

MONITORING MANUAL

Government of Nepal
Ministry of Local Development
Department of Local Infrastructure Development and Agricultural Roads
Trail Bridge Sub-Sector Program

July 2007

ACRONYMS

BMC	Bridge Maintenance Committee
CMS	Critical Mile Stones
D Type	Suspended Type
DDC	District Development Committee
DG	Distance Gained
DHQ	Distance to District Headquarter
DoLIDAR/MoLD	Department of Local Infrastructure Development and Agricultural Roads of the Ministry of Local Development
DRH	Distance to Road Head
DRILP	Decentralized Rural Infrastructure and Livelihood Project 2006-2011
DTMP	District Transport Master Plan
FY	Fiscal Year
GoN	Government of Nepal
LB	Left Bank
LDO	Local Development Officer
LSTB	Long Span Trail Bridge (> 120 m)
MM	Major Maintenance
MoM	Minutes of Meeting
N Type	Suspension Type
NC	New Construction
NGO	Non-governmental Organisation
OMS	Ordinary Mile Stones
RAIDP	Rural Access Improvement and Decentralization Project 2005-2010
RB	Right Bank
RPC	Regional Program Coordinator
SDC	Swiss Agency for Development and Cooperation
SSTB	Short Span Trail Bridge (120 m)
TBS/DoLIDAR	Trail Bridge Section of the Department of Local Infrastructure Development and Agricultural Roads
TBS/LIDP	Trail Bridge Strategy which is auxiliary to Local Infrastructure Development Policy
TBSU	Trail Bridge Support Unit of Helvetas
TA	Technical Assistance
TC	Technical Coordinator
TIM	Transport Infrastructure Map
TSDO	Technical and Social Development Officer
UC	Users' Committee

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- Annex 1: Index of Forms, Agreements and Relevant Documents
- Annex 2: DDC Reporting Format (Ref. 1.4)
- Annex 3: Fabricator information and table for sample collection

1. FOREWORD

This Manual has been developed for application by the Trail Bridge Support Unit (TBSU) to monitor the District Trail Bridge Program for which a sub-sector approach has been adopted.

In the current phase of the Trail Bridge Sub-Sector Program (2007-2010), the role of the Trail Bridge Support Unit (TBSU) has been changed from facilitation to monitoring. At the same time, TBSU is providing Technical Assistance to the different donors notably the World Bank and the Asian Development Bank¹. This calls upon a set of tools facilitating accountability to the different stakeholders and the community at large. Similarly, these tools will also help the trail bridge sub-sector in creating a common understanding of the sub-sector.

2. INTRODUCTION

This Manual is a tool for TBSU staff responsible for monitoring the performance of District Development Committees (DDCs) with respect to trail bridge building and to rectify any “wrongs” at an as early stage as possible.

The basic norm used to identify “rights” and “wrongs” has been the Trail Bridge Strategy/Local Infrastructure Development Policy (TBS/LIDP).

This Manual should not create the illusion that TBSU is responsible for the Quality Assurance of each individual bridge. On the contrary, DDCs themselves are responsible!

TBSU's role is that of strengthening the DDC as an Institution, a coach to DDCs, an inspector vis à vis any donor sponsoring the sub-sector with respect to the quality of bridge construction as well as a provider of selected bridge parts. The intensity of TBSU's inspections will gradually reduce as the performance of DDCs as institutions progress and TBS/DoLIDAR assisted by private sector inspectors gradually take over which is elaborated on Section 4 below.

Even though TBSU's role is to gradually reduce, care must be taken to continuously observe the post-conflict situation and the inherent unstable situation in DDCs and to thus not rush the process overtly.

The users of this Manual must be aware of its limitations. There is always a tendency to make monitoring processes/tools perfect. However, it is seldom realized and the practicality of the tools then becomes a mere academic exercise. This has also been felt while developing this manual. At the same time gross violations to the TBS/LIDP were observed at the time which even “the best” Manual could not have filtered out. It is especially these gross violations that deserve our foremost attention and not the microscopic “violations”.

Hence users must not blindly follow the Manual and must first of all apply a good dose of rational judgement and professional intuition. In case of doubt, users are encouraged to discuss observations with their superiors and / or peers.

¹ TBSU is providing Technical Assistance for the trail bridge component of the RAIDP funded by the World Bank and the DRILP funded by the Asian Development Bank.

This Manual is as comprehensive as realistically possible. The list of forms, agreements, and guidelines and other relevant documents that form an essential component of this manual can be found in the **annex 1**.

Complementing this manual, a reporting format has also been developed and presented in **annex 2** which shall help the DDCs to gather field data and information. This information can then be processed for establishing its accountability vis-à-vis donors and the central agencies.

3. MILESTONES

Reference is made to the Monitoring Schedule Table on **Page 6**.

To monitor the district trail bridge program, two kinds of milestones are distinguished. On the horizontal axis one finds:

1	Critical Milestones	CMS
2	Ordinary Milestones	OMS

Critical Milestones (CMS) are those Milestones where the Inspector can conceivably interrupt the work and demand corrective actions before he/she will allow the work to proceed.

Ordinary Milestones (OMS) are those Milestones where the Inspector may recommend remedial actions but for which he/she will not stop the work if the actions are not undertaken.

There is a total of 10 Milestones, of which 6 are Critical and 4 Ordinary.

All Milestones except CMS-1 deal with individual bridges. CMS-1 deals with the Institutional Capacity and plans of the incumbent DDC as well as an individual bridge.

Further, on the vertical axis, one finds the following Inspection Perspectives:

1	Program Perspective
2	Technical Perspective
3	Social Perspective

The Monitoring Schedule depicts ten Milestones vs. three Inspection Perspectives. Each intersection defines the Inspection intent in broad terms.

