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POWERCHINA



中国水电
SINOHYDRO

中水电海外投资有限公司
SINOHYDRO RESOURCES LTD.

Experiences and Lessons of Hydropower Investment in Nepal

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SinoHydro Resources Limited



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Part I

Brief of SinoHydro Resources Ltd. and Power Construction Corporation of China (Power China)



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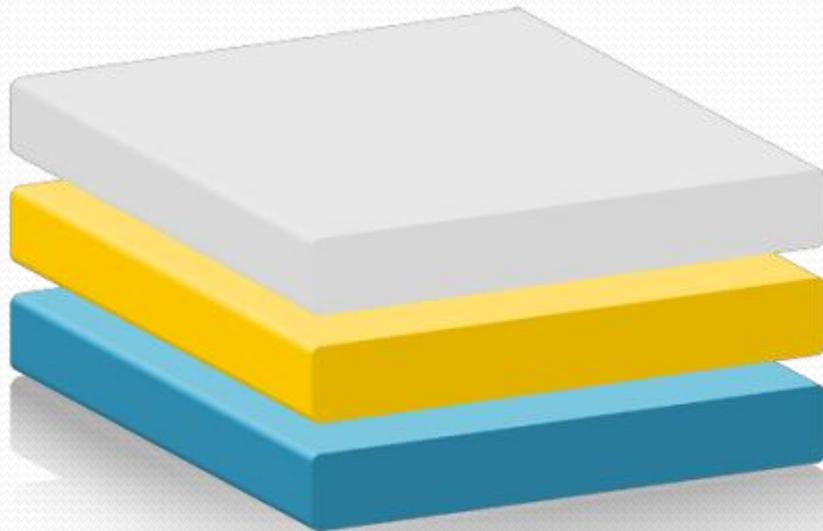
Part I-a SinoHydro Resources Ltd.

- Overseas investment business since 2004;
- Registered Capital: US\$ 400 Million;
- Investment Field: power, oil, natural gas, coal, mineral resources, real property, environmental protection and infrastructure;
- Overseas Investment Window of Power Construction Corporation of China (POWER CHINA).

Part I-b Power China

On September 29th, 2011

POWERCHINA is founded on the basis of



- Sinohydro Group
- HydroChina Corporation
- 58 companies with expertise in the design, construction and manufacturing of thermal power generation and transmission facilities

Most subsidiaries are established in 1950s.

Sinohydro Resources Ltd serves as prominent overseas investment arm of PowerChina

Part I-b Sectors

hydropower
thermal power
new energy
power grid

Energy

public,
commercial and
residential buildings

PPP

EPC

EPC+F/
investment

POWERCHINA

BT

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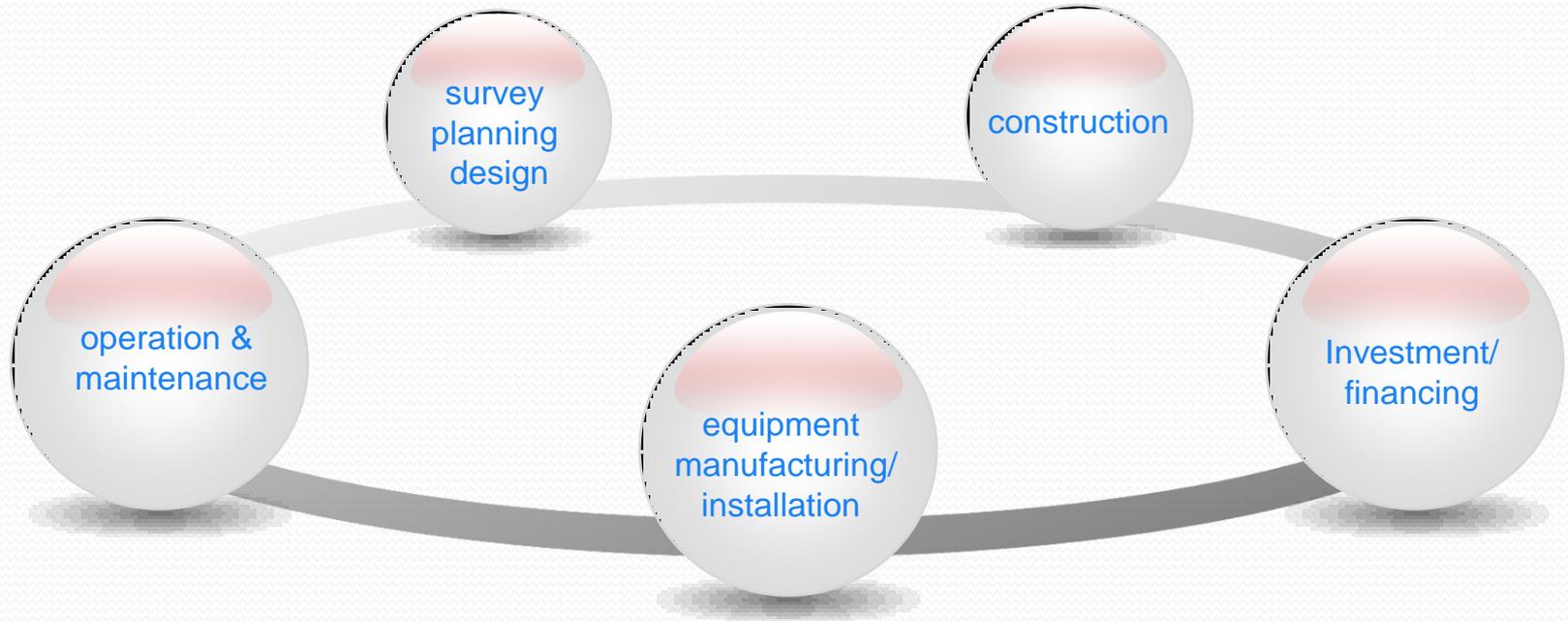
Water
resources
management

