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Report No. P-1728-NEP

**REPORT AND RECOMMENDATION  
OF THE  
PRESIDENT  
TO THE  
EXECUTIVE DIRECTORS  
ON A  
PROPOSED CREDIT  
TO THE  
KINGDOM OF NEPAL  
FOR  
KULEKHANI HYDROELECTRIC PROJECT**

November 25, 1975

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CURRENCY EQUIVALENTS

Before October 9, 1975

Currency Unit	=	Nepalese Rupee (NR)
US\$1	=	NRs 10.56
NR 1	=	US\$0.095
NRs 1,000	=	US\$94.70
NRs 1,000,000	=	US\$94,697

After October 9, 1975

US\$1	=	NRs 12.50
NR 1	=	US\$0.0800
NRs 1,000	=	US\$80.00
NRs 1,000,000	=	US\$80,000

FISCAL YEAR

Nepal Fiscal Year - July 16 to July 15

INTERNATIONAL DEVELOPMENT ASSOCIATION

REPORT AND RECOMMENDATION OF THE PRESIDENT  
TO THE EXECUTIVE DIRECTORS  
ON A PROPOSED CREDIT  
TO THE KINGDOM OF NEPAL  
FOR KULEKHANI HYDROELECTRIC PROJECT

1. I submit the following report and recommendation on a proposed development credit to the Kingdom of Nepal for the equivalent of \$26 million on standard IDA terms to help finance a project to meet rapidly growing demand for power in Central Nepal, which is the center of economic activity. The Overseas Economic Cooperation Fund of Japan (OECF) has approved in principle a loan of approximately US\$10.0 million equivalent for a term of 30 years including ten years grace period with interest at 2.75% per annum towards the financing of the proposed project; the Kuwait Fund for Arab Economic Development (the Kuwait Fund) has approved in principle a loan of approximately US\$17.5 million equivalent for a term of 32 years including 7 years grace period with interest at 3% per annum; and UNDP has approved a grant of US\$3.0 million equivalent.

PART I - THE ECONOMY

2. The most recent economic report entitled "A Review of Major Issues Related to Nepal's Development Prospects" (Report No. 677a-NEP) was distributed to the Executive Directors on June 10, 1975. The principal findings and conclusions of that report are summarized below. Country data are shown in Annex I.

3. Nepal has been classified by the United Nations as one of the least-developed countries in the world. Its per capita income in 1974 was estimated at \$90-100 per year and the literacy rate at about 14%. Serious efforts toward development have been underway only since the 1960s. Development expenditures have increased rapidly from NRs 232 million in 1964/65 to NRs 930 million in 1974/75. About half of expenditures for development has been financed with external assistance, notably from India, the United States and the People's Republic of China. About 80% has been in the form of grants.

4. Nepal's economic growth over the last nine years has been slow. From 1965-67 to 1972-74, the average annual rate of growth of GDP was only 2.2% in real terms. During the same period population increased at a rate of over 2%. There was, therefore, hardly any improvement in GDP per capita. Agriculture accounts for about two-thirds of GDP and for 80% of export earnings and provides employment to 94% of the population. Foodgrain production has grown at less than 1% annually since the mid-1960's. If present trends in the growth of population and foodgrain production continue, Nepal may have a foodgrain deficit by the turn of the decade. Nepal is currently exporting over 200,000 tons of rice a year, accounting for about 60% of export earnings. Some progress was achieved in the manufacturing sector which, however, accounts for less than 3% of GDP.

5. This slow growth was largely due to the priority given to development of infrastructure over the directly producing sectors. This priority was probably an inescapable necessity. When the country began to come out of its isolation in 1951, it had no transportation facilities and hardly any trained people to man an administration oriented towards economic development. At least one generation was needed to build a minimal physical and administrative infrastructure without which a development policy is devoid of meaning. In that respect, substantial progress has been achieved.

6. In the past, only 20% of public sector investments was made in the directly producing sectors which largely benefited the Kathmandu Valley, and, to a lesser extent, the eastern Terai plains. The development of the Kathmandu Valley, where 4% of Nepal's population lives, has been a success story. New cultivation methods have been widely adopted and the farming community is enjoying an improved standard of living. With the Fifth Five-Year Plan (1975/76-1979/80), Nepal is now attempting to shift its order of priorities and to focus on the productive sectors and the development of its very substantial hydro-electric power potential. Half of planned development expenditures is tentatively allocated to these sectors. Largely because of absorptive capacity problems, the country may experience difficulties in redirecting its investments along this new and very pertinent course, especially in agriculture.

7. Nepal's development is likely to be impaired by the recent changes in world economic conditions. The country has to import practically all capital and manufactured consumer goods. World price increases are, therefore, greatly affecting Nepal, at a time when export prospects are not too encouraging. As the country is landlocked, it depends on India for most of its imports, but India has developed shortages of its own. This has forced Nepal to import from distant places which involves very high freight and transit costs through India, particularly for bulky commodities such as cement. So far, the trade deficit has been more than offset by invisible earnings such as tourism. For the last ten years, balance of payments surpluses amounted to about \$10 million a year, and foreign exchange reserves were at the very comfortable level of \$139 million in November 1974 (more than 12 months of imports). However, and largely because of changes in world prices in late 1974, Nepal's foreign exchange reserves declined to \$94 million by September 1975. This decline may continue at a rate of \$20-25 million a year, unless Nepal succeeds in obtaining increased foreign assistance (see paragraph 12).

8. If imports have to be curtailed, this would not only directly affect economic activity but also the potential for domestic resource mobilization, as nearly two-thirds of tax and non-tax revenue is collected on external transactions. Revenue potentials from other tax sources are limited, given the poverty of the country and the low degree of monetization of the economy. For years to come, dynamic export growth is likely to be one of the few potential avenues for increasing resource mobilization. Export potentials lie mostly in the development of agriculture, tourism and hydropower.

9. On October 9, 1975 the Nepalese Rupee was devalued against the U.S. dollar from NRs 10.56 to NRs 12.50 to the dollar. Rates for other foreign currencies will be established daily by the Nepal Rastra (Central) Bank on the basis of the parity rates between the U.S. dollar and such currencies. The parity rate with the Indian Rupee remains unchanged. This selective devaluation was addressed to the problems of increasing earnings of convertible foreign exchange and reducing the demand for such exchange, encouraging labor-intensive investments, reducing the diversion of trade through unofficial channels, restoring the profitability of jute exports and increasing revenues in Hill areas by enhancing the rupee value of pensions and remittances received mainly by retired Gurkhas who had served abroad. While it is difficult to fully assess the impact of the devaluation, there can be little doubt that it was a step in the right direction.