The Monitoring Schedule also reveals the Critical Issues as well as the location (e.g. Site or Factory) at which the Inspection is to occur.

The detailed Inspections that are required can be found in a tab that corresponds to the Milestone #. Within the numbered tab are three coloured sub-tabs denoting the Program-, Technical- and Social Perspectives.

4. FREQUENCY OF INSPECTIONS

The support TBSU renders to DDCs follows the following steps:

- 1 Capacity Building
- 2 Coaching
- 3 Intensive Monitoring
- 4 Intermediate Monitoring
- 5 Pvt. Sector Monitoring

It is important to note that the graduation from one step to the next will depend on the DDC's maturity as an institution to handle the trail bridge program as well as predefined criterion. A step does not necessarily represent one year. The DDCs falling in one of the above categories and their progression into subsequent steps will be reviewed at the outset of each new FY.

In principle, TBSU will reduce the frequency of its random Inspections as shown below:

STEP	TBSU's inspection frequency		TBS/DoLIDAR
1	Cap. Bldg.	100%	
2	Coaching	70%	
3	Intensive Monitoring	40%	
4	Intermediate Monitoring	20% (10% by Pvt Sector)	
5	Pvt. Sector Monitoring		5%

At step 5, inspection responsibilities will have been fully devolved to TBS/DoLIDAR.

TBSU will reduce most of its inspections markedly as time progresses. However, inspections for each individual bridge at the following Critical Mile Stones shall be continued for as long as TA will be rendered through TBSU:

MILE-STONE	INSPECTION PERSPECTIVE	CRITICAL ISSUES
CMS-1	Program	Institutional Pre-requisites, Equitable Distribution, Commitment of Budget
CMS-2	Technical Social	Sound Economic Design Inclusiveness
CMS-9	Technical Social	Quality Construction Payment as per Plan
CMS-10	Social	Public Audit, Payment to Workers

TBSU's hereby fulfills its mandate as an inspector vis à vis any donor sponsoring the sub-sector with respect to the quality of bridge construction.

5. DATA COLLECTION AND DETAILED INSPECTIONS

The tabs provide the prescribed inspections in chronological order.

The manual is as generic as possible. Wherever distinction is required between NC and MM or SSTB and LSTB, it has been clearly indicated. Rehabilitation is considered identical to NC for the purpose of inspection.

Where information is required, the prescribed inspection is preceded by a table that simply needs to be completed.

The person in charge indicated in the last column has the option to interrupt further construction when a certain issue is "unacceptable" or "conditionally acceptable". He/she can tick "remedied" in the last column once he/she is satisfied that the cause for his/her objection has been sufficiently addressed. The tick indicates that he/she has agreed for the works to proceed.

Emphasize has been put in trying to detect conceivable "wrongs" as early as possible in order to keep costs of further harms down. E.g. technical inspections are emphasized at CMS-9 (app. in the middle of construction) where rectifications are still relatively easy and not at CMS-10 when the bridge is finished and rectifications are difficult and costly. This contradicts the popular view that inspections should be held at the end of construction.

Critical Milestones are "critical" from either a program or a social and/or a technical perspective. CMS-1 and CMS- 10 are exceptions. CMS-1 is critical only from a program perspective while CMS-10 is critical from social perspective only. CMS-10 also differs from other milestones in a sense that it has to be conducted not exactly at the time of the milestone but sometime (< 3 months) thereafter. The main reason is that the DDC must be given sufficient time to have settled all payments and CMS-10 mainly cross checks that all payments were completed as committed at the outset.

It is important that every issue be properly addressed. This forms the proven record of TBSU's inspections vis à vis the counterpart as well as any donor.

It has to be born in mind that monitoring the application of the TBS/LIDP is the sole responsibility of TBS/DoLIDAR. As a maturing section within the department, it has to be upgraded / expanded with the additional resources (both human and financial) so that it can address the challenges of the Trail Bridge Sub-Sector. TBSU therefore, is very much in favour of involving TBS/DoLIDAR in the monitoring processes so that TBS/DoLIDAR can assume monitoring roles spelled out in TBS/LIDP in a gradual and systematic manner.

6. REPORTING

Principally, two kinds of reports listed below can be generated. The list below is not an exhaustive one. All reports distinguish between New Construction (NC) and Major Maintenance (MM); SSTB and LSTB, as well as "Suspended (D)" and "Suspension (N)" type. As mentioned in the section 5, rehabilitation is considered identical to NC for the purpose of inspection reporting.

1. A summary per Region for the RPC and/or TC regarding the Inspection component indicating
 - 1.1 bridges that have passed the inspections as well as the final inspection / approval date.
 - 1.2 pending bridges, passed inspections, indicating last milestone / approval date.
 - 1.3 bridges that did not pass the inspection, the reason and the last inspection date.
 - 1.4 bridges where the constructions have been interrupted, the reason, the required remedial action and the last inspection date.
2. A bi-annual nationwide summary for the Coordination Unit, for the purpose of accountability vis à vis donors and by means of the Yearly Plan of Operation/Annual Project Reporting, indicating:
 - 2.1 Outcomes / Access:
 - 2.1.1 Number of projected users (average per bridge, average per DDC, country average) per day
 - 2.1.2 Ditto, segregated by ethnicity and gender.
 - 2.1.3 Prime Purpose of a Bridge demand (per DDC, Nationwide)
 - 2.2 Outcomes / Delegating Capacity and Capacity Building:
 - 2.2.1 Number of competent practitioners (per DDC versus the progression steps) (engineers, Sub-Engineer)
 - 2.2.2 Ditto, for NGOs (Ass. Sub-Engineer)
 - 2.2.3 DDCs that Delegated work to NGOs (for SSTB), to the private sector (for LSTB).
 - 2.2.4 Mutation rates in DDCs
 - 2.2.5 Mutation rates in NGOs
 - 2.3 Inspections:
 - 2.3.1 number of bridges that have passed the inspections
 - 2.3.2 number of pending bridges
 - 2.3.3 number of bridges that did not pass the inspection
 - 2.3.4 number of bridges where the construction has been interrupted
 - 2.4 Political:
 - 2.4.1 Bridge Requests (Demands) per District
 - 2.4.2 Distance Gained (average per DDC, average for the Nation)
 - 2.4.3 Ditto for DRH & DHQ, comparison to 2.4.2
 - 2.4.4 Patterns of UC-composition (districts and nationwide)
 - 2.5 Financial:
 - 2.5.1 average estimated bridge costs per linear meter per bridge type (district and nationwide)
 - 2.5.2 average bridge cost per user (district and nationwide)
 - 2.5.3 average contribution per stakeholder segregated by donor (district and nationwide)

