



Sustainable Hydropower Financing in the Mekong River Basin

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Water Infrastructure Financing: Risk Management

Alessandro Palmieri - Lead Dams Specialist - World Bank



Outline

- Risk of poor planning and consequent opposition to the Project
- Risk of inadequate pre-construction investigations
- Managing risks of delays and cost overrun
- Financial engineering of the Project

Risk of opposition to the Project

- Listen to all voices, but...
- ... devote maximum resources in working with project area stakeholders.
- Listen to their concerns and their needs.
- Address the former, respond to the latter.
- Development must be equitable and there is no better project supporter than the beneficiary.

Rampur: best practice on social, environment, and communication



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Rampur Hydroelectric Project

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[Rampur HEP](#)

- Introduction
- Salient Features
- Financing Details
- Important Events
- Progress Report
- Milestones

introduction

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Rampur Hydro-electric Project (412 MW) is located downstream of already executed 6 x 250 MW NJHEP and intends to use the desilted water discharge by the upstream project. As such the construction of Rampur HEP does not involve construction of any dam / desilting chambers and thus avoiding any serious environmental impact on local flora and fauna. It is proposed, to divert water from out-fall arrangement of NJHEP through a 10.5 mtr. Dia HRT of 15.088 kms. Length. The construction of the project involves in addition to the Head Race Tunnel a 155.75 mtr. High and 38 mtr. dia surge shaft, 3 numbers of pressure shafts/penstocks of 5.4 mtr. dia each and a surface Power House.

[Social & Environment](#)

- R&R Activities
- Environmental Issues
- Welfare Activities

[Photo Gallery](#)



Rampur: social activities

Consultation for Allotment
of Plots to Houseless
Families



Foot Bridge
at Jhakri
after repair



Sponsoring of
35 candidates
from PAFs for
ITIs



Mobile
Health Van



Risk of inadequate pre-construction investigations

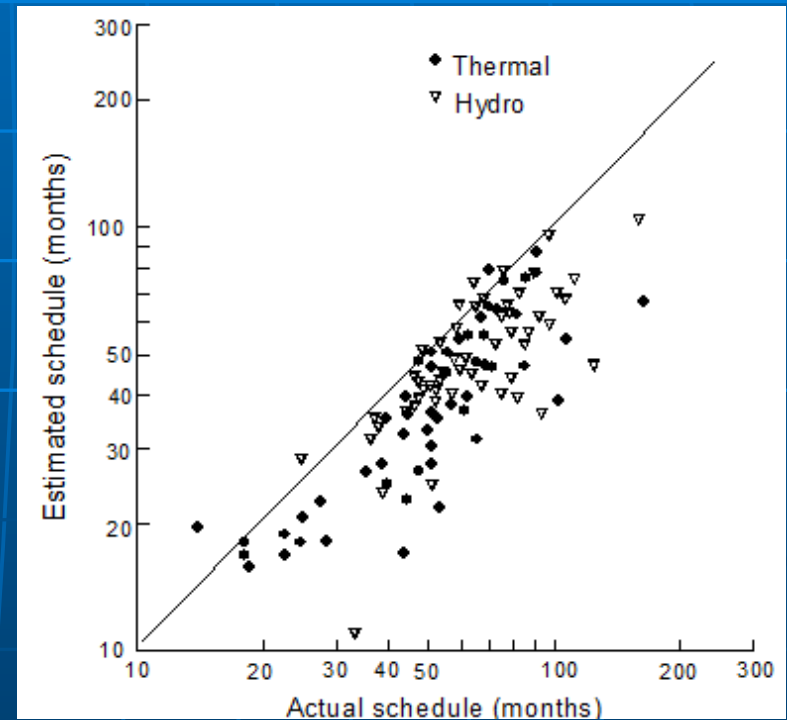
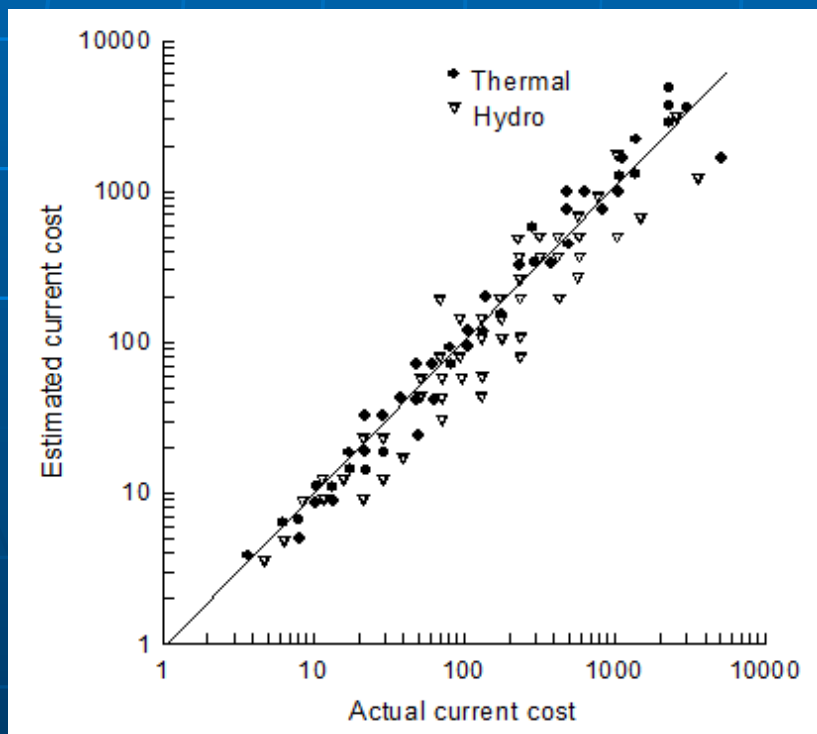
- A long standing issue.
- Mainly geological and hydrological risks.
- Geotechnical Baseline Report (GBR): a structured approach to geological risk mitigation.
- Hydrological risks during construction: calculated risk approach.

