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REPORT AND RECOMMENDATION

OF THE

PRESIDENT OF THE

INTERNATIONAL DEVELOPMENT ASSOCIATION

TO THE

EXECUTIVE DIRECTORS

ON A

PROPOSED CREDIT OF SDR 44.7 MILLION

TO THE

KINGDOM OF NEPAL

FOR A

THIRD HIGHWAY PROJECT

August 9, 1984

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CURRENCY EQUIVALENTS

US$1	=	NRs 15.8 (May 1984)
NR 1	=	US$0.063

ABBREVIATIONS

ADB	=	Asian Development Bank
ADT	=	Average Daily Traffic
DOR	=	Department of Roads
HMG	=	His Majesty's Government of Nepal
MWT	=	Ministry of Works and Transport
NTC	=	National Transport Corporation
ODA	=	Overseas Development Administration
SFD	=	Saudi Fund for Development

UNITS AND MEASURES

1 meter (m)	=	3.28 feet
1 kilometer (km)	=	0.62 mile

FISCAL YEAR

July 16 - July 15

NEPAL

THIRD HIGHWAY PROJECT

Credit and Project Summary

Borrower: Kingdom of Nepal

Amount: SDR 44.7 million (US$47.5 million equivalent)

Terms: Standard

Project Description: The project would provide a means to integrate the far western part of Nepal with the rest of the country through completion of an all-weather East-West Highway; to improve traffic conditions between Kathmandu and Birganj at the Indian border through selective rehabilitation of bridges and road pavements; and to strengthen the construction and maintenance capability of the Borrower. It would construct about 204 km of the East-West Highway including a bridge over Karnali (Chisapani) River and feeder roads, rehabilitate about 82 km of the Mugling-Naubise road, provide maintenance equipment, technical assistance and training. The major project benefits would be (a) the integration of the far western part of Nepal with the country's economy; (b) increased realization of benefits from investments in agricultural production in the western region; and (c) reduced cost of road maintenance and operation of vehicles through road rehabilitation on the major road link with India. Risks related to construction delays would be minimized through provision for construction supervision during all stages.

Estimated Cost: a/

Item	US$ Millions		
	Foreign	Local	Total
East-West Highway	42.6	15.3	57.9
Road Rehabilitation	10.7	3.8	14.4
Institution Building and Road Maintenance	4.8	-	4.8
TOTAL BASE COST	58.0	19.1	77.1
Physical Contingencies	5.9	2.1	8.0
Price Contingencies	23.0	7.9	30.9
TOTAL PROJECT COST	86.9	29.1	116.0

a/ Includes taxes and duties of about US$13.1 million equivalent.

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Financing Plan:

	US$ Millions		
	Foreign	Local	Total
IDA	45.3	2.2	47.5
Saudi Fund for Development	27.1	3.7	30.8
ODA (UK)	14.5	5.2	19.7
HMG	-	18.0	18.0
	86.9	29.1	116.0

Estimated Disbursements:

	US$ Millions				
IDA FY	1985	1986	1987	1988	1989
Annual	3.98	7.38	13.14	13.35	9.65
Cummulative	3.98	11.36	24.50	37.85	47.50

Rate of Return: 16 percent

Staff Appraisal Report: No. 4763-NEP, dated August 9, 1984

Map: IBRD 17132R

INTERNATIONAL DEVELOPMENT ASSOCIATION

REPORT AND RECOMMENDATION OF THE PRESIDENT OF THE ASSOCIATION TO THE EXECUTIVE DIRECTORS ON A PROPOSED CREDIT TO THE KINGDOM OF NEPAL FOR A THIRD HIGHWAY PROJECT

1. I submit the following report and recommendation on a proposed development credit to the Kingdom of Nepal for SDRs 44.7 million (US$47.5 million equivalent) on standard IDA terms to help finance a Third Highway Project. The cofinanciers of the project are the Saudi Fund for Development (SFD) with a loan of US$30.8 million equivalent and the Overseas Development Administration (ODA) with a grant of US$19.7 million equivalent.

PART I - THE ECONOMY 1/

2. The most recent economic report, Nepal: Recent Develcpments and Selected Issues in Trade Promotion (Report No. 4663-NEP), was distributed to the Executive Directors on October 19, 1983. The principal features and recent performance of the economy are described below. Country data are shown in Annex I.

3. Nepal is one of the least developed countries in the world. Per capita income is estimated at US$157 (1982/83) and health and education standards are below the average for South Asia: life expectancy at birth is only about 45 years; infant mortality, about 148 per thousand; and adult literacy, only 19 percent. The population, estimated to be 15.8 million (1982/83), grew at a rate of about 2.6 percent per year during 1971 and 1981. About 95 percent of the population live in rural areas.

4. Population density with respect to arable land (356 per sq km) has reached very high levels, and cultivation has been extended on to marginal lands and forests. Forests have been further denuded to meet the growing demand for fuelwood, on which Nepal depends for over 90 percent of its energy consumption, mostly for household cooking and heating. On account of deforestation and excessive grazing on the hills and mountains, with high rainfall, there is accelerated soil erosion leading to silting of rivers, downstream flooding and loss of agricultural productivity all along.

5. Agriculture, largely rainfed, still accounts for nearly 60 percent of Nepal's GDP and 80 percent of merchandise exports, and provides the main source of livelihood to over 90 percent of the population. Crop production accounts for about 60 percent of agricultural output, livestock for 30

1/ Substantially unchanged from the Karnali Preparation Project Phase I (Report No. P-3737-NEP) of March 1, 1984.

percent, and forestry for 10 percent. Paddy is the principal food crop (planted on about half of the total cropped area), followed by maize, wheat, millet and barley. Cash crops (oilseeds, jute, sugarcane and tobacco) are grown on about 10 percent of the cropped area. About 15 percent of total rural incomes rise from non-agricultural activities, of which the cottage industry subsector is one of the more important generating employment for over one million people on a part-time basis.

6. Apart from agricultural land, Nepal's only other important exploitable resources are hydropower and tourist attractions. The exploitation of the vast hydropower resources beyond that required to satisfy the country's own power demand, however, will depend crucially on Nepal's ability to enter complex financial, exploitation and export agreements with neighboring countries. The tourism sector, based on Nepal's mountain environment and its rich cultural heritage, has been dynamic, though it accounts for only about 1 percent of GDP. Tourism now provides about 20 percent of the country's foreign exchange earnings. About 60 percent of earnings from tourism are retained in Nepal.

7. Following centuries of self-imposed isolation, efforts to develop the economy of Nepal began in the mid-1950s against extremely heavy odds. The country had virtually no physical infrastructure, an ancient administrative system, and very limited educational and health services. The resource base is relatively narrow and its development hindered by the difficult topography and landlocked position. Against this background, Nepal's primary development objective for 20 years, between 1955 and 1975, was to build basic infrastructure and lay the groundwork for future economic growth. The country has made good progress in pursuit of that objective. It now has a basic road network linking many economic centers. Kathmandu and a few other towns have basic utilities and public transport. Schools have been built for almost half of the primary school age children and there are a number of high schools and a national university. A rudimentary hospital system, including rural health posts, has been built. Some progress has also been made in establishing the institutional framework for agricultural and industrial development, including extension and research activities, financial institutions and industrial enterprises. Yet in all these areas, the country has a long way to go to achieve a level of development comparable to other developing countries; for example, the public and private institutions in Nepal must continue to expand and upgrade essential physical facilities, acquire the necessary expertise in handling economic and financial affairs, build up adequate technical and managerial cadres, and establish merit-based systems of personnel management.

8. The Fifth Plan (1975/76-1979/80) marked a shift in development objectives, with increased emphasis being placed on acceleration of economic growth, employment creation, and raising the living standards of the population. These objectives have been reiterated in the Sixth Plan (1980/81-1984/85). Moreover, the stated strategy of the Sixth Plan quite appropriately (a) accords high priority to developing agriculture, small-scale industries and Nepal's abundant water resources; (b) stresses soil conservation and population control; and (c) emphasizes full utilization of existing infrastructure and alleviation of absorptive capacity constraints, including human resource development. The development strategy also calls for increased involvement of the private sector in agriculture, manufacturing, trade, tourism, construction and transport operations.

Investment expenditures, supported by growing foreign assistance, have increased rapidly over the last two Plans, from US$146 million (9 percent of GDP) in 1974/75 to about US$390 million (15 percent of GDP) in 1981/82, and there have been substantial shifts in the composition of spending away from transport to agriculture, power and social services. GDP growth, however, has barely kept up with that of population.

9. Part of the explanation for this stagnation lies in factors beyond Nepal's control such as the difficult topography and the poor resource base. But factors within Nepal's control have also contributed. Severe project implementation problems have been encountered by Government and donors alike in most sectors of the economy, thereby lowering the rate of growth of capital formation. In addition, the expected returns on those investments which took place often did not materialize largely because necessary complementary investments or current spending were lacking, and because of managerial deficiencies. A good example is the agriculture sector. In the past, insufficient attention was paid to bringing water down to the farm level and this was compounded by inadequate support services such as extension and research, by the lack of timely supplies of improved seed, fertilizer and other inputs such as credit, by the lack of farm-to-market roads, and by very low producer margins. Future development of irrigation and agriculture would therefore need to emphasize complementary investments, improvements in agricultural input supplies and adequate producer margins.

10. The shortage of funds for current spending needs to be addressed by further efforts at domestic resource mobilization. In recent years, Nepal's efforts to mobilize resources have focussed on tightening income tax assessment and collection; on discretionary measures largely in the area of indirect taxes; and on reducing subsidies to public enterprises. While there has, as a result, been a steady increase in revenues, the tax structure remain inelastic. Some scope exists for increasing Nepal's tax elasticity by shifting items on the indirect tax schedules from a specific to an ad valorem basis. There also seems to be scope for increasing yields from the land tax, urban property taxes and income taxes.

11. Over the past two years, several positive steps have been taken to strengthen public sector management. These steps have included increases in the traditionally low civil service salaries, establishment of public service training facilities, simplification of budgetary procedures accompanied by stricter enforcement of expenditure accounting, and granting of more autonomy to public enterprises in matters concerning personnel and pricing policies. The implementation of these administrative reforms would have to be pursued by a high-level monitoring of important administrative issues such as appointment of competent staff, job security and decision-making authority. Also, public enterprise reform needs to be pursued by measures aimed at reducing costs and increasing efficiency. In this regard, the Government has taken initial steps, subjecting public enterprises to increased competition from the private sector through liberalization of licensing in industry, transport and small-scale hydropower generation. At the same time, the Government has involved the private sector in the ownership and control of public enterprises through the sale of shares to private investors.

12. Because of slow economic growth, Nepal's balance of payments has been characterized by widening trade deficits, partly offset by surpluses from invisibles. The current account deficit (averaging US$100 million annually

during 1979/80-1981/82) has traditionally been more than matched by inflows of official grants and concessional loans (averaging US$128 million annually during 1979/80-1981/82), leading to surpluses in the overall balance of payments in most years. Nevertheless, foreign exchange reserves have declined from being equivalent to about one year of imports in the early 1970s to six months in 1982, and four months in mid-1983.

