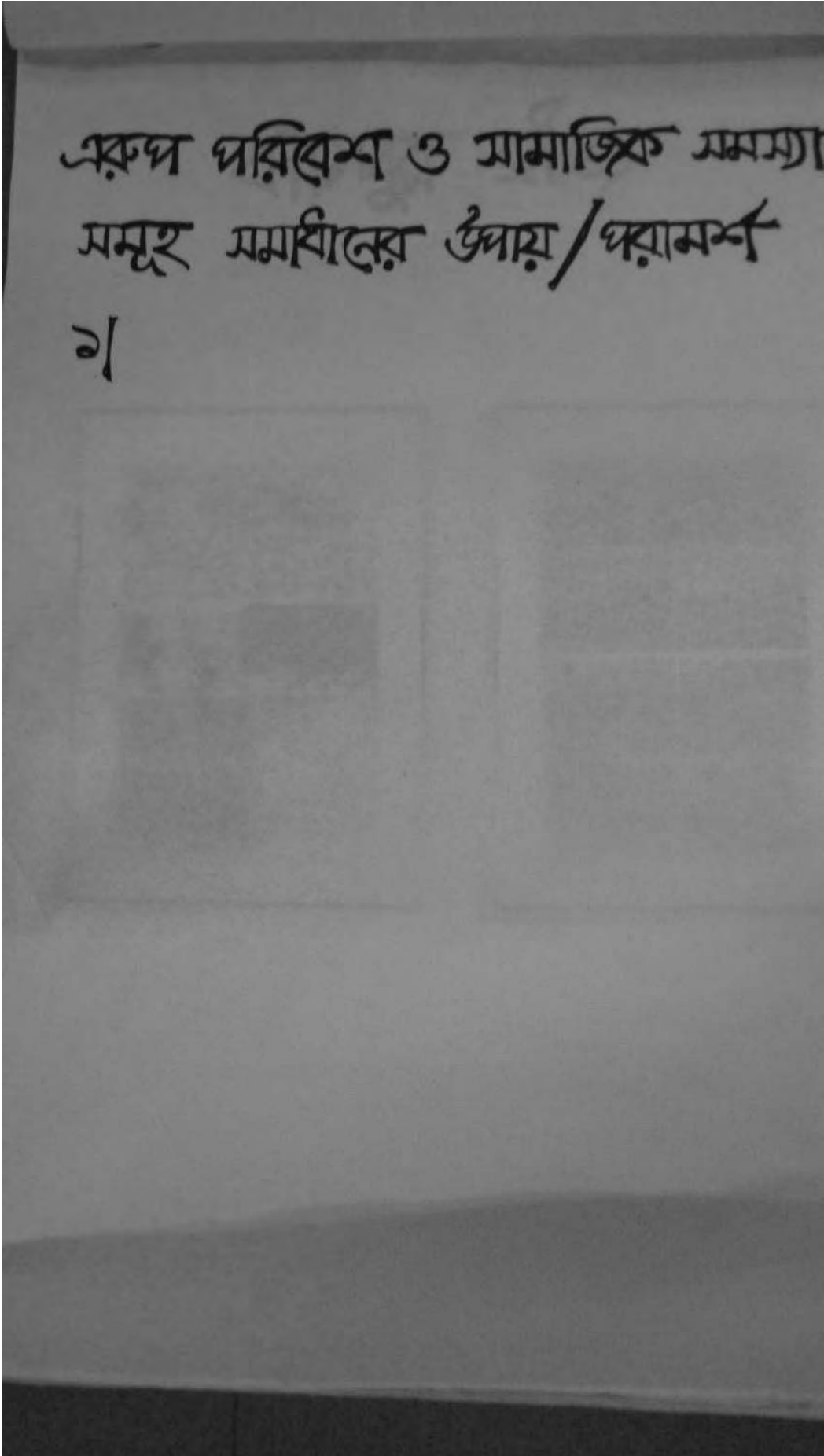
৩ যাতায়াত ব্যবস্থার নিরাপত্তা।

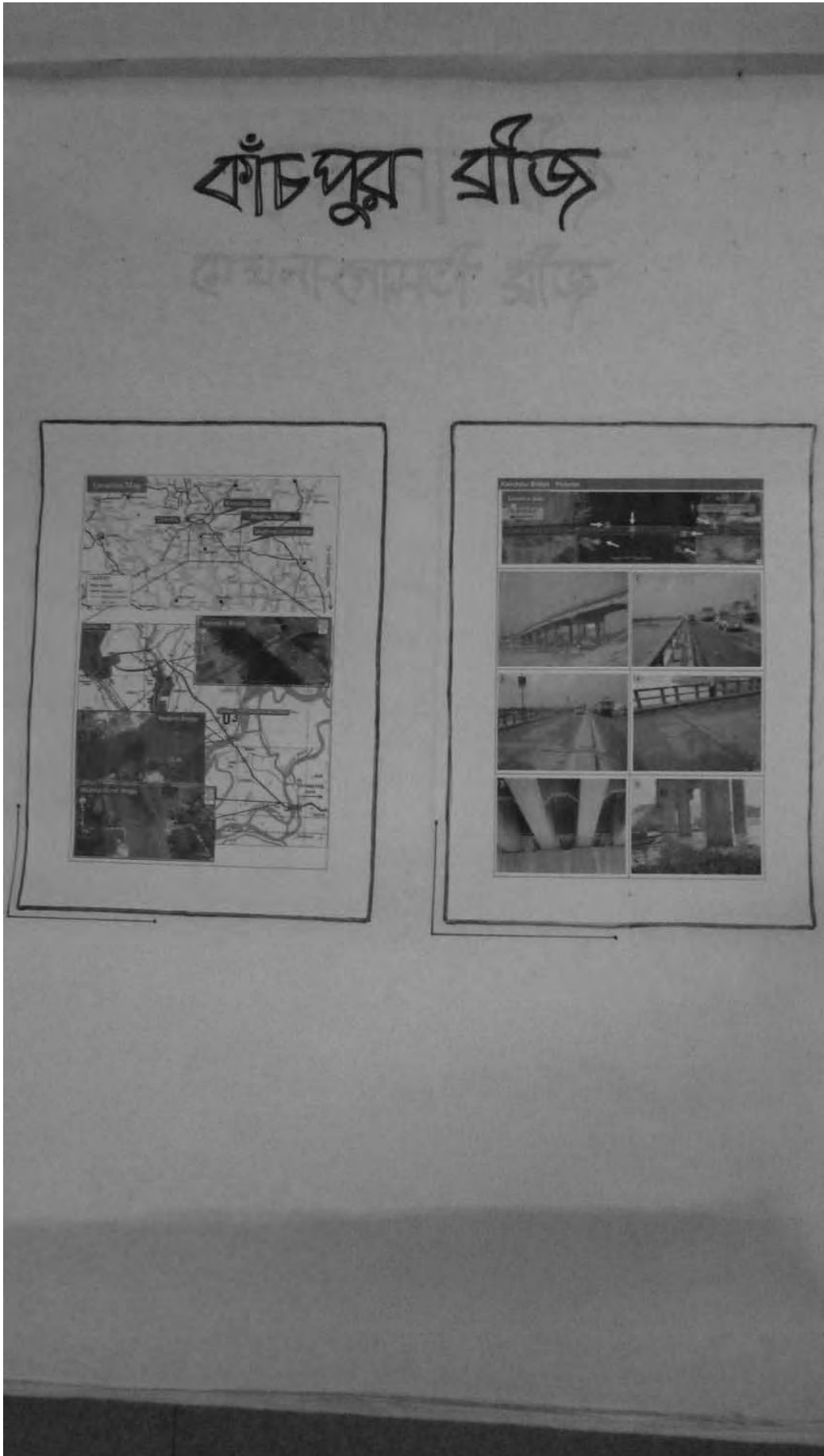
৩ বিশ্ব উন্নয়ন।

## বৰ্ধনাবৰ্ধন কাল

- ☐ বায়ু দূষণ।
- ☐ শব্দ দূষণ।
- ☐ মেতু যেকৈ তৈম নিৰ্গমন।
- ☐ নৰ্দাও বন্যা প্লাবন এলাকাৰ।  
হাৰ্ভোলোজি পৰিবৰ্তন।
- ☐ মোৰফোলোজিকাল পৰিবৰ্তন।
- ☐ যাতায়াত ব্যৱস্থাৰ নিৰাদপ্তা।
- ☐ বিশ্ব উষ্ণায়ন।









গনপ্রজাতন্ত্রী বাংলাদেশ  
সরকার  
মড়ক ও জনস্বাস্থ্য অধিদপ্তর  
(RHD)  
কাঁচপুরা, মেঘনা-ও সোমতি সেতু  
নির্মাণ প্রকল্প  
দুর্ভাগ্যজনক পরিস্থিতি এবং পরিবেশগত  
প্রভাব সমীক্ষা/নিবেদন  
বিস্তারিত বিবরণ  
(Disclosure of RAP & EIA)  
তারিখ: ০১, ০৮, ২০১২ খ্র  
প্রকল্প অর্থায়ন: জর্হকা (GICA)

# পরিবেশগত ব্যবস্থাপনা পরিকল্পনা

বিষয়ঃ                      প্রভাবঃ                      প্রতিরোধ

০১. প্রকল্প/প্রকল্প/প্রকল্প - নাই  
নির্দর্শন
০২. দুর্ঘটনা - মাঝারি - উদযুক্ত আইন  
কানুন ও যোগ্যতা  
নিরাপত্তা ব্যবস্থা গ্রহণ
০৩. নদীর তীর ভাঙন - মাঝারি - নদীর ওলদেশ  
বা ওলদেশে প্রাদ মৃষ্টি (মেঠনা) প্রযুক্ত প্রাইলিং এ  
নোমতি ব্যবস্থা (১) মিঃ  
STEEL PIPE (০৮ মিঃ)
০৪. নৌযান চলাচল - মাঝারি - বিকল্প ব্যবস্থা  
কয়লা মৃষ্টি হিমাবে ফেরা চলাচল  
বাস্তা, নির্দূষ এলাকা  
দিয়ে বর্জ চলাচল.  
নদী প্রায়িক আইন  
মেনে চলা ।

<u>বিষয়ঃ</u>	<u>স্থানঃ</u>	<u>প্রতিকারব্যবস্থা</u>
০৫. শর্কর জলজি -	নগর্য	
০৬. সাহু অপসারণ ও কর্তন	মাঝারি - (খান্দপুর-৪২০ মেঘনা-১৮৫০ নোমতি-০০)	উদ্যুক্ত সাহু ও বর্জনা বৈশ্বান
০৭. জীবাণু হ্রাস -	মাঝারি (মেঘনা ও নোমতি)	শুশুক চলা কঘাত হ্রাস না করা
০৮. বিশ্ব জলায়ন -	নগর্য -	
০৯. বায়ু দূষণ -	মাঝারি -	উদ্যুক্ত পরিষ্কার
১০. দানি দূষণ -	মাঝারি -	সূর্য্যজবে দানি পরিষ্কার
১১. মাটি দূষণ -	মাঝারি -	উদ্যুক্ত পরিষ্কার
১২. গাঠন বর্জ -	মাঝারি -	উদ্যুক্ত বর্জ অপসারণের ব্যবস্থা

<u>বিষয়ঃ</u>	<u>শ্রুতঃ</u>	<u>প্রতিকারব্যবস্থা</u>
১৩. শব্দ দুখন ও কখন -	মাক্ষারি -	কম শব্দমূর্খিত দ্বার্থিত্ব দৃষ্টান্ত ব্যবহার করা
১৪. দুর্মূল্য	- মাক্ষারি -	কঠিন বর্জ্য উদযুক্ত দ্বিধাশীল ব্যবস্থা
১৫. নদারি ওন্দেশে - ওন্দানি	মাক্ষারি -	ওন্দান বর্জ্য নদারি নির্ভরমতের দূর্বে উদযুক্ত দ্বিধাশীল ব্যবস্থা
১৬. মাটি নিম্নে দিকে - ভেবে যাওয়া	নক্ষত্র	

## প্রকল্পের বর্ণনা:

মূল ব্রিজের দৈর্ঘ্য:      প্রস্থ:

কাঁচপুর - ৪০০ মি: - ১৬.৮ মি:

মেঘনা - ১৩০ মি: - ১৭.৪৫ মি:

সোমতি - ১৪১০ মি: - ১৭.৪৫ মি

## প্রস্তাবিত প্রকল্প মাপনা:

কাঁচপুর : বর্তমান ব্রিজের দক্ষিণ  
দিকে ৩০ মি: পর্যন্ত

মেঘনা ব্রিজ: বর্তমান ব্রিজের উত্তর পাশে  
ঢাকা অংশে (২০ মি:)

সোমতি ব্রিজ: বর্তমান ব্রিজের দক্ষিণ পাশে  
ঢাকা অংশে (৩০ মি:)

চট্টগ্রাম অংশে (৩০ মি:)



জরীদি পরিচালনার সময়ঃ

কাঁচপুর - ০৮ মার্চ ২০১২ ইং

মেঘনা - ১৫ মার্চ ২০১২ ইং

নোমতি - ১৫ মার্চ ২০১২ ইং

চুক্তি সময়সীমা (Int of Date):

কাঁচপুর - ০৮ মার্চ ২০১২ ইং

মেঘনা - ১৫ মার্চ ২০১২ ইং

নোমতি - ১৫ মার্চ ২০১২ ইং

আর্থ সামাজিক জরীদিঃ

মর্বমোর্ট পরিবার ৪১৯ টি

কাঁচপুর - ১৪২ টি

মেঘনা - ৩৩৬ টি

নোমতি - ১১ টি

<u>খণ্ডিত লক্ষ্য পরিবাহের সংখ্যা:</u>			
<u>ধরন:</u>	<u>কাঁচদুর:</u>	<u>মেঘনা:</u>	<u>নোমতি:</u>
বসন্তবাড়ি(নিজস্ব) -	১০০ -	০১ -	০৬
ভাড়াটিয়া(বসন্ত) -	১৮ -	০০ -	০০
ব্যবসায় একাঠাযো -	২৬ -	১৭ -	১৮
ভাড়াটিয়া(ব্যবসা) -	০৪ -	০১ -	০০
বসন্তবাড়ি ও ব্যবসা -	০৩ -	০০ -	০০
সামাজিক প্রতিষ্ঠান -	০১ -	০১ -	০০
দুরুর/মাছদাষ -	০১ -	০০ -	০০
নাছ -	০০ -	০১ -	০০
<b>মুঠমোট :</b>	<b>২৩৬</b>	<b>২১</b>	<b>২৪</b>

ধৰন অনুযায়ী খতিয় বিবৰন:

