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MEMORANDUM AND RECOMMENDATION
OF THE
PRESIDENT OF THE
INTERNATIONAL DEVELOPMENT ASSOCIATION
TO THE
EXECUTIVE DIRECTORS
ON A
PROPOSED CREDIT
OF SDR 17.6 MILLION
TO THE
KINGDOM OF NEPAL
FOR AN
EARTHQUAKE EMERGENCY
SCHOOLS REHABILITATION PROJECT

MAY 31, 1989

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CURRENCY EQUIVALENTS
(As of March 01, 1989)

Currency Unit	-	Nepalese Rupee (NR)
US\$1.00	-	NRs 26.5
NR 1.00	-	US\$ 0.038
NRs 1 million	-	US\$37,736

WEIGHTS AND MEASURES

<u>Metric</u>	<u>British/US Equivalent</u>
1 meter (m)	3.28 feet (ft)
1 kilometer (km)	0.62 miles (mi)
1 hectare (ha)	2.47 acres (ac)
1 square kilometer (km ²)	247 acres (ac)

LIST OF ABBREVIATIONS

EAARRP	-	Earthquake Affected Areas Reconstruction and Rehabilitation Project
HMG	-	His Majesty's Government
MOEC	-	Ministry of Education and Culture
MHPP	-	Ministry of Housing and Physical Planning
SRU	-	Schools Rehabilitation Unit (under EAARRP)

Fiscal Year

July 16 - July 15

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NEPAL

EARTHQUAKE EMERGENCY SCHOOLS REHABILITATION PROJECT

Credit and Project Summary

Borrower: The Kingdom of Nepal
Amount: SDR 17.6 million (US\$22.8 million equivalent)
Terms: Standard, with 40 years maturity
Financing Plan:

	US\$ Millions
Government	3.7
Local Communities	3.7
IDA	<u>22.8</u>
Total	<u>30.2</u>

Economic Rate of Return: Not applicable
Staff Appraisal Report: None. Technical Annex attached in lieu.
Map: IBRD No. 21552

**MEMORANDUM AND RECOMMENDATION OF THE PRESIDENT
OF THE INTERNATIONAL DEVELOPMENT ASSOCIATION
TO THE EXECUTIVE DIRECTORS
ON A PROPOSED CREDIT
TO THE KINGDOM OF NEPAL
FOR AN EARTHQUAKE EMERGENCY SCHOOLS REHABILITATION PROJECT**

1. The following memorandum and recommendation on a proposed development credit to the Kingdom of Nepal for SDR 17.6 million (US\$22.8 million equivalent) is submitted for approval. The proposed credit would be on standard IDA terms with a maturity of 40 years. It would help finance the rehabilitation and reconstruction of schools affected by the August 1988 earthquake.
2. **Background.** An earthquake measuring 6.7 on the Richter scale struck parts of Eastern and Central Nepal on August 21, 1988. Over 720 persons died and widespread damage, estimated at that time at NRs 4.2 billion (US\$170 million), occurred to housing, schools, hospitals, public buildings, roads and bridges. More than 2,000 schools were destroyed or seriously damaged and a further 350 affected to varying degrees, some districts reportedly losing all of their schools. Overall, at least 400,000 school children have lost access to regular classroom accommodations. Damage to schools was extensive, attributable largely to poor, mostly traditional standards of construction. Much of the damage sustained could have been avoided through relatively simple improvements in construction techniques.
3. His Majesty's Government (HMG) quickly mounted an initial relief operation for the affected areas, coordinated by the Ministry of Housing and Physical Planning (MHPP). This relief included care for the injured, financial compensation to individuals and communities, and some materials for emergency shelter. HMG's next priority was, understandably, to rehabilitate housing and this is being supported by IDA through a major component attached to the Municipal Development and Earthquake Emergency Housing Reconstruction Project (Credit 1988-NEP). In December 1988, HMG took up IDA's earlier offer of assistance for schools reconstruction. An IDA mission followed shortly thereafter in January-February 1989 to assess damages. The mission found that the cost of schools reconstruction greatly exceeded both the earlier estimates and the potential savings from the ongoing Primary Education Project (Credit 1463-NEP), which had been considered as a likely option for funding schools rehabilitation. As a donors' meeting arranged by IDA in February 1989 failed to elicit any substantial funding for schools rehabilitation, IDA began development of a separate project to meet the emergency short and medium-term schools reconstruction needs.
4. **Rationale for IDA's Involvement.** IDA has had a long-standing development role in Nepal in the education sector and this has included financing for four education projects. Significant progress in enrollment has been achieved since the 1950's, but about two-thirds of the population remains illiterate. In recent years HMG has been allocating an increasing share of the education budget to the expansion and quality improvement of basic education. Nevertheless, since the share of GDP devoted to education is very low (about 2%), the resources are inadequate to meet HMG's goal of

universal primary education by the year 2000, and basic education will continue to require substantial external assistance for the foreseeable future. Diversion of scarce local funding for education to the rehabilitation of schools in the affected areas would disrupt ongoing education programs in other areas of Nepal, and HMG therefore turned to IDA for assistance. Although valuable time has been lost, in assessing the full extent of the earthquake damage, the need remains great and the emergency real. To minimize the period of disruption to schooling, it is now even more important that a major effort be mounted to achieve the greatest possible reconstruction effect during the next 12 months before the start of the 1990 monsoon season. Through its emergency lending procedures, IDA is well placed to rapidly provide this assistance and to allow HMG to focus on the short/medium term reconstruction of damaged schools while maintaining the momentum of longer term programs for providing basic education. A basic education project in support of HMG's longer term efforts is planned for FY91.