7. MONITORING SCHEDULE

Bridge Start										Bridge End									
Critical Milestone CMS	CMS 1	CMS 2				CMS 6	CMS 7		CMS 9	CMS 10*									
Ordinary Milestone OMS			OMS 3	OMS 4	OMS 5			OMS 8											
Program	Institutional, Planning, Community Application, Composition of Beneficiaries, Prioritization		Community Agreement																
Technical		Site Assessment/ Survey/ Design/Cost Estimate		Procurement (Evaluation of bids)	Bridge Layout and Foundation Excavation	Procurement/ Fabrication start	Procurement (Inspection and Certification)	CMS and Concreting	Cable Sag setting (during)	Final Assessment (Certification based on random samples)									
Social		Public Hearing			Insurance coverage, Timely payments, Updating of Project Book				Public Review	Public Auditing (all bridges)									
Critical Issue	Institutional, Equitable distribution, Commitment of Budget	Sound Economic Design, Contribution Pattern, Establishment of UC and no Dispute over land				Quality of raw materials	Quality of steel part		Quality construction, Payment as per plan	Payment as per plan, Formation of BMC									
Location	DDC Visit	Site Visit	Desk Study	Desk Study**	Desk Study	Factory Visit for steel/visit to the site for cement	Factory Visit	Desk Study	Site Visit	Site Visit									
Critical Milestone CMS	CMS 1	CMS 2				CMS 6	CMS 7		CMS 9	CMS 10*									
Ordinary Milestone OMS			OMS 3	OMS 4	OMS 5			OMS 8											

COMPREHENSIVE BRIDGE LIST

Long List

[illegible]

Bridges to be completed in 2 Cycles:

1. Site Assessment, Survey, Design, Cost Estimate, Procurement of steel parts & cement (app. 50 % of estimated value).
2. Layout, Construction, Formation of BMC (app. 50 % of estimated value).

PERIODIC BRIDGE PLAN (ref # 1.1.2)
of Prioritized Bridges (from UC Application form)

From:

To:

[illegible]

Grand Total	N/A							
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1. In case bridges got carried over from before the Periodic Plan, supply "Unpaid Balance of Cost Estimate" instead of "Preliminary Cost Estimate".
2. TBSU's Support ends on December 31st, 2010
3. RAIDP's Support end on June 30th, 2010
4. DRILP Support ends on August 31st, 2011

Trail Bridge Sub-Sector Program

PROGRAM: Critical Milestone 1 - [Institutional Issues (District wise)]

DDC Visit

S. N.	Generic Institutional Issues	Details		Comments by RPC/TC (Compulsory to comment on condition/hints if not met)
1	TIM	Last date updated: _____ DTMP reflects TIM: Y N	 TIMs compulsory; update 1 yr
2	Periodic Bridge Plan	Available: 3 Yr: Y N or 5 Yr: Y N For period: _____	 To be updated if remaining period 1 yrs
3	Annual Bridge Plan	Date approved by the DC: _____	 ABP is prepared and submitted within Chaitra for next FY
4	District Bridge Record	Available: Y N Updated up to FY: _____ Includes bridge conditions: Y N	 DBR compulsory; update 1 yr
5	Technical Personnel planning (Staff Available & Trained in Bridge Building)	Staffs Available (nos) Engineer(s) [] Sub-Engineer [] Asst. Sub-Engineer [] Staffs Trained in bridge building (nos) Engineer(s) [] Sub-Engineer [] Asst. Sub-Engineer []	 Minimum capacitated: Engineer 1 Sub-Engineer 1
6	Mgmt. Staffs Capacitated in Procurement	LDO: Y N Engineer: Y N	 Both must be capacitated
7	DDC's Equipment (functional)	Cable Pulling Machine: Y N Abney Level: Y N Drawing Table: Y N Camera: Y N	 Any missing equipment must be procured
8	NGO/Pvt. Sector	Hired/contracted by DDC: Y N Date : _____	 NGO mandatory as per TBS/LIDP and Agreements
9	Trained Personnel in NGO / Pvt. Sector	Staffs Available (nos) Engineer(s) [] Sub-Engineer [] Asst. Sub-Engineer [] Staffs Trained in bridge building (nos) Engineer(s) [] Sub-Engineer [] Asst. Sub-Engineer []	 Minimum capacitated: Asst. Sub-Engineer 1

Trail Bridge Sub-Sector Program

PROGRAM: Critical Milestone 1 - [Bridge Planning (District wise)]

