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Report No. P-5673-NEP

MEMORANDUM AND RECOMMENDATION

OF THE

PRESIDENT OF THE

INTERNATIONAL DEVELOPMENT ASSOCIATION/IDA

TO THE

EXECUTIVE DIRECTORS

ON A

PROPOSAL OF CREDIT

IN THE AMOUNT EQUIVALENT TO SDR 40.1 MILLION
(US\$55.0 MILLION EQUIVALENT)

TO

HIS MAJESTY'S GOVERNMENT OF

NEPAL

FOR A

FIFTH TELECOMMUNICATIONS PROJECT

APRIL 9, 1992

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CURRENCY EQUIVALENTS

(As of September 1991)

Currency Unit	-	Nepalese Rupee (Nrs)
US\$1.00	-	Nrs 42.3
Nrs 1,000	-	US\$ 23.6
Nrs 1	-	100 paisa

FISCAL YEAR

July 16 - July 15

ABBREVIATIONS AND ACRONYMS

DANIDA	-	Danish International Development Agency
EIRR	-	Economic Internal Rate of Return
FINNIDA	-	Finnish International Development Agency
FIRR	-	Financial Internal Rate of Return
IBRD	-	International Bank for Reconstruction and Development
ICB	-	International Competitive Bidding
ITU	-	International Telecommunications Union
ISD	-	International Subscriber Dialing
HF	-	High Frequency (3 - 30 Mhz)
JICA	-	Japan International Cooperation Agency
LCB	-	Local Competitive Bidding
MARTS	-	Multiple Access Radio Transmission Systems
MOC	-	Ministry of Communications
NTC	-	Nepal Telecommunications Corporation
O&M	-	Operations and Maintenance
PABX	-	Private Automatic Branch Exchange
PCO	-	Public Call Office
STD	-	Subscriber Trunk Dialing
UNDP	-	United Nations Development Program
VHF	-	Very High Frequency (30 -300 Mhz)

NEPALFIFTH TELECOMMUNICATIONS PROJECTCredit and Project Summary

Borrower: His Majesty's Government of Nepal (HMG)

Beneficiary: Nepal Telecommunications Corporation (NTC)

Amount: SDR40.1 million (US\$55.0 million equivalent)

Lending Terms: Repayable over 40 years, including 10 years of grace on repayment of principal.

Relending Terms: HMG would relend the funds to NTC in US\$ terms at a variable interest rate based upon the six month LIBOR plus a spread of 3.5%

Financing Plan:

	(US\$ million)		
	<u>Local</u>	<u>Foreign</u>	<u>Total</u>
Denmark	0.0	18.0	18.0
Finland	0.0	11.0	11.0
Japan	0.0	8.5	8.5
Nepal (NTC)	25.5	6.0	31.5
IDA	0.0	55.0	55.0
Total Financing	<u>25.5</u>	<u>99.5</u>	<u>124.0</u>

Rate of return: 22%

Staff Appraisal Report: 10062-NEP

Map: IBRD No. 23473

**MEMORANDUM AND RECOMMENDATION OF THE PRESIDENT
OF IDA TO THE EXECUTIVE DIRECTORS
ON A PROPOSED CREDIT TO NEPAL
FOR A FIFTH TELECOMMUNICATIONS PROJECT.**

1. I submit for your approval the following report and recommendation on a proposed development credit to Nepal for SDR40.1 million (US\$55.0 million equivalent), on standard IDA terms with maturity of 40 years to help finance a fifth telecommunications project. The proceeds of the credit would be relent to the Nepal Telecommunications Corporation (NTC) for 15 years, including five years of grace, with variable interest based upon the six month LIBOR plus 3% per annum. DANIDA, FINNIDA and JICA are co-financing this project through grants to His Majesty's Government (HMG). DANIDA and FINNIDA grants will be on-lent to NTC on terms similar to this IDA credit; the JICA grant will be passed on as an HMG equity contribution.