13. To sustain and further develop its economy, Nepal must mobilize additional free foreign exchange through export promotion and efficient import substitution. Improving agricultural production, rural incomes and food distribution within the country is a major way of doing so, if only to avoid the need to import and distribute large quantities of foodgrains in the future. Agricultural development also remains the key to a gradual expansion of Nepal's traditional merchandise exports. In addition, development of energy resources is a major means to strengthening the balance of payments by reducing the need to import fuel and opening up an export potential. Recently, Nepal has legislated a wide range of fiscal and administrative incentives for industrial investors and exporters, particularly in the private sector. The implementation of these incentives, and the alleviation of the severe transport and transit constraints facing the country's trade sector, must constitute essential elements of a trade promotion strategy for Nepal.

14. Nepal is faced with highly challenging prospects and tasks in addressing its multiple long-term development problems. While it attempts to mobilize domestic resource to finance about 40-50 percent of development expenditures, external assistance, at concessional terms, will continue to be a vital factor in financing investment and effecting economic growth. In the last three years, aid commitments to Nepal have averaged about US$250 million per year, almost entirely in the form of grants and concessional credits with grant elements in excess of 70 percent. Aid disbursements have grown from about US$110 million in 1979/80 to an estimated US$175 million in 1982/83. Nearly 70 percent of total aid disbursements have come from members of the Nepal Aid Group, formed in 1976 and now comprising eight DAC countries and four multilateral agencies.

15. At the end of fiscal year 1983, Nepal's official foreign debt outstanding will have been expected to amount to US$340 million. As virtually all loans have been concessional, debt service payments, including payments to the IMF, have remained small in relation to exports of goods and services. In 1983/84, debt service payments will amount to about US$18 million, equivalent to 6 percent of exports of goods and services. Over the medium term, these payments are projected to remain at less than 10 percent of Nepal's exports of goods and services.

PART II - BANK GROUP OPERATIONS IN NEPAL

16. Bank Group operations in Nepal began in 1969 with an IDA credit of US$1.7 million equivalent for a telecommunications project. Since then, 35 additional credits have been approved, bringing total IDA assistance to Nepal to US$500.3 million equivalent, net of cancellations. In view of Nepal's many development needs, this assistance has been for projects in a wide variety of sectors. Six of these sectors account for about 87 percent of

IDA credits by original amount: irrigation/agriculture (US$173.0 million for 14 projects); water supply and sewerage (US$46.8 million for 3 projects); power and energy (US$168.0 million for 4 projects); telecommunications (US$21.7 million for 3 projects); highways (US$19.5 million for 2 projects); and rural development (US$19.0 million for 2 projects). The proposed credit would be the first in FY85. No Bank loans have been made to Nepal. IFC made its first investment in Nepal (US$3.1 million) in a hotel project in Kathmandu in 1975. In addition, IFC approved a loan of US$5.6 million equivalent to Nepal Orind Magnesite (Private) Limited (a private company) in March 1982. The loan has helped finance a US$24.9 million project to mine and process magnesite ore. Annex II contains a summary statement of IDA credits and IFC operations as of March 31, 1984.

17. Bank Group lending to Nepal so far has been modest compared to the country's need for external assistance. The international community has shown considerable interest in Nepal's economic development and, to date, the shortage of funds has not been a major bottleneck. The main constraint on the utilization of increased aid has been Nepal's limited absorptive capacity, affecting the pace of project preparation and implementation. The Bank Group has provided assistance to the Government in project preparation through two Technical Assistance Credits (Credit Nos. 659-NEP and 1379-NEP) and by acting as Executing Agency for a number of technical assistance projects financed by UNDP. Furthermore, the present Resident Representative in Kathmandu has had a significant impact in improving project implementation performance. As a result, the rate of disbursements is improving: during FY82, FY83, and FY84, US$28.5, US$37.4, US$26.0 million equivalent, respectively, was disbursed compared to an annual average disbursement of about US$17 million during the previous five fiscal years. Project completion reports have been prepared for six projects: First Telecommunications (Credit No. 156-NEP), First Highways (Credit No. 223-NEP), Tourism (Credit No. 291-NEP), Birganj Irrigation (Credit No. 373-NEP), Settlement Project (Credit No. 505-NEP), and Bhairawa-Lumbini (Credit No. 654).

18. The Bank Group's current lending strategy places emphasis on assisting the Government in its efforts to contain the high level of population growth, address major constraints in the country's development of human resources and promote agricultural development. Selected infrastructure investments, mostly in transport, telecommunications and power, will also be undertaken to alleviate serious development constraints. In population, a project is being prepared by the Government and there is donor interest to cofinance various components. For the development of human resources, IDA has recently financed a primary education project. Other IDA-supported activities under preparation include agricultural manpower, engineering education, vocational and secondary education projects. For agriculture, the basic objective is to assist Nepal maintain overall foodgrain self-sufficiency and, where possible, promote exports of agricultural products and encourage afforestation efforts. Projects under preparation would extend the assistance provided so far by building irrigation infrastructure mainly in the Terai to increase paddy production and help reduce the food deficits in the Hills. Both would be accomplished through irrigation and rural development projects which would emphasize increased food production and through specific Hill food projects.

PART III - THE TRANSPORT SECTOR

19. Historically, transport in Nepal has been by porters and, to a lesser extent, by pack animals. Although these means of transportation are still important, a road network began to develop in the country in the 1950s, with the Government's emphasis on building infrastructure. In the Terai, it started with an east-west connection, and in the Kathmandu Valley with access to the Indian border in the south and the Chinese border in the north. To complement this developing network, numerous airports and short-takeoff-and-landing airfields have been built in various parts of the country.

20. In the past, transport demand has been local in nature, limited to commerce between adjacent villages and rural areas in the hills. Growth of settlement in the Terai with the consequent increase of trade with India has resulted in an increase in the transport demand in a north-south direction. While exports to India cross the border at many points, most imports from India and other places enter Nepal through Birganj/Raxaul, and shipments destined for Kathmandu are increasing. The transport demand is now growing in an east-west direction because of recent emphasis the Government has placed on integration of the country and development of the east-west highway system.

21. Transport by railroad, ropeway and waterway is insignificant in Nepal. There are three separate narrow gauge railway lines with a total length of 89 km; two of which are connected to the Indian Railways. The third is used seasonally to transport materials to maintain the Kosi Barrage. The only ropeway, between Kathmandu and Hetauda, has a length of 42 km, and handles about 30,000 tons of goods annually. Because of mountainous terrain, high fluctuations of seasonal flows of the rivers and their draft conditions, use of waterways in Nepal is negligible.

Coordination

22. All modern modes of transport are regulated and/or operated by the Ministry of Works and Transport (MWT). In the 1970s, some assistance in transport planning was provided by a transport economist financed by the UNDP. Because of the relative infancy of the transport system and the dominant position of roads, problems of intermodal competition are minimal. Proposed investment plans are reviewed by the Planning Commission and final approval for implementation rests with the Ministry of Finance.

Transport Regulation

23. Licensing restrictions on trucks and buses are few. The government-owned National Transport Corporation (NTC) sets passenger fares, which are periodically reviewed and revised upward, but does not regulate road freight rates. Regulations governing vehicle weights and dimensions presently do not exist; however, ADB is financing a brief survey of the system of road user charges and the findings will be reviewed by the Bank with a view to designing a follow-up study on appropriate charges (para. 32). NTC operates a popular and financially viable trolley bus service in the Kathmandu Valley. NTC also, in direct competition with the private sector, provides extensive

trucking services for government cargo carried between Kathmandu and the major transport crossings from India. In the past, NTC's truck operations have been impaired by neglect and poor management. Under a UNDP-financed Road Transport Development Project, efforts are being made to bring about improvements and reduce financial losses. There has already been some progress in this area. The Association believes there is further room for improvement and has asked NTC to collect detailed operating statistics in order to help pinpoint specific problem areas. Some of these issues will be examined in a containerization study scheduled to commence in the fall of 1984. Among other objectives, this study will also define NTC's role, propose how to improve its financial/operational performance and suggest ways to strengthen the staff.

The Highway Subsector

24. Although road transport dominates the sector, the total road network is still very small relative to the size of the country. The road network currently consists of a total of 5,546 km of which 2,484 are paved, 830 are gravel, and 2,232 are unimproved earth roads. The surfaced roads and a large portion of the earth roads are managed by the Department of Roads (DOR) under the Ministry of Works and Transport; the remainder of the earth roads are managed by the local panchayats. The three main national highways are: (a) the north-south road from Kathmandu to the Indian border at Birganj (Raxaul) and north to the Chinese border; (b) the north-south road connecting Bhairawa near the Indian border with Pokhara which is connected with Kathmandu to its east; and (c) the East-West Highway in the Terai which, when completed, would traverse the entire breadth of the country. A number of roads in the Terai are not connected to the basic system and vast areas of the hills and mountains are not served by roads at all.

25. Road traffic in Nepal has been growing at the rate of about 5 to 8 percent annually during the past years, with the rate varying on different roads. The average daily traffic (ADT) on the most heavily used road, Birganj-Hetauda (north-south), is 500 vehicles; for rural roads ADT is about 100-150 vehicles. Available vehicle registration statistics indicate the presence of about 36,000 vehicles in Nepal, of which 50 percent are trucks and buses. With no information on scrapping being available, it is probable that about two-thirds of the registered vehicles are operating.

Institutional Aspects

26. DOR is responsible for the construction, maintenance and planning of all national roads. DOR has recently been decentralized in order to better enable it to administer and oversee bilateral and multilateral projects scattered throughout the country with a phased expansion plan to match the growth of the network. However, staff performance has sufferred because of low compensation and frequent reassignments.

27. There is a need for a greater number of qualified professional staff as well as trained personnel at the lower levels to plan, program and manage road development projects and maintain them properly. UNDP has a project to train mechanics which is being implemented by ILO, and IDA is financing the equipment required for this training under the Second Highway Credit. ODA, after financing construction of two sections of the East-West Highway, has agreed with HMG to establish and finance for a three-year period a road

remedial works unit to undertake major repair of those sections. Consultants will implement the project and their services will be complemented by counterpart staff from DOR. This project will be a valuable venue for practical in-service training in maintenance procedures for DOR staff at operational levels.

Planning and Finance

28. Planning in the highway sector (excluding panchayat roads) is the responsibility of DOR, the National Planning Commission, and the Ministry of Finance. Priorities are to integrate the eastern and western parts of the country into the national economy (i.e., completion of the East-West Highway), and to provide access to the hill areas. DOR's budget is based on an annual allocation under the five-year plan. For FY83 (the latest figures available), the budget was NRs 910 million (US$58.0 million equivalent) including funds from multilateral and bilateral agencies; it included NRs 25 million for routine road maintenance and NRs 141.2 million for periodic and emergency maintenance. Revenues are derived mainly from custom duties on vehicles and fuel, vehicle taxes, licenses and road cess.