5. Project Objectives. The proposed project aims to: (a) provide immediate assistance to HMG in support of its program to reconstruct/rehabilitate about 2,350 schools in the earthquake affected areas of the Eastern and Central Development Regions of Nepal; and (b) introduce earthquake resistant design features into reconstructed school buildings and significantly improve the durability of these facilities.

6. Project Description. The proposed project (US\$30.2 million equivalent) would assist HMG with the reconstruction of about 2,000 destroyed or seriously damaged schools and the repair of a further 350 earthquake affected schools in Eastern and Central Nepal. It would also provide technical assistance to HMG for the engineering design of earthquake resistance measures in the school buildings, for management assistance and for auditing and evaluation. The credit would finance: the provision of basic school structures comprising a roof, permanent floor and sill height perimeter walls; building elements not readily available in communities plus skilled labour and technical supervision for the construction; equipment and supplies for field staff; vehicles for transportation and for selected staff; consultant services; and operating costs associated with project administration. The credit would also finance an estimated 25% of the cost of transporting construction materials from designated depots to building sites and of construction works undertaken by the communities. Community inputs would be in the form of labour for portage, for stock-piling of locally available materials and for labour during construction.

7. Implementation. The proposed project would be executed over a 3-year period by the Ministry of Housing and Physical Planning (MHPP) which has overall responsibility for coordinating the national earthquake relief response. It will benefit from the extensive, functioning, committee structure established shortly after the disaster, by MHPP, at the Central, Regional, District and Local Levels. These committees include representatives from the education sector and meet regularly for reconstruction coordination and monitoring. To oversee project implementation, the proposed project will expand the MHPP's existing

Earthquake Affected Areas Reconstruction and Rehabilitation Project (EAARRP) implementation organization established for housing reconstruction, through the establishment of a separate Schools Rehabilitation Unit (SRU) and including the recruitment of about 500 skilled masons/carpenters to supplement EAARRP field staff of engineers and overseers. Designs for typical school buildings are being prepared by the architectural section of the EAARRP implementation unit. The community participation tradition on which Nepal depends greatly for basic school financing and construction would be maintained in the proposed project. Construction would be undertaken on the basis of agreements with the respective Village Panchayats or School Reconstruction Committees. Technical supervision and lead construction skills would be provided by the SRU. Project management, organization and implementation arrangements have been incorporated into an operational action plan.

8. A breakdown of costs and the financing plan are shown in Schedule A. The proposed IDA credit of SDR 17.6 million (US\$22.8 million equivalent) would finance about 81% of the project net of taxes and duties. HMG will provide US\$3.7 million as counterpart funds plus \$0.4 million which has already been distributed to communities during the immediate post earthquake phase. The community contribution in terms of portorage, construction labour and the supply of locally available materials is estimated at US\$3.7 million equivalent, about 12% of total project costs.

9. The Guidelines for procurement under IBRD loans and IDA credits would be followed for the procurement of goods and works. The Guidelines for the use of consultants by World Bank Borrowers would be followed for retaining consultants. Amounts and methods of procurement and of disbursements and the disbursement schedule are shown in Schedule B. A timetable of key processing events and the status of Bank-Group operations in Nepal are given in Schedules C and D. A Technical Annex and a map are also attached.

10. Agreements Reached. At negotiations, HMG submitted a comprehensive action plan for project implementation, which was reviewed and agreed. HMG further agreed to take the following actions: (a) the submission to IDA of semi-annual revisions of the action plan for the duration of the project; (b) the appointment of consultants by October 15, 1989 to: review management and operating procedures and undertake annual evaluations of project performance, review the earthquake engineering of school designs, and establish the project accounting system and prepare quarterly financial statements; (c) the submission of a model agreement with the Village Panchayats or School Reconstruction Committees for IDA review by October 15, 1989; and, (d) making administrative arrangements for the expeditious release of the proceeds of the credit to the SRU.

11. Credit effectiveness conditions would be the establishment of the Schools Rehabilitation Unit and the appointment of a Project Manager acceptable to IDA.

12. Benefits. The major benefits of the project would be the normalization of education services to over 400,000 students in the affected areas and regained momentum of HMG's basic education program. Since rehabilitated schools would incorporate earthquake resistance features, further benefits would be the reduced danger from earthquakes as well as the improved durability of the strengthened buildings. Lessons learned during project implementation would be applied to the formulation of future education projects, with possible continuation of the organizational framework for future projects.

13. Risks. The major risk is associated with possible delays in the implementation of the project in a large, geographically difficult area over a relatively short (3-year) period. Satisfactory performance is highly dependent on human factors, such as the willingness of mountain and hill communities to provide portage for construction materials and on the motivation of field staff for technical supervision of construction in isolated areas. The risk will be mitigated through close attention to management and organization, by entering into prior agreements with the school communities and by maintaining appropriate salary incentives and working conditions for field staff. A recent development, the trade and transit dispute between Nepal and India, could adversely affect construction materials delivery and delay implementation. However, HMG is making every effort to resolve this matter, and the financial contingencies provided in the cost estimates for the project are expected to cover cost increases that may be caused by delays.