2. Country/Sector Background. Over the past decade HMG has increasingly recognized the important role which effective telecommunications play in political, social and economic development. Given Nepal's mountainous terrain and Kathmandu Valley's separation from the densely populated areas of the Terai near the India Border, telecommunications has become a vital element in government administration and commercial operations. Furthermore, during the late 1980's, an estimated 9%-10% p.a. of Nepal's foreign exchange earnings (excluding foreign aid) was derived from tourism for which telecommunications is of primary importance. Currently Nepal has one of the lowest densities of telecommunications service in Asia, although from 1985 to 1990 services grew at a rate of 22% p.a. This relatively high growth was mainly the result of the low starting base. Despite low service penetration, the facilities provided are generally modern and perform reasonably well because of the sector's relatively recent development.

3. The Ministry of Communications (MOC) is responsible for communications in Nepal. Under this Ministry different services are provided by the Nepal Television Corporation (NTVC), the Postal Service Department, the Broadcasting Services Development Committee (BSDC), and the Nepal Telecommunications Corporation (NTC). NTC is responsible for all public telecommunications services. While dedicated networks by other public sector entities are not prohibited, no other entity owns or operates dedicated network facilities of significant size. NTC's operational and project performance has been gradually improving, primarily due to the efforts of top management and support from HMG. NTC has consistently met or exceeded its covenanted target of achieving a 12% financial rate of return; increases in telephone tariffs adopted in November 1991 in accord with IDA recommendations are expected to provide a basis for NTC's continued satisfactory financial performance. However, there is still much room for further improvement, and consultants contracted under the ongoing IDA telecommunications project have highlighted the need for: (a) extensive improvements in management techniques and systems because of the sixfold increase in assets and the rapid change in technology; and (b) reviewing the existing tariff structure and level, because domestic rates have been virtually unchanged for five years, while the relatively high international rates have been adjusted with the exchange rate variation, leading to low local and high international rates.

4. Against this background HMG has tentatively set two major targets for telecommunications development in Nepal: (a) to significantly extend reliable telecommunications services to all districts, and (b) to increase telephone density to one telephone (about 0.8 telephone lines) per 100 population by the year 2000. Although their achievement is unlikely to satisfy demand fully, these appear to be reasonable, viable targets. The targeted density of 0.8 telephone lines per 100 population would require installation of 129,000 lines during 1991-2000.

5. Project Objectives. In preparation of its Eighth Five Year (1992-1997) development plan HMG has proposed an investment project that would support the expansion of the country's telecommunications system, strengthen NTC's institutional capacity and fund NTC's investment program for FY91-FY95. To achieve this the project aims to: (a) increase the proportion of telecommunications services demand met in urban areas; (b) provide modern telecommunications facilities in all 75 districts and some 30 sub-districts and provide 60,250 new lines by 1996; (c) improve the performance quality of the telecommunications services; (d) further strengthen NTC's management capabilities and systems; (e) maintain and improve NTC's financial performance; and (f) assist HMG to review the appropriateness of the sector structure and develop a plan for reform.

6. Project Description. The proposed project, to be implemented over six years, would consist of two components. The investment component (US\$112.5 million, including contingencies) and includes provision of Equipment & Services and Civil Works, in particular: (a) telephone switching exchange, outside plant and ancillary equipment to connect about 60,000 new telephone lines, in both urban and rural areas, (b) digital transmission links to replace the old Pokhara-Nepalgunj analog link in the main transmission network and to extend secondary and rural transmission links to new districts, (c) equipment to extend data and text services as appropriate throughout Nepal and potentially to all 75 districts, and (d) switching and transmission equipment to extend nation-wide and international subscriber trunk dialing. The second component would provide technical assistance funding of US\$4.0 million (including contingencies) for (a) NTC institutional strengthening (US\$2.7 million, of which US\$0.2 million are financed by IDA, remaining amount is financed by DANIDA and FINNIDA), including consultant services to support improving the integration between technical and financial areas, creating a corporate data base which would form the base for billing, accounting and operational processes, and strengthening corporate management through appropriate training, and (b) a sector organization sub-component (US\$0.3 million) in which the sectoral structure would be analyzed by consultants, following which IDA would assist HMG to develop and implement an appropriate sector reform program. Key sectoral issues to be reviewed include: the institutional framework for developin; and reviewing sector policy and structure; private and public sectors' roles in delivering telecommunications services; sector regulation; and provision of social and remote area services.