10. In April 1975, substantial changes were made in the pricing of resources to consumers and investors. Consumer subsidies on basic commodities, such as rice and sugar which in the recent past were growing rapidly, have been almost entirely rescinded. A major reform of the interest rate structure was introduced in April 1975 with a view to increasing mobilization of private savings and rationalizing resource allocation. This welcome and timely reform entails an increase of the two-year fixed savings deposit rate from 9-3/4 to 16% per annum. Lending rates of commercial banks have been raised to the level of 15-18% per annum and those of financial institutions to 10-16%. These rates may be compared roughly to the current rate of inflation in Kathmandu of about 20% a year.

11. Development expenditures, including foreign assistance, for the Fifth Plan (1975/76-1979/80) are estimated at about \$670 million, i.e. twice as much in real terms as during the previous plan (1970/71-1974/75). The plan is ambitious compared to the likely availability of resources and to the country's implementation capacity. Substantial additional foreign assistance above the present level would be required. Current expenditures are likely to increase sharply on account of rapidly growing expenditures in social sectors, especially in education, increased maintenance and management cost of previous investments, and additional administrative costs required to decentralize Government (HMG) services. As in the past, increase of HMG's recurrent expenditures is likely to outstrip growth of revenue so that the budget surplus is likely to fall sharply, possibly to a third of its current level in real terms. In view of this, we have scheduled an economic mission to visit Nepal in January to review the public sector investment program and the related resource requirements.

12. In summary, on the one hand, the extreme poverty of the country points to its limited capacity to generate resources; on the other hand, urgent development needs and the expected gradual improvement in the country's absorptive capacity will lead to an increasing demand for foreign exchange. Consequently, Nepal's requirements for foreign assistance on soft terms will rise rapidly. There is also a clear need for some local cost financing, as most projects with high development priority have a larger domestic cost component than can be mobilized from internal sources.

13. So far, Nepal's external debt has been very low. As mentioned in paragraph 3, the bulk of foreign aid has been in the form of grants. As of December 1974 foreign debt, which was all contracted with countries other than India, amounted to only \$106.2 million of which \$71.0 million remained undisbursed. This low utilization is largely due to the fact that three quarters of foreign loans have been contracted after mid-1970. Consequently, debt service was about \$1.5 million in 1974 or equivalent to 4% of exports of goods and services to countries other than India. IDA's share in the debt service was negligible. However, future assistance may increasingly take the form of loans, albeit soft. In view of the accelerated development efforts, external public debt is expected to rise and, based on the trend in recent years, may well reach \$250 million by 1980, of which approximately two thirds could be in IDA credits. The debt service ratio by 1980 is, however forecast to remain below 10%, of which the Bank Group share would be less than 1%.

## PART II - BANK GROUP OPERATIONS IN NEPAL

14. The first IDA credit to Nepal in the amount of \$1.7 million equivalent was made in FY70 for a telecommunications project. This was followed by credits for a highways project (\$2.5 million), a tourism project (\$3.2 million), an irrigation project (\$6 million), a second telecommunications project (\$5.5 million), a water supply and sewerage project (\$7.8 million), and a settlement project (\$6.0 million). The proposed credit would bring the total amount of IDA assistance to Nepal to \$58.7 million equivalent net of cancellations. No Bank loan has been made to Nepal. IFC made its first investment in Nepal (\$3.2 million) in a hotel project in Kathmandu in FY75. Annex II contains a summary statement of Bank Group operations as of October 31, 1975 and notes on the execution of ongoing IDA projects. It shows certain delays in the implementation of these projects, particularly during the initial periods. These delays are largely due to Nepal's limited technical and managerial capabilities. In order to assist Nepal in coping with this constraint, considerable technical assistance is being given in the form of inputs of staff time in Washington, from our Resident Mission in Kathmandu, and during frequent missions to Nepal. As a result, tangible improvements in the rate of disbursements are being realized. During FY75 \$1.7 million were disbursed, compared to \$2.6 million disbursed during the previous five years. In the first four months of the current fiscal year \$1.1 million were disbursed.

15. Bank Group lending to Nepal has so far been at a modest level compared to the country's needs for, and total receipts of, external assistance. This is due to the country's limited absorptive capacity, affecting the rate of project preparation and implementation. The Bank has, therefore, agreed with HMG to assist it in project preparation, particularly by acting as Executing Agency for a number of technical assistance projects in the UNDP Five-Year Program, now under consideration.

16. Bank Group objectives in Nepal reflect the country's needs: (a) to place major emphasis upon directly productive sectors, particularly agriculture and increasing food production; and (b) to continue assistance for the development of complementary infrastructure -- including feeder roads to support other development expenditure, facilities to expedite communications (particularly between the Hills and the Terai), and additional hydroelectric capacity to meet the predicted increase in demand for energy for agricultural and industrial development.

17. Preparation work is being carried out for a number of projects, including a rural development project, a second irrigation project, a DFC project and a feeder roads project. In view of the institutional constraints and shortage of trained personnel in Nepal, technical assistance and training would be important elements in the proposed project as well as in most future projects.

### PART III - POWER IN NEPAL

18. Nepal has a very large undeveloped hydro-electric power potential. Estimated potential sources exceed 80,000 MW. Total installed capacity is 54.2 MW, out of which only 33.4 MW is hydro-electric power, 17.0 MW diesel, and 3.8 MW steam. Publicly owned plant account for 46.0 MW, or about 85%; the remaining 8.2 MW are captive plants. Electricity reaches only about 3% of the population. Total electric power generation in 1973/74 was 120 GWh, or 10 kWh per capita, compared to 20 kWh in Bangladesh and 120 kWh in India. Actual per capita consumption was only 7 kWh. The sector has a labor force of about 2,370, representing about 0.05% of the country's total, and creates about 0.2% of GDP.