Design and Construction

29. The Design Section of DOR is generally well-equipped to handle hill road programs and minor projects; major projects are handled by foreign consultants. Large projects, which attract foreign contracting firms, are also usually implemented through them. There has been limited development of the local contracting industry. The largest domestic construction firm, National Construction Company of Nepal, is a parastatal organization which dominates the local market for civil works. However, despite its advantages of being one of the largest construction firms in the country and government financed, its performance, particularly in road construction, has not been satisfactory. An assessment of Nepal's construction industry was made by the Bank in 1977/78 and updated in 1983. The principal recommendations for development of the construction industry made in the report were: appropriately packaged contracts, easier lending requirement for guarantees, easier credit facilities for contractors, and availability of equipment rental pool. DOR's ability to implement these recommendations has been constrained by limited resources. However, HMG has recently approached the German Government for assistance in strengthening the construction industry.

Maintenance

30. Extremes of topography and climatic conditions make maintenance of the road network in Nepal very difficult. As a consequence of the increasing workload and DOR's past inability to cope with it effectively, some sections of the key roads in Nepal cannot be restored to good condition without extensive rehabilitation or reconstruction as proposed in this project. Additionally, with decentralization, DOR is also facing critical shortages of equipment and skilled manpower. Both of these problems are addressed by the proposed project.

31. In spite of recent increases in the road maintenance budget (para. 28), the latter is still inadequate. The present condition of the network and anticipated wear and tear of the road due to movement of heavily-laden traffic from India, indicate an urgent need to increase the current

allocation for maintenance. For fiscal year 1983, the Government allocated NRs 25 million for routine maintenance along with NRs 141.2 million for periodic and emergency maintenance. HMG agreed to set aside NRs 40 million more in FY85 for routine maintenance. To ensure a reasonable share of maintenance in the general budget in the future and to bring annual allocations more in line with actual needs, HMG has agreed that by each March 31, beginning on March 31, 1985, it will establish, in consultation with the Association, a satisfactory level of annual allocation for road maintenance (Section 4.03(a), Development Credit Agreement).

32. With operation of more vehicles in the highway system there would be greater need for its maintenance and opportunity should be taken now to retrieve from the operators a proportion of the cost of maintenance. To this end, a policy of annually taxing heavy vehicles according to their unladen weights should be considered for all Nepalese operators, with suitable arrangements made to capture revenues from foreign truckers. The Asian Development Bank is currently financing a review of road user charges, collection methods, payments for different vehicle types in relation to axle weights, and the relationships between road revenues and expenditures. When the findings of the ADB-financed study are available, a tripartite review will be undertaken by HMG, ADB and IDA to determine how best to carry out a follow-up study on appropriate levels and structure of charges, as well as improved collection methods.

Bank Experience in the Sector

33. The proposed credit would be the third IDA operation for transport in Nepal, the previous two also being for roads. The first, Credit No. 223-NEP (US$2.5 million), effective in February 1971, financed the replacement of five narrow, understrength road bridges, the construction of five pedestrian suspension bridges for porter traffic, a four-year road maintenance program and consulting services and technical assistance. The project was satisfactorily completed in June 1977 but not without considerable delays due to shortages of materials and inefficiencies in administration.

34. The second, Credit 730-NEP (US$17.0 million), still in progress, is anticipated to close in December 1984. It comprises the upgrading of about 18 km of a mountainous section of the main road from India to Kathmandu, the construction of about 50 km of feeder roads, the procurement of construction equipment for use by the feeder road contractors, consultancy services for technical and economic studies of further roads and a training program for mechanics. The civil works component is almost completed. All the equipment has been procured and is in use, and the consultants' studies have been made, some of which form the basis of the presently proposed project.

PART IV - THE PROJECT

35. Engineering of the East-West Highway component of the project was carried out by Norconsult (Norway) on the basis of their feasibility study. Design of the 46 km of highway to the east was prepared by McDonald and Partners (UK) in parallel with their design of the Babai Irrigation Project, which is under consideration for possible IDA financing. This arrangement was so made as it was felt at the time of appraisal that the Babai scheme

would be implemented considerably in advance of the proposed Third Highway Project and part of the highway would be needed to provide access to the irrigation canal works as they both share a common right of way. The design of the Karnali Bridge has been prepared by Steinman, Boynton, Gronquist and Birdsall (USA). The preliminary engineering and economic studies of the road rehabilitation component were carried out by N.D. Lea (Canada), who is also expected to prepare the final engineering and tender documents. A report entitled Nepal - Third Highway Project: Staff Appraisal Report (No. 4763-NEP) is being distributed separately. Technical discussions were held in Washington, D.C. from April 12-16, and the negotiations on April 17, 1984. Mr. K. D. Adhikary, Secretary, Ministry of Finance, represented His Majesty's Government at the technical discussions; and Mr. I.B. Shrestha, Special Secretary, Ministry of Law and Justice headed the delegation for the negotiations.

Project Objectives

36. The main objectives of the project are:

(a) to provide a dependable means of integrating the far west of the country into the national economy, through the completion of an all-weather East-West Highway and feeder roads;

(b) to improve traffic conditions between Kathmandu and Birganj near the Indian border by the selective rehabilitation of bridges and roads; and

(c) to strengthen the operations and administration of DOR; in particular, to improve its capability to implement and monitor both road maintenance and the project components by providing it with technical assistance, equipment and training.

Project Description

37. The project consists of the following:

(a) completion of Nepal's East-West Highway through the construction of approximately 204 km of the final western section from Kohalpur to the border with India at the Mahakali River, including a major bridge over the Karnali River at Chisapani.

(b) construction of about 60 km of feeder roads linking the main areas of agricultural production in the influence areas of the Karnali River northwards to the project road;

(c) rehabilitation/maintenance of about 82 km of the Kathmandu-Birganj road, including selected bridges;

(d) procurement of equipment for road maintenance and a materials laboratory, office equipment and inspection vehicles; and

(e) technical assistance and training.

38. The East-West Highway when completed, with a length of about 1,040 km, will span the whole breadth of Nepal. About 850 km of this road has

already been built with assistance from India, the Soviet Union, UK and the US. In a section of this length, a major bridge over the Rapti River was seriously damaged by flooding during construction. HMG has confirmed that work for reconstruction of the bridge is under way. HMG agreed that the reconstruction of the bridge would be completed prior to the completion of construction of the portion of the East-West Highway under the proposed project (Section 3.03, Development Credit Agreement). Completion of the last 204 km between Kohalpur and Mahakali will open the far western part of the country to all-weather access from Kathmandu. Presently, such access is only in the dry season through limited air transport and jeeps or through India. The road alignment skirts north of the Terai and following the Siwalik foothills crosses the Karnali River at the Chisapani gorge, where a major bridge would be built. The alignment would cross the Karnali Wild Life Reserve for about 15 km to the east of the Karnali River. An adequate action plan involving such controls as entry and exit posts, limitations on night-travel, monitoring of road traffic, provision of underpasses, etc. has been agreed between DOR and the Department of Wild Life. Enactment of appropriate legislation by HMG to implement the conservancy measures under the plan would be a condition of effectiveness of the proposed credit (Section 6.01(d), Development Credit Agreement). The project also provides for construction of a network of gravel surfaced feeder roads west of the Karnali River to provide access to the highway from the more populated areas to the south.

39. Nepal's principal land link with the south runs from its border with India near Birganj northwards to the junction with the East-West Highway at Hetauda, west along that route to Narayangarh, north to Mugling and then east to Kathmandu via Naubise and Thankot. While some sections of the road are in fairly good condition, others are not. The surface of Birganj-Hetauda road is broken and deformed; five bridges on this road are more than fifty years old and need replacement. The project will rehabilitate this section of the road and reconstruct the bridges. It will rehabilitate and improve the road section between Naubise and Mugling whose pavement is structurally deficient and has insufficient width. It will also rehabilitate two bridges on the Thankot-Naubise road which are structurally deficient and have inadequate access for larger vehicles.

40. The project provides for the purchase of equipment for road maintenance and repair. A list of equipment needed for effective execution of road rehabilitation and maintenance work has been agreed with DOR. Equipment would also be provided for several materials testing laboratories (one already existing and several more to be established). For handling of routine tasks, like recording and updating of road inventory, instant identification of remedial works, inventories of materials and spare parts, the project would finance a computer for DOR. Acquisition of the computer would help DOR with its staffing shortage problems and would be very useful to its design office.

41. With an increasing workload and inadequacy of staff to cope with it, DOR is in need of expert assistance. The project, therefore, provides for 36 months of expert services for assisting DOR in the management of the road subsector. The project also provides for six months of services of an expert to assist HMG in determining how best to implement a policy of taxing heavy vehicles according to load capacity. In addition to such technical assistance, the project will also provide training to the younger professionals of DOR in: (a) the planning, evaluation and programming of projects; (b)

design and construction of projects; and (c) modern workshop practices and equipment operation, for a total of 265 months. The project would also continue the training of mechanics initiated under the Second Highway Project. The scope of the training would be broadened to include maintenance of equipment and maintenance practices and techniques for supervisory personnel.

Project Cost and Financing

42. The total cost of the project is estimated at about US$116 million equivalent (including taxes and duties of about US$13.1 million equivalent) of which about US$86.9 million or approximately 75 percent would be in foreign exchange. The proposed IDA credit of US$47.5 million equivalent would finance about 44 percent of the total cost exclusive of taxes and duties. The Saudi Fund for Development (SFD) has entered into an agreement with HMG to provide a loan of about US$30.8 million equivalent to finance two of the four contracts for the East-West Highway construction and construction supervision. The effectiveness of the SFD loan would be a condition of effectiveness of the proposed credit (Section 6.01(c)(d), Development Credit Agreement). HMG would obtain by December 31, 1985, loans or grants for bridge reconstruction, road rehabilitation, and some technical assistance (Section 4.06, Development Credit Agreement). ODA has already agreed in principle to provide this support with a grant of about US$19.7 million equivalent to meet the cost of road rehabilitation. HMG will finance the remainder of the cost which would be about US$18.0 million equivalent or about 13 percent of total project cost. The project cost provides price contingencies for local costs at the rate of 9 percent in 1984, 8 percent in 1985, 7 percent in 1986, and 6 percent in 1987/88; and for foreign costs at the rate of 7.7 percent in 1984, 7.2 percent in 1985, 6.5 percent in 1986, and 6 percent in 1987/88. A 10 percent physical contingency is also included in the project costs.

Project Execution

43. DOR would be responsible for project implementation. Supervision of the East-West Highway construction will be undertaken by consultants selected under the procurement policies of SFD from a number of prequalified firms. For the overall supervision of this component, HMG has constituted a board comprising the Secretary of the Ministry of Works and Transport, the Chief Engineer of DOR, the Project Manager, one representative each from the Ministry of Finance, Ministry of Law and Justice, and the Office of the Auditor-General. Supervision of the construction of the Karnali Bridge will be carried out by the consultants responsible for its design. Supervision of the ODA-financed road and bridge rehabilitation work will be carried out by the consultants selected on the terms and conditions of ODA agreement with HMG. DOR would assign key personnel to the Project Implementation Unit (PIU) by Fall 1984. PIU together with the consultants would manage and implement the entire project, as well as prepare bimonthly reports on the progress of the project for the Government, SFD and IDA. Administrative steps to create the PIU, the assignment of the Project Manager and other key personnel to PIU, and the appointment of the consultants for supervision of the East-West Highway construction were made conditions of effectiveness of the proposed credit (Sections 3.10 and 6.01(a)(b), Development Credit Agreement). All foregoing conditions have already been met since negotiations, except the creation of the PIU.