<u>ধৰন:</u>	<u>কাঁচধূৰ:</u>	<u>মেঘনা:</u>	<u>সোমতি:</u>
অমি পাকা (বৰ্ণ ফুট)	১৩৫২	২৮৮	২০৫
টিনেৰ জীয়া	১২৮১৫	৪৭৩২	১৭৮৮
কাঁচ	৪৮৭	০০	৩১৬
কুড়ৈঘৰ	৭১০	১৪৬	৪২
<b>মৰ্বমোট:</b>	<b>২ ২৬৭১</b>	<b>৫৮৬৬</b>	<b>২৩৫৮</b>

ঋতিপুৰনেৰ কবস্থা:

বসবাম অবকাঠামো (নিৰ্ভৰ):

- অবকাঠামোৰ প্ৰতিস্থাপন মূল্য
- অবকাঠামো মৰানো বাবদ খৰচ
- অবকাঠামো পুনঃনিৰ্মান বাবদ মহায়ত
- হত দৰিদ্ৰ দৰিবাৰ/মহিলা দৰিবাৰ  
প্ৰধান আৰ্থিক ভাৱে অক্ষমদেৱ  
জন্য বিশেষ আৰ্থিক মহায়ত
- মহিলা দৰিবাৰ প্ৰধান হলে এককালীন  
আৰ্থিক মহায়ত
- হত দৰিদ্ৰ দৰিবাৰেৰে জন্য আয়বৰ্ষক  
কৰ্মমুৰ্চৰ কৈং প্ৰদান
- গৰেৰ মানিক অবকাঠামো নিজ  
দায়িত্বে মৰিয়ে নিৰেন।

## বসবাম ভাড়াটিয়া:

- ① তিন মাসের ভাড়া সামগ্রিক আর্থিক সহায়তা
- ② বাড়ির মালিকের স্থানান্তর সহায়তা  
বাবদ আর্থিক অনুদান
- খসড়া (নিজস্ব অবকাঠামো)
- ① অবকাঠামোর প্রতিস্থাপন মূল্য
- ① অবকাঠামোর স্থানান্তর বাবদ সহায়তা
- ① অবকাঠামোর পুনর্নির্মাণ বাবদ সহায়তা
- ① তিন মাসের আয়ের সামগ্রিক আর্থিক সহায়তা
- ① হতদরিদ্র হলে বিশেষ আর্থিক সহায়তা
- ① অবকাঠামোর মালিক নিজ দায়িত্বে  
অবকাঠামো মরিয়ে নিবেন

## ব্যৱসায়ী (ভাড়াযো)

- তিন মাহেৰ আবেৰ সমন্বয়িত আৰ্থিক সহায়তা
- ব্যৱসায় মালামাল সৰ্ব্বোত্তমৰ জৰুৰী আৰ্থিক সহায়তা
- হ'ল দৰিদ্ৰ হলে এককালীন আৰ্থিক সহায়তা
- আয় বৰ্ষিক মূল্যক (IGA) প্ৰশিক্ষণ

## অন্যান্য গুণিতকৰণ:

- ম ও জ (RHO) এৰ কৰ্মচাৰী সন কোন অবকাঠামোৰ গুণিতকৰণ পাবেনা
- তদেৰ তেৰীকৰা হৰেৰ অবশিষ্টাংশ নিয়ে যেতে দাৰবেন
- গুণিতকৰণ পূৰ্ব/ ম্যম খামাবেৰ গুণিতকৰণ
- গুণিতকৰণ নাদেৰ গুণিতকৰণ

- প্রতিজন শ্রমিকের প্রতিদিনে মজুরীর  
ভিত্তিতে ১০ দিনের শ্রমের গতিধূরন
- আয়বর্ষিক মূলক কাজের প্রশিক্ষণ
- যে কোন প্রকার অনাকাঙ্ক্ষিত গতিধূরন  
জন্য গতিধূরন
- প্রকল্পের আধারে তর প্রতিজন শ্রমিক/  
কর্মচারীকে HIV এইডস এর ঝুঁকি  
মচেতনতা মূলক প্রশিক্ষণ দিবেন
- (৬৫৫) নান্নিশ প্রতিকার কমিটি
- RHD এর SDE এর নেতৃত্বে ৬৫৫  
গঠন করা হবে
- গতিধূরন ব্যক্তিগত তাদের প্রাচ্যতর ক্রমিক  
৬৫৫ এর বিকট আবেদন হতে দাবিবেন
- প্রতিটি নান্নিশের সুনার্মী আবেদনকারীর  
ঐচ্ছিকিত ২০ দিনের মধ্যে অস্বীকৃত হবে

## ঊতিদূৰন প্ৰদানেৰ নিয়মাবলী :

- স ও ক কে সহায়তাৰ জন্ম একাৰ্টি NGO বা Consulting Firm নিয়োগ দেয়া হ'বে
- প্ৰতিজন ঊতিগ্ৰস্ত ব্যক্তিকে নিজ নামে ব্যাংক হিমাৰ খুলতে হ'বে
- স্থবি ঊলতে হ'বে
- আৰ্হি কাৰ্ড প্ৰস্তুত কৰা হ'বে
- প্ৰত্যেকৰ ঊতিৰ হিমাৰ এবং ঊতিদূৰনেৰ ধাৰিমান (EPEC) নিৰ্বাৰন কৰা হ'বে
- এলাকাৰ বামে স্থায়ী জন প্ৰতিনিধিৰ উদ্দেশ্যে ঊতিদূৰনেৰ চেক হস্তান্তৰ কৰা হ'বে
- ঊতিদূৰন প্ৰদানেৰ মৰোচ্চ ৩০ দিনেৰ মৰ্যে প্ৰকল্প এলাকা ছেড় য়েত হ'বে



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**APPENDIX 19.**  
**CONSTRUCTION COST**

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## Construction cost

Particulars	Total amount (million)									Remarks
	Kanchpur		Meghna		Gumti		Total		Total Yen	
	Yen	Taka	Yen	Taka	Yen	Taka	Yen	Taka		
<b>Construction cost</b>	<b>4,310</b>	<b>2,076</b>	<b>10,635</b>	<b>6,224</b>	<b>14,237</b>	<b>7,667</b>	<b>29,182</b>	<b>15,966</b>	<b>44,606</b>	
2nd Bridge	2,256	1,340	6,449	4,163	9,198	5,608	17,903	11,112	28,637	
Superstructure	1,701	462	4,239	976	6,360	1,460	12,300	2,898	15,100	
Substructure	555	878	2,210	3,187	2,838	4,148	5,603	8,214	13,537	
Existing Bridge	1,974	343	4,105	1,410	4,959	1,543	11,038	3,296	14,222	
Superstructure	187	111	365	149	587	223	1,140	483	1,606	
Substructure	1,787	232	3,740	1,261	4,371	1,320	9,898	2,813	12,616	
Approach Road	80	393	80	650	80	516	241	1,559	1,747	

Construction cost of 2nd Kanchpur Bridge

Superstructure

	Unit	Quantity	Unit cost JPY	Amount 1,000 JPY	Foreign 1,000 JPY	Local 1,000 BDT	Remarks
Material, fabrication or production cost							
girder	ton	2,420	244,000	590,480	590,480		
Slab	m2	7,296	20,000	145,920		151,056	
Expansion joint	L.m	37	350,000	12,950	12,950		
Bearing	each	21	4,710,000	98,910	98,910		
Paint	m2	9750	4,021	39,205	39,205		
Transportation							
girder	ton	2,420	38,000	91,960	91,960		
Construction cost							
Girder erection	ton	2,420	175,000	423,500	423,500		Including bearing
Paint	L.m	37	114,000	4,218		4,366	
Paint scaffolding	L.S	1	7,458,000	7,458		7,720	
Touch up paint	L.S	1	1,000,000	1,000		1,035	
Slab erection	m2	7,296	10,500	76,608		79,304	Including expansion joint
	L.S	1	21,000,000	21,000		21,739	Preparatory work
Pavement	m2	6,165	3,000	18,495		19,146	
Accessories and surfacing	L.S		58,000,000	58,000		60,041	
Inspection way	m	397	28,600	11,354	11,354		Superstructure
Sub Total				1,601,058	1,268,359	344,409	
Indirect cost	%	34.08%		545,618	432,239	117,370	
Total				2,146,676	1,700,598	461,779	

\* Indirect Cost: Preparation work, Transport for small equipment, Safety, Quality control, Remuneration, Site management, and others

Substructure

	Unit	Quantity	Unit cost JPY	Amount 1,000 JPY	Foreign 1,000 JPY	Local 1,000 BDT	Remarks
Material, fabrication cost							
Steel Pipe	ton	2,150	121,000	260,150	260,150		
Transportation							
Steel Pipe	ton	2,150	12,000	25,800	25,800		
Construction cost							
Concrete	m3	3,395	22,000	74,690		77,319	
Rebar	ton	408	114,000	46,512	46,512		Including material cost
Steel Pipe	ton	2,150	156,000	335,400		347,205	foundation, without navigation clearance
Bored pile	L.m	576	46,000	26,496		27,429	D=1.5m
Bored pile rebar	ton	88	108,000	9,504	9,504		Including material cost
Sheet Pile	m	82	790,000	64,780	64,780		cofferdam
Temporary Staging	m2	216	40,000	8,640		8,944	
Inspection way	m	175	41,700	7,298	7,298		Pier
Barge cost							
Barge cost	L.S	1	187,600,000	187,600		194,203	
Sub Total				1,046,870	414,044	655,099	
Indirect cost	%	34.08%		356,759	141,100	223,249	
Total				1,403,628	555,144	878,348	

\* Indirect Cost: Preparation work, Transport for small equipment, Safety, Quality control, Remuneration, Site management, and others

Construction cost of 2nd Meghna Bridge

Superstructure

	Unit	Quantity	Unit cost JPY	Amount 1,000 JPY	Foreign 1,000 JPY	Local 1,000 BDT	Remarks
Material, fabrication or production cost							
girder	ton	5,870	244,000	1,432,280	1,432,280		
Slab	m2	16,508	20,000	330,160		341,781	
Expansion joint	L.m	36	400,000	14,400	14,400		
Bearing	each	39	6,275,000	244,725	244,725		
Paint		23647	4,021	95,085	95,085		
Transportation							
girder	ton	5,870	38,000	223,060	223,060		
Construction cost							
Girder erection	ton	5,870	175,000	1,027,250	1,027,250		Including bearing
Paint	L.m	91	114,000	10,374		10,739	
Paint scaffolding	L.S	2	7,458,000	14,916		15,441	
Touch up	L.S	1	1,000,000	1,000		1,035	
Slab erection	m2	16,508	10,500	173,334		179,435	Including expansion joint
	L.S	1	21,000,000	21,000		21,739	Preparatory work
Pavement	m2	14,183	3,000	42,549		44,047	
Accessories and surfacing	L.S		110,000,000	110,000		113,872	
Inspection way	m	930	28,600	26,598	26,598		Superstructure
Sub Total				3,766,731	3,063,398	728,088	
Indirect cost	%	34.08%		1,283,649	1,043,963	248,122	
Total				5,050,380	4,107,361	976,210	
Other cost							
Inspection car	car	1	132,000,000	132,000	132,000		
Total				5,182,380	4,239,361	976,210	

\* Indirect Cost: Preparation work, Transport for small equipment, Safety, Quality control, Remuneration, Site management, and others

Substructure

	Unit	Quantity	Unit cost JPY	Amount 1,000 JPY	Foreign 1,000 JPY	Local 1,000 BDT	Remarks
Material, fabrication cost							
Steel Pipe	ton	9,870	121,000	1,194,270	1,194,270		
Transportation							
Steel Pipe	ton	9,870	12,000	118,440	118,440		
Construction cost							
Concrete	m3	11,562	22,000	254,364		263,317	
Rebar	ton	1,832	114,000	208,848	208,848		Including material cost
Steel Pipe	ton	2,823	178,000	502,494		520,180	foundation(P3-P5) , without navigation clearance
Steel Pipe	ton	6,055	150,000	908,250		940,217	foundation(P6-P10) , without navigation clearance
Bored pile	L.m	2,022	46,000	93,012		96,286	D=1.5m
Bored pile rebar	ton	378	108,000	40,824	40,824		Including material cost
Sheet Pile	m	89	790,000	70,310	70,310		cofferdam
Temporary Staging	m2	694	40,000	27,760		28,737	
Steel Pipe	ton	992	120,000	119,040		123,230	cofferdam , without navigation clearance
Inspection way	m	371	41,700	15,471	15,471		Pier
Barge cost							
Barge cost	L.S	1	391,400,000	391,400		405,176	
Sub Total				3,944,483	1,648,163	2,377,143	
Indirect cost	%	34.08%		1,344,225	561,671	810,097	
Total				5,288,708	2,209,834	3,187,240	

\* Indirect Cost: Preparation work, Transport for small equipment, Safety, Quality control, Remuneration, Site management, and others

Construction cost of 2nd Gumti Bridge

Superstructure

	Unit	Quantity	Unit cost JPY	Amount 1,000 JPY	Foreign 1,000 JPY	Local 1,000 BDT	Remarks
Material, fabrication or production cost							
girder	ton	9,210	244,000	2,247,240	2,247,240		
Slab	m2	25,028	20,000	500,560		518,178	
Expansion joint	L.m	53	400,000	21,200	21,200		
Bearing	each	57	5,687,000	324,159	324,159		
Paint	m2	37103	4,021	149,191	149,191		
Transportation							
girder	ton	9,210	38,000	349,980	349,980		
Construction cost							
Girder erection	ton	9,210	175,000	1,611,750	1,611,750		Including bearing
Paint	L.m	142	114,000	16,188		16,758	
Paint scaffolding	L.S	2	7,458,000	14,916		15,441	
Touch up paint	L.S	1	2,000,000	2,000		2,070	
Slab erection	m2	25,028	10,500	262,794		272,043	Including expansion joint
	L.S	1	21,000,000	21,000		21,739	Preparatory work
Pavement	m2	21,502	3,000	64,506		66,776	
Accessories and surfacing	L.S		170,000,000	170,000		175,983	
Inspection way	m	1,410	28,600	40,326	40,326		Superstructure
Sub Total				5,795,810	4,743,846	1,088,990	
Indirect cost	%	34.08%		1,975,132	1,616,637	371,113	
Total				7,770,942	6,360,483	1,460,102	

\* Indirect Cost: Preparation work, Transport for small equipment, Safety, Quality control, Remuneration, Site management, and others