14. 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 the proposed credit.

Barber B. Conable
President

Attachments

Washington, D.C.

May 31, 1989

Schedule A

NEPAL

EARTHQUAKE EMERGENCY SCHOOLS REHABILITATION PROJECT

Estimated Costs and Financing Plan

Estimated Costs: a/

	<u>Local</u>	<u>Foreign</u>	<u>Total</u>
	----- (US\$ Million) -----		
Civil Works	7.8	0.0	7.8
Building Materials, Equipment, and Vehicles	5.2	13.2	18.4
Consultants Services	0.1	0.0	0.1
Project Administration	<u>1.0</u>	<u>0.2</u>	<u>1.2</u>
Base Cost	<u>14.1</u>	<u>13.4</u>	<u>27.5</u>
Physical Contingencies	0.9	0.9	1.8
Price Contingencies	<u>0.5</u>	<u>0.4</u>	<u>0.9</u>
Total Project Costs	<u>15.5</u>	<u>14.7</u>	<u>30.2</u>

a/ Including taxes and duties of about US\$2.0 million.

Financing Plan

	<u>Local</u>	<u>Foreign</u>	<u>Total</u>
	----- (US\$ Million) -----		
Government	3.7	-	3.7
Local Communities	3.7	-	3.7
IDA	<u>8.1</u>	<u>14.7</u>	<u>22.8</u>
Total	<u>15.5</u>	<u>14.7</u>	<u>30.2</u>

Schedule B

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EARTHQUAKE EMERGENCY SCHOOLS REHABILITATION PROJECT
Procurement Method and Disbursements

Project Component	Procurement Method				Total Cost
	ICB	LCB	Other	N.A.	
(US\$ Million)					
Civil Works	-	0.9	2.0	4.9 ^{a/}	7.8
Building Materials Equipment and Vehicles	14.0 (12.5)	8.4 (5.8)	0.7 (0.5)	-	21.1 (18.8)
Consultants Services	-	-	-	0.1 (0.1)	0.1 (0.1)
Project Administration	-	0.1 (0.1)	0.2 (0.1)	0.9 (0.7)	1.2 (0.9)
Total	<u>14.0</u> <u>(12.5)</u>	<u>7.4</u> <u>(5.4)</u>	<u>2.9</u> <u>(2.1)</u>	<u>5.9</u> <u>(1.8)</u>	<u>30.2</u> <u>(22.8)</u>

Note: Figures in parenthesis are the amounts financed by the IDA.

a/ Includes skilled labour and community participation in the form of labour and local materials.

Disbursements

<u>Category</u>	<u>Amount</u> (US\$ Million)	<u>% of expenditures</u> <u>to be financed</u>	
Civil Works			
(a) By contract	0.7	75%	
(b) By communities	1.0	75%	of the Borrower's contribution
(c) By direct labour	1.5	75%	
Building Materials Equipment and Vehicles	16.2	100%	foreign
		100%	local (ex-factory)
		75%	of local expenditures for other locally procured items
Consultants Services	0.1	100%	
Project Administration	0.9	75%	
Unallocated	<u>2.4</u> <u>22.8</u>		

Estimated IDA Disbursements

	IDA Fiscal Year		
	<u>90</u>	<u>91</u>	<u>92</u>
	----(US\$ in Million)----		
Annual	7.0	8.0	7.8
Cumulative	7.0	15.0	22.8

Schedule C

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EARTHQUAKE EMERGENCY SCHOOLS REHABILITATION PROJECT

Timetable of Key Processing Events

- | | | |
|-----|---|--------------------------------------|
| (a) | Time taken to prepare: | Two months (January/February 1989) |
| (b) | Prepared by: | Government in collaboration with IDA |
| (c) | First IDA Mission/Appraisal
Mission departure: | January 25, 1988 |
| (d) | Negotiations: | May 11-16, 1989 |
| (e) | Planned Date of Effec-
tiveness: | August 1989 |
| (f) | List of Relevant PCRSs
and PPARs: | Not applicable |

