



Government of Nepal  
Ministry of Federal Affairs and General Administration  
Department of Local Infrastructure

# Trail Bridge Sector Wide Approach Framework-III

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<b>1. INTRODUCTION.....</b>	<b>1</b>
<b>1.1 Background .....</b>	<b>1</b>
<b>1.2 Context .....</b>	<b>1</b>
<b>1.3 Achievements of Trail Bridge SWAp Framework-II .....</b>	<b>3</b>
1.3.1 Improved Access.....	3
1.3.2 Institutional Strengthening .....	4
<b>2. CONSTITUTION, POLICIES AND STRATEGIES.....</b>	<b>6</b>
<b>2.1 Constitutional Provisions for Trail Bridge Programme.....</b>	<b>6</b>
<b>2.2 National Policies .....</b>	<b>6</b>
<b>2.3 Goal of Trail Bridge Sector Wide Approach Framework-III .....</b>	<b>8</b>
2.3.1 Goal.....	8
2.3.2 Outcomes and Outputs .....	8
<b>2.4 Working Principles.....</b>	<b>9</b>
<b>3. PLANNING AND BUDGETING.....</b>	<b>11</b>
<b>3.1. Planning Tools .....</b>	<b>11</b>
<b>3.2. Planning at Palika Level .....</b>	<b>11</b>
3.2.1. Planning Maintenance .....	11
3.2.2. Planning New Construction .....	12
<b>3.3. Planning at State Level.....</b>	<b>12</b>
3.3.1. Maintenance Planning .....	12
3.3.2. New Construction Planning .....	12
<b>3.4. Planning at Federal Level .....</b>	<b>12</b>
<b>3.5. Budget.....</b>	<b>12</b>
3.5.1. Budget Preparation .....	12
3.5.2. Budgeting Tool.....	13
3.5.3. Three Year's Phase Budget .....	13
3.5.4. Utilization of Sectoral Grants by Local and State Governments .....	13
<b>4. INSTITUTIONAL ARRANGEMENT.....</b>	<b>15</b>
<b>4.1 Institutional set up .....</b>	<b>15</b>
4.1.1 Federal.....	15
4.1.2 State .....	16
4.1.3 Rural and Urban Palikas .....	17
4.1.4 User's Committee .....	17
4.1.5 NGO .....	18
4.1.6 Consultants .....	18
4.1.7 Fabricators .....	18
4.1.8 Contractors.....	18
<b>4.2 Management .....</b>	<b>18</b>
4.2.1 Management at Federal .....	19
4.2.2 Management at State .....	19
4.2.3 Management at Palika Level .....	20
<b>4.3 Technical Assistance .....</b>	<b>20</b>
4.3.1. Main Functions .....	20
4.3.2. Phasing Out .....	21

4.4 Quality Assurance.....	22
4.5 Implementation Manuals & Guide Lines .....	23
<b>5. CAPACITY BUILDING .....</b>	<b>24</b>
5.1 Trainings .....	24
6.1 Guiding Policies and Legal Tools .....	25
6.2 Safeguards on Environmental Impacts .....	26
6.3 Safeguards concerning Vulnerable Groups .....	26
6.4 Safeguards concerning Involuntary Resettlement .....	27
<b>7. FINANCIAL MANAGEMENT AND PROCUREMENT .....</b>	<b>28</b>
7.1 Annual Plan and Budget .....	28
7.2 Fund Disbursement .....	29
7.3 Fund Flow .....	29
7.4 Contribution and Cost Sharing .....	30
7.5 Audit .....	30
7.6 Procurement .....	30
7.6.1 Procurement of Steel Wire Ropes and Bulldog-grips .....	30
7.6.2 Procurement of Steel Parts.....	31
7.6.3 Procurement of Works .....	31
<b>8. MONITORING AND REPORTING.....</b>	<b>32</b>
8.1 Monitoring Tools .....	32
8.3 Monitoring at the State Government Level .....	33
8.4 Monitoring at the Federal Level.....	34
8.5 Assessments, Review and Evaluations .....	34
8.6 Procurement Monitoring .....	35
8.7 Technical Audit .....	35
8.8 Reporting .....	35
<b>9. GOVERNANCE AND ACCOUNTABILITY.....</b>	<b>37</b>
9.1. Legal and Institutional frameworks .....	37
9.2. Audit .....	37
9.3 Accountability .....	38
<b>10. RISK ASSESSMENTS AND MANAGEMENT MEASURES .....</b>	<b>40</b>

## **ANNEXES:**

Annex 1: Trail Bridge Sector Wide Approach Logical Framework III

Annex 2: Rapid Environmental Assessment Check List

Annex 3: Routine Maintenance: Palika-wise, State-wise and Year-wise Bridge number

Annex 4: Major Maintenance: Palika-wise, State-wise and Year-wise Bridge number

Annex 5: New Construction & Rehab Bridges: Palika-wise, State-wise and Year-wise Bridge number

Annex 6: Procurement Plan of Wire Ropes and Bull-dog grips

Annex 7: Manuals at the Core of the National Policy TBS/LIDP

Annex 8: Organogram Technical Assistance Service Providers

Annex 9: TA Exist Strategy

Annex 10: List of Abbreviations

## **LIST OF TABLES:**

Table 2.1: Changes in the Operational Space for TB SWAp Framework- III

Table 3.1: Year-wise Target

Table 3.2: Year-wise Budget

Table 4.1: Budget for Technical Assistance Requirement

Table 5.1: Trainings Planned

Table 7.1: Annual Budget Requirement

Table 10.1 Risk Assessments and Management Measures

## **LIST OF CHARTS & GRAPHS:**

Graph 1.1: Trail Bridge Output before and after Implementation of Trail Bridge SWAp

Chart 4.1: Organogram at Federal Level

Chart 4.2: Organogram at State Level

Chart 4.3: Organogram at Palika Level

Chart 4.4: Institutional Structure for Trail Bridge SWAp

Chart 7.1: Component-wise Cost Break Down

Chart 7.2: Fund Disbursement

Chart 7.3: Fund Flow

# 1. INTRODUCTION

## 1.1 Background

Remoteness and the lack of access to basic services, economic opportunities and natural resources is a major constraint for development in Nepal. Despite recent progress in the expansion of road networks<sup>1</sup>, a substantial portion of the country's rural population continues to rely on trails and tracks for their mobility needs. As such, due to the absence of safe river crossings, many are still restricted in accessing schools, health facilities, farms and other economic opportunities.

In response, the government of Nepal (GoN) has prioritized the construction of trail bridges, within Rural Transport Infrastructure (RTI), as one of its major thrusts to tackle inaccessibility and bring prosperity to the country.

Since 2009, trail bridges have been implemented through the Sector Wide Approach (SWAp), which started with an estimated additional requirement of over **'6,000 new trail bridges'** in the country (when there already existed over 4,000 trail bridges). Led by Ministry of Federal Affairs and Local Development (MoFALD<sup>2</sup>)/Department of Local Infrastructure (DoLIDAR<sup>3</sup>), the sub-sector has achieved unprecedented success with the implementation of two phases – Trail Bridge SWAp Framework-I (2009-2014) with a target **of 2,500 bridges** and Trail Bridge SWAp Framework-II (2014-2019) with a target **of another 2,500 bridges**. During this period, average annual outputs increased from 180 trail bridges prior to the implementation of SWAp to over 450 trail bridges by 2018.

This remarkable success in trail bridge building has led the completion of **over 7,500 trail bridges (amongst which 3,300 were built after implementation of TB SWAp)** across the country. These bridges are serving an estimated 13.6 million people – more than one third of the country's population. In addition, daily traffic counts indicate that 1.3 million people use the trail bridges every day.

However, due to the innumerable rivers that crisscross the country's rugged terrain, there are still regions in the hills, mountains and southern plains, which get flooded and result in communities getting cut-off during the monsoons.

Due to these, Nepal still needs an estimated **2,400 new trail bridges**, to ensure that no citizens have to take a detour of more than 1-hour, to access services and markets in the country. This explains why the GoN accords trail bridge programme a priority-1 status. As such, the government has agreed to extend and accelerate the implementation of trail bridges through the sector wide approach to complete all remaining 2,400 trail bridges in the next 3 years.

Furthermore, the trail bridges programme aligns with the government's Fourteenth Three Year Plan (2016/2017-2018/19), whose target is for economic development, and the achievement of Sustainable Development Goals (SDG) on poverty reduction, ending hunger, reducing mortality, and improving access to quality education, amongst others.

As per the government directions, Department of Local Infrastructure (DoLI) with the support from technical assistance providers (Trail Bridge Support Unit/HELVETAS Swiss Intercooperation) prepared a concept note, which was endorsed in the Steering Committee meeting of Trail Bridge SWAp Framework-II in August 2018. The Steering Committee also directed DoLI to develop a full phased framework elaborating the concept note in the changed federal context. This document – Trail Bridge Sector Wide Approach Framework-III – is the result of this directive and consultative processes. It has consolidated the achievements and the lessons learnt from the previous phases and responded to the new federal context. The details of which are discussed in the following sections.

## 1.2 Context

### a. Political

The Constitution of Nepal, promulgated in September 2015, ended the centralistic unitary system of governance and institutionalized the sovereign power of Nepali citizens by declaring Nepal as a federal democratic republic country. This has paved the way forward for inclusive economic development - through devolution of rights under federalism, political stability and sustainable peace.

Implementation of the constitution represents a pivotal opportunity for the country to re-shape the relationship between the federal and new autonomous sub-national governments – 7 States and 753 Palikas, as the main political and administrative units, both having exclusive and concurrent rights. As per the constitution, trail bridge functions primarily lie with Palikas. For the transitional period before Palikas can fully take-over the responsibilities

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<sup>1</sup> Local road density in the country ranges from 8.72 km/100 km<sup>2</sup> (State 6) to 71.33 km/100 km<sup>2</sup> (State 3). DoLIDAR (2016). Statistics of Local Road network (SLRN) 2016

<sup>2</sup> The precursor of the current Ministry of Federal Affairs and General Administration (MOFAGA)

<sup>3</sup> The precursor of the current Department of Local Infrastructure (DOLI)

of Trail Bridge execution, the Federal government foresees some functions for the State governments (discussed in the later sections). Furthermore, the successful elections at the local, state and parliamentary levels have also renewed people's enthusiasm and expectations. A two-thirds victory by the left coalition during the parliamentary elections also indicates a stable government, which will expedite the federalization of the trail bridge programme. However, transition to the federal structures and decision-making processes are still not final. Its operationalization within the new federal structures at all three levels of government may require more time.

In this new context, the GoN has recognized the importance of the infrastructure sector to be vital for the development of the country; with resource planning prioritized for infrastructure friendly fiscal disbursements. More recently, the decision to complete all trail bridge requirements in the country, to reduce to one-hour detour, within next three years, represents a strong commitment for the development of the sector.

## **b. Economy**

The Nepalese economy remains highly dependent on agriculture and remittances. Over two thirds of the population are engaged in farming activities, which contributes to one third of the Gross Domestic Product (GDP). The agricultural sector, is however still characterized by low productivity and amongst the various constraints, the lack of year-round access to inputs and markets, especially in rural areas, continues to be a hindrance due to insufficient roads and bridges.

Remittances meanwhile have become the primary driver of poverty reduction. Inflow of cash from migrant workers is the single largest source of foreign exchange and is equivalent to over one-third of the GDP. Increased remittance contributed to rises in household consumption and improvement of human development indicators. For example, nation-wide poverty has decreased from 53% in 2004 to 25% in 2011<sup>4</sup>. This decline has however been largely uneven, with 33% of the population in rural areas classified as multi-dimensionally poor compared to 7% in urban areas<sup>5</sup>.

Given the stark rural-urban divide, the government has identified the development of transport and other physical infrastructures as a key strategy to 'end extreme poverty, impoverishment and backwardness'. Not surprisingly, trail bridges, as being reliable, low-cost and technically adaptable, have been identified as a priority area to connect isolated communities with services and opportunities.

Contrary to the assumption that the increased number of bridges (in recent years) would lead to a state of saturation, instead the demand for trail bridges has remained high, due to people's need to access wider economic regions being connected by expanding road networks.

Experiences over the past decades have also shown that trail bridges bring multiple benefits to their communities. Not only do they connect people to markets for goods and services, but they also provide opportunities to local communities to open up new businesses/markets/shops by catering to the higher traffic flows<sup>6</sup>.

## **c. Social**

Nepal is ethnically a highly diverse country with historically deep-rooted structural hierarchies.

Multi-dimensional poverty continues to be highest amongst Hill and Terai Dalits at 43.6% and 38.1% respectively, followed by Janajatis (other than Newars) at 28.2%. Meanwhile, it is lowest for Newars (with the exceptions of Newar lower castes) at 10.2% and Brahmins at 10.3%<sup>7</sup>. Human development indicators also indicate that Dalits (HDI: 0.434) continue to have the lowest values, followed by Janajatis (HDI: 0.482) and Brahmins/Chhetries (HDI: 0.538).

In many cases, remoteness further exacerbates the social, economic and political vulnerability. In many instances, entire communities lack physical access, and are therefore, denied their rights to access services and economic opportunities and enhance their livelihoods. Improving transport systems is therefore a fundamental pre-requisite to address inequality. Trail bridges are thus, relevant considering the country's rugged topography and innumerable rivers/rivulets.

Trail bridge programme has addressed inequality by prioritising bridge construction, right from the planning stage, for disadvantaged groups and later by ensuring that they are employed during bridge construction. Studies have also shown that once the trail bridges are completed, all social and economic groups utilize the bridges equally, experiencing positive changes in education, health and employment as a direct consequence of year-round mobility provided by trail bridges<sup>8</sup>.

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<sup>4</sup> CBS (2011): Nepal Living Standard Survey

<sup>5</sup> NPC (2018): Multi-dimensional Poverty Index: Analysis towards Action

<sup>6</sup> Post Bridge Building Assessments

<sup>7</sup> NPC (2018): Multi-dimensional Poverty Index: Analysis towards Action

<sup>8</sup> COMAT (2014): External Review of Trail Bridge SWAp Framework-II (2009-2014)

#### d. Institutional

Government institutions for trail bridge programme have changed drastically after the roll out of the federal system (at the time of preparation of this document, they were still changing).

At the federal level – Ministry of Federal Affairs and General Administration (MoFAGA) was created, under which, DoLIDAR was restructured into Department of Local Infrastructure (DoLI) with the Bridge Section (BS). At the State level, Ministry of Physical Infrastructure Development (MoPID) with Transport Infrastructure Directorate (TID) and Infrastructure Development Offices (IDOs) in clusters. Similarly, Infrastructure Development and Environment Management Units (IDEMU) have been created within Palikas (ref: chapter 4 for further details).

These new changes have major implications for implementing the trail bridge programme in terms of planning, budgeting, monitoring and reporting. Technical assistance (TA) to the programme is also now envisioned to be more critical in ensuring that there is a smooth transition, until the programme is well institutionalized in the new set-up (ref: chapter 4 for further details).

### 1.3 Achievements of Trail Bridge SWAp Framework-II

Over 7,500 trail bridges have been built across the country to date. This includes, the 1,775 bridges, which were completed till the fourth year<sup>9</sup> of Trail Bridge SWAp Framework-II (2014-2019). Presented below are the major achievements of TB SWAp Framework-II - along two broad themes - Access and Institutional Strengthening of the sub-sector.

#### 1.3.1 Improved Access

##### a. Trail Bridges Provide Safer Crossings and Save Time

**Trail bridges save lives and time, directly by providing safer river crossings and by connecting patients with faster access to health facilities and ambulance services.** Baseline data records show that prior to the construction of a trail bridge, deaths while crossing rivers recorded at 44% of the prospective sites (Baseline 2018<sup>10</sup>), with higher incidences of women fatalities in the Hills. Similarly, accidents (either falling into rivers, cutting off fingers while using Tuins) recorded at 61% of the sites (Baseline 2018). Later, once the trail bridges are completed, people no longer needed to take detours. **Trail bridges saved an average 2.3 hours for a two-way journey** (TBSIS, 2018<sup>11</sup>).

##### b. Access to Basic Services and Employment Opportunities lead to Poverty Reduction

**The bridges serve an estimated 13.6 million people – more than one third of the country's population.** This is significant considering that most of the traffic in rural Nepal are still pedestrian.

During TB SWAp Framework-II, 1,775 new trail bridges (71% of the phase target) were constructed. Major maintenance of 637 trail bridges (79% of phase target) were carried out. Annual routine maintenance of 4,900 trail bridges were completed<sup>12</sup>. The graph below shows the dramatic rise in outputs after the implementation of trail bridge sector wide approach; whereby outputs have risen significantly from an average of 180 bridges annually prior to 469 bridges with the implementation of SWAp.

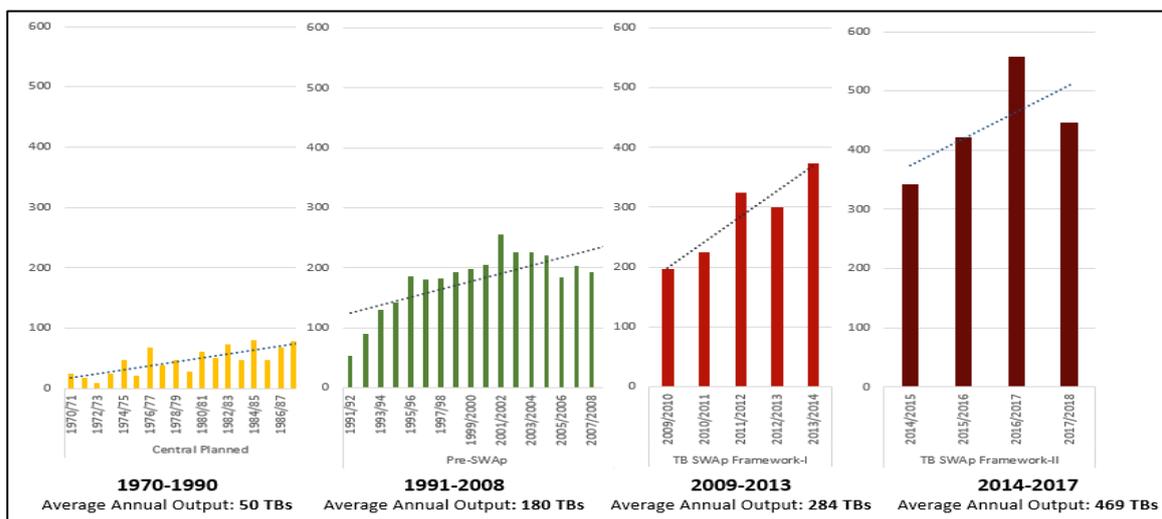
**Graph 1.1: Trail Bridge Output before and after Implementation of Trail Bridge SWAp**

<sup>9</sup> The target was to build 2,500 bridges in five years of implementing TB SWAp Framework-II (2014-2019).

<sup>10</sup> TBSU (2018). Baseline 2018. Kathmandu Nepal

<sup>11</sup> Trail Bridge Strategy Information System

<sup>12</sup> At the time of preparing the framework document (fourth year of TB SWAp Framework-II)



Source: PMIS 2018

Meanwhile, the average daily traffic count on the 7,500 plus bridges recorded **over 1.3 million people crossing every day**. When disaggregated by gender, slightly more men and boys (52%) cross the bridges more frequently than women and girls (48%) for different purposes. Except while performing household chores, more women and girls (53%) cross the bridges compared to men and boys (47%) (PBBA 2017<sup>13</sup>). **These show that women and girls perform more of unpaid domestic care than men/boys.**

**Accessing schools and health facilities safely continues to be significant reasons for a need of the trail bridges.** Over 30%<sup>14</sup> of the trail bridges were specifically constructed to ensure safer crossings for school-children. Later, once the bridges were completed, records from the schools showed that there was a **16% increment in student attendance** (from those coming from across the river). Similarly, the **number of patients seeking treatment from health facilities also increased by 23% after having trail bridges within the communities.**

**Year around access to markets is another benefit accrued due to trail bridges.** Acquiring basic goods (oil, salt, food grains), agricultural inputs, and selling local products have become easier and safer with the trail bridges. New shops/businesses opened up at 20% of the newly completed bridge sites (PBBA 2017), where higher traffic flows were recorded<sup>15</sup>. Land prices near the vicinity of the bridges increased on average by 23% (Chhetry, 2016<sup>16</sup>).

In cash strapped communities, **the construction of trail bridges injected NRs 1.8 billion<sup>17</sup> mainly in the civil construction of bridges.** People received employment opportunities primarily in portering, contributing skilled and unskilled labour at construction sites. **Over 4.7 million person-days (65% of which targeted to disadvantaged communities) of employment was generated during the construction . Furthermore, 2.6 million person-days were generated (20% women) during the fabrication of steel parts in the urban centers.**

### 1.3.2 Institutional Strengthening

#### a. Capacitated Governments at center and local levels to Plan and Build Bridges which adhere to Technical Standards

During TB SWAp Framework-II, (the then) **central, district and local governments along with local NGOs and the private sectors increased their efficiency in delivering trail bridge services and maintain their quality standards.** This is proven by the completion of 450 bridges annually with all the bridges randomly selected passed the quality tests. These were possible, primarily, through enhancement of technical capacity conducting numerous trainings for engineers, sub-engineers and assistant sub-engineers catering to deliver trail bridges; demonstration Model Bridge Trainings (DMBTs) for Users' Committee members and Bridge Craft's Persons; and Routine Maintenance Trainings (RMTs) for Bridge Wardens (BWs), amongst others.

Planning and monitoring tools such as the geographic information system (GIS) based - District Bridge Records ; a web-based Programme Monitoring Information System (PMIS) were updated; Trail Bridge Strategy Information System (TBSIS) is maintained within TBSU.

<sup>13</sup> Post Bridge Building Assessment

<sup>14</sup> Main utility of trail bridges: perform household chores (30%) and reach schools (30%), followed by access to markets to buy and sell goods (17%), interact with family/friends (12%) and go to health facilities for treatment (10%) (TBSIS, 2018).

<sup>15</sup> 758 average daily traffic was recorded in Brahmasthan bridge in Mahottari

<sup>16</sup> Chhetry, D (2016). Post-Post Bridge Building Assessment

<sup>17</sup> On average, NRs 1,050,000 flowed into local communities during bridge construction

Programme prioritized efforts to strengthen routine maintenance by ensuring that all completed bridges have BWs either by appointing new ones or replacing those that have not performed well, which was followed by RMTs to 2,217 BWs (including 809 women). Post Bridge Building Assessments (PBBAs) indicated success of these efforts with noticeable changes in the routine maintenance with more rooms for improvement still required.

All trail bridges were parts of annual plans of local bodies and local bodies adhered to technical standards and demarcation conventions of trail bridges. Technical Assistance providers continued to support bridge building activities, monitored them to confirm on adherence to the existing modality and norms/standards.

TB SWAp prepared itself for smooth transitioning into the new federal structure. It involved with a gradual adaptation of modalities with different roles and responsibilities for trail bridge building at the local, state and federal government levels (ref: chapters 2-9).

#### **b. Discriminated Groups are in Leadership Roles to Manage Trail Bridge Construction**

TB SWAp Framework-II prioritizes to ensuring inclusive Users Committees so that discriminated groups can participate and raise their concerns. Records indicate that **inclusionary quotas are widely accepted and implemented**. Almost all (93%) of the Users' Committees (UCs) were proportionately representative of the beneficiary communities, with women representation at 46%. This is higher than the phase target (of 40%). Similarly, all UCs had at least one individual from a discriminated group in an executive position. Qualitative assessments indicate that quotas have been useful for creating the space for women and other discriminated groups to raise their voices and become more involved, however, they also confirmed that for many 'time poverty' and 'lack of skills' were major constraints in 'actively participating' and 'earning higher income' during bridge construction<sup>18</sup> – an issue which shall be addressed in this new phase.

To maintain transparency throughout the project cycle, local bodies conducted public hearings and audits at all bridge sites. About 77% of bridge sites have hoarding boards that gave information about trail bridge costs, stakeholders involved etc.

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<sup>18</sup> AsCAP (2017): Transforming gender relations in trail bridge programme in Nepal: An analysis of policies and practices

## 2. CONSTITUTION, POLICIES AND STRATEGIES

### 2.1 Constitutional Provisions for Trail Bridge Programme

The long awaited, democratic republican constitution of Nepal promulgated in September 2015 has a number of policy commitments to realize inclusiveness, prosperity and equitable society in Nepal.

The constitution mentions:

- Guaranteeing the best interests and prosperity of the people through economic and social sector
- Ensuring good governance for the equal and easy access of the people to the services and facilities delivered by the state
- Making equitable distribution of the available means and resources and benefits of economic development
- Developing balanced, environment friendly, quality and sustainable physical infrastructures, while according priority to the regions lagging-behind from development perspective
- Enhancing local public participation in the process of development works,
- Making higher education easy, qualitative and accessible
- Ensuring simple, easy and equal access of the citizens to transportation facilities, and to make the transportation sector safe, systematic and persons with disabilities friendly for enabling equal access of all citizens to basic goods

Trail bridges contributes to many of the above mentioned objectives and therefore remain a priority of the GoN as millions of Nepalese still depend on trail based transport systems that need safer river crossing facilities.

The constitution states that jurisdiction and implementation of trail bridges, which are inseparable from rural and agro-roads, solely lie with Palikas. The Local Government Operation Act 2074 BS (2017 AD), Schedule 8, also clearly mandates Palikas for policy formulation, planning, implementation, monitoring and maintenance of trail bridges.

Due to the complex nature of trail bridge building and nascent stage of the new federal system, many of the envisioned organs are not fully functional and do not have adequate technical capacity and resources. At the time of preparation of this Framework, ambiguities regarding release of conditional grants to Palikas, procurement of goods (wire-ropes, bull-dog grips, and steel decks, and technical services survey designs and construction supervision), amongst others still remained. In order to address these and ensure that the TB SWAp continues with the same momentum, Trail Bridge SWAp Steering Committee proposed and agreed upon a number of adapted functions for each government (Federal, state and local), which are presented below (and elaborated in chapter 4).

1. **Federal:** National strategy formulation, sub-sector planning, release of conditional grants to Palikas and States, procurement of foreign goods (wire-ropes and bull-dog grips) for trail bridge construction through global tendering, executing complex and strategic trail bridges of international importance
2. **States:** Facilitating the building extra-long span (>280m) trail bridges, procurement of state level TA provider (to ensure the quality of works of palikas under the corresponding state), procurement of the steel parts (anchors, decks and towers), upon the request of those Palikas, which are unable to procure by themselves, store management and distribution of materials (for wire-ropes and bull-dog grips)
3. **Palikas:** Planning and fund management for trail bridge construction and maintenance, trail bridge fund disbursement to User's Committees, local NGO service procurement, trail bridge construction, repair maintenance and steel parts procurement
4. **Technical Assistance Provider:** Providing technical assistance to assure the quality of works by federal, state and local governments in survey, design, supervision of trail bridges while implementing the trail bridge building programme, capacity building of stakeholders and quality assurance

### 2.2 National Policies

#### a. Fourteenth Periodic Plan (2016/17-2018/19) and Trail Bridge Programme

The current Fourteenth Periodic Plan (2016/017-2018/019) of Nepal aims '*to spend a considerable amount of available resources on developing infrastructure and focus has been laid on cross-cutting issues such as gender equality, inclusive society, environmental protection and capacity development of different institutions.*'

The periodic plan states that local infrastructure development is even more important in the context of federalism. Therefore, in coordination with States and Palikas, the plan intends to invest more in a planned way, for the transport sector, under infrastructure development. The plan also commits to drive economic and social

transformation through engagement with the States and Palikas, to ensure direct participation of local citizens in the infrastructure development programme planning and implementation. To achieve the objective, collective effort is required for the management of available resources and its best use. Furthermore, the periodic plan mentions making Users' Committees accountable for adapting quality standards to ensure sustainability of the outputs derived by the programme.

The Fourteenth periodic plan has envisioned state and local infrastructure development as a tool to achieve balanced and inclusive development. These infrastructures are to enhance public access to economic and social opportunities. This will also lead to income generation and create employment opportunities for the public.

To materialize the objectives, it has identified few key strategies:

- Selection of priority infrastructures to establish interrelationship between State and Palikas and develop through local participation and ownership
- Environment friendly infrastructure development by utilizing local labor, skill, resources and technology
- Working policies to support the strategies are: projects completed within two years, regular and emergency repair maintenance, state level quality checking labs, capacity building of local technical wings/offices, equalization, conditional, matching and special grants in an arrangement of cost sharing.

Trail Bridge building is one of the major agenda and component of the local infrastructure development strategy of the plan. The plan also commits to replace all 'tuins' within two years' time. Interestingly, the TB SWAP Framework-II has in place, all these strategies and working polices and TB SWAp Framework III will continue to embrace these.

### b. Trail Bridge Strategy

The Trail Bridge Strategy/Local Infrastructure Development Plan (TBS/LIDP) was promulgated in 2006 –with the goal - *“Construction and operation of trail bridges will promote access for local people (particularly women, dalits, ethnic communities, disadvantaged, discriminated and marginalized classes) to social and basic services, economic resources and opportunities, thereby contributing towards poverty alleviation”*.

Twelve years on, the goals, strategies and working principles are still valid. However, changes in the operational space (see table below) and context due to federalization has meant that the strategy now needs to be updated and approved, together with the TB SWAp Framework-III.

