GRAVITY GOODS ROPEWAYS AND SUSTAINABLE AND CONSUMPTION PRODUCTION PATTERN

Diwakar KC PhD Candidate Griffith University

Introduction

- More than 40% global rural population is bound to live in isolation and is highly food insecure (World Bank, 2016).
- In Nepal, the topography is the greatest hindrance with more than 50% population trapped in poverty and food insecurity (Baral 2012; Devkota et al. 2012)
- Farmers are isolated from the market, which is the primary basis to earn income





- Gravity Goods Ropeways could be an alternative /complementary means of mountain transport.
- It is a short-haul non-motorized gravity-based ropeway that works two ways: while one carrier transport agricultural produce downhill, its weight pulls the other carrier with the goods up the hill.
- The weight ratio of downward to upward moving load should be 3:1.



Source: www.practicalaction.org



To examine effectiveness of GGR in achieving SCP

Methodology

- Case study design
- Study Area:
 - Hiklung village (4 years); Chimmkeshwori Village (3.5 years) and Ghairang Village (3 years)
- Qualitative and Quantitative method
- Sample design: Random sampling, 30% sample of total population.
- Total sample: 115 HHs
- Before and after impact analysis

Impact of GGR



Impact on production

Per Household average production of crops before and after GGR



Average Productivity has increased by 65.6%





Impact on Income

Change in annual Income before and after GGR **Before GGR** 60000 After GGR 50000 **Average Income/HH** 300000 200000 10000 0 Crop Livestock **Total**

Note: Paired t-test values: positively significant at 5% for all variables



Income diversification



Impact on Consumption

Increase in annual food expenditure after GGR

Income range	Percent
No change	29%
Less than 15000	51%
16000-30000	17%
30000 and above	3%
Total	100%

Note: MPC value 0.75 which suggested that 75% of changed income is spend by the community on food consumption

Before GGR

Consumption of Rice

After GGR







Daily Few Days a week Few Days a month Special Occassion

Before GGR

Consumption of Maize

After GGR







Daily Few Days a week Few Days a month Special Occassion

35 30.16 28.57 28.57 30 Percentage of HHs 25 20 15 12.70 10 5 0 1-2 hour 3-4 hour Less than 1 More than 4 hour hour Saved time

Utilization of Saved Time





Farmers inclined towards vegetable farming



Women preparing food utilizing saved time

Total time saved after use of GGR

Implications

- GGR should be promoted as the alternative and complimentary means of transportation in high-hills.
- Government should provide subsidies for the installation.
- Development partners may collaborate with the government agencies and institution
- Farmers/ community should be mobilized for the maintenance of management

Conclusion

- GGR contribution is significant in establishing sustainable consumption and production pattern
- It could be an appropriate strategy to tackle food insecurity and poverty alleviation in mountain and hilly region
- Research should be conducted on upgrading the technology. For instance- motorized system for downhill to uphill transport

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