No. 1

THE KINGDOM OF NEPAL

PRELIMINARY DESIGN REPORT
ON
THE ESTABLISHMENT PROGRAMME
OF
MEDIUM WAVE RADIO BROADCASTING NETWORK

JANUARY, 1980

JAPAN INTERNATIONAL COOPERATION AGENCY

T I B

Manaslu

Ganesh Himal

Dhaulagiri

Annaprna

Machhapuchhare

Dandeldhura

POKHARA

Gurkha

KATHMADU

SURKHET

T E R A I

Hitaura

Butwal

T E R A I

T E

Birganj

I N D I A

Map of Nepal

N

0 20 40 60 80 100 KM

T I B E T

Dhaulagiri
Annaprna
Machhapuchhare
Manaslu
Ganesh Himal
Mt. Everest
Makalu

POKHARA
Gurkha
KATHMADU
DHANKUTA

Hitaura
Butwal
Biratnagar
Janakpur
Birganj

T E R A I

T E R A I

T E R A I

N D I A

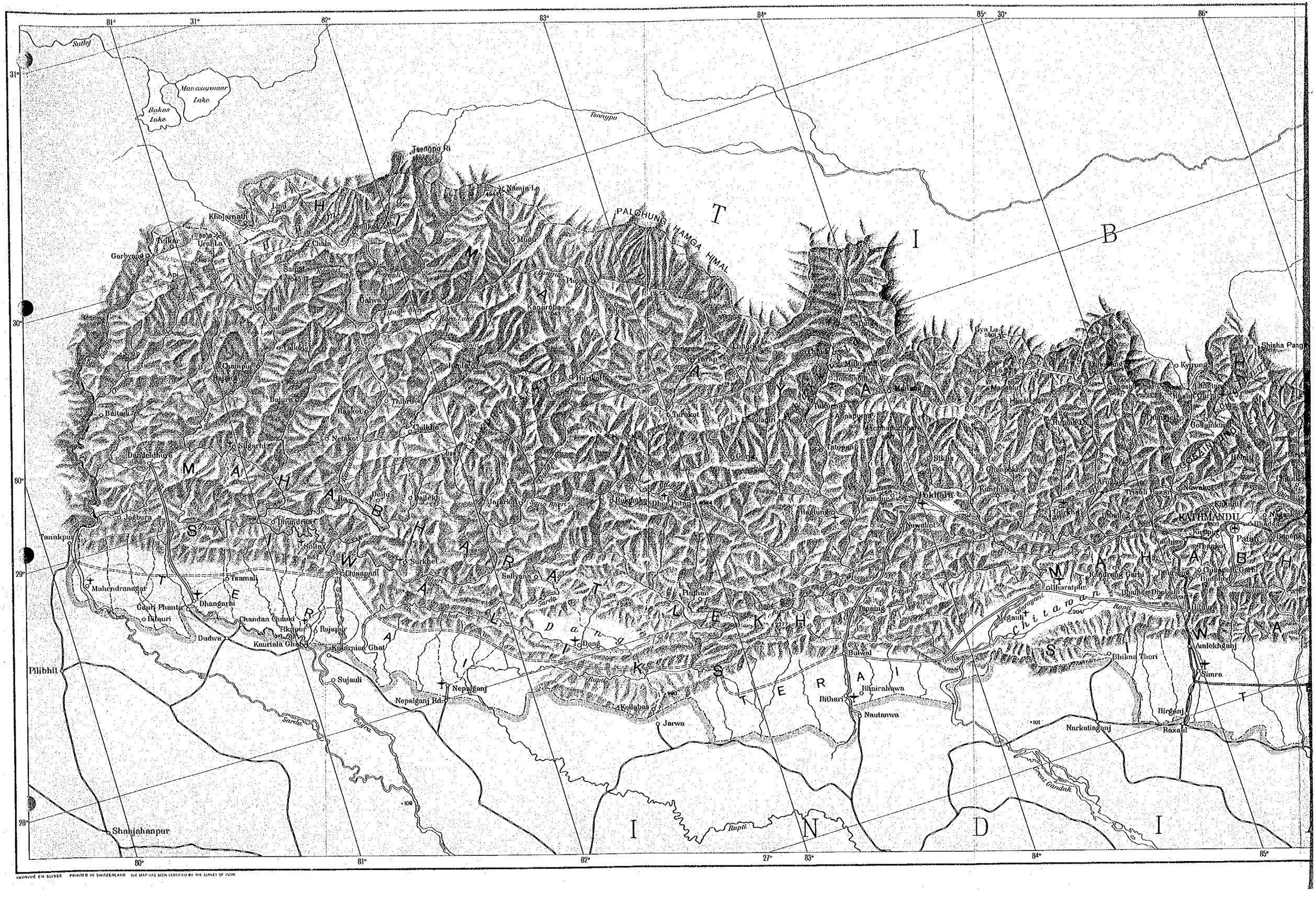
Népal
Nepal

1:1408000

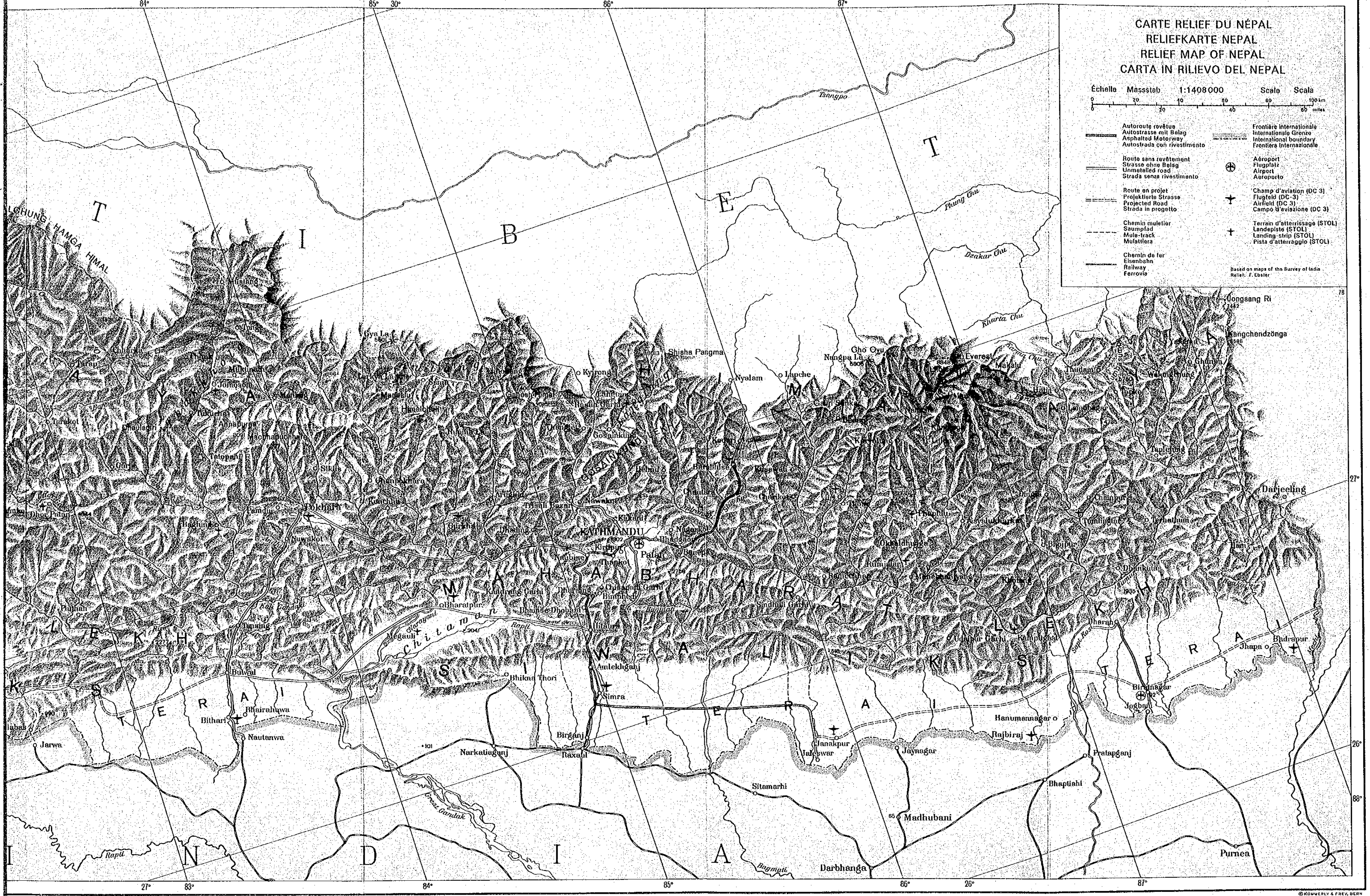
Carte relief
Carta in rilievo

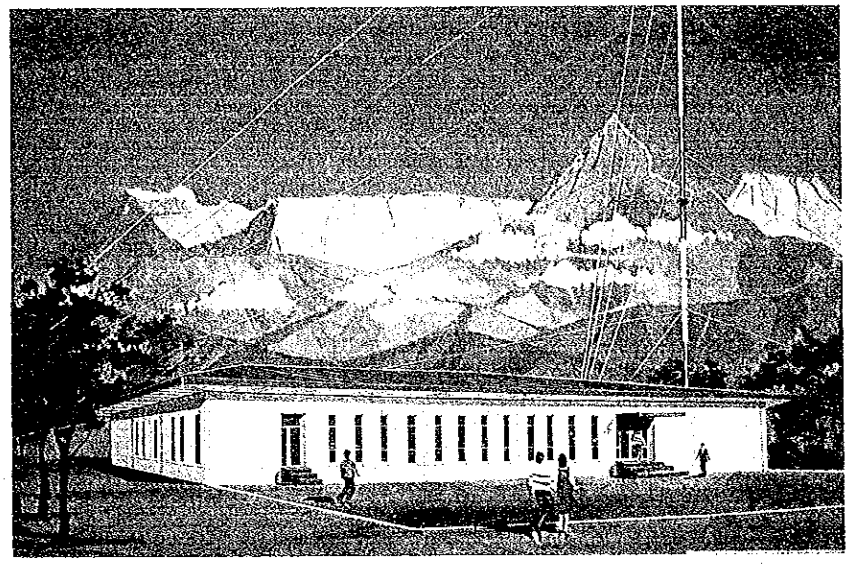
Kümmerly+Frey

No 4235

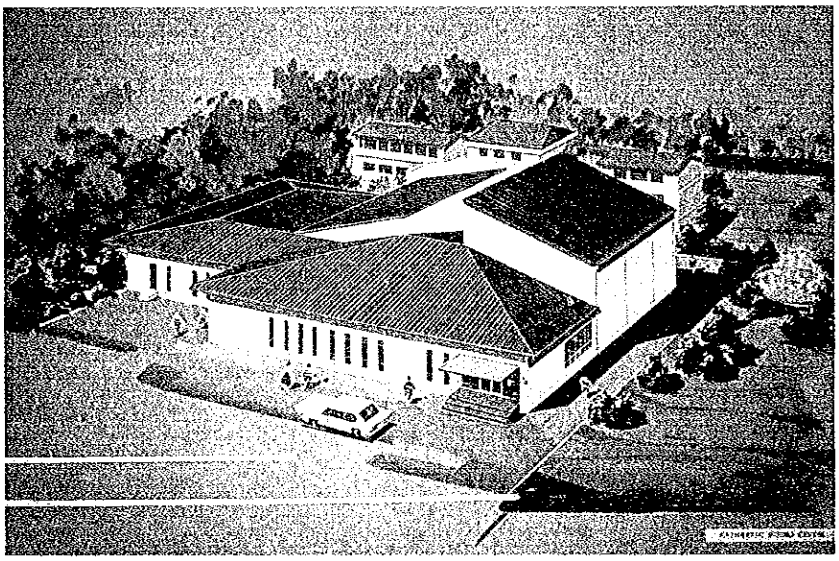


IMPRIMÉ EN SUISSE PRINTED IN SWITZERLAND THE MAP HAS BEEN CERTIFIED BY THE SURVEY OF INDIA

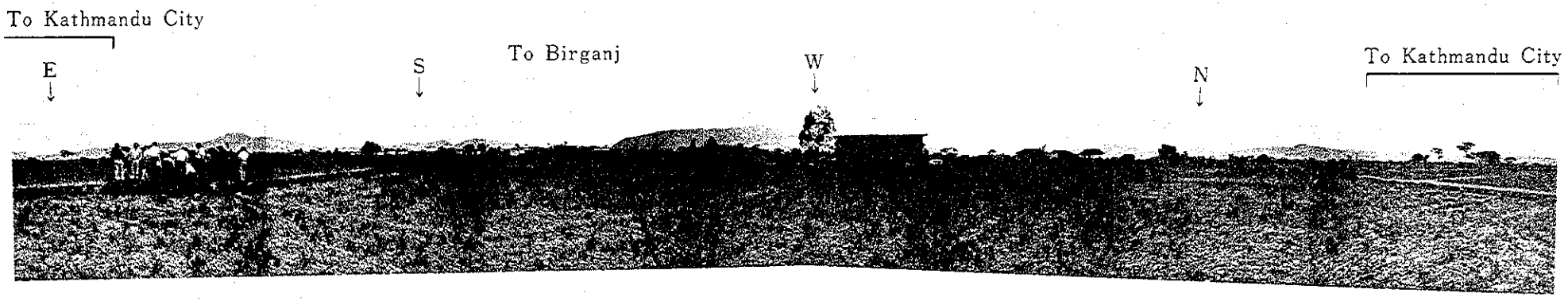

CARTE RELIEF DU NÉPAL
RELIEFKARTE NEPAL
RELIEF MAP OF NEPAL
CARTA IN RILIEVO DEL NEPAL
Échelle Massstab 1:1408000 Scale Scala
0 20 40 60 80 100 km
0 20 40 60 miles
Autoroute revêtue
Autostrasse mit Belag
Asphalted Motorway
Autostrada con rivestimento
Frontière internationale
Internationale Grenze
International boundary
Frontiera internazionale
Route sans revêtement
Strasse ohne Belag
Unmetalled road
Strada senza rivestimento
Aéroport
Flugplatz
Airport
Aeroporto
Route en projet
Projektierte Strasse
Projected Road
Strada in progetto
Champ d'aviation (DC 3)
Flugfeld (DC-3)
Airfield (DC 3)