Substructure

	Unit	Quantity	Unit cost JPY	Amount 1,000 JPY	Foreign 1,000 JPY	Local 1,000 BDT	Remarks
Material, fabrication cost							
Steel Pipe	ton	13,018	121,000	1,575,178	1,575,178		
Transportation							
Steel Pipe	ton	13,018	12,000	156,216	156,216		
Construction cost							
Concrete	m3	13,566	22,000	298,452		308,957	
Rebar	ton	2,066	114,000	235,524	235,524		Including material cost
Steel Pipe	ton	3,621	126,000	456,246		472,304	foundation(P1,7,8) , without navigation clearance
Steel Pipe	ton	5,877	147,000	863,919		894,326	foundation(P2-P6), without navigation clearance
Bored pile	L.m	4,020	46,000	184,920		191,429	D=1.5m
Bored pile rebar	ton	737	108,000	79,596	79,596		Including material cost
Sheet Pile	m	60	790,000	47,400	47,400		cofferdam
Temporary Staging	m2	1,920	40,000	76,800		79,503	
Steel Pipe	ton	3,520	98,000	344,960		357,101	cofferdam, without navigation clearance
Inspection way	m	540	41,700	22,518	22,518		Pier
Barge cost							
Barge cost	L.S	1	763,200,000	763,200		790,062	
Sub Total				5,104,929	2,116,432	3,093,682	
Indirect cost	%	34.08%		1,739,689	721,251	1,054,284	
Total				6,844,618	2,837,683	4,147,966	

\* Indirect Cost: Preparation work, Transport for small equipment, Safety, Quality control, Remuneration, Site management, and others

Construction cost of Existing Kanchpur Bridge

Superstructure

	Unit	Quantity	Unit cost JPY	Amount 1,000 JPY	Foreign 1,000 JPY	Local 1,000 BDT	Remarks
Material, fabrication or production cost							
Steel bracket	each	84	247,000	20,748	20,748		441kg/ each, SM400,HDZ55
Fail-safe connection	each	24	100,000	2,400	2,400		φ32、SBPR1080/1230
Transportation cost							
Steel bracket	ton	37	30,000	1,111	1,111		0.44t*84each
Fail-safe connection	ton	1	30,000	22	22		0.03t*24each
Construction cost							
Carbon fiber	m2	2,023	50,000	101,150	101,150		Including material cost
Steel bracket	each	84	224,000	18,816		19,478	0.44t*14each
Fail-safe connection	each	24	43,000	1,032		1,068	0.03t*60each
Expansion joint	L.m	115	123,000	14,145	14,145		Including material cost, Inner Joint
Pavement	m2	5,079	3,000	15,237		15,773	
Accessories and surfacing	L.S		45,000,000	45,000		46,584	
<b>Sub Total</b>				<b>219,661</b>	<b>139,576</b>	<b>82,904</b>	
Indirect cost	%	34.08%		74,857	47,566	28,252	
<b>Total</b>				<b>294,518</b>	<b>187,141</b>	<b>111,156</b>	

\* Indirect Cost: Preparation work, Transport for small equipment, Safety, Quality control, Remuneration, Site management, and others

Substructure

	Unit	Quantity	Unit cost JPY	Amount 1,000 JPY	Foreign 1,000 JPY	Local 1,000 BDT	Remarks
Material, fabrication cost							
Steel Pipe	ton	2,906	121,000	351,626	351,626		
Transportation							
Steel Pipe	ton	2,906	12,000	34,872	34,872		
Construction cost							
RC casting reinforcement	m3	888	148,000	131,424		136,050	
Others (Anchor)	L.S	6	5,900,000	35,400		36,646	P1-P6
Concrete	m3	0	22,000	0		0	
Rebar	ton	268	114,000	30,552	30,552		
Steel Pipe	ton	2,906	312,000	906,672	906,672		foundation , with navigation clearance
Inspection way	m	213	41,700	8,882	8,882		Pier
<b>Sub Total</b>				<b>1,499,428</b>	<b>1,332,604</b>	<b>172,696</b>	
Indirect cost	%	34.08%		510,984	454,133	58,852	
<b>Total</b>				<b>2,010,412</b>	<b>1,786,737</b>	<b>231,548</b>	

Construction cost of Existing Meghna Bridge

Superstructure

	Unit	Quantity	Unit cost JPY	Amount 1,000 JPY	Foreign 1,000 JPY	Local 1,000 BDT	Remarks
Material, fabrication or production cost							
Out Cable	set	64	1,660,000	106,240	106,240		SEEE F200TS n=64, 0.8t/cable
PC Bar	each	48	17,000	816	816		φ32,SBPR930/1180 n=48, 0.16t/cable
Hinge Shoe	each	2	300,000	600	600		w=119kg/each
Steel bracket (1)	each	4	287,000	1,148	1,148		521kg/ each, SM400,HDZ55
Steel bracket (2)	each	20	93,000	1,860	1,860		158kg/ each, SM400,HDZ55
Transportation cost							
Out Cable	ton	51	30,000	1,536	1,536		0.8t*64cable
PC Bar	ton	0.8	30,000	23	23		0.016t*48cable
Hinge Shoe	ton	0.2	30,000	6	6		0.1t*2each
Steel bracket (1)	ton	2	30,000	60	60		0.5t*4each
Steel bracket (2)	ton	3.0	30,000	90	90		0.15t*20each
Construction cost							
Out Cable	L.S	1		19,800	19,800		
PC Bar	each	48	34,000	1,632	1,632		
Carbon fiber	m2	480	249,000	119,520	119,520		Including material cost, 10 sheets
Hinge Shoe	each	2	382,000	764	764		
Steel bracket (1)	each	4	224,000	896	896		521kg/each, SM400,HDZ55
Steel bracket (2)	each	20	112,000	2,240	2,240		158kg/each, SM400,HDZ55
Expansion joint	L.m	28	537,000	15,036	15,036		
Pavement	m2	6,696	3,000	20,088		20,795	Including material cost
Accessories and surfacing	L.S		87,000,000	87,000		90,062	
<b>Sub Total</b>				<b>379,355</b>	<b>272,267</b>	<b>110,857</b>	
Indirect cost	%	34.08%		129,279	92,785	37,779	
<b>Total</b>				<b>508,634</b>	<b>365,052</b>	<b>148,636</b>	

\* Indirect Cost: Preparation work, Transport for small equipment, Safety, Quality control, Remuneration, Site management, and others

Substructure

	Unit	Quantity	Unit cost JPY	Amount 1,000 JPY	Foreign 1,000 JPY	Local 1,000 BDT	Remarks
Material, fabrication cost							
Steel Pipe	ton	9,276	121,000	1,122,396	1,122,396		
Transportation							
Steel Pipe	ton	9,276	12,000	111,312	111,312		
Construction cost							
RC casting reinforcement	m3	1,118	148,000	165,464		171,288	
Others (Anchor)	L.S	10	4,600,000	46,000		47,619	P1-P10
Concrete	m3	155	22,000	3,410		3,530	
Rebar	ton	503	114,000	57,342	57,342		
Steel Pipe	ton	2,975	300,000	892,500	892,500		foundation, with navigation clearance
Steel Pipe	ton	1,368	356,000	487,008	487,008		foundation(P3-P5), with navigation clearance
Steel Pipe	ton	2,815	150,000	422,250		437,112	foundation(P6-P10) without navigation clearance
Steel Pipe	ton	1,326	178,000	236,028		244,335	foundation(P3-P5), without navigation clearance
Steel Pipe	ton	496	240,000	119,040	119,040		cofferdam, with navigation clearance
Steel Pipe	ton	296	120,000	35,520		36,770	cofferdam, without navigation clearance
<b>Sub Total</b>				<b>3,698,270</b>	<b>2,789,598</b>	<b>940,654</b>	
Indirect cost	%	34.08%		1,260,319	950,656	320,562	
<b>Total</b>				<b>4,958,589</b>	<b>3,740,254</b>	<b>1,261,216</b>	

\* Indirect Cost: Preparation work, Transport for small equipment, Safety, Quality control, Remuneration, Site management, and others

Construction cost of Existing Gumti Bridge

Superstructure

	Unit	Quantity	Unit cost JPY	Amount 1,000 JPY	Foreign 1,000 JPY	Local 1,000 BDT	Remarks
Material, fabrication or production cost							
Out Cable	set	104	1,510,000	157,040	157,040		SEEE F200TS n=104, 0.81t/cable
PC Bar	each	78	17,000	1,326	1,326		φ32,SBPR930/1180,n=78, 0.16t/cable
Hinge Shoe	each	4	300,000	1,200	1,200		w=104kg/each
Steel bracket	each	4	327,000	1,308	1,308		587kg/each, SM400,HDZ55
Transportation cost							
Out Cable	ton	84	30,000	156,352	156,352		0.81t*104cable
PC Bar	ton	1.2	30,000	37	37		0.016t*78cable
Hinge Shoe	ton	0.4	30,000	12	12		0.1t*4each
Steel bracket	ton	2.4	30,000	72	72		0.6t*4each
Construction cost							
Out Cable	L.S	1		30,800	30,800		
PC Bar	each	78	34,000	2,652	2,652		
Carbon fiber	m2	780	83,000	64,740	64,740		Including material cost, 3 sheets
Hinge Shoe	each	4	382,000	1,528	1,528		
Steel bracket	each	4	280,000	1,120	1,120		587kg/each, SM400,HDZ55
Expansion joint	L.m	37	537,000	19,869	19,869		
Pavement	m2	10,152	3,000	30,456		31,528	Including material cost
Accessories and surfacing	L.S		130,000,000	130,000		134,576	
<b>Sub Total</b>				<b>598,512</b>	<b>438,056</b>	<b>166,104</b>	
Indirect cost	%	34.08%		203,965	149,284	56,606	
<b>Total</b>				<b>802,477</b>	<b>587,340</b>	<b>222,709</b>	

\* Indirect Cost: Preparation work, Transport for small equipment, Safety, Quality control, Remuneration, Site management, and others

Substructure

	Unit	Quantity	Unit cost JPY	Amount 1,000 JPY	Foreign 1,000 JPY	Local 1,000 BDT	Remarks
Material, fabrication cost							
Steel Pipe	ton	11,696	121,000	1,415,216	1,415,216		
Transportation							
Steel Pipe	ton	11,696	12,000	140,352	140,352		
Construction cost							
RC casting reinforcement	m3	964	148,000	142,672		147,694	
Concrete	m3	368	22,000	8,096		8,381	
Others (Anchor)	L.S	16	6,100,000	97,600		101,035	P1-P16
Rebar	ton	649	114,000	73,986	73,986		
Steel Pipe	ton	1,752	252,000	441,504	441,504		foundation(P1,7,8), with navigation clearance
Steel Pipe	ton	2,840	294,000	834,960	834,960		foundation(P2-P6), with navigation clearance
Steel Pipe	ton	1,713	126,000	215,838		223,435	foundation(P1,7,8), without navigation clearance
Steel Pipe	ton	2,775	147,000	407,925		422,283	foundation(P2-P6), without navigation clearance
Steel Pipe	ton	1,808	196,000	354,368	354,368		cofferdam, with navigation clearance
Steel Pipe	ton	808	98,000	79,184		81,971	cofferdam, without navigation clearance
<b>Sub Total</b>				<b>4,211,701</b>	<b>3,260,386</b>	<b>984,798</b>	
Indirect cost	%	34.08%		1,435,289	1,111,094	335,606	
<b>Total</b>				<b>5,646,990</b>	<b>4,371,480</b>	<b>1,320,404</b>	

\* Indirect Cost: Preparation work, Transport for small equipment, Safety, Quality control, Remuneration, Site management, and others



Construction of Approach Road

Kanchpur Bridge

	Unit	Quantity	Unit cost JPY	Amount 1,000 JPY	Foreign 1,000 JPY	Local 1,000 BDT	Remarks
Weigh Bridge							
Axle load scale	each	2	20,000,000	40,000	40,000		
Weigh Bridge	each	1	20,000,000	20,000	20,000		
Pavement							
Pavement	sq.m	21,000	8,100	170,100		176,087	
Embankment							
Embankment	cu.m	38,000	2,300	87,400		90,476	
Sodding							
Sodding	qu.m	12,000	200	2,400		2,484	
Others							
Others	L.S	1	23,398,000	23,398		24,222	
Sub Total				343,298	60,000	293,269	
Indirect cost	%	34.08%		116,991	20,447	99,942	
Total				460,289	80,447	393,211	

\* Indirect Cost: Preparation work, Transport for small equipment, Safety, Quality control, Remuneration, Site management, and others (insurance)

Meghna Bridge

	Unit	Quantity	Unit cost JPY	Amount 1,000 JPY	Foreign 1,000 JPY	Local 1,000 BDT	Remarks
Weigh Bridge							
Axle load scale	each	2	20,000,000	40,000	40,000		
Weigh Bridge	each	1	20,000,000	20,000	20,000		
Pavement							
Pavement	sq.m	21,000	9,300	195,300		202,174	
Embankment							
Embankment	cu.m	38,000	2,260	85,880		88,903	
Sodding							
Sodding	qu.m	11,000	180	1,980		2,050	
Others							
Others	L.S	1	28,719,000	28,719		29,730	
Concrete plant							
Concrete plant	L.S	1	44,000,000	44,000		45,549	
Retaining wall							
Retaining wall	L.S	1	112,744,000	112,744		116,712	
Sub Total				528,623	60,000	485,117	
Indirect cost	%	34.08%		180,147	20,447	165,321	
Total				708,770	80,447	650,438	

\* Indirect Cost: Preparation work, Transport for small equipment, Safety, Quality control, Remuneration, Site management, and others

Gumti Bridge

	Unit	Quantity	Unit cost JPY	Amount 1,000 JPY	Foreign 1,000 JPY	Local 1,000 BDT	Remarks
Weigh Bridge							
Axle load scale	each	2	20,000,000	40,000	40,000		
Weigh Bridge	each	1	20,000,000	20,000	20,000		
Pavement							
Pavement	sq.m	31,000	9,400	291,400		301,656	
Embankment							
Embankment	cu.m	24,000	2,260	54,240		56,149	
Sodding							
Sodding	qu.m	8,000	180	1,440		1,491	
Others							
Others	L.S	1	24,329,000	24,329		25,185	
Sub Total				431,409	60,000	384,481	
Indirect cost	%	34.08%		147,018	20,447	131,026	
Total				578,427	80,447	515,507	

\* Indirect Cost: Preparation work, Transport for small equipment, Safety, Quality control, Remuneration, Site management, and others

Cost breakdown (Construction cost)