water supply,
sewage and waste water
treatment, irrigation system,
flood control system,
seawater desalination,
coastal management

Transport

road and highway,
mass transit system,
railways, canals,
seaports, airports

Part I-b Segments



economic planning

cost consulting

safety appraisal

project management and supervision

R&D

EIA and environmental engineering design

resettlement planning

software development

Part I-b Key Figures in 2012

Total Assets **USD 47.3 Billion** Business Revenue **USD 32.7 Billion**

Overseas Business accounts for **30.1%, 40.2%** of total business revenue and overall value of new contracts respectively.



390th on Fortune Global 500–354th in 2013



4th China–Africa Friendship Award
by CAPFA



CSR Contributor



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Part I-b Hydropower

Planning

- Completed development plans for 12 major rivers in China;
- Undertook 65% of planning and investigation works for hydropower projects in China;
- Concluded national water resources census and second census;
- Working at formulating water and hydropower development plans in Myanmar, Guinea, Sierra Leone and Columbia;
- Compiling flood control and drought prevention scheme for Thailand;

Construction

- Undertook 65% of construction and installation works for hydropower projects in China;
- Performing construction and installation contracts in 45 countries (16 in Asia, 21 in Africa, 4 in America, 2 in Oceania, 2 in Europe);

Investment/Concession

- China, Laos, Cambodia, Myanmar, Nepal, Zambia, etc.

Part I-c Sample Investment Projects

Angu Hydropower Project

Location: Sichuan

Total Installed Capacity: **772 MW**

Total Investment: RMB 9.6 billion

Shawan Hydropower Project

Location: Sichuan

Total Installed Capacity: **480 MW**

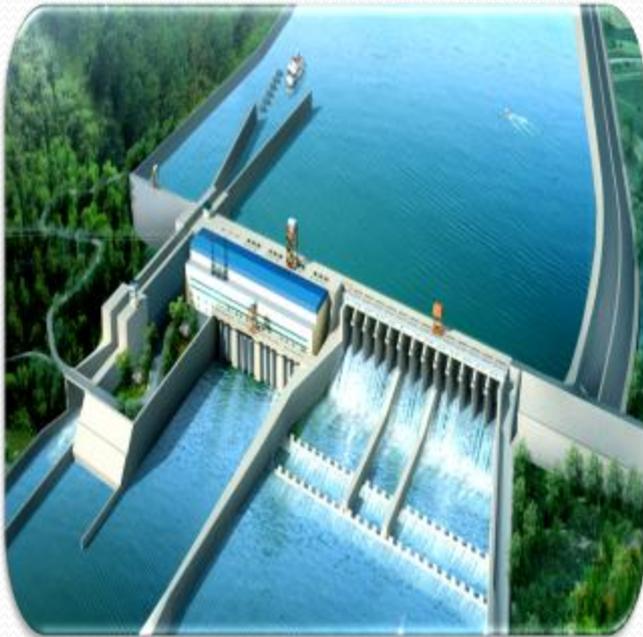
Total Investment: RMB 4.9 billion

Maoergai Hydropower Project

Location: Sichuan

Total Installed Capacity: **420 MW**

Total Investment: RMB 6.8 billion





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Part II

Investment in Nepal

Part II Interventions in Nepal

-Enter Nepal Market since 1995.