19. The Electricity Department of the Ministry of Water and Power (ED) is responsible for the planning and construction of new generation and transmission facilities - as well as licensing, enforcing safety measures, and controlling privately owned utilities. ED provides power in the Pokhara area and in about fifteen cities along the southern border with India. Power generation and distribution, in the Central System (the Kathmandu Valley and the Narayani Zone), is the responsibility of the Nepal Electricity Corporation (NEC), established in 1962. In the Eastern Terai, power generation and transmission is entrusted to the Eastern Electricity Corporation (EEC), established in October 1974. The Butwal Power Company operates in the area of the city of Butwal.

20. The Central System operated by NEC is the largest and most developed electricity supply system in Nepal, accounting for 73% of Nepal's installed capacity. Power is supplied by five hydro and four diesel stations with a total capacity of 31.6 MW and 8.3 MW respectively. The second most important area is the Kosi Zone around the city of Biratnagar, with present total installed capacity of 6.1 MW. Power in this area is supplied mainly by diesel and thermal units supplemented by a micro hydro plant at Dhankuta (2 x 120 KW) operated by ED and supplemented by power exchange with India.

21. In the Fifth Five-Year Plan, the Government's basic strategy for development of the sector is to further utilize hydroelectric resources to meet the increasing power demand, to extend electric services gradually to new areas in the country, and to bring about regional balance in the production and distribution of electric power.

22. ED's future expansion program for the Central System includes completion in 1976/77 of the Gandak Hydro Project (15 MW) now being constructed by India, and construction of the Devighat Hydro Project (14 MW), with technical and financial assistance to be provided from India. The Kulekhani project (60 MW), for which a development credit is proposed, would be completed in 1981/82. The associated transmission lines and substations would be expanded. NEC is also negotiating with ADB for a loan to extend the proposed Gandak-Hetauda transmission line from Bharatpur to Pokhara. This would link Pokhara to the central system and result in a major market expansion for NEC. This expansion would result in a higher demand level for power than has been used in justifying the proposed project.

#### PART IV - THE PROJECT

23. The proposed project is based on a feasibility report prepared by Nippon Koei, HMG's Consultants, financed by the Japanese Government, and on the findings of an appraisal mission which visited Nepal in November/December 1974. Negotiations were held in Washington during October/November 1975. The Government of Nepal was represented by a delegation led by Mr. A.B. Rajbhandary, Secretary, Ministry of Water and Power. A credit and project summary is attached as Annex III.

#### Project Description

24. The Project, located about 30 km southwest of Kathmandu, would entail the construction of a 107 m high rock-fill dam. The powerhouse, would be located underground containing two 30 MW generating units. A 66 KV double circuit transmission line branch 200 m in length would be required to connect with the existing line between Kathmandu and Birganj. Two 35 MVA transformers would also be needed at the existing substation at Kathmandu. The Project would provide 60 MW of dependable peaking capacity and generate 165 GWh of primary energy and 46 GWh of secondary energy annually.

#### Organization and Implementation

25. Upon completion of construction and installation of the generating units, the Electricity Department would transfer the new plant to NEC for operation. NEC has an authorized capital of NRs 300 million in shares of NRs 100 each. NEC's Board of Directors includes an Executive Chairman (the General Manager) and five other members: the Chief Engineer of ED and



representatives of the Ministry of Water and Power, the Ministry of Industry and Commerce, the Ministry of Finance, and the Kathmandu Town Council. Under the General Manager, there are four executive positions for Planning and Generation, Transmission and Distribution, Administration and Commercial, and Finance and Economic Analysis. NEC also has a branch office at Hetauda which is responsible for the operations in the Narayani Zone.

26. The existing management of four managers and twenty-seven engineers, most of whom are graduates of Indian Universities, is competent. Together with an additional 268 technical staff and 963 others, the total of 1,262 employees is excessive for a utility which has a present capacity of only 30 MW and about 56,000 consumers. HMG and NEC recognize that the number of staff is excessive and will endeavor to make use of redundant staff in operating the expanding facilities.

#### Cost and Financing Plan

27. The total construction cost is estimated at US\$68.0 million equivalent of which US\$56.5 million equivalent would be in foreign exchange and US\$11.5 million equivalent in local cost. UNDP has approved a grant of US\$3.0 million to finance technical assistance to ED in engineering, detailed design, procurement, and supervision of construction. OECF has approved in principle a loan of 3 billion Yen (approximately US\$10.0 million equivalent) to finance the foreign exchange cost of electro-mechanical equipment, associated transmission line and switchyard facilities. The Kuwait Fund has approved in principle a loan of KD 5 million (approximately US\$17.5 million equivalent) <sup>1/</sup> towards the foreign exchange cost of preliminary works, hydro-mechanical equipment and civil works. The draft loan agreement was negotiated between HMG and Kuwait Fund in October 1975. The proposed credit of US\$26.0 million would finance the bulk of the remaining foreign exchange costs of civil works. Civil works financing would be on parallel basis, with IDA financing the foreign exchange costs of the main dam and spillway (estimated at US\$27.9 million, including contingencies) and the Kuwait Fund financing the foreign exchange cost of civil works other than the main dam and spillway. The balance of foreign exchange cost and local cost would be covered by HMG out of its own resources. Effectiveness of the loan agreement between HMG and OECF and the loan agreement between HMG and the Kuwait Fund would be a condition of effectiveness of the proposed credit agreement.

28. The Electricity Department would transfer the plant to NEC at cost less the amounts that NEC contributed during construction, and NEC would assume a corresponding rupee debt to the Government, in an amount estimated to be equivalent to US\$59.4 million. The rupee equivalent of the proposed credit would be repayable by NEC over 25 years with interest at 8-1/2% per annum, and the balance of the debt over 25 years at 6% interest per annum.

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<sup>1/</sup> US\$15.9 million equivalent is included in the financing plan and the remaining US\$1.6 million equivalent would be available as additional contingencies.

### Procurement and Disbursement

29. Procurement under the proposed credit would be on the basis of international competitive bidding following IDA guidelines, while procurement under the Kuwait Fund loan would follow Kuwait Fund procedures. In the event that all bidders prequalified under IDA procedures are also prequalified under Kuwait Fund procedures, bids would be invited for the two packages together. Procurement guidelines established by OECF will be utilized for items financed by the OECF on the basis of LDC untied procurement (procurement from Japan and less developed countries). Disbursements from the proposed credit would be made against the foreign exchange cost of the main dam and spillway. Preliminary and resettlement works will be carried out by HMG's own task force, supplemented by local contractors.