VISHNUGAD PIPALKOTI HYDRO GEOTECHNICAL BASELINE REPORT



- The GBR report presents the Employer's best judgement of geotechnical conditions anticipated in the underground excavations.
- The GBR is part of the Contract Documents and is the interpretive report specifically prepared for use in bidding and constructing the project and will take precedence over any other information

Managing risks of delays and cost overrun

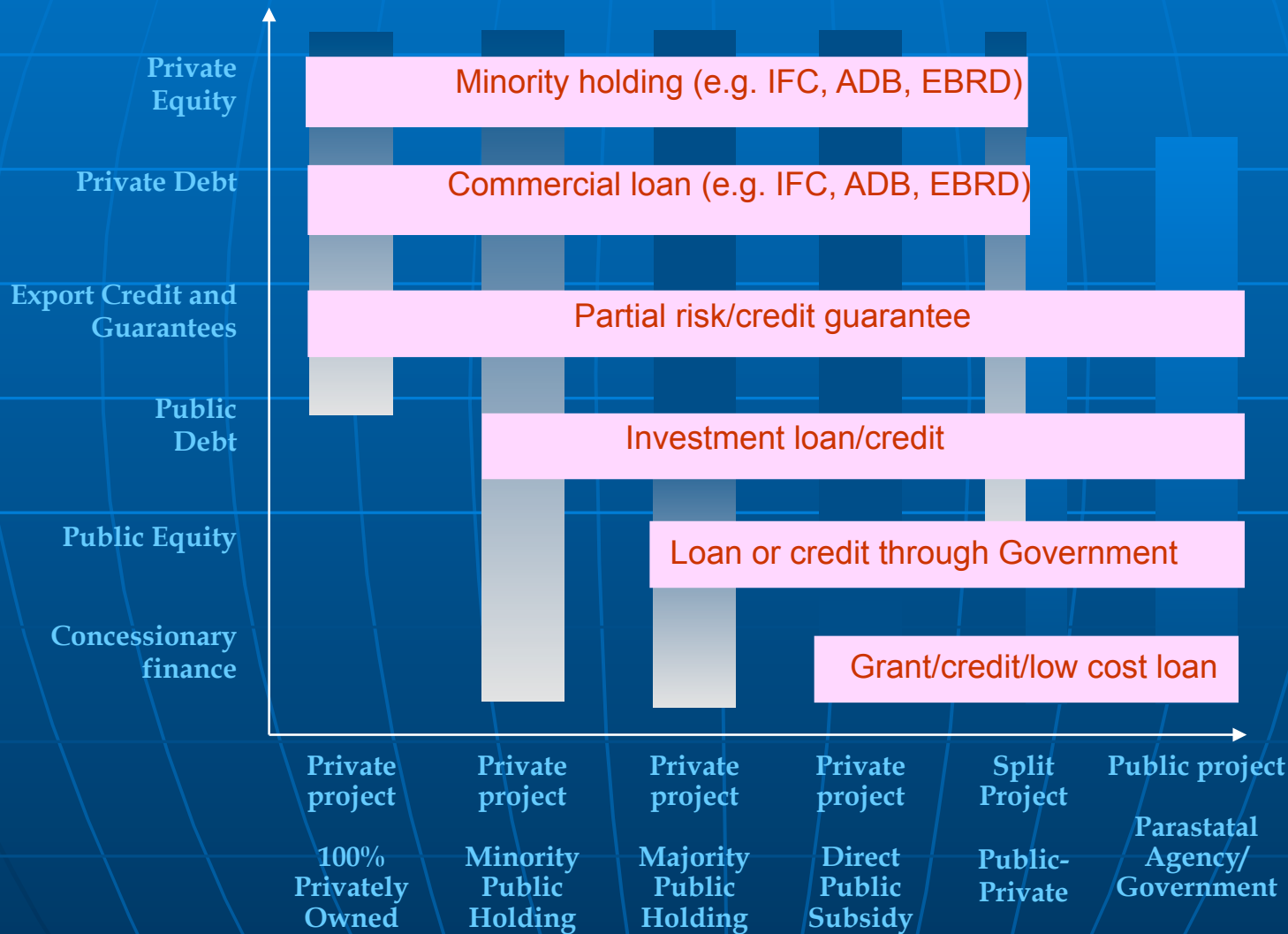


Risk Register

- A careful analysis of all credible endogenous and exogenous risks associate with the project.
- Contingency plans are elaborated for the main risks; costs and time implications worked out accordingly.
- Probabilities assignment can assist in risk allocation and response.

Financial engineering of the Project

Main financing instruments from MDBs and Bilateral agencies



Varying instruments and partners, a few examples:

- **Nam Theun 2** – IDA and MIGA guarantees, IDA credit for social and environmental aspects.
- **Pamir** – output based aid (payments on achievement)
- **Inga** – rehabilitation and uprating
- **Allain Duhangan** - IFC loan and equity
- **Bujagali** – guarantees, IFC and others
- **Rampur** – World Bank investment loan - supported by Development Policy Loan

There is no shortage of finance

- A well prepared project with appropriately managed risk profile; good stakeholder involvement; attention to environmental and social concerns; and competent engineers will find finance.

Thank you