7. The total project cost is estimated at US\$116.5 million equivalent (including contingencies and excluding interest during construction), with a foreign exchange component of US\$97.5 million (84%). A breakdown of costs and

financing plan are shown in Schedule A. Amounts and methods of procurement and of disbursements, and the disbursement schedule, are shown in Schedule B. A timetable of key project processing events and the status of Bank Group operations in Nepal are given in Schedules C and D, respectively. A map highlighting the project areas, IBRD No. 23474, is attached. The Staff Appraisal Report No. 10062-NEP dated April 8, 1992 is being distributed separately.

8. Project Implementation. As with previous projects, NTC will undertake all technical construction related to the project. Where equipment installation and operations procedures are new to NTC, suppliers will be contracted to provide training to NTC staff and to supervise the installation and initial operation of their respective equipment. NTC will contract out civil works for buildings, outside plant ducts and some transmission tower works. NTC will be assisted in detailed engineering by suppliers and consultants. For switching equipment, suppliers will undertake detailed engineering, and IDA/NTC have already engaged an independent consultant, funded under IDA's Trust Fund, to help with tender preparation, evaluation and technical contract negotiations. FINNIDA will engage a consultant to help NTC with specifications and path designs for the more complex transmission systems. Consultant support is already being provided by DANIDA to help NTC with detailed planning and engineering of outside plant; additional consultant support is to be provided to help supervise construction. Furthermore, a project supervision consultant engaged by DANIDA and managed by IDA would assist NTC to develop and integrate its implementation plans and undertake detailed technical supervision of the project to supplement IDA, DANIDA and FINNIDA supervision resources.

9. Goods and services to the value of 87% of the credit would be procured using IDA's ICB procedures; for the remainder, direct purchase would be used to procure proprietary equipment and international and local shopping for minor items. Consultants would be engaged under IDA's Guidelines.

10. Project Sustainability. The project is expected to be fully sustainable because (a) tariffs have been set to realize a satisfactory rate of return above the cost of capital, (b) it is one of a series of previously successful projects, (c) the new networks will be built on a sound, modern infrastructure base with proven technology, (d) NTC is a relatively competent organization, and (e) related institutional development will further enhance NTC's ability to operate and maintain the project's facilities.

11. Lessons Learned from Previous IDA Involvement. IDA's involvement in Nepal's telecommunications sector began in 1969 with a credit of \$1.7 million (Credit 166-NEP of November 1969). Since then IDA has financed three more operations: Credit 397-NEP for \$5.5 million in June 1973, Credit 799-NEP for \$14.5 million in August 1978 and Credit 1588-NEP for \$22 million in April 1986 (the ongoing Fourth Project). The June 1988 PCR for Credits 397-NEP and 799-NEP rated these projects as successful, with significant contributions to the development of physical facilities, improvements of the quality of the telecommunications services and institutional development of NTC. The main implementation constraints were delays in start-up, in deciding on new technologies, in arranging financing and in the commissioning of some systems. From the earlier projects, important lessons incorporated into the design of the

proposed project were to (i) make more realistic implementation schedules, (ii) assist NTC in making organizational changes before the project starts, (iii) advance planning for procurement to facilitate timely implementation, and (iv) help NTC finalize financing arrangements in time for project implementation.

12. Rationale for IDA Involvement. Under the earlier projects IDA played a significant role in the sector's evolution and provided a coordinating focus for assistance from other sources. HMG values this leadership role (in both assisting HMG to develop sector policy and mobilizing funds). Thus IDA's continued involvement would help achieve several important objectives in the development of Nepal's telecommunications sector. First, it would broaden the focus of reform to examine the sector's overall organization. The proposed project is part of IDA's proposed long-term involvement in the sector intended to make it a contributor to sustained economic growth, a positive agent in the country's socio-economic development and largely self-reliant for meeting its investment needs. IDA's cross-country experience in the telecommunications sector in developing countries is directly relevant in advising HMG on sector structure, management and organization, financial relations with the operating entity, tariff structure, level and adjustment policies, and the timing and opportunity for introducing elements of competition and private sector participation. Second, IDA involvement would assist HMG maintain a necessary balance between physical and institutional development of NTC. IDA involvement would provide NTC with assistance for its institutional development -- in particular, strengthening of planning and project management, management training, extension of the use of computers for daily operations, and general strategic-technical guidance. Finally, IDA involvement would also contribute to economy in investment costs of equipment through procurement pre-planning and the use of ICB for IDA-financed items and ICB prices as a benchmark for other procurement.