NEPAL
EARTHQUAKE EMERGENCY SCHOOLS REHABILITATION PROJECT

The Status of Bank Group Operations in Nepal

A. STATEMENT OF CREDITS a/ b/
As of March 31, 1989

No.	Year	Borrower	Purpose	Amount	
				(less cancellations --- US\$ million --- IDA Undisbursed)	
Twenty-seven credits fully disbursed				298.4	-
1055	1980	Kingdom of Nepal	Irrigation (Mahakali)	16.0	.7
1100 e/	1981	Kingdom of Nepal	Agricultural Ext. & Research	17.5	4.4
1101 e/	1981	Kingdom of Nepal	Hill Food Production	6.0	3.7
1198 e/	1982	Kingdom of Nepal	Second Education	14.8	6.1
1260 e/	1982	Kingdom of Nepal	Petro. Exploration Promotion	7.9	2.4
1316 e/	1983	Kingdom of Nepal	Irrig. VI-Bhairawa Lumbini	16.0	5.5
1339 e/	1983	Kingdom of Nepal	Cash Crop Development	6.0	1.7
1379 e/	1983	Kingdom of Nepal	Technical Assistance II	6.0	2.4
1400 e/	1984	Kingdom of Nepal	Second Forestry	16.0	16.9
1452 e/	1984	Kingdom of Nepal	Karnali Preparation	11.0	3.8
1463 e/	1984	Kingdom of Nepal	Primary Education	12.8	10.7
1478 e/	1984	Kingdom of Nepal	Marayangdi Hyrdoelectric Power	107.0	81.2
1515 e/	1985	Kingdom of Nepal	Third Highways	47.5	40.8
1534 e/	1985	Kingdom of Nepal	Agricultural Manpower Dev.	8.4	9.0
1535 e/	1985	Kingdom of Nepal	Industrial Development	7.5	5.2
1570 e/	1985	Kingdom of Nepal	Agricultural Extension II	7.2	8.0
1588 e/	1985	Kingdom of Nepal	Telecommunication IV	22.0	20.9
1696 e/	1986	Kingdom of Nepal	Cottage and Small Ind. II	10.0	8.1
1715 e/	1986	Kingdom of Nepal	Narayani III Irrigation	24.5	27.0
1727 e/	1986	Kingdom of Nepal	Third Rural Development	19.1	20.1
1814 e/	1987	Kingdom of Nepal	Sunsari Morang Irrigation II	40.0	37.2
1902 e/	1988	Kingdom of Nepal	Third Technical Assistance	14.4	13.7
1922 e/	1988	Kingdom of Nepal	Road Flood Rehabilitation	15.5	12.6
1924 e/	1988	Kingdom of Nepal	Mahakali Irrigation II	41.3	38.1
1988 d/	1989	Kingdom of Nepal	Municipal Dev. & Housing Recon.	41.5	39.9
<u>Total</u>				835.8	420.1
of which has been repaid				4.7	
<u>Total now outstanding b/</u> Amount sold				831.1	
<u>Total now held by IDA</u>					
<u>Total undisbursed</u>				831.1	420.1

a/ No Bank loans have been made to Nepal.

b/ Prior to exchange adjustments.

c/ IDA 6th and 7th Replenishment Credits, principal amounts shown in US Dollar equivalent at date of negotiations, as shown in President's Reports, and undisbursed amounts shown in US Dollar equivalents 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.

d/ Not yet effective.

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EARTHQUAKE EMERGENCY SCHOOLS REHABILITATION PROJECT

B. STATEMENT OF IFC INVESTMENTS
(As of March 31, 1989)

Investment No.	Year	Obliger	Type of Business	Amount (US\$ million)		
				Loan	Equity	Total
312	1975	Soaltee Hotel (Private) Ltd.	Hotel	2.7	0.4	3.1
624	1982	Nepal Orind Magnesite (Private) Ltd.	Mine and process magnesite ore	<u>5.0</u>	<u>-</u>	<u>5.0</u>
Total gross commitments				7.7	0.4	8.1
Less cancellations, terminations, repayments and sales				-	-	-
Total commitments now held by IFC				7.7 <u>a/</u>	0.4	8.1
Total undisbursed (including participants' portion)				-	-	-

a/ Exchange adjustment account for variance in total gross commitments, less cancellations, etc., and total commitments now held by IFC.

NEPAL

EARTHQUAKE EMERGENCY SCHOOLS REHABILITATION PROJECT

A. BACKGROUND

1. Although Nepal is a small country (145,391 square kilometers) it contains the greatest altitude variation on earth, and more than a quarter of the land area is above 3,000 meters (9,984 ft.). The topography of Nepal is characterized by its steep-sided mountains, deep river gorges and turbulent Himalayan rivers. Despite a concerted road building program which has been under way for some years, much of the country can only be reached on foot, and communications with outlying districts are generally difficult. Nepal also sits astride one of the world's major earthquake zones called the Himalayan Alpine Belt and several major earthquakes have been experienced in various parts of the country during this century.

2. Though moderate in its intensity (6.7 on the Richter scale), the earthquake of August 21, 1988 inflicted extensive damage (estimated at over NRs 4.2 billion, US\$170 million) on private housing as well as schools, hospitals, public buildings and other infrastructure in 31 districts of Eastern and Central Nepal. Measured in terms of persons affected, the most severe effect was on private housing followed by school buildings. About 66,000 houses were damaged beyond repair and the results of a technical damage survey undertaken in March 1989 showed more than 2,000 schools were destroyed and over 350 affected to a lesser degree. Some districts reportedly lost all of their schools and well over 400,000 students are without regular classrooms. Painful as all such disasters are, they also provide important opportunities for learning. Observation has shown that the bulk of the damage was sustained by traditional, poorly bonded, stonewalled buildings; where sound construction techniques were employed damage was generally minor and repairable.

3. Government's Response to the Earthquake. His Majesty's Government (HMG) quickly mounted an initial relief operation coordinated by the Ministry of Housing and Physical Planning (MHPP). It included care for the injured and financial compensation to individuals and communities for the damage suffered; -NRs 2,000 for a death, NRs 1,000 for loss of a house, plastic sheets for emergency shelter, cloth and 40 kg. of rice per family. Compensation for badly affected schools totaled NRs 9.3 million (US\$370,000) enough to provide for some limited temporary shelter and repairs equivalent to about 1% of the estimated cost of damages (US\$30.2 million equivalent). This phase has been completed although many affected schools, not originally included on damage lists, did not receive assistance. HMG at this stage also requested support from the donor community including IDA for housing and the Asian Development Bank for road reconstruction.