### Tariffs and Finances

30. One of the objectives of the proposed credit is to improve NEC's financial performance. Current tariffs, set by HMG at an average of NRs 0.239 (US\$1.9) per kWh are low <sup>1/</sup> and are inadequate for producing an acceptable rate of return on NEC's assets. For example, in 1974/75 the rate of return was a negative 1.4%. The inadequate return has been due mainly to the low tariff, high system losses (approximately 33%), levy of a royalty of US\$0.6 per kWh sold, and a high tax rate of 55% (now 60%) on the net income of NEC. During negotiations HMG indicated that, as a part of the Second Power Loan from ADB, HMG would employ a consultant for assistance in the reduction of system losses. They also indicated that the Government would waive the royalty. The Government plans steps to reduce its system losses to about 20% by 1980/81, obviating need for larger tariff increases. During negotiations it was agreed that tariffs would be increased to produce a rate of return of 2.5% in 1975/76 (calculated as if the increase were in effect since the beginning of the fiscal year), rising to 4% in 1977/78 and to 6% by 1980/81 and subject to further review, with a view to reaching 8% as early as possible thereafter. This would require an average tariff of approximately US\$3.3 per kWh in 1975/76 (compared to the current US\$1.9) rising to US\$5.9 per kWh in 1980/81, which is comparable to tariffs in neighboring countries. The increase required to meet the 1975/76 rate of return target would be a condition of effectiveness of the credit agreement. No dividends would be declared until the plant has been commissioned, by which time cash generation should have increased sufficiently to permit payment of dividends.

### Benefits and Justification

31. Electrical energy now reaches only about 3% of the population in Nepal. Demand for electrical energy has been growing and in the Central

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<sup>1/</sup> The tariff for domestic users in Nepal is also about US\$1.9 per kWh. This compares with US\$8.3 per kWh in Burma, US\$4 in Bangladesh and US\$6.25 in the neighboring State of Uttar Pradesh in India.

System the average annual rate of growth has been about 22% over the past 10 years, but the average per capita consumption is still extremely low (paragraph 18). Existing generating capacity even with considerable high cost diesel generation is insufficient to meet demand. Shortages are anticipated and load curtailment will be necessary during the next few years. Such shortages could have serious detrimental impact on industry, tourism and agricultural development. Though the present consumption is mainly in the domestic sector, the major component of the future growth in demand is expected to be in the agricultural, industrial and commercial sectors. About 12% of the project's total generating capacity would be required for the Chitwan Valley Irrigation Project <sup>1/</sup> alone. In addition, by 1983/84 energy consumption by industrial and commercial users is expected to increase significantly accounting for almost half the total sales. The proposed project is a crucial element in NEC's system expansion program to meet the forecast load requirements.

32. The project would contribute 60 MW in dependable peaking power, 165 Gwh in primary energy and 45 Gwh in secondary energy annually. When fully utilized it would replace use of energy in one form or another equivalent to about 65,000 tons of oil per annum saving approximately US\$8.0 million in scarce foreign exchange.

33. Hydropower is Nepal's only known conventional energy source of major economic significance. The proposed project is a major step in exploiting this resource. The project would help to train Nepalese engineers and technicians in handling of a modern hydroelectric plant and facilities and build up staff for undertaking future projects.

34. The project is the least cost solution for discount rates up to 13% when compared with other realistic alternatives which are thermal. No other alternative hydro schemes have been sufficiently investigated for completion to meet growing demand in the next few years. The rate of return on project investments would be 10.7% based on projected tariff increases. This return does not take into consideration the benefits that could accrue from the potential created for two additional power stations which could be built downstream of the Rapti River, utilizing the regulated flow from the Kulekhani reservoir. Other additional benefits would be the possibility of irrigating about 10,000 hectares, fish production from the reservoir and recreation benefits.

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<sup>1/</sup> An important irrigation scheme to provide perennial water to increase production of paddy, corn, mustard, and wheat over an area of 11,100 ha in the Terai, presently under construction with financial support of ADB through its loan of \$8.0 million equivalent.

35. About 235 houses in the reservoir area will be inundated. It was agreed during negotiations that HMG would submit to the Association, no later than March 31, 1977, a detailed plan for the resettlement of their 1,200 inhabitants. No adverse ecological effects are anticipated. However, the Consultants would examine the environmental, health and ecological consequences of the project during field investigations, which must be completed prior to final design.

#### PART V - LEGAL INSTRUMENTS AND AUTHORITY

36. The draft Development Credit Agreement between the Kingdom of Nepal and the Association, the Recommendation of the Committee provided for in Article V, Section 1 (d) of the Articles of Agreement and the text of a resolution approving the proposed credit are being distributed to the Executive Directors separately.

37. The special features described in paragraphs 28, 30 and 35 of this report are reflected in Sections 5.04, 5.02 and 3.03 of the draft credit agreement, respectively.

38. Additional conditions of effectiveness are as follows:

- (i) Effectiveness of the loan agreements between HMG and Kuwait Fund, and between HMG and OECF of Japan;
- (ii) Appropriate revision to tariffs to produce a rate of return on net fixed assets in operation of 2.5% in 1975/76 (calculated as if the revisions were in effect for the whole fiscal year).

39. I am satisfied that the proposed credit would comply with the Articles of Agreement of the Association.

#### PART VI - RECOMMENDATION

40. I recommend that the Executive Directors approve the proposed credit.

Robert S. McNamara  
President

Attachments  
November 25, 1975



NEPAL

ECONOMIC INDICATORS

GNP PER CAPITA in 1974: <sup>1/</sup> US \$90-100

GROSS NATIONAL PRODUCT IN 1972/73

	<u>US \$ Mln.</u>	<u>%</u>
GNP at Market Prices	1,070	100.0
Gross Domestic Investment	..	..
Gross National Saving	..	..
Current Account Balance	..	..
Exports of Goods, NFS	..	..
Imports of Goods, NFS	..	..

