



# SMALL HYDROPOWER – SUCCESS & RISK FACTORS

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SHP Regional Workshop, 16-20 April 2012, Monrovia, Liberia





# Outline

- Small Hydropower Success Factors
- Some examples
- Conclusions
- Questions





# Small Hydropower – Key Factors

Success and risk factors - broadly categorized into:

- Technical
- Financial
- Social
- Legal / Political
- Organisational





# Success and Risk Factors



- Success and risk factors - two sides of the same coin
- Can be pre or post installation
- Risks cannot be completely eliminated, but can be reduced
- Factors presented here not an exhaustive list
- Participants will be familiar with many of them and can contribute to this list





# Technical Factors

- Resource assessment
- Resource Quality
- Site location
- Skilled Manpower
- Infrastructure
- Local repair / maintenance facilities
- Capacity Factor (Load Factor)





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## Example

- Micronesia – in the Pacific
- 2MW (2 turbines), run of river
- Resource assessment flaw
- Insufficient flow
- Now almost defunct





# Financial Factors

- Tariff / Ability to pay
- Investment availability
- Financial Viability (cost/benefit)
- Subsidies (is a political factor too)
- Willingness to pay (is a social factor too)
- Cost of energy
- End Uses







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- Examples in the UK
- Many of the schemes are low head – inherently higher cost / kW
- Almost all the SHPs are grid connected
- Many use existing infrastructure such as an old mill



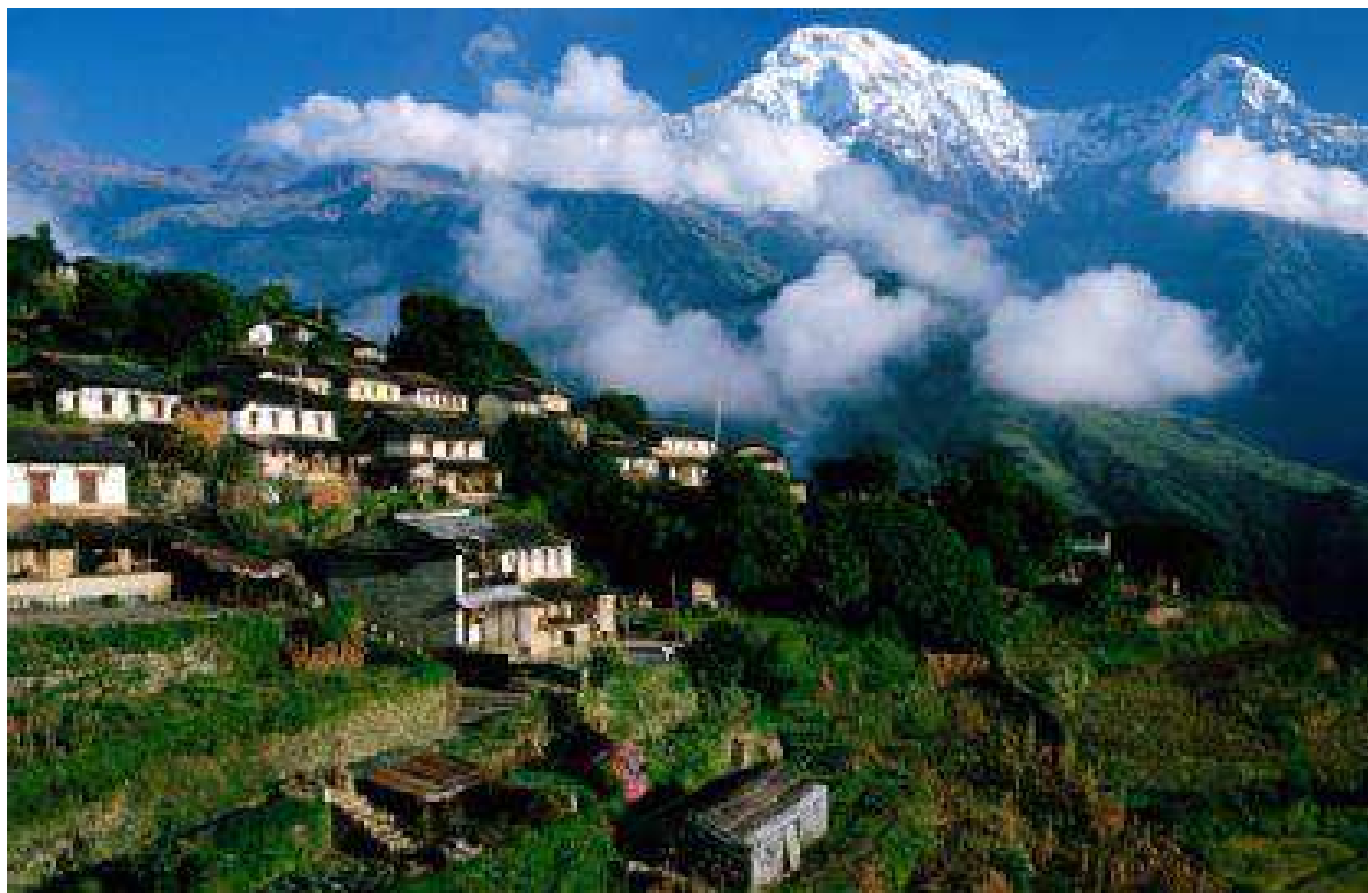


# Social Factors

Mostly applicable to community based schemes

- Awareness of the project
- Willingness to pay
- Feeling of ownership
- Community participation
- Alternative use of water





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## Example

- Ghandruk 50kW micro hydro scheme in Nepal
- Example of Social and Financial Success Factors
- Community mobilization – other community projects such as nature conservation already in place
- Steady income source from tourism





# Organisational Factors

- Ownership structures
- Management Capacity
- Revenue Collection
- Community mobilization
- Capacity Building
- Demand Assessment





## Legal / Political Factors

- Environmental impact requirements
- Subsidies and incentives such as tax breaks
- Feed in Tariff
- Insurance schemes
- Political Influence
- Organisation registration





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# Conclusions



- Several Factors affect the success or failure of an SHP scheme
- Experience shows Organisational and Social factors are equally, if not more, important
- Efforts should be made to maximize success and minimize risk





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Thank you  
merci beaucoup



- Questions, Clarifications & Contributions