4. After the largely successful completion of the initial relief operation, HMG launched a comprehensive program of reconstruction and rehabilitation on September 22, 1988. This program includes targets for

reconstruction in the various sectors, and operates under the aegis of a high-level Earthquake Affected Areas Reconstruction and Rehabilitation Central Committee (EAARRCC) under the chairmanship of the MHPP. Four layers of committees have been organized at the Regional, District, and Local (Elaka and Village Panchayat) levels. Through an executive order a special project unit (EAARRP) was established to act as the central technical coordinating agency for all earthquake related matters.

5. HMG's early reconstruction strategy for the education sector was unfortunately based upon the best available but incomplete information that seriously under-represented the magnitude of the problem and misled Government's approach to schools rehabilitation. On the basis of low initial estimates, HMG also expected that an ongoing Primary Education Project (Credit 1463-NEP) would have sufficient potential savings to finance the schools rehabilitation efforts. HMG, therefore, gave its immediate priority to the pressing needs for housing reconstruction, for which an IDA emergency credit of US\$31 million was approved and signed on March 14, 1989. HMG requested IDA assistance for schools reconstruction in mid-December 1988, about three months after IDA's initial general assistance offer.

B. IDA'S RESPONSE AND STRATEGY

6. In response to HMG's request, IDA fielded a mission in January-February 1989 to assess damages and prepare recommendations for an IDA response. A more complete picture of the extent of the disaster was by then available to the mission. Potential savings from ongoing projects in the sector were small and sufficient to finance only a minor portion of the required rehabilitation. In the absence of any substantial indication on the part of other donors of interest in financing reconstruction in the sector, it was decided that an emergency IDA credit coupled with a reallocation of available funds from the ongoing Primary Education Project (1463-NEP) represented the best course of action to ensure an immediate start to the rehabilitation effort.

7. The proposed project is the first in the education sector in Nepal geared towards disaster relief and IDA's response and strategy has been to: (i) help HMG to prepare an affordable, implementable schools rehabilitation program; (ii) ensure that within the schools rehabilitation program priority is given to resumption of full-time education in the affected areas at the earliest possible date; and, (iii) coordinate the overall response from the donor community.

C. DETAILED PROJECT DESCRIPTION

8. **Objectives.** The project would aim to: (i) rehabilitate about 2,350 schools including total or substantial reconstruction of about 2,000; (ii) ensure that those schools not included in the first year's construction program have temporary accommodation sufficient to permit education through the 1990 monsoon season; (iii) continue the tradition of substantial community responsibility for financing and construction of

schools on which Nepal heavily depends, but at a reduced rate in view of the other earthquake related burdens on the communities; and, (iv) develop and introduce an appropriate level of cost-effective earthquake resistance technology into reconstructed school buildings.

9. Components. The proposed project, estimated at \$30.2 million including community participation, would comprise:

(a) Schools Rehabilitation, including reconstruction (US\$28.6 million). These works would encompass: (i) the storage and supply to communities of lightweight steel trusses and tubular columns, roofing sheets, and cement for floors and mortar, doors and windows, plus skilled labour for construction and technical supervision by MHPP; (ii) community inputs including the provision of local sand, gravel, stones, and additional labour for construction and the transportation (portage) of construction materials to the respective sites; and, (iii) construction associated with establishment of materials distribution centers.

(b) Construction Implements, Equipment and Vehicles (\$0.3 million). This would include vehicles for project administration; trucks for delivery of materials to secondary and tertiary depots; motorcycles for supervision at the district level; and basic surveying tools, construction implements, travel packs, plus medical kits for overseers and skilled labour recruited by the project.

(c) Consultants Services (\$0.1 million). Consultants would be retained by MHPP to: (i) assist with the establishment of monitoring, supervision and accounting systems for the project; (ii) prepare quarterly financial statements and undertake annual reviews of management performance and implementation progress; and, (iii) review schools designs for earthquake resistance measures.

(d) Project Administration (\$1.2 million). Project administration would include incremental salaries of project implementation unit staff including staff recruited for materials storage depots; office and storage facilities rentals; and computer equipment, operational expenses and vehicle maintenance over a three-year period.

D. PROJECT IMPLEMENTATION AND INSTITUTIONAL ARRANGEMENTS

10. HMG has already mobilized two parallel networks to oversee implementation of the national earthquake response as follows:

(a) Earthquake Affected Areas Reconstruction and Rehabilitation (EAARR) Committees. A high-level Central Committee (EAARRCC) has been constituted under the chairmanship of the Minister of Housing and Physical Planning and has cabinet level representation from all relevant ministries, including education. Under the Central Committee, four layers of committees have been established at the Regional, District, Elaka, and Village Penchayat level. For development administration purposes, Nepal is divided into 5 Regions which in turn are divided into 9 to 19 Districts. Each district contains 9 Elakas (or areas) and each Elaka contains 3 to 6 Village Panchayats (Units). Each Village Penchayat is further divided into 9 wards. At each of the four levels the education sector is represented by

the appropriate education official. In addition, sub-committees will be established for the schools rehabilitation program at the District Level chaired by the District Education Officer (DEO), and at the village level, for each school to be rehabilitated, the sub-committee would be chaired by the chairman of the established school steering committee. Although the structure appears complex, it is functioning and represents a valuable monitoring and feedback channel to the rural areas.