DDC Visit

S. N.	Generic Institutional Issues	Acceptable	Not Acceptable	Conditional Acceptability		Decision by RPC
				Explain condition	Hints on possible rectification needed	
1.0	Bridge Demand (Refer Comprehensive Bridge Requests List)	Covers all Ilakas with rivers in need of bridges Sufficient bridges for prioritization	Partially available. Inconsistent data	Ilaka without requests Inadequately filled in	Mobilize NGO through staff function to collect more requests for next year and /or rectify incomplete requests	..... ..... ..... tick if rectified To make verification randomly to conform the submitted information. In case of any irregularities report to TBS/DoLIDAR to freeze any NC
2.0	Prioritization formula	Follows formula	Ignores formula	If formula not consistently applied	Re-Prioritize	..... ..... ..... tick if rectified
3.0	Location of Prioritized Bridges in TIM	All prioritized bridges are located in TIM	Not located			..... ..... tick to override
4.0	Budget allocation for Trail Bridges (In the Periodic and Annual Plan)	The ranking is guided by the Prioritization Weight but also considers a well balanced budget amongst RM, MM, Rehab and NC (SSTB, LSTB) (order of priority)	Budget allocation requiring construction longer than 2 yr. More than 25% of district trail bridge budget allocation to a single NC bridge			..... ..... ..... ..... tick to override Make sure complimentary budget (e.g., from the donors) is secured
5.0	Procurement Plan	PP is prepared and submitted within March (Chaitra) for next FY	Not prepared/not submitted			..... tick to override RPC to follow-up
6.0	Annual and Trimester reports	Report submitted within one month of reporting period.	Not prepared/not submitted			..... tick to override RPC to follow-up

PROGRAM: Critical Milestone 1 - [Annual Bridge Planning (District wise)]

Fiscal Year :.....

[illegible]

Applies to all Bridges Per Annum

Monitoring Manual

TECHNICAL: Critical Milestone 2 - [Site Assessment (Bridge wise)]

Site Visit

S. No.	Issues	Acceptable	Not Acceptable	Conditional Acceptability		Decision by TC
				Explain condition	Hints on possible rectification needed	
1.0	Stability of the bank/slopes	Sound rock or soil and fully vegetated	Signs of erosion and/or slides	Prone to bank erosion by river cutting	River Bank Protection Works (app. NRs. 30,000 per m.) River Training Works (appro. NRs. 50,000 per m.)	Avoid as far as possible
				Prone to sheet erosion by surface runoff	Surface drainage and water management with bio-engineering (app.NRs. 175,000 per bank)	
				Prone to slides due to loose soil	Retaining walls with bio-engineering (app.NRs. 250,000)	Dry Stone Masonry
				Prone to slide due to highly weathered soft rock	Breast wall/Revetment (app. NRs. 150,000)	Dry Stone Masonry
				Highly fractured hard rock	Breast wall/Revetment (app. NRs. 105,000)	Dry Stone Masonry
				Other		
2.0	Influencing rivulets	No nearby rivulets	Nearby rivulet with aggressive gully erosion	Nearby gully without sign of gully erosion	Check dams (app. NRs. 20,000 per m.	Gabion wall check dams
3.0	Meandering / Curving River	River is not hitting the bank or the bank is rock even if river is hitting	Banks are soils, river is hitting the banks and the erosion has started	River hits bank is soft rock. No erosion yet.	Inspect periodically. Protect Bank if bank condition is deteriorated (app. Up to NRs. 300,000 may require in future)	Mainly toe protection is needed in long term (caving)
4.0	Source of Stone	As per specifications		not as per the specification	Find alternative source	
5.0	Source of Sand	As per specifications		not as per the specification	Screen and wash	
6.0	Source of Gravel	As per specifications		not as per the specification	Broken stones aggregate to be used	

TECHNICAL: Critical Milestone 2 - [Design (Bridge wise)]

Desk Study

S. N.	Issues	Acceptable	Not Acceptable	Conditional Acceptability		Decision by TC
				Explain condition	Hints on possible rectification needed	
1.0	Bridge type selection	Selected bridge type is correct[(LSTB or SSTB) / (Suspension or Suspended)].	Selected bridge type is not correct[(LSTB or SSTB) / (Suspension or Suspended)].	Selected bridge type not optimal.	Consider more optimal type of bridge	....................
2.0	Foundation location	Both criteria (Slope angle and frontage) in the standard are met	Neither criteria met	Criteria not met, but is/are rectifiable	Rectify the concerned criteria	....................
3.0	Cable geometry	Meets the norms and standards	Does not meet the norms and standards			..... ..... ..... .....
4.0	Environmental consideration	Cutting and filling is balanced and cut slopes maintained	Cuttings/fillings not balanced, excessive cut slopes, cut slopes not maintained and not protected.	Conditions not met but rectifiable	Maintain cut slopes and provide slope protection	....................
5.0	Overall design	Meets the norms and standards	Does not meet the norms and standards.	Norms and standards not met. The design can be rectified to make it safe.	Rectify the design	....................
6.0	Design optimization	20% of the prevailing district linear cost	> 50% of the prevailing district linear cost	> 20% and 50% requires a design review	Review Design	....................
7.0	Free board	5 m	< 4 m	An exception can be made for 4 to 5 m but only if the river is wise and no chance of debris flow with trees		..... ..... ..... .....

TECHNICAL: Critical Milestone 2 - [Cost Estimate (Bridge wise)]

Desk Study

S. No.	Issues	Acceptable	Not Acceptable	Conditional Acceptability		Decision by TC
				Explain condition	Hints on possible rectification needed	
1.0	Implementation approach	Followed	Not followed			.....
2.0	Unit rates of Steel Parts	Published reference rates based on the norms established by DoLIDAR/MoLD	Rates that are not substantiated	Rates substantiated by the DDC based on the norms established by DoLIDAR/MoLD	Check if the substantiated rates are reasonable	....................
3.0	Unit rates (Portering, Labor, Cement etc.)	Approved district rates followed	Approved district rates are not followed			..... .....
4.0	Portering distance	DDC's norms but not inferior to : 1 Porterday = 12.8 Km or 8 miles for 40 kg weight	1 Porterday < 12.8 Km or 8 miles for 40 kg weight			..... ..... ..... .....