13. Agreed Actions. NTC has agreed to (a) implement, December 15, 1993 a revised organization structure and review and improve its human resource management arrangements; (b) appoint by June 30, 1993, management consultants, acceptable to IDA, for initiating and implementing a management development program; (c) furnish to IDA for each year beginning 1993, unaudited financial accounts by January 15, and audited financial statements and accounts by July 15 of the following year; (d) review annually with IDA progress on its institutional development program (IDP) and performance against agreed operational targets and take appropriate measures identified in those reviews to improve the IDP or its operational performance; and (e) ensure its annual rate of return on revalued assets is at least 12% after tax and before interest. Additionally, HMG has agreed to (a) implement a detailed action plan for preventing the accumulation of new arrears and eliminate arrears annually through a credit arrangement in relation to NTC's payments to HMG and (b) engage consultants, by December 15, 1992, to review the sector's structure and policies and, based on the consultants' report and with IDA assistance, develop and implement an appropriate sector reform program. During negotiations, the understanding was reached that, HMG/NTC will engage a consultant in time to prepare a report reviewing the tariff structure by December 15, 1993, and that the joint review, by IDA and HMG/NTC, of the consultant's recommendations will take place during the first quarter of 1994. Conditions of effectiveness are (a) the signing of a Subsidiary Credit

Agreement between HMG and NTC acceptable to IDA, including on-lending arrangements for the proceeds of the IDA credit to NTC; and (b) that IDA should have received for its approval bid documents for the procurement of switching equipment.

14. Environmental Aspects. The proposed project would not have a significant environmental impact, as construction would be limited to some minor site clearing and access roads needed to reach transmission tower sites. Road and verge surfaces will be effected by the laying of ducts for underground cable, but IDA will ensure that civil works contracts require full surface restoration. The disruption of virgin land is expected to be minimal.

15. Project Benefits. The proposed project's benefits would accrue to all sectors of the economy through improved access to telecommunications facilities and improved service quality. Users would benefit from the almost doubling in access, from 77,700 installed lines to 138,500 installed lines, and around 50,000 new subscribers would gain access to the network. Additionally, business activities would benefit from expanded transmission facilities for data and information. Extended facilities would widen the reach of emergency and government services and add to the quality of life. HMG would also benefit, first as a user of the services, and second through increased transfers from the sector. Grants from DANIDA and FINNIDA would be on-lent to NTC on commercial terms, generating an inflow of funds to HMG. Furthermore, increased payments from NTC to HMG for sales tax and income tax would add to total net transfers of around US\$104 million in the period 1992-2000 (equivalent to 2.5 years of NTC revenues). Continued emphasis on NTC's institutional strengthening would improve its performance as an effective telecommunications entity operating on a sound commercial basis, increasing its responsiveness to users and the cost effectiveness of its investment, as shown by a projected economic internal rate of return of 22%.

16. Risks. The project has been designed to minimize technical risks. However, implementation, and hence project benefits, would be impacted by delays in procurement and shortfalls in NTC's institutional capacity to implement the project. These risks have been recognized and actions initiated to minimize their impact: the various consultancies referred to in para. 8.

17. Recommendation. I am satisfied that the proposed credit would comply with the Articles of Agreement of the Association and recommend that the Executive Directors approve it.

Lewis T. Preston
President

Attachments

Washington, D.C.
April 9, 1992

NEPAL
Fifth Telecommunications Project
Estimated Costs and Finance Plan

Estimated Costs:

	Local	US\$ Million Foreign	Total
Equipment & Services	5.4	80.0	85.5
Civil Works	9.0	5.0	14.0
Consultancy	0.0	3.0	3.0
Total Base Cost	14.5	88.0	102.5
Physical Contingency	1.5	4.5	6.0
Price Contingency	3.0	5.0	8.0
Total Project Cost /a	19.0	97.5	116.5
Int. During Construction (IDC)	6.5	1.0	7.5
Total Financing Required	25.5	98.5	124.0

/a The project cost includes an estimated US\$1.3 million equivalent in duties.