ANNUAL RATE OF GROWTH (% constant prices)

Approximately 2.2 (1965-67 to 1972-74)

OUTPUT, LABOR FORCE AND PRODUCTIVITY IN 1972/73

	<u>Value Added</u>	
	<u>US \$ Mln.</u>	<u>%</u>
Agriculture	730	68.0
Industry	95	9.0
Services	245	23.0
Total/Average	1,070	100.0

GOVERNMENT FINANCE

	<u>Central Government</u>	
	<u>(Rs Mln.)</u>	<u>% of GDP</u>
	<u>1973/74</u>	<u>1972/73</u>
Current Receipts	730	4.6
Current Expenditure	498	3.3
Current Surplus	232	1.3
Capital Expenditures	811	5.4
External Assistance (net)	320	1.8

<sup>1/</sup> Calculated by the same conversion technique as used in the 1974 World Atlas. All other conversions to dollars in this table are at the average exchange rate prevailing during the period covered.

.. not available

COUNTRY DATA - NEPAL

<u>MONEY, CREDIT and PRICES</u>	<u>1965</u>	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>
	(Million Rs outstanding mid-July)				
Money and Quasi Money	554	1,055	1,240	1,493	1,850
Bank Credit to Public Sector (net)	-149	- 103	- 39	117	251
Bank Credit to Private Sector	136	320	400	459	652
Money and Quasi Money as % of GDP	8.0	11.1	11.9	13.2	13.7

TRANSACTIONS IN CONVERTIBLE CURRENCIES <sup>1/</sup>

	(US \$ Millions)		
	<u>1972</u>	<u>1973</u>	<u>1974</u>
<u>Receipts</u>	<u>29.9</u>	<u>37.8</u>	<u>40.3</u>
Exports	8.8	14.8	12.3
Invisibles	21.1	23.4	28.0
<u>Payments</u>	<u>25.1</u>	<u>28.3</u>	<u>25.9</u>
Imports	12.2	18.7	16.1
Invisibles	13.9	9.6	9.8
<u>Surplus</u>	<u>4.8</u>	<u>9.5</u>	<u>14.4</u>

Gross Official Reserves

<u>July 1973</u>	<u>July 1974</u>	<u>Sept. 1975</u>
128.6	(millions US \$) 135.7	94.0

EXTERNAL DEBT, DECEMBER 31, 1974

	US\$ Mln.
Public Debt, incl. guaranteed	35.2
Non-Guaranteed Private Debt	..
Total Outstanding & Disbursed	<u>35.2</u>

DEBT SERVICE RATIO for 1974 <sup>2/</sup>

About 1.5%

RATE OF EXCHANGE

<u>Up to February 20, 1973</u>	
US \$ 1.00 = NR	10.125
NR 1.00 = US \$	0.099

<u>Since February 20, 1973</u>	
US \$ 1.00 = NR	10.56
NR 1.00 = US \$	0.095

<u>Since October 9, 1975</u>	
US \$ 1.00 = NR	12.50
NR 1.00 = US \$	0.080

IBRD/IDA LENDING, OCTOBER 9, 1975  
(millions US \$)

	<u>IBRD</u>	<u>IDA</u>
Outstanding and Disbursed	-	5.1
Undisbursed	-	<u>27.6</u> <sup>3/</sup>
Outstanding incl. Undisbursed	-	<u>32.7</u>

<sup>1/</sup> Since substantial parts of Nepal's foreign trade are unrecorded, there is no overall balance of payments available. This table is a balance of payments with countries other than India and represents about 10% of Nepal's foreign trade.

<sup>2/</sup> Ratio of Debt Service to Exports of Goods and Services.

<sup>3/</sup> Net of cancellations.

.. not available

November 3, 1975  
South Asia Department

STATUS OF BANK GROUP OPERATIONS IN NEPAL

A. STATEMENT OF IDA CREDITS (as at October 31, 1975) /a

<u>Credit No.</u>	<u>Year</u>	<u>Borrower</u>	<u>Purpose</u>	<u>US\$ Million</u>	
				<u>Amount (less cancellation)</u> <u>IDA</u>	<u>Undisbursed</u>
166-NEP	1969	Kingdom of Nepal	Telecommu- nications	1.7	0.3
223-NEP	1970	Kingdom of Nepal	Highways	2.5	1.0
291-NEP	1972	Kingdom of Nepal	Tourism	3.2	2.8
373-NEP	1973	Kingdom of Nepal	Irrigation	6.0	4.9
397-NEP	1973	Kingdom of Nepal	Telecommu- nications	5.5	5.5
470-NEP	1974	Kingdom of Nepal	Water Supply and Sewerage	7.8	6.8
505-NEP	1975	Kingdom of Nepal	Settlement	<u>6.0</u>	<u>6.0</u>
		<b>Total Outstanding</b>		<u>32.7</u> /b	
		<b>Total Undisbursed</b>			<u>27.3</u>

B. STATEMENT OF IFC INVESTMENT (as at October 31, 1975)

<u>Year</u>	<u>Obligor</u>	<u>Type of Business</u>	<u>Amount in US\$ Million</u>		
			<u>Loan</u>	<u>Equity</u>	<u>Total</u>
1975	Soaltee Hotel (Pvt) Ltd.	Hotel	<u>2.70</u>	<u>0.48</u>	<u>3.18</u>
	<b>Total commitments now held by IFC</b>		<u>2.70</u>	<u>0.48</u>	<u>3.18</u>
	<b>Total Undisbursed</b>		<u>2.70</u>	<u>0.48</u>	<u>3.18</u>

/a No Bank loans have been made to Nepal.

/b Prior to exchange adjustments.



C. PROJECTS IN EXECUTION <sup>1/</sup>

Credit No. 166      Telecommunications Project US\$1.7 million Credit of November 10, 1969; Effective Date: February 26, 1970; Closing Date: July 31, 1974 - Revised Closing Date: September 30, 1976

After initial delays in making the credit effective, delays in signing an agreement with India for some of the complementary aid provisions and delays in taking procurement action, this project is now proceeding satisfactorily. All contracts have been placed and completion is expected by mid-1976.

Credit No. 223      Highway Project US\$2.5 million Credit of December 21, 1970; Effective Date: February 3, 1971; Closing Date: June 30, 1975 - Revised Closing Date: December 31, 1976

With a delay of about eighteen months, the last of the five project road bridges is nearing completion and all are expected to be open early 1976. The delay was principally due to land acquisition difficulties and a national shortage of cement and fuel. Three of the five porter suspension bridges are open, with the remaining two to be opened in 1976. All project road maintenance equipment has been received and is now part of the Road Department fleet. Equipment workshop construction has been slow due to contractual difficulties stemming from price escalation; however, workshop construction should be completed first half 1976. Bid prices, although above appraisal estimates, are within contingencies. Total project cost is approximately 11% above appraisal estimate. In view of the effect of general inflation on the benefits, this is not likely to affect the rate of return. The project is expected to be completed by mid-1976.