SOCIAL: Critical Milestone 2 - [Public Hearing (Bridge wise)]

Site Visit

Immediate Beneficiaries' Composition table

Cast/Ethnicity	No. of Households		Beneficiary Population		
	Poor	Total	Women	Men	Total
Dalit					
Janajati					
Minorities					
Others					
Total					
%					

UC composition table (Preliminary)

Positions	Dalit	Janajati	Minorities	Others	Total			UC Composition (%)	
					Sum	Female	Male	Female	Male
Chairperson									
(Dy)Chairperson									
Secretary									
Treasurer									
UC Members									
Total									
%									

S. No.	Issues	Acceptable	Not Acceptable	Conditional Acceptability		Decision by TSDO
				Explain condition	Hints on possible rectification needed	
1	Women representation in UC (Preliminary)	2007: 25% or more	2007: less than 25%			
		2008: 30% or more	2008: less than 30%			
		2009/10: 33% or more	2009/10: less than 33%			
2	Proportionate representation of Dalit, Janajatis and minorities in UC (Preliminary)	2007/08: Not less than individual % times 0.75	2007/08: less than individual % times 0.75			
		2009/10: Proportionate representation	2009/10: No disproportionate representation			

Continues

SOCIAL: Critical Milestone 2 - [Public Hearing (Bridge wise)]

Site Visit

S. No.	Issues	Acceptable	Not Acceptable	Conditional Acceptability		Decision by TSDO
				Explain condition	Hints on possible rectification needed	
3	Key Position in UC (Preliminary)	At least one key position (Chairperson or Secretary or Treasurer or if applicable their deputy's) given to a woman or dalit or Janajaties in UC	No key position (Chairperson or Secretary or Treasurer or if applicable their deputy's) given to a woman or Dalit or Janajaties in UC			..... ..... ..... ..... ..... .....
4	Land donation	Written evidence of donated or compensated land (SSTB Only)	Land is donated under social pressure by the Community (SSTB Only)			..... ..... ..... .....
5	Insurance	Information : Disseminate on insurance coverage, conditions & procedures. UC to submit regular workperson attendance record.				..... ..... ..... ..... ..... tick if done
6	Displaced Boatperson	Information : DB to be incorporated in DMBT and/or local labor				..... ..... tick if incorporated
7	Signboard (Hoardingboard)	Information : Compulsory to be in place before Layout.				..... ..... tick if is in place

PROGRAM: Critical Milestone 3 - [Community Agreement (District wise)]

Desk Study

Contribution Pattern (based on a firm Cost Estimate)

Source	Cash (NRs.)	Support in kind/Labor (NRs.)	Total	
			NRs.	%
VDC				
DDC				
Community				
TBSU				
RAIDP/DRILP				
Others				
Total				

Source	Payment Schedule from DDC/VDC to UC(Amount in %)			
	Target 30 %	Target 30 %	Target 30 %	Target 10 %
	1 st (OMS 3)	2 nd (OMS 8)	3 rd (CMS 9)	4 th (CMS 10)
DDC				
VDC				
Total				

S. No.	Generic Institutional Issues	Acceptable	Not Acceptable	Conditional Acceptability		Decision by RPC
				Explain condition	Hints on possible rectification needed	
1.0	Insurance	Insurance in place for: workpersons, NGO persons, goods in transit.	Any omission			..... ..... .....
2.1	Community Contribution in SDC districts (confirmation of contributions)	10% or less of the total cost	more than 10% of the total cost			..... ..... .....
2.2	Community Contribution in RAIDP/DRILP districts (confirmation of contributions)	2% or less of the total cost	more than 2% of the total cost			..... ..... .....
3.1	GoN/DDC/VDC contribution in SDC districts (confirmation of contributions)	25% or more of the total cost	less than 25% of the total cost			..... ..... .....
3.2	GoN/DDC/VDC contribution in RAIDP/DRILP districts (confirmation of contributions)	8% or more of the total cost	less than 8% of the total cost			..... ..... .....

SOCIAL: Ordinary Milestone 3 - [Community Agreement (confirmation) (Bridge wise)]

Desk Study

UC composition table (Confirmation)

Positions	Dalit	Janajati	Minorities	Others	Total			UC Composition (%)	
					Sum	Female	Male	Female	Male
Chairperson									
(Dy)Chairperson									
Secretary									
Treasurer									
UC Members									
Total									
%									

Participants during Public Hearing

Positions	Dalit	Janajati	Minorities	Others	Total			
					Sum	Female	Male	HH
Members from the community								
Total								
%								

DMBT Participants

Dalit	Janajati	Minorities	Others	Boat Person (if applicable)	Total		
					Sum	Female	Male

SOCIAL: Ordinary Milestone 3 - [Community Agreement (confirmation) (Bridge wise)]

Desk Study

S. No.	Issues	Acceptable	Not Acceptable	Conditional Acceptability		Decision by TSDO
				Explain condition	Hints on possible rectification needed	
1	Women representation in Ucs (Preliminary)	2007: 25% or more	2007: less than 25%			.....
		2008: 30% or more	2008: less than 30%			.....
		2009/10: 33% or more	2009/10: less than 33%			.....
2	Proportionate representation of Dalit, Janajaties and minorities in UC (Preliminary)	2007/08: Not less than individual % times 0.75	2007/08: less than individual % times 0.75			.....
		2009/10: Proportionate representation	2009/10: No disproportionate representation			.....
3	Key Position in UC	At least one key position (Chairperson or Secretary or Treasurer or if applicable their deputy's) given to a woman or Dalit or Janajaties in UC	No key position (Chairperson or Secretary or Treasurer or if applicable their deputy's) given to a woman or Dalit or Janajaties in UC			.....
4	Proportional representation of dalit, janajaties and minorities in DMBT	Same as compared to the UC	Less than individual % times 0.75 excluding the displaced boatperson			.....