Procurement and Disbursement

44. The project procurement arrangements are summarized below:

Project Elements	Procurement Method			
	ICB	LCB	Other	Total Cost
	US$ Millions			
1. Civil Works	32.24		31.18	63.42
(a) East-West Highway	(24.82)			(24.82)
Chisapani Bridge	14.96			14.96
	(11.52)			(11.52)
Feeder Roads		2.00		2.00
		(1.54)		(1.54)
Supervision of Construction			6.21	6.21
			(0.63)	(0.63)
(b) Road Rehabilitation				
Thangkot-Naubise Bridges			0.46	0.46
Naubise-Mugling Pavement			17.01	17.01
Birganj-Hetauda Bridges	3.00			3.00
	(2.31)			(2.31)
Supervision			2.44	2.44
			(0.18)	(0.18)
2. Equipment	3.9		0.10	4.00
	(3.9)		(0.10)	(4.00)
3. Technical Assistance and Training			2.50	2.50
			(2.50)	(2.50)
TOTAL	54.10	2.00	59.90	116.00
	(42.55)	(1.54)	(3.41)	(47.50)

Note: Figures in parenthesis are the respective amounts financed by the Association.

45. There would be four contracts for the East-West Highway. Contracts for the two western most sections (about US$30.8 million equivalent) would be awarded under SFD procurement guidelines. The Saudi Fund would contribute about US$25.6 million towards financing of these sections. Contracts for the remaining portion of the East-West Highway (US$31.27 million equivalent), the Karnali (Chisapani) bridge (US$14.44 million equivalent), and the feeder roads (US$2.29 million equivalent) would be awarded according to IDA guidelines. Consultants for supervision of the East-West Highway construction (US$5.22 million equivalent) to be financed by SFD would be procured under Saudi Fund guidelines. ODA would finance the cost of road rehabilitation (US$21.7 million equivalent) according to conditions of its agreement with HMG. Equipment for road maintenance (US$4.26 million equivalent), and goods and services for Technical Assistance and Training (US$2.51 million equivalent) would be procured under IDA guidelines. All contracts for civil works, consultant services and equipment being financed by IDA would be

subject to IDA review prior to award. A preference of 7.5 percent for domestic contractors would be given in respect of civil works contracts.

46. Disbursements from the proceeds of the IDA credit would be made on the following basis:

(a) 77 percent of total expenditures for the construction of the East-West Highway, the feeder roads and the bridge over the Karnali River at Chisapani, and the five bridges of the Birganj-Hetauda road;

(b) 100 percent of foreign expenditures for the road maintenance equipment, spare parts, and other equipment and materials for DOR; or 100 percent of local expenditures (ex-factory cost) for locally manufactured goods; and 90 percent of local expenditures for goods procured locally (off-the-shelf); and

(c) 100 percent of expenditures for consultant's services, technical assistance and training of DOR staff.

The disbursement would be completed over a four and a half year period. The estimated closing date is June 30, 1990.

Project Benefits and Risks

47. The completion of the East-West Highway would provide the only direct surface link between the far western region of Nepal and the rest of the country. The network would provide all-weather access to the fertile plains known as the Terai which has Nepal's greatest agricultural potential and to the hill people who would be able to trade in market towns which are expected to spring up along the East-West Highway. The road would benefit about one million people in the area and would assist in the growth of commodity trade between the Terai and the Hills, and movement of agricultural produce between the regions. The Government has initiated several agricultural, rural development and power projects in the far western region; their progress has been hampered due to lack of road connections. The road would provide the much needed service for transportation of goods to the area besides spreading of benefits from the investments made in the region to the neighboring areas. Major quantifiable benefits of this component of the project are increased agricultural production due to easy access to the irrigated areas, facilitation of development projects in the area deferred through lack of all-weather access, avoidance of the cost of airlift of goods to the area, and earnings potential from tourism.

48. The objectives of rehabilitation of roads and bridges on the Kathmandu-Birganj Highway, the principal trade route of Nepal, are to reduce vehicle operating costs and accidents, and restore a smooth running surface through rehabilitation so that routine maintenance can be performed by DOR. Major quantifiable benefits from this component are: (a) avoidance of costs for temporary bridge crossing or disruption after a collapse; (b) reduced operating costs of vehicles; and (c) reduced cost of road maintenance.

49. The Economic Rate of Return (ERR) on the East-West Highway component along with interdependent investments is 14 percent; on the road rehabilitation component (Kathmandu-Birganj) it ranges between 14 percent and 23

percent. The overall weighted average ERR of the East-West highway construction and the road/bridge rehabilitation component is 16 percent. There are no major risks in this project. Possibilities of construction delays have been minimized by adequate provision for construction supervision. The risk analysis which takes into account the possibility of delays, as well as simultaneous variations in costs and benefits, yields an average ERR of 12 percent.

PART V - LEGAL INSTRUMENT AND AUTHORITY

50. The Draft Credit Agreement between the Kingdom of Nepal and the Association and the recommendation of the Committee provided for in Article V, Section 1 (d), of the Articles of Agreement are being distributed to the Executive Directors separately.

51. Special conditions of the project are listed in Annex III.

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

PART VI - RECOMMENDATION

53. I recommend that the Executive Directors approve the proposed Credit.

A. W. Clausen
President
by
Ernest Stern

Attachments
Washington, D.C.
August 9, 1984

TABLE 3A

NEPAL - SOCIAL INDICATORS DATA SHEET

	NEPAL			REFERENCE GROUPS (WEIGHTED AVERAGES) /a (MOST RECENT ESTIMATE) /b	
	1960/b	1970/b	MOST RECENT ESTIMATE/b	LOW INCOME ASIA & PACIFIC	MIDDLE INCOME ASIA & PACIFIC
AREA (THOUSAND SQ. KM)					
TOTAL	140.8	140.8	140.8	.	.
AGRICULTURAL	35.3	36.8	41.2	.	.
GNP PER CAPITA (US$)	60.0	80.0	150.0	276.7	1028.6
ENERGY CONSUMPTION PER CAPITA					
(KILOGRAMS OF COAL EQUIVALENT)	3.0	15.0	13.0	398.4	792.8
POPULATION AND VITAL STATISTICS					
POPULATION,MID-YEAR (THOUSANDS)	9447.0	11355.0	15029.0	.	.
URBAN POPULATION (% OF TOTAL)	3.1	4.9	6.4	21.5	32.9
POPULATION PROJECTIONS					
POPULATION IN YEAR 2000 (MILL)			24.2	.	.
STATIONARY POPULATION (MILL)			73.3	.	.
YEAR STATIONARY POP. REACHED			2155	.	.
POPULATION DENSITY					
PER SQ. KM.	67.1	80.6	104.0	161.7	260.7
PER SQ. KM. AGRI. LAND	267.4	308.6	355.7	363.1	1696.5
POPULATION AGE STRUCTURE (%)					
0-14 YRS	39.1	42.0	42.4	36.6	39.4
15-64 YRS	57.4	55.0	54.6	59.2	57.2
65 AND ABOVE	3.5	3.0	3.0	4.2	3.3
POPULATION GROWTH RATE (%)					
TOTAL	1.3	1.8	2.5/c	1.9	2.3
URBAN	4.4	6.3	5.0	4.0	3.9
CRUDE BIRTH RATE (PER THOUS)	43.6	45.5	43.6	29.3	31.3
CRUDE DEATH RATE (PER THOUS)	26.5	23.7	19.8	10.9	9.6
GROSS REPRODUCTION RATE	2.7	3.0	3.1	2.0	2.0
FAMILY PLANNING					
ACCEPTORS, ANNUAL (THOUS)	..	37.4	146.0/d	.	.
USERS (%-OF MARRIED WOMEN)	..	0.7/f	4.3/e,f	48.1	46.6
FOOD AND NUTRITION					
INDEX OF FOOD PROD. PER CAPITA (1969-71=100)	106.0	101.0	82.0	111.4	125.2
PER CAPITA SUPPLY OF					
CALORIES (% OF REQUIREMENTS)	94.0	94.0	86.0	98.1	116.2
PROTEINS (GRAMS PER DAY)	51.0	51.0	45.0	56.7	57.9
OF WHICH ANIMAL AND PULSE	9.0	9.0	8.0/e	13.9	14.1
CHILD (AGES 1-4) DEATH RATE	32.6	27.8	22.5	12.2	7.6
HEALTH					
LIFE EXPECT. AT BIRTH (YEARS)	37.6	40.5	44.6	59.6	60.2
INFANT MORT. RATE (PER THOUS)	194.5	172.5	147.7	96.6	68.1
ACCESS TO SAFE WATER (%POP)					
TOTAL	..	2.0	8.0/g	32.9	37.1
URBAN	47.7	53.0	81.0/g	70.8	54.8
RURAL	..	..	5.0/g	22.2	26.4
ACCESS TO EXCRETA DISPOSAL (% OF POPULATION)					
TOTAL	..	1.0	1.0/h	18.1	41.4
URBAN	..	14.0	14.0/h	72.7	47.5
RURAL	..	..	..	4.7	33.4
POPULATION PER PHYSICIAN	73800.0	51380.0/i	30060.0/e	3506.0	7771.9
POP. PER NURSING PERSON	..	70530.0/i	33420.0/e	4797.9	2462.6
POP. PER HOSPITAL BED					
TOTAL	8290.0	6940.0	6390.0	1100.6	1047.2
URBAN	290.0	390.0	450.0	298.4	651.1
RURAL	..	..	..	5941.6	2591.9
ADMISSIONS PER HOSPITAL BED	..	..	..	..	27.0
HOUSING					
AVERAGE SIZE OF HOUSEHOLD					
TOTAL	..	5.5	..	..	..
URBAN	5.4	..	..	..	..
RURAL	..	..	..	..	..
AVERAGE NO. OF PERSONS/ROOM					
TOTAL	..	..	..	..	..
URBAN	2.0	..	..	..	..
RURAL	..	..	..	..	..
ACCESS TO ELECT. (% OF DWELLINGS)					
TOTAL	..	..	..	..	..
URBAN	30.2	..	..	..	..
RURAL	..	..	..	..	..