**Table 2.1: Changes in the Operational Space for TB SWAp Framework- III**

Indicator	TB SWAp Framework-II (2014-2019)	TB SWAp Framework-III (2019-2022)
Annual trail bridge construction target	500 bridges	800 bridges
Implementation agencies	DoLIDAR, DDC, DTO	Federal, States, Palikas
Resource	Conditional grants only	4 types of federal grant (Equalization, Conditional, Co-financing and Special)
Budget Source:	Central government	Federal, State & Palika
Nature of programme	Priority - 1	3-year project period
TA service provider	TBSU through Regional TA providers (RTAPs)	TBSU with State government supported TA providers
Bridge demand	Long list	Revised bridge demand from Palikas and States

Despite the changes above listed, technical, social and procedural arrangements, standards and specifications are still valid and equally important to follow. Where necessary, these operational manuals and guidelines will be adapted to ensure quality outcomes.

## 2.3 Goal of Trail Bridge Sector Wide Approach Framework-III

### 2.3.1 Goal

Trail Bridge SWAp Framework-III will contribute towards a prosperous Nepal, with equitable socio-economic development, by strengthening all levels of the government to provide improved access to basic services and economic opportunities to rural communities, especially disadvantaged groups, by availing safer river crossings within 1-hour detour.

### 2.3.2 Outcomes and Outputs

Three outcomes and corresponding outputs presented below will help achieve the goal of Trail Bridge SWAp Framework-III:

#### **Outcome 1: Nepali citizens, especially disadvantaged groups, use trail bridges to have safer access to basic services and employment opportunities equitably**

Implementation of Trail Bridge SWAp Framework-III will benefit an additional 3.6 million people (1.8 million belonging to disadvantaged groups) from safer river crossing facilities and decrease in detour time. This will result in increased school attendances, rise in patients seeking treatment at health facilities and emergence of new market centers and business opportunities.

This outcome will be achieved by the following outputs:

##### **Output 1.1: Users' Committees strengthen their capacity to organize themselves inclusively to build trail bridges**

*Inclusive Users' Committees will be established to build Short Span Trail Bridges.*

##### **Output 1.2: Users' committees strengthen their capacity to build good quality trail bridges equitably and transparently**

*Trained Users' committee members and local bridge craftpersons will build good quality Short Span Trail Bridge trail bridges with technical assistance of NGOs and TA providers transparently. During construction, 5.5 million person-days (including 2.7 million for disadvantaged groups) of employment will be generated.*

#### **Outcome 2: Governments at all levels (Federal, State, Palika) implement Trail Bridge Strategy to construct and maintain trail bridges equitably**

All government levels will incorporate prioritised trail bridge plans and budgets within their annual plans and will adapt and adhere to the norms, standards, technologies, demarcation conventions and implementation modalities as detailed in the Trail Bridge Strategy and its core manuals.

This outcome will be achieved by the following outputs:

##### **Output 2.1: Department of Local Infrastructure strengthens its capacity to update and adapt trailbridge related policy frameworks and technology**

*DoLI will revise and update policy frameworks and related manuals to enable a more efficient functioning environment for trail bridge construction. New technologies for special, complex and signature bridges will also be piloted and tested.*

##### **Output 2.2: Department of Local Infrastructure strengthens its capacity to plan, budget and procure wire-ropes and bull-dog grips for trail bridge programme and implement trail bridges which are technically complex and of national importance**

*Trained technical personnel within DoLI plan, budget, procure wire-ropes and bull-dog grips and update reference rates and standard list of qualified contractors, fabricators, and manufacturers. DoLI will coordinate and ensure conditional grants required by Palikas and States are released via State treasuries. Complex, international-boundary and signature bridges will also be built by DoLI.*

##### **Output 2.3: State governments strengthen their capacity to build technically complex, extra long LSTBs (>280 m) and inter-state boundary bridges equitably**

*Trained technical personnel within Infrastructure Development Offices will build complex, inter-state boundary and Long Span Trail Bridges (>280 m). Focal persons will manage monitoring systems and stores within their administrative boundaries. On availability of internal resources, States may procure wire-ropes and bull-dog grips. Steel parts, may also be procured at the request of Palikas.*

**Output 2.4: Palikas strengthen their capacities to support communities and contract consultants/contractors to equitably build good quality trail bridges and maintain them**

*Palikas will incorporate prioritized trail bridge plans into their annual plans. Trained technical personnel will support Users' Committees to build Short Span Trail Bridges and Long Span Trail Bridges through consultants/contractors. Palikas will plan and implement major maintenance/rehabilitation. They will also revive/appoint Bridge Wardens, train them and provide the necessary funds for routine maintenance.*

**Outcome 3: Private sector (consultants, contractors, fabricators, educational institutes) engagement leads to effective delivery of good quality trail bridges**

Qualified consultants, contractors and fabricators are available to provide good quality services and works efficiently and effectively. Educational institutions also continue to include trail bridge courses in their curricula to develop trained human resources.

This outcome will be achieved by the following outputs:

**3.1. Consultants/contractors and Fabricators strengthens their capacity to effectively and efficiently provide services for the construction of good quality trail bridges**

*Qualified consultants and fabricators are available and capacitated in each State for trail bridge building. Lab testing facilities are also promoted in each State.*

**3.2. Qualified technical personnel on trail bridge building are developed in the market**

*CTVT and educational institutes continue to provide trail bridge courses while fresh graduates are provided with traineeships/internships and on-job-trainings.*

Refer Annex 1 – Trail Bridge Sector Wide Approach Framework-III Logical Framework for further details.

## **2.4 Working Principles**

**a. Community Approach**

The value of Community Approach is rooted in the belief of “build your own bridge.” TB-SWAp Framework III continues with Community Approach for all SSTBs implementation. Local communities’ initiates bridge demands, which is a bottom up approach. Building bridges through User Committees in a participatory way by optimizing the use of local resources is the main advantage of community approach. The local Palikas will then take up these demanded bridges for planning, budgeting and implementation as per the prioritization criteria and by endorsing from the Palika councils. Furthermore, it brings feelings of ownership among the users and promotes accountability of Palikas to the local people.

The local government and the NGOs provide technical and social support to the UCs. Trail Bridge Support Unit and State Technical Assistance Providers will provide technical supports where needed to ensure technical quality standards and other required assistance to the government. Additionally, the community people will learn the skills of bridge building through the DMBT. Palikas implement Trail Bridges at the local level and ensures quality of bridges and adopts right technologies as laid down in the revised TBS and its core manuals.

**b. Private sector Consultants / Contractors**

Palikas will implement LSTB bridges at strategic locations fulfilling the prescribed socio-economic criteria. The private sector consultants (either through State Technical Assistance provider) or individual consultants procured by palikas directly prepare the Detail Project Report (DPR) following the standard guidelines. The contractors procured by palikas directly will construct the LSTB bridges on a turnkey package (fabrication of steel parts, transportation, construction and bridge erection including supervision) as per national competitive bidding (NCB) as prescribed by PPMO Standard Bidding Document. Quality assurance is the responsibility of the contractor, whereas the Palikas with the supports of state TA providers will monitor and assists palikas in quality control of constructed bridges.

**c. Gender Equality and Social inclusion**

Achieving Inclusive growth is a persistent challenge and a considerable proportion of Nepal’s population continues to be affected by discrimination. These groups include women, Dalits, Janajatis, Minorities, Other Backward Class (OBC) and economically poor people. In many cases, remoteness further exacerbates the social, economic and political vulnerability. In many instances, entire communities lack physical access, and are therefore, denied their rights to access services and economic opportunities and enhance their livelihoods. Improving transport systems is therefore a fundamental pre-requisite to address inequality.

Trail Bridge SWAp has long focused on issues of discrimination and social exclusion through the following activities:

- i. Promoting women and discriminates groups to represent proportionately in the User Committees;
- ii. Promoting them a space for decision-making role in executive committee;
- iii. Promoting equal pay for equal works;
- iv. Providing training on trail bridge building and maintenance so that they can earn; and
- v. Providing employment opportunities to DAGs in construction of trail bridges

TB SWAp framework III will make with additional efforts to economically women through skill-based training where feasible and will address other barriers of 'time poverty' and 'lack of skills'm so that women, in particular, can benefit more from the employment in trail bridge construction works.

#### **d. Equal Wage for Equal Work**

Article 18 of the Constitution mandates that there is no discrimination with respect to rumeration based on gender. This is a fundamental principle which has been practiced and monitored at all bridge sites during bridge construction. Project books record working hours, type of work and payments of all workers, with payments made within 2 weeks of the Users' Committees (UC) receiving funds. NGO's monitor payments based on the project books which are maintained by the UC's at the bridge sites.

#### **e. Transparency**

Maintaining transparency throughout the project cycle is a prominent aspect of bridge building process. Social accountability tools such as Public Hearing, Public Review, Public Audit and Hoarding Boards are used for transparency. At every bridge site, project conducts public hearing to provide project related information and develop same level of understanding among all the stakeholders to be involved, where bridge related information from technical, social and managerial aspects are also shared, and plan of actions are appraised. While public reviews and audits are conducted for reviewing progresses, for making amendments if required, and for making expenditure details public. These events are platforms for the primary stakeholders to voice their appreciations as well as dissatisfactions in any matter and the Palikas will have the responsibility to address the issues. It also provides an opportunity for Palikas to exhibit downward accountability to the community people. Representatives of the rural/urban Palikas, partner NGOs, TBSU/STAP, beneficiary community, UC members are mandatory to be present. Hoarding Board at each site exhibits the salient features of the bridge including stakeholders involved, the cost of bridges, the technology used and so forth.

To further reinforce accountability and transparency under Contractor Approach too, these tools of Public Hearing, Public Review, Public Audit and Hoarding Board are mandatory, while constructing long span trail bridges, as per the government policies.

#### **f. Conflict Sensitivity Programme Management**

Conflict Sensitivity Programme Management (CSPM) is a management approach in execution of development programme in minimizing or avoiding conflict situation. TB SWAP Framework III will continue to work with this approach as it is still relevant in the new context of federalization roll out. New stakeholders including State governments, technical teams within each palikas and more private sector service providers will now be involved in the process. This approach, therefore, will allow to work safely and effectively, contributing to the prevention of any potential violence and conflict. The core team of TBSU/STAP will be oriented on safety and security matters as part of CSPM. The team will use tools such as actors mapping, local risk assessment when required. They will abide by the standard operating procedures and security guidelines and make pro-active communication with the whole team and all stakeholders as required.

### 3. PLANNING AND BUDGETING

As per the framework provided by the Constitution, Local Government Operationalization Act 2074 BS (2017) and supporting regulations, Trail Bridge SWAp-III will be planned from the bottom level at Palikas, bring the bridge demand (from among the Bridge Demand List of 2,400 bridges, endorsed by local assembly/councils - ref: Annex 1), and budget requirements to the Federal Government via State governments. The federal focal government (MoFAGA and DoLI) approves the plan and assures the required budget from MoF, which, will be made available through LMBIS. Once approved in LMBIS, respective States and local Palikas receives the funds devolved to them as conditional grants with authority to spend through the State/Local treasuries for the execution of trail bridges by Palikas. This applies for the execution of Federal line ministry's conditional grants for Trail Bridge SWAp-III, while the Palikas (being an autonomous local body) can execute trail bridges from their own internal resources, endorsed by their councils. However, Federal Government strongly advises that until next three years, Palikas should follow Trail Bridge SWAp-III so that resources are optimally used and not duplicated. This is also to ensure accepted norms, standards and guidelines are strictly applied for quality control of trail bridges built by Palikas. The following sections elaborate the details of planning processes.

#### 3.1. Planning Tools

Planning at the local government, state and federal government levels will follow standard procedures as stipulated by the government of Nepal. For the trail bridge programme, specific planning tools include:

- a. **Nepal Trail Bridge Directory/Bridge Demand List (Revised):** This directory lists the demand of 2,400 new trail bridges, to ensure that all citizens within the country do not have to take a detour of more than 1 hour to access basic services and employment opportunities.
- b. **Bridge Record:** This is a web based online system which consists of all the 7,500 plus trail bridges which have been completed in Nepal along with their conditions, based on periodic Bridge Condition Investigations (BCIs). It includes the geographical location (coordinate system using google map and GPS system). This system will be anchored and managed by the state governments, with delegated access to update information provided to the appointed focal staff of local and federal governments. This tool will provide the base for maintenance planning.
- c. **Line Ministry Budget Information System:** This is a web-based system used to prepare annual work plans and budgets. It is a part of the Government's Integrated Financial Management Information System (IFMIS). DoLI finalizes the bridge plans as per local assembly approved plans sent by Palikas via state governments and enters in the Line Ministry Budget Information System (LMBIS) with required sectoral conditional grants. The MoF and MoFAGA reviews the proposed budgets and MoF approves it before end of the fiscal year during the period of budget announcement. LMBIS also allows for performance-based budget release, whereby weighted physical progresses of trail bridges are linked with the release of sectoral conditional grants to the DoLI, state and local governments.

#### 3.2. Planning at Palika Level

Chapter 3 (Sub-Clause 11) and Chapter 6 (Clause 24) of the Local Governance Operations Act 2074 BS (2017 AD) provides sole authority to the Palikas to prepare trail bridge periodic and annual plans for implementation and maintenance.

Palikas will have the authority for all SSTBs and LSTBs between 120-280 m span. Palikas will prioritize Trail bridge programme in order of routine maintenance (RM), major maintenance (MM) and new construction (NC) respectively, as per the clause 6.2.5.2 of the Trail Bridge Strategy.

The processes will follow a series of activities as detailed below:

##### 3.2.1. Planning Maintenance

Each Palika prepares trail bridge maintenance plan based on bridge condition status as per their Bridge Records. Palikas incorporate their bridge maintenance plans into their periodic and annual plans and have them approved by their Palika assemblies and forwards to the federal government before end of each fiscal year for the budget. Trail Bridge SWAp Framework-III will then provide sectoral conditional grants for major maintenance of bridges, while Palikas will have to fund the routine maintenance from their own internal revenue<sup>19</sup>.

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<sup>19</sup> Equivalent to NRs 6,000 per bridge per year (2018)

### 3.2.2. Planning New Construction

Palika's collect and prioritize their bridge demand list from within their own administrative boundaries based on criteria detailed in Chapter 6 (Clause 24) of the Local Governance Operations Act 2074 (prioritization criteria listed below). This will establish the Bridge Demand List.

Prioritization criteria:

- Benefiting population (greater weightage provided to disadvantaged groups)
- Discriminated population amongst the benefiting population
- Distance gained (in hours)
- River type
- Risk factor (deaths due to the lack of a safe river crossing)

Palikas will incorporate the list of trail bridge demand into Palika's periodic and annual plans, after approval by the Palika assemblies. Federal government will provide sectoral conditional grants to fund the trail bridges.

### 3.3. Planning at State Level

Although the constitution does not delegate any roles for State governments on execution of trail bridges, because of its complexity, the Steering Committee meeting of Trail Bridge SWAp on 03.08.2018 has agreed the State Governments' roles on executing inter-state, multi-span, complex and bridges with span above 280 meters. Planning will follow the processes as detailed below:

#### 3.3.1. Maintenance Planning

State governments will carry out major maintenance of trail bridges above 280 m span based on Bridge Records, managed at the state level. Once state governments identify bridges with major maintenance requirements, they incorporate them into their periodic and annual plans with budget requirements and get them approved by their state assemblies. The list is then forward to Federal Government (DoLI/MoFAGA) for approval and entering into LMBIS for budget devolution.

#### 3.3.2. New Construction Planning

State governments will collect bridge demands for inter-state, multi-span and trail bridges with span above 280 meters, meeting the 1-hour detour criteria<sup>20</sup>. Once state governments have the list with prioritization criteria applied, these bridges will then be incorporated into state government's periodic and annual plans, after having approved from the state assemblies. The state governments will forward the assembly-endorsed list to DoLI/MoFAGA for final approval by MoF and budget allocation through LMBIS.

### 3.4. Planning at Federal Level

Although Constitution is silent on Federal government's role on execution of trail bridges, due to the nature of trail bridges that are complex and of national significance, the Steering Committee meeting of Trail Bridge SWAp on 03.08.2018 has agreed the Federal Government's roles on executing such bridges. However, such bridges will be exceptional and few in numbers.

### 3.5. Budget

#### 3.5.1. Budget Preparation

Trail bridges can be funded through - (i) federal conditional grants, (ii) equalization fund, and (iii) through Palika and State government's own resources.

Department of Local Infrastructure Development (DoLI)/Trail Bridge Section (TBS) will compile annual programme targets and budget requirements for bridges which meet the one-hour detour criteria, from Palikas and States to prepare the TB SWAp annual programme and budget.

TBS will also allocate budgets and prepare annual procurement plans for wire ropes and bulldog grips, capacity building, technical monitoring/inspection, office equipment, among others. In addition, TBS will also plan budgets for recurrent expenses required to achieve the programme targets. Afterwards, TBS will forward the Trail Bridge SWAp annual programme, budget and procurement plan through the Ministry of Federal Affairs and General Administration (MoFAGA) to the Ministry of Finance (MoF) for approval in LMBIS.

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<sup>20</sup> Bridge demand less than the 1 hour detour criteria will be implemented either through the state's own internal revenue and/or from the equalization fund.

### 3.5.2. Budgeting Tool

Budgeting will follow standard procedures as stipulated by the government of Nepal. For the trail bridge programme, the specific budgeting tool includes:

- a. **Line Ministry Budget Information System:** As mentioned in the previous section, this is the government's web-based system to plan and release budgets based on performance of the sector. For Trail Bridge SWAp Framework-III, the LMBIS shall include the federal conditional grants to Palikas and State offices.

### 3.5.3. Three Year's Phase Budget

A total budget of NRs 20,290 million (US\$ 178 million) including NRs 869 million (around CHF 8 million) for technical assistance, will be required for the three-year phase.

The year-wise targets and budgets presented in the tables below have been calculated to serve as a basis for the periodic and annual plans of Palikas, states and the federal government. Funds are prioritized for routine maintenance, major maintenance and new construction (both short and long span) bridges as per the Trail Bridge Strategy.

**Table 3.1: Year-wise Target**

Component	Year 1	Year 2	Year 3	Total
Routine Maintenance	7,000	7,500	8,000	7,500 bridges annually
Major Maintenance	200	250	300	750
New Construction	600	800	1,000	2,400 bridges

**Table 3.2: Year-wise Budget\*  
(in million)**

Component	Year 1	Year 2	Year 3	Total
Routine Maintenance	45	53	66	165
Major Maintenance	400	500	600	1,500
New Construction	6,255	6,452	5,019	17,725
STAP and Cost of Services	250	300	350	900
<b>Total (in NRs)</b>	6,950	7,305	6,035	20,290
<b>Total (in US Dollars)</b>	61	64	53	178

(Note: Budgeting for Routine Maintenance will be from local government's own funds)

### 3.5.4. Utilization of Sectoral Grants by Local and State Governments

Local and State governments should follow the parameters as set out below:

- a. Local and state governments shall follow the Trail Bridge Strategy and the corresponding manuals and guidelines.
- b. Local and state governments shall prioritize routine maintenance, major maintenance and rehabilitation, new construction and access trail improvement in order of sequence and finalize their annual programmes accordingly.
- c. Local governments will make 'routine maintenance funds' available through its own internal revenue for Bridge Wardens and shall arrange to forward the progress reports and bridge conditions to states and federal government.
- d. Local governments shall procure accidental insurance policy for labourers for all bridges under-construction.
- e. Local governments shall recruit NGO having experiences in trail bridges for survey, designing, community preparation and construction supervision as per the Trail Bridge Strategy and NGO/consultant Procurement Guidelines.

- f. NGO/ consultant staff delegated for trail bridges shall have accidental insurance and local governments shall reimburse the premium to NGOs.
- g. Budgets will be utilized for the purpose for which it is allocated.
- h. Local governments shall release final payment to Users' Committees after receiving Bridge Completion Certificates during public audits
- i. Final payment for LSTB bridges shall be made only after the issue of Acceptance Certificate from the TA provider
- j. Technical sections of local and state governments shall be responsible for ensuring the quality of construction materials and works and ensuring the quality of the bridges.
- k. Statement of expense along with the physical and financial progress shall be reported by the technical sections of palikas to the states, which shall compile and forward them to the federal government.
- l. Expenses shall also be cross-verified and endorsed during public audits of each trail bridge site.
- m. Final payment of steel parts fabrication shall be made after the Quality Acceptance Certificate is issued by Inspecting Engineer and endorsed by the STA provider along with the obtaining of the store receipt/handing over document of steel parts to the Users' Committee (specifying item-wise quantities)
- n. State governments shall be responsible for periodic Bridge Condition Investigations, updating and managing the Bridge Records.
- o. State governments shall be responsible for monitoring the progress of the programme and quality of the built bridges compliance to TBS by operationalizing PMIS and TBSIS.

## 4. Institutional Arrangement

Till FY 2017/2018, Trail Bridge Sub-Sector Programme under Trail Bridge SWAp Framework-II (2014-2019) was planned / budgeted and coordinated at national level by DoLIDAR / MoFAGA (then MoFALD) and planned, coordinated and implemented by District Coordination Committees (DCC) [then District Development Committee (DDC) / District Technical Office (DTO)] at District level. Presently, after re-structuring of the institutions at Federal level, and emergence of new institutions at State and Palika levels as per the changed federalization context new roles and responsibilities of Federal, State and Local governments have been mandated accordingly. As per Constitution and Local Government Operation Act-2074, Palikas have the exclusive right of trail bridge execution within their jurisdiction.

### 4.1 Institutional set up

It is anticipated that there will be bridge planning and implementation at all level with different resources as delineated below.

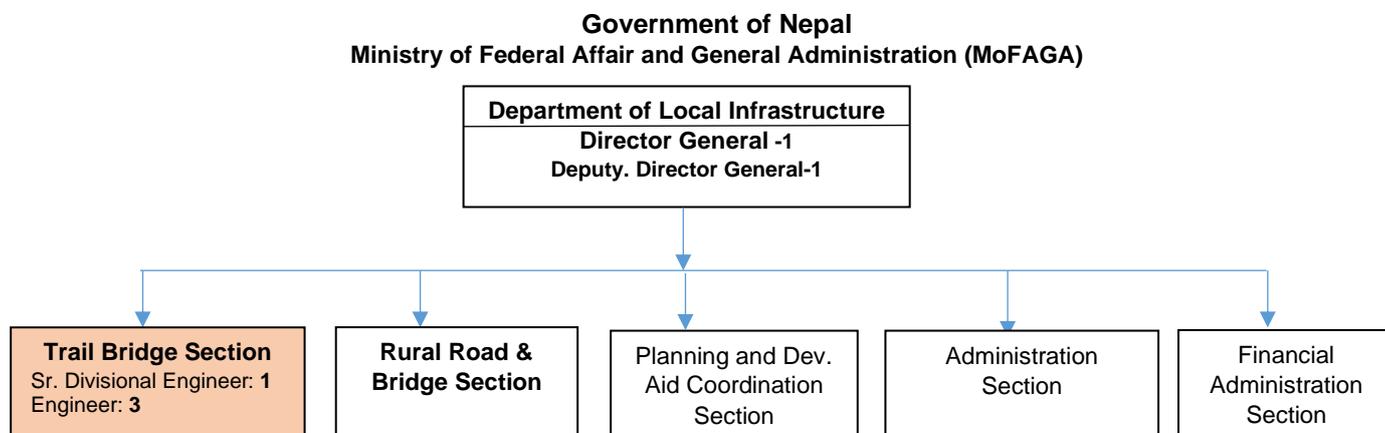
1. TB planned and implemented with TB-SWAp Sectoral Conditional Grant under the TBSWAp Framework III for next three years' with the target of 2,400 bridges with national strategy of availing a trail bridge at least within one hour detour,
2. TB of span more than 280 meters planned and implemented by States with federal conditional grants until next three years and with their own resources after that,
3. TB planned and implemented by Palikas with federal conditional grants until next three years and with their own resources after wards.

The likely institutional set up for planning, monitoring, coordination and implementation of Trail Bridge Sub-Sector Programme at Federal, State and Local level with specific functions is presented below.

#### 4.1.1 Federal

Trail Bridge Section of Department of Local Infrastructure under Ministry of Federal Affairs and General Administration will be responsible for overall planning, budgeting of sub-sector at national level and allocation and disbursement of TB-SWAp conditional grant. The organogram is as presented below.

**Chart 4.1: Organogram at Federal Level**



[Note: Suspension Bridge Project under DoLI exists through internal arrangements at the federal level]

Major functions will be:

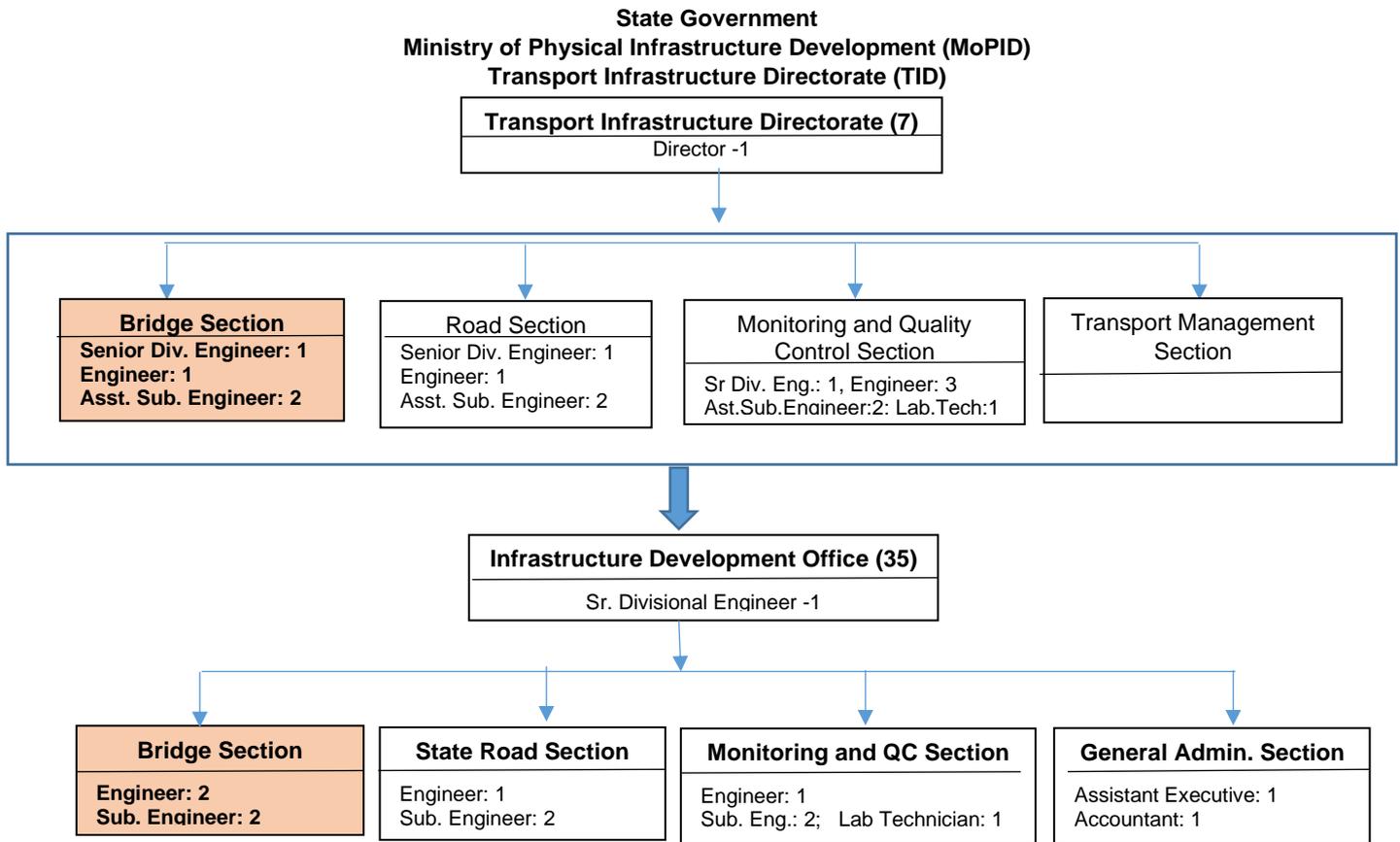
- Delineating national strategic orientation
- Overall planning and budgeting of sub-sector based on GoN Strategy of three years plan to construct 2,400 bridges and maintenance / rehabilitation of deplorable bridges
- Updating national policy, norms and standard suitable to new context and its enforcement
- International procurement of wire ropes and bull-dog grips and provision to Palikas/States
- Allocation of conditional grants to Palikas for construction and hiring NGO services
- Allocation of conditional grants to Palikas/States for procurement of steel parts
- Allocation of conditional grant to States for implementation of extra-long LSTB (>280m), technically complex (multi-span)
- Coordination and facilitation for implementation of international-boundary bridges

- Implementation of “Signature” bridges<sup>21</sup>
- Updating LMBIS to include “State” and “Local government” in the system
- Capacity building at State levels

#### 4.1.2 State

Transport Infrastructure Directorate under Ministry of Physical Infrastructure Development (MoPID) will be responsible for overall planning, monitoring and coordination of sub-sector at State level.

