Potential development of Gravity goods ropeway and its impact on rural livelihood.

(A case study of Gholechappra settlement at Bukhel VDC in Lalitpur district)

A Thesis

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LETTER OF RECOMMENDATION

This is to certify that Mr. Devendra Adhikari has completed thesis entitled **"Potential development of Gravity goods ropeway and its impact on rural livelihood, A case study of Gholechappra settlement at Bukhel VDC in Lalitpur district"** under my guidance. This is his independent work for the fulfillment of Master's in Rural Development. I recommend this thesis for final evaluation.

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APPROVAL LETTER

This is to certify that the thesis entitled "**Potential Development of Gravity Goods Ropeway and its Impact on Rural Livelihood, A case study of Gholechappra settlement at Bukhel VDC in Lalitpur district**" Submitted by Mr. Devendra Adhikari has been examined. It has been declared successful for fulfillment of the academic requirements toward the completion of Masters of Arts in Rural Development.

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Abstract

Nepal is a mountainous country. 83% of total area consists of mountains and hills. Hence inaccessibility is the greatest hindrances in the delivery of essential services and development as a whole. The highly challenging topography and problematic hydro geological condition has rendered the extension of road network really capital intensive, daunting and environmental hazardous. From the government data, just 62km road network was expanded in one year 2008/9.This dismal picture shows the priority of Nepal government in road building.

In this whole scenario, Gravity goods ropeway is power to the rural economy. It is environment friendly and financially viable technology and has the potential to economically empower the marginalized people in rural area. It has supported better market linkage, increased income generation activities, improve access to health and education services and fostered better community relation.

The mechanics of gravity ropeway is very simple. It consists of two trolleys, rolling over two separate steel wire ropes (track ropes) supported and suspended over two separate tower at the top and bottom ends. The trolleys are connected to a single looped wire rope (hauling rope) of a smaller diameter by means of rope ties. This hauling rope passes around the cast iron sheave fixed end. When the loaded trolley rolls down by its own weight along one track from the upper station, another trolley with lighter weight hauls up along the next track rope. A simple brake with a rubber/wooden brake shoe is fitted to the sheave at the lower station to regulate the speed of the moving trolleys.

Sustainability of a gravity ropeway by and large depends on the discretion of the site selection. Proposed site should be evaluated against some technical, economic and social parameters. Even the technical feasibility of gravity ropeway has bearing with socio-economic feasibility hence it should precede the technical feasibility.

In the context of Nepal's rural areas, clean and reliable green energy technologies like gravity good ropeways seem to be less expensive and require less time to develop. But still the knowledge based on technical and other socio economic aspects of gravity good ropeway is not that broad. With this limited knowledge

base, it is difficult chart out exclusive strategies for its development. Hence more is needed to be done in the areas of research and development. Involvement of academia like engineering institution would be important role in preparing of technical need of the rural community. They can play important role in the preparation of technical guidelines and code of practices. Likely, social research is required to find the niche of gravity goods ropeway in overall transportation sector, explore its potential as the complementary means of transport, identify existing policy hurdle if any propose more conducive policies and strategies.

In the research, it is difficult to study whole universe under study due to high cost, time consuming and complexities. Therefore, sampling plays important role in research work. Data collected without a proper sampling procedure and suitable sample size may not meet the objectives .Among the total number of directly study affected 120 HHs at Bukhel VDC, 62 HHs were selected purposively by stratified sampling method and one member from each household were further interviewed.

Social issues related to the construction of the proposed gravity goods ropeway dug out during this research work also must be addressed. Finding of this study will be useful for recommending planning and policy maker to formulate appropriate plans for further constructions of Gravity Goods Ropeways in rural villages.

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Abbreviation/Acronyms:

AEPC/N	**=**	**Alternative Energy Promotion Center, Nepal**
B.S	**=**	**Bikram Sambat**
CBS	**=**	**Central Bureau of Statistics**
CBOs	**=**	**Community Based Organizations**
DDC	**=**	**District Development Committee**
FY	**=**	**Fiscal Year**
GoN	**=**	**Government of Nepal**
GIS	**=**	**Geographic Information System**
GPS	**=**	**Global Positioning System**
HHs	**=**	**House holds**
NGOs	**=**	**Non-government Organizations**
INGOs	**=**	**International non-government organizations**
NPC/N	**=**	**National Planning Commission, Nepal**
CRT/N	**=**	**Centre of Rural Technology, Nepal**

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