Credit No. 291      Tourism Project US\$3.2 million (net of cancellation) Credit of March 22, 1972; Effective Date: November 9, 1972; Closing Date: September 30, 1975 - Revised Closing Date: December 31, 1977

Due to delays in appointing qualified architectural, engineering and project management consultants, and repeated changes in scope proposed by the sponsors of the subprojects, the project is two years behind schedule. Construction of the Yak and Yeti subproject is underway and is expected to be completed by the end of 1976. On the other hand, it was not possible to reach a firm agreement with the sponsors on an appropriate revision of the Annapurna subproject, and \$1.0 million of the Credit was cancelled from the original

<sup>1/</sup> These notes are designed to inform the Executive Directors regarding the projects, in execution and in particular to report any problems which are being encountered, and the action being taken. They should be read in this sense and with the understanding that they do not purport to present a balanced evaluation of strengths and weaknesses in project execution.

allocation (\$2.88 million) for that subproject. Agreement with the Government is being finalized for the reallocation of the remaining \$1.88 million to meet increased costs of the Yak and Yeti subproject and to finance a feasibility study for a major hotel in Kathmandu.

Credit No. 373      Birganj Irrigation Project US\$6.0 million Credit of  
April 18, 1973; Effective Date: July 9, 1973;  
Closing Date: December 31, 1978

Implementation of the project was initially delayed by Government's delay in appointing consultants for detailed engineering and construction supervision, slow field surveys and procurement difficulties. Approximately 30% of the contracts under the project have now been awarded. After a slow start present progress is satisfactory. Cost overruns are being met by reducing lower priority items. The project remains viable in view of increase in agricultural commodity prices and is expected to be completed by mid-1978.

Credit No. 397      Telecommunications Project II US\$5.5 million Credit of  
June 20, 1973; Effective Date: September 11, 1973  
Closing Date: June 30, 1980

Procurement under this Credit is more than a year behind schedule because of delay in appointing an expert to assist with preparation of bidding documents. UK Government has recently provided consultants for this purpose and procurement is expected to start soon. In June 1975 HMG introduced an important institutional change by converting the Nepal Telecommunications Board into an independent Corporation. This is expected to facilitate decision making within the institution.

Credit No. 470      Water Supply and Sewerage Project US\$7.8 million Credit  
of May 8, 1974; Effective Date: June 26, 1974  
Closing Date: June 30, 1978

The Water Supply and Sewerage Board was established and work on the project started with minor delay. Project implementation is now proceeding satisfactorily with approximately 20% of the contracts awarded. Because of recent price escalations, large cost overruns are expected which will be partially met by financing the technical assistance component of the project through UNDP grants. In 1976 when the major tender prices are known, the Government will decide whether to finance the remaining cost overruns or reduce the scope of the project. The project is expected to be completed by June 1978.

Credit No. 505      Settlement Project US\$6.0 million Credit of August 14,  
1974; Effective Date: February 20, 1975; Closing  
Date: July 15, 1982

Project implementation is more than a year behind schedule due to delays in signing and making the credit effective. Subsequent delays were also encountered in preparing bidding documents which required more intensive supervision and assistance by Association staff; procurement procedures are now being speeded up. Bids for various types of equipment have been received and are now being evaluated by the Government.

NEPAL - KULEKHANI HYDROELECTRIC PROJECT

CREDIT AND PROJECT SUMMARY

Borrower: His Majesty's Government of Nepal

Executing Agency: The Electricity Department of the Ministry  
of Water and Power

Beneficiary: Nepal Electricity Corporation

Terms: Standard

Terms to Beneficiary: 25 years with interest at 8-1/2% per annum

Project Description: The project consists of:

- (1) a rock-fill dam of 107 m in height;
- (2) an intake structure;
- (3) a headrace tunnel;
- (4) a surge tank;
- (5) a penstock;
- (6) an underground powerhouse containing two  
30 MW turbo-generating units;
- (7) a tailrace tunnel;
- (8) associated transmission and substation  
facilities.

Project Costs:

	(In US\$ Million)		
	<u>Foreign</u>	<u>Local</u>	<u>Total</u>
1. Preliminary Works	0.5	0.3	0.8
2. Resettlement	-	0.6	0.6
3. Civil Works	22.5	4.5	27.0
4. Equipment	9.0	1.2	10.2
5. Engineering Services	2.7	0.3	3.0
6. General Expenses	-	1.0	1.0
7. Taxes and Duties	-	0.2	0.2
8. Contingencies			
Physical	2.9	0.6	3.5
Price	<u>18.9</u>	<u>2.8</u>	<u>21.7</u>
TOTAL PROJECT COST	56.5	11.5	68.0

Financing Plan:

	(In US\$ Million)		
	<u>Foreign</u>	<u>Local</u>	<u>Total</u>
OECF Loan (Electromechanical Equipment and Transmission and Substation Facilities)	10.0	-	10.0
IDA Credit (Civil Works for main dam and spillway)	26.0	-	26.0
Kuwait Fund Loan (Metal Works and Civil Works other than main dam and spillway)	15.9	-	15.9
UNDP Grant (Engineering Services)	2.7	0.3	3.0
HMG	<u>1.9</u>	<u>11.2</u>	<u>13.1</u>
TOTAL	<u>56.5</u>	<u>11.5</u>	<u>68.0</u>

Estimated Disbursements:

<u>Fiscal Year</u>	<u>Annual</u>	<u>Cumulative</u>
	(US\$ 000's)	
1977	3,700	3,700
1978	3,600	7,300
1979	8,000	15,300
1980	8,200	23,500
1981	2,500	26,000

Procurement and

Disbursement Arrangements: Civil works contract would be awarded on the basis of international competitive bidding. The proposed credit would be disbursed against 100% of foreign exchange component of civil works financed by IDA.

Consulting Services:

Nippon Koei Co., Ltd. of Japan has been retained as the Consultants to provide services for field investigation, detailed design, preparation of specifications and tender documents, procurement and construction supervision of the project, with the Bank as the Executing Agency of UNDP technical assistance.

Rate of Return:

10.7%.