- 6 Projects has been successfully completed and delivered to the Government:

1. Sunsari Morang Irrigation Project
2. Ilam Hydroelectric Project
3. Modi Hydroelectric Project
4. Bagmati Irrigation Project
5. Sikta Irrigation Proect, Phase I
6. Upgrading of the Tamsen- Tamghas Road Project

- 2 Projects is now under construction :

1. Kulikhani III Hydroelectric Project, Civil works
2. Upper Tamakoshi Hydroelectric Project, Civil Works

Part II Investment in Nepal



Project Name:

Upper Marsyangdi A Hydropower Project
(50 MW)

Developer:

SinoHydro-Sagarmatha Power Company (P) Ltd.

Total investment:

USD 165.9 Million

Commercial Operation Date:

16 Sep 2016

Financier:

70% Loan+ 30%Equity (90% from SINOHYDRO
+ 10% from Sagarmatha Power (P) Ltd.(Nepal)



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Part III Issues

Part III Issues

1. Policies to HPP investment

- Lack of preferential and privilege policy to absorbing foreign investment
- Tax burden: Contract tax, VAT, etc.

2. Initial survey license

- Initial licenses were held by domestic/foreign developers for several years till decades
- Cooperation with or transfer from initial license holders

3. Agreements and licenses

- Delay to issue the Generation license
- No international standard procedure for PDA

Part III Issues

4. Infrastructures constrains

- Road condition is not good enough and transmission lines is far away from most project site

5. Social influences

- Frequent protest strikes, parades

6. Insufficient local skilled staff and un-skilled labor

7. Construction Materials supplying are not sufficient

- like explosives and cement are difficult to purchase from the local



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Part IV Recommendations

Part IV Recommendations

1. Preferential policy provision on HPP investment

- tax reduction on raw material, construction equipments, vehicles and income (rate reduction or exemption)
- convenience on custom clearance, work visa and license.
- other favorable policies to promote the project economic feasibility.

2. One-stop service of HPP development is eager to be provided by GON

Set-up a stable and comprehensive agency:

- (1) responsible for overall HPP administration in Nepal;
- (2) coordinate with all relevant central & local government authorities;
- (3) promote HPP development.

3. Forge common standards and procedures concerning to HPP investment

- contract and licenses
- company registration
- bank account opening & operation
- foreign currency control

Part IV Recommendations

4. Establish a master plan of power consumption

- domestic requirement and power exportation
- improve national power grid accordingly

5. Work out a master plan of national water resources

- Carried out a nationwide survey on water resources in Nepal.
- Set up the priority of HPP development
- Issue a power development plan

6. Release instructive principles of land acquisition

- general administration on land acquisition & transfer;
- provide guiding land price in different regions and project area;
- simplify and convenience the land acquisition and transfer procedure.



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Part V

Financing Partnership

Cooperation with Chinese Banks in HPP



1. Strategy Cooperation and Support

- Preferential loan (Exim Bank)
- Concessional loan (Exim Bank)
- Commercial loan (Exim Bank, CDB, CCB, BoC...)
- Mixed credit/loan

2. FUND and/or Joint Development

- China-Africa Development Fund
- ASEAN Fund
- Fund of Exim Bank...

Suggestion in HPP Investment & Development



citibank



Establish Extensive Cooperation with Private Sector Operation Department of International Banks/Institutions in HPP Investment in GMS & Nepal

- Joint Development
- Project finance/loan
- Equity finance
- Political /country risks insurance
- CDM arrange/loan



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END

Thank you!

Part I-c Sample Investment Projects



Hutgyi Hydropower Project

Location:

Salween River in Kayin State, Myanmar

Description:

The Hydropower Plant will have installed capacity of 1,360 MW.

Developer:

JV between SINOHYDRO(51%)/ EGAT International Co., Ltd (EGATi) / International Group of Entrepreneurs Co., Ltd. (IGE)

Total investment:

USD 2.8 Billion

Construction Period:

75 months.

Concession time :

40 years



Part I-c Sample Investment Projects



Mengtong Hydropower Project

Location:

Salween River in Shan State, Myanmar.

Description:

The Hydropower Plant will have installed capacity of 7,000 MW.

Developer:

JV between Three Gorges Corp. + SINOHYDRO+ China Southern Power Grid (51%)/ EGAT International Co., Ltd (EGATi) / International Group of Entrepreneurs Co., Ltd. (IGE)

Total investment:

USD 12.8 Billion

Construction Period:

156 months.

Concession time :

50 years



Part I-c Sample Investment Projects



Nam Ngum 5 Hydropower Project

Location:

On Nam Ting River, in Luang Prabang and Xiengkhouang Provinces, about 300 Km away from Vientiane Capital City.

Description:

100 m high RCC Gravity Arch Dam.

Installed Capacity:

2 × 60 MW.

Owner:

Sinohydro (85%) and Électricité du Laos (EDL)

Total investment:

USD 199.75 million

Construction period :

Oct 2008- May 2012

Concession time:

25 years

Financier:

China Exim Bank (USD140 million), SINOHYDRO (USD 54 million) Électricité du Laos(USD 5.75 million).