(b) EAARR Project (EAARRP). By virtue of an executive order of Government establishing a special Earthquake Affected Areas Reconstruction and Rehabilitation Project (EAARRP), the Ministry of Housing and Physical Planning (MHPP) has been assigned overall responsibility for coordination of the national reconstruction/rehabilitation effort. A Central Unit established under the EAARRP would implement all components of the project except: (i) disaster management; (ii) epicentral and seismic mapping; and (iii) house reconstruction loans. Disaster management, and epicentral and seismic mapping would be implemented by the Ministry of Home and the Department of Mines and Geology, respectively, while house reconstruction loans would be implemented by the three major Nepalese Banks. The Central Unit is already functional and consists of 4 administrative sections, viz. general administration, information and monitoring, technical, and program and budgeting. This Central Unit has already contracted the services of 27 engineers and 254 overseers (technical officers) for the housing reconstruction program in the affected districts. They were all given initial training in basic earthquake resistance technology for housing.

11. Project Unit. For rehabilitation of schools damaged by the earthquake, a Schools Rehabilitation Unit (SRU) would be established under the EAARRP Central Unit. It would have a Project Manager who would report directly to the Central Unit Special Coordinator. The unit would be structured and staffed to perform the following project functions: (i) Procurement; (ii) Technical/Engineering; (iii) Internal Management; (iv) Accounting; (v) Program Monitoring. The staffing arrangements proposed by HMG are acceptable to IDA and have been incorporated in an action plan which will be updated semi-annually. Establishment of the SRU and appointment of a Project Manager acceptable to IDA will be conditions of effectiveness.

12. Action Plan. Although the Project will benefit greatly from the umbrella committee structure which is already functioning, project implementation is nevertheless expected to present a formidable staff management and logistic challenge due to the remoteness of construction sites and the dependence on human factors. Careful planning and scheduling of project inputs and organization of SRU field personnel, construction materials distribution, as well as community mobilization and participation will be required. Procedures for monitoring the appropriate use of project supplied building materials will be developed. HMG formulated a comprehensive action plan for project implementation covering all aspects of staffing (headquarters and field), construction scheduling, expenditures, auditing, and community inputs. The project would include consultants services of an organization and management specialist to assist the SRU in finalizing the action plan, for semi-annual updating, and for annual evaluations of project performance. As requested by IDA, EAARRP have undertaken a comprehensive technical survey of damages to schools in the affected areas. This information formed the basis for cost estimation

and for detailed planning of project implementation. The findings of the survey and updated cost estimates were submitted by negotiations. HMG agreed to: (i) submit to IDA semi-annual revisions of the action plan for the duration of the project; and (ii) appoint an organization and management consultant by October 15, 1989.

13. Construction Component.

(a) Objective. A principal objective will be to ensure that in the shortest time possible, all affected communities will be provided with a basic, permanent structure consisting of 5-13 classrooms. For those communities unlikely to be provided permanent facilities by the end of the first construction season, appropriate measures will also be taken to ensure adequate temporary protection and avoid further disruption of education from monsoon rains.

(b) Organization. Construction is being planned in two distinct phases. Phase I will cover community mobilization, including agreement to transport construction materials and to provide stones, sand, gravel and labour for construction. Erection of about 85% the basic building shall be by SRU teams assisted by communities. Phase II will comprise the completion of walling and finishes by the local communities by sub-contract agreement under the technical supervision of the SRU. Previous experience in Nepal has shown that due to the remoteness of most sites, regular contracting procedures are costly and often bids are not forthcoming. Construction under the project will depend upon the traditional willingness of the communities to undertake a significant portion of construction related activities. In about 15% of the sites where access is straightforward regular construction contracts would be entered into, with the SRU supplying imported materials. The MHPP will conclude contract agreements with Village Panchayats or school reconstruction committees to rehabilitate affected schools in their respective areas. The agreements will specify the extent and type of construction works to be undertaken, as well as the roles and responsibilities of the Village Panchayats and the SRU. A model agreement will be submitted to IDA for review by October 15, 1989. The Ministry of Education and Culture would be fully consulted on the preparation of school designs and on scheduling of the rehabilitation program.

(c) Technical Approach. To minimize portage and speed up the Phase I construction process, MHPP have opted for a technical solution based, as far as possible, on lightweight steel trusses and columns, metal roofing sheets, and a minimum requirement of heavy materials such as cement. Construction materials not available in the villages will be supplied by the project, as well as skilled labour for construction and technical supervision. Communities will contribute local construction materials as well as labour for materials transportation to site and part of the labour during construction. For school reconstruction, prototype designs have been prepared by the MHPP and were reviewed during negotiations. These incorporate earthquake resistance measures with particular attention being paid to the bonding of corners, crosswalls, and

avoidance of long unrestrained sections of walling. Measures to strengthen new construction against earthquake forces would represent cost effective improvements to current traditional Nepalese building techniques and would be based on UNESCO suggestions for "Protection of Educational Buildings against Earthquakes". These could be expected to provide appropriate protection against serious damages up to force 7 on to Richter Scale (only 3% of the world's earthquakes are of greater intensity). For protection beyond this point, special more costly engineering techniques must be employed. During negotiations, HMG agreed to appoint a consulting engineer by October 15, 1989 to review the appropriateness of earthquake features of school designs prepared by the MHPP. For repairs to buildings, where appropriate, structural strengthening will also be undertaken.