Kanchpur Bridge

2nd Bridge

	Unit	Quantity	Unit cost JPY	Amount 1,000 JPY	Foreign 1,000 JPY	Local 1,000 BDT	Remarks
<b>Superstructure</b>							
Material, fabrication or production cost							
girder	ton	2,420	244,000	590,480	590,480		
Slab	m2	7,296	20,000	145,920		151,056	
Expansion joint	L.m	37	350,000	12,950	12,950		
Bearing	each	21	4,710,000	98,910	98,910		
Paint	m2	9750	4,021	39,205	39,205		
Sub total				887,465	741,545	151,056	
Transportation							
girder	ton	2,420	38,000	91,960	91,960		
Sub total				91,960	91,960	0	
Construction cost							
Girder erection	ton	2,420	175,000	423,500	423,500		Including bearing
Paint	L.m	37	114,000	4,218		4,366	
Paint scaffolding	L.S	1	7,458,000	7,458		7,720	
Touch up paint	L.S	1	1,000,000	1,000		1,035	
Slab erection	m2	7,296	10,500	76,608		79,304	Including expansion joint
	L.S	1	21,000,000	21,000		21,739	Preparatory work
Pavement	m2	6,165	3,000	18,495		19,146	
Accessories and surfacing	L.S		58,000,000	58,000		60,041	
Inspection way	m	397	28,600	11,354	11,354		Superstructure
Sub total				621,633	434,854	193,353	
Sub Total				1,601,058	1,268,359	344,409	
Indirect cost	%	25.05%		401,065	317,724	86,274	
Construction cost				2,002,123	1,586,083	430,683	
Overhead cost	%	7.22%		144,553	114,515	31,095	
Total				2,146,676	1,700,598	461,779	
<b>Substructure</b>							
Abutment A1	Foundation is Bored pile, Cofferdam is Sheet pile						
Construction cost							
Concrete	m3	383	22,000	8,426		8,723	
Rebar	ton	23	114,000	2,622	2,622		Including material cost
Bored pile	L.m	216	46,000	9,936		10,286	D=1.5m
Bored pile rebar	ton	31	108,000	3,348	3,348		Including material cost
Sheet Pile	m	30	790,000	23,700	23,700		cofferdam
Sub Total (A1)				48,032	29,670	19,008	
Pier 1	Foundation is Steel pipe, Cofferdam isn't necessary						
Material, fabrication cost							
Steel Pipe	ton	470	121,000	56,870	56,870		
Sub total				56,870	56,870	0	
Transportation							
Steel Pipe	ton	470	12,000	5,640	5,640		
Sub total				5,640	5,640	0	
Construction cost							
Concrete	m3	300	22,000	6,600		6,832	
Rebar	ton	61	114,000	6,954	6,954		Including material cost
Steel Pipe	ton	470	156,000	73,320		75,901	Foundation, without navigation clearance
Sub total				86,874	6,954	82,733	
Sub Total (P1)				149,384	69,464	82,733	

Pier 3		Foundation is Steel pipe, Cofferdam isn't necessary					
Material, fabrication cost							
Steel Pipe	ton	470	121,000	56,870	56,870		
Sub total				56,870	56,870	0	
Transportation							
Steel Pipe	ton	470	12,000	5,640	5,640		
Sub total				5,640	5,640	0	
Construction cost							
Concrete	m3	418	22,000	9,196		9,520	
Rebar	ton	66	114,000	7,524	7,524	Including material cost	
Steel Pipe	ton	470	156,000	73,320		75,901	
Sub total				90,040	7,524	85,420	
Sub Total (P3)				152,550	70,034	85,420	
Pier 5		Foundation is Steel pipe, Cofferdam isn't necessary					
Material, fabrication cost							
Steel Pipe	ton	605	121,000	73,205	73,205		
Sub total				73,205	73,205	0	
Transportation							
Steel Pipe	ton	605	12,000	7,260	7,260		
Sub total				7,260	7,260	0	
Construction cost							
Concrete	m3	551	22,000	12,122		12,549	
Rebar	ton	84	114,000	9,576	9,576	Including material cost	
Steel Pipe	ton	605	156,000	94,380		97,702	
Sub total				116,078	9,576	110,251	
Sub Total (P5)				196,543	90,041	110,251	
Pier 6		Foundation is Steel pipe, Cofferdam isn't necessary					
Material, fabrication cost							
Steel Pipe	ton	605	121,000	73,205	73,205		
Sub total				73,205	73,205	0	
Transportation							
Steel Pipe	ton	605	12,000	7,260	7,260		
Sub total				7,260	7,260	0	
Construction cost							
Concrete	m3	551	22,000	12,122		12,549	
Rebar	ton	84	114,000	9,576	9,576	Including material cost	
Steel Pipe	ton	605	156,000	94,380		97,702	
Sub total				116,078	9,576	110,251	
Sub Total (P6)				196,543	90,041	110,251	
Pier 7		Foundation is Bored pile, Cofferdam is Sheet pile					
Construction cost							
Concrete	m3	802	22,000	17,644		18,265	
Rebar	ton	67	114,000	7,638	7,638	Including material cost	
Bored pile	L.m	144	46,000	6,624		6,857	
Bored pile rebar	ton	26	108,000	2,808	2,808	Including material cost	
Sheet Pile	m	22	790,000	17,380	17,380	cofferdam	
Temporary Stagin	m2	216	40,000	8,640		8,944	
Sub Total (P7)				60,734	27,826	34,066	

Abutment A2		Foundation is Bored pile, Cofferdam is Sheet pile					
Construction cost							
Concrete	m3	390	22,000	8,580		8,882	
Rebar	ton	23	114,000	2,622	2,622		Including material cost
Bored pile	L.m	216	46,000	9,936		10,286	D=1.5m
Bored pile rebar	ton	31	108,000	3,348	3,348		Including material cost
Sheet Pile	m	30	790,000	23,700	23,700		cofferdam
Sub Total (A2)				48,186	29,670	19,168	
Barge cost							
Barge cost	L.S	1	187,600,000	187,600		194,203	
Sub Total				187,600	0	194,203	
Inspection way							
Inspection way	m	175	41,700	7,298	7,298		Pier
Sub Total				7,298	7,298	0	
Sub Total				1,046,870	414,044	655,099	
Indirect cost	%	25.05%		262,241	103,718	164,102	
Construction cost				1,309,110	517,761	819,202	
Overhead cost	%	7.22%		94,518	37,382	59,146	
Total				1,403,628	555,144	878,348	
Total				3,550,304	2,255,742	1,340,127	

Cost breakdown (Construction cost)

Kanchpur Bridge

Existing Bridge

	Unit	Quantity	Unit cost JPY	Amount 1,000 JPY	Foreign 1,000 JPY	Local 1,000 BDT	Remarks
<b>Superstructure</b>							
Material, fabrication or production cost							
Steel bracket	each	84	247,000	20,748	20,748		441kg/ each, SM400,HDZ55
Fail-safe connectio	each	24	100,000	2,400	2,400		φ32、SBPR1080/1230
Sub total				23,148	23,148	0	
Transportation cost							
Steel bracket	ton	37	30,000	1,111	1,111		0.44t*84each
Fail-safe connectio	ton	1	30,000	22	22		0.03t*24each
Sub total				1,133	1,133	0	
Construction cost							
Carbon fiber	m2	2,023	50,000	101,150	101,150		Including material cost
Steel bracket	each	84	224,000	18,816		19,478	
Fail-safe connectio	each	24	43,000	1,032		1,068	
Expansion joint	L.m	115	123,000	14,145	14,145		Including material cost, Inner Joint
Pavement	m2	5,079	3,000	15,237		15,773	
Accessories and surfacing	L.S		45,000,000	45,000		46,584	
Sub total				195,380	115,295	82,904	
Total				219,661	139,576	82,904	
Indirect cost	%	25.05%		55,025	34,964	20,767	
Construction cost				274,686	174,540	103,671	
Overhead cost	%	7.22%		19,832	12,602	7,485	
Total				294,518	187,141	111,156	
<b>Substructure</b>							
Pier 1	Foundation is Steel pipe, Cofferdam isn't necessary						
Material, fabrication cost							
Steel Pipe	ton	418	121,000	50,578	50,578		
Sub total				50,578	50,578	0	
Transportation							
Steel Pipe	ton	418	12,000	5,016	5,016		
Sub total				5,016	5,016	0	
Construction cost							
RC casting reinforcement	m3	90	148,000	13,320		13,789	
Others (Anchor)	L.S	1	5,900,000	5,900		6,108	
Rebar	ton	47	114,000	5,358	5,358		
Steel Pipe	ton	418	312,000	130,416	130,416		foundation , with navigation clearance
Sub total				154,994	135,774	19,896	
Sub Total (P1)				210,588	191,368	19,896	

Cost breakdown (Construction cost)

Kanchpur Bridge

Existing Bridge

	Unit	Quantity	Unit cost JPY	Amount 1,000 JPY	Foreign 1,000 JPY	Local 1,000 BDT	Remarks
<b>Pier 2</b>	Foundation is Bored pile, Cofferdam is Sheet pile						
Material, fabrication cost							
Steel Pipe	ton	470	121,000	56,870	56,870		
Sub total				56,870	56,870	0	
Transportation							
Steel Pipe	ton	470	12,000	5,640	5,640		
Sub total				5,640	5,640	0	
Construction cost							
RC casting reinforcement	m3	117	148,000	17,316		17,925	
Others (Anchor)	L.S	1	5,900,000	5,900		6,108	
Rebar	ton	34	114,000	3,876	3,876		
Steel Pipe	ton	470	312,000	146,640	146,640		foundation , with navigation clearance
Sub total				173,732	150,516	24,033	
Sub Total (P2)				236,242	213,026	24,033	
<b>Pier 3</b>	Foundation is Bored pile, Cofferdam is Sheet pile						
Material, fabrication cost							
Steel Pipe	ton	418	121,000	50,578	50,578		
Sub total				50,578	50,578	0	
Transportation							
Steel Pipe	ton	418	12,000	5,016	5,016		
Sub total				5,016	5,016	0	
Construction cost							
RC casting reinforcement	m3	129	148,000	19,092		19,764	
Others (Anchor)	L.S	1	5,900,000	5,900		6,108	
Rebar	ton	49	114,000	5,586	5,586		
Steel Pipe	ton	418	312,000	130,416	130,416		foundation , with navigation clearance
Sub total				160,994	136,002	25,872	
Sub Total (P3)				216,588	191,596	25,872	
<b>Pier 4</b>	Foundation is Steel pipe, Cofferdam isn't necessary						
Material, fabrication cost							
Steel Pipe	ton	470	121,000	56,870	56,870		
Sub total				56,870	56,870	0	
Transportation							
Steel Pipe	ton	470	12,000	5,640	5,640		
Sub total				5,640	5,640	0	
Construction cost							
RC casting reinforcement	m3	140	148,000	20,720		21,449	
Others (Anchor)	L.S	1	5,900,000	5,900		6,108	
Rebar	ton	35	114,000	3,990	3,990		
Steel Pipe	ton	470	312,000	146,640	146,640		foundation , with navigation clearance
Sub total				177,250	150,630	27,557	
Sub Total (P4)				239,760	213,140	27,557	

Cost breakdown (Construction cost)

Kanchpur Bridge

Existing Bridge

	Unit	Quantity	Unit cost JPY	Amount 1,000 JPY	Foreign 1,000 JPY	Local 1,000 BDT	Remarks
<b>Pier 5</b>							
Foundation is Steel pipe, Cofferdam isn't necessary							
Material, fabrication cost							
Steel Pipe	ton	565	121,000	68,365	68,365		
Sub total				68,365	68,365	0	
Transportation							
Steel Pipe	ton	565	12,000	6,780	6,780		
Sub total				6,780	6,780	0	
Construction cost							
RC casting reinforcement	m3	133	148,000	19,684		20,377	
Others (Anchor)	L.S	1	5,900,000	5,900		6,108	
Rebar	ton	47	114,000	5,358	5,358		
Steel Pipe	ton	565	312,000	176,280	176,280		foundation , with navigation clearance
Sub total				207,222	181,638	26,484	
Sub Total (P5)				282,367	256,783	26,484	
<b>Pier 6</b>							
Foundation is Steel pipe, Cofferdam isn't necessary							
Material, fabrication cost							
Steel Pipe	ton	565	121,000	68,365	68,365		
Sub total				68,365	68,365	0	
Transportation							
Steel Pipe	ton	565	12,000	6,780	6,780		
Sub total				6,780	6,780	0	
Construction cost							
RC casting reinforcement	m3	134	148,000	19,832		20,530	
Others (Anchor)	L.S	1	5,900,000	5,900		6,108	
Rebar	ton	47	114,000	5,358	5,358		
Steel Pipe	ton	565	312,000	176,280	176,280		foundation , with navigation clearance
Sub total				207,370	181,638	26,638	
Sub Total (P6)				282,515	256,783	26,638	
<b>Pier 7</b>							
Construction cost							
RC casting reinforcement	m3	145	148,000	21,460		22,215	
Rebar	ton	9	114,000	1,026	1,026		
Sub Total (P7)				22,486	1,026	22,215	
Inspection way							
Inspection way	m	213	41,700	8,882	8,882		Pier
Sub Total				8,882	8,882	0	
Sub Total				1,499,428	1,332,604	172,696	
Indirect cost	%	25.05%		375,607	333,817	43,260	
Construction cost				1,875,035	1,666,421	215,956	
Overhead cost	%	7.22%		135,378	120,316	15,592	
Total				2,010,412	1,786,737	231,548	
Total (A)				2,304,931	1,973,879	342,704	

Cost breakdown (Construction cost)

Kanchpur Bridge

Approach road

	Unit	Quantity	Unit cost JPY	Amount 1,000 JPY	Foreign 1,000 JPY	Local 1,000 BDT	Remarks
Weigh Bridge							
Axle Load Scale	each	2	20,000,000	40,000	40,000		
Weigh Bridge	each	1	20,000,000	20,000	20,000		
Pavement							
Pavement	sq.m	21,000	8,100	170,100		176,087	
Embankment							
Embankment	cu.m	38,000	2,300	87,400		90,476	
Sodding							
Sodding	qu.m	12,000	200	2,400		2,484	
Others							
Others	L.S	1	23,398,000	23,398		24,222	
Total				343,298	60,000	293,269	
Indirect cost	%	25.05%		85,996	15,030	73,464	
Construction cost				429,294	75,030	366,733	
Overhead cost	%	7.22%		30,995	5,417	26,478	
Total				460,289	80,447	393,211	



Cost breakdown (Construction cost)

