TRIBHUWAN UNIVERSITY

Institute of Engineering

Pulchowk Campus

**PROPOSAL**

**TO REPAIR OF A REINFORCED CONCRETE BRIDGE OVER THE BISHNUMATI RIVER**

SUBMITTED TO

The Director District Development Office

KATHMANDU, Nepal

SUBMITTED BY

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**ABSTRACT**

The Bishnumati bridge which was constructed almost 5 decades ago with the Japanese collaboration was strong enough to held for such a long period without any periodic maintenance or supervision. But lately due to the heavy rainfall and unusual flood in the Bishnumati River, the bridge seems to be in need of lots of repairs and even construction of some parts for the addition supports.

On the daily basis more than thousands of people are using this bridge which concludes that these thousands of people are risking their life since the bridge has been massively damaged and there is need of repair as soon as possible. So, here I am proposing an operation to be carried out for the repair and maintenance of this Bishnumati Bridge.

**OBJECTIVES**

* To check the condition of the existing foundation.
* To improve load bearing capacity of the bridge for the better and efficient transportation.
* To change the Steel plates and connecting materials to strengthen the bridge capacity.
* To expand the width of bridge to increase the Traffic volume.
* To increase the load carrying capacity of the bridge.
* To increase the protective measures for both Vehicles and Pedestrians.

**Methodology**

**Techniques and Tools:**

The methodology includes the steps that should be carried out to run this operation. Here are the methods and steps that are to be followed:

* Initially the bearing capacity of the soil will be checked which would determine whether the repair in foundation is required or not.
* After foundation structural parts of bridge like Girders and Trusses if found defected will be repaired or changed.
* The traffic jam is one of the terrific problems in this area so if possible lane of the bridge can also be increased.

For all the above works we have altogether 11 committee members. Among the members we have decided the work division to be as following:

The above mentioned works will be divided among the 11 committee members for the easy and efficient performance:

* **Surveying Team**:

The surveying team will be conducting all the surveying activities which include the analysis of the needs and priorities of steps in repair. They prepare the report and submit to the team dealing with economy.

* **Economy Management Team :**

On the basis of reports submitted by the surveying team, economy and management team estimates the budget and helps in budget distribution on particulars. Moreover this team will collect required money and gain approval for the project from the concerned governmental body.

* **Engineering Team**:

This is the team which carries out the action after the approval from the concerned government and availability of the budget. This team has responsibility to finish the work in time with the available fund and resources.

**Cost Evaluation:**

* The cost of raw materials required will be reduced by using the available resources.
* The cost spend on manpower will be Rs.1, 00,000.
* The cost for design, construction will be Rs.5, 00,000.
* The extra cost could be maintained by donations provided from the businessmen of the villages.

**Net total cost = 15, 00,000**

Here the overall budget will be collected from the government and some will be obtained from donations and the remaining funds for maintenance will be managed by the local dwellers.

**Justification:**

The bridge is the means for the transportation. The repair of this damaged bridge is must since more than thousands of travelers are compelled to use this devastated bridge in their day to day life which is full of danger. So, for the safety purpose also the maintenance and repair should be done.

**Time-Frame**:

Since repair of the Bishnumati Bridge is the most important issue to be solved, the work must be initiated as soon as possible. Hence the work will be carried out with strict time table under the favorable condition and using the available resources and fund.

The time frame that we will be following is as follow:

Commencement of work: 31st Bhadra, 2072 B.S.

Duration: near about 6 Months

Completion of work: 1st Falgun, 2072 B.S.

**References:**

Socio-Economic Impact Trail Suspension Bridges (EC No. 2), USAID/Nepal

*Ponnuswamy S (2008). “Bridge Engineering”. Tata McGraw-Hill Education.*