Financing Plan:

Source of Financing	Local	US\$ Million Foreign	Total
Denmark	0.0	18.0	18.0
Finland	0.0	11.0	11.0
Japan	0.0	8.5	8.5
Nepal (NTC)	25.5	6.0	31.5
IDA	0.0	55.0	55.0
Total Financing	25.5	98.5	124.0

NEPAL
Fifth Telecommunications Project
Summary of Procurement Arrangements
(US\$ million)

Project Element	Procurement Method			N.B.F	Total
	ICB	LCB	Other		
1. Equipment:					
Telephone Exchanges	24.5 (24.5)		3.0 (3.0)	2.5	30.0 (27.5)
Transmission Equipment	4.0 (4.0)		2.5 ^a (2.5)	21.0	27.5 (6.5)
Outside Plant	13.0 (13.0)			17.0	30.0 (13.0)
Customer Premises Equipment	2.5 (2.5)				2.5 (2.5)
Office & Training Equipment			1.0 ^c (1.0)		1.0 (1.0)
Power Equipment, Vehicles & Miscellaneous	4.0 (4.0)				4.0 (4.0)
2. Civil Works:					
Outside Plant Ducting				7.0	7.0
Buildings and Sites				10.5	10.5
3. Consultancies:					
Technical Assistance			0.5 (0.5)	3.5	4.0 (0.5)
Total	48.0 (48.0)	0.0 0.0	7.0 (7.0)	61.5	116.5 (55.0)

NOTE: Figures in parentheses are the respective amounts financed by the IDA credit. N.B.F.: Not Bank Financed. Costs are rounded to nearest 0.5 million.

- a. Includes Direct purchase, international and local shopping, IDA procedures for selection of consultants, expenditures on engineering and administrative overheads and custom duties of the order of US\$1.3 million.
- b. Includes direct purchase of proprietary Multi Access Radio equipment (US\$1.2 million), equipment to extend existing PCM, microwave systems and earth station facilities (US\$ 1.6 million).
- c. Includes computers, copiers, printers and other miscellaneous office and training equipment to be procured under international and local shopping (US\$0.8 million).

Disbursement

<u>Category</u>	<u>Amount</u>	<u>% of Expenditure to be Financed</u>
(1) Equipment and materials	32.9	100% of foreign expenditures, 100% of local expenditures (ex-factory cost) and 80% of local expenditures for other items procured locally
(2) Consultants' services	0.3	100%
<hr/>		
Total	33.2	

Estimated IDA Disbursement:

	<u>IDA Fiscal Year</u>					
	<u>1993</u>	<u>1994</u>	<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>1998</u>
	<hr/> (US\$ million) <hr/>					
Annual	5.5	11.0	13.5	11.0	6.0	8.0
Cumulative	5.5	16.5	30.0	41.0	47.0	55.0

Schedule C.

NEPAL
Fifth Telecommunications Project

Timetable of Key Project Processing Events

-
- (a) Time taken to prepare the project. 18 months
- (b) Prepared by: NTC with IDA, DANIDA, FINNIDA, JICA and ITU assistance
- (c) First IDA mission: November 1989
- (d) Appraisal mission departure: June 30, 1991
- (e) Negotiations: January 1992
- (f) Planned date of effectiveness: September 1992
- (g) List of relevant PCRs and PPARs:

<u>Credit No.</u>	<u>Project</u>	<u>PCR/PCR Date</u>
166-NEP	First Telecom.	PPAR No. 1843 December 29, 1977
397-NEP	Second Telecom.	PCR No. 7757 April 28, 1989
799-NEP	Third Telecom.	PCR No. 7757 April 28, 1989

THE STATUS OF BANK GROUP OPERATIONS IN NEPAL

A. STATEMENT OF BANK LOANS AND IDA CREDITS a)

(As of December 31, 1991)