#### Organogram at State Level



Major functions will be:

- Planning/budgeting, coordination and monitoring of TB programme at State level
- Compilation of bridge planning and budgeting within the state received from Local Governments and budget assurance from Federal Government under TB-SWAp conditional grant
- Takeover and manage the store of wires ropes and bull-dog grips at the state level
- Distribute cables and bulldog-grips to bridge sites on request of Palikas within the State
- Procurement of steel parts for bridges on requests of Palikas
- Implementation of extra-long LSTB (>280m), technically complex bridges
- Implementation of inter-state bridges
- Procurement of state level TA provider
- Establish at least one material testing lab in the State
- Technical support and capacity building of Paliaks
- Monitoring at all stages of bridge construction cycle for quality assurance
- Quality certification of bridges implemented by Pailkas
- Capacity building of Palikas
- International procurement of wire ropes and bulldog-grips on availability of State funds and scarcity of wire ropes from Federal government

There will be Infrastructure Development Offices (IDOs) under Transport Infrastructure Directorate (TID) of Ministry of Physical Infrastructure Development (MoPID) located between the clusters of 2 to 3 districts. These offices will be the extended technical units for the implementation of the programme at State levels. They will also have to

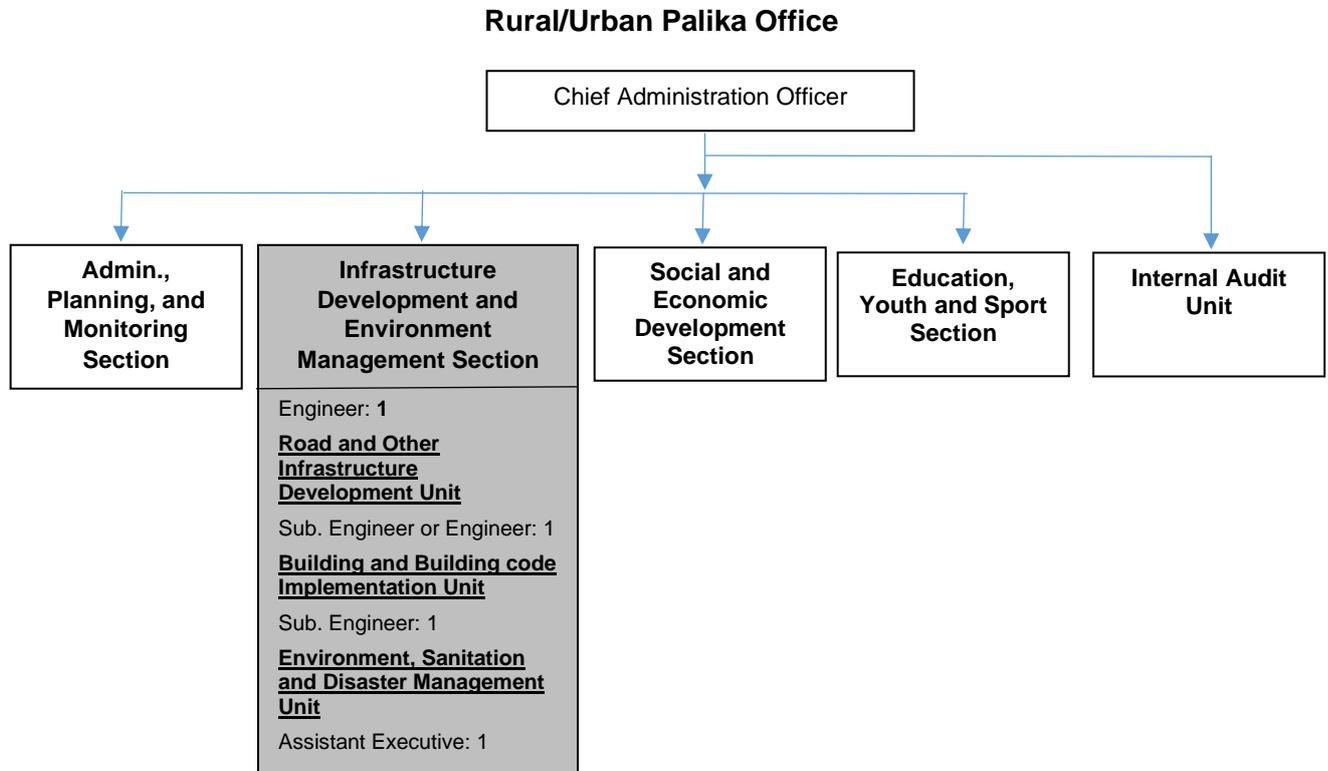
<sup>21</sup> A “Signature” bridge is a bridge that requires unique engineering design (for example: multi-span cable stay bridge, Large Arch bridge, Tridge bridge (above the confluence of three rivers) built at strategic/landmark sites.

support the infrastructure sections of the Palikas as required in the execution of trail bridges as they had served the district development and village development committees in the past in the execution of trail bridges.

### 4.1.3 Rural and Urban Palikas

Transport Infrastructure Development Unit under Infrastructure Development & Environmental Management Section (IDEMS) of Palikas will be responsible for planning, monitoring and implementation of the trail bridge programme within the Palika. The likely organogram is as illustrated below.

**Chart 4.3: Organogram at Palika Level**



Major functions of this unit/section will be:

- Compilation of bridge requests received from the local communities (bridge demand list) within the Palika jurisdiction and its prioritization
- Planning of the prioritized bridges for the implementation as per available own budget (Palika's own resources)
- Budget assurance for implementation of prioritized bridges from Federal/State Government under Trail Bridge SWAp conditional grant
- Procurement of services (NGO/Consultants), goods (cement, steel parts) and works (contractor for LSTB)
- Implementation of Short Span Trail Bridges (span up to 120 m) through Users' Committees by mobilizing local NGOs for technical and social support
- Implementation of Long Span Trail Bridges (span above 120 m) by mobilizing consultants/contractors
- Maintaining and updating "Bridge Records" within the Palikas with their conditions and report to state to include in State Trail Bridge Information and Management System (STBIMS)
- Allocation of budgets for trail bridge routine maintenance and execution through Bridge Wardens resources
- Monitoring of trail bridge routine maintenance and bridge conditions
- Execution of major maintenance/rehabilitation of deplorable bridges with sectoral grants from the federal and state governments
- Progress / financial reporting to State/Federal Government in case of conditional sectoral grant.

### 4.1.4 User's Committee

UC manages the construction / maintenance of bridges by mobilizing local skill, local resource and fund received from Municipal/State with technical and social support from NGOs. UC also makes post construction arrangement for routine maintenance by appointing Bridge Warden.

### 4.1.5 NGO

NGO provides technical services including surveys, designs, preparation of DPRs and construction supervision and social support to the UCs for the construction and maintenance of the SSTB bridges. Palikas and State governments procure NGO services of as per the existing NGO Selection Guideline in the absence of state and palika’s own Guideline.

### 4.1.6 Consultants

Consultants will provide technical services for survey, designs and preparation of Detailed Project Report (DPR) of Long Span Trail Bridges and construction supervision of the LSTB on behalf of the contractor. Palikas and State governments procure services of consultants as per the PPMO’s act and regulations in the absence of state and Palika’s own procurement act and regulation.

### 4.1.7 Fabricators

Qualified manufacturers/fabricators will fabricate required steel parts. Palikas and State governments procure services of fabricators as per the PPMO’s act and regulations in the absence of State and Palika’s own procurement act and regulation. Procurement will be made through the National Competitive Bidding (NCB) by Palikas and States (under their jurisdiction) at the request of Palikas because of the scale of economy and efficiency. Fabricators will deliver fabricated steel to the Palikas.

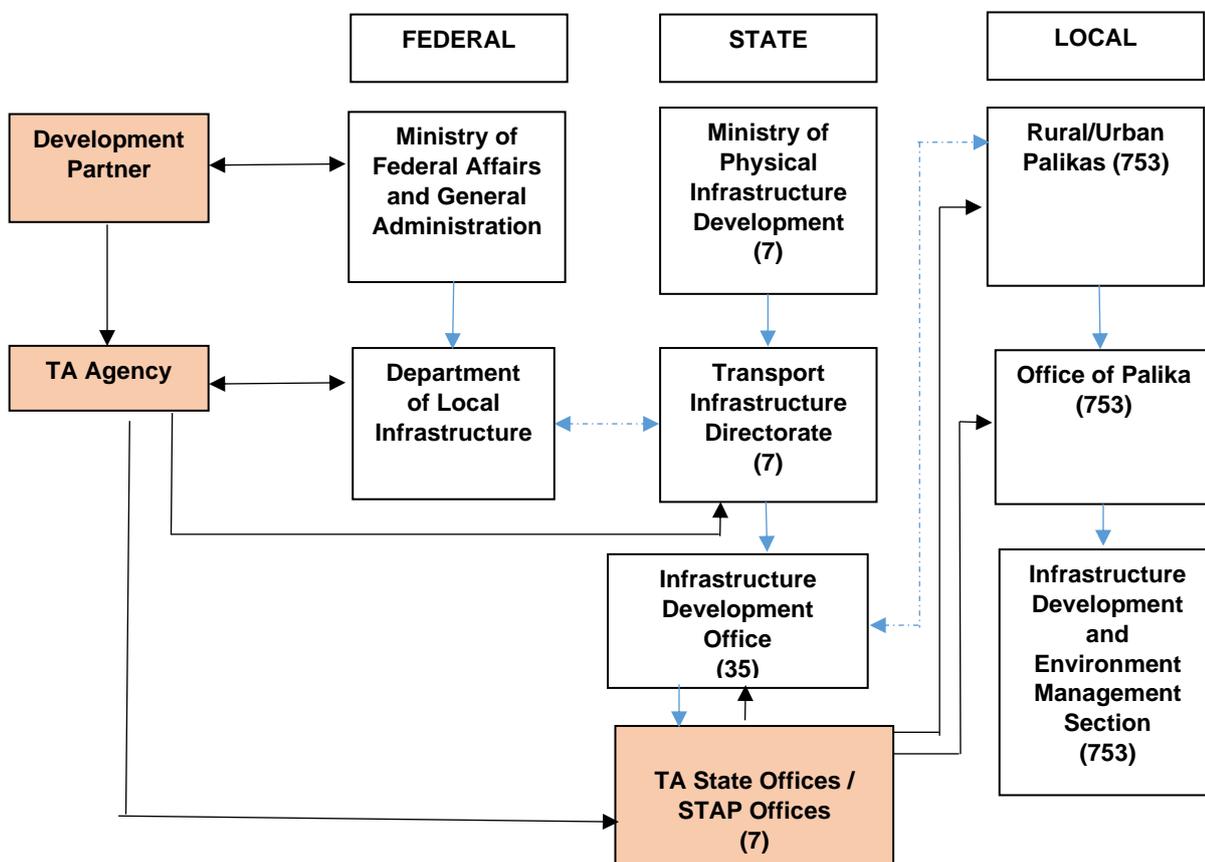
### 4.1.8 Contractors

The Palikas and State Governments will select qualified contractors for the construction of LSTB (above span of 120 m by Palikas and above span of 280 m by State government) including construction supervision (by at least a Sub-Engineer at site) through the national competitive bidding. For the economy of scale and management efficiency, State Government (IDOs) may facilitate/conduct this process on behalf of clusters of Palikas or all Palikas within the jurisdiction of state government.

## 4.2 Management

Institutions at Federal, State and Palika level each will have defined functions as delineated above is presented below with institutional linkages and line of communication as presented below.

**Chart 4.4: Institutional Structure for Trail Bridge SWAp**



## 4.2.1 Management at Federal

At Federal Level, Trail Bridge Section (headed by Sr. Divisional Engineer) under Department of Local Infrastructure / MoFAGA manages the planning, coordination, budgeting / budget disbursements to States and Palikas and monitor the progresses of 3 years TB-SWAp Framework III Programme.

### Trail Bridge SWAp Steering Committee

Trail Bridge SWAp Steering Committee Steering Committee (TB SWAp SC) will continue to steer the programme and provide policy support and strategic guidance. TB SWAP SC will also make key decisions on approvals of Yearly Plan of Operations (YPOs), Annual Progress Reports (APRs), and any changes related to programme steering, execution and management.

The composition of SC shall be:

- |  |                               |
|--|-------------------------------|
| • Secretary, MoFAGA  | Chairperson                   |
| • Ambassador, Embassy of Switzerland in Nepal                              | Vice chair                    |
| • Representative of Office of the Prime Minister and Council of Ministries | Member                        |
| • Representative from Ministry of Finance                                  | Member                        |
| • Representative from National Planning Commission                         | Member                        |
| • Director General, DoLI   | Member Secretary, Coordinator |
| • Chief/Planning and Development Aid Coordination, MoFAGA                  | Member                        |
| • Secretary, MoPID of three to four States on a rotation                   | Member                        |
| • Chief, TBS, DoLI   | Member                        |
| • Representative of MuAN   | Invitee                       |
| • Representative of NARMIN   | Invitee                       |
| • Representative TA Implementation Agency                                  | Permanent Invitee             |
| • Team Leader of TA Agency   | Permanent Invitee             |
| • Representatives of other donors  | Invitees                      |
| • Others as and when required  | Invitees                      |

The SC will be held once a year tentatively in month of June-July before the end of every fiscal year. The Chief of TBS/DoLI coordinates the programme and collaborates with all the stakeholders involved. Later, the Minister of MoFAGA is briefed with meeting minutes.

## 4.2.2 Management at State

At State level, Transport Infrastructure Directorate (TID) under MoPID manages the planning, coordination, budgeting / budget disbursements to Palikas for trail bridges (SSTB and LSTB) to be implemented by Palikas. While it also manages the execution of LSTB of span above 280 m. It monitors overall programme of 3 years Trail Bridge SWAp Programme within its jurisdiction. Infrastructure Development Offices (IDO), located at district level (responsible for Palikas within 2 to 3 district boundaries) under TID will be the implementing wing.

### Trail Bridge SWAp Coordination Committee

There will be a Trail Bridge SWAp Coordination Committee (TBSCC) constituted at State Level. The task of TBSCC will be:

- Overall progress review
- Approval of Annual TB Plan and Budget of the State
- Review issues and constraints in the implementation of the programme and suggest for corrective measures,

The composition of the TBSCC shall be:

- |  |                                  |
|--|----------------------------------|
| • Secretary, MoPID   | Chairperson                      |
| • Director, TID  | Member Secretary and Coordinator |
| • Chief of Planning and Programme, MoEAP                               | Member                           |
| • Trail Bridge Section, DoLI   | Member                           |
| • Representative TA Implementation Agency                              | Permanent Invitee                |
| • Representative of TA Agency  | Permanent Invitee                |
| • Representative of 3 Palikas (highest TBs planned/under-construction) | Invitee                          |
| • Representative of STAP   | Invitees                         |
| • Others as and when required  | Invitees                         |

The Director of TID/MoPID coordinates and collaborates with all the stakeholders at State level. The TBSCC shall meet as and when needed but at least once a year.

### **4.2.3 Management at Palika Level**

Infrastructure Development and Environment Management Section (headed by an Engineer) of the Office of Rural/Urban Palika manages the trail bridge programme with TB SWAp sectoral conditional grant and also manages the trail bridges with its own resources. Palika shall procure the NGO services for supporting UCs for construction and maintenance of SSTBs. Likewise, it shall implement LSTBs by mobilizing Consultants and Contractors with experience in trail bridges, the procurements of consultants and contractors can be facilitated by State governments on behalf of Palikas.

## **4.3 Technical Assistance**

In the new federal context, existing institutions have either been restructured or dissolved and new institutions have emerged at State and Palika levels. The ongoing restructuring processes has also led to the dispersment and de-concentration of experienced human resources to different States and Palikas. To date, none of the IDOs (Infrastructure Development Offices), within States, are fully functional, with all the designated staff and human resources. Similarly, IDEMS (Infrastructure Development and Environment Management Sections), within Palikas, are also not fully functional and face the same issues due to limited human resources.

In case of the private sector, most of the Steel Parts Fabricators are concentrated in State 5 only. But, in-order to ensure trail bridge federalization and devolution, it is essential that the private sector, including Fabricators and Contractors (experienced in trail bridge construction), emerge, evolve and expand within each State.

Swiss government through Trail Bridge Support Unit (TBSU)/ Helvetas Swiss Intercooperation have been providing overall technical assistance to implement TB SWAp Framework II (2014 - 2019). In the changed context, technical assistance is now of greater importance and will be continued during the duration of TB SWAp Framework-III, to fill the present capacity gap and to further strengthen trail bridge devolution process to the newly emerged and restructured institutions at Federal, State and Palika levels.

### **4.3.1. Main Functions**

The main function of the technical assistance will be to support/assist Federal, State, Palikas and other stakeholders to deliver their respective roles and responsibilities to implement trail bridge sub-sector programme as delineated in the chapters above. Broadly, the major function will be to accompany all stakeholders (government institutions, NGOs, CBOs and private sector) in the trail bridge devolution process by filling the present human resource, knowledge and capacity gap within these institutions and thereby conforming the quality assurance in the delivery of the programme. For this, TBSU will support different institutions as follows:

#### **At Federal Level, TA provider (TBSU) will support in:**

- Updating Trail Bridge Strategy and its core manuals, i.e. Trail bridge norms, standards and guidelines in line with federalization and LGOA 2074 and its application at all levels,
- Implementation of TB-SWAp Framework III to achieve the goal of availing a trail bridge within one-hour detour with a target of constructing 2,400 trail bridges,
- Preparation of annual plans and budgets for TB SWAp Sectoral Conditional Grants,
- Handing over of stores to respective States for their management in the new federal set-up,
- Central procurement of wire-ropes and bull-dog grips through International Competitive Bidding (ICB),
- Administration of TBSIS / PMIS and consolidation of bridge records and link with LMBIS,
- DPR preparation and implementation of "Signature" bridges,
- Research and development

#### **At State Level, TA provider (TBSU) will assist / support in:**

- Trail bridge related strategies (broad State level trail bridge requirements with budgets and connectivity outcomes) for each State as part of the State transportation master plans within the TB SWAp Framework-III
- Support in the purchase of technical assistance (STAP) providers at State level,
- Support in planning, budgeting and implementation of bridges with conditional sectoral grants or through Palika's and State's own resources,

- Support in designing and implementation of inter-state, international boundary and technically complex (span>280m, multi-span etc.) bridges,
- Support in procurement of wire-ropes, bull-dog grips by States through their own funds,
- Procurement of steel parts upon request of Palikas,
- Establish and update State Trail Bridge Information system (STBIS) and update bridge records by coordinating with Palikas, and establish linkage with federal level – trail bridge monitoring systems (i.e. PMIS and TBSIS)
- Support in setting up lab testing facilities in each State,
- Facilitate trail bridge related training for government, STAPs, NGOs, private sector,
- Support in store management for wire-ropes, bull-dog grips and steel parts,
- Establishment of quality assurance system,
- Carrying out DMBT and RMT for clusters of Palikas within each State,
- Monitor and support in execution of maintenance / rehabilitation of trail bridges

**At Palika Level TA provider (through STAP) will support in:**

- Preparation of prioritized long list of trail bridge demand within Palikas
- Planning, budgeting and implementation of trail bridges with conditional sectoral grants or through Palika's own resources,
- Adaptation of national trail bridge norms, standards and best practices and modalities,
- Procurement of services (NGO/Consultants), goods (steel parts) and works (contractor for LSTB),
- DPR preparation, UC formation, UC agreements, public hearings and public audits by mobilizing local NGOs,
- Procurement of steel parts for SSTBs,
- Construction of SSTB through UCs by mobilizing local NGOs and LSTBs by mobilizing Consultants and Contractors,
- Capacity building of technical units of Palikas,
- Taking over carry-over under construction SSTB bridges that were managed by DDCs with TB SWAp conditional grants,
- Making amendments of existing contracts with Palikas as employers instead of DDCs/DCCs,
- Allocation of budgets to Bridge Wardens for routine maintenance and monitor works of Bridges Wardens,
- Preparing trail bridge information system within Palikas for all new, on-going and completed bridges.
- STAPs in each state will provide technical supports to all Palikas within State jurisdiction.

Initially, STAPs will be financed by Swiss Government and in long run, federal conditional grants will be provisioned to the State governments for procuring the services of STAPs in addition to supporting recurrent costs.

The organogram of the TA provider is presented in Annex 6.

### **4.3.2. Phasing Out**

Technical assistance by TBSU is scheduled to end with TB SWAp Framework-III, with one additional year planned for consolidation and closure of TBSU activities.

During the implementation of TB SWAp Framework-III, activities performed by TBSU (as mentioned above) will be gradually and systematically handed-over to the relevant government authorities and other stakeholders to ensure continuation, institutionalization and sustainability after TBSU phases out.

Strengthening of focal persons at all government levels, STAPs, NGOs and private sector on trail bridge planning, budgeting, implementation and monitoring will also be simultaneously undertaken so that they develop the necessary skills and have the resources to assume all responsibilities by the end of the phase (ref: Chapter 5: Capacity Building).

An exit strategy and plan will be prepared by TBSU, including reduction in human resources, to outline the key-steps to be followed right from the outset (starting with the first year of implementing TB SWAp Framework-III) and culminating in the final year where activities shall focus on wrapping-up and handing-over of roles and responsibilities to relevant counterparts.

These shall include:

- Consolidation, documentation and publication of learnings and best practices
- Updating and handing over of manuals, guidelines, norms and standards
- Asset transfer and management
- Administrative and financial closing
- Wrap-up workshops at Federal and State level
- Preparation of programme phase completion report
- Closure of Federal and State level offices

Timeline for the exit strategy has been presented in Annex 9.

**Table 4.1: Budget for Technical Assistance Requirement**

(in million)

Component	Year 1	Year 2	Year 3	Year 4	Total
	Technical Assistance & Capacity Building			Consolidation & TA Phase Out	
Human Resource	0.9	0.9	0.9	0.45	3.15
Capacity Building	0.151	0.151	0.151	-	0.453
Consultancy	0.882	0.882	0.882	0.05	2.696
Logistic/Project Equipment	0.458	0.458	0.458	0.15	1.524
Administration/Operation	0.164	0.164	0.164	0.1	0.592
Travel and Daily Subsistence Allowance	0.076	0.076	0.076	0.05	0.278
<b>Total (in CHF)</b>	<b>2.631</b>	<b>2.631</b>	<b>2.631</b>	<b>0.8</b>	<b>8.693</b>

## 4.4 Quality Assurance

In case of SSTB, Palikas will select qualified NGOs as per the prescribed selection criteria. STAPs will review and verify DPRs prepared by NGOs, which the Palika engineer will endorse. NGOs will provide regular technical support and also will supervise construction works implemented by UCs. NGOs will also submit the monthly progress reports reflecting quality of executed works to the Palikas. Palika Engineer will make monitoring visits at different milestones of construction stages. In addition, STAP will monitor with site visits at critical milestones of construction stages. Furthermore, only after conforming the quality standards by Palika engineer, Palika will pay UCs at different milestones. Palika will make final payments to UCs only after final inspection and public audit.

In case of LSTB, qualified consultants procured through state government or Palika themselves will prepare DPRs, which, the STAP will review and verify and finally the Palika Engineer approves it. Selective Contractor with trail bridge experience will execute the construction works. Contractor will also be responsible for regular supervision of the construction works and quality assurance of the executed works as per prescribed quality assurance system and documentation. Further, Palika Engineer will monitor by site visits at different construction stages and STAP will monitor at critical construction stages. The terms of payment shall correlate with the quality assurance by the contractor and Employer's (palika or state government) monitoring reports.

State government will collect and test samples of raw materials for fabrication of steel parts in accredited testing labs (at state levels foreseen within this framework period, at present, material testing lab is available only at Kathmandu, i.e. at IoE, Pulchowk Campus). Only the raw materials with positive test results and certification will be allowed for the fabrication. Palika Engineer and IDOs' engineers will make the inspection of completed steel parts and issue the Inspection Certificate of accepted steel parts. In addition, the fabricator shall make continuous quality monitoring in the process of fabrication and galvanization. The fabricator needs to submit the quality assurance documents as per prescribed format and submit to the Inspecting Engineer and during the request for payment.

Overall quality control and quality assurance of entire project cycle will follow as delineated in Quality Control Manual (QCM). QCM includes quality control of services / goods and works for both SSTB and LSTB bridges. It also includes specifications of goods / works, processes monitoring with quality assurance plan to assure the quality of the built bridges. It further defines the different ordinary and critical stages of project cycle and monitoring methodology at those stages.

#### **4.5 Implementation Manuals & Guide Lines**

There are sets of Manuals and Guidelines as the core of the Trail Bridge Strategy (TBS) to facilitate the application of national norms/standards, planning, budgeting, implementation, monitoring and quality assurance of trail bridge building. This ensures the application of uniform technology with demarcation policy; singular planning process, uniform implementation modality and quality assurance system maximizing the use of available resources with efficiency. At the time endorsement of this Framework III, all the core Manuals / Guidelines will be modified and adapted as per the spirit of new constitution and LGOA 2074, with the devolution of the trail bridge building. The list of these Manuals/Guidelines with synopsis of its content is as presented in Annex 5.

## 5. CAPACITY BUILDING

Capacity building shall focus on the development of adequate technical personnel in the execution of trail bridges and reinforce the institutional capacity of the institutions (Federal government, state government, Palikas, NGOs, private consultants, fabricators, contractors, UCs) associated with the trail bridge development.

Capacity building will be focused on following target groups:

- Federal and State level engineers, quality controllers, persons involved in procurement and store management, information system managers/officers for PMIS, TBSIS and bridge records with conditions;
- Palika level engineers, sub-engineers, assistant sub-engineers; persons involved in procurement, persons in-charge of managing information systems for bridge records and conditions;
- Community level for bridge craft persons, bridge-fitters, bridge wardens, women of user's committees;
- Consultants, fabricators and contractors;
- Private and public educational institutes; and
- Individual technical persons of STAPs and NGOs.

Capacity building will encompass following approaches:

- Orientation, workshops and different training programmes focused on designing, quality controls, DMBT, RMT, Operation of Lab testing facilities
- Develop and operationalize applications for planning, monitoring, reporting and other different design software system at federal and state levels
- Sharing of TB SWAp knowledge widely to transfer trail bridge know how that Nepal has developed over the years to other countries
- Internships and on-the-job training (OJT) for sub-engineers and assistant sub-engineers.
- Potential fabricators at each state will be identified and orientation will be provided on potential market opportunity. A small quantity of bridge steel parts will be awarded for the purpose of initial orientation on quality requirement.
- Effort will be made for establishing testing labs in collaboration with engineering institutes in each state and will be oriented on potential market opportunity not only in trail bridge programme but also other infrastructure programmes for the quality control.

### 5.1 Trainings

The following trainings are planned to fulfill the capacity needs:

**Table 5.1. Trainings Planned**

SN	Training	Target group	Organization	Duration	Phase Target	1st year	2nd year	3rd Year
1	Trail Bridge course							
	<i>TB course (Technical + quality control + Procurement including NCB and ICB, contracts management)</i>	Engineers	State + Federal	4 wks	45	25	20	
	<i>TB course (Technical + Quality control)</i>	Sub-engineers and Assistant Sub-Engineers	Palika + NGO	2 wks	800	300	300	200
2	Survey/Design Training (During preparation of DPR)	Consultant Engineers	Private consultant		20	15	5	
3	Quality assurance training (During factory visits)	Quality control engineers/managers	Private Fabricators		14	7	7	
4	DMBT for community members	Bridge craft persons/UC members	Palika	2 wks	4300	1200	1600	1500
5	RM training to Bridge Wardens	Bridge wardens	Palika	3 days	2000	600	700	700

6	Community leadership training for female members of UC	Women of Users committee	Palika	1 wk	300	100	100	100
7	Traineeship/ Internship	Fresh graduates	Individuals	6 months	28	14	14	
8	On-the-job Training	Assistant Sub-Engineers of Technical Schools	Technical schools	6 months	42	14	14	14
9	Store Management training	Responsible person for store management	State	1 wk	14	7	7	
10	LSTB design (accompanies during preparation of DPR)	Engineers	Palika, State and STAPs		20	10	10	
11	Training on PMIS, TBSIS, DBR	Engineers	State and Federal	1 day	8		8	
12	Factory visit with orientation on inspection, testing and approval of certification of wire ropes/bulldog grips	Engineers	State and Federal	7 days	14	7	7	

Following principles will be embraced:

- More emphasis will be given to practical training against theory by working together.
- Develop and operationalize Training Information System for planning, executing and tracking purposes.
- Regular 35 days Trail Bridge Training will be provided on the basis of the Training Course Manuals.
- Regular 35 days Trail Bridge training programmes will be conducted on a demand basis through resource persons and experts of TA provider.
- Modular course “Diploma in Civil Engineering specialization in Bridge) will be conducted on demand basis through Educational Institutes (EIs).
- EIs willing to conduct the Modular course will be support by DoLI for promoting the course.
- Bridge-craft-persons selected by UCs will be provided with Demonstration Model Bridge Training (DMBT) imparted by local capacitated NGOs.
- Bridge Wardens engaged in routine maintenance of trail bridges will be provided with training on the basis of the Routine Maintenance Manual.
- The engineers of state government, local, STAP and NGOs will be trained in design of LSTB, extra-long span and complex bridges during the preparation of Detail Project Report (DPR).
- Based on feedback, suggestions and lessons learned the training manual will be developed.
- Fresh engineering graduates will be offered traineeship with a tailor-made TB training course and hands on practical exposure at the state and local government offices

## 6. SAFEGUARDS

Trail Bridge is not a big infrastructure, however before carrying out any trail bridge related activities, Palikas or States or Federal bodies shall carry out assessments and prepare plans regarding safeguard measures and mitigation plans.