TABLE 3A

NEPAL - SOCIAL INDICATORS DATA SHEET

	NEPAL			REFERENCE GROUPS (WEIGHTED AVERAGES) /a (MOST RECENT ESTIMATE) /b	
	1960/b	1970/b	MOST RECENT ESTIMATE/b	LOW INCOME ASIA & PACIFIC	MIDDLE INCOME ASIA & PACIFIC
EDUCATION					
ADJUSTED ENROLLMENT RATIOS					
PRIMARY: TOTAL	10.0	26.0	91.0	96.1	101.2
MALE	19.0	43.0	126.0	107.8	106.0
FEMALE	1.0	8.0	53.0	82.9	97.5
SECONDARY: TOTAL	6.0	10.0	21.0	30.2	44.9
MALE	11.0	16.0	33.0	37.3	50.0
FEMALE	2.0	3.0	9.0	22.2	44.6
VOCATIONAL (% OF SECONDARY)	0.2	5.8	6.8/e	2.3	18.5
PUPIL-TEACHER RATIO					
PRIMARY	33.0	22.0	38.0	34.4	32.7
SECONDARY	32.0	..	31.0	18.4	23.4
ADULT LITERACY RATE (%)	8.8	14.3	19.0	53.5	72.9
CONSUMPTION					
PASSENGER CARS/THOUSAND POP	0.1	0.4	..	1.6	9.7
RADIO RECEIVERS/THOUSAND POP	3.0/j	4.8	20.5	96.8	113.7
TV RECEIVERS/THOUSAND POP	..	..	..	9.9	50.1
NEWSPAPER ("DAILY GENERAL INTEREST") CIRCULATION PER THOUSAND POPULATION	0.7	2.4	7.3/g	16.4	54.0
CINEMA ANNUAL ATTENDANCE/CAPITA	..	..	..	3.6	3.4
LABOR FORCE					
TOTAL LABOR FORCE (THOUS)	4875.0	5537.0	7140.0	.	.
FEMALE (PERCENT)	40.5	39.2	39.0	33.3	33.6
AGRICULTURE (PERCENT)	95.0	94.0	93.0	69.0	50.9
INDUSTRY (PERCENT)	2.0	2.0	2.0	15.8	19.2
PARTICIPATION RATE (PERCENT)					
TOTAL	51.6	48.8	47.5	42.5	38.6
MALE	61.5	58.8	57.6	54.4	50.7
FEMALE	41.8	38.6	37.3	29.8	26.6
ECONOMIC DEPENDENCY RATIO	0.8	0.9	1.0	1.0	1.1
INCOME DISTRIBUTION					
PERCENT OF PRIVATE INCOME RECEIVED BY					
HIGHEST 5% OF HOUSEHOLDS	..	..	35.3/g	16.5	22.2
HIGHEST 20% OF HOUSEHOLDS	..	..	59.2/g	43.5	48.0
LOWEST 20% OF HOUSEHOLDS	..	..	4.6/g	6.9	6.4
LOWEST 40% OF HOUSEHOLDS	..	..	12.6/g	17.5	15.5
POVERTY TARGET GROUPS					
ESTIMATED ABSOLUTE POVERTY INCOME LEVEL (US$ PER CAPITA)					
URBAN	..	..	95.0	133.9	194.5
RURAL	..	..	45.0	111.6	155.0
ESTIMATED RELATIVE POVERTY INCOME LEVEL (US$ PER CAPITA)					
URBAN	..	..	..	..	178.0
RURAL	..	..	41.0	..	164.8
ESTIMATED POP. BELOW ABSOLUTE POVERTY INCOME LEVEL (%)					
URBAN	..	..	55.0/e	43.8	24.4
RURAL	..	..	61.0/e	51.7	41.1

.. NOT AVAILABLE
. NOT APPLICABLE

NOTES

/a The group averages for each indicator are population-weighted arithmetic means. Coverage of countries among the indicators depends on availability of data and is not uniform.

/b Unless otherwise noted, "Data for 1960" refer to any year between 1959 and 1961; "Data for 1970" between 1969 and 1971; and data for "Most Recent Estimate" between 1979 and 1981.

/c Estimated annual growth rate for 1972-79 is 2.6%; /d 1978; /e 1977; /f Government program only; /g 1976; /h 1975; /i Personnel in government services only; /j 1963.

May 1983

DEFINITIONS OF SOCIAL INDICATORS

Notes: Although the data are drawn from sources generally judged the most authoritative and reliable, it should also be noted that they may not be internationally comparable because of the lack of standardized definitions and concepts used by different countries in collecting the data. The data are, nonetheless, useful to describe orders of magnitude, indicate trends, and characterize certain major differences between countries.

The reference groups are (1) the same country group of the subject country and (2) a country group with somewhat higher average income than the country group of the subject country (except for "High Income" Oil Exporters' group where "Middle Income North Africa and Middle East" is chosen because of stronger socio-cultural affinities). In the reference group data the averages are population weighted arithmetic means for each indicator and shown only when a majority of the countries in a group has data for that vital area. Since the coverage of countries among the indicators depends on the availability of data and is not uniform, caution must be exercised in relating averages of one indicator to another. These averages are only useful in comparing the value of one indicator at a time among the country and reference groups.

AREA (thousand sq.km.)
Total - Total surface area comprising land area and inland waters; 1965, 1970 and 1980 data.
Agricultural - Estimate of agricultural area used temporarily or permanently for crops, pastures, market and kitchen gardens or to lie fallow; 1965, 1970 and 1980 data.

GNP PER CAPITA ('000 $) - GNP per capita estimates at current market prices, calculated by Atlas conversion method as World Bank Atlas (1979-81 basis); 1965, 1970, and 1981 data.

ENERGY CONSUMPTION PER CAPITA - Annual apparent consumption of commercial primary energy (coal and lignite, petroleum, natural gas and nuclear, nuclear and geothermal electricity) in kilograms of coal equivalent per capita; 1965, 1970, and 1981 data.

POPULATION AND VITAL STATISTICS
Total Population (mid-year) - As of July 1; 1965, 1970, and 1981 data.
Urban Population (percent of total) - Ratio of urban to total population; different definitions of urban areas may affect comparability of data among countries; 1965, 1970, and 1981 data.
Population Projections
Population in year 2000 - Current population projections are based on 1980 total population by age and sex and their fertility and fertility rates. Projection parameters for mortality rates comprise of three levels assuming life expectancy at birth increasing with country's per capita income level, and female life expectancy stabilizing at 77.5 years. The parameters for fertility rate also have three levels assuming decline in fertility according to income level and cost family planning performance. Each country is then assigned one of these nine combinations of mortality and fertility trends for projection purposes.
Stationary population - The stationary population refers to no growth since the birth rate is equal to the death rate, and also the age structure remains constant. This is achieved only after fertility rates decline to the replacement level of unit net reproduction rate, when each generation of women replaces itself exactly. The stationary population size was estimated on the basis of the projected characteristics of the population in the year 2000, and the rate of decline of fertility rate in the subsequent years.
Year stationary population achieved - The year when stationary population size was attained.
Population Density
Per sq.km. - Mid-year population per square kilometer (100 hectares) of total area; 1965, 1970, and 1981 data.
Per sq.km. agricultural land - Computed as above for agricultural land only; 1965, 1970 and 1981 data.
Population Age Structure (percent) - Children (0-14 years), working-age (15-64 years), and retired (65 years and over) as percentages of mid-year population; 1965, 1970, and 1981 data.
Population Growth Rate (percent) - Total - Annual growth rates of total mid-year population for 1960-70, 1970-81, and 1970-80.
Population Growth Rate (percent) - Urban - Annual growth rates of urban populations for 1960-70, 1970-81.
Crude Birth Rate (per thousand people) - Annual live births per thousand of mid-year population; 1965, 1970, and 1981 data.
Crude Death Rate (per thousand people) - Annual deaths per thousand of mid-year population; 1965, 1970, and 1981 data.
Gross Reproduction Rate - Average number of daughters a woman will bear in her normal reproductive span if she experiences present age-specific fertility rates; source: "Demographic Indicators" averages existing in 1960, 1970, and 1981.
Family Planning - Users (in thousands) - Annual number of acceptors of contraceptive aids at clinic supplies of official family planning programs.
Family Planning - Users (percent of married women) - Percentage of married women of reproductive age (wife aged 15-44 years, husband in all married women) who are users.

FOOD AND NUTRITION
Per capita supply of calories (percent of requirements) - Computed from average calorie supply per capita per day available in country (net of estimated waste and feed and net of exports) and requirements (per primary trade e.g. sugarcane, cereal, sugar beet, and edible and certain industrial oils, coffee and tea are on trade). Requirements estimation of each country is based on the average requirement of its weights, (height), sex, and 1981 data.
Per capita supply of protein (grams per day) - Computed from average calorie supply per capita per day, modified to take account of quality (see above), and net of exports, and of quantities of calories lost, seeds, quantities used for feed and certain industrial purposes. Requirements were estimated at 65 grams per capita per day based on World Health Organization estimates of total needs for normal activity and growth, considering environmental temperature, body weights, age and sex distribution of population and allowing 10 percent for waste at household level; 1965, 1970, and 1981 data.
Per capita supply of fats - Supply of calories derived from fats as percentage of total per capita calorie supply as above. Requirements for all countries established at 20 grams per capita per day allowing adequate allowances of fat in diets of cereals or animal and other products. These requirements were derived on the basis of 10 grams of fat required for protein and 10 grams of carbohydrates, with adjustments for age and sex distribution of the world, determined by FAO in the Third World Food Survey; 1965, 1970, and 1981 data.
Daily supply of protein (grams per capita) - Protein supply of food derived from average per capita supply of calories as above; 1965, 1970, and 1981 data.
Daily supply of calories (percent of requirements) - Ratio of calorie supply to requirements as above; 1965, 1970, and 1981 data.

LIFE EXPECTANCY AND MORTALITY
Life expectancy at birth - Average number of years of life remaining at birth; 1965, 1970, and 1981 data.
Infant mortality rate - Annual deaths of infants under one year of age per thousand live births; 1965, 1970, and 1981 data.
Ratio of male/female mortality rate - Ratio of male infant mortality rate to female infant mortality rate; 1965, 1970, and 1981 data.
Access to safe water (percent of population with access) - Percentage of population with reasonable access to adequate amounts of safe water (including treated surface waters or untreated but uncontaminated supplies such as those from springs, boreholes, and sanitary wells) in their dwelling or within convenient distance of their home. In an urban area a public fountain or standpipe is considered adequate if it delivers 20 liters a day and is within 200 meters of a dwelling. In rural areas, accessibility is considered adequate if water is available from a source, such as a village well, within a reasonable distance of most houses. Water which is available but which does not meet certain standards of purity, such as water from open wells in densely populated areas, is considered adequate. Excluded are supplies which are inaccessible during certain seasons of the year or involve waiting in long queues.
Access to disposal of excreta (percent of population with access) - Percentage of population served by connection to sewers or septic tanks, pour-flush latrines, ventilated improved pit latrines, and similar facilities, all adequately designed to prevent contamination of water supplies and dwellings and to control disease. Facilities that do not adequately separate excreta from human contact, such as bucket latrines and public latrines, are considered inadequate. Communal facilities are assumed adequate if they are used by no more than 20 persons.
Physicians per capita - Number of practicing physicians per 10,000 population; 1965, 1970, and 1981 data.
Access to primary health care (percent of population with access) - Percentage of population living within one hour's travel time (walking, or by animal or vehicle, as prevailing locally) of primary health care facilities, whether fixed or mobile, providing essential drugs and regularly supervised by trained health workers, including physicians, nurses, auxiliaries, and community health workers as appropriate. Facilities may be hospitals, health centers, or clinics, and may be run by the government, private practitioners, voluntary agencies, social security schemes, or employers. In an urban area a public facility is considered adequate if it delivers 1.5 meters from a road over which vehicles can travel. In rural areas, accessibility is considered adequate if most people live within one hour's travel time. Inadequate facilities are those which fail to meet these criteria. Excluded are facilities which are not in operation a majority of the days in the year or which have a regular shortage of supplies or a lack of water.
Access to health services (percent of population with access) - Percentage of population living within one hour's travel time (walking, by animal or vehicle, as prevailing locally) of primary health care facilities, whether fixed or mobile, providing essential drugs and regularly supervised by trained health workers, including physicians, nurses, auxiliaries, and community health workers as appropriate. Facilities may be hospitals, health centers, or clinics, and may be run by the government, private practitioners, voluntary agencies, social security schemes, or employers. In an urban area a public facility is considered adequate if it delivers 1.5 meters from a road over which vehicles can travel. In rural areas, accessibility is considered adequate if most people live within one hour's travel time. Inadequate facilities are those which fail to meet these criteria. Excluded are facilities which are not in operation a majority of the days in the year or which have a regular shortage of supplies or a lack of water.