TECHNICAL : Ordinary Milestone 4 - [Procurement / Evaluation of BIDs (Bridge wise)]

Desk Study

A copy from DDC's job order (first page only)

S. No.	Issues	Acceptable	Not Acceptable	Conditional Acceptability		Decision by TC
				Explain condition	Hints on possible rectification needed	
1.0	Job Award	The fabricator is from the long listed fabricators		If not from the listed fabricators	Inspect the fabricators and if they qualify	

TECHNICAL: Ordinary Milestone 5 - [Layout and Foundation Excavation (Bridge wise)]

Desk Study

S. No.	Issues	Acceptable	Not Acceptable	Conditional Acceptability		Decision by TC
				Explain condition	Hints on possible rectification needed	
1.0	Span and elevation	Span and elevations have been verified and found to be as per design		Deviation from the design/drawing	Review the design and quantities to be ordered (by DDC/NGO)	..... ..... tick if rectified
2.0	Foundation excavation (RB)	Foundation size and Bed slope as per design		Deviation from the design/drawing	Rectify	..... ..... tick if rectified
3.0	Foundation excavation (LB)	Foundation size and Bed slope as per design		Deviation from the design/drawing	Rectify	..... ..... tick if rectified
4.0	Cutting slope (RB)	As per design and drawing		Deviation from the design/drawing	Rectify	..... ..... tick if rectified
5.0	Cutting slope (LB)	As per design and drawing		Deviation from the design/drawing	Rectify	..... ..... tick if rectified

SOCIAL: Ordinary Milestone 5 - [(Bridge wise)]

Desk Study

S. No.	Issues	Acceptable	Not Acceptable	Conditional Acceptability		Decision by TSDO
				Explain condition	Hints on possible rectification needed	
1.1	Project Book, community approach	Report: MoM of UC meetings, labor attendance and Income and Expenditure in the Project Book	Any omissions			..... ..... .....
1.2	Project Book, contracting approach	Proper records of the Instructions of the employer's engineer, Quality Assurance documentations	Any omissions			..... ..... .....
2.1	Work person Insurance	Regular attendance submitted to DDC	Any omissions thereof	Late submission	DDC to remind UC and NGO for attendance	...............
2.2	Insurance Claim	Timely settlement of any Insurance claims		Late settlement	TBS/DoLIDAR follow-up with DDC and DDC follow-up with Insurance company	...............
3.0	Fund disbursement from DDC/VDC to UC(SSTB) or Contractor(LSTB)	Dues older than 1 month have been settled		Any delays	TBS/DoLIDAR to follow up with DDC	...............
4.0	Timely payment from UC(SSTB) or Contractor (LSTB) to the laborers	Payments must be within one week after receiving fund disbursement		Any delays	DDC to remind UC and NGO (SSTB)/Contractor (LSTB)	..... ..... .....
5.0	UC Meeting	30% Women of those present, participate		<30%	NGO to play proactive role	...............

TECHNICAL: Critical Milestone 6 - [Procurement/Fabrication start (Bridge wise)]

Factory Visit

Refer the label (from RAIDP/DRILP and TBSU Program Districts) **Annex 3**

S. No.	Issues	Acceptable	Not Acceptable	Conditional Acceptability		Decision by TC
				Explain condition	Hints on possible rectification needed	
1.0	Quality of raw materials for Steel parts based on random sample collected at the factory	Quality certificate from the lab conforming the standard	Absence of certificate or materials do not conform the standard			..... ..... .....
2.0	Quality of GI wire	Quality certificate from the lab conforming the standard	Absence of certificate or materials do not conform the standard			..... ..... .....
3.0	Quality of cement prior to procurement from the supplier	To procure pre-approved (by TBS/DoLIDAR) brands	If cement is set. Procurement of non pre-approved brands			..... ..... .....
4.0	Templates/Jigs	Are exactly as per design and drawing		Any deviations		..... ..... tick if rectified

SOCIAL: Ordinary Milestone 6 - [(Bridge wise)]

Desk Study

S. No.	Issues	Acceptable	Not Acceptable	Conditional Acceptability		Decision by TSDO
				Explain condition	Hints on possible rectification needed	
1.1	Project Book, community approach	Report: MoM of UC meetings, labor attendance and Income and Expenditure in the Project Book	Any omissions			..... ..... .....
1.2	Project Book, contracting approach	Proper records of the Instructions of the employer's engineer, Quality Assurance documentations	Any omissions			..... ..... .....
2.1	Workperson Insurance	Regular attendance submitted to DDC	Any omissions thereof	Late submission	DDC to remind UC and NGO for attendance	...............
2.2	Insurance Claim	Timely settlement of any Insurance claims		Late settlement	TBS/DoLIDAR follow-up with DDC and DDC follow-up with Insurance company	...............
3.0	Fund disbursement from DDC/VDC to UC(SSTB) or Contractor(LSTB)	Dues older than 1 month have been settled		Any delays	TBS/DoLIDAR to follow up with DDC	...............
4.0	Timely payment from UC(SSTB) or Contractor (LSTB) to the laborers	Payments must be within one week after receiving fund disbursement		Any delays	DDC to remind UC and NGO (SSTB)/Contractor (LSTB)	..... ..... .....
5.0	UC Meeting	30% Women of those present, participate		< 30%	NGO to play proactive role	...............