Meghana Bridge

2nd Bridge

	Unit	Quantity	Unit cost JPY	Amount 1,000 JPY	Foreign 1,000 JPY	Local 1,000 BDT	Remarks
<b>Superstructure</b>							
Material, fabrication or production cost							
girder	ton	5,870	244,000	1,432,280	1,432,280		
Slab	m2	16,508	20,000	330,160		341,781	
Expansion joint	L.m	36	400,000	14,400	14,400		
Bearing	each	39	6,275,000	244,725	244,725		
Paint		23647	4,021	95,085	95,085		
Sub total				2,116,650	1,786,490	341,781	
<b>Transportation</b>							
girder	ton	5,870	38,000	223,060	223,060		
Sub total				223,060	223,060	0	
<b>Construction cost</b>							
Girder erection	ton	5,870	175,000	1,027,250	1,027,250		Including bearing
Paint	L.m	91	114,000	10,374		10,739	
Paint scaffolding	L.S	2	7,458,000	14,916		15,441	
Touch up	L.S	1	1,000,000	1,000		1,035	
Slab erection	m2	16,508	10,500	173,334		179,435	Including expansion joint
	L.S	1	21,000,000	21,000		21,739	Preparatory work
Pavement	m2	14,183	3,000	42,549		44,047	
Accessories and surfacing	L.S		110,000,000	110,000		113,872	
Inspection way	m	930	28,600	26,598	26,598		Superstructure
Sub total				1,427,021	1,053,848	386,307	
<b>Sub Total</b>				3,766,731	3,063,398	728,088	
Indirect cost	%	25.05%		943,566	767,381	182,386	
Construction cost				4,710,297	3,830,779	910,474	
Overhead cost	%	7.22%		340,083	276,582	65,736	
<b>Total</b>				5,050,380	4,107,361	976,210	
<b>Other cost</b>							
Inspection car	car	1	132,000,000	132,000	132,000		
<b>Total</b>				5,182,380	4,239,361	976,210	
<b>Substructure</b>							
Abutment A1	Foundation is Bored pile, Cofferdam is Sheet pile						
<b>Construction cost</b>							
Concrete	m3	449	22,000	9,878		10,226	
Rebar	ton	27	114,000	3,078	3,078		Including material cost
Bored pile	L.m	318	46,000	14,628		15,143	D=1.5m
Bored pile rebar	ton	45	108,000	4,860	4,860		Including material cost
Sheet Pile	m	30	790,000	23,700	23,700		cofferdam
<b>Sub Total (A1)</b>				56,144	31,638	25,369	

Pier 1		Foundation is Bored pile, Cofferdam is Steel pipe					
Material, fabrication cost							
Steel Pipe	ton	496	121,000	60,016	60,016		
Sub total				60,016	60,016	0	
Transportation							
Steel Pipe	ton	496	12,000	5,952	5,952		
Sub total				5,952	5,952	0	
Construction cost							
Concrete	m3	1,130	22,000	24,860		25,735	
Rebar	ton	95	114,000	10,830	10,830		Including material cost
Bored pile	L.m	576	46,000	26,496		27,429	D=1.5m
Bored pile rebar	ton	153	108,000	16,524	16,524		Including material cost
Steel Pipe	ton	496	120,000	59,520		61,615	cofferdam , without navigation clearance
Temporary Stagin	m2	254	40,000	10,160		10,518	
Sub total				148,390	27,354	125,296	
Sub Total (P1)				214,358	93,322	125,296	
Pier 2		Foundation is Bored pile, Cofferdam is Steel pipe					
Material, fabrication cost							
Steel Pipe	ton	496	121,000	60,016	60,016		
Sub total				60,016	60,016	0	
Transportation							
Steel Pipe	ton	496	12,000	5,952	5,952		
Sub total				5,952	5,952	0	
Construction cost							
Concrete	m3	1,418	22,000	31,196		32,294	
Rebar	ton	129	114,000	14,706	14,706		Including material cost
Bored pile	L.m	528	46,000	24,288		25,143	D=1.5m
Bored pile rebar	ton	94	108,000	10,152	10,152		Including material cost
Steel Pipe	ton	496	120,000	59,520		61,615	cofferdam , without navigation clearance
Temporary Stagin	m2	254	40,000	10,160		10,518	
Sub total				150,022	24,858	129,569	
Sub Total (P2)				215,990	90,826	129,569	
Pier 3		Foundation is Steel pipe, Cofferdam isn't necessary					
Material, fabrication cost							
Steel Pipe	ton	941	121,000	113,861	113,861		
Sub total				113,861	113,861	0	
Transportation							
Steel Pipe	ton	941	12,000	11,292	11,292		
Sub total				11,292	11,292	0	
Construction cost							
Concrete	m3	929	22,000	20,438		21,157	
Rebar	ton	191	114,000	21,774	21,774		Including material cost
Steel Pipe	ton	941	178,000	167,498		173,393	foundation , without navigation clearance
Sub total				209,710	21,774	194,551	
Sub Total (P3)				334,863	146,927	194,551	

Pier 4		Foundation is Steel pipe, Cofferdam isn't necessary					
Material, fabrication cost							
Steel Pipe	ton	941	121,000	113,861	113,861		
Sub total				113,861	113,861	0	
Transportation							
Steel Pipe	ton	941	12,000	11,292	11,292		
Sub total				11,292	11,292	0	
Construction cost							
Concrete	m3	1,024	22,000	22,528		23,321	
Rebar	ton	201	114,000	22,914	22,914	Including material cost	
Steel Pipe	ton	941	178,000	167,498		173,393 foundation , without navigation clearance	
Sub total				212,940	22,914	196,714	
Sub Total (P4)				338,093	148,067	196,714	
Pier 5		Foundation is Steel pipe, Cofferdam isn't necessary					
Material, fabrication cost							
Steel Pipe	ton	941	121,000	113,861	113,861		
Sub total				113,861	113,861	0	
Transportation							
Steel Pipe	ton	941	12,000	11,292	11,292		
Sub total				11,292	11,292	0	
Construction cost							
Concrete	m3	1,104	22,000	24,288		25,143	
Rebar	ton	209	114,000	23,826	23,826	Including material cost	
Steel Pipe	ton	941	178,000	167,498		173,393 foundation , without navigation clearance	
Sub total				215,612	23,826	198,536	
Sub Total (P5)				340,765	148,979	198,536	
Pier 6		Foundation is Steel pipe, Cofferdam isn't necessary					
Material, fabrication cost							
Steel Pipe	ton	1,211	121,000	146,531	146,531		
Sub total				146,531	146,531	0	
Transportation							
Steel Pipe	ton	1,211	12,000	14,532	14,532		
Sub total				14,532	14,532	0	
Construction cost							
Concrete	m3	1,104	22,000	24,288		25,143	
Rebar	ton	209	114,000	23,826	23,826	Including material cost	
Steel Pipe	ton	1,211	150,000	181,650		188,043 foundation , without navigation clearance	
Sub total				229,764	23,826	213,186	
Sub Total (P6)				390,827	184,889	213,186	

Pier 7		Foundation is Steel pipe, Cofferdam isn't necessary					
Material, fabrication cost							
Steel Pipe	ton	1,211	121,000	146,531	146,531		
Sub total				146,531	146,531	0	
Transportation							
Steel Pipe	ton	1,211	12,000	14,532	14,532		
Sub total				14,532	14,532	0	
Construction cost							
Concrete	m3	1,023	22,000	22,506		23,298	
Rebar	ton	201	114,000	22,914	22,914	Including material cost	
Steel Pipe	ton	1,211	150,000	181,650		188,043 foundation , without navigation clearance	
Sub total				227,070	22,914	211,342	
Sub Total (P7)				388,133	183,977	211,342	
Pier 8		Foundation is Steel pipe, Cofferdam isn't necessary					
Material, fabrication cost							
Steel Pipe	ton	1,211	121,000	146,531	146,531		
Sub total				146,531	146,531	0	
Transportation							
Steel Pipe	ton	1,211	12,000	14,532	14,532		
Sub total				14,532	14,532	0	
Construction cost							
Concrete	m3	929	22,000	20,438		21,157	
Rebar	ton	191	114,000	21,774	21,774	Including material cost	
Steel Pipe	ton	1,211	150,000	181,650		188,043 foundation , without navigation clearance	
Sub total				223,862	21,774	209,201	
Sub Total (P8)				384,925	182,837	209,201	
Pier 9		Foundation is Steel pipe, Cofferdam isn't necessary					
Material, fabrication cost							
Steel Pipe	ton	1,211	121,000	146,531	146,531		
Sub total				146,531	146,531	0	
Transportation							
Steel Pipe	ton	1,211	12,000	14,532	14,532		
Sub total				14,532	14,532	0	
Construction cost							
Concrete	m3	834	22,000	18,348		18,994	
Rebar	ton	182	114,000	20,748	20,748	Including material cost	
Steel Pipe	ton	1,211	150,000	181,650		188,043 foundation , without navigation clearance	
Sub total				220,746	20,748	207,037	
Sub Total (P9)				381,809	181,811	207,037	

Pier 10		Foundation is Steel pipe, Cofferdam isn't necessary					
Material, fabrication cost							
Steel Pipe	ton	1,211	121,000	146,531	146,531		
Sub total				146,531	146,531	0	
Transportation							
Steel Pipe	ton	1,211	12,000	14,532	14,532		
Sub total				14,532	14,532	0	
Construction cost							
Concrete	m3	583	22,000	12,826		13,277	
Rebar	ton	121	114,000	13,794	13,794	Including material cost	
Steel Pipe	ton	1,211	150,000	181,650		188,043 foundation , without navigation clearance	
Sub total				208,270	13,794	201,321	
Sub Total (P10)				369,333	174,857	201,321	
Pier 12		Foundation is Bored pile, Cofferdam is Sheet pile					
Construction cost							
Concrete	m3	645	22,000	14,190		14,689	
Rebar	ton	52	114,000	5,928	5,928	Including material cost	
Bored pile	L.m	210	46,000	9,660		10,000 D=1.5m	
Bored pile rebar	ton	30	108,000	3,240	3,240	Including material cost	
Sheet Pile	m	29	790,000	22,910	22,910	cofferdam	
Temporary Staging	m2	186	40,000	7,440		7,702	
Sub Total (P11)				63,368	32,078	32,391	
Abutment A2		Foundation is Bored pile, Cofferdam is Sheet pile					
Construction cost							
Concrete	m3	390	22,000	8,580		8,882	
Rebar	ton	24	114,000	2,736	2,736	Including material cost	
Bored pile	L.m	390	46,000	17,940		18,571 D=1.5m	
Bored pile rebar	ton	56	108,000	6,048	6,048	Including material cost	
Sheet Pile	m	30	790,000	23,700	23,700	cofferdam	
Sub Total (A2)				59,004	32,484	27,453	
Barge cost							
Barge cost	L.S	1	391,400,000	391,400		405,176	
Sub Total				391,400	0	405,176	
Inspection way							
Inspection way	m	371	41,700	15,471	15,471	Pier	
Sub Total				15,471	15,471	0	
Sub Total				3,944,483	1,648,163	2,377,143	
Indirect cost	%	25.05%		988,093	412,865	595,474	
Construction cost				4,932,576	2,061,027	2,972,617	
Overhead cost	%	7.22%		356,132	148,806	214,623	
Total				5,288,708	2,209,834	3,187,240	
Total				10,471,088	6,449,195	4,163,450	

Cost breakdown (Construction cost)

Meghna Bridge

Existing Bridge

	Unit	Quantity	Unit cost JPY	Amount 1,000 JPY	Foreign 1,000 JPY	Local 1,000 BDT	Remarks
<b>Superstructure</b>							
Material, fabrication or production cost							
Out Cable	set	64	1,660,000	106,240	106,240		SEEE F200TS n=64, 0.8t/cable
PC Bar	each	48	17,000	816	816		φ32,SBPR930/1180 n=48, 0.16t/cable
Hinge Shoe	each	2	300,000	600	600		w=119kg/each
Steel bracket (1)	each	4	287,000	1,148	1,148		521kg/ each, SM400,HDZ55
Steel bracket (2)	each	20	93,000	1,860	1,860		158kg/ each, SM400,HDZ55
Sub total				110,664	110,664	0	
Transportation cost							
Out Cable	ton	51	30,000	1,536	1,536		0.8t*64cable
PC Bar	ton	0.8	30,000	23	23		0.016t*48cable
Hinge Shoe	ton	0.2	30,000	6	6		0.1t*2each
Steel bracket (1)	ton	2	30,000	60	60		0.5t*4each
Steel bracket (2)	ton	3.0	30,000	90	90		0.15t*20each
Sub total				1,715	1,715	0	
Construction cost							
Out Cable	L.S	1		19,800	19,800		
PC Bar	each	48	34,000	1,632	1,632		
Carbon fiber	m2	480	249,000	119,520	119,520		Including material cost, 10 sheets
Hinge Shoe	each	2	382,000	764	764		
Steel bracket (1)	each	4	224,000	896	896		521kg/each, SM400,HDZ55
Steel bracket (2)	each	20	112,000	2,240	2,240		158kg/each, SM400,HDZ55
Expansion joint	L.m	28	537,000	15,036	15,036		
Pavement	m2	6,696	3,000	20,088		20,795	Including material cost
Accessories and surfacing	L.S		87,000,000	87,000		90,062	
Sub total				266,976	159,888	110,857	
<b>Total</b>				<b>379,355</b>	<b>272,267</b>	<b>110,857</b>	
Indirect cost	%	25.05%		95,028	68,203	27,770	
Construction cost				474,383	340,470	138,627	
Overhead cost	%	7.22%		34,250	24,582	10,009	
<b>Total</b>				<b>508,634</b>	<b>365,052</b>	<b>148,636</b>	
<b>Substructure</b>							
Pier 1	Cofferdam is Steel pipe						
Material, fabrication cost							
Steel Pipe	ton	396	121,000	47,916	47,916		
Sub total				47,916	47,916	0	
Transportation							
Steel Pipe	ton	396	12,000	4,752	4,752		
Sub total				4,752	4,752	0	
Construction cost							
RC casting reinforcement	m3	64	148,000	9,472		9,805	
Others (Anchor)	L.S	1	4,600,000	4,600		4,762	
Concrete	m3	79	22,000	1,738		1,799	
Rebar	ton	9	114,000	1,026	1,026		
Steel Pipe	ton	148	120,000	17,760		18,385	cofferdam , without navigation clearance
Steel Pipe	ton	248	240,000	59,520	59,520		cofferdam , with navigation clearance
Sub total				94,116	60,546	34,752	
<b>Sub Total (P1)</b>				<b>146,784</b>	<b>113,214</b>	<b>34,752</b>	

Cost breakdown (Construction cost)