Population per Physician - Population divided by number of practicing physicians qualified from a medical school at university level.
Population per Nursing Person - Population divided by number of practicing male and female graduate nurses, assistant nurses, practical nurses and nursing auxiliaries.
Population per Hospital Bed - Total, urban, and rural - Population (total, urban, and rural) divided by their respective number of hospital beds available in public and private general and specialized medical and rehabilitation centers. Hospitals are establishments permanently staffed by at least one physician. Establishments providing principle custodial care are not included. Rural hospitals, however, include health and medical centers not permanently staffed by a physician that have a medical assistant, nurse, midwife, etc.) where offer in-patient accommodation and provide a limited range of medical facilities. For statistical purposes urban hospitals include urban principal general hospitals, and rural hospitals, local or rural hospitals and medical and maternity centers. Specialized hospitals are included only under total.
Admissions per Hospital Bed - Total number of admissions to or discharges from hospitals divided by the number of beds.

HOUSING
Average Size of Household (persons and households) - Total, urban, and rural - A household consists of a group of individuals who share living quarters and their main meals. A boarder or lodger may or may not be included in the household for statistical purposes.
Average number of persons per room - Total, urban, and rural average number of persons per room in all urban, and rural occupied conventional dwellings, respectively. Dwellings exclude non-permanent structures and unoccupied parts.
Access to Electricity (percent of dwellings) - Total, urban, and rural - Conventional dwellings with electricity in living quarters as percentage of total, urban, and rural dwelling respectively.

EDUCATION
Adjusted Enrollment Ratios
Primary school - Total, male and female - Gross total, male and female enrollment of all ages at the primary level as percentages of respective primary school-age populations; normally includes children aged six years but adjusted for different lengths of primary education; for countries with universal education enrollment may exceed 100 percent since some pupils are below or above the official school age.
Secondary school - Total, male and female - Computed as above; secondary education requires at least four years of approved primary instruction; provides general, vocational, or teacher training instruction for pupils usually of 12 to 17 years of age; correspondence courses are generally excluded.
Vocational enrollment (percent of secondary) - Vocational institutions include technical, industrial, or other programs which operate independently or as departments of secondary institutions.
Pupil-teacher ratio - primary and secondary - Total students enrolled in primary and secondary levels divided by numbers of teachers in the corresponding levels.
Adult literacy rate (percent) - Literate adults (able to read and write) as a percentage of total adult population aged 15 years and over.

CONSUMPTION
Passenger Cars (per thousand population) - Passenger cars comprise motor cars seating less than eight persons, excluding ambulances, hearses and military vehicles.
Radio Receivers (per thousand population) - All forms of receivers for radio broadcasts to general public per thousand population, including all licensed receivers in countries and in years when registration of radio sets was in effect. Data for recent years may not be comparable since many countries abolished licensing.
TV Receivers (per thousand population) - TV receivers for broadcast to general public per thousand population in the urban areas. TV data were in countries and in years when registration of radio sets was in effect.
Newspaper Circulation (per thousand population) - Average circulation of "daily general interest newspaper" per thousand population. A publication is considered to be "daily" if it appears at least four times a week.
Cinema Annual Attendance per Capita (per year) - Based on the number of tickets sold during the year, including admissions to drive-in cinemas and mobile units.

LABOR FORCE
Age - Total Labor Force (thousands) - Economically active persons, including armed forces and unemployed but excluding housewives, students, or all persons below a specified age. Definitions in each country are not comparable; 1960, 1970 and 1981 data.
Female (percent) - Female labor force as per a total labor force; other for a specific age.
Agriculture (percent) - Labor force in farming, forestry, hunting and fishing as percentage of total labor force; 1960, 1970 and 1981 data.
Industry (percent) - Labor force in mining, construction, manufacturing and electricity, water and gas as percentage of total labor force; 1960, 1970 and 1981 data.
Participation Rate (percent) - Total, male, and female - Participation or activity rates are computed as the total, male and female labor force as percentages of total, male and female population for age groups respectively; 1960, 1970, and 1981 data. These are used in the participation rates reflecting age-sex structure of the population, and long time trends. A few estimates are from national sources.
Economic Dependency Ratio - ratio of population under 15 and 65 and over to the total labor force.

INCOME DISTRIBUTION
Percentage of per are formed with a male and head - Received by richest 5 percent, 20 most 20 percent, lowest 20 percent and poorest 40 percent of households.

POVERTY TARGET GROUPS
The following estimates are very approximate measures of poverty levels, and should be interpreted with considerable caution.
Estimated Absolute Poverty - Total, urban and rural - Absolute poverty is defined as the inability to attain a minimum nutritionally adequate diet plus essential non-food requirements in the affordable.
Estimated Relative Poverty - Total, urban and rural - Relative poverty is defined with reference to the overall distribution of private household income of the country, namely, a household is in poverty if its level with adjustment for higher cost of living in urban areas.
Estimated Population in Urban Poverty - Percent of population in urban areas living in absolute poverty.

ECONOMIC INDICATORS - NEPAL

GNP PER CAPITA IN 1982/83: US$157

GROSS DOMESTIC PRODUCT IN 1981/82

	US$ Mln.	%
GDP at Market Prices	2,514	100.0
Gross Domestic Investment	389	15.5
Gross Domestic Saving	216	8.6
Current Account Balance (exc. official grants)	-120	-4.8
Exports of Goods, NFS	277	11.0
Imports of Goods, NFS	450	17.9

ANNUAL RATE OF GROWTH, 1970-1981 a/
(%, constant prices)

2.1

OUTPUT, LABOR FORCE AND PRODUCTIVITY IN 1979/80

	Value Added		Labor Force b/		Value Added Per Worker
	US$ Mln.	%	Mln.	%	US$
Agriculture	1,065	57	6.9	93	155
Industry c/	251	14	0.1	2	1,696
Services	543	29	0.4	5	1,468
Total/Average	1,859	100	7.4	100	251

GOVERNMENT FINANCE

	CENTRAL GOVERNMENT Rs. Mln.				
	1979/80	1980/81	1981/82	1982/83	% of GDP 1982/83
Current Receipts	1,853	2,403	2,866	3,001	8.3
Regular Expenditures	1,055	1,264	1,589	2,025	5.6
Current Surplus	798	1,139	1,277	976	2.7
Development Expenditure	2,309	2,731	4,034	4,808	13.2
External Assistance (Net)	1,318	1,374	1,953	2,607	7.8

MONEY, CREDIT AND PRICES

	1979	1980	1981	1982	1983
	(Million Rs outstanding mid-July)				
Money and Quasi Money	4,512	5,285	6,308	7,459	8,780
Bank Credit to Government	1,176	1,362	1,357	2,132	3,185
Bank Credit to Public Enterprises	436	501	668	618	981
Bank Credit to Private Sector	1,976	2,547	3,231	3,363	3,717
Money and Quasi Money as % of GDP	20.3	22.6	21.7	22.9	24.2
General Price Index (1974/75 = 100)	116.6	125.5	148.0	159.7	180.5
Annual Percentage Changes in:					
General Price Index	10.0	7.6	17.9	7.9	13.0
Bank Credit to Government	21.8	15.8	-0.4	57.1	49.4
Bank Credit to Public Enterprises	24.3	14.9	33.3	-7.5	58.7
Bank Credit to Private Sector	24.3	28.9	26.9	4.1	10.5

Note: All conversions to US dollars in this table are at the average exchange rate prevailing during the period covered.

a/ World Development Report 1983.
b/ Total labor force; unemployed are allocated to sector of their normal occupation.
c/ Includes mining, manufacturing, construction and utilities.

.. not available

TRADE PAYMENTS AND CAPITAL FLOWS

BALANCE OF PAYMENTS

	1980/81	1981/82	1982/83 a/
	(Millions US$)		
Exports, f.o.b. c/	134.4	115.4	67.3
Imports, f.o.b. c/	352.6	363.6	408.3
Trade Balance	-218.2	-248.2	-341.0
Services, net	75.6	87.3	78.1
of which: Tourism	64.5	51.4	61.4
Transfers, net	46.4	40.5	37.6
of which: Private Remit.	38.9	34.5	..
Indian Excise Refund	4.7	3.1	2.5
Current Account Balance (exc. grants)	-96.4	-120.4	-225.3
Official Grants	71.7	89.3	102.5
Official Capital, net	52.8	59.3	72.1
Private Capital, net	-12.0	10.8	14.6
Change in Reserves (- = Increase)	-16.1	-39.0	36.1
Gross Official Reserves (mid-July)	195.8	232.6	159.7

MERCHANDISE EXPORTS 1981/82 b/

	US$ Mln.	%
Agricultural products	92.0	80.0
Manufactures	23.0	20.0
Total	115.0	100.0

EXTERNAL DEBT, DECEMBER 31, 1982

	US$ Mln.
Public Debt, inc. guaranteed	296.6
Non-Guaranteed Private Debt	-
Total Outstanding & Disbursed	296.6

DEBT SERVICE RATIO for 1983/84 d/

	%
Public Debt, inc. guaranteed	6.0

IBRD/IDA LENDING, March 31, 1984 (Millions US$)

	US$ Mln.	
	IBRD	IDA
Outstanding & Disbursed	-	186.3
Undisbursed	-	194.2
Outstanding, incl. undisbursed	-	380.5

RATE OF EXCHANGE

From October 1975	From October 1975 to March 20, 1978	From March 20, 1978 to September 18, 1981	From September 19, 1981 to December 16, 1982	From December 17, 1982 to May 31, 1983
US$1.00 = NRs 10.26	US$1.00 = NRs 12.5	US$1.00 = NRs 12.00	US$1.00 = NRs 13.2	US$1.00 = NRs 14.3
NR 1.00 = US$ 0.095	NR 1.00 = US$ 0.08	NR 1.00 = US$ 0.083	NR 1.00 = US$ 0.076	NR 1.00 = US$ 0.070

Most Recent Rate e/
June 30, 1984

1.00 = NRs 14.
1.00 = US$ 0.06

Estimate
Customs basis.
Payments basis.
Ratio of Debt Service to Exports of Goods and Services.
Since June 1, 1983, the Nepal Rastra Bank announces the exchange rate daily, based on a trade-weighted basket, with the US dollar as the intervention currency. The rate shown here is the mid-rate on the date indicated.