### 6.1 Guiding Policies and Legal Tools

Relevant acts and regulations, together provide overall regulatory framework that defines both process and procedures for safeguard. The following policies and legislative framework of Nepal provide basis for addressing issues likely to arise during the bridge construction.

- National Policy, the Trail Bridge Strategy auxiliary to the Local Infrastructure Development Policy, 2006 (2062);
- Environmental Protection Act, 1997 (EPA) and Environmental Protection Rules, 1997 (EPR) with first amendment, 1998;
- Land Acquisition, Resettlement and Rehabilitation Policy 2015;
- National Foundation for the Development of Indigenous Nationalities Act (NFDINA), 2002;

- Child Labor (Prohibition and Regulation) Act 2000;
- Labour Act 2017.

## 6.2 Safeguards on Environmental Impacts

The Environmental Protection Act (EPA) and Environmental Protection Regulations (EPR), do not permit implementation of a development activity or project without approval of Initial Environmental Examination (IEE) or Environmental Impact Assessment (EIA), if required. EPR elaborates the activities requiring IEE and EIA on the basis of sector, type, size, location, sensitivity and cost of the project. However, the adverse environmental impacts were observed to be insignificant under trail bridge construction. As such, no formal environmental investigations, such as IEE and EIA are likely to be required as it occupies relatively small physical space (50-200 m<sup>2</sup>; on average 150m<sup>2</sup>) with limited area of influence. TB SWAp Framework III, as a precautionary measure, will adopt the following environmental steps in order to ensure that there aren't any adverse environmental consequences during implementation.

- Environmental screening through Rapid Environmental Assessment checklist (ref. Annex 2);
- Incorporation of environmental safeguard measures into plan, design and contract documents; and
- Monitoring of environmental compliance.

Some of the key aspects in safeguarding against the environmental impacts are:

- Selection of bridge locations at geologically and environmentally sound and safer sites as per standard checklist and site selection procedures (ref. Short Span Train Bridge/SSTB Manual, and Long Span Trail Bridge/LSTB Manual Vol. B);
- Protection of slope with bio-engineering and civil structures, and construction of water drainage systems (as per need) to prevent erosions and slides, (ref. SSTB Manual, Chapter 3.3.9 and LSTB Manual Chapter 11);
- Proper disposal of excavated materials and
- Use of steel decks instead of wooden decks for walkway of the bridge to mitigate the negative effect on forest and environment.

At the same time, the maintenance (routine maintenance, major maintenance, rehabilitation) of bridges will reduce the risks of bridge damage. With improvements in design and construction approach to meet the environmental needs and standards, trail bridge development activities have comparatively lower environmental implications listed below:

- Implications on the existing vegetation cover from excavation of bridge foundation;
- Forest encroachment resulting from improved accessibility by the bridge;
- Greenhouse gas emissions due to transport of trail bridge components by vehicles using roads and occasionally, for very remote areas, using aeroplanes or infrequently helicopter as well as emissions during fabrication of steel parts;
- Impacts on river flow and water course from construction of embankments; and
- Possible physical impacts on people during bridge construction, mainly in cable pulling stage.

Though the environmental impact of trail bridge construction is minimal, safeguard measures are in place and are applied and monitored in close coordination and collaboration with local communities, civil society and the government.

In the recent years, many bridges (over 100) were affected by sudden natural disasters like high intensity flash floods, earthquake of 2015 and earthquake induced erosions and landslides. Learning from these events, Trail Bridge SWAp Framework-III has adopted some additional measures to protect trail bridges from such unforeseen events such as introduction of pile foundation (standard design drawing manual being prepared for trail bridges) in Terai region, implementation of bio-engineering like Vetiver planting with protection structures for slope protection, improvement in standard bridge design making it more earthquake resilience.

## 6.3 Safeguards concerning Vulnerable Groups

The Constitution of Nepal, 2072 AD recognizes that marginalized groups are women, Dalit, Madhesi, and indigenous people (Adivasi/Janajatis), as well as disabled, peasants, and labourers. These groups are more vulnerable to the effects of changes in their local environment due to development interventions.

Trail bridge programme will aim to benefit vulnerable communities - poor, women, disadvantaged groups residing in the remote regions, in a sustainable manner to enhance their livelihood. The trail bridge programme will ensure sufficient attention on issues of access to basic services and equity of vulnerable groups, and that these groups are not adversely affected by the project interventions.

To ensure safeguards of disadvantaged groups, Trail Bridge SWAp Framework-III will continue to embrace following specific interventions:

- At least 50% of local employment goes to disadvantaged groups including women;
- Equal payment for equal work;
- Timely payment to site workers;
- Accidental insurance of site workers;
- Provision of safety gears to workers; and
- Maintain security measures at working sites;

In the rare circumstances when the livelihoods of some vulnerable groups are affected due to construction of trail bridges, particularly, boat-persons who earn a living on the major rivers, the programme will ensure alternative employment opportunities. This may include giving them skills by including them in DMBT training and later employed during construction as bridge fitters, masons etc. In context of further devolution of authority to the local governments, Framework-III will emphasize Palika's roles in assuring the local safeguard issues in trail bridge construction.

## **6.4 Safeguards concerning Involuntary Resettlement**

Government of Nepal has recently formulated Land Acquisition, Rehabilitation and Resettlement Policy 2071 AD (2015) to facilitate the land acquisition process for infrastructure project. The policy outlines the need to conduct an economic and social impact assessment (SIA) of the development project, which was not a requirement under the Land Acquisition Act 1977. Based on this assessment, projects will be categorized as high medium- and low-risk.

Trail bridges require small physical space with a limited area of influence and, hence, resettlement is not an issue while it is constructed. Besides, trail bridge project is classified as low risk project as it has minimal or no adverse environmental and social impacts, does not displace any family, and none of the affected person loses more than 10% of their productive assets. Forced land donation is strictly prohibited while implementing trail bridge programme. Community people donate their land voluntarily. The landowner gives a written consent paper with his/her and co-heir's signatures, which implies that s/he has donated the land on his/her own will. This is confirmed through a written

consent, including a "no coercion" clause verified by an independent third party (refer SOS Manual). In case, the landowner does not want to donate the land, project considers shifting of site location to another technically feasible site. In case of any grievances, project ensures of the 'Grievance redress mechanism' under which, grievance redress committee addresses and resolves the complaints.

## 7. Financial Management and Procurement

The total budget required to fund the completion of 2,400 bridges (adjusted for inflation) is estimated to be NRs 20.290 billion. This includes the cost for bridge materials (Steel Wire Ropes, Bulldog grips and Steel Parts), construction works, NGO / Consultants service charge. It also includes the TA costs including STAP (supported through SDC).

The projected budget required for the 3 years plan to construct 2,400 bridges and maintenance of 750 bridges is as below:

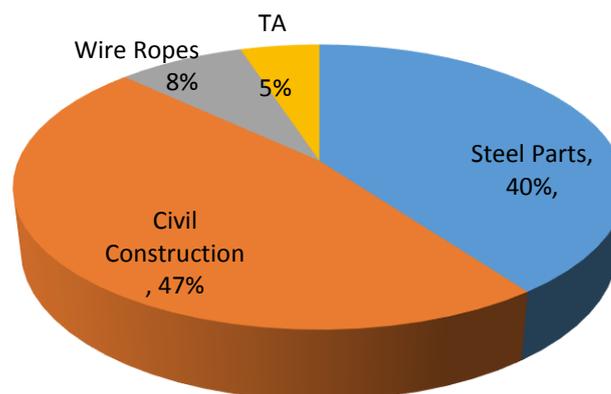
**Table 7.1. Annual Budget Requirement**

	1 <sup>st</sup> Year	2 <sup>nd</sup> Year	3 <sup>rd</sup> Year	Total
New Construction	600 bridges	800 bridges	1000 bridges	2,400 bridges
Budget* in NPR	6,255,000,000	6,451,540,000	5,018,934,000	17,725,474,000
Major Maintenance	200 bridges	250 bridges	300 bridges	750 bridges
Budget* in NPR	400,000,000	500,000,000	600,00,000	1,500,000,000
Routine Maintenance	7500	7100	8100	-
Budget in NPR	45,000,000	53,460,000	66,066,000	164,526,000
TA Cost including (STAP)	250,000,000	300,000,000	350,000,000	900,000,000
Budget IN NPR	224,000,000	268,800,000	282,240,000	1,071,392,00
<b>GRAND TOTAL in NPR</b>	<b>6,950,000,000</b>	<b>7,305,000,000</b>	<b>6,035,000,000</b>	<b>20,290,000,000</b>
<b>Total in USD</b>	<b>60,162,742</b>	<b>63,235,804</b>	<b>52,242,037</b>	<b>175,640,582</b>

(Exch.Rate: 1USD=NRs.115.52) Date:13.12.2018

\* Includes cost of NGOs/Consultants service charge.

**Chart 7.1: Component-wise Cost Break Down**



### 7.1 Annual Plan and Budget

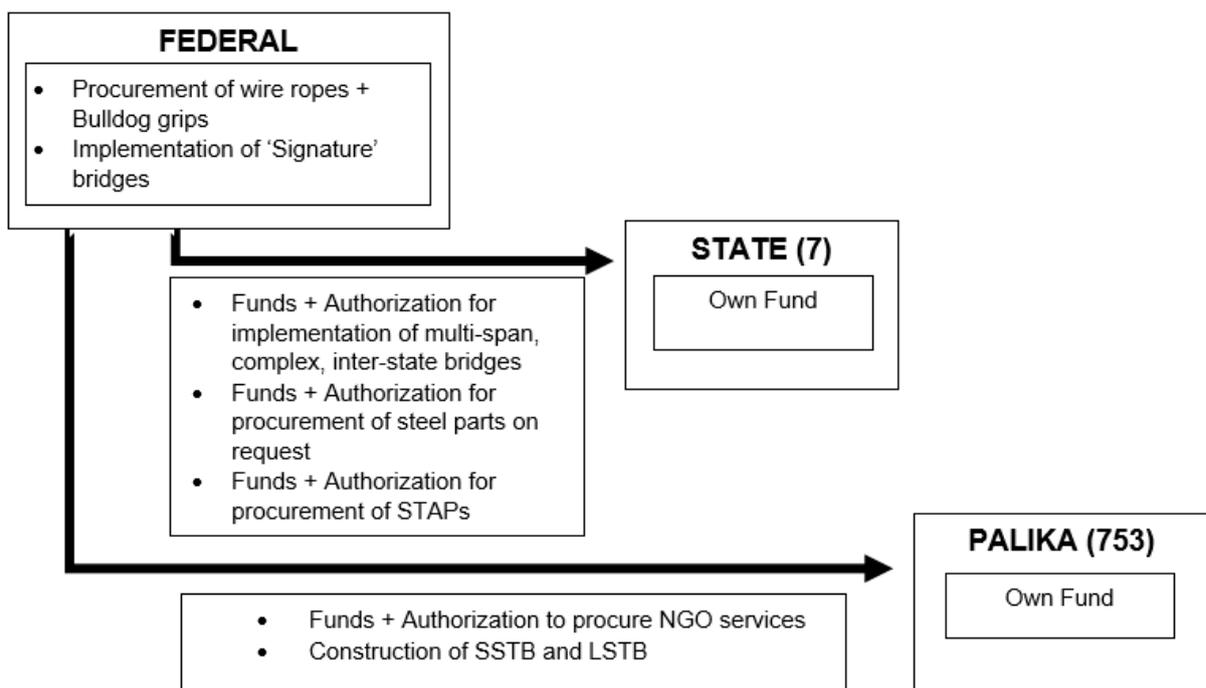
Trail Bridge Section of DoLI/MoFAGA will prepare annual plan and budget based on GoN approved concept note of 3 years TB-SWAp Framework III after endorsement by the Trail Bridge SWAp Coordination Committee. It submits the plan and budget to MoF by administering LMBIS for approval and allocation. MoF approves the plan/budget and transfer the fund through Federal Treasury (Federal Comptroller General's office-FCGO) to state and local treasuries, authorizing for the expenditure to respective implementing agencies by operationalizing

LMBIS, which contains the details of approved budget and name of implementing institutions, i.e. TBS/DoLI at Federal, IDOs under TIDD/MoPID at States and Palikas.

## 7.2 Fund Disbursement

Trail Bridge Section, DoLI/MoFAGA will manage the fund for the procurement of steel wire ropes/bulldog grips and construction of “Signature” Bridges (as this will be of unique engineering design at strategic and landmark location with national importance) construction of trail bridges in international border. State (IDO/TID/MoPID) will manage the fund for: a) the construction of extra-long LSTB (span>280m), construction of technically complex bridges; b) the construction of trail bridges within jurisdictions of two states; c) the procurement of steel parts upon request of Palikas; d) the hosting of the State Technical Assistance Provider (STAP); and e) the hosting of TBSIS, PMIS. The palikas will manage the fund for the construction and maintenance of LSTB (through contractors) and SSTB bridges (through UCs) and for the procurement of NGOs and private sector services. Further, Palikas shall manage fund for the routine maintenance of trail bridges (through Bridge Wardens) with their own resources. In summary, fund disbursement shall be as illustrated in following flow diagram.

**Chart 7.2: Fund Disbursement**



Besides, the Federal TB-SWAp conditional grant and its fund flow / disbursement arrangement as delineated above, States and Palikas may allocate its own resources and also from equilizqtion grant.

It is expected that the technical assistance provided by TBSU/Helvetas Swiss Intercooperation on behalf of Swiss Government will be continued for the period of implementation of TB SWAp Framework III.

## 7.3 Fund Flow

The approved budget will be incorporated and published in Annual Budget of GoN (Red Book).The budget disbursement procedure will be as per the normal government system and the fund flow will be as illustrated in the flow chart below.



bidding (ICB) in bulk quantities is necessary for efficiency and economy of scale (as procurement by 753 palikas or by 7 states will take more time and efforts and they are not ready for it now). This will result in attracting more international bidders resulting competitive price and also quality assurance of the goods.

The TBS/DoLI immediately and in long run TID/MoPID of States will procure the steel wire ropes and bulldog-grips required and will maintain the stock for 2 years to complete the trail bridge construction cycle. The procurement process shall follow the Procurement Acts and Rules in coordination with PPMO. Bid Document for ICB will be as per Standard Bid Document of PPMO customizing SCC, Specification and Qualification Criteria as per programme need.

### **7.6.2 Procurement of Steel Parts**

In general, Palikas will procure the steel parts for SSTB bridges. If, Palikas are unable to procure due to remoteness or due to lack of resources and capacity, IDO/TID of States will procure for them on their request. The procurement will follow national competitive bidding (NCB) under Federal Procurement Acts and Rules until the same is not available at State/Palika levels. Bid Documents prepared based on Standard Bid Document of PPMO shall be used for procurement. These documents will be adapted as necessary once the procurement act and rules are available at States/Palikas. Standard Bidding Document for Procurement of Fabricated Steel Parts for Short Span Trail Bridges (SSTB) is available at the website of DoLI, which further needs customization in the light of federalization.

### **7.6.3 Procurement of Works**

The procurement of contractors will apply for the implementation of LSTB, technically complex and “Signature” bridges. Palikas will procure in most of the cases of LSTB bridges. The IDO/TID of States will procure the construction contracts for extra-long (span > 280m) LSTB and technically complex bridges, whereas TBS/DoLI will procure for “Signature” bridges and bridges of national importance. For the complex, signature and bridges of national importance, tailor made Bid Documents under ‘design and built’ approach may be required, which will be prepared at the time of execution. The implementation of LSTB contracts will be a “Lump Sum” Contract (Construction Turnkey Package), i.e. fabrication of steel parts, transportation, construction and bridge erection in a single package. Bid Document namely “Standard Bidding Document for the Procurement of Works under Lump Sum Contract (Construction Turnkey Package [CTP])”, is a Standard Bid Document for this purpose available in the web site of DoLI.

### **7.6.4 Procurement of Services**

It applies for the procurement of NGO services for technical and social support to communities for construction of SSTB bridges and consulting services for DPR preparation of LSTB, technically complex and “Signature” bridges.

In most cases, the Palikas will procure the NGO services. IDO/TID may procure the NGO services on request of the Palikas (in an approach of an NGO for a group of palikas). The selection process and selection criteria are delineated in “NGO Selection and Mobilization” Guideline, which is available in the website: [www.nepaltrailbridges.org.np](http://www.nepaltrailbridges.org.np) and this can be customized as per need of the procuring agency.

Manual for Consulting Services for LSTB is also available in the same website, which includes bidding process, selection criteria, ToR and Bid Document.

## 8. MONITORING AND REPORTING

The constitution of Nepal and various legislations entrusted monitoring and evaluation functions to different government units at different levels. TB SWAp Framework III being a priority one (P-1) programme, monitoring and evaluation falls under the jurisdiction of the federal government. However, as per the Local Governance Operational Act 2074 (Chapter 6) local and state governments will also share monitoring, evaluating and reporting functions as per their institutional authority. The main objectives are to monitor physical progress and budget spending, trail bridge building processes and achievements of targets.

### 8.1 Monitoring Tools

There are a number of monitoring tools for the trail bridge programme:

- a. **Comprehensive Manual on Monitoring of Trail Bridges:** This manual covers the monitoring of collective as well as individual implementation of bridges. It defines critical (6) and ordinary (4) milestones along with quality control and safety measures for both new and existing bridges.
- b. **Monitoring systems:** Programme Monitoring Information System (PMIS) and Trail Bridge Strategy Information System (TBSIS) provides an overview of the implementation processes ensuring that bridges adhere to the Trail Bridge Strategy. The state governments anchor and manage PMIS and TBSIS, with viewer/user accesses provided to local and federal governments for monitoring and reporting and linking with LMBIS for budgeting purposes.
- c. **Bridge Record:** This online system informs of the physical condition of each bridge. Eventually, each Palika will have their own bridge records, which will be linked with PMIS and TBSIS, and every three years, palikas will have to conduct Bridge Condition Investigations to assess bridge status for major maintenance planning (if needed). During the implementation of TB SWAp Framework-III, State governments shall conduct this function with the support of STAPs.
- d. **Baseline:** TBS/DOLI with the support of TA provider will establish Baselines with the information on key indicators related to socio-economic and mobility needs prior to the construction of bridges on a sample number of trail bridges. The sample should represent trail bridges from all 7 states, palikas of terai, hill and mountain.
- e. **Post Bridge Building Assessments (PBBA):** TBS/DOLI with the support of TA provider will conduct PBBA after the completion of bridge (bridge where baseline is conducted) and analyze the changes after a trail bridge is completed and is under operation.

### 8.2 Monitoring at the Local Government Level

As per the Local Governance Operational Act 2074 (Chapter 6, Clause 24) local governments will monitor and report on the implementation for both short and long span trail bridges within their jurisdiction. Technical units of palikas shall monitor technical aspects, while project-monitoring committees led by the Mayor/Deputy Mayor can monitor non-technical aspects. Monitoring shall include the following:

#### a. Quality Certification of Steel Parts

Technical units within the local governments shall inspect the quality of works and shall issue a "Certificate of Acceptance" based on the quality, which shall also be checked and endorsed by the STAP and TA providing agency.

#### b. Monitoring Quality of Construction Materials and Works

Monitoring the quality of bridges is delineated in the Monitoring Manual. Local governments will check the quality of works at the bridge sites and the implementation as per the approved designs, standards, work plan and schedule. Technical units within local governments will be responsible for monitoring the quality of construction materials and works. Samples of construction materials are collected and tested in certified laboratories with the support of STAP and TA providing agency. They will also monitor work progresses as per the expenditure incurred.

The local governments also monitors technical and social mobilization support provided by local NGOs and services of STAPs. For SSTBs, NGOs submit Monthly Reports to the local governments. The local governments can also procure Services of third party monitors/inspectors from the private sector if needed.

### **c. Quality Assurance and Quality Control**

Manual on Quality Control is available for checking the quality of services, goods and works. Suppliers shall be the responsible for quality assurance of materials, while NGOs (for SSTBs) and contractors (for LSTBs) shall be responsible for quality assurance of works. The contractor shall provide the required documents and proofs and shall have to maintain proper records to ensure that quality and standard of works fully meet the requirements. The contractor and supplier have to produce test certificates of manufacturer to prove quality of construction materials.

Technical units of local governments shall verify the quality test certificates from the manufacturers, prior to the procurement of the construction materials (cement, steel parts) and shall take random samples for lab testing (if required). Fabricators shall get the raw materials approved prior to fabrication and shall follow the procedures as specified in relevant documents. Fabricated steel parts shall be checked in the yard of the fabricator and a "Certificate of Acceptance" shall be issued, if found satisfactory. The TA provider shall also check the fabricated steel parts and shall give its endorsement to the certificate of acceptance issued by the technical unit of local governments. TA providing agency shall also carry out test of construction materials and works on a random basis for ensuring quality of works. The private sector may be hired by for quality test / monitoring and inspection.

### **d. Payment on Quality Certification**

Local governments ensure the delivery of procured materials, at which time, a store receipt shall be issued. Local governments shall make the final payment of steel parts against the "Certificate of Acceptance" issued by the technical unit of local government and endorsed of the same by the TA providing agency. Once received, local governments shall make payment of the construction materials at the recommendation of the technical units. Local governments shall document all the bills, receipts and other relevant expenditure documents.

### **e. Monitoring on Social Aspects**

Local governments/Palikas also monitors the processes and results on user committee formation, employment opportunities, timely payment to labourers, equal wage for equal work, public hearings and audits with the support from local NGOs and TA providing agencies. They shall maintain a project book at each bridge site. The Project book shall keep records of the minutes of use committees and community meetings, presence in the meeting, members of user committees, incomes and expenses, materials grants, cost of porter, cost of skilled and unskilled labour and shall maintain proper records of site workers. During Public reviews and Public audits, information are shared with all the stakeholders and palikas take up for actions and follow up any issue raised during the processes.

### **f. Random Monitoring**

Technical units/local governments shall make random monitoring and inspection visits to bridge sites where bridges are constructed through the community approach. During these visits, quality of works, materials along with relevant social and governance issues shall be checked.

For long span trail bridges, constructed under the contracting approach, quality assurance is the responsibility of contractors, and at the bridge sites. The site-in-charge and/or site supervisors (deputed by the contractors) monitors and controls the construction quality to the approved design and standards. Technical units/local governments, including District Coordination Committees (DCCs), shall also monitor randomly for inspection during major bridge construction milestones within their jurisdiction.

## **8.3 Monitoring at the State Government Level**

State governments will monitor and report on the implementation of complex and multi-span trail bridges and quality of wire ropes and bull-dog-grips (if procured by State). Transport Infrastructure Directorate (TID) thru its IDOs, M & E committee shall undertake this function. Monitoring will include:

### **a. Quality Certification of Steel Parts**

State governments shall procure steel parts at the request of local governments. In such cases, the TID of state governments notify TA providing agency about the awarding of the contract along with the copy of the contract agreement. TID shall inspect the quality of works and shall issue a "Certificate of Acceptance" based on the quality, which shall also be cross-checked and verified by the TA providing agency.

### **b. Quality Assurance and Quality Control of Wire Ropes and Bull-dog-grips**

State governments procure wire ropes and bull-dog-grips if desirable. Here, the quality assurance shall be the responsibility of the manufacturer/supplier. The manufacturer/supplier submits a quality test certificate to the state government. After which TID shall hire an independent quality inspector or take the support of TA

providing agency to test quality of wire ropes and bull-dog-grips at the factory during manufacturing. TID also makes a post-delivery inspection to ensure that the hired manufacturer/supplier delivers the checked and approved materials. Both TID and TA providing agency may visit the manufacturers' plant during manufacturing.

#### **c. Monitoring Quality of Construction Materials and Works**

TID shall monitor the quality of construction materials and works for complex and multi-span trail bridges. If required, they conduct material testing of the same in certified laboratories with the support of the TA providing agency. State governments shall also encourage the establishment of lab testing facilities in each state through collaborations with educational institutes and/or the private sector.

At the bridge sites, site supervisors and/or site-in-charge (deputed by contractors) are responsible for quality of construction works. Nevertheless, TID shall conduct periodic site visits and inspections at critical construction milestones.

#### **d. Quality Assurance and Quality Control**

Quality Control Manual defines the scopes and processes of monitoring of quality of services, goods and works. Suppliers are the responsible for quality assurance of materials, while contractors shall be responsible for quality assurance of works. Contractors shall provide the required documents and proofs (Quality Assurance Document) and shall have to maintain proper records to ensure they fully met quality and standard of works.

Manufacturers also provide Test Certificates to ensure the construction material quality. The TID shall verify this before procurement. During this period, TIP shall make random lab testing of materials if needed. Fabricators shall get the raw materials approved prior to fabrication and shall follow the procedures as specified in relevant documents. The TID then issues A "Certificate of Acceptance" shall to the fabricators for the fabricated steel parts. The TA providing agency shall also check the fabricated steel parts and shall give its recommendation to the certificate of acceptance issued TID. TA providing agency shall also carry out test of construction materials and works on a random basis to ensure quality of works.

#### **e. Payment on Quality Certification**

Upon verification and recommendation of acceptance by the TA providing agency, TID/state shall make the final payment of steel parts, the "Certificate of Acceptance" is issued. The TID/state governments document all the Bills, receipts and other relevant expenditure documents.

### **8.4 Monitoring at the Federal Level**

Federal government represented by Department of Local Infrastructure (DoLI)/MoFAGA shall be responsible for monitoring the implementation of the Trail Bridge Strategy and of the quality of wire ropes and bull-dog-grips. While monitoring DoLI may seek the support of TA providing agencies and/or procure the services of third part inspectors for carrying out monitoring and inspection on behalf of DoLI. Monitoring will include:

#### **a. Monitoring Adherence to Policies and Guidelines**

DoLI/MoFAGA monitors the adherence by States and Palikas to the approved trail bridge related policies, guidelines, and manuals. Activities shall include random monitoring and inspection, review of inspection and monitoring reports collected from state departments and local governments.

#### **b. Quality Assurance and Quality Control of Wire Ropes and Bull-dog-grips**

The manufacturer/supplier shall be responsible for the quality assurance of wire ropes and bull-dog-grips. The manufacturer/supplier shall submit a quality test certificate to DOLI/MoFAGA. DOLI/MoFAGA can hire an independent quality inspector to test quality of wire ropes and bulldog grips at factory during manufacturing. Later, DOLI/MoFAGA can assign the same inspector for post-delivery inspections to ensure that the same materials manufactured and checked by the independent inspectors during manufacturing, are delivered. DoLI/MoFAGA may carry out post-delivery quality test of bulldog grips, if desirable. The manufacturer/supplier shall ensure quality of bulldog grips inspected by its inspector during manufacturing.

### **8.5 Assessments, Review and Evaluations**

Trail Bridge SWAp Framework-III carries out various assessments and studies during its implementation:

- a. **Baselines:** Information on social, economic, and mobility aspects will be collected on selected number of bridges prior to construction for monitoring and evaluating purposes. Both quantitative and qualitative data will be collected based on the indicators as identified in the TB SWAp Framework-III LogFrame to assess

the outcomes and impacts of trail bridges. The TA agency will take the lead to carryout Baseline studies with the support of local NGOs in coordination with respective local and state governments.

- b. **Post Bridge Building Assessments:** Post Bridge Building Assessments (PBBA) will be carried out on bridges that have baseline information and have been operational for at least 1 year. These studies will be conducted annually on a selected number bridges (5-10%) of the completed trail bridges). Similar to the Baseline, the PBBAs will be led by the TA agency, in coordination with local and state governments, with the support of local NGOs for primary data collection and consultants, if required.
- c. **Annual Reviews:** Department of Local Infrastructure (DoLI) representing the Ministry of Federal Affairs and General Administration (MoFAGA) will coordinate with state and local governments to organize annual reviews of trail bridge programme. TA agency will support the government in preparing the report on annual review. The main objectives of these reviews will be to assess and propose changes for more efficient and effective implementation of programme activities.
- d. **End of Phase Review:** A review of the entire trail bridge programme will be conducted in year 3 of the implementation phase by an external consultant. The review will deliver comprehensive information on the achievements (outputs, outcomes, impacts) of the TB SWAp Framework-III.
- e. **Case Studies:** A number of case studies following qualitative methods of assessment to reflect on transformative changes in the communities due to trail bridges shall be conducted annually. The TA agency will take the lead in preparing the case studies with the support of local NGOs and/or consultants.

## 8.6 Procurement Monitoring

DoLI/MoFAGA will coordinate with the Public Procurement Monitoring Office (PPMO) for coordinating and monitoring major the procurements related to goods (wire-ropes and bull-dog grips, steel parts), works and services (contracts for design and construction of complex, signature bridges and bridges of national importance).

## 8.7 Technical Audit

DoLI/MoFAGA will coordinate with the National Vigilance Centre (NVC) to conduct technical audits of at least 28 bridges (4 in each State) implemented through TB SWAP. Such audits will include diverse bridges in terms of topographic distribution, remoteness; capacitate institutions, etc., in order to assess the costs, design features, technology and materials used.