Credit No.	Fiscal Year	Borrower	Purpose	Amount in US\$ million (less cancellations)		
				Bank	IDA	Undisbursed
35 credits have been fully disbursed					377.95	
Of which SECALs, SALs and Program Loans b)						
Cr. 1769-NEP	1987	Nepal	Structural Adjustment	0.00	50.00	
Sub-Total				0.00	50.00	
Cr. 1198-NEP	1982	Nepal	Education II		14.30	4.11
Cr. 1400-NEP	1984	Nepal	Forestry II (Terai)		7.38	5.52
Cr. 1463-NEP	1984	Nepal	Education III (Primary)		9.61	5.21
Cr. 1478-NEP	1984	Nepal	Power II (Marsyangdi)		107.00	51.11
Cr. 1515-NEP	1985	Nepal	Highways III		47.50	30.20
Cr. 1534-NEP	1985	Nepal	Agricultural Manpower		8.40	6.73
Cr. 1535-NEP	1985	Nepal	Industrial Development		7.50	3.30
Cr. 1570-NEP	1985	Nepal	Agricultural Extension II		7.20	7.16
Cr. 1588-NEP	1985	Nepal	Telecommunications IV		22.00	17.81
Cr. 1696-NEP	1986	Nepal	Cottage & Small Industries		10.00	6.41
Cr. 1715-NEP	1986	Nepal	Narayani Irrigation III		24.50	22.44
Cr. 1727-NEP	1987	Nepal	Rural Development III		19.10	19.67
Cr. 1814-NEP	1987	Nepal	Sunary-Morang II		40.00	26.98
Cr. 1902-NEP	1988	Nepal	Third T.A. (Pancheswar)		14.40	3.32
Cr. 1922-NEP	1988	Nepal	Road Flood Rehabilitation		15.50	13.02
Cr. 1924-NEP	1988	Nepal	Mahakali Irrigation II		41.30	27.10
Cr. 1989-NEP	1989	Nepal	Municipal Dev & Earthquake		41.50	22.30
Cr. 2029-NEP	1989	Nepal	Hill Community Forestry		30.50	29.87
Cr. 2029-NEP	1989	Nepal	Arun III Access Road		32.80	34.89
Cr. 2044-NEP	1989	Nepal	Engineering Education		11.40	11.90
*Cr. 2046-NEP	1989	Nepal	Structural Adjustment II		60.00	22.17
Cr. 2047-NEP	1989	Nepal	Earthquake School Rehab		22.80	21.20
Cr. 2144-NEP	1990	Nepal	Bhairawa Lumbini III		47.20	49.70
Cr. 2239-NEP c)	1991	Nepal	Urban Water and Sanitation Rehab.		60.00	65.06
Total				0.00	1079.84 d)	507.18 d)
of which has been repaid					11.42	
Total now held by Bank and IDA				0.00	1068.42	
Amount sold						
of which repaid						
Total undisbursed						507.21

a) No Bank loans have been made to Nepal.

b) Approved during or after FY80.

c) Not yet effective.

d) The principal amounts of IDA credits are shown in US Dollar equivalent at date of negotiations, as shown in the President's Report. Undisbursed amounts shown in US Dollar equivalent are valued at the exchange rate applicable on the date of this statement. In some cases, therefore, the undisbursed balance indicates a dollar amount greater than the original principal credit amount expressed in dollars.

* SAL, SECAL or Program Loan.

STATEMENT OF IFC INVESTMENTS
(As of December 31, 1991)

<u>Investment Number</u>	<u>Fiscal Year</u>	<u>Obligor</u>	<u>Type of Business</u>	<u>Loan</u>	<u>Equity (US\$ Million)</u>	<u>Total</u>
312	1976	Socitex Hotel (Private) Ltd.	Hotel	2.70	0.48	3.18
624	1992	Nepal Orind Magnesite (Private) Ltd.	Mine and Process Magnesite Ore	4.97	-	4.97
<u>Total Gross Commitments</u>				<u>7.67</u>	<u>0.48</u>	<u>8.10</u>
Less Cancellations, terminations, repayment and sales				<u>3.38</u>	<u>-</u>	<u>3.38</u>
<u>Total Commitments now held by IFC a)</u>				<u>4.29</u>	<u>0.48</u>	<u>4.72</u>
<u>Total Undisbursed (Including Participants' portion)</u>						<u>-</u>

a) Exchange adjustments account for variation in total gross commitments, less cancellations, etc., and total commitments now held by IFC.

MAP SECTION

NEPAL FIFTH TELECOMMUNICATION PROJECT