. not applicable
.. not available

South Asia Programs Department
July 16, 1984

STATUS OF BANK GROUP OPERATIONS IN NEPAL

A. STATEMENT OF IDA CREDITS (as of March 31, 1984) /a

No.	Year	Borrower	Purpose	US$ million (net of cancellations) IDA	Undisbursed
Eight credits fully disbursed				71.3	
470	1974	Kingdom of Nepal	Water Supply and Sewerage	11.8	1.3
617	1976	Kingdom of Nepal	Rural Development	8.0	0.2
659	1976	Kingdom of Nepal	Technical Assistance	3.0	0.1
704	1977	Kingdom of Nepal	Second Water Supply & Sewerage	8.0	2.3
705	1977	Kingdom of Nepal	Industrial Dev. Corporation	4.0	0.8
730	1977	Kingdom of Nepal	Second Highway	17.0	2.5
772	1978	Kingdom of Nepal	Technical Education	5.7	2.5
799	1978	Kingdom of Nepal	Telecommunications III	14.5	5.3
812	1978	Kingdom of Nepal	Irrigation (Sunsari-Morang)	30.0	17.1
856	1978	Kingdom of Nepal	Irrigation (Narayani Zone)	14.0	6.8
939	1979	Kingdom of Nepal	Second Rural Development	11.0	9.7
1008	1980	Kingdom of Nepal	Community Forestry	17.0	15.8
1055	1980	Kingdom of Nepal	Irrigation (Mahakali)	16.0	14.3
1059	1980	Kingdom of Nepal	Third Water Supply & Sewerage	27.0	17.1
1062/c	1980	Kingdom of Nepal	Grain Storage	6.2	4.6
1093/c	1981	Kingdom of Nepal	Irrigation (Babai)	3.5	0.5
1100/c	1981	Kingdom of Nepal	Agricultural Extension & Res.	17.5	8.0
1101/c	1981	Kingdom of Nepal	Hill Food Production	8.0	5.7
1191/c	1982	Kingdom of Nepal	Cottage & Small Industries	6.5	5.2
1198/c	1982	Kingdom of Nepal	Second Education	14.3	12.4
1260/c	1982	Kingdom of Nepal	Petroleum Exploration Promotion	9.2	6.4
1316/c	1983	Kingdom of Nepal	Irrigation VII-Bhairawa-Lumbini	16.0	15.1
1339/c	1983	Kingdom of Nepal	Cash Crop Development Project	6.0	5.9
1379/c	1983	Kingdom of Nepal	Second Technical Assistance Project	6.0	5.9
1400/c	1983	Kingdom of Nepal	Second Forestry Project	18.0	7.7
1452/d	1984	Kingdom of Nepal	Karnali Preparation Project (Phase I)	11.0	11.0
		Total,		380.5	194.2
		of which has been repaid		0.3	
		Total now outstanding /b		380.2	
		Total now held by IDA		380.2	
		Total Undisbursed			194.2

/a No Bank loans have been made to Nepal.
/b Prior to exchange adjustments.
/c IDA 6th Replenishment Credits, principal amounts shown in U.S. dollar equivalent at date of negotiations, as shown in President Reports, and Disbursed amounts shown in US dollar equivalent at the rate of exchange for the SDR on March 31, 1984.
/d Not yet effective.

B. STATEMENT OF IFC INVESTMENT (as of March 31, 1984)

Year	Obligor	Type of Business	Amount ($ millions) Loan	Equity	Total
1975	Soaltee Hotel (Pvt) Ltd.	Hotel	2.7	0.4	3.1
1982	Nepal Orind Magnesite (Private) Limited	Mine and process magnesite ore	5.6 8.3	- 0.4	5.6 8.7
	Total commitments now held by IFC		7.9	0.4	8.3

NEPAL

THIRD HIGHWAY PROJECT

Supplementary Data Sheet

Section I: Timetable of Key Events

(a) Time taken for the country to prepare the project:

Two years

(b) The agency which has prepared the project:

The Department of Roads with assistance from consultants

(c) Date of first presentation to the Bank Group and date of the first mission to consider the project:

November 1981

(d) Date of departure of the appraisal mission:

January 1983

(e) Date of completion of negotiations:

April 17, 1984

(f) Planned date of effectiveness:

December 1984

Section II: Special IDA Implementation Action

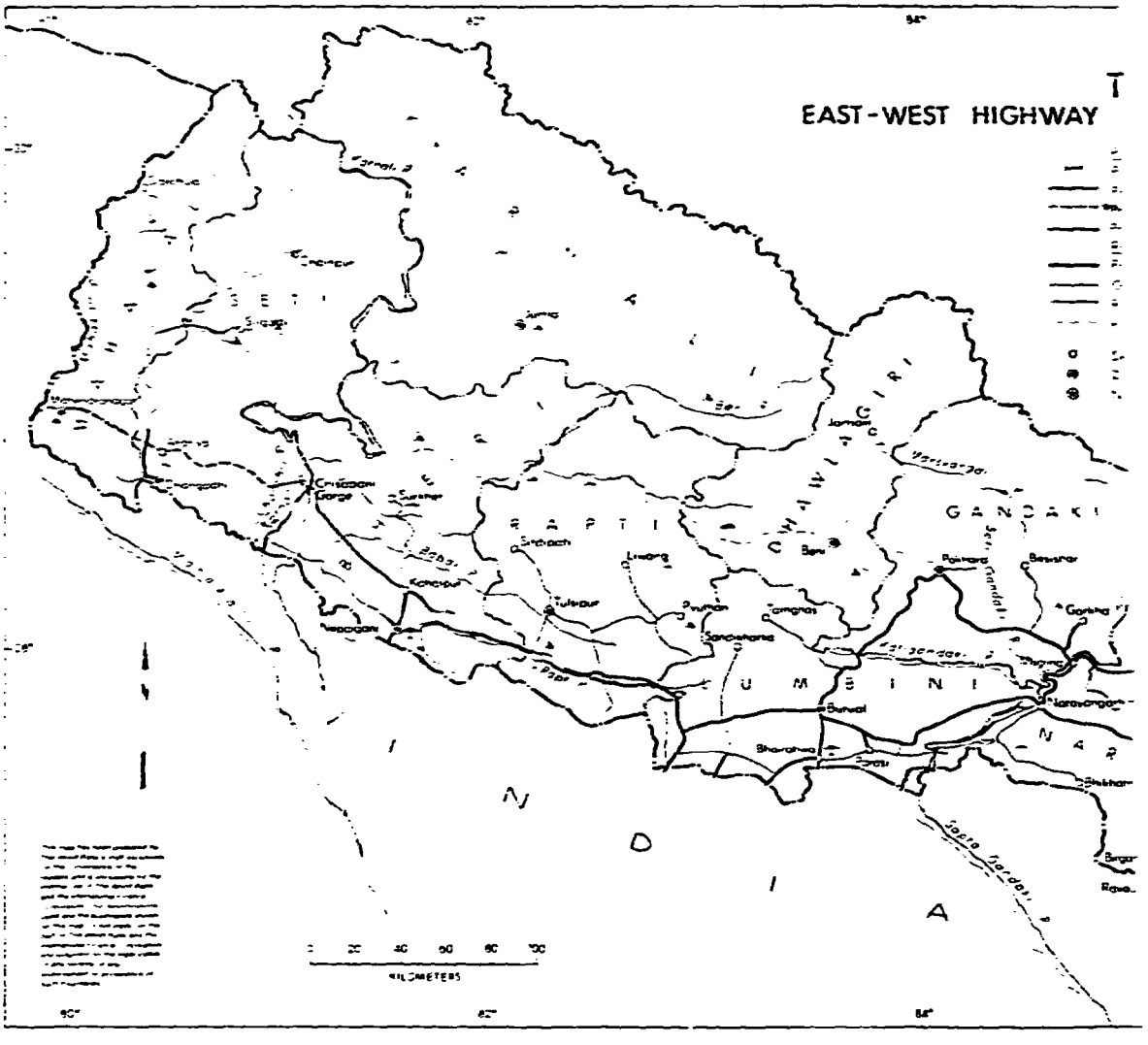
None

Section III: Special Conditions

(a) Effectiveness of the SFD loan (para. 42);

(b) Administrative steps to create the Project Implementation Unit (PIU), assignment of the Project Manager and key personnel thereto, and appointment of consultants for construction supervision of the East-West Highway (para 43); and

(c) Enactment of appropriate legislation by HMG to implement conservancy measures in the Karnali Wild Life Reserve (para. 38).