Part I-c Sample Investment Projects



Nam Ou Cascade Project

Location:

On Nam Ou River, in northern highland area of Laos, to the north of Luang Prabang and bordering with Yunnan Province, China.

Description:

The cascade project consists of seven hydropower plants with total installed capacity of 1 156 MW. Cascade 1~ 4 are Gate dams, and Cascade 5~ 7 are Rockfill dams.

Owner:

SINOHYDRO (85%) and EDL (15%) will form a JV to develop the Project

Total investment:

USD 2.392 billion

Construction period :

Dec. 2010 – 2020

Concession time :

25 years

Financier:

70% Loan+ 30%Equity raised by the shareholders

Part I-c Sample Investment Projects



Paklay Hydropower Project

Location:

On the main stream of the Mekong River. It is about 20 km from PakLay county town in the downstream and about 230 km from Vientiane.

Description:

The Pak Lay Hydropower Project is developed mainly for power generation (installed capacity: 1320 MW), concurrently with the multipurpose benefits such as navigation.

Owner:

This Project is jointly developed by SINOHYDRO and CEIEC

Concession time:

25 years

Part I-c Sample Investment Projects



Kamchay Hydropower Project

Location:

Kamchay, southwest of Cambodia

Description:

the hydropower plant will have a total installed capacity of 194 MW.

Owner:

Ministry of Industry, Mines and Energy of Cambodia

Developer:

SINOHYDRO Concession period 44 years

Total investment:

USD 280 million

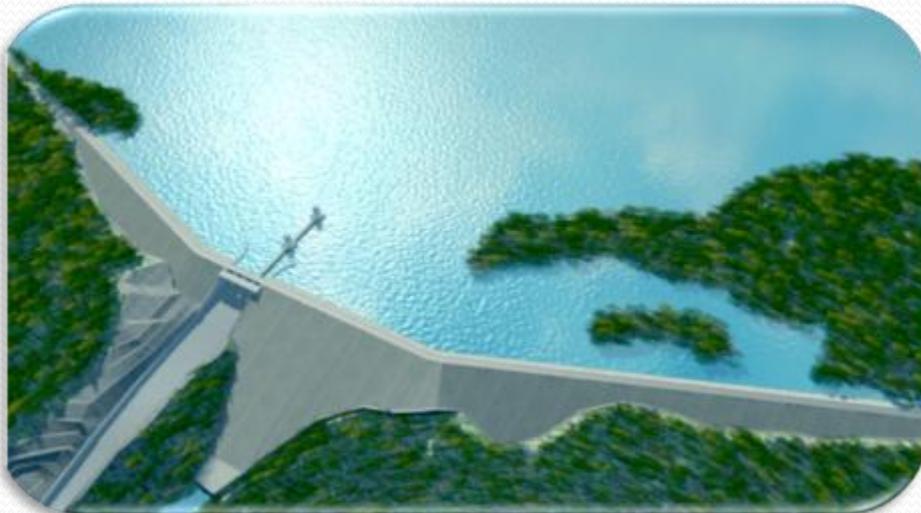
Construction period:

2007-2011

Financier:

USD 200 million loan from China Exim Bank

Indonesia, Jatigede Hydropower Plant



Jatigede Hydropower Project

Location:

Located on the middle reaches of Cimanuk River, Sumedang Region, West Java Province, about 240 km southeast to Jakarta.

Description:

the power plant will have an installed capacity of 110 MW.

Developer:

JV between Sinohydro and PT Manggala Purnama Purnama Sakti.

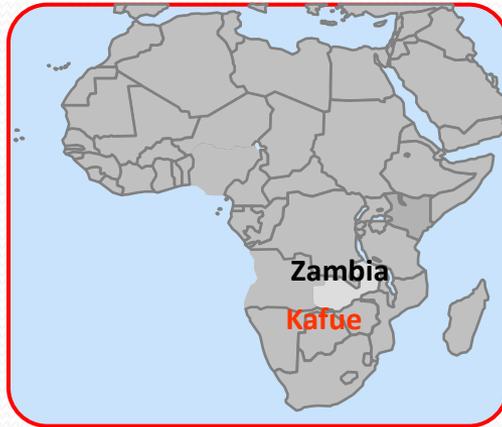
Total investment:

USD 227million

Time:

42 months

Part I-c Sample Investment Projects



Kafue Gorge Lower Hydroelectric Project

Location:

Kafue Gorge Lower Hydroelectric Power Project (KGL Project) is located on the Kafue River, primary tributary of the Zambezi River

Description:

Installed capacity 5x150 MW Developer SINOHYDRO , CAD Fund, Zesco

Total investment

USD 1.97 billion

Concession time:

30 years (excluding construction period)

Construction period :

6 years