EVALUATING RISK FACTORS AFFECTING FINANCING OF MINI HYDRO POWER PROJECTS IN SRILANKA

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Abstract

This research has been carried out to understand and evaluation of the risk factors affecting in financing the Mini Hydro Power projects in Sri Lanka. The risk factors selection and case study analysis have carried out to identify the most critical risk factors their impact.

The central and South Western regions in Sri Lanka are characterized by mountainous terrain and moderate to high rainfall over most part of the year. Due to favorable geo-climatic conditions, the highlands of Sri Lanka offer excellent opportunities to harness hydropower to generate electricity.

The capacity of the Mini Hydro Power Projects implemented by private promoters is less than 10 MW. There are number of opportunities still available in this sector. However most of the projects are not up to the expected performance levels due to high risk factors. With the substantial investment the investors seek bank financing and most of the banks are reluctant to lend to MHP projects due high risk nature.

Pilot Survey, and detailed questionnaire surrey was carried out and identified key critical risk factors out of 29 risk factors. Further four MHP projects were evaluated to understand the relevant risk factors specific to each project. Thereafter another 2 projects were evaluated to understand the impact due these major risk factors.

Most projects are highly vulnerable to hydrology of the catchments area and it was observed the most financiers are highly concern about this aspect. Other than Hydrology, the cost overruns due to improper design practice carried out by the developers, unexpected natural disasters, influences by the politicians and disturbance from social environment, fluctuation on exchange and interest rates and contractor and supplier related issues are key risk areas affecting the industry.

Therefore identification relevant risks factors and adopting risk mitigation methods is important to the prospective investors and financiers, which will mitigate risk in financing MHP Projects.

Key Words: - Hydrology, Critical risk factors, Plant Factor.

DECLARATION

"I certify that this thesis does not incorporate without acknowledgement any material previously submitted for a degree or diploma in any University to the best of my knowledge and belief it does not contain any material previously published, written or orally communicated by another person or myself except where due reference is made in the text. I also hereby give consent for my dissertation, if accepted, to be made available for photocopying and for interlibrary loans, and for the title and summary to be made available to outside organizations"

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(Rathnaweera P. H. S. B)

To the best of my knowledge, the above particulars are correct.

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Supervisor Date

(Dr. R. U. Halwatura)

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Abbreviations and Acronyms

AWDR	Average weighted deposit rate
AWFDR	Average Weighted Fixed Deposit rate
CEA	Central Environmental Authority
CEB	Ceylon Electricity Board
CEYPETCO	Ceylon Petroleum Corporation
CF	Capacity Factor
HNB	Hatton National Bank Plc.
GW	Giga Watts
IPP	Independent Power Producers
LKR	Lankan Rupee
LOI	Letter of Intent issued by CEB for private power purchase
MHP	Mini Hydro Power Projects
MW	Mega Watts
RERED	Rural Electrification and Renewable Energy Development project World Bank assisted
SEA	Sustainable Energy Authority of Sri Lanka
SPPA	Standard Power Purchase Agreement issued by CEB to the developers to purchase power from renewable energy sources.