EAST-WEST HIGHWAY
INDIA
KILOMETERS

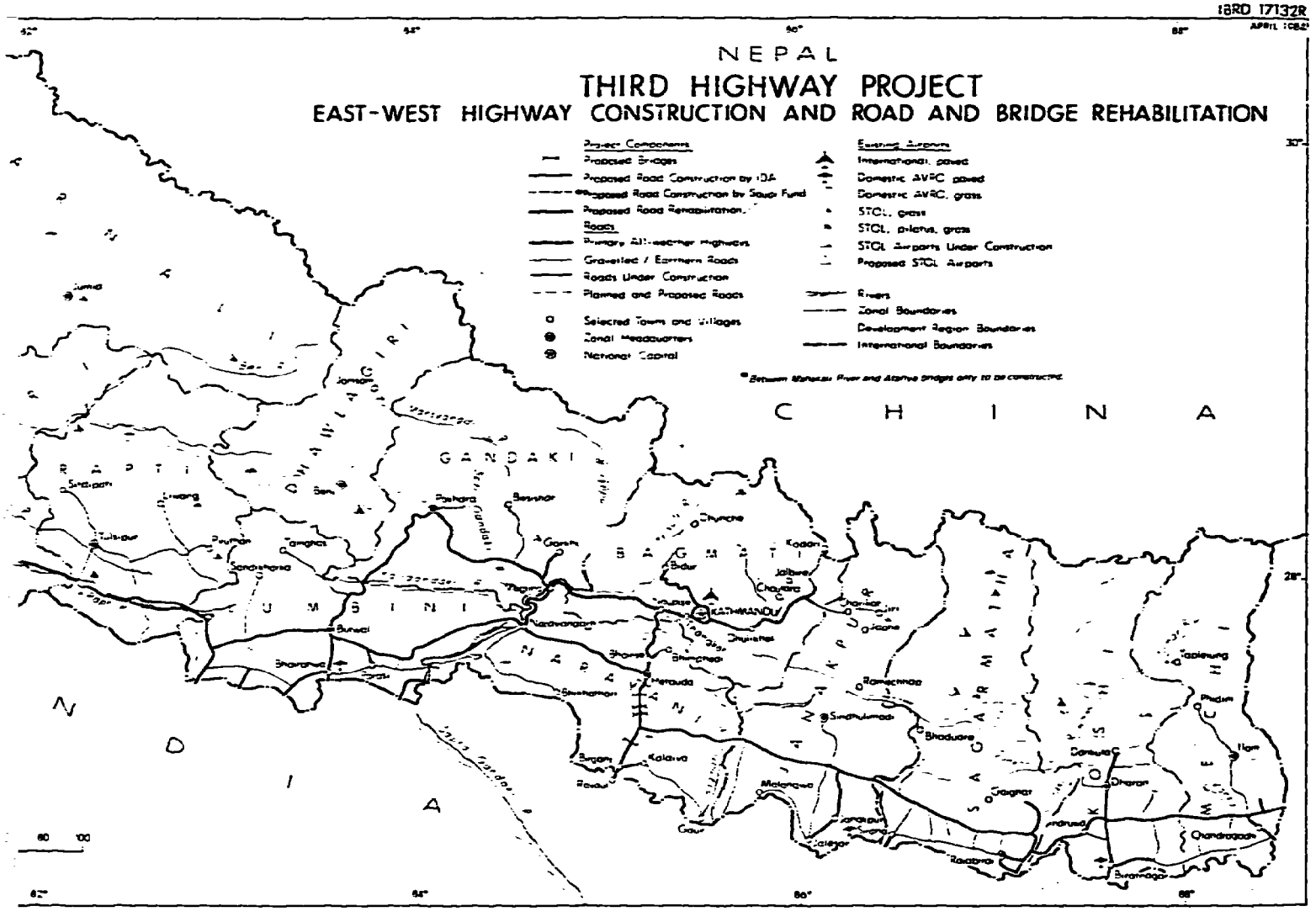
IBRD 17132R

APRIL 1982

NEPAL

THIRD HIGHWAY PROJECT

EAST-WEST HIGHWAY CONSTRUCTION AND ROAD AND BRIDGE REHABILITATION


Project Components
Proposed Bridges
Proposed Road Construction by IDA
Proposed Road Construction by Saudi Fund
Proposed Road Rehabilitation
Roads
Primary All-weather Highways
Gravelled / Earthern Roads
Roads Under Construction
Planned and Proposed Roads
Selected Towns and Villages
Zonal Headquarters
National Capital
Existing Airports
International, paved
Domestic AVRC paved
Domestic AVRC, grass
STOL, grass
STOL, pistus, grass
STOL Airports Under Construction
Proposed STOL Airports
Rivers
Zonal Boundaries
Development Region Boundaries
International Boundaries
* Between Mahakali River and Attaria bridges only to be constructed
C H I N A
N D I A
KATHMANDU
Pokhara
Butwal
Bharatpur
Birgunj
Janakpur
Biratnagar
Dharan
Dhankuta
Taplejung
Phidim
Ilam
Bhadaure
Ramechhap
Sindhulimadi
Hetauda
Kalaiya
Gaur
Jaleswar
Rajbiraj
Chandragadhi
Jogbani
Mahendra Highway
Tribhuvan Highway
Prithvi Highway
Siddhartha Highway
Arniko Highway
Koshi Barrage
Gandak Barrage
Narayani Bridge
Karnali Bridge
Mahakali Bridge
Attaria Bridge
Kohalpur
Nepalgunj
Surkhet
Jumla
Dhangadhi
Mahendranagar
Dipayal
Dadeldhura
Baitadi
Darchula
Tulsipur
Ghorahi
Tansen
Sandhikharka
Pyuthan
Taulihawa
Bhairahawa
Narayangadh
Bardibas
Lahan
Rajbiraj
Siraha
Gaighat
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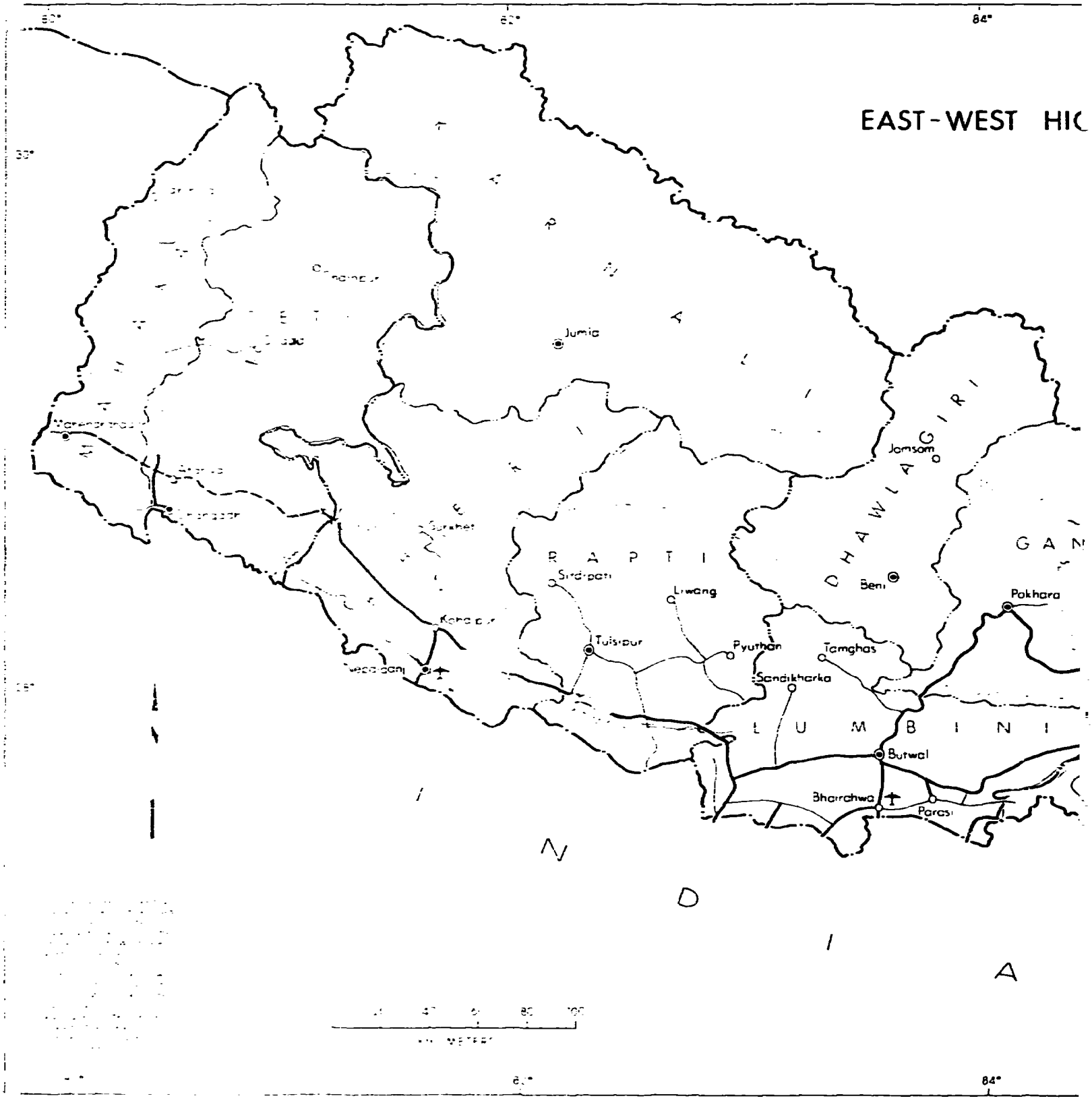
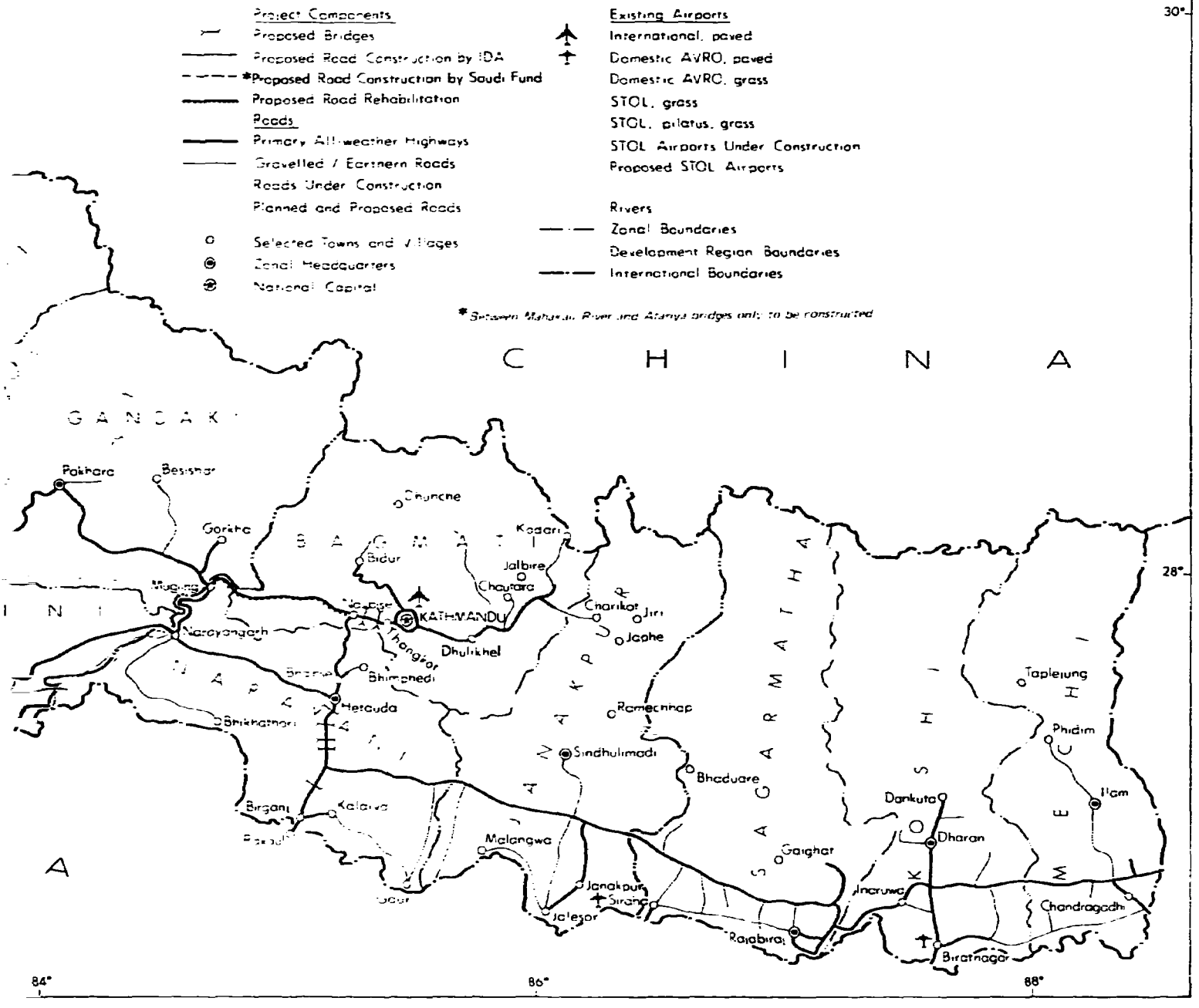

EAST-WEST HIC
Jumla
Jomsom
DHAWLAGIRI
Beni
Pokhara
Sirdipani
Liwang
Tulsipur
Pyuthan
Tamghas
Sandikharka
Butwal
Bharchwa
Parasi
Kohalpur
Surkhet

IBRD 17132R

APRIL 1984

NEPAL

THIRD HIGHWAY PROJECT

EST HIGHWAY CONSTRUCTION AND ROAD AND BRIDGE REHABILITATION