Technical audits include infrastructure audits, any poor quality of works assessed by the technical audits shall be rectified immediately.

## 8.8 Reporting

Reporting for the trail bridge programme will be on the following:

### a. Project Books at Bridge Sites

User Committees (UCs) shall maintain Project Books at all the SSTB sites. The project books will record UC meeting minutes, fund and contributions received (in cash or kind), record of labourers/workers, quantities of materials supplied by the local governments, decisions made during public hearing and audits and the instructions and observations of TA providing agency and visiting technical officials. NGOs shall support the UCs for the maintenance of project books during the construction cycle. After the construction of the trail bridges, the UCs hand over the project books to the respective local governments.

### b. NGO Reports

NGOs shall submit Monthly Progress Reports on technical and social aspects of short span trail bridge implementation to the local governments and shall also send the same to STAPs at state government. These reports shall be based on the progress report formats as presented in Annex 2 of the Monitoring Manual.

### c. Trimester and Annual Reports by Local and State Governments

Local and state governments will be responsible for reporting on physical progress and financial expenses incurred during the implementation of trail bridges under their jurisdiction. They prepare and submit monthly trimester and annual reports, along with the statement of expenses based on the prescribed government formats, to the federal government for trail bridges funded through sectoral grants by local governments for SSTBs (based on NGO's monthly progress report) and based on the contractor/consultants reports for LSTBs. Monthly physical progress and statement of expenses are submitted to federal government (in the case of TB

SWAp funded trail bridges) within the 5 days of every Nepali calendar month, while trimester physical progress report and statement of expenses are submitted within 7 days after the end of each trimester or year.

**d. Compliance of Accounts at the Federal Level by Department of Local Infrastructure**

DoLI shall compile and consolidate all the monthly, trimester and annual reports on physical progress and state of expenses related to TB SWAp programme from local and state governments and forward them to MoFAGA and MoF.

**e. Inspection Reports**

Inspection reports shall be prepared for different types of bridges to generate specific quality and progress data. They include: New Construction (NC) and Major Maintenance (MM); SSTB and LSTB, as well as “Suspended (D)” and “Suspension (N)” type. Inspection reporting shall be similar to the new construction inspection reporting.

The inspection reports contain following information:

- a) Bridges that have passed the inspections as well as the final inspection / approval date;
- b) Pending bridges, passed inspections, indicating last milestone / approval date;
- c) Bridges that did not pass the inspection, the reason and the last inspection date;
- d) Bridges where the constructions were interrupted, the reason, the required remedial action and the last inspection date.

**f. Reporting to Development Partners**

DoLI shall be responsible for forwarding physical progress reports, statement of expenses and other reports to the development partners as and when required.

## 9. GOVERNANCE AND ACCOUNTABILITY

Trail bridge programme will strengthen governance and accountability in trail bridge execution at all levels. Focus will be on empowering local citizens to engage actively with Palikas and manage resources and deliver services in an inclusive and equitable manner while maintaining rule of law, transparency, accountability, efficiency and effectiveness.

The new constitution 2015, along with the current Fourteenth Periodic Plan (2016/2017-2018/219), and Local Government Operation Act 2017, promote a culture of results orientation among the implementing government agencies. In the present context, the presence of elected local representatives makes government more accountable towards citizens and will no doubt support governance practices.

Currently, bureaucratic structure re-defining, and re-structuring are still on-going. Similarly, re-adjustment and re-accommodation of functions and functionaries are progressing and have yet to be completed. Once these tasks are accomplished, more specific clarity is expected in governance and accountability processes. Nevertheless, presented below are the existing legal, institutional frameworks and process for governance and accountability in the trail bridge programme.

### 9.1. Legal and Institutional frameworks

Constitutional, legal and institutional environments that are in place for the trail bridge programme are noted below:

- i. **Constitutional:** The constitution of Nepal 2015 seeks to consolidate a federal democratic system of governance to ensure equitable development. Ensuring a conducive environment to maintain cooperation amongst the federal units along with active local participation in development works is a key priority.
- ii. **Legal:** The Local Government Operation Act 2074 BS (2017) serves as the basis for local governance and accountability. Schedule 6, of LGOA clearly mandates Palikas for preparation of feasibility studies, cost estimate, prioritization, implementation, monitoring and evaluation of development projects. The act also increases the level of financial authorities of Palikas and seeks to improve transparency through community procurement and public audits. In line with constitutional mandate, the LGOA also details the functions of District Coordination Committees – a) Coordination between Palikas and federal/state offices located in the district, b) Facilitation for conflict resolution and development works, c) Monitoring of development works within the district and d) reporting the work progress to Federal and State Government. Trail Bridge Strategy 2006 (Clause 6.4.19) also continues to serve as the basis for Palikas and User Committees to maintain transparency (including estimated and actual bridge costs, sources of finance, procurement rates of construction and wage rates and payments).
- iii. **Institutional:** Within in the new federal context, institutional set-up is designed at three levels of government with upward and downward linkages and relationships between the agencies for their bestowed functions. At federal level, MoFAGA and DoLI are already at place. At the state level MoPID, TIDD and IDO are now in operation and within Palikas, IDEMs have been established.

### 9.2. Audit

Audit of accounts of the cost centers along with DoLI, TBS shall be carried out by the authorized Office of the Financial Comptroller General (OFCG), State Treasury Officer (STO) and District Treasury Controller Office (DTCO).

#### 9.2.1 Public Audit at Sites by Communities

Public hearing, public review and public audit will be mandatory for bridges constructed under a community approach. Public hearing, public review and public audit shall be carried out following the “Public Hearing, Public Review and Public Audit Guidelines 2064”. Public audit shall be organized by the Users Committee (UC) after the completion of bridge construction. The UC shall provide the details of all activities and reports on income and expenses to the communities. The accounts submitted by UC will be considered to be approved, if endorsed by the communities.

### **9.2.2 Audit of Accounts at State government (TID and IDO) and Palika (IDEMS) levels**

The arrangements mentioned below in this document are applicable for conditional grants to State and Palikas from the federal government.

Accounts of project work and expenses of trail bridges – RM, MM, rehabilitation and new construction, from the state or Palika resources shall be compiled as per the valid State/Local level Acts/ accounting procedures, risk management or auditing compliances. However, state and local level agencies can adapt and apply the below arrangements as appropriate and practical.

The audit of accounts at the State and Palika shall be conducted by the OFCG/STO, DTCO. Concerned state and local level offices shall be responsible for providing all required support for audit of the accounts. The concerned state and local level offices shall collect, compile and prepare bridge-wise and component-wise details of expenses prior to the audit. The concerned state and local level offices shall also prepare statements showing clearly the expenses for MM, Rehabilitation, NC- SSTB, NC- LSTB and access trails improvement.

The concerned state and local level offices shall forward a copy of the audit report to DoLI within 1 month after receiving the report from the office of the OFCG/STO/DTCO. The concerned state or local level offices shall be responsible for taking the necessary action for the settlement and clarifications of audit objections /observations. The concerned state and local level offices shall also follow the advice of the DoLI for settlement of audit objection and shall report on the progress of audit observations/objections to the (DoLI).

DoLI shall not accept any expense not related to the programme.

### **9.2.3 Audit of DoLI Accounts**

The accounts of the DoLI shall also be audited by the OFCG. DoLI shall provide required information and updates on the programme and concept as well as approach to the OFCG team prior to commencement of audit.

### **9.2.4 Review of Findings and Observations of Audit and Follow up**

DoLI shall be responsible for the compilation of all the audit reports and prepare action plan for settlement and clearing the audit arrears/objections /observations. The DoLI shall be responsible also for providing necessary instruction to concerned state and local level offices for settlement and clarifications of audit arrears/objections/observations.

### **9.2.5 Third Party Audit**

The National Vigilance Centre (NVC) of the GoN has the mandate to carry out third party audits. The NVC may conduct third party audits of bridge programme and activities. The DoLI shall provide all information and data as well as its full cooperation for carrying out third party audit.

### **9.2.6 Conducting Public Audit under Contract Modality of Works.**

The public audits of the works are carried out by the community with the participation of User's Committee (UC) and Contractors engaged in carrying out works. The State/Palika authorities and DCC members also participate in public audit. The concerned UC and contractors present the detail of works carried out, payments made and respond to the queries of participants. In the public audits the TID/IDO and/or ID&EMS take active part. Whole process is facilitated by TID/IDO and/or ID&EMS who also prepares the record of proceedings of public audit which is then approved by the participants. This provision will be incorporated in the contract agreement.

## **9.3 Accountability**

DoLI is aware of the past assessments made in the areas of accountability and fiduciary risks. Appropriate measures to ensure accountability will help to make anticorruption initiatives more effective.

Several legal, regulatory and institutional interventions are currently in place to support these measures:

- The Commission for the Investigation of Abuse of Authority was formed in 1991 with a strong remit to seek out and sanction corrupt behavior. It has wide powers of investigation and action. The Office of the Financial Comptroller General, State Treasury Office and District Treasury Controller Office are in place for financial control and audit role in identifying fraud cases.
- There are a variety of NGOs that take on specific anti-corruption activity. As well the presence of Transparency International is there as a watch dog and facilitator to empower community action.

- Mandatory provisions of public audits also discouraging corrupt activity.
- District Coordination Committees and District Assembly with elected representatives are in place with the responsibility of monitoring and reporting to federal and state government.
- Community Based Organizations and media exist in the communities and are engaged in anti-corruption activity as well as conducting social audits.
- There are other relevant risk mitigation measures in practice to reduce the risk of corruption: the funds flow is appropriately defined, and a close monitoring system is in place. State and local level public procurement acts/policies are being formulated and progressing well.

## 10. RISK ASSESSMENTS AND MANAGEMENT MEASURES

The climate for the implementation of Trail Bridge SWAp Framework-III is favourable. The programme continues to be a GoN priority-1 programme with wide spread political and social support. Nevertheless, due to the re-structuring processes that are still undergoing some risks and bottlenecks are anticipated. Presented below are the potential risks along with the mitigation or management activities.

**Table 10.1: Risk Assessment and Management Measures**

<b>Risk</b>	<b>Risk Assessment</b>	<b>Mitigation or Management Plan</b>
<b>Public Financial Management</b> Budget flows are delayed due to changes in the institutional arrangements leading to uneven pace of implementations	<b>Medium</b>	<ul style="list-style-type: none"> <li>DoLI to proactively smoothen processes for approval of annual plans, release of budget, authorization, procurements, and reporting</li> </ul>
<b>Capacity of Palikas</b> Implementation of trail bridge programme activities may be delayed due to lack of experienced human resources during the initial years	<b>Medium</b>	<ul style="list-style-type: none"> <li>TA providers to provide strong capacity building inputs during the first year of implementation</li> <li>Role of TA providers to be expanded to ensure the momentum of the programme</li> </ul>
<b>Procurement by Palika and States</b> Inexperience and lack of knowledge on procurement procedures by Palikas and States delays procurement	<b>Low</b>	<ul style="list-style-type: none"> <li>TA provider to provide Palika and State personnel with procurement trainings based on Public Procurement Act 2007 and Regulations 2007</li> <li>At the request of Palikas, State's to procure on behalf of Palikas due to economies of scale and efficiency</li> </ul>
<b>Non-adherence to established approaches and modalities</b> Palikas / States do not follow prioritization criteria, established norms, standards and modalities	<b>Low</b>	<ul style="list-style-type: none"> <li>Trail Bridge Strategy to be updated to reflect the new institutional structures and implementation modalities</li> <li>Circular about adhering to established norms, standards, and approaches to be sent to all State and local governments</li> <li>TA provider to proactively share 'good practices' with local governments and monitor accordingly</li> </ul>
<b>Technical Assistance</b> Technical assistance provided by TBSU/STAPs ends prematurely	<b>Low</b>	<ul style="list-style-type: none"> <li>Bi-lateral agreement between the governments of Nepal and Switzerland to be signed to reciprocate GoN's 3-years Trail Bridge Program with the aim of federalization of trail bridge building</li> </ul>
<b>Natural disasters</b> Earthquakes, Floods, Landslides destroy/damage trail bridges and delay programme implementation	<b>Low</b>	<ul style="list-style-type: none"> <li>Trail bridge standard designs were modified (after the earthquake of 2015) to make the bridges more earthquake resilient</li> <li>Pile foundation designs are being piloted and will be standardized for the Terai</li> <li>Vetiver planting will continue for slope protection of river banks</li> <li>Emergency response measures based on the experiences of 2015 will be implemented after disasters</li> </ul>
<b>Environmental Impact</b>	<b>Low</b>	<ul style="list-style-type: none"> <li>None or minimal environmental impacts by trail bridges expected</li> <li>Safeguard measures will be implemented</li> </ul>
<b>Social</b> Displacement/resettlement of communities as a consequence of trail bridges. Forced land donations.	<b>Low</b>	<ul style="list-style-type: none"> <li>Trail bridges require small physical space with a limited area of influence and, hence, resettlement is not an issue while it is constructed</li> <li>Forced land donations are prohibited. Written consent needs to be provided by landowner, with a "no-coercion" clause verified by an independent third party (refer SOS Manual).</li> </ul>

# ANNEX SECTION

## ANNEX 1: Trail Bridge Sector Wide Approach Framework-III

<b>Goal</b>	To contribute towards a prosperous Nepal, with equitable socio-economic development, by strengthening all levels of the government to provide improved access to basic services and economic opportunities to rural communities, especially disadvantaged groups, by availing safer river crossings within 1-hour detour
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Indicators	Phase Target	Means of Verification	Assumptions	Risks
<b>Outcome 1: Nepali citizens, especially disadvantaged groups, use trail bridges to have safer access to basic services and employment opportunities equitably</b>				
1.1. Nepali citizens no longer have to take a detour of more than 1-hour to access services after construction of trail bridges	Minimum of 1-hour average time saved (two-way journey)	<ul style="list-style-type: none"> <li>Community Application forms</li> <li>TBSIS</li> <li>Case studies of time saved and their productive utilization</li> </ul>	<ul style="list-style-type: none"> <li>Bridge prioritization criteria is followed</li> <li>Bridges provide safer and convenient access with time savings</li> </ul>	<ul style="list-style-type: none"> <li>Bridges are planned and built without complying with the prioritization criteria</li> </ul>
1.2. Nepali citizens, including disadvantaged groups, have safer river crossing facilities	3.6 million additional people (including 1.8 million disadvantaged groups)	<ul style="list-style-type: none"> <li>Community Application forms</li> <li>TBSIS</li> <li>Annual Report and Outcome Monitoring Summary</li> </ul>		
1.3. Improved access to schools leads to rise in school attendance and increase in patients seeking treatment from health facilities	15% increment in school attendance and visits to health centers	<ul style="list-style-type: none"> <li>Baseline</li> <li>PBBA</li> <li>Case studies</li> </ul>		
1.4. Market centers are developed due to greater pedestrian traffic at bridge sites	15% of bridge sites	<ul style="list-style-type: none"> <li>Baseline</li> <li>PBBA</li> <li>Case studies</li> </ul>		
<b>Output 1.1: Users' Committees strengthen their capacity to organize themselves inclusively to build trail bridges</b>				
1.1.1. UCs are proportionately representative of the beneficiary population	100% of UCs	<ul style="list-style-type: none"> <li>Community Agreement</li> <li>TBSIS</li> </ul>	<ul style="list-style-type: none"> <li>Palikas procure NGOs services for technical support and social mobilization</li> <li>Qualified NGOs facilitate the formation of inclusive UCs</li> </ul>	<ul style="list-style-type: none"> <li>Local elites capture positions in UCs</li> <li>NGO support is weak/insufficient</li> </ul>
1.1.2. At least 50% women are represented in UCs	100% of UCs	<ul style="list-style-type: none"> <li>Community Agreement</li> <li>TBSIS</li> </ul>		
1.1.3. At least one decision-making position in the UC is held by a woman	100% of UCs	<ul style="list-style-type: none"> <li>Community Agreement</li> <li>TBSIS</li> </ul>		
<b>Activities:</b>				
<ul style="list-style-type: none"> <li><i>Inclusive UCs are formed with the support of local NGOs</i></li> <li><i>Community agreements are signed between UCs and Palikas</i></li> <li><i>300 women UC members are trained on community leadership</i></li> <li><i>Baselines and Post Bridge Building Assessments are conducted annually</i></li> </ul>				

Indicators	Phase Target	Means of Verification	Assumptions	Risks
<b>Resources:</b> <ul style="list-style-type: none"> <li>Government Investment: NRs 304 Million (USD 2.67Million.)</li> <li>TA (Swiss): NRs 72 Million (CHF 0.63 Million)</li> </ul>				
<b>Output 1.2: Users' committees strengthen their capacity to build good quality trail bridges equitably and transparently</b>				
1.2.1. Local communities are provided with DMBT trainings	4,300 persons	<ul style="list-style-type: none"> <li>DMBT Reports</li> </ul>	<ul style="list-style-type: none"> <li>Disadvantaged groups are prioritized during bridge construction for employment opportunities</li> <li>NGOs are available to support UCs to organize public hearings and audits</li> <li>NGOs are capable and provide regular and prompt technical support to UCs during construction</li> <li>TA providers are available to provide prompt TA during ordinary and critical milestones</li> </ul>	<ul style="list-style-type: none"> <li>NGO support is weak/insufficient</li> </ul>
1.2.2. Employment opportunities are generated locally, especially for disadvantaged groups	5.5 million person-days (including 2.7 million for disadvantaged groups and 2 million for women)	<ul style="list-style-type: none"> <li>Project Book</li> <li>NGO Reports</li> <li>TBSIS</li> <li>Annual Report and Outcome Monitoring Summary</li> </ul>		
1.2.3. Public hearings and audits are conducted at the bridge sites	100% of bridge sites	<ul style="list-style-type: none"> <li>Project Book</li> <li>NGO Reports</li> </ul>		
1.2.4. All bridges constructed meet set quality standards	100% of bridges	<ul style="list-style-type: none"> <li>Work completion certificate</li> <li>Monitoring Reports</li> <li>Load Testing</li> </ul>		
<b>Activities:</b> <ul style="list-style-type: none"> <li>4,300 DMBT trainings for UCs are planned and implemented by TA agency with support from NGOs and Palikas</li> <li>NGOs organize public hearings</li> <li>UCs organize public audits with support from NGOs</li> <li>UCs maintain project books at bridge site with support from NGOs</li> <li>Insurance for labourers are procured</li> <li>NGOs monitor employment opportunities generated during bridge construction, ensuring timely payment and equal pay for equal work</li> <li>NGOs/STAPs/TBSU provide prompt TA during ordinary and critical milestones</li> <li>At least 3 trail bridges undergo random load testing in each State</li> </ul>				
<b>Resources:</b> <ul style="list-style-type: none"> <li>Government Investment: NRs 609 Million (USD 5.34 Million.)</li> <li>TA (Swiss): NRs 180 Million (CHF 1.58 Million)</li> </ul>				
<b>Outcome 2: Governments at all levels (Federal, State, Palika) implement Trail Bridge Strategy to construct and maintain trail bridges equitably</b>				

Indicators	Phase Target	Means of Verification	Assumptions	Risks
2.1. All government levels incorporate trail bridge building plans and budget based on the prioritization criteria (1-hour detour)	100% of planned bridges	<ul style="list-style-type: none"> <li>Palika and State assemblies</li> <li>Yearly Plan of Operation Reports</li> </ul>	<ul style="list-style-type: none"> <li>Bridge prioritization criteria is known by all bridge building agencies and followed</li> <li>Bridge building agencies have access to manuals,</li> </ul>	<ul style="list-style-type: none"> <li>Bridge prioritization criteria is not followed</li> </ul>
2.2. All bridge building agencies adopt and adhere to norms, standards, technologies and demarcation conventions to meet set quality standards	100% of bridges	<ul style="list-style-type: none"> <li>Third Party Audit Report</li> <li>Final Inspection Report</li> <li>Survey and Design</li> </ul>		
<b>Output 2.1: Department of Local Infrastructure strengthens its capacity to update and adapt trail bridge related policy frameworks and technology</b>				
2.1.1. Trail Bridge Strategy is updated as per the new federal context	MoFAGA approves the updated TBS by July 2019	<ul style="list-style-type: none"> <li>Updated Trail Bridge Strategy</li> </ul>	<ul style="list-style-type: none"> <li>All bridge building agencies follow the updated trail bridge strategy</li> <li>Bridge building agencies have access to updated manuals, guidelines, forms and formats</li> </ul>	<ul style="list-style-type: none"> <li>Few bridge building agencies disregard the trail bridge strategy and build bridges at their own discretion</li> </ul>
2.1.2. Trail bridge relevant manuals, guidelines, forms and formats are updated and adapted to the new federal context	Updated manuals, guidelines, forms and formats are available for implementation by July 2019	<ul style="list-style-type: none"> <li>Updated relevant manuals, guidelines, forms and formats</li> </ul>		
2.1.3. Suitable new technology, design for special, complex and signature bridges are tested	10 bridges	<ul style="list-style-type: none"> <li>Monitoring reports</li> <li>Final inspection reports</li> <li>Case studies</li> </ul>		
<b>Activities:</b> <ul style="list-style-type: none"> <li>DoLI reviews and updates trail bridge related policies, directives and guidelines</li> <li>DoLI reviews and updates existing norms, standards, and manuals</li> <li>DoLI uploads/prints the updated strategy, policies, relevant manuals, guidelines, forms and formats</li> <li>DoLI pilots and tests new designs of special, complex and signature bridges</li> </ul>				
<b>Resources:</b> <ul style="list-style-type: none"> <li>Government Investment: NRs 1826 Million (USD 16.02Million.)</li> <li>TA (Swiss): NRs 63 Million (CHF 0.55 Million)</li> </ul>				
<b>Output 2.2: Department of Local Infrastructure strengthens its capacity to plan, budget and procure wire-ropes and bull-dog grips for trail bridge programme and implement trail bridges which are technically complex and of national importance</b>				
2.2.1. Trained technical personnel are available in TBS/DoLI	10 engineers are trained on trail bridge building	<ul style="list-style-type: none"> <li>Training reports</li> </ul>	<ul style="list-style-type: none"> <li>Qualified and experienced technical personnel are available in</li> </ul>	<ul style="list-style-type: none"> <li>Insufficient human resources in DoLI</li> </ul>

Indicators	Phase Target	Means of Verification	Assumptions	Risks
2.2.2. New construction of technically complex, international- boundary and 'signature' bridges	70 trail bridges	<ul style="list-style-type: none"> <li>PMIS</li> <li>Case studies</li> </ul>	DoLI for planning, budgeting, procurement and implementation <ul style="list-style-type: none"> <li>Bridge building materials are readily available in the market</li> </ul>	
2.2.3. Reference rates for materials, bridge linear costs, are periodically updated and available on official website	Reference rates are updated quarterly	<ul style="list-style-type: none"> <li>Website</li> </ul>		
2.2.4. Standard list of qualified fabricators, construction materials, manufactures (cement) and contractors are updated and available on official website	Reference rates are updated annually	<ul style="list-style-type: none"> <li>Website</li> </ul>		
<b>Activities:</b> <ul style="list-style-type: none"> <li>Trainings are provided to DoLI technical personnel on planning, budgeting and procurement</li> <li>DoLI prepares procurement plans for international procurement of wire-ropes and bull-dog grips</li> <li>DoLI coordinates with States/Palikas and Federal ministries for annual budgets as per the prioritized, planned and endorsed bridges by the Palika assemblies</li> <li>DoLI ensures that conditional grants to Palikas are entered into LMBIS</li> <li>DoLI ensures that planned budgets are available to Palikas and States on time</li> <li>DoLI coordinates with Palikas/States and Federal ministries for revision of budgets in LMBIS as necessary</li> <li>DoLI conducts quality testing of bridge materials</li> <li>DoLI constructs technically complex, international-boundary and 'signature' bridges</li> <li>DoLI takes the lead to pilot new technology</li> <li>DoLI publishes reference rates</li> <li>DoLI publishes standard lists</li> <li>DoLI conducts load testing</li> <li>DoLI conducts technical audits and financial audits to ensure compliance with relevant policies</li> <li>DoLI coordinates and prepares reports for development partners</li> </ul>				
<b>Resources:</b> <ul style="list-style-type: none"> <li>Government Investment: NRs 3246 Million (USD 28.48 Million.)</li> <li>TA (Swiss): NRs 72 Million (CHF 0.63 Million)</li> </ul>				
<b>Output 2.3: State governments strengthen their capacity to build technically complex, extra long LSTBs (&gt;280 m) and inter-state boundary bridges equitably</b>				
2.3.1. Trained technical personnel are available in IDOs	35 engineers are trained on trail bridge building	<ul style="list-style-type: none"> <li>Training reports</li> </ul>	<ul style="list-style-type: none"> <li>Qualified and experienced technical personnel are established in IDOs</li> </ul>	<ul style="list-style-type: none"> <li>Insufficient human resources available in IDOs</li> </ul>

Indicators	Phase Target	Means of Verification	Assumptions	Risks
2.3.2. New trail bridges span >280 m are constructed	170 trial bridges	<ul style="list-style-type: none"> <li>PMIS</li> </ul>	<ul style="list-style-type: none"> <li>States procure the services of STAPs</li> <li>Servers for web-based monitoring systems are established within each State office</li> <li>Focal persons are trained on web-based monitoring systems</li> </ul>	<ul style="list-style-type: none"> <li>Absence of STAPs</li> <li>Insufficient funds available for establishing servers for web-based monitoring systems</li> </ul>
2.3.3. Web based PMIS, TBSIS and Bridge Records are anchored and managed by all seven States	7 focal persons are trained on PMIS, TBSIS and Bridge Record	<ul style="list-style-type: none"> <li>Training report</li> <li>Functioning of PMIS, TBSIS, Bridge Record</li> </ul>		
<b>Activities:</b> <ul style="list-style-type: none"> <li>Technical staff within IDOs are trained on trail bridge building, including procurement</li> <li>State procures the services of STAPs</li> <li>IDOs plan, budget and implement 170 new trail bridges from State's own resources</li> <li>IDOs prepares plans and procures wire-ropes and bulldog grips on availability of State's own fund and scarcity at the federal level</li> <li>IDOs procures steel parts at the request of Palikas</li> <li>IDOs conduct quality testing of bridge materials</li> <li>IDOs manages stores within their administrative areas</li> <li>At least 7 State level focal persons are trained on store management</li> <li>IDOs ensures timely distribution of bridge construction materials to UCs</li> <li>At least 7 IDO focal persons are trained on Programme Monitoring Information System (PMIS), and Trail Bridge Strategy Information System (TBSIS)</li> <li>IDOs conduct Bridge Condition Investigations (BCI) of bridges within their administrative areas and enter update the Bridge Records (BR) for flagging up of maintenance and rehabilitation</li> <li>7 engineers are provided with orientations on inspection, testing and approval of certification of wire-ropes and bull-dog grips</li> <li>At least 3 trail bridges undergo random load testing in each State</li> </ul>				
<b>Resources:</b> <ul style="list-style-type: none"> <li>Government Investment: NRs 3652 Million (USD 32.04 Million.)</li> <li>TA (Swiss): NRs 135 Million (CHF 1.19 Million)</li> </ul>				
<b>Output 2.4: Palikas strengthen their capacities to support communities and contract consultants/contractors to equitably build good quality trail bridges and maintain them</b>				
2.4.1. Trained technical personnel are available in all Palikas and NGOs	800 Sub-engineers are and Assistant sub-engineers are trained in trial bridge building	<ul style="list-style-type: none"> <li>Training reports</li> </ul>	<ul style="list-style-type: none"> <li>Technical units established within Palikas</li> </ul>	<ul style="list-style-type: none"> <li>Technical units within Palikas do not have adequate and experienced</li> </ul>

Indicators	Phase Target	Means of Verification	Assumptions	Risks
2.4.2. New trail bridges are constructed through UCs and consultants/contractors	2,160 trail bridges	<ul style="list-style-type: none"> <li>PMIS</li> </ul>	<ul style="list-style-type: none"> <li>Focal persons within Palikas are trained on trail bridge building</li> <li>Palika focal persons have access to web-based monitoring systems of bridges within their jurisdiction</li> <li>Palikas fund RM from their own resources</li> <li>Palikas monitor effectiveness of Bridge Wardens</li> </ul>	human resources <ul style="list-style-type: none"> <li>Palikas do not have resources to fund RM</li> </ul>
2.4.3. Major maintenance/rehabilitation of deplorable bridges	750 trail bridges	<ul style="list-style-type: none"> <li>PMIS</li> </ul>		
2.4.4. All trail bridges undergo routine maintenance	Minimum of 8,000 bridges annually	<ul style="list-style-type: none"> <li>Reports from Palikas</li> </ul>		
2.4.5. Bridge wardens receive RMT training	2,000 bridge wardens	<ul style="list-style-type: none"> <li>RMT report</li> </ul>		