Meghna Bridge

Existing Bridge

	Unit	Quantity	Unit cost JPY	Amount 1,000 JPY	Foreign 1,000 JPY	Local 1,000 BDT	Remarks
<b>Pier 2</b>		Cofferdam is Steel pipe					
Material, fabrication cost							
Steel Pipe	ton	396	121,000	47,916	47,916		
Sub total				47,916	47,916	0	
Transportation							
Steel Pipe	ton	396	12,000	4,752	4,752		
Sub total				4,752	4,752	0	
Construction cost							
RC casting reinforcement	m3	99	148,000	14,652		15,168	
Others (Anchor)	L.S	1	4,600,000	4,600		4,762	
Concrete	m3	76	22,000	1,672		1,731	
Rebar	ton	9	114,000	1,026	1,026		
Steel Pipe	ton	148	120,000	17,760		18,385	cofferdam , without navigation clearance
Steel Pipe	ton	248	240,000	59,520	59,520		cofferdam , with navigation clearance
Sub total				99,230	60,546	40,046	
Sub Total (P2)				151,898	113,214	40,046	
<b>Pier 3</b>		Foundation is Steel pipe, Cofferdam isn't necessary					
Material, fabrication cost							
Steel Pipe	ton	898	121,000	108,658	108,658		
Sub total				108,658	108,658	0	
Transportation							
Steel Pipe	ton	898	12,000	10,776	10,776		
Sub total				10,776	10,776	0	
Construction cost							
RC casting reinforcement	m3	110	148,000	16,280		16,853	
Others (Anchor)	L.S	1	4,600,000	4,600		4,762	
Rebar	ton	61	114,000	6,954	6,954		
Steel Pipe	ton	442	178,000	78,676		81,445	foundation , without navigation clearance
Steel Pipe	ton	456	356,000	162,336	162,336		foundation , with navigation clearance
Sub total				268,846	169,290	103,060	
Sub Total (P3)				388,280	288,724	103,060	
<b>Pier 4</b>		Foundation is Steel pipe, Cofferdam isn't necessary					
Material, fabrication cost							
Steel Pipe	ton	898	121,000	108,658	108,658		
Sub total				108,658	108,658	0	
Transportation							
Steel Pipe	ton	898	12,000	10,776	10,776		
Sub total				10,776	10,776	0	
Construction cost							
RC casting reinforcement	m3	121	148,000	17,908		18,538	
Others (Anchor)	L.S	1	4,600,000	4,600		4,762	
Rebar	ton	61	114,000	6,954	6,954		
Steel Pipe	ton	442	178,000	78,676		81,445	foundation , without navigation clearance
Steel Pipe	ton	456	356,000	162,336	162,336		foundation , with navigation clearance
Sub total				270,474	169,290	104,745	
Sub Total (P4)				389,908	288,724	104,745	

Cost breakdown (Construction cost)

Meghna Bridge

Existing Bridge

	Unit	Quantity	Unit cost JPY	Amount 1,000 JPY	Foreign 1,000 JPY	Local 1,000 BDT	Remarks
<b>Pier 5</b> Foundation is Steel pipe, Cofferdam isn't necessary							
Material, fabrication cost							
Steel Pipe	ton	898	121,000	108,658	108,658		
Sub total				108,658	108,658	0	
Transportation							
Steel Pipe	ton	898	12,000	10,776	10,776		
Sub total				10,776	10,776	0	
Construction cost							
RC casting reinforcement	m3	131	148,000	19,388		20,070	
Others (Anchor)	L.S	1	4,600,000	4,600		4,762	
Rebar	ton	61	114,000	6,954	6,954		
Steel Pipe	ton	442	178,000	78,676		81,445	foundation , without navigation clearance
Steel Pipe	ton	456	356,000	162,336	162,336		foundation , with navigation clearance
Sub total				271,954	169,290	106,277	
Sub Total (P5)				391,388	288,724	106,277	
<b>Pier 6</b> Foundation is Steel pipe, Cofferdam isn't necessary							
Material, fabrication cost							
Steel Pipe	ton	1,158	121,000	140,118	140,118		
Sub total				140,118	140,118	0	
Transportation							
Steel Pipe	ton	1,158	12,000	13,896	13,896		
Sub total				13,896	13,896	0	
Construction cost							
RC casting reinforcement	m3	131	148,000	19,388		20,070	
Others (Anchor)	L.S	1	4,600,000	4,600		4,762	
Rebar	ton	61	114,000	6,954	6,954		
Steel Pipe	ton	563	150,000	84,450		87,422	foundation , without navigation clearance
Steel Pipe	ton	595	300,000	178,500	178,500		foundation , with navigation clearance
Sub total				293,892	185,454	112,255	
Sub Total (P6)				447,906	339,468	112,255	
<b>Pier 7</b> Foundation is Steel pipe, Cofferdam isn't necessary							
Material, fabrication cost							
Steel Pipe	ton	1,158	121,000	140,118	140,118		
Sub total				140,118	140,118	0	
Transportation							
Steel Pipe	ton	1,158	12,000	13,896	13,896		
Sub total				13,896	13,896	0	
Construction cost							
RC casting reinforcement	m3	121	148,000	17,908		18,538	
Others (Anchor)	L.S	1	4,600,000	4,600		4,762	
Rebar	ton	61	114,000	6,954	6,954		
Steel Pipe	ton	563	150,000	84,450		87,422	foundation , without navigation clearance
Steel Pipe	ton	595	300,000	178,500	178,500		foundation , with navigation clearance
Sub total				292,412	185,454	110,723	
Sub Total (P7)				446,426	339,468	110,723	



Cost breakdown (Construction cost)

Meghna Bridge

Existing Bridge

	Unit	Quantity	Unit cost JPY	Amount 1,000 JPY	Foreign 1,000 JPY	Local 1,000 BDT	Remarks
<b>Pier 8</b>							
Foundation is Steel pipe, Cofferdam isn't necessary							
Material, fabrication cost							
Steel Pipe	ton	1,158	121,000	140,118	140,118		
Sub total				140,118	140,118	0	
Transportation							
Steel Pipe	ton	1,158	12,000	13,896	13,896		
Sub total				13,896	13,896	0	
Construction cost							
RC casting reinforcement	m3	110	148,000	16,280		16,853	
Others (Anchor)	L.S	1	4,600,000	4,600		4,762	
Rebar	ton	61	114,000	6,954	6,954		
Steel Pipe	ton	563	150,000	84,450		87,422	foundation , without navigation clearance
Steel Pipe	ton	595	300,000	178,500	178,500		foundation , with navigation clearance
Sub total				290,784	185,454	109,037	
Sub Total (P8)				444,798	339,468	109,037	
<b>Pier 9</b>							
Foundation is Steel pipe, Cofferdam isn't necessary							
Material, fabrication cost							
Steel Pipe	ton	1,158	121,000	140,118	140,118		
Sub total				140,118	140,118	0	
Transportation							
Steel Pipe	ton	1,158	12,000	13,896	13,896		
Sub total				13,896	13,896	0	
Construction cost							
RC casting reinforcement	m3	99	148,000	14,652		15,168	
Others (Anchor)	L.S	1	4,600,000	4,600		4,762	
Rebar	ton	61	114,000	6,954	6,954		
Steel Pipe	ton	563	150,000	84,450		87,422	foundation , without navigation clearance
Steel Pipe	ton	595	300,000	178,500	178,500		foundation , with navigation clearance
Sub total				289,156	185,454	107,352	
Sub Total (P9)				443,170	339,468	107,352	
<b>Pier 10</b>							
Foundation is Steel pipe, Cofferdam isn't necessary							
Material, fabrication cost							
Steel Pipe	ton	1,158	121,000	140,118	140,118		
Sub total				140,118	140,118	0	
Transportation							
Steel Pipe	ton	1,158	12,000	13,896	13,896		
Sub total				13,896	13,896	0	
Construction cost							
RC casting reinforcement	m3	64	148,000	9,472		9,805	
Others (Anchor)	L.S	1	4,600,000	4,600		4,762	
Rebar	ton	58	114,000	6,612	6,612		
Steel Pipe	ton	563	150,000	84,450		87,422	foundation , without navigation clearance
Steel Pipe	ton	595	300,000	178,500	178,500		foundation , with navigation clearance
Sub total				283,634	185,112	101,990	
Sub Total (P10)				437,648	339,126	101,990	
<b>Pier 11</b>							
Construction cost							
RC casting reinforcement	m3	33	148,000	4,884		5,056	
Sub Total (P11)				4,884	0	5,056	

Cost breakdown (Construction cost)

Meghna Bridge

Existing Bridge

	Unit	Quantity	Unit cost JPY	Amount 1,000 JPY	Foreign 1,000 JPY	Local 1,000 BDT	Remarks
Pier 12							
Construction cost							
RC casting reinforcement	m3	35	148,000	5,180		5,362	
Sub Total (P12)				5,180	0	5,362	
Sub Total				3,698,270	2,789,598	940,654	
Indirect cost	%	25.05%		926,417	698,794	235,634	
Construction cost				4,624,687	3,488,392	1,176,288	
Overhead cost	%	7.22%		333,902	251,862	84,928	
Total				4,958,589	3,740,254	1,261,216	
Total				5,467,223	4,105,306	1,409,852	

Cost breakdown (Construction cost)

Meghna Bridge

Approach road

	Unit	Quantity	Unit cost JPY	Amount 1,000 JPY	Foreign 1,000 JPY	Local 1,000 BDT	Remarks
Weigh Bridge							
Axle Load Scale	each	2	20,000,000	40,000	40,000		
Weigh Bridge	each	1	20,000,000	20,000	20,000		
Pavement							
Pavement	sq.m	21,000	9,300	195,300		202,174	
Embankment							
Embankment	cu.m	38,000	2,260	85,880		88,903	
Sodding							
Sodding	qu.m	11,000	180	1,980		2,050	
Others							
Others	L.S	1	28,719,000	28,719		29,730	
Concrete plant							
Concrete plant	L.S	1	44,000,000	44,000		45,549	
Retaining wall							
Retaining wall	L.S	1	112,744,000	112,744		116,712	
Total							
Indirect cost	%	25.05%		132,420	15,030	121,522	
Construction cost				661,043	75,030	606,639	
Overhead cost	%	7.22%		47,727	5,417	43,799	
Total							
				708,770	80,447	650,438	

Cost breakdown (Construction cost)  
Gumti Bridge  
2nd Bridge

	Unit	Quantity	Unit cost JPY	Amount 1,000 JPY	Foreign 1,000 JPY	Local 1,000 BDT	Remarks
<b>Superstructure</b>							
Material, fabrication or production cost							
girder	ton	9,210	244,000	2,247,240	2,247,240		
Slab	m2	25,028	20,000	500,560		518,178	
Expansion joint	L.m	53	400,000	21,200	21,200		
Bearing	each	57	5,687,000	324,159	324,159		
Paint	m2	37103	4,021	149,191	149,191		
Sub total				3,242,350	2,741,790	518,178	
Transportation							
girder	ton	9,210	38,000	349,980	349,980		
Sub total				349,980	349,980	0	
Construction cost							
Girder erection	ton	9,210	175,000	1,611,750	1,611,750		Including bearing
Paint	L.m	142	114,000	16,188		16,758	
Paint scaffolding	L.S	2	7,458,000	14,916		15,441	
Touch up paint	L.S	1	2,000,000	2,000		2,070	
Slab erection	m2	25,028	10,500	262,794		272,043	Including expansion joint
	L.S	1	21,000,000	21,000		21,739	Preparatory work
Pavement	m2	21,502	3,000	64,506		66,776	
Accessories and surfacing	L.S		170,000,000	170,000		175,983	
Inspection way	m	1,410	28,600	40,326	40,326		Superstructure
Sub total				2,203,480	1,652,076	570,812	
<b>Total</b>				<b>5,795,810</b>	<b>4,743,846</b>	<b>1,088,990</b>	
Indirect cost	%	25.05%		1,451,850	1,188,333	272,792	
Construction cost				7,247,661	5,932,180	1,361,782	
Overhead cost	%	7.22%		523,281	428,303	98,321	
<b>Total</b>				<b>7,770,942</b>	<b>6,360,483</b>	<b>1,460,102</b>	
<b>Substructure</b>							
<b>Abutment A1</b>	Foundation is Bored pile, Cofferdam is Sheet pile						
Construction cost							
Concrete	m3	370	22,000	8,140		8,427	
Rebar	ton	23	114,000	2,622	2,622		Including material cost
Bored pile	L.m	471	46,000	21,666		22,429	D=1.5m
Bored pile rebar	ton	67	108,000	7,236	7,236		Including material cost
Sheet Pile	m	30	790,000	23,700	23,700		cofferdam
Sub Total (A1)				63,364	33,558	30,855	
<b>Pier 1</b>	Foundation is Steel pipe, Cofferdam isn't necessary						
Material, fabrication cost							
Steel Pipe	ton	1,207	121,000	146,047	146,047		
Sub total				146,047	146,047	0	
Transportation							
Steel Pipe	ton	1,207	12,000	14,484	14,484		
Sub total				14,484	14,484	0	
Construction cost							
Concrete	m3	343	22,000	7,546		7,812	
Rebar	ton	113	114,000	12,882	12,882		Including material cost
Steel Pipe	ton	1,207	126,000	152,082		157,435	foundation , without navigation clearance
Sub total				172,510	12,882	165,246	
Sub Total (P1)				333,041	173,413	165,246	

Pier 2		Foundation is Steel pipe, Cofferdam isn't necessary					
Material, fabrication cost							
Steel Pipe	ton	1,176	121,000	142,296	142,296		
Sub total				142,296	142,296	0	
Transportation							
Steel Pipe	ton	1,176	12,000	14,112	14,112		
Sub total				14,112	14,112	0	
Construction cost							
Concrete	m3	656	22,000	14,432		14,940	
Rebar	ton	182	114,000	20,748	20,748	Including material cost	
Steel Pipe	ton	1,176	147,000	172,872		178,957	
Sub total				208,052	20,748	193,896	
Sub Total (P2)				364,460	177,156	193,896	
Pier 3		Foundation is Steel pipe, Cofferdam isn't necessary					
Material, fabrication cost							
Steel Pipe	ton	1,176	121,000	142,296	142,296		
Sub total				142,296	142,296	0	
Transportation							
Steel Pipe	ton	1,176	12,000	14,112	14,112		
Sub total				14,112	14,112	0	
Construction cost							
Concrete	m3	729	22,000	16,038		16,602	
Rebar	ton	188	114,000	21,432	21,432	Including material cost	
Steel Pipe	ton	1,176	147,000	172,872		178,957	
Sub total				210,342	21,432	195,559	
Sub Total (P3)				366,750	177,840	195,559	
Pier 4		Foundation is Steel pipe, Cofferdam isn't necessary					
Material, fabrication cost							
Steel Pipe	ton	1,176	121,000	142,296	142,296		
Sub total				142,296	142,296	0	
Transportation							
Steel Pipe	ton	1,176	12,000	14,112	14,112		
Sub total				14,112	14,112	0	
Construction cost							
Concrete	m3	761	22,000	16,742		17,331	
Rebar	ton	191	114,000	21,774	21,774	Including material cost	
Steel Pipe	ton	1,176	147,000	172,872		178,957	
Sub total				211,388	21,774	196,288	
Sub Total (P4)				367,796	178,182	196,288	