TECHNICAL: Critical Milestone 7 - [Procurement (Inspection and Certification) (Bridge wise)]

S. No.	Issues	Acceptable	Not Acceptable	Conditional Acceptability		Remarks
				Explain condition	Hints on possible rectification needed	
1.0	Quality of finished steel parts	Verify there is a Quality Certificate of raw materials (CMS 6) and	Any Deviation			..... ..... .....
		Manufacturer maintains QA documentation and				..... ..... .....
		Welding appears professionally done and				..... ..... .....
		Zinc coating checked positively and				..... ..... .....
		Assembled fittings have been checked positively.				..... ..... For details refer to quality control manual

SOCIAL: Ordinary Milestone 7 - [(Bridge wise)]

Desk Study

S. No.	Issues	Acceptable	Not Acceptable	Conditional Acceptability		Decision by TSDO
				Explain condition	Hints on possible rectification needed	
1.1	Project Book, community approach	Report: MoM of UC meetings, labor attendance and Income and Expenditure in the Project Book	Any omissions			..... ..... .....
1.2	Project Book, contracting approach	Proper records of the Instructions of the employer's engineer, Quality Assurance documentations	Any omissions			..... ..... .....
2.1	Workperson Insurance	Regular attendance submitted to DDC	Any omissions thereof	Late submission	DDC to remind UC and NGO for attendance	..........
2.2	Insurance Claim	Timely settlement of any Insurance claims		Late settlement	TBS/DoLIDAR follow-up with DDC and DDC follow-up with Insurance company	..........
3.0	Fund disbursement from DDC/VDC to UC(SSTB) or Contractor(LSTB)	Dues older than 1 month have been settled		Any delays	TBS/DoLIDAR to follow up with DDC	..........
4.0	Timely payment from UC(SSTB) or Contractor (LSTB) to the laborers	Payments must be within one week after receiving fund disbursement		Any delays	DDC to remind UC and NGO (SSTB)/Contractor (LSTB)	..... .....
5.0	UC Meeting	30% Women of those present, participate		<30%	NGO to play proactive role	..........

Trail Bridge Sub-Sector Program

TECHNICAL: Ordinary Milestone 8 - [Cement Stone Masonry & Concreting (Bridge wise)]

Desk Study

S. No.	Issues	Acceptable	Not Acceptable	Conditional Acceptability		Decision by TC
				Explain condition	Hints on possible rectification needed	
1.0	Dimensions of anchorage and foundation blocks	As per design and drawing		Deviation from design/drawing	Rectify	..... ..... tick if rectified
2.0	Quality of stones/aggregate / sand	As per drawing (Chiseled dressed stones, hammer dressed stones and broken stones) and for aggregate and sand refer to CMS 2		Deviations thereof	Rectify	..... ..... tick if rectified
3.0	Workmanship (General)	As per specifications: Concrete/Mortar mix, Bond/joints, Plumb vertical/horizontal and Curing		Deviation from specifications	Rectify	..... ..... tick if rectified
4.0	Dry stone masonry for dead load	Laying of broken stones with proper bonding along with the peripheral cement stone masonry	Dry stone filling-up	Deviations thereof		..... ..... tick if rectified
5.1	Concreting of Deadman Beam	Laying of reinforcement / anchorage steel parts and pipes and concreting as per drawing		Deviations thereof		..... ..... tick if rectified
5.2	Concreting of Drum	Anchor length/laying of reinforcement as per drawing		Deviations thereof		..... ..... tick if rectified
5.3	Concreting of Anchorage / Foundation Block	Laying of reinforcement and anchorage steel parts as per drawing		Deviations thereof		..... ..... tick if rectified

SOCIAL: Ordinary Milestone 8 - [(Bridge wise)]

Desk Study

S. No.	Issues	Acceptable	Not Acceptable	Conditional Acceptability		Decision by TSDO
				Explain condition	Hints on possible rectification needed	
1.1	Project Book, community approach	Report: MoM of UC meetings, labor attendance and Income and Expenditure in the Project Book	Any omissions			..... ..... ..... .....
1.2	Project Book, contracting approach	Proper records of the Instructions of the employer's engineer, Quality Assurance documentations	Any omissions			..... ..... ..... .....
2.1	Work person Insurance	Regular attendance submitted to DDC	Any omissions thereof	Late submission	DDC to remind UC and NGO for attendance	....................
2.2	Insurance Claim	Timely settlement of any Insurance claims		Late settlement	TBS/DoLIDAR follow-up with DDC and DDC follow-up with Insurance company	....................
3.0	Fund disbursement from DDC/VDC to UC(SSTB) or Contractor(LSTB)	Dues older than 1 month have been settled		Any delays	TBS/DoLIDAR to follow up with DDC	....................
4.0	Timely payment from UC(SSTB) or Contractor (LSTB) to the laborers	Payments must be within one week after receiving fund disbursement		Any delays	DDC to remind UC and NGO (SSTB)/Contractor (LSTB)	..... ..... ..... .....
5.0	UC Meeting	30% Women of those present, participate		<30%	NGO to play proactive role	....................