**Activities:**

- Trail bridge course (technical + social + quality control) trainings are organized for Palika and NGO personnel
- Long List is revised according to Palikas' need
- Palikas prioritize bridge plans according to the strategy
- Planned trail bridges and budget are endorsed by Palika assemblies
- Palikas procure services of NGOs and/or contractors/consultants
- Detailed Project Reports are prepared
- Delegation agreements are signed between all Palikas and NGOs
- Palikas monitor the services of NGOs
- Community agreements are signed between all Palikas and UCs
- Palikas send requirements of wire-ropes and bull-dog grips to concerned State governments
- Palikas assess need and procure steel parts or request States to procure on their behalf
- Palikas construct SSTBs through UCs
- Palikas construct LSTBs through the private sector on turnkey modality
- Palikas timely provide construction materials to UCs
- Palikas monitor the quality of constructed bridges
- Palikas send information to the concerned State government for anchoring trail bridge information system in State government
- Palikas allocate sufficient budget for routine maintenance
- Palikas revive/appoint Bridge Wardens (BWs) for routine maintenance
- Palikas monitor the effectiveness of Bridge Wardens (BWs) within their administrative areas

**Resources:**

- Government Investment: NRs 9638 Million (USD 84.54Million.)
- TA (Swiss): NRs 270 Million (CHF 2.37 Million)

**Outcome 3: Private sector (consultants, contractors, fabricators, educational institutes) engagement leads to effective delivery of good quality trail bridges**

Indicators	Phase Target	Means of Verification	Assumptions	Risks
3.1. Palikas procure services, goods, works from private sector by themselves	1 <sup>st</sup> year: 50% of Palikas 2 <sup>nd</sup> year: 75% of Palikas 3 <sup>rd</sup> year: 100% of Palikas	<ul style="list-style-type: none"> <li>• Reports</li> </ul>	<ul style="list-style-type: none"> <li>• Palikas have access to goods, services and works from private sector</li> </ul>	<ul style="list-style-type: none"> <li>• Remoteness and low volume of works do not attract private sector</li> </ul>
<b>3.1. Consultants/contractors and Fabricators strengthens their capacity to effectively and efficiently provide services for the construction of good quality trail bridges</b>				
3.1.1. Consultants are available in each State to provide engineering services, including monitoring and inspection	At least 5 in each State	<ul style="list-style-type: none"> <li>• Updated standard list of qualified consultants on official website</li> </ul>	<ul style="list-style-type: none"> <li>• Private sector are attracted towards trail bridge building</li> </ul>	<ul style="list-style-type: none"> <li>• Remoteness and low volume of works do not attract private sector</li> </ul>
3.1.2. Consultants are trained on survey and design	20 engineers	<ul style="list-style-type: none"> <li>• Training reports</li> </ul>		
3.1.3. Fabricators are available in each State to manufacture steel parts as per standards	At least 2 in each State	<ul style="list-style-type: none"> <li>• Updated standard list of qualified fabricators on official website</li> </ul>		
3.1.4. Quality control engineers/managers of fabricators are trained on quality assurance during factory visits	14 quality control engineers/manager	<ul style="list-style-type: none"> <li>• Factory visit reports</li> </ul>		
3.1.5. Lab-testing facilities are available in each State	At least 1 in each State	<ul style="list-style-type: none"> <li>• Establishment of lab-testing facilities</li> </ul>		
<b>Activities:</b> <ul style="list-style-type: none"> <li>• <i>Consultants are trained on survey and design during the preparation of Detailed Project Reports</i></li> <li>• <i>Quality control engineers/managers of fabricators are trained on quality assurance during factory visits</i></li> <li>• <i>States and TA providers promote at least 1 lab-testing facilities in each State</i></li> </ul>				
<b>Resources:</b> <ul style="list-style-type: none"> <li>• <i>Government Investment: NRs 609 Million (USD 5.34Million.)</i></li> <li>• <i>TA (Swiss): NRs 45 Million (CHF 0.40 Million)</i></li> </ul>				
<b>3.2. Qualified technical personnel on trail bridge building are developed in the market</b>				
3.2.1. CTVT includes trail bridge course in TSLC and Civil Diploma	Continued, TA agency supports	<ul style="list-style-type: none"> <li>• Reports</li> </ul>	<ul style="list-style-type: none"> <li>• Els continue to offer trail bridge courses in their syllabus</li> </ul>	<ul style="list-style-type: none"> <li>• Students are no longer attracted towards trail</li> </ul>

Indicators	Phase Target	Means of Verification	Assumptions	Risks
3.2.2. Elective course for Bachelors in Civil Engineering level is continued in Educational Institutes	100 students	<ul style="list-style-type: none"> <li>• Reports</li> </ul>	<ul style="list-style-type: none"> <li>• Students are interested in trail bridge building and enhancing their knowledge and skills</li> </ul>	bridge construction
3.2.3. Fresh graduates are provided with traineeship/internships	28 trainees/interns	<ul style="list-style-type: none"> <li>• Traineeship/Internship Reports</li> </ul>		
3.2.4. On-job-trainings are provided to Assistant Sub-Engineers in Technical Schools	42 Assistant Sub-Engineers	<ul style="list-style-type: none"> <li>• Traineeship/Internship Reports</li> </ul>		
<b>Activities:</b> <ul style="list-style-type: none"> <li>• <i>TA provider promotes/attracts students to trail bridge building by taking part in technical exhibitions and workshops</i></li> <li>• <i>Sufficient manuals and guidelines are printed and provided to students</i></li> <li>• <i>9 months traineeship/internship are provided to 28 trainees/interns</i></li> <li>• <i>On-Job-Trainings are provided to students of technical schools</i></li> </ul>				
<b>Resources:</b> <ul style="list-style-type: none"> <li>• <i>Government Investment: NRs 406 Million (USD 3.56 Million.)</i></li> <li>• <i>TA (Swiss): NRs 63 Million (CHF 0.55 Million)</i></li> </ul>				

## ANNEX 2: Rapid Environmental Assessment Check List

**Instructions:**

- This checklist is to be completed with the assistance of an Environment Specialist.
- This checklist focuses on environmental issues and concerns.
- Answer the questions assuming the "without mitigation" case. The purpose is to identify potential impacts. use the "remarks" section to discuss any anticipated mitigation measures.

SCREENING QUESTIONS	Yes	No	REMARKS
<b>A. Project Sitting</b>			
Is the project area .....			
▪ heavy with development activities	<input type="checkbox"/>	<input type="checkbox"/>	
▪ adjacent to or within any environmentally sensitive areas	<input type="checkbox"/>	<input type="checkbox"/>	
▪ cultural heritage site	<input type="checkbox"/>	<input type="checkbox"/>	
▪ protected Area	<input type="checkbox"/>	<input type="checkbox"/>	
▪ wetland	<input type="checkbox"/>	<input type="checkbox"/>	
▪ buffer zone of protected area	<input type="checkbox"/>	<input type="checkbox"/>	
▪ special area for protecting biodiversity	<input type="checkbox"/>	<input type="checkbox"/>	
<b>B. Potential Environmental Impacts</b>			
Will the project cause.....			
▪ encroachment on precious ecology resulting in loss or damage to terrestrial or aquatic habitats (e.g. wetlands or sensitive or protected areas) or species of conservation significance?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ encroachment on historical/cultural monument or areas?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ disruption/destruction of tribal groups/indigenous peoples?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ dislocation or involuntary resettlement of people	<input type="checkbox"/>	<input type="checkbox"/>	
▪ social conflicts between local laborers and those from outside the area?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ environmental problems arising from uncontrolled human migration into the area as would be made possible by access trail and suspension bridge?	<input type="checkbox"/>	<input type="checkbox"/>	

**Conclusion and recommendations:**

Proposed Trail Bridge doesn't fall under schedule 1 and 2 of the Environmental Protection Rule, 1997. Therefore, environmental assessment (IEE and EIA) according to the GoN regulation is not required. Similarly, according to ADB Environmental Assessment Guidelines, 2003, this project falls under category C where EIA or IEE is not required.

However, mitigation measures and Environmental Management Plan are directly integrated into the project in engineering design works. Environmental monitoring is also proposed during the construction of the Trail Bridge. The construction of project indeed is viable, practical, and cost effective, which in turn would supplement its environmental and social sustainability.

### ANNEX 3: Routine Maintenance: Palika, State and Year-wise Bridge Number

State	SN	Districts	Palika List	Total Trail Bridges
State 1	1	Taplejung	1. Athrai Tribeni	11
			2. Maiwakhola	14
			3. Meringden	16
			4. Mikwakhola	7
			5. Phaktanglung	47
			6. Sidingba	26
			7. Sirijangha	23
			8. Yangwarak	14
			9. Phungling	15
	2	Panchthar	1. Falelung	29
			2. Falgunanda	19
			3. Hilliang	14
			4. Kummayak	2
			5. Miklajung	25
			6. Tumbewa	6
			7. Yangwarak	33
			8. Phidim	36
	3	Ilam	1. Chulachuli	3
			2. Fakphokthum	21
			3. Majogmai	21
			4. Mangsebung	11
			5. Rong	8
			6. Sandakpur	14
			7. Deumai	27
			8. Ilam	23
			9. Mai	5
			10. Suryodaya	18
	4	Sankhuwasava	1. Bhotkhola	12
			2. Chichila	4
			3. Makalu	37
			4. Sabhapokhari	16
			5. Silichong	26
			6. Chainpur	19
			7. Dharmadevi	7
			8. Khandbari	15
			9. Madi	7
			10. Panchakhapan	20
	5	Terathum	1. Athrai	10
			2. Chhathar	6
			3. Menchayam	27
			4. Phedap	21
			5. Laligurans	19
			6. Myanglung	22
	6	Dhankuta	1. Chaubise	3
			2. Chhathar Jorpati	7
			3. Khalsa Chhintang Shahidbhumi	5
			4. Sangurigadhi	10
5. Dhankuta			7	
6. Mahalaxmi			12	
7. Pakhribas			9	
7	Bhojpur	1. Aamchowk	7	
		2. Arun	4	
		3. Hatuwagadhi	5	
		4. Pauwadungma	9	
		5. Ramprasad Rai	10	

State	SN	Districts	Palika List	Total Trail Bridges
			6.Salpasilichho	22
			7.Tyamkemaityung	28
			8.Bhojpur	23
			9.Shadananda	26
	8	Solukhumbu	1.Dudhkaushika	22
			2.Dudhkoshi	17
			3.Khumbupasanglahmu	27
			4.Likhupike	12
			5.Mahakulung	17
			6.Nechasalyan	17
			7.Sotang	13
			8.Solududhakunda	23
	9	Okhaldhunga	1.Champadevi	13
			2.Chisankhugadhi	12
			3.Khijidemba	28
			4.Likhu	28
			5.Manebhanjyang	10
			6.Molung	23
			7.Sunkoshi	9
			8.Siddhicharan	38
	10	Khotang	1.Ainselukhark	18
			2.Barahapokhari	9
			3.Diprung	19
			4.Jantedhunga	9
			5.Kepilasagadhi	36
			6.Khotehang	13
			7.Lamidanda	5
			8.Sakela	17
			9.Halesi Tuwachung	6
			10.Rupakot Majhuwagadhi	31
	11	Udayapur	1.Rautamai	12
			2.Sunkoshi	2
			3.Tapli	5
			4.Udayapurgadhi	23
5.Belaka			2	
6.Chaudandigadhi			3	
7.Katari			20	
8.Triyuga			8	
12	Jhapa	1.Barhadashi	1	
		2.Buddhashanti	2	
		3.Gauriganj	0	
		4.Haldibari	4	
		5.Jhapa	1	
		6.Kachankawal	1	
		7.Kamal	1	
		8.Arjundhara	3	
		9.Bhadrapur	1	
		10.Birtamod	1	
		11.Damak	0	
		12.Gauradhaha	1	
		13.Kankai	0	
		14.Mechinagar	3	
		15.Shivasataxi	2	
13	Sunsari	1.Barju	2	
		2.Bhokraha	0	
		3.Dewanganj	1	
		4.Gadhi	4	

State	SN	Districts	Palika List	Total Trail Bridges
			5.Harinagara	0
			6.Koshi	0
			7.Barah	0
			8.Duhabi	1
			9.Inaruwa	4
			10.Ramdhuni	5
			11.Dharan	9
			12.Itahari	4
	14	Morang	1.Budhiganga	2
			2.Dhanpalthan	1
			3.Gramthan	1
			4.Jahada	3
			5.Kanepokhari	2
			6.Katahari	1
			7.Kerabari	4
			8.Miklajung	3
			9.Biratnagar	0
			10.Belbari	0
	11.Letang	11		
	12.Patahrishanishchare	4		
13.Rangeli	2			
14.Ratuwamai	8			
15.Sundarharaicha	4			
16.Sunwarshi	1			
17.Uralabari	0			
<b>Total</b>			<b>1588</b>	
<b>State 2</b>				
State 2	1	Saptari	1.Agnisair Krishna Savaran	0
			2.Balan Bihul	0
			3.Belhi Chapena	0
			4.Bishnupur	0
			5.Chhinamasta	4
			6.Mahadeva	0
			7.Rupani	0
			8.Saptakoshi	0
			9.Tilathi Koiladi	0
			10.Tirahut	0
			11.Bode Barsain	1
			12.Dakneshwori	0
			13.Hanumannagar Kankalini	1
			14.Kanchanrup	0
			15.Khadak	0
			16.Rajbiraj	1
			17.Shambhunath	0
			18.Surunga	0
	2	Siraha	1.Amama	1
			2.Aurahi	0
3.Bariyarpatti			1	
4.Bhagawanpur	0			
5.Bishnupur	0			
6.Laxmipur Patari	0			
7.Naraha	0			
8.Nawarajpur	0			
9.Sakhuwanankarkatti	1			
10.Dhangadhimai	0			
11.Golbazar	0			

State	SN	Districts	Palika List	Total Trail Bridges
			12.Kalyanpur	0
			13.Karjanha	0
			14.Lahan	1
			15.Mirchaiya	0
			16.Siraha	1
			17.Sukhipur	0
			3	Dhanusha
	2.Bateshwor	0		
	3.Dhanauji	0		
	4.Janaknandani	0		
	5.Lakshminiya	1		
	6.Mukhiyapatti Musarmiya	1		
	7.Bideha	0		
	8.Chhireshwornath	0		
	9.Dhanusadham	0		
	10.Ganeshman Chamath	1		
	11.Hansapur	0		
	12.Kamala	0		
	13.Mithila	1		
	14.Mithila Bihari	0		
	15.Nagarain	0		
	16.Sabaila	0		
	17.Sahidnagar	0		
	18.Janakpur	1		
	4	Mahottari	1.Ekdanra	0
			2.Mahottari	0
			3.Pipra	1
			4.Samsi	0
			5.Sonama	0
			6.Aurahi	0
			7.Balwa	1
			8.Bardibas	1
			9.Bhangaha	0
			10.Gaushala	0
			11.Jaleswor	1
			12.Loharpatti	0
			13.Manra Siswa	0
			14.Matihani	0
			15.Ramgopalpur	0
	5	Sarlahi	1.Basbariya	0
			2.Bishnu	0
			3.Bramhapuri	0
			4.Chakraghatta	1
			5.Chandranagar	1
			6.Dhankaul	0
			7.Kaudena	0
8.Parsa			1	
9.Ramnagar			0	
10.Bagmati			0	
11.Balara			0	
12.Barahathawa			1	
13.Godaita			0	
14.Haripur			1	
15.Haripurwa			0	
16.Hariwan			0	

State	SN	Districts	Palika List	Total Trail Bridges
State 3	6		17.Ishworpur	0
			18.Kabilasi	1
			19.Lalbandi	0
			20.Malangawa	0
	6	Rautahat	1.Durga Bhagwati	0
			2.Yemunamai	0
			3.Baudhimai	0
			4.Brindaban	1
			5.Chandrapur	0
			6.Dewahhi Gonahi	1
			7.Gadhimai	0
			8.Garuda	0
			9.Gaur	1
			10.Gujara	0
			11.Ishanath	1
			12.Katahariya	0
			13.Madhav Narayan	0
			14.Maulapur	3
			15.Paroha	0
			16.Phatuwa Bijayapur	0
			17.Rajdevi	0
			18.Rajpur	0
	7	Bara	1.Adarshkotwal	0
			2.Baragadhi	0
			3.Bishrampur	0
			4.Devtal	0
			5.Karaiyamai	1
			6.Parwanipur	0
			7.Pheta	0
			8.Prasauni	0
			9.Suwarna	0
			10.Kolhabi	0
			11.Mahagadhimai	0
			12.Nijgadh	1
			13.Pacharauta	0
			14.Simraungadh	0
			15.Jitpur Simara	0
			16.Kalaiya	0
	8	Parsa	1.Bindabasini	0
			2.Chhipaharmai	0
			3.Dhobini	0
			4.Jagamathpur	2
			5.Jirabhawani	0
			6.Kalikamai	1
			7.Pakahamainpur	0
			8.Paterwasugauli	0
			9.SakhuwaPrasauni	0
			10.Thori	2
11.Birgunj			4	
12.Bahudaramai			1	
13.Parsagadhi			1	
14.Pokhariya			1	
<b>Total</b>			<b>48</b>	
<b>State 3</b>				
State 3	1	Dolakha	1.Baiteshwor	12

State	SN	Districts	Palika List	Total Trail Bridges
			2.Bigu	31
			3.Gaurishankar	33
			4.Kalinchok	21
			5.Melung	8
			6.Sailung	18
			7.Tamakoshi	10
			8.Bhimeshwor	14
			9.Jiri	23
			2	Ramechhap
	2.Gokulganga	29		
	3.Khadadevi	10		
	4.Likhu	13		
	5.Sunapati	8		
	6.Umakunda	28		
	7.Manthali	18		
	8.Ramechhap	9		
	3	Sindhuli	1.Ghanglekh	8
			2.Golanjor	10
			3.Hariharpurgadhi	13
			4.Marin	6
			5.Phikkal	10
			6.Sunkoshi	6
			7.Tinpatan	28
			8.Dudhuli	16
			9.Kamalamai	26
	4	Kabhrepalanchowk	1.Bethanchowk	12
			2.Bhumlu	4
			3.Chaurideurali	14
			4.Khanikhola	16
			5.Mahabharat	29
			6.Roshi	8
			7.Temal	8
			8.Banepa	0
			9.Dhulikhel	2
			10.Mandandepur	5
			11.Namobuddha	8
			12.Panauti	14
			13.Panchkhal	4
	5	Sindhupalchowk	1.Balefi	6
			2.Bhotekoshi	15
			3.Helambu	12
			4.Indrawati	7
			5.Jugal	23
			6.Lisangkhu Pakhar	12
			7.Panchpokhari Thangpal	0
			8.Sunkoshi	9
			9.Tripurasundari	4
10.Barhabise			9	
11.Chautara SangachokGadhi			14	
12.Melamchi			19	
6	Kathmandu	1.Kathmandu	8	
		2.Budhanilakantha	0	
		3.Chandragiri	1	
		4.Dakshinkali	1	
		5.Gokarneshwor	5	

State	SN	Districts	Palika List	Total Trail Bridges
			6.Kageshwori Manahora	1
			7.Kirtipur	0
			8.Nagarjun	0
			9.Shankharapur	5
			10.Tarakeshwor	1
			11.Tokha	0
	7	Lalitpur	1.Bagmati	18
			2.Konjyosom	9
			3.Mahankal	25
			4.Lalitpur	8
			5.Godawari	9
			6.Mahalaxmi	0
	8	Bhaktapur	1.Bhaktapur	1
			2.Changunarayan	6
			3.Madhyapur Thimi	0
			4.Suryabinayak	9
	9	Nuwakot	1.Dupcheshwar	30
			2.Kakani	10
			3.Kispang	9
			4.Likhu	3
			5.Meghang	5
			6.Panchakanya	11
			7.Shivapuri	30
			8.Suryagadhi	6
			9.Tadi	13
			10.Tarkeshwar	6
			11.Belkotgadhi	16
			12.Bidur	23
	10	Rasuwa	1.Gosaikunda	22
			2.Kalika	6
			3.Naukunda	33
			4.Parbati Kunda	9
			5.Uttargaya	8
	11	Dhading	1.Benighat Rorang	9
			2.Gajuri	7
			3.Galchi	14
			4.Gangajamuna	20
			5.Jwalamukhi	6
			6.Khanyabash	16
			7.Netrawati	8
			8.Rubi Valley	26
			9.Siddhalek	13
10.Thakre			12	
11.Tripura Sundari			10	
12.Dhunibesi			5	
13.Nilakantha			20	
12	Makwanpur	1.Bagmati	5	
		2.Bakaiya	4	
		3.Bhimphedi	14	
		4.Indrasarowar	4	
		5.Kailash	20	
		6.Makawanpurgadhi	4	
		7.Manahari	3	
		8.Raksirang	8	
		9.Thaha	13	

State	SN	Districts	Palika List	Total Trail Bridges
	13	Chitwan	10.Hetauda	6
			1.Ichchhyakamana	24
			2.Bharatpur	10
			3.Kalika	5
			4.Khairahani	0
			5.Madi	0
			6.Rapti	17
			7.Ratnanagar	3
<b>Total</b>			<b>1341</b>	
<b>State 4</b>				
State 4	1	Ghorkha	1.Aarughat	24
			2.Ajirkot	9
			3.Bhimsen	3
			4.Chum Nubri	25
			5.Dharche	31
			6.Gandaki	5
			7.Sahid Laxhan	5
			8.Siranchok	8
			9.Sulikot	10
			10.Gorkha	7
			11.Palungtar	11
	2	Tanahun	1.Anbukhaireni	5
			2.Bandipur	9
			3.Devghat	7
			4.Ghiring	6
			5.Myagde	5
			6.Rhishing	9
			7.Bhanu	14
			8.Bhimad	14
			9.Byas	18
			10.Shuklagandaki	13
	3	Lamjung	1.Dordi	37
			2.Dudhpokhari	23
			3.Kwholasothar	24
			4.Marsyangdi	42
			5.Besishahar	19
			6.MadhyaNepal	12
			7.Rainas	17
			8.Sundarbazar	10
	4	Syangja	1.Aandhikhola	20
			2.Arjunchaupari	8
			3.Biruwa	16
			4.Harinas	5
			5.Kaligandagi	11
			6.Phedikhola	14
			7.Bhirkot	6
			8.Chapakot	13
			9.Galyang	14
			10.Putalibazar	25
			11.Waling	7
	5	Kaski	1.Annapurna	52
			2.Machhapuchchhre	27
			3.Madi	37
			4.Rupa	8
			5.Pokhara Lekhnath	55

State	SN	Districts	Palika List	Total Trail Bridges
	6	Myagdi	1.Annapurna	49
			2.Dhaulagiri	52
			3.Malika	28
			4.Mangala	21
			5.Raghuganga	37
			6.Beni	18
	7	Parbat	1.Bihadi	1
			2.Jaljala	20
			3.Mahashila	3
			4.Modi	33
			5.Painyu	22
			6.Kushma	24
			7.Phalebas	28
	8	Baglung	1.Badigad	52
			2.Bareng	21
			3.KantheKhola	37
			4.Nisikhola	26
			5.Taman Khola	42
			6.Tara Khola	72
			7.Baglung	24
			8.Dhorpatan	41
			9.Galkot	62
			10.Jaimuni	31
	9	Manang	1.Chame	7
			2.Narphu	13
			3.Nashong	17
			4.Neshyang	22
	10	Mustang	1.Barhagaun Muktikhsetra	16
			2.Dalome	6
			3.Gharapjhong	12
			4.Lomanthang	5
			5.Thasang	18
	11	East Nawalparasi	1.Binayee Tribeni	7
			2.Bulingtar	13
			3.Bungdikali	8
			4.Hupsekot	10
5.Devchuli			4	
6.Gaidakot			5	
7.Kawasoti			0	
8.Madhyabindu			7	
<b>Total</b>			<b>1654</b>	
<b>State 5</b>				
State 5	1	Pyuthan	1.Ayirabati	14
			2.Gaumukhi	35
			3.Jhimruk	16
			4.Mallarani	3
			5.Mandavi	12
			6.Naubahini	29
			7.Sarumarani	7
			8.Pyuthan	5
			9.Sworgadwary	10
	2	Rolpa	1.Duikholi	25
			2.Lungri	18
			3.Madi	13
			4.Runtigadi	8

State	SN	Districts	Palika List	Total Trail Bridges
			5.Sukidaha	9
			6.Sunchahari	50
			7.Suwarnabati	24
			8.Thawang	15
			9.Tribeni	13
			10.Rolpa	31
	3	East Rukum	1.Bhume	23
			2.Putha Uttarganga	31
			3.Sisne	9
	4	Dang	1.Babai	8
			2.Banglachuli	7
			3.Dangisharan	2
			4.Gadhawa	3
			5.Rajpur	2
			6.Rapti	8
			7.Shantinagar	4
			8.Lamahi	1
			9.Ghorahi	12
			10.Tulsipur	20
	5	Banke	1.Baijanath	3
			2.Duduwa	3
			3.Janki	0
			4.Khajura	5
			5.Narainapur	0
			6.Rapti Sonari	3
			7.Kohalpur	2
			8.Nepalgunj	1
	6	Bardiya	1.Badhaiyatal	0
			2.Geruwa	3
			3.Bansagadhi	1
			4.Barbaridiya	1
			5.Gulariya	0
			6.Madhuwan	0
			7.Rajapur	1
			8.Thakurbaba	0
	7	Kapilbastu	1.Bijayanagar	1
			2.Mayadevi	1
			3.Suddhodhan	1
			4.Yashodhara	0
			5.Banganga	1
			6.Buddhabhumi	7
			7.Kapilbastu	0
8.Krishnanagar			1	
9.Maharajgunj			1	
10.Shivaraj			2	
8	Rupendehi	1.Gaidahawa	1	
		2.Kanchan	1	
		3.Kotahimai	0	
		4.Marchawari	0	
		5.Mayadevi	4	
		6.Omsatiya	2	
		7.Rohini	0	
		8.Sammarimai	0	
		9.Siyari	2	
		10.Sudhdhodhan	0	

State	SN	Districts	Palika List	Total Trail Bridges
			11.Devdaha	4
			12.Lumbini Sanskritik	0
			13.Sainamaina	2
			14.Siddharthanagar	0
			15.Tillotama	0
			16.Butwal	4
	9	Gulmi	1.Chandrakot	24
			2.Chatrakot	9
			3.Dhurkot	17
			4.Gulmidarbar	8
			5.Isma	18
			6.Kaligandaki	14
			7.Madane	19
			8.Malika	25
			9.Ruru	2
			10.Satyawati	14
			11.Musikot	27
			12.Resunga	12
	10	Palpa	1.Bagnaskali	7
			2.Mathagadhi	20
			3.Nisdi	19
			4.Purbakhola	10
			5.Rainadevi Chhahara	18
			6.Rambha	5
			7.Ribdikot	9
			8.Tinau	29
			9.Rampur	8
			10.Tansen	12
	11	Argahakhanchi	1.Chhatradev	4
			2.Malarani	4
			3.Panini	14
			4.Bhumekasthan	11
			5.Sandhikharka	8
			6.Sitganga	30
	12	West Nawalparasi	1.Palhi Nandan	0
			2.Pratappur	0
			3.Sarawal	1
4.Susta			0	
5.Bardaghat			1	
6.Ramgram			2	
7.Sunwal			3	
<b>Total</b>			<b>929</b>	
<b>State 6</b>				
State 6	1	Jumla	1.Guthichaur	7
			2.Hima	2
			3.Kanakasundari	11
			4.Patراسي	10
			5.Sinja	4
			6.Tatopani	10
			7.Tila	5
			8.Chandannath	2
	2	Humla	1.Adanchuli	0
			2.Chankheli	2
			3.Kharpunath	8
			4.Namkha	10

State	SN	Districts	Palika List	Total Trail Bridges
			5.Sarkegad	11
			6.Simkot	10
			7.Tanjakot	1
	3	Kalikot	1.Kalika	6
			2.Mahawai	9
			3.Naraharinath	8
			4.Pachaljharana	3
			5.Palata	5
			6.Sanni Tribeni	8
			7.Khandachakra	6
			8.Raskot	6
			9.Tilagufa	10
			4	Mugu
	2.Mugum Karmarong	13		
	3.Soru	14		
	4.Chhayanath Rara	21		
	5	Dolpa	1.Chharka Tongsong	8
			2.Dolpo Buddha	0
			3.Jagadulla	3
			4.Kaika	5
			5.Mudkechula	7
			6.Shey Phoksundo	6
			7.Thuli Bheri	13
			8.Tripurasundari	18
	6	Dailekh	1.Bhagawatimai	9
			2.Bhairabi	11
			3.Dungeshwor	8
			4.Gurans	11
			5.Mahabu	10
			6.Naumule	15
			7.Thantikandh	3
			8.Aathabis	16
			9.Chamunda Bindrasaini	6
			10.Dullu	7
			11.Narayan	8
	7	Jajarkot	1.Barekot	19
			2.Junichande	8
			3.Kuse	14
			4.Shiwalaya	8
			5.Bheri	13
			6.Chhedagad	15
			7.Tribeni Nalagad	19
8	Salyan	1.Chhatreshwori	8	
		2.Darma	5	
		3.Dhorchaur	1	
		4.Kalimati	13	
		5.Kapurkot	4	
		6.Kumakhmalika	2	
		7.Tribeni	8	
		8.Bagchaur	7	
		9.Bangad Kupinde	9	
		10.Sharada	8	
9	Surkhet	1.Barahtal	10	
		2.Chaukune	6	
		3.Chingad	9	

State	SN	Districts	Palika List	Total Trail Bridges
			4.Simta	5
			5.Bheriganga	10
			6.Birendranagar	11
			7.Gurbhakot	9
			8.Lekbeshi	14
			9.Panchpuri	8
	10	West Rukum	1.Banfikut	9
			2.Sani Bheri	6
			3.Tribeni	5
			4.Aathbiskot	24
			5.Chaurjahari	8
			6.Musikot	12
	<b>Total</b>			<b>687</b>
<b>State 7</b>				
State 7	1	Bajura	1.Chhededaha	14
			2.Gaumul	17
			3.Himali	7
			4.Pandav Gupha	4
			5.Swami Kartik	2
			6.Badimalika	31
			7.Budhiganga	12
			8.Budhinanda	12
			9.Tribeni	10
	2	Bajhang	1.Bithadchir	6
			2.Chabispalthivera	9
			3.Durgathali	2
			4.Kanda	5
			5.Kedarseu	5
			6.Khaptadchhanna	17
			7.Masta	7
			8.Surma	7
			9.Talkot	14
			10.Thalara	13
			11.Bungal	19
			12.JayaPrithivi	14
	3	Darchula	1.Apihimal	7
			2.Byas	7
			3.Dunhu	8
			4.Lekam	10
			5.Malikaarjun	18
			6.Marma	17
			7.Naugad	20
			8.Mahakali	15
			9.Shailyashikhar	13
	4	Achham	1.Bannigadhi Jayagadh	3
			2.Chaurpati	9
			3.Dhakari	4
			4.Mellekh	15
			5.Ramaroshan	15
			6.Turmakhad	5
			7.Kamalbazar	3
			8.Mangalsen	12
			9.Panchadewal Binayak	9
			10.Sanphebagar	29

State	SN	Districts	Palika List	Total Trail Bridges
	5	Doti	1.Adharsha	11
			2.Badikedar	23
			3.Bogtan	17
			4.Joroyal	22
			5.K I Singh	9
			6.Purbichauki	2
			7.Sayal	13
			8.Dipayal Silgadi	8
			9.Shikhar	13
	6	Dadeldhura	1.Ajaymeru	12
			2.Alital	9
			3.Bhageshwar	22
			4.Ganayapdhura	15
			5.Nawadurga	25
			6.Amargadhi	19
			7.Parashuram	19
	7	Baitadi	1.Dilasaini	17
			2.Dogadakedar	12
			3.Pancheshwar	5
			4.Shivanath	1
			5.Sigas	17
			6.Surnaya	15
			7.Dasharathchanda	13
			8.Melauli	9
			9.Patan	25
			10.Purchaudi	16
	8	Kailali	1.Bardagoriya	1
			2.Chure	25
			3.Janaki	1
			4.Joshiapur	0
			5.Kailari	3
			6.Mohanyal	6
			7.Gauriganga	0
			8.Ghodaghodi	1
			9.Godawari	5
			10.Lamkichuha	0
11.Tikapur			0	
12.Dhangadhi			0	
9	Kanchanpur	1.Beldandi	0	
		2.Laljhadi	1	
		3.Bedkot	4	
		4.Belauri	1	
		5.Bhimdatta	2	
		6.Krishnapur	1	
		7.Mahakali	2	
		8.Punarbans	0	
		9.Shuklaphanta	3	
Total			871	
Grand Total			7,118	

Note: Above list includes bridges which have been completed till FY 2017/2018. Trail bridges built during the TB SWAp Framework-III will be added to the list and routinely maintained.