Pier 5		Foundation is Steel pipe, Cofferdam isn't necessary					
Material, fabrication cost							
Steel Pipe	ton	1,173	121,000	141,933	141,933		
Sub total				141,933	141,933	0	
Transportation							
Steel Pipe	ton	1,173	12,000	14,076	14,076		
Sub total				14,076	14,076	0	
Construction cost							
Concrete	m3	772	22,000	16,984		17,582	
Rebar	ton	192	114,000	21,888	21,888	Including material cost	
Steel Pipe	ton	1,173	147,000	172,431		178,500 foundation , without navigation clearance	
Sub total				211,303	21,888	196,082	
Sub Total (P5)				367,312	177,897	196,082	
Pier 6		Foundation is Steel pipe, Cofferdam isn't necessary					
Material, fabrication cost							
Steel Pipe	ton	1,176	121,000	142,296	142,296		
Sub total				142,296	142,296	0	
Transportation							
Steel Pipe	ton	1,176	12,000	14,112	14,112		
Sub total				14,112	14,112	0	
Construction cost							
Concrete	m3	780	22,000	17,160		17,764	
Rebar	ton	193	114,000	22,002	22,002	Including material cost	
Steel Pipe	ton	1,176	147,000	172,872		178,957 foundation , without navigation clearance	
Sub total				212,034	22,002	196,720	
Sub Total (P6)				368,442	178,410	196,720	
Pier 7		Foundation is Steel pipe, Cofferdam isn't necessary					
Material, fabrication cost							
Steel Pipe	ton	1,207	121,000	146,047	146,047		
Sub total				146,047	146,047	0	
Transportation							
Steel Pipe	ton	1,207	12,000	14,484	14,484		
Sub total				14,484	14,484	0	
Construction cost							
Concrete	m3	718	22,000	15,796		16,352	
Rebar	ton	187	114,000	21,318	21,318	Including material cost	
Steel Pipe	ton	1,207	126,000	152,082		157,435 foundation , without navigation clearance	
Sub total				189,196	21,318	173,787	
Sub Total (P7)				349,727	181,849	173,787	

Pier 8		Foundation is Steel pipe, Cofferdam isn't necessary						
Material, fabrication cost								
Steel Pipe	ton	1,207	121,000	146,047	146,047			
Sub total				146,047	146,047	0		
Transportation								
Steel Pipe	ton	1,207	12,000	14,484	14,484			
Sub total				14,484	14,484	0		
Construction cost								
Concrete	m3	583	22,000	12,826		13,277		
Rebar	ton	144	114,000	16,416	16,416		Including material cost	
Steel Pipe	ton	1,207	126,000	152,082		157,435	foundation , without navigation clearance	
Sub total				181,324	16,416	170,712		
Sub Total (P8)				341,855	176,947	170,712		
Pier 9		Foundation is Bored pile, Cofferdam is Steel pipe						
Material, fabrication cost								
Steel Pipe	ton	440	121,000	53,240	53,240			
Sub total				53,240	53,240	0		
Transportation								
Steel Pipe	ton	440	12,000	5,280	5,280			
Sub total				5,280	5,280	0		
Construction cost								
Concrete	m3	914	22,000	20,108		20,816		
Rebar	ton	78	114,000	8,892	8,892		Including material cost	
Bored pile	L.m	420	46,000	19,320		20,000	D=1.5m	
Bored pile rebar	ton	82	108,000	8,856	8,856		Including material cost	
Steel Pipe	ton	440	98,000	43,120		44,638	cofferdam , without navigation clearance	
Temporary Stagin	m2	240	40,000	9,600		9,938		
Sub total				109,896	17,748	95,391		
Sub Total (P9)				168,416	76,268	95,391		
Pier 10		Foundation is Bored pile, Cofferdam is Steel pipe						
Material, fabrication cost								
Steel Pipe	ton	440	121,000	53,240	53,240			
Sub total				53,240	53,240	0		
Transportation								
Steel Pipe	ton	440	12,000	5,280	5,280			
Sub total				5,280	5,280	0		
Construction cost								
Concrete	m3	911	22,000	20,042		20,747		
Rebar	ton	78	114,000	8,892	8,892		Including material cost	
Bored pile	L.m	408	46,000	18,768		19,429	D=1.5m	
Bored pile rebar	ton	80	108,000	8,640	8,640		Including material cost	
Steel Pipe	ton	440	98,000	43,120		44,638	cofferdam, without navigation clearance	
Temporary Stagin	m2	240	40,000	9,600		9,938		
Sub total				109,062	17,532	94,752		
Sub Total (P10)				167,582	76,052	94,752		

Pier 11		Foundation is Bored pile, Cofferdam is Steel pipe					
Material, fabrication cost							
Steel Pipe	ton	440	121,000	53,240	53,240		
Sub total				53,240	53,240	0	
Transportation							
Steel Pipe	ton	440	12,000	5,280	5,280		
Sub total				5,280	5,280	0	
Construction cost							
Concrete	m3	900	22,000	19,800		20,497	
Rebar	ton	77	114,000	8,778	8,778		Including material cost
Bored pile	L.m	402	46,000	18,492		19,143	D=1.5m
Bored pile rebar	ton	78	108,000	8,424	8,424		Including material cost
Steel Pipe	ton	440	98,000	43,120		44,638	cofferdam , without navigation clearance
Temporary Stagin	m2	240	40,000	9,600		9,938	
Sub total				108,214	17,202	94,215	
Sub Total (P11)				166,734	75,722	94,215	
Pier 12		Foundation is Bored pile, Cofferdam is Steel pipe					
Material, fabrication cost							
Steel Pipe	ton	440	121,000	53,240	53,240		
Sub total				53,240	53,240	0	
Transportation							
Steel Pipe	ton	440	12,000	5,280	5,280		
Sub total				5,280	5,280	0	
Construction cost							
Concrete	m3	889	22,000	19,558		20,246	
Rebar	ton	77	114,000	8,778	8,778		Including material cost
Bored pile	L.m	390	46,000	17,940		18,571	D=1.5m
Bored pile rebar	ton	76	108,000	8,208	8,208		Including material cost
Steel Pipe	ton	440	98,000	43,120		44,638	cofferdam, without navigation clearance
Temporary Stagin	m2	240	40,000	9,600		9,938	
Sub total				107,204	16,986	93,393	
Sub Total (P12)				165,724	75,506	93,393	
Pier 13		Foundation is Bored pile, Cofferdam is Steel pipe					
Material, fabrication cost							
Steel Pipe	ton	440	121,000	53,240	53,240		
Sub total				53,240	53,240	0	
Transportation							
Steel Pipe	ton	440	12,000	5,280	5,280		
Sub total				5,280	5,280	0	
Construction cost							
Concrete	m3	954	22,000	20,988		21,727	
Rebar	ton	81	114,000	9,234	9,234		Including material cost
Bored pile	L.m	381	46,000	17,526		18,143	D=1.5m
Bored pile rebar	ton	74	108,000	7,992	7,992		Including material cost
Steel Pipe	ton	440	98,000	43,120		44,638	cofferdam, without navigation clearance
Temporary Stagin	m2	240	40,000	9,600		9,938	
Sub total				108,460	17,226	94,445	
Sub Total (P13)				166,980	75,746	94,445	



Pier 14		Foundation is Bored pile, Cofferdam is Steel pipe									
Material, fabrication cost											
Steel Pipe	ton	440	121,000	53,240	53,240						
Sub total				53,240	53,240	0					
Transportation											
Steel Pipe	ton	440	12,000	5,280	5,280						
Sub total				5,280	5,280	0					
Construction cost											
Concrete	m3	1,016	22,000	22,352		23,139					
Rebar	ton	84	114,000	9,576	9,576						Including material cost
Bored pile	L.m	372	46,000	17,112		17,714					D=1.5m
Bored pile rebar	ton	73	108,000	7,884	7,884						Including material cost
Steel Pipe	ton	440	98,000	43,120		44,638					cofferdam, without navigation clearance
Temporary Stagin	m2	240	40,000	9,600		9,938					
Sub total				109,644	17,460	95,429					
Sub Total (P14)				168,164	75,980	95,429					
Pier 15		Foundation is Bored pile, Cofferdam is Steel pipe									
Material, fabrication cost											
Steel Pipe	ton	440	121,000	53,240	53,240						
Sub total				53,240	53,240	0					
Transportation											
Steel Pipe	ton	440	12,000	5,280	5,280						
Sub total				5,280	5,280	0					
Construction cost											
Concrete	m3	983	22,000	21,626		22,387					
Rebar	ton	82	114,000	9,348	9,348						Including material cost
Bored pile	L.m	363	46,000	16,698		17,286					D=1.5m
Bored pile rebar	ton	71	108,000	7,668	7,668						Including material cost
Steel Pipe	ton	440	98,000	43,120		44,638					cofferdam, without navigation clearance
Temporary Stagin	m2	240	40,000	9,600		9,938					
Sub total				108,060	17,016	94,248					
Sub Total (P15)				166,580	75,536	94,248					
Pier 16		Foundation is Bored pile, Cofferdam is Steel pipe									
Material, fabrication cost											
Steel Pipe	ton	440	121,000	53,240	53,240						
Sub total				53,240	53,240	0					
Transportation											
Steel Pipe	ton	440	12,000	5,280	5,280						
Sub total				5,280	5,280	0					
Construction cost											
Concrete	m3	838	22,000	18,436		19,085					
Rebar	ton	69	114,000	7,866	7,866						Including material cost
Bored pile	L.m	372	46,000	17,112		17,714					D=1.5m
Bored pile rebar	ton	73	108,000	7,884	7,884						Including material cost
Steel Pipe	ton	440	98,000	43,120		44,638					cofferdam , without navigation clearance
Temporary Stagin	m2	240	40,000	9,600		9,938					
Sub total				104,018	15,750	91,375					
Sub Total (P16)				162,538	74,270	91,375					

Abutment A2		Foundation is Bored pile, Cofferdam is Sheet pile					
Construction cost							
Concrete	m3	449	22,000	9,878		10,226	
Rebar	ton	27	114,000	3,078	3,078		Including material cost
Bored pile	L.m	441	46,000	20,286		21,000	D=1.5m
Bored pile rebar	ton	63	108,000	6,804	6,804		Including material cost
Sheet Pile	m	30	790,000	23,700	23,700		cofferdam
Sub Total (A2)				63,746	33,582	31,226	
Barge cost							
Barge cost	L.S	1	763,200,000	763,200		790,062	
Sub Total				763,200	0	790,062	
Inspection way							
Inspection way	m	540	41,700	22,518	22,518		Pier
Sub Total				22,518	22,518	0	
Sub Total				5,104,929	2,116,432	3,093,682	
Indirect cost	%	25.05%		1,278,785	530,166	774,967	
Construction cost				6,383,714	2,646,598	3,868,650	
Overhead cost	%	7.22%		460,904	191,084	279,316	
Total				6,844,618	2,837,683	4,147,966	
Total (A1+A2)				14,615,560	9,198,166	5,608,068	

Cost breakdown (Construction cost)

Gumti Bridge

Existing Bridge

	Unit	Quantity	Unit cost JPY	Amount 1,000 JPY	Foreign 1,000 JPY	Local 1,000 BDT	Remarks
<b>Superstructure</b>							
Material, fabrication or production cost							
Out Cable	set	104	1,510,000	157,040	157,040		SEEE F200TS n=104, 0.81t/cable
PC Bar	each	78	17,000	1,326	1,326		φ32,SBPR930/1180,n=78, 0.16t/cable
Hinge Shoe	each	4	300,000	1,200	1,200		w=104kg/each
Steel bracket	each	4	327,000	1,308	1,308		587kg/each, SM400,HDZ55
Sub total				160,874	160,874	0	
Transportation cost							
Out Cable	ton	84	30,000	156,352	156,352		0.81t*104cable
PC Bar	ton	1.2	30,000	37	37		0.016t*78cable
Hinge Shoe	ton	0.4	30,000	12	12		0.1t*4each
Steel bracket	ton	2.4	30,000	72	72		0.6t*4each
Sub total				156,473	156,473	0	
Construction cost							
Out Cable	L.S	1		30,800	30,800		
PC Bar	each	78	34,000	2,652	2,652		
Carbon fiber	m2	780	83,000	64,740	64,740		Including material cost, 3 sheets
Hinge Shoe	each	4	382,000	1,528	1,528		
Steel bracket	each	4	280,000	1,120	1,120		587kg/each, SM400,HDZ55
Expansion joint	L.m	37	537,000	19,869	19,869		
Pavement	m2	10,152	3,000	30,456		31,528	Including material cost
Accessories and surfacing	L.S		130,000,000	130,000		134,576	
Sub total				281,165	120,709	166,104	
<b>Total</b>				<b>598,512</b>	<b>438,056</b>	<b>166,104</b>	
Indirect cost	%	25.05%		149,927	109,733	41,609	
Construction cost				748,440	547,790	207,712	
Overhead cost	%	7.22%		54,037	39,550	14,997	
<b>Total</b>				<b>802,477</b>	<b>587,340</b>	<b>222,709</b>	
<b>Substructure</b>							
Pier 1	Foundation is Steel pipe, Cofferdam isn't necessary						
Material, fabrication cost							
Steel Pipe	ton	1,155	121,000	139,755	139,755		
Sub total				139,755	139,755	0	
Transportation							
Steel Pipe	ton	1,155	12,000	13,860	13,860		
Sub total				13,860	13,860	0	
Construction cost							
RC casting reinforcement	m3	30	148,000	4,440		4,596	
Others (Anchor)	L.S	1	6,100,000	6,100		6,315	
Rebar	ton	62	114,000	7,068	7,068		
Steel Pipe	ton	571	126,000	71,946		74,478	foundation , without navigation clearance
Steel Pipe	ton	584	252,000	147,168	147,168		foundation , with navigation clearance
Sub total				236,722	154,236	85,389	
<b>Sub Total (P1)</b>				<b>390,337</b>	<b>307,851</b>	<b>85,389</b>	

Cost breakdown (Construction cost)