Trail Bridge Sub-Sector Program

TECHNICAL: Critical Milestone 9 - [Cable Sag Setting (during and right before the Public Review) (Bridge wise)]

Site Visit

S. N.	Issues	Acceptable	Not Acceptable	Conditional Acceptability		Decision by TC
				Explain condition	Hints on possible rectification needed	
1.0	Verify Concreting (Ref. to OMS 8: Item 5.1 through 5.3) done as reported					..... tick if verified
2.0	Dimensions of anchorage and foundation blocks	As per design and drawing		Deviation from design/drawing	Rectify	..... tick if rectified
3.0	Cross check the Quality of stones/aggregate /sand	As per drawing Chiseled dressed, hammer dressed and broken stones) and for aggregate and sand refer to CMS 2		Deviations thereof	Rectify	..... tick if rectified
4.0	Workmanship (General)	As per specifications: Concrete/Mortar mix, Bond/joints, Plumb vertical/horizontal and Curing		Deviation from specifications	Rectify	..... tick if rectified
5.0	Dry stone masonry for dead load	Laying of broken stones with proper bonding along with the peripheral cement stone masonry	Dry stone filling-up	Deviations thereof	Rectify	..... tick if rectified
6.0	Quality of cable	Without kinks and/or broken strands	With kinks and/or broken strands			.....
7.0	Cable sag	As per design	Sag is more than $\pm 1\%$	If within tolerance	Adjust sag as per design	..... tick if adjusted
8.0	Relative sag	Equal sag of all cables	Sag difference is 10mm or more	If within tolerance	Adjust sag	..... tick if adjusted
9.0	Bulldog Grips	As per design	Less than the design			.....
10.0	Tower (N types only)	Vertical, No missing nuts and bolts, Temporary struts are in place	Any deviations			.....
11.0	Painting works of non-galvanized steel parts (MM only)	As per specifications: Proper cleaning, Application of Red Oxide Zinc Chromate primer and Enamel coating	Any deviations			..... tick if adjusted

Trail Bridge Sub-Sector Program

SOCIAL: Critical Milestone 9 - [(Bridge wise)]

Participants during the Public Review

Site Visit

	Dalit	Janajati	Minorities	Others	Total			
					Sum	Female	Male	HH
Total								
%								

S. No.	Issues	Acceptable	Not Acceptable	Conditional Acceptability		Decision by TSDO
				Explain condition	Hints on possible rectification needed	
1.0	Review of Technical Issues during cable hoisting	Endorsement or amendments that are technically viable	Non-viable technical "solutions"			..... .....
2.0	Fund disbursement from DDC/VDC to UC(SSTB) or Contractor(LSTB)	Dues older than 1 month have been settled	Dues older than 2 months have not been settled	Dues settled between 1st and 2nd month	DDCs to catch up with delays	..... ..... Refer to RPC
3.0	Timely payment from UC(SSTB) or Contractor (LSTB) to the laborers	Payments must be within one week after receiving fund disbursement	Payments made later than one week after receiving fund disbursement			..... ..... .....

Minutes of Meeting must be recorded: to reflect shortcomings and action required by UC, NGO, DDC, TBSU, Others.

S.No.	Stakeholders	Shortcomings	Comments by RPC (Action required)
4	UC		
5	NGO		
6	DDC		
7	TBSU		
8	Others.....		

Trail Bridge Sub-Sector Program

TECHNICAL: Ordinary Milestone 10 - [Final Assessment (Bridge wise)]

Desk Study

TECHNICAL: Ordinary masonry to [Final Assessment (Bridge wise)]					Desk
S.N.	Issues	Norms	Tolerance	Instruction / Certification by TC	
1.0	Cable sag	As per design	Sag is within ± 1% of Designed sag	..... tick if certified
2.0	Relative sag	Equal sag of all cables	Sag difference is 10mm or less	..... tick if certified
3.0	Bulldog Grips	Number, size and spacing as per design		..... tick if certified
4.0	Anchorage / Foundation Block	Dimensions as per drawing		.....
		Proper cut slopes as per drawing		.....
		Stone masonry and concreting as per drawing and specifications		..... tick if certified
5.0	Bridge Erection (Optional: Can only be conducted if a field visit is envisaged.)				
5.1	Walkway	Cross beams and decks are well assembled without missing any nuts and bolts		..... tick if certified
5.2	Suspenders	No missing suspenders/parts, All suspenders are vertical.		..... tick if certified
5.3	Tower (To conform rectification carried out after CMS 9)	Vertical, No missing nuts and bolts, Temporary struts are removed		..... tick if certified
5.4	Fixtures	Hot dipped galvanized		.....
		None missing		..... tick if certified
5.5	Wire Mesh	Wires are heavy zinc coated		.....
		Uniform mesh weaving and properly fixed as per design		..... tick if certified

Trail Bridge Sub-Sector Program

SOCIAL: Critical Milestone 10 - [Public Audit (Bridge wise)]

Site Visit

Participants during Public Audit

	Dalit	Janajati	Minorities	Others	Total			
					Sum	Female	Male	HH
Total								
%								

Contribution Pattern (based on a firm Cost Estimate)

Source	Cash (NRs.)	Support in kind/Labor (NRs.)	Total	
			NRs.	%
VDC				
DDC				
Community				
TBSU				
RAIDP/DRILP				
Others*				
Total				

S. No.	Issues	Acceptable	Not Acceptable	Conditional Acceptability		Decision by TSDO
				Explain condition	Hints on possible rectification needed	
1.0	Fund disbursement from DDC/VDC to UC(SSTB) or Contractor(LSTB)	Dues have been settled	Dues have not been settled for UC and payments outstanding for materials and road transportation		Record details on whom has not been paid. Report to RAIDP/DRILP	If not acceptable recommend to freeze NC
2.0	Timely payment from UC(SSTB) or Contractor (LSTB) to the laborers	All payments have been made	Delay in payments.	Payments not settled	Record details on whom has not been paid. Report to DDC	If not acceptable recommend to freeze NC