(d) Construction Materials Distribution. Implementation of the project will depend greatly on the effective delivery of construction materials to more than 2,000 project sites over a 2-3 year period and this requires an effective distribution system. The SRU plans to establish a total of about 18 temporary storage and distribution centers in the affected areas through construction and, where possible, rental. Four or five of these will be primary centers, established for stockpiling of bulk-procured construction materials following delivery from various suppliers. Materials will be further transported to smaller secondary/tertiary storage points strategically placed to minimize portage distances. These will include some off-road points in remote areas where supply can be by air only. Communities will transport materials to final locations. Materials delivery to the distribution points will be according to the construction schedule that the SRU will develop and which will be incorporated in the action plan for the project. To minimize personnel recruitment under the project, the EAARRP will investigate the feasibility of inviting major suppliers to establish and operate the larger depots.

14. Project Costs and Financing. The total cost of the project is estimated at US\$30.2 million with a foreign exchange component of US\$14.7 million or 49% of total cost. Identifiable taxes and duties are US\$2.0 million and the total project cost, net of taxes and duties is US\$28.2 million equivalent. The proposed IDA credit of US\$22.8 million equivalent would finance 81% of the total project cost, net of taxes and duties. HMG will provide US\$3.7 million as counterpart funds. HMG would also provide adequate funding to enable MHPP to implement all construction under the project. The project would include financing of \$1.0 million, equivalent to about 25% of: (i) the estimated cost of community portage of building materials; and (ii) construction works undertaken by the communities. The amounts to be financed will be stipulated in agreements to be concluded with the Village Panchayats (para. 13(b)). The balance, US\$3.7 million equivalent, about 12% of project costs, would represent the approximate value of the community inputs in terms of labour for transportation and construction and for local construction materials.

15. Procurement. Goods and works would be procured in accordance with World Bank Group Guidelines. The principal contracts would be for: steel supply and fabrication of lightweight steel trusses and pipe columns; metal roofing sheets, doors and windows. As far as possible, these would be bulk

procured in quantities corresponding to the annual school construction program and according to a schedule acceptable to IDA. Contracts for building materials, vehicles and equipment above US\$250,000 would be appropriate for international competitive bidding (ICB) and it is expected that contracts totalling about US\$14.0 million would be awarded following ICB procedures. In view of the need to adhere closely to delivery schedules, HMG intends to prequalify prospective construction materials suppliers/fabricators, to ensure adequate financial and production capacity to undertake the proposed contracts. Local competitive bidding (LCB) acceptable to IDA would be followed for goods and works contracts under \$250,000 except that contracts under US\$25,000 (up to an aggregate of US\$0.7 million) may be procured through prudent local shopping with price quotations from at least three suppliers. Review and approval by IDA, prior to award, will be required for all contracts estimated to cost more than US\$100,000 equivalent. This would result in the review by IDA of about 80% by value of contracts awarded. Cement supplies estimated at about US\$300,000 equivalent over the three year implementation period would be procured through LCB on a regular basis in order to minimize the risk of deterioration of supplies during storage. Skilled labour for construction and supervision will be employed directly by SRU and the value of this and project financed community inputs is estimated at about US\$2.5 million.

16. Disbursement. The project would be implemented over three years with disbursements extending over 3 1/2 years, closing on February 28, 1993. The proceeds of the credit would be disbursed against eligible expenditures as follows: 75% of expenditures on civil works undertaken through regular contracts, by direct labour, and by community agreements; 100% of foreign and local ex-factory expenditures and 75% for other purchases of building materials, equipment (including vehicles, construction implements, field equipment for staff, office equipment); 100% of expenditures incurred for consultants services; and 75% of project administration costs excluding rental expenditures. Full documentation would be sent to IDA in support of all civil works, equipment and building material contracts above \$100,000 equivalent and all consultant services contracts. Itemized statements of expenditure (SOE) certified by the SRU would be used for all civil works, equipment and building material contracts less than \$100,000 equivalent, all Village Penchayat and School Reconstruction Committee construction agreements and project administration costs. The documentation in support of SOEs would be retained by SRU and made available to IDA representatives on request. This documentation would be subject to audit. Disbursements against project administration expenditures would be at a fixed rate in view of the fact that the implementation period is short and the administrative structure disbands upon completion of the project.

17. To facilitate disbursements, a Special Account of US\$2.6 million equivalent, equal to 4 months disbursements, would be established at the Nepal Rastra Bank. An assurance was received from HMG at negotiations that in view of the emergency nature of the project, appropriate arrangements would be made for the expeditious release of the proceeds of the credit to SRU.