## ANNEX 4: Major Maintenance: Palika, State and Year-wise Bridge Number

State	SN	District	Number of Rehabilitation / Major Maintenance Bridges					
			Name of Palikas	1st year	Name of Palikas	2nd year	Name of Palikas	3rd year
State-1	1	Taplejung	Aathrai Tribeni	1	Sidingba	2	Phungling	3
			Maiwakhola	1	Yangwarak	2	Aathrai Tribeni	1
			Meringden	2	Phaktanglung	1	Phaktanglung	3
			Phaktanglung	2	Sirijangha	2		
	2	Panchthar	Falelung	1	Phidim	2	Phidim	3
			Phidim	1	Yangwarak	2	Yangwarak	3
					Falgunanda	1	Falgunanda	4
	3	Ilam	Majjogmai	1	Deumai	3		
					Sandakpur	1		
					Suryodaya	1		
	4	Sankhuwasava	Chainpur	1	Silichong	2	Silichong	2
			Makalu	3	Bhotkhola	2	Sabhapokhari	1
					Khandbari	1	Makalu	3
	5	Terathum	Myanglung	2	Menchayam	2	Menchayam	2
			Phedap	1	Aathrai	1	Phedap	2
	6	Dhankuta	Khalsa Chhintang Shahidbhumi	1	Chaubise	1	Khalsa Chhintang Shahidbhumi	2
			Pakhribas	1	Sangurigadhi	2	Mahalaxmi	1
	7	Bhojpur	Aamchowk	1	Shadananda	1	Hatuwagadhi	1
			Pauwadungma	1			Tyamkemaityung	1
			Shadananda	1			Pauwadungma	1
	8	Solukhumbu	Nechasalyan	1	Sotang	1	Solududhakunda	2
			Solududhakunda	1	Khumbupasanglahmu	2	Dudhkaushika	2
			Mahakulung	1	Mahakulung	2	Likhupike	2
			Dudhkaushika	1				
	9	Okhaldhunga	Likhu	1	Khijidemba	2	Chisankhugadhi	2
			Manebhanjyang	1	Siddhicharan	2	Molung	2
			Siddhicharan	1				
	10	Khotang	Halesi Tuwachung	1	Lamidanda	2	Ainselukhark	2
			Khotehang	1	Barahapokhari	1	Kepilasagadhi	2
			Rupakot Majhuwagadhi	1	Diprung	1		
	10	Khotang	Sakela	2				
			Diprung	1				
			Kepilasagadhi	1				
	11	Udayapur		0	Triyuga	2	Katari	1
12	Jhapa		0		0			
13	Sunsari	Upamahanagarpalika	1					
14	Morang	Budhiganga	1	Ratuwamai	1	Miklajung	2	
		Kerabari	1					
		Letang	2					
State-1 Total:			40		45		50	
State-2	1	Saptari		0	Chhinnamasta	1		0
	2	Siraha		0	Bariyarpatti Gaunpalika	1	Sakhuwanankarkatti Gaunpalika	1

State	SN	District	Number of Rehabilitation / Major Maintenance Bridges					
			Name of Palikas	1st year	Name of Palikas	2nd year	Name of Palikas	3rd year
	3	Dhanusha		0		0		0
	4	Mahottari		0		0	Balwa Nagarpalika	1
					Jaleswor Nagarpalika		1	
	5	Sarlahi		0	Barahathawa Nagarpalika	1	Haripur Nagarpalika	1
					Kabilasi Nagarpalika		1	
	6	Rautahat		0	Dewahhi Gonahi Nagarpalika	1	Gaur Nagarpalika	
					Gaur Nagarpalika		1	
					Ishanath Nagarpalika		1	
			Maulapur Nagarpalika		2			
7	Bara		0		0			
8	Parsa	Jagarnathpur	1	Jagarnathpur	1			
<b>State-2 Total:</b>			<b>1</b>	<b>5</b>		<b>9</b>		
State-3	1	Dolakha	Bigu Gaunpalika	2	Bhimeshwor Nagarpalika	3	Jiri Nagarpalika	3
			Gaurishankar Gaunpalika	2	Baiteshwor Gaunpalika	2	Tamakoshi Gaunpalika	2
			Kalinchok Gaunpalika	2	Bigu Gaunpalika	2	Sailung Gaunpalika	3
	2	Ramechhap	Gokulganga Gaunpalika	2	Umakunda Gaunpalika	3	Manthali Nagarpalika	2
			Khadadevi Gaunpalika	1	Doramba Gaunpalika	3	Umakunda Gaunpalika	2
			Likhu Gaunpalika	1				
3	Sindhuli	Hariharpurgadhi Gaunpalika	1	Dudhouli Nagarpalika	2	Phikkal Gaunpalika	2	
		Tinpatan Gaunpalika	1	Golanjor Gaunpalika	1	Sunkoshi Gaunpalika	2	
State-3	3	Sindhuli	Phikkal Gaunpalika	1	Kamalamai Nagarpalika	2	Ghanglekh Gaunpalika	1
	4	Kabhreपालचोक	Chaurideurali Gaunpalika	1	Temal Gaunpalika	2	Namobuddha Nagarpalika	2
			Dhulikhel Nagarpalika	1	Mandandeupur Nagarpalika	2	Panauti Nagarpalika	2
			Bhumlu Gaunpalika	1			Dhulikhel Nagarpalika	2
	5	Sindhupalchowk	Helambu Gaunpalika	2	Panchpokhari Thangpal Gaunpalika	2	Indrawati Gaunpalika	1
			Jugal Gaunpalika	2	Bhotekoshi Gaunpalika	1	Barhabise Nagarpalika	2
	6	Kathmandu	Shankharapur Nagarpalika	1		0	Shankharapur Nagarpalika	1
	7	Lalitpur	Mahankal Gaunpalika	1	Lalitpur Mahanagarpalika	2	Konjyosom Gaunpalika	1
			Bagmati Gaunpalika	2				
	8	Bhaktapur						
9	Nuwakot	Belkotgadhi Nagarpalika	2	Panchakanya Gaunpalika	2	Shivapuri Gaunpalika	3	
		Dupcheshwar Gaunpalika	3	Bidur Nagarpalika	2	Suryagadhi Gaunpalika	2	
10	Rasuwa	Gosaikunda Gaunpalika	1	Kalika Gaunpalika	1	Gosaikunda Gaunpalika	2	

State	SN	District	Number of Rehabilitation / Major Maintenance Bridges					
			Name of Palikas	1st year	Name of Palikas	2nd year	Name of Palikas	3rd year
	11	Dhading	Naukunda Gaunpalika	1	Uttargaya Gaunpalika	1	Parbati Kunda Gaunpalika	1
			Gangajamuna Gaunpalika	2	Khaniyabash Gaunpalika	2	Khaniyabash Gaunpalika	2
					Nilakantha Nagarpalika	2	Rubi Valley Gaunpalika	2
	12	Makwanpur		0	Bagmati Gaunpalika	1	Bhimpheedi Gaunpalika	2
				0	Thaha Nagarpalika	1	Raksirang Gaunpalika	1
13	Chitwan	Ichchhyakamana Gaunpalika	1	Bharatpur Mahanagarpalika	1	Rapti Nagarpalika	2	
<b>State-3 Total:</b>			34		40		45	
State-4	1	Ghorkha	Gandaki Gaunpalika	2	Chum Nubri Gaunpalika	2	Dharche Gaunpalika	2
			Gorkha Nagarpalika	2	Palungtar Nagarpalika	2	Aarughat Gaunpalika	2
			Chum Nubri Gaunpalika	2			Siranchok Gaunpalika	3
	2	Tanahun	Byas Nagarpalika	2	Shuklagandaki Nagarpalika	3	Ghiring Gaunpalika	2
			Devghat Gaunpalika	1	Devghat Gaunpalika	2	Bhanu Nagarpalika	2
							Rhishing Gaunpalika	2
	3	Lamjung	MadhyaNepal Nagarpalika	2	Dordi Gaunpalika	3	Marsyangdi Gaunpalika	3
			Marsyangdi Gaunpalika	1	Besishahar Nagarpalika	3	Rainas Nagarpalika	2
							Kwholasothar Gaunpalika	2
	4	Syangja	Chapakot Nagarpalika	2	Aandhikhola Gaunpalika	3	Arjunchaupari Gaunpalika	2
			Galyang Nagarpalika	2	Phedikhola Gaunpalika	3	Waling Nagarpalika	2
			Biruwa Gaunpalika	2	Aandhikhola Gaunpalika	2	Kaligandagi Gaunpalika	2
State-4	5	Kaski	Annapurna Gaunpalika	4	Pokhara Lekhnath Mahanagarpalika	3	Madi Gaunpalika	2
			Machhapuchchhre Gaunpalika	3	Annapurna Gaunpalika	3	Pokhara Lekhnath Mahanagarpalika	4
			Madi Gaunpalika	2			Rupa Gaunpalika	2
							Machhapuchchhre Gaunpalika	3
	6	Myagdi	Annapurna Gaunpalika	3	Dhaulagiri Gaunpalika	4	Malika Gaunpalika	3
			Raghuganga Gaunpalika	2			Mangala Gaunpalika	3
							Annapurna Gaunpalika	2
	7	Parbat	Kushma Nagarpalika	2	Modi Gaunpalika	2	Painyu Gaunpalika	3
			Jaljala Gaunpalika	1	Phalebas Nagarpalika	2	Jaljala Gaunpalika	3
			Kushma Nagarpalika	1				
	8	Baglung	Dhorpatan Nagarpalika	2	Galkot Nagarpalika	2	Kantekhola Gaunpalika	3
			Taman Khola Gaunpalika	2			Nisikhola Gaunpalika	3

State	SN	District	Number of Rehabilitation / Major Maintenance Bridges					
			Name of Palikas	1st year	Name of Palikas	2nd year	Name of Palikas	3rd year
	9	Manang	Chame Gaunpalika	1	Narphu Gaunpalika	1	Neshyang Gaunpalika	2
	10	Mustang	Barhagaun Muktihssetra Gaunpalika	1	Dalome Gaunpalika	3	Lomanthang Gaunpalika	1
	11	Nawalparasi	Bulingtar Gaunpalika	2	Binayee Tribeni Gaunpalika	3	Bulingtar Gaunpalika	2
Gaidakot Nagarpalika			1	Hupsekot Gaunpalika	3	Gaidakot Nagarpalika	2	
				Madhyabindu Nagarpalika	1			
State-4 Total:			45		50		64	
State-5	1	Pyuthan	Naubahini Gaunpalika	3	Sworgadwary Nagarpalika	1	Gaumukhi Gaunpalika	4
			Gaumukhi Gaunpalika	2	Sarumarani Gaunpalika	1	Mandavi Gaunpalika	3
			Ayirabati Gaunpalika	1	Pyuthan Nagarpalika	2	Ayirabati Gaunpalika	1
	2	Rolpa	Duikholi Gaunpalika	2	Madi Gaunpalika	3	Rolpa Nagarpalika	3
			Sukidaha Gaunpalika	1	Sunchhahari Gaunpalika	3	Runtigadi Gaunpalika	1
			Suwarnabati Gaunpalika	2	Suwarnabati Gaunpalika	2	Tribeni Gaunpalika	2
			Thawang Gaunpalika	3	Lungri Gaunpalika	3	Suwarnabati Gaunpalika	3
					Rolpa Nagarpalika	2	Sunchhahari Gaunpalika	4
	3	Rukum	Putha Uttarganga Gaunpalika	1	Putha Uttarganga Gaunpalika	5	Sisne Gaunpalika	4
			Bhume Gaunpalika	1	Bhume Gaunpalika	3	Putha Uttarganga Gaunpalika	2
	4	Dang	Ghorahi Upamahanagarpalika	1	Tulsipur Upamahanagarpalika	1	Shantinagar Gaunpalika	2
			Dangisharan Gaunpalika	1	Rapti Gaunpalika	1		
	5	Banke						
	6	Bardiya	Bansagadhi Nagarpalika	1				
	7	Kapilbastu						
	8	Rupendehi	Butwal Upamahanagarpalika	1				
	9	Gulmi	Chandrakot Gaunpalika	3	Isma Gaunpalika	3	Malika Gaunpalika	4
			Gulmidarbar Gaunpalika	2	Madane Gaunpalika	3	Musikot Nagarpalika	4
			Resunga Nagarpalika	1	Kaligandaki Gaunpalika	2	Satyawati Gaunpalika	3
							Gulmidarbar Gaunpalika	2
	10	Palpa	Tinau Gaunpalika	1	Rainadevi Chhahara Gaunpalika	1	Nisdi Gaunpalika	1
	11	Argahakhanchi	Panini Gaunpalika	2	Sandhikharka Nagarpalika	2	Sitganga Nagarpalika	5
Chhatradev Gaunpalika			1	Bhumekasthan Nagarpalika	1			
				Panini Gaunpalika	1			

State	SN	District	Number of Rehabilitation / Major Maintenance Bridges						
			Name of Palikas	1st year	Name of Palikas	2nd year	Name of Palikas	3rd year	
<b>State-5 Total:</b>			30		40		48		
State-6	1	Jumla	Chandannath Nagarpalika	2	Hima Gaunpalika	1	Guthichaur Gaunpalika	3	
					Sinja Gaunpalika	1			
	2	Humla	Namkha Gaunpalika	1	Kharpunath Gaunpalika	2	Simkot Gaunpalika	3	
			Sarkegad Gaunpalika	1	Namkha Gaunpalika	2	Sarkegad Gaunpalika	1	
	3	Kalikot	Khandachakra Nagarpalika	1	Tilagufa Nagarpalika	1	Mahawai Gaunpalika	2	
			Mahawai Gaunpalika	1	Palata Gaunpalika	1	Sanni Tribeni Gaunpalika	2	
							Naraharinath Gaunpalika	2	
	4	Mugu	Chhayanath Rara Nagarpalika	2	Chhayanath Rara Nagarpalika	1	Soru Gaunpalika	3	
					Mugum Karmarong Gaunpalika	2			
	5	Dolpa	Kaike Gaunpalika	1	Chharka Tangsong Gaunpalika	3	Tripurasundari Nagarpalika	4	
			Shey Phoksundo Gaunpalika	1	Mudkechula Gaunpalika	2			
	6	Dailekh	Dullu Nagarpalika	1	Bhairabi Gaunpalika	2	Mahabu Gaunpalika	3	
			Thantikandh Gaunpalika	1	Narayan Nagarpalika	2	Naumule Gaunpalika	2	
					Chamunda Bindrasaini Nagarpalika	2	Aathabis Nagarpalika	2	
	7	Jajarkot	Barekot Gaunpalika	1	Tribeni Nalagad Nagarpalika	2	Barekot Gaunpalika	2	
			Bheri Nagarpalika	1	Kuse Gaunpalika	1	Shiwalaya Gaunpalika	2	
			Chhedagad Nagarpalika	1					
	8	Salyan	Chhatreshwori Gaunpalika	2	Kalimati Gaunpalika	2	Bangad Kupinde Nagarpalika	1	
							Bagchaur Nagarpalika	1	
							Sharada Nagarpalika	1	
	9	Surkhet	Bheriganga Nagarpalika	2	Chingad Gaunpalika	2	Barahatal Gaunpalika	2	
			Birendranagar Nagarpalika	1	Simta Gaunpalika	1	Birendranagar Nagarpalika	2	
	<b>State-6 Total:</b>			20		30		38	
	State-7	1	Bajura	Badimalika Nagarpalika	3	Badimalika Nagarpalika	3	Badimalika Nagarpalika	2
				Gaumul Gaunpalika	2	Pandav Gupha Gaunpalika	2	Budhinanda Nagarpalika	2
						Himali Gaunpalika	1	Chhededaha Gaunpalika	2
		2	Bajhang	JayaPrithivi Nagarpalika	1	JayaPrithivi Nagarpalika	2	JayaPrithivi Nagarpalika	2
Bithadchir Gaunpalika				1	Bungal Nagarpalika	2	Khaptadchhanna Gaunpalika	2	
Thalara Gaunpalika				1	Surma Gaunpalika	2	Talkot Gaunpalika	3	

State	SN	District	Number of Rehabilitation / Major Maintenance Bridges					
			Name of Palikas	1st year	Name of Palikas	2nd year	Name of Palikas	3rd year
							Thalara Gaunpalika	2
	3	Darchula	Lekam Gaunpalika	2	Marma Gaunpalika	3	Shailyashikhar Nagarpalika	2
			Mahakali Nagarpalika	2	Naugad Gaunpalika	2	Dunhu Gaunpalika	2
			Malikaarjun Gaunpalika	2			Marma Gaunpalika	2
	4	Achham	Sanphebagar Nagarpalika	2	Bannigadhi Jayagadh Gaunpalika	2	Mangalsen Nagarpalika	3
					Mellekh Gaunpalika	2	Ramaroshan Gaunpalika	2
							Sanphebagar Nagarpalika	2
	5	Doti	Badikedar Gaunpalika	2	Dipayal Silgadi Nagarpalika	3	K I Singh Gaunpalika	3
			Bogtan Gaunpalika	2	Adharsha Gaunpalika	3	Shikhar Nagarpalika	3
			Jorayal Gaunpalika	2	Sayal Gaunpalika	2		
	6	Dadeldhura	Amargadhi Nagarpalika	2	Ganayapdhura Gaunpalika	4	Nawadurga Gaunpalika	3
			Nawadurga Gaunpalika	2			Amargadhi Nagarpalika	3
							Bhageshwar Gaunpalika	2
	7	Baitadi	Dasharathchanda Nagarpalika	1	Sigas Gaunpalika	3	Surnaya Gaunpalika	2
			Patan Nagarpalika	1				2
	8	Kailali	Chure Gaunpalika	1	Chure Gaunpalika	1	Chure Gaunpalika	1
	9	Kanchanpur	Bhimdatta Nagarpalika	1	Mahakali Nagarpalika	1		
<b>State7 Total:</b>			<b>30</b>		<b>40</b>		<b>46</b>	
<b>Grand Total:</b>			<b>200</b>		<b>250</b>		<b>300</b>	

Note: Bridges identified for major maintenance based on Bridge Condition Investigation, which may be modified during actual survey



State	SN	Districts	Palika List	Number of Bridges					
				1st year	2nd year	3rd year	Total		
State-1			Sotang						
			Solududhakunda						
	9	Okhaldhunga	Champadevi	12	17	20	49		
			Chisankhugadhi						
			Khijidemba						
			Likhu						
			Manebhanjyang						
			Molung						
			Sunkoshi						
			Siddhicharan						
	10	Khotang	Ainselukhark	8	21	29	58		
			Barahapokhari						
			Diprung						
			Jantedhunga						
			Kepilasagadhi						
			Khotehang						
			Lamidanda						
			Sakela						
			Halesi Tuwachung						
			Rupakot Majhuwagadhi						
	11	Udayapur	Rautamai	5	7	8	20		
			Sunkoshi						
			Tapli						
			Udayapurgadhi						
			Belaka						
			Chaudandigadhi						
			Katari						
			Triyuga						
	12	Jhapa	Barhadashi	3	4	3	10		
			Buddhashanti						
			Gauriganj						
			Haldibari						
			Jhapa						
			Kachankawal						
			Kamal						
			Arjundhara						
			Bhadrapur						
			Birtamod						
			Damak						
									Gauradhaha
	Kankai								
	Mechinagar								
	Shivasataxi								
	13	Sunsari		Barju	2	3	2		7
				Bhokraha					
				Dewanganj					
				Gadhi					
				Harinagara					
Koshi									
Barah									
Duhabi									
Inaruwa									
Ramdhuni									
Dharan									
Itahari									
14	Morang	Budhiganga	3	4	3	10			
		Dhanpalthan							
		Gramthan							
		Jahada							
		Kanepokhari							
		Katahari							
		Kerabari							
		Miklajung							
		Biratnagar							

State	SN	Districts	Palika List	Number of Bridges										
				1st year	2nd year	3rd year	Total							
			Belbari											
			Letang											
			Patahrishanishchare											
			Rangeli											
			Ratuwamai											
			Sundarharaicha											
			Sunwarshi											
			Uralabari											
<b>State-1 Total:</b>				<b>127</b>	<b>181</b>	<b>212</b>	<b>520</b>							
State-2	1	Saptari	Agnisair Krishna Savaran	5	7	8	20							
			Balan Bihul											
			Belhi Chapena											
			Bishnupur											
			Chhinnamasta											
			Mahadeva											
			Rupani											
			Saptakoshi											
			Tilathi Koiladi											
			Tirahut											
			Bode Barsain											
			Dakneshwori											
			Hanumannagar Kankalini											
			Kanchanrup											
			Khadak											
			Rajbiraj											
			Shambhunath											
Surunga														
State-2	2	Siraha	Amama											
			Aurahi											
State-2	2	Siraha	Bariyarpatti	3	5	5	13							
			Bhagawanpur											
			Bishnupur											
			Laxmipur Patari											
			Naraha											
			Nawarajpur											
			Sakhuwanankarkatti											
			Dhangadhimai											
			Golbazar											
			Kalyanpur											
			Karjanha											
			Lahan											
			Mirchaiya											
			Siraha											
			Sukhipur											
			State-2					3	Dhanusha	Aaurahi	2	4	4	10
										Bateshwor				
Dhanauji														
Janaknandani														
Lakshminiya														
Mukhiyapatti Musarmiya														
Bideha														
Chhireswornath														
Dhanusadham														
Ganeshman Charnath														
Hansapur														
Kamala														
Mithila														
Mithila Bihari														
Nagarain														

State	SN	Districts	Palika List	Number of Bridges			
				1st year	2nd year	3rd year	Total
			Sabaila				
			Sahidnagar				
			Janakpur				
	4	Mahottari	Ekdanra	3	4	5	12
			Mahottari				
			Pipra				
			Samsi				
			Sonama				
			Aurahi				
			Balwa				
			Bardibas				
			Bhangaha				
			Gaushala				
			Jaleswor				
			Loharpatti				
			Manra Siswa				
			Mathani				
	Ramgopalpur						
	5	Sarlahi	Basbariya				
			Bishnu				
Bramhapuri							
Chakraghatta							
Chandranagar							
Dhankaul							
State-2	5	Sarlahi	Kaudena	4	5	6	15
			Parsa				
			Ramnagar				
			Bagmati				
			Balara				
			Barahathawa				
			Godaita				
			Haripur				
			Haripurwa				
			Hariwan				
			Ishworpur				
			Kabilasi				
			Lalbandi				
			Malangawa				
	6	Rautahat	Durga Bhagwati	5	6	7	18
			Yemunamai				
			Baudhimai				
			Brindaban				
			Chandrapur				
			Dewahhi Gonahi				
			Gadhimai				
			Garuda				
			Gaur				
			Gujara				
			Ishanath				
			Katahariya				
			Madhav Narayan				
Maulapur							
Paroha							
Phatuwa Bijayapur							
Rajdevi							
Rajpur							
7	Bara	Adarshkotwal	2	3	5	10	
		Baragadhi					
		Bishrampur					
		Devtal					

State	SN	Districts	Palika List	Number of Bridges									
				1st year	2nd year	3rd year	Total						
			Karaiyamai										
			Parwanipur										
			Pheta										
			Prasauni										
			Suwarna										
			Kolhabi										
			Mahagadhimai										
			Nijgadh										
			Pacharauta										
			Simraungadh										
			Jitpur Simara										
			Kalaiya										
			8					Parsa	Bindabasini				
									Chhipaharmai				
Dhobini													
Jagarnathpur													
Jirabhawani													
Kalikamai													
8	Parsa	Pakahamainpur	3	4	5	12							
		Paterwasugauli											
		SakhuwaPrasauni											
		Thori											
		Birgunj											
		Bahudaramai											
		Parsagadhi											
		Pokhariya											
<b>State-2 Total:</b>				<b>27</b>	<b>38</b>	<b>45</b>	<b>110</b>						
State-3	1	Dolakha	Baiteshwor	12	16	19	47						
			Bigu										
			Gaurishankar										
			Kalinchok										
			Melung										
			Sailung										
			Tamakoshi										
			Bhimeshwor										
			Jiri										
	2	Ramechhap	Doramba	10	13	17	40						
			Gokulganga										
			Khadadevi										
			Likhu										
			Sunapati										
			Umakunda										
			Manthali										
	Ramechhap												
	3	Sindhuli	Ghanglekh	10	12	16	38						
			Golanjor										
			Hariharpurgadhi										
			Marin										
			Phikkal										
			Sunkoshi										
			Tinpatan										
			Dudhouli										
	Kamalamai												
	4	Kabhepalanchowk	Bethanchowk	6	8	10	24						
			Bhumlu										
Chaurideurali													
Khanikhola													
Mahabharat													
Roshi													

State	SN	Districts	Palika List	Number of Bridges							
				1st year	2nd year	3rd year	Total				
State-3			Temal								
			Banepa								
			Dhulikhel								
			Mandandeupur								
			Namobuddha								
			Panauti								
			Panchkhal								
	5	Sindhupalchowk	Balefi								
			Bhotekoshi								
			Helambu								
			Indrawati								
			Jugal								
			Lisangkhu Pakhar					8	12	14	34
			Panchpokhari Thangpal								
Sunkoshi											
Tripurasundari											
Barhabise											
Chautara SangachokGadhi											
Melamchi											
6	Kathmandu	Kathmandu	2	2	2	6					
		Budhanilakantha									
		Chandragiri									
		Dakshinkali									
		Gokarneshwor									
		Kageshwori Manahora									
		Kirtipur									
		Nagarjun									
		Shankharapur									
		Tarakeshwor									
Tokha											
7	Lalitpur	Bagmati	4	6	8	18					
		Koniyosom									
		Mahankal									
		Lalitpur									
		Godawari									
8	Bhaktapur	Bhaktapur	2	2	2	6					
		Changunarayan									
		Madhyapur Thimi									
		Suryabinayak									
9	Nuwakot	Dupcheshwar	6	9	10	25					
		Kakani									
		Kispang									
		Likhu									
		Meghang									
		Panchakanya									
		Shivapuri									
		Suryagadhi									
		Tadi									
		Tarkeshwar									
		Belkotgadhi									
Bidur											
10	Rasuwa	Gosaikunda	7	8	10	25					
		Kalika									
		Naukunda									
		Parbati Kunda									
		Uttargaya									
11	Dhading	Benighat Rorang	10	13	17	40					
		Gajuri									
		Galchi									