Gumti Bridge

Existing Bridge

	Unit	Quantity	Unit cost JPY	Amount 1,000 JPY	Foreign 1,000 JPY	Local 1,000 BDT	Remarks
<b>Pier 2</b> Foundation is Steel pipe, Cofferdam isn't necessary							
Material, fabrication cost							
Steel Pipe	ton	1,123	121,000	135,883	135,883		
Sub total				135,883	135,883	0	
Transportation							
Steel Pipe	ton	1,123	12,000	13,476	13,476		
Sub total				13,476	13,476	0	
Construction cost							
RC casting reinforcement	m3	65	148,000	9,620		9,959	
Others (Anchor)	L.S	1	6,100,000	6,100		6,315	
Rebar	ton	77	114,000	8,778	8,778		
Steel Pipe	ton	555	147,000	81,585		84,457	foundation , without navigation clearance
Steel Pipe	ton	568	294,000	166,992	166,992		foundation , with navigation clearance
Sub total				273,075	175,770	100,730	
Sub Total (P2)				422,434	325,129	100,730	
<b>Pier 3</b> Foundation is Steel pipe, Cofferdam isn't necessary							
Material, fabrication cost							
Steel Pipe	ton	1,123	121,000	135,883	135,883		
Sub total				135,883	135,883	0	
Transportation							
Steel Pipe	ton	1,123	12,000	13,476	13,476		
Sub total				13,476	13,476	0	
Construction cost							
RC casting reinforcement	m3	73	148,000	10,804		11,184	
Others (Anchor)	L.S	1	6,100,000	6,100		6,315	
Rebar	ton	77	114,000	8,778	8,778		
Steel Pipe	ton	555	147,000	81,585		84,457	foundation , without navigation clearance
Steel Pipe	ton	568	294,000	166,992	166,992		foundation , with navigation clearance
Sub total				274,259	175,770	101,955	
Sub Total (P3)				423,618	325,129	101,955	
<b>Pier 4</b> Foundation is Steel pipe, Cofferdam isn't necessary							
Material, fabrication cost							
Steel Pipe	ton	1,123	121,000	135,883	135,883		
Sub total				135,883	135,883	0	
Transportation							
Steel Pipe	ton	1,123	12,000	13,476	13,476		
Sub total				13,476	13,476	0	
Construction cost							
RC casting reinforcement	m3	76	148,000	11,248		11,644	
Others (Anchor)	L.S	1	6,100,000	6,100		6,315	
Rebar	ton	77	114,000	8,778	8,778		
Steel Pipe	ton	555	147,000	81,585		84,457	foundation , without navigation clearance
Steel Pipe	ton	568	294,000	166,992	166,992		foundation , with navigation clearance
Sub total				274,703	175,770	102,415	
Sub Total (P4)				424,062	325,129	102,415	

Cost breakdown (Construction cost)

Gumti Bridge

Existing Bridge

	Unit	Quantity	Unit cost JPY	Amount 1,000 JPY	Foreign 1,000 JPY	Local 1,000 BDT	Remarks
<b>Pier 5</b> Foundation is Steel pipe, Cofferdam isn't necessary							
Material, fabrication cost							
Steel Pipe	ton	1,123	121,000	135,883	135,883		
Sub total				135,883	135,883	0	
Transportation							
Steel Pipe	ton	1,123	12,000	13,476	13,476		
Sub total				13,476	13,476	0	
Construction cost							
RC casting reinforcement	m3	77	148,000	11,396		11,797	
Others (Anchor)	L.S	1	6,100,000	6,100		6,315	
Rebar	ton	77	114,000	8,778	8,778		
Steel Pipe	ton	555	147,000	81,585		84,457	foundation , without navigation clearance
Steel Pipe	ton	568	294,000	166,992	166,992		foundation , with navigation clearance
Sub total				274,851	175,770	102,568	
Sub Total (P5)				424,210	325,129	102,568	
<b>Pier 6</b> Foundation is Steel pipe, Cofferdam isn't necessary							
Material, fabrication cost							
Steel Pipe	ton	1,123	121,000	135,883	135,883		
Sub total				135,883	135,883	0	
Transportation							
Steel Pipe	ton	1,123	12,000	13,476	13,476		
Sub total				13,476	13,476	0	
Construction cost							
RC casting reinforcement	m3	78	148,000	11,544		11,950	
Others (Anchor)	L.S	1	6,100,000	6,100		6,315	
Rebar	ton	77	114,000	8,778	8,778		
Steel Pipe	ton	555	147,000	81,585		84,457	foundation , without navigation clearance
Steel Pipe	ton	568	294,000	166,992	166,992		foundation , with navigation clearance
Sub total				274,999	175,770	102,722	
Sub Total (P6)				424,358	325,129	102,722	
<b>Pier 7</b> Foundation is Steel pipe, Cofferdam isn't necessary							
Material, fabrication cost							
Steel Pipe	ton	1,155	121,000	139,755	139,755		
Sub total				139,755	139,755	0	
Transportation							
Steel Pipe	ton	1,155	12,000	13,860	13,860		
Sub total				13,860	13,860	0	
Construction cost							
RC casting reinforcement	m3	71	148,000	10,508		10,878	
Others (Anchor)	L.S	1	6,100,000	6,100		6,315	
Rebar	ton	77	114,000	8,778	8,778		
Steel Pipe	ton	571	126,000	71,946		74,478	foundation , without navigation clearance
Steel Pipe	ton	584	252,000	147,168	147,168		foundation , with navigation clearance
Sub total				244,500	155,946	91,671	
Sub Total (P7)				398,115	309,561	91,671	

Cost breakdown (Construction cost)

Gumti Bridge

Existing Bridge

	Unit	Quantity	Unit cost JPY	Amount 1,000 JPY	Foreign 1,000 JPY	Local 1,000 BDT	Remarks
<b>Pier 8</b> Foundation is Steel pipe, Cofferdam isn't necessary							
Material, fabrication cost							
Steel Pipe	ton	1,155	121,000	139,755	139,755		
Sub total				139,755	139,755	0	
Transportation							
Steel Pipe	ton	1,155	12,000	13,860	13,860		
Sub total				13,860	13,860	0	
Construction cost							
RC casting reinforcement	m3	56	148,000	8,288		8,580	
Others (Anchor)	L.S	1	6,100,000	6,100		6,315	
Rebar	ton	77	114,000	8,778	8,778		
Steel Pipe	ton	571	126,000	71,946		74,478	foundation , without navigation clearance
Steel Pipe	ton	584	252,000	147,168	147,168		foundation , with navigation clearance
Sub total				242,280	155,946	89,373	
Sub Total (P8)				395,895	309,561	89,373	
<b>Pier 9</b> Foundation is Bored pile, Cofferdam is Steel pipe							
Material, fabrication cost							
Steel Pipe	ton	327	121,000	39,567	39,567		
Sub total				39,567	39,567	0	
Transportation							
Steel Pipe	ton	327	12,000	3,924	3,924		
Sub total				3,924	3,924	0	
Construction cost							
RC casting reinforcement	m3	57	148,000	8,436		8,733	
Others (Anchor)	L.S	1	6,100,000	6,100		6,315	
Concrete	m3	46	22,000	1,012		1,048	
Rebar	ton	6	114,000	684	684		
Steel Pipe	ton	101	98,000	9,898		10,246	cofferdam, without navigation clearance
Steel Pipe	ton	226	196,000	44,296	44,296		cofferdam, with navigation clearance
Sub total				70,426	44,980	26,342	
Sub Total (P9)				113,917	88,471	26,342	
<b>Pier 10</b> Foundation is Bored pile, Cofferdam is Steel pipe							
Material, fabrication cost							
Steel Pipe	ton	327	121,000	39,567	39,567		
Sub total				39,567	39,567	0	
Transportation							
Steel Pipe	ton	327	12,000	3,924	3,924		
Sub total				3,924	3,924	0	
Construction cost							
RC casting reinforcement	m3	56	148,000	8,288		8,580	
Others (Anchor)	L.S	1	6,100,000	6,100		6,315	
Concrete	m3	46	22,000	1,012		1,048	
Rebar	ton	6	114,000	684	684		
Steel Pipe	ton	101	98,000	9,898		10,246	cofferdam, without navigation clearance
Steel Pipe	ton	226	196,000	44,296	44,296		cofferdam, with navigation clearance
Sub total				70,278	44,980	26,188	
Sub Total (P10)				113,769	88,471	26,188	

Cost breakdown (Construction cost)

Gumti Bridge

Existing Bridge

	Unit	Quantity	Unit cost JPY	Amount 1,000 JPY	Foreign 1,000 JPY	Local 1,000 BDT	Remarks
<b>Pier 11</b>	Foundation is Bored pile, Cofferdam is Steel pipe						
Material, fabrication cost							
Steel Pipe	ton	327	121,000	39,567	39,567		
Sub total				39,567	39,567	0	
Transportation							
Steel Pipe	ton	327	12,000	3,924	3,924		
Sub total				3,924	3,924	0	
Construction cost							
RC casting reinforcement	m3	55	148,000	8,140		8,427	
Others (Anchor)	L.S	1	6,100,000	6,100		6,315	
Concrete	m3	46	22,000	1,012		1,048	
Rebar	ton	6	114,000	684	684		
Steel Pipe	ton	101	98,000	9,898		10,246	cofferdam, without navigation clearance
Steel Pipe	ton	226	196,000	44,296	44,296		cofferdam, with navigation clearance
Sub total				70,130	44,980	26,035	
Sub Total (P11)				113,621	88,471	26,035	
<b>Pier 12</b>	Foundation is Bored pile, Cofferdam is Steel pipe						
Material, fabrication cost							
Steel Pipe	ton	327	121,000	39,567	39,567		
Sub total				39,567	39,567	0	
Transportation							
Steel Pipe	ton	327	12,000	3,924	3,924		
Sub total				3,924	3,924	0	
Construction cost							
RC casting reinforcement	m3	54	148,000	7,992		8,273	
Others (Anchor)	L.S	1	6,100,000	6,100		6,315	
Concrete	m3	46	22,000	1,012		1,048	
Rebar	ton	6	114,000	684	684		
Steel Pipe	ton	101	98,000	9,898		10,246	cofferdam, without navigation clearance
Steel Pipe	ton	226	196,000	44,296	44,296		cofferdam, with navigation clearance
Sub total				69,982	44,980	25,882	
Sub Total (P12)				113,473	88,471	25,882	
<b>Pier 13</b>	Foundation is Bored pile, Cofferdam is Steel pipe						
Material, fabrication cost							
Steel Pipe	ton	327	121,000	39,567	39,567		
Sub total				39,567	39,567	0	
Transportation							
Steel Pipe	ton	327	12,000	3,924	3,924		
Sub total				3,924	3,924	0	
Construction cost							
RC casting reinforcement	m3	54	148,000	7,992		8,273	
Others (Anchor)	L.S	1	6,100,000	6,100		6,315	
Concrete	m3	46	22,000	1,012		1,048	
Rebar	ton	6	114,000	684	684		
Steel Pipe	ton	101	98,000	9,898		10,246	cofferdam, without navigation clearance
Steel Pipe	ton	226	196,000	44,296	44,296		cofferdam, with navigation clearance
Sub total				69,982	44,980	25,882	
Sub Total (P13)				113,473	88,471	25,882	

Cost breakdown (Construction cost)

Gumti Bridge

Existing Bridge

	Unit	Quantity	Unit cost JPY	Amount 1,000 JPY	Foreign 1,000 JPY	Local 1,000 BDT	Remarks
<b>Pier 14</b> Foundation is Bored pile, Cofferdam is Steel pipe							
Material, fabrication cost							
Steel Pipe	ton	327	121,000	39,567	39,567		
Sub total				39,567	39,567	0	
Transportation							
Steel Pipe	ton	327	12,000	3,924	3,924		
Sub total				3,924	3,924	0	
Construction cost							
RC casting reinforcement	m3	54	148,000	7,992		8,273	
Others (Anchor)	L.S	1	6,100,000	6,100		6,315	
Concrete	m3	46	22,000	1,012		1,048	
Rebar	ton	6	114,000	684	684		
Steel Pipe	ton	101	98,000	9,898		10,246	cofferdam, without navigation clearance
Steel Pipe	ton	226	196,000	44,296	44,296		cofferdam, with navigation clearance
Sub total				69,982	44,980	25,882	
Sub Total (P14)				113,473	88,471	25,882	
<b>Pier 15</b> Foundation is Bored pile, Cofferdam is Steel pipe							
Material, fabrication cost							
Steel Pipe	ton	327	121,000	39,567	39,567		
Sub total				39,567	39,567	0	
Transportation							
Steel Pipe	ton	327	12,000	3,924	3,924		
Sub total				3,924	3,924	0	
Construction cost							
RC casting reinforcement	m3	54	148,000	7,992		8,273	
Others (Anchor)	L.S	1	6,100,000	6,100		6,315	
Concrete	m3	46	22,000	1,012		1,048	
Rebar	ton	6	114,000	684	684		
Steel Pipe	ton	101	98,000	9,898		10,246	cofferdam, without navigation clearance
Steel Pipe	ton	226	196,000	44,296	44,296		cofferdam, with navigation clearance
Sub total				69,982	44,980	25,882	
Sub Total (P15)				113,473	88,471	25,882	
<b>Pier 16</b> Foundation is Bored pile, Cofferdam is Steel pipe							
Material, fabrication cost							
Steel Pipe	ton	327	121,000	39,567	39,567		
Sub total				39,567	39,567	0	
Transportation							
Steel Pipe	ton	327	12,000	3,924	3,924		
Sub total				3,924	3,924	0	
Construction cost							
RC casting reinforcement	m3	54	148,000	7,992		8,273	
Others (Anchor)	L.S	1	6,100,000	6,100		6,315	
Concrete	m3	46	22,000	1,012		1,048	
Rebar	ton	6	114,000	684	684		
Steel Pipe	ton	101	98,000	9,898		10,246	cofferdam, without navigation clearance
Steel Pipe	ton	226	196,000	44,296	44,296		cofferdam, with navigation clearance
Sub total				69,982	44,980	25,882	
Sub Total (P16)				113,473	88,471	25,882	
Sub Total				4,211,701	3,260,386	984,798	



Cost breakdown (Construction cost)

Gumti Bridge

Existing Bridge

	Unit	Quantity	Unit cost JPY	Amount 1,000 JPY	Foreign 1,000 JPY	Local 1,000 BDT	Remarks
Indirect cost	%	25.05%		1,055,031	816,727	246,692	
Construction cost				5,266,732	4,077,113	1,231,490	
Overhead cost	%	7.22%		380,258	294,368	88,914	
Total				5,646,990	4,371,480	1,320,404	
Total				6,449,467	4,958,820	1,543,113	

Cost breakdown (Construction cost)

Gumti Bridge

Approach road

	Unit	Quantity	Unit cost JPY	Amount 1,000 JPY	Foreign 1,000 JPY	Local 1,000 BDT	Remarks
Weigh Bridge							
Axle Load Scale	each	2	20,000,000	40,000	40,000		
Weigh Bridge	each	1	20,000,000	20,000	20,000		
Pavement							
Pavement	sq.m	31,000	9,400	291,400		301,656	
Embankment							
Embankment	cu.m	24,000	2,260	54,240		56,149	
Sodding							
Sodding	qu.m	8,000	180	1,440		1,491	
Others							
Others	L.S	1	24,329,000	24,329		25,185	
<b>Total</b>				<b>431,409</b>	<b>60,000</b>	<b>384,481</b>	
Indirect cost	%	25.05%		108,068	15,030	96,313	
<b>Construction cost</b>				<b>539,477</b>	<b>75,030</b>	<b>480,794</b>	
Overhead cost	%	7.22%		38,950	5,417	34,713	
<b>Total</b>				<b>578,427</b>	<b>80,447</b>	<b>515,507</b>	