18. Accounts and Audit. SRU would maintain separate accounts and records for the project. For all expenditures for which withdrawals would be made on the basis of SOEs, SRU would arrange to maintain separate

records and accounts. Independent consultants acceptable to IDA would be appointed by October 15, 1989 to establish the project accounting system and prepare quarterly financial statements. Independent auditors acceptable to IDA would audit the project accounts each year. Copies of the unaudited accounts would be sent to IDA as soon as available, but not later than six-months after the close of each fiscal year, and a certified copy of the final report, complete with the auditor's comments would be sent within 12 months. Audit reports would include a separate opinion as to whether the funds disbursed against SOEs have been used for the purposes for which they were provided. Assurances were obtained at negotiations that the accounting and auditing requirements outlined above will be met.

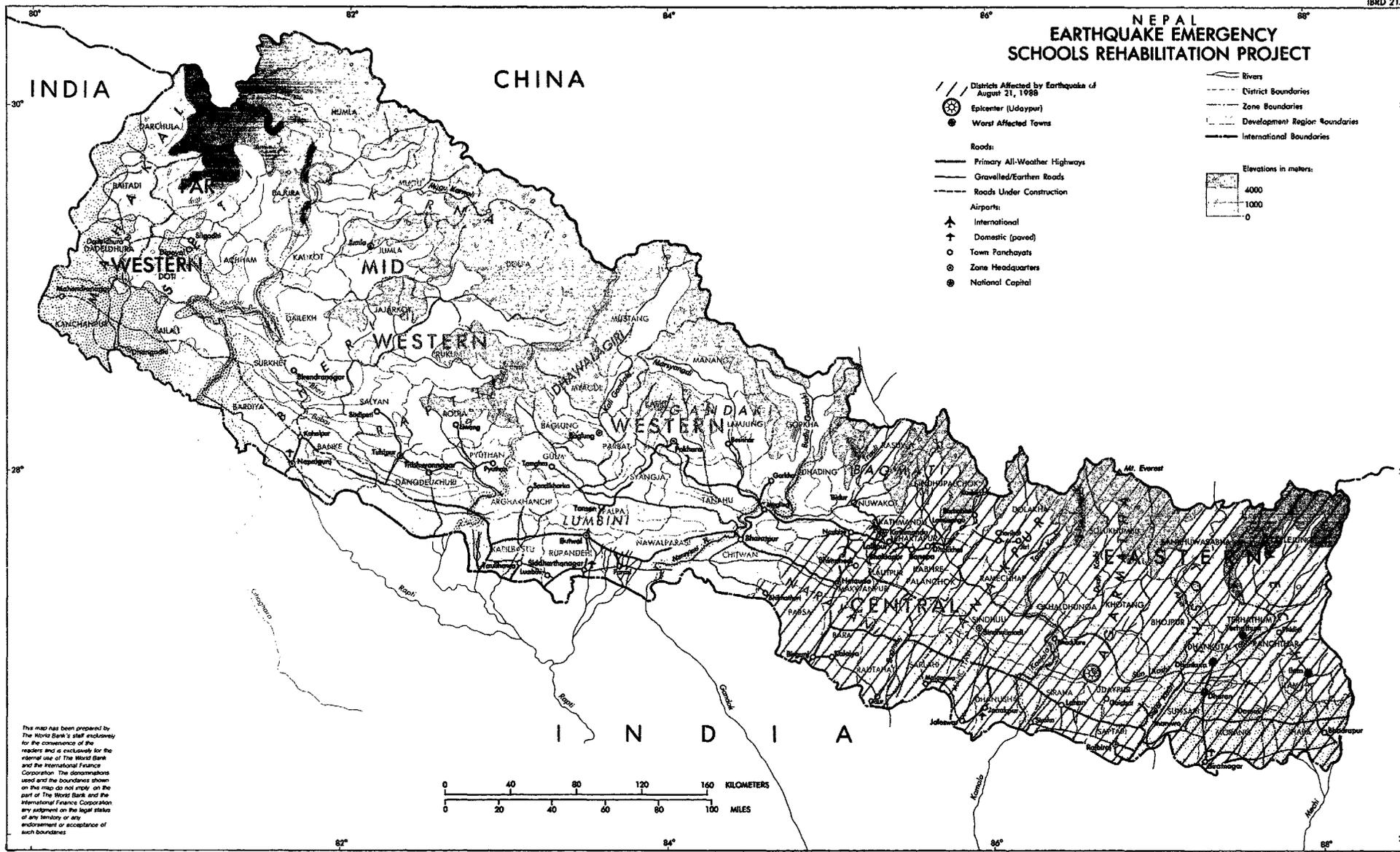
19. Environmental Impact. Since the project would finance reconstruction/rehabilitation, construction would be mostly on the original sites and no significant additional impact on the environment would be expected. The use of steel for the replacement roof structures, and probably for doors and windows, would minimize the use of timber and help to avoid deforestation.

20. Reporting and Evaluation. The normal semi-annual progress reporting requirement would be waived due to the short implementation period and instead the project action plan, revised at least semi-annually, together with contract awards, disbursement documents and IDA missions would form the basis for routine monitoring of progress. Due to the relatively complex organizational arrangements required for project implementation, after the first six months and at the end of each year thereafter, an independent evaluation of progress and problems encountered would be undertaken by consultants acceptable to IDA.

NEPAL EARTHQUAKE EMERGENCY SCHOOLS REHABILITATION PROJECT

INDIA

CHINA



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