State	SN	Districts	Palika List	Number of Bridges				
				1st year	2nd year	3rd year	Total	
State 3			Gangajamuna					
			Jwalamukhi					
			Khaniyabash					
			Netrawati					
			Rubi Valley					
	Siddhalek	11	Dhading	Thakre				
	Tripura Sundari							
	Dhunibesi							
	Nilakantha							
	12	Makwanpur	Bagmati	9	11	16	36	
			Bakaiya					
			Bhimphedi					
			Indrasarowar					
			Kailash					
			Makawanpurgadhi					
			Manahari					
			Raksirang					
	Thaha							
	Hetauda	13	Chitwan	Ichchhyakamana	10	12	14	36
	Bharatpur							
	Kalika							
Khairahani								
Madi								
Rapti								
Ratnanagar								
<b>State-3 Total:</b>				<b>96</b>	<b>124</b>	<b>155</b>	<b>375</b>	
State 4	1	Ghorkha	Aarughat	16	22	25	63	
			Ajirkot					
			Bhimsen					
			Chum Nubri					
			Dharche					
			Gandaki					
			Sahid Lakhan					
			Siranchok					
			Sulikot					
			Gorkha					
	Palungtar	2	Tanahun	Anbukhaireni	12	16	18	46
	Bandipur							
	Devghat							
	Ghiring							
	Myagde							
	Rhishing							
	Bhanu							
	Bhimad							
	Byas							
	Shuklagandaki	3	Lamjung	Dordi	10	13	16	39
	Dudhpokhari							
Kwholasothar								
Marsyangdi								
Besishahar								
MadhyaNepal								
Rainas								
Sundarbazar								
Aandhikhola								
Arjunchaupari								

State	SN	Districts	Palika List	Number of Bridges			
				1st year	2nd year	3rd year	Total
State-4	4	Syangja	Biruwa	9	11	14	34
			Harinas				
			Kaligandagi				
			Phedikhola				
			Bhirkot				
			Chapakot				
			Galyang				
			Putalibazar				
	Waling						
	5	Kaski	Annapura	11	15	17	43
			Machhapuchhre				
			Madi				
			Rupa				
	Pokhara Lekhnath						
	6	Myagdi	Annapura	11	14	17	42
			Dhaulagiri				
			Malika				
			Mangala				
			Raghuganga				
	Beni						
	7	Parbat	Bihadi	9	11	15	35
			Jaljala				
			Mahashila				
			Modi				
			Painyu				
			Kushma				
	Phalebas						
	8	Baglung	Badigad	12	16	19	47
			Bareng				
			Kantekhola				
			Nisikhola				
			Taman Khola				
			Tara Khola				
			Baglung				
Dhorpatan							
Galkot							
Jaimuni							
9	Manang	Chame	2	3	5	10	
		Narphu					
		Nashong					
		Neshyang					
10	Mustang	Barhagaun Muktikhsetra	4	5	6	15	
		Dalome					
		Gharaphong					
		Lomanthang					
		Thasang					
11	East Nawalparasi	Binayee Tribeni	6	9	11	26	
		Bulingtar					
		Bungdikali					
		Hupsekot					
		Devchuli					
		Gaidakot					
		Kawasoti					
		Madhyabindu					
<b>State-4 Total:</b>				<b>102</b>	<b>135</b>	<b>163</b>	<b>400</b>
State 5	1	Pyuthan	Ayirabati	9	11	14	34
			Gaumukhi				
			Jhimruk				
			Mallarani				

State	SN	Districts	Palika List	Number of Bridges			
				1st year	2nd year	3rd year	Total
State-5			Mandavi				
			Naubahini				
			Sarumarani				
			Pyuthan				
			Sworgadwary				
	2	Rolpa	Duikholi	22	31	36	89
			Lungri				
			Madi				
			Runtigadi				
			Sukidaha				
			Sunchhahari				
			Suwarnabati				
			Thawang				
			Tribeni				
			Rolpa				
	3	East Rukum	Bhume	21	29	34	84
			Putha Uttarganga				
			Sisne				
	4	Dang	Babai	10	13	17	40
			Banglachuli				
			Dangisharan				
			Gadhawa				
			Rajpur				
			Rapti				
			Shantinagar				
			Lamahi				
			Ghorahi				
Tulsipur							
5	Banke	Baijanath	0	0	0	0	
		Duduwa					
		Janki					
		Khajura					
		Narainapur					
		Rapti Sonari					
		Kohalpur					
Nepalgunj							
6	Bardiya	Badhaiyatal	2	3	2	7	
		Geruwa					
		Bansagadhi					
		Barbardiya					
		Gulariya					
		Madhuwan					
		Rajapur					
Thakurbaba							
7	Kapilbastu	Bijayanagar	2	3	5	10	
		Mayadevi					
		Suddhodhan					
		Yashodhara					
		Banganga					
Buddhabhumi							
7	Kapilbastu	Kapilbastu					
		Krishnanagar					
		Maharajgunj					
		Shivaraj					
8	Rupendehi	Gaidahawa	5	6	7	18	
		Kanchan					
		Kotahimai					
		Marchawari					
			Mayadevi				

State	SN	Districts	Palika List	Number of Bridges									
				1st year	2nd year	3rd year	Total						
State 5			Omsatiya										
			Rohini										
			Sammarimai										
			Siyari										
			Sudhdhodhan										
			Devdaha										
			Lumbini Sanskritik										
			Sainamaina										
			Siddharthanagar										
			Tillotama										
			Butwal										
			9					Gulmi	Chandrakot	20	29	30	79
									Chatrakot				
	Dhurkot												
	Gulmidarbar												
	Isma												
	Kaligandaki												
	Madane												
	Malika												
	Ruru												
	Satyawati												
	Musikot												
	Resunga												
	10	Palpa	Bagnaskali	11	14	20	45						
			Mathagadhi										
			Nisdi										
			Purbakhola										
			Rainadevi Chhahara										
			Rambha										
			Ribdikot										
			Tinau										
			Rampur										
	Tansen												
	11	Argahakhanchi	Chhatradev	9	12	17	38						
			Malarani										
			Panini										
			Bhumekasthan										
			Sandhikharka										
	12	West Nawalparasi	Palhi Nandan	4	5	7	16						
			Pratappur										
			Sarawal										
			Susta										
			Bardaghat										
			Ramgram										
			Sunwal										
	<b>State-5 Total:</b>				<b>115</b>	<b>156</b>	<b>189</b>	<b>460</b>					
State 6	1	Jumla	Guthichaur	6	6	7	19						
			Hima										
			Kanakasundari										
			Patrasi										
			Sinja										
			Tatopani										
			Tila										
	2	Humla	Chandannath	6	8	14	28						
			Adanchuli										
			Chankheli										
			Kharpunath										
			Namkha										

State	SN	Districts	Palika List	Number of Bridges								
				1st year	2nd year	3rd year	Total					
State 6			Sarkegad									
			Simkot									
			Tanjakot									
	3	Kalikot	Kalika	9	12	17	38					
			Mahawai									
			Naraharinath									
			Pachaljharana									
			Palata									
			Sanni Tribeni									
			Khandachakra									
			Raskot									
	Tilagufa											
	4	Mugu	Khatyad	2	3	4	9					
			Mugum Karmarong									
			Soru									
			Chhayanath Rara									
	5	Dolpa	Chharka Tangsong	3	5	8	16					
			Dolpo Buddha									
			Jagadulla									
			Kaike									
			Mudkechula									
Shey Phoksundo												
Thuli Bheri												
Tripurasundari												
6	Dailekh	Bhagawatimai	4	5	6	15						
		Bhairabi										
		Dungeshwor										
		Gurans										
		Mahabu										
		Naumule										
		Thantikandh										
		Aathabis										
		Chamunda Bindrasaini										
		Dullu										
		Narayan										
7	Jajarkot	Barekot	9	12	17	38						
		Junichande										
		Kuse										
		Shiwalaya										
		Bheri										
8	Salyan	Chhedagad	8	11	14	33						
		Tribeni Nalagad										
		Chhatreshwori										
		Darma										
		Dhorchaur										
		Kalimati										
		Kapurkot										
		Kumakhmalika										
		Tribeni										
		Bagchaur										
		Bangad Kupinde										
		Sharada										
		9					Surkhet	Barahtal	7	9	12	28
								Chaukune				
Chingad												
Simta												
Bheriganga												
Birendranagar												
Gurbhakot												
Lekbeshi												

State	SN	Districts	Palika List	Number of Bridges			
				1st year	2nd year	3rd year	Total
			Panchpuri				
	10	West Rukum	Banfikot				
			Sani Bheri				
			Tribeni				
			Aathbiskot	3	5	8	16
			Chaurjahari				
			Musikot				
<b>State-6 Total:</b>				<b>57</b>	<b>76</b>	<b>107</b>	<b>240</b>
State-7	1	Bajura	Chhededaha				
			Gaumul				
			Himali				
			Pandav Gupha				
			Swami Kartik				
			Badimalika				
			Budhiganga				
			Budhinanda				
			Tribeni				
	2	Bajhang	Bithadchir				
			Chabispathivera				
			Durgathali				
			Kanda				
			Kedarseu				
			Khaptadchhanna				
			Masta				
			Surma				
			Talkot				
			Thalara				
Bungal							
JayaPrithivi							
3	Darchula	Apihimal					
		Byas					
		Dunhu					
		Lekam					
		Malikaarjun					
State-7	3	Darchula	Marma				
			Naugad				
			Mahakali				
			Shailyashikhar				
	4	Achham	Bannigadhi Jayagadh				
			Chaurpati				
			Dhakari				
			Mellekh				
			Ramaroshan				
			Turmakhad				
			Kamalbazar				
			Mangalsen				
			Panchadewal Binayak				
Sanphebagar							
5	Doti	Adharsha					
		Badikedar					
		Bogtan					
		Joroyal					
		K I Singh					
		Purbichauki					
		Sayal					
		Dipayal Silgadi					
Shikhar							
6	Dadeldhura	Ajaymeru	13	14	18	45	

State	SN	Districts	Palika List	Number of Bridges			
				1st year	2nd year	3rd year	Total
State 7			Alital				
			Bhageshwar				
			Ganayapdhura				
			Nawadurga				
			Amargadhi				
			Parashuram				
	7	Baitadi	Dilasaini	11	13	18	42
			Dogadakedar				
			Pancheshwar				
			Shivanath				
			Sigas				
			Surnaya				
			Dasharathchanda				
			Melauli				
			Patan				
			Purchaudi				
			8				
	Chure						
	Janaki						
	Joshiपुर						
	Kailari						
	Mohanyal						
	Gauriganga						
	Ghodaghodi						
	Godawari						
	Lamkichuha						
	Tikapur						
Dhangadhi							
9	Kanchanpur	Beldandi					
		Lajhadi					
State 7	9	Kanchanpur	Bedkot	2	3	5	10
			Belauri				
			Bhimdatta				
			Krishnapur				
			Mahakali				
			Punarbans				
Shuklaphanta							
<b>State-7 Total:</b>				<b>76</b>	<b>90</b>	<b>129</b>	<b>295</b>
<b>Grand Total</b>				<b>600</b>	<b>800</b>	<b>1,000</b>	<b>2,400</b>

\*Note: The number of trail bridges within States/Districts/Palikas may change depending upon future changing demand, based on which the bridges will be prioritized and approved by the Palika assemblies.

## ANNEX 6: Procurement Plan for Wire-ropes and Bull-dog grips

### A. Wire-Ropes (FY 2019/2018 -2021/2022)

#### a. Need and Stock of Steel Wire Ropes for FY 2019/020 (800 Bridges)

(to be procured in FY 2018/019)

Size (mm)	Stock		Need (m)		Total Need (m)	Deficit with Current Stock	Proposed for Procurement		
	Length (m)	Need (m)		Quantity (m)			Unit Rate (USD/m)	Amount USD	
		SSTB (720 Bridges)	LSTB (80 Bridges)						
13	22,200	158,400	160,000	318,400	(296,200)	296,200	1.08	319,896	
26	20,000	144,000	40,000	184,000	(164,000)	164,000	4.19	687,160	
32	-	216,000	40,000	256,000	(256,000)	256,000	6.34	1,623,040	
36	30,000	-	57,600	57,600	(27,600)	27,600	8.01	221,076	
40	-	-	115,200	115,200	(115,200)	115,200	9.84	1,133,568	
<b>TOTAL</b>	<b>72,200</b>	<b>518,400</b>	<b>412,800</b>	<b>931,200</b>	<b>(859,000)</b>	<b>859,000</b>	<b>-</b>	<b>3,984,740</b>	

**NRs. 460,317,165**

(Exch. Rate: 1USD=NRs.115.52) Date:13.12.2018

#### b. Need and Stock of Steel Wire Ropes for FY 2020/021 (1,000 Bridges)

(to be procured in FY 2019/020)

Size (mm)	Stock		Need (m)		Total Need (m)	Proposed for Procurement		
	Length (m)	Need (m)		Quantity (m)		Unit Rate (USD/m)	Amount USD	
		SSTB (900 Bridges)	LSTB (100 Bridges)					
13	-	198,000	220,000	418,000	418,000	1.08	451,440	
26	-	198,000	55,000	253,000	253,000	4.19	1,060,070	
32	-	297,000	55,000	352,000	352,000	6.34	2,231,680	
36	-	-	88,000	88,000	88,000	8.01	704,880	
40	-	-	132,000	132,000	132,000	9.84	1,298,880	
<b>TOTAL</b>				<b>1,243,000</b>	<b>1,243,000</b>	<b>-</b>	<b>5,746,950</b>	

**NRs. 663,887,664**

(Exch. Rate: 1USD=NRs.115.52) Date:13.12.2018

#### c. Need and Stock of Steel Wire Ropes for FY 2021/022 (600 Bridges)

(to be procured in FY 2020/021)

Size (mm)	Stock		Need (m)		Total Need (m)	Proposed for Procurement		
	Length (m)	Need (m)		Quantity (m)		Unit Rate (USD/m)	Amount USD	
		SSTB (540 Bridges)	LSTB (60 Bridges)					
13	-	118,800	132,000	250,800	250,800	1.08	270,864	
26	-	118,800	33,000	151,800	151,800	4.19	636,042	
32	-	178,200	33,000	211,200	211,200	6.34	1,339,008	
36	-		52,800	52,800	52,800	8.01	422,928	
40	-		79,200	79,200	79,200	9.84	779,328	
<b>TOTAL</b>				<b>745,800</b>	<b>745,800</b>		<b>3,448,170</b>	

**NRs. 398,332,598**

(Exch. Rate: 1USD=NRs.115.52) Date:13.12.2018

### B. Bull-dog grips (FY 2019/2018 -2021/2022)

#### a. Need and Stock of Bulldoggrips for FY 2019/020 (800 Bridges)

(to be procured in FY 2018/019)

Size (mm)	Stock	Need (Pcs.)		Total Need (Pcs.)	Deficit with Current Stock	Proposed for Procurement		
	Pcs (m)	SSTB (720 Bridges)	LSTB (80 Bridges)			Quantity (Pcs.)	Unit Rate (USD/Pcs.)	Amount USD
13	6490	17,280	80,000	97,280	90,790	90790	0.95	86,250.50
26	21243	22,464	2,700	25,164	3,921	3921	4.16	16,311.36
32	47252	53,568	6,000	59,568	12,316	12316	4.45	54,806.20
36	14035	-	16128	16,128	2,093	2093	5.88	12,306.84
40	14940	-	17920	17,920	2,980	2980	7.53	22,439.40
<b>TOTAL</b>		<b>93,312</b>	<b>122,748</b>	<b>216,060</b>	<b>112,100</b>	<b>112100</b>	<b>-</b>	<b>192,114</b>

NRs. 22,193,043.94

(Exch. Rate: 1USD=NRs.115.52) Date:13.12.2018

**b. Need and Stock of Bulldoggrips for FY 2020/021 (1000 Bridges)**

(to be procured in FY 2019/020)

Size (mm)	Stock	Need (Pcs.)		Total Need (Pcs.)	Proposed for Procurement		
	Pcs (Pcs.)	SSTB (900Bridges)	LSTB (100 Bridges)		Quantity (Pcs.)	Unit Rate (USD/Pcs.)	Amount USD
13	-	21,600	80,000	101,600	101,600	0.95	96,520.00
26	-	18,720	3,960	22,680	22,680	4.16	94,348.80
32	-	33,480	4,400	37,880	37,880	4.45	168,566.00
36	-	-	10,752	10,752	10,752	5.88	63,221.76
40	-	-	12,544	12,544	12,544	7.53	94,456.32
<b>TOTAL</b>		<b>73,800</b>	<b>111,656</b>	<b>185,456</b>	<b>185456</b>	<b>-</b>	<b>517,113</b>

NRs. 59,736,879.90

(Exch. Rate: 1USD=NRs.115.52) Date:13.12.2018

**c. Need and Stock of Bulldoggrips for FY 2021/022 (600 Bridges)**

(to be procured in FY 2020/021)

Size (mm)	Stock	Need (Pcs.)		Total Need (Pcs.)	Proposed for Procurement		
	Pcs (Pcs.)	SSTB (540 Bridges)	LSTB (60 Bridges)		Quantity (Pcs.)	Unit Rate (USD/Pcs.)	Amount USD
13	-	12,960	60,000	72,960	72,960	0.95	69,312.00
26	-	11,232	2,970	14,202	14,202	4.16	59,080.32
32	-	20,088	3,300	23,388	23,388	4.45	104,076.60
36	-	-	8,064	8,064	8,064	5.88	47,416.32
40	-	-	9,408	9,408	9,408	7.53	70,842.24
<b>TOTAL</b>		<b>44,280</b>	<b>83,742</b>	<b>128,022</b>	<b>128,022</b>	<b>-</b>	<b>350,727</b>

NRs. 40,516,038.49

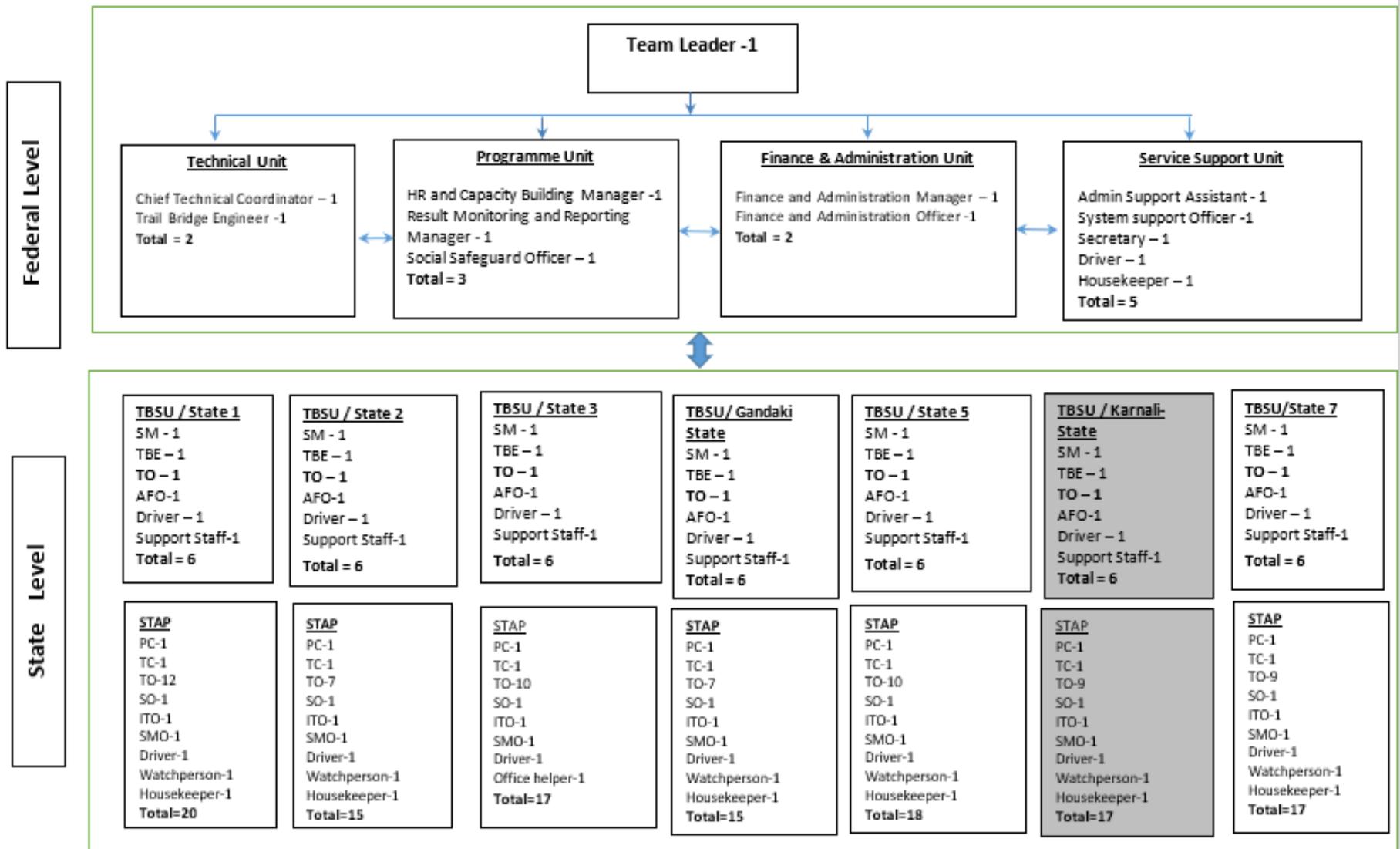
(Exch. Rate: 1USD=NRs.115.52) Date:13.12.2018

**ANNEX 7: Manuals at the Core of National Policy TBS/LIDP**

Manual / Guidelines	Application
Technical Handbook for Suspended Type Volume – I, II and Vol.III Standard	Survey & Design of SSTB “D” type bridges including all norms and standard and construction technology.

Manual / Guidelines	Application
Technical Handbook for Suspension Type Volume – I, II and Vol.III Standard Drawings	Survey & Design of SSTB “N” type bridges including all norms and standard and construction technology.
LSTB Manuals Volume - A Volume - B Volume - C Volume - D	Long Span Trail Bridges Design Survey Standard Drawings Construction
Steel Truss Bridge Manual	Standard design and Drawings of Steel Truss Bridges
Social Organizational Support Manual	For social and organizational support to the communities and step-wise processes for community led SSTB bridges.
Manual for Consulting Services	Procurement of engineering services for LSTB bridges. It include bidding process, criteria for selection, bid documents, ToR etc.
Manual for Contractors	Procurement of goods and works for LSTB bridges. It include bidding process, criteria for selection, bid documents, ToR and specifications, quality assurance requirements etc.
Quality Control Manual	Quality control of services / goods and works for both SSTB and LSTB bridges. It includes specifications of goods / works. and processes monitoring to assure the quality of the built bridges. It defines the different ordinary and critical stages of project cycle and monitoring methodology at those stages.
Maintenance Guidelines	Manual for carrying out maintenance of bridges. It includes categories of maintenance and scope of maintenance works.
Guidelines on NGO selection and mobilization	Guidelines for recruiting NGOs, assigning tasks and service fee of NGOs for SSTB bridges.
Guidelines on Public Hearing, Public Review and Public Audit	Guidelines for sharing information with beneficiaries at large about processes, approach, roles and responsibilities, contributions, and review in mid of construction by beneficiaries and conducting public audit after completion of bridges.
District Bridge Record (DBR)	Software for keeping records of all bridges built in the districts specifying bridge condition, as a planning tool for maintenance.
Nepal Trail Bridge Record (NTBR)	A compilation of all the DBRs produced centrally for providing bridge information at the national level.
Nepal Trail Bridge Directory (NBDR)	A district-wise record of all bridges built in the districts and also the list of prospective bridges.
Planning & Monitoring Information System	Software for recording bridge-wise data on work progress, cost estimate, actual costs and general information.
Trail Bridge Strategy Information System (TBSIS))	A software package for recording data and information for quality monitoring and application of TBS/LIDP. It is based on Comprehensive Manual for Monitoring.
Demonstration Model Bridge Training (DMBT)	Transferring bridge construction skills at community level through DMBT and Gender issues.
Training Manuals for Practitioners Engineers, Sub-Engineers and Ast.Sub-Engineers	Manual for providing training on trail bridge course to practitioner Engineers, Sub-Engineers and Assistance Sub-Engineers.
Course Books for Bachelor, Diploma and Technical School Leaving Certificate (TSLC) of Civil Engineering	Teaching materials for students.

## Annex 8: Organogram Technical Assistance Service Providers



## Annex 9: TA Exit Strategy Timeline

SN	Activities	Year 1	Year 2	Year 3	Year 4
		Technical Assistance & Capacity Building			Consolidation & TA Phase out
1	Capacity Building at State and Palika Levels				
2	Updating of Operational Documents (Bid Documents, UC Application Forms, UC Agreement, NGO Agreements etc.)				
3	Updating of trail bridge strategy, manuals and guidelines				
4	Handing over custody of manuals, guidelines, norms and standards				
5	Reduce intensity of TA by TBSU and increase TA by STAPs			TBSU → 0% STAP → 100%	
6	Hiring of STAPs by States				
7	Handing-over of Stores to States				
8	Handing-over and management of monitoring systems to States and Federal governments				
9	Establish one Lab per State in collaboration with engineering colleges				
10	Promote at least 1-2 fabricators at each State				
11	Conduct OJTs and Internships				
12	Encourage and support educational institutes to conduct TB elective courses for TSCL and Diploma Course at CTEVT and affiliated technical schools in all 7 States				
13	Transfer of assets and management by Federal and State governments				
14	Establish trail bridge knowledge center within each State				
15	Wrap-up workshops at Federal and State levels				
16	Preparation of programme phase completion report				
17	Consolidate and document trail bridge institutional memory (experiences, learnings and best practices)				
18	Closure of TBSU administration and finances				
19	Closer of TBSU Offices				

## Annex 10: List of Abbreviations

ASE	Assistant Sub-Engineer	MoPID	Ministry of Physical Infrastructure Development
BCI	Bridge Condition Investigation	MOEAP	Ministry of Economic Affairs and Planning
BW	Bridge Warden	MM	Major Maintenance
CSPM	Conflict Sensitive Programme Management	NC	New Construction
CTP	Construction Turnkey Package	NCB	National Competitive Bidding
DAG	Disadvantaged Groups	NFDINA	National Foundation for the Development of Indigenous Nationalities Act
DCC	District Coordination Committee	NGO	Non-Governmental Organization
DDC	District Development Committee	NTBD	Nepal Trail Bridge Directory
DBR	District Bridge Record	NTBR	Nepal Trail Bridge Record
DMBT	Demonstration Model Bridge Training	NVC	National Vigilance Centre
DoLI	Department of Local Infrastructure	OAG	Office of the Auditor General
DoLIDAR	Department of Local Infrastructure Development & Agricultural Roads	OJT	On-the-Job-Training
DP	Development Partners	PBBA	Post Bridge Building Assessment
DPR	Detailed Project Report	PPMO	Public Procurement Monitoring Office
DTO	District Technical Office	PMIS	Programme Monitoring Information System
DTCO	District Treasury Controller Office	QCM	Quality Control Manual
EI	Educational Institute	RM	Routine Maintenance
EIA	Environmental Impact Assessment	RMT	Routine Maintenance Training
EPA	Environmental Protection Act	RTI	Rural Transport Infrastructure
EPR	Environmental Protection Regulations	RTAP	Regional Technical Assistance Provider
EPR	Environmental Protection Rules	SC	Steering Committee
FCGO	Federal Comptroller General's Office	SDC	Swiss Agency for Development and Cooperation
FY	Fiscal Year	SDG	Sustainable Development Goals
GDP	Gross Domestic Product	SOS	Social Organizational Support
GIS	Geographic Information System	SSTB	Short Span Trail Bridge
GoN	Government of Nepal	STCO	State Treasury Controller Office
HDI	Human Development Index	STAP	State Technical Assistance Provider
ICB	International Competitive Bidding	STBIS	State Trail Bridge Information system
IDEMU	Infrastructure Development and Environment Management Units	SWAp	Sector-Wide Approach
IDO	Infrastructure Development Office	TA	Technical Assistance
IEE	Initial Environmental Examination	TB	Trail Bridge
IFMIS	Integrated Financial Management Information System	TBS	Trail Bridge Strategy
IoE	Institute of Engineering, Tribhuvan University	TID	Transport Infrastructure Directorate
JFA	Joint Financing Arrangement	TBSCC	Trail Bridge SWAp Coordination Committee
LBS	Local Bridge Section	TBSIS	Trail Bridge Strategy Information System
LIDP	Local Infrastructure Development Policy	TB SWAp	Trail Bridge Sector Wide Approach Programme
LMBIS	Line Ministry Budget Information System	TBSU	Trail Bridge Support Unit
LGOA	Local Governance Operational Act	TS	Technical School
LSTB	Long Span Trail Bridge	TSLC	Technical School Leaving Certificate
MoF	Ministry of Finance	UC	Users' Committee
MoFAGA	Ministry of Federal Affairs and General Administration	YPO	Yearly Plan of Operations
MoFALD	Ministry of Federal Affairs and Local Development		