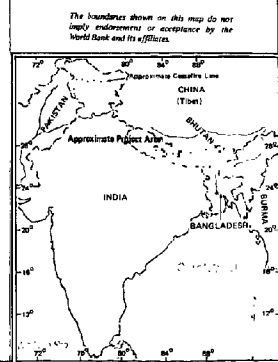
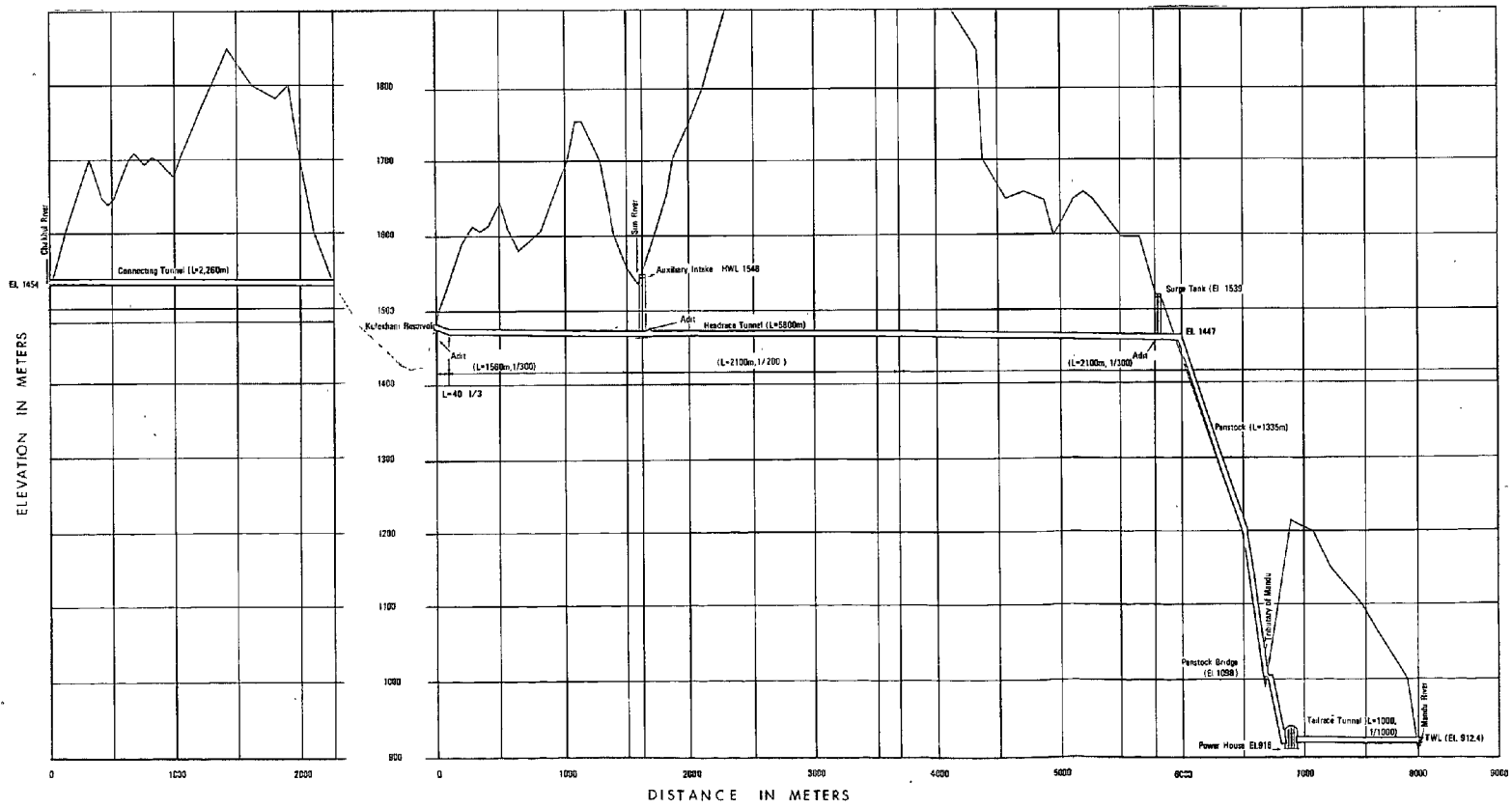
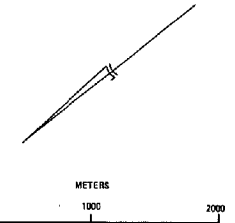
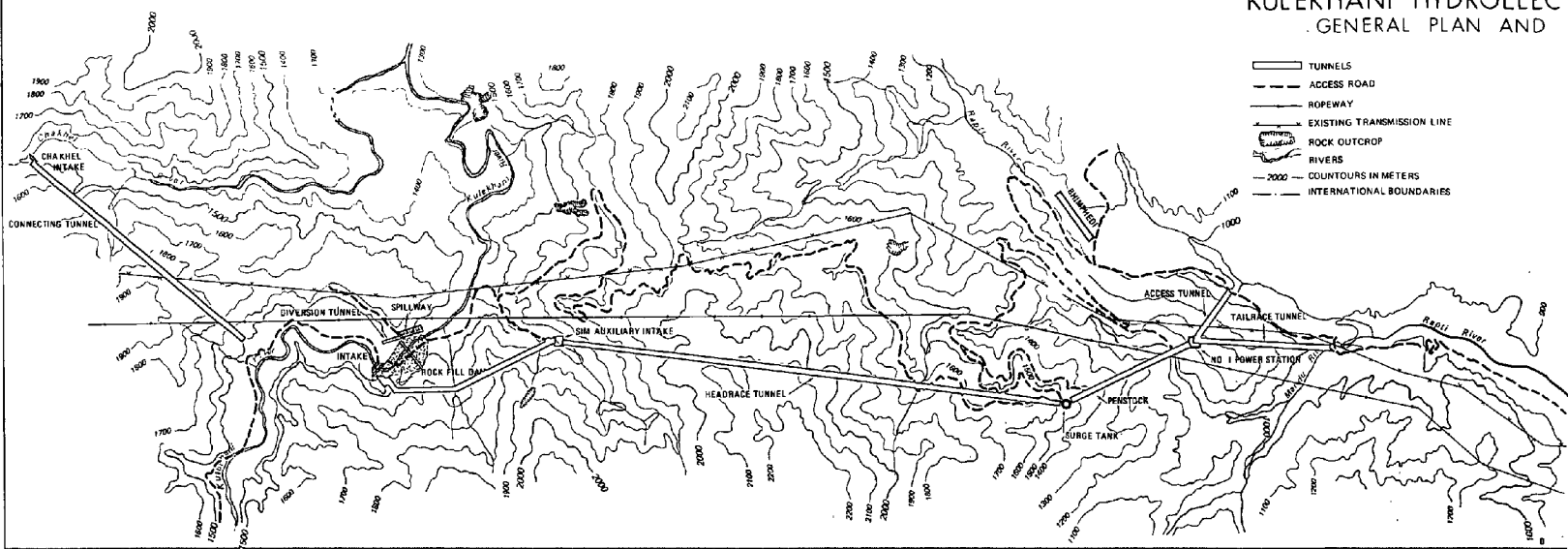
Appraisal Report:

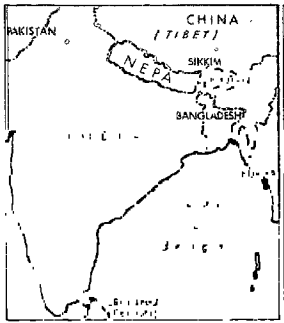
Report No. 833-NEP, dated November 25, 1975.



# KULEKHANI HYDROELECTRIC PROJECT GENERAL PLAN AND PROFILE

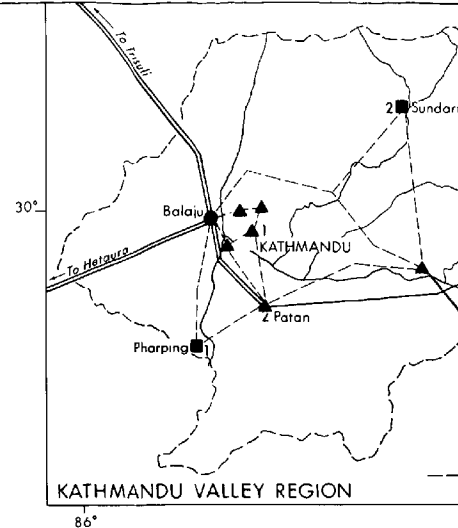
- TUNNELS
- ACCESS ROAD
- ROPEWAY
- EXISTING TRANSMISSION LINE
- ROCK OUTCROP
- RIVERS
- CONTOURS IN METERS
- INTERNATIONAL BOUNDARIES





# NEPAL

## LOCATION OF EXISTING AND FUTURE POWER INSTALLATIONS



**EXISTING MAJOR THERMAL POWER STATIONS**

No	Kind of prime mover	Capacity (KW)	Owner or name of power station
1	DIESEL	1,700	N.E.C. MAHENDRA
2	DIESEL	1,490	N.E.C. PATAN
3	DIESEL	4,470	N.E.C. HETAUDA
4	DIESEL	600	N.E.C. BHARATPUR
5	STEAM TURBINE	1,500	BIRGANJ SUGAR FACTORY
6	DIESEL	572	JANAKPUR CIGARETTE FACTORY
7	DIESEL	750	ELECTRICITY DEPARTMENT, JANAKPUR
8	DIESEL	1,434	E. E. C. BIRATNAGAR
9	DIESEL	850	BIRATNAGAR JUTE MILL
9	STEAM TURBINE	1,400	BIRATNAGAR JUTE MILL
10	DIESEL	337	RAGHUPATI JUTE MILL
11	DIESEL	356	DUBE STRAW BOARD
12	DIESEL	200	E. E. C. DHARAN
13	DIESEL	1,200	ENGLISH MILITARY CAMP IN DHARAN
14	STEAM TURBINE	600	MAHENDRA SUGAR MILL BHAIRAHAWA
15	DIESEL	500	ELECTRICITY DEPARTMENT BHAIRAHAWA
16	DIESEL	225	BUTWAL POWER CO
17	DIESEL	305	ELECTRICITY DEPARTMENT, TANSING
18	DIESEL	500	ELECTRICITY DEPARTMENT NEPALGUNJ
19	DIESEL	185	ELECTRICITY DEPARTMENT KRISHNANAGAR

**HYDRO POWER STATION (UNDER CONSTRUCTION)**

Name of power station	Capacity (MW)
GANDAK	15

**HYDRO POWER STATION (CONTEMPLATED)**

Name of power station	Capacity (MW)
DEVIGHAT	14
KULEKHANI	60

**HYDRO POWER STATION (STUDIED AND PROPOSED)**

Name of power station	Capacity (MW)
1. CHISAPANI	1,800
2. LAKARPATA	1,421
3. SURKHET	940
4. THAPPA	949
5. SETI	395
6. BANAKOT	1,136
7. POLIDARNI	41
8. SAMILA	45
9. RAMNI	20
10. JUBITHAN	18

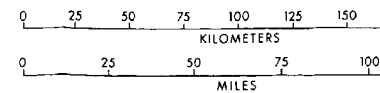
**EXISTING HYDRO POWER STATIONS**

No	Name of the power station	Capacity (KW)	River basin	Owner
1	PHARPING	500	BAGMATI	N. E. C.
2	SUNDARIJAL	640	BAGMATI	N. E. C.
3	PANAUTI	2,460	SUNKOSI	N. E. C.
4	TRISULI	18,000	GANDAKI	N. E. C.
5	SUNKOSI	10,050	SUNKOSI	E. O.
6	POKHARA	1,000	GANDAKI	E. O.
7	TINAU	550	TINAU	B. P. C.
8	DHANKUTA	240	DHANKUTA	E. E. C.

**(Others)**

Name of power station	Capacity (MW)
KANKAI	35
DEVGHAT	150
KALIGANDAKI	—
<b>TOTAL</b>	<b>8,765</b>

- ▲ Thermal power stations (existing)
- Hydro power stations (existing)
- Hydro power station (under construction)
- Contemplated hydro electric projects
- Hydro power stations (studied and proposed)
- 132 KV transmission line (under construction)
- 66 KV transmission lines (existing)
- 33 KV transmission lines (existing)
- - - 33 KV transmission line (under construction)
- - - 11 KV transmission lines (existing)
- ↔ Power export and imports
- Zonal headquarters
- ..... Zonal boundaries
- International boundaries
- Rivers



The boundaries shown on this map do not imply endorsement or acceptance by the World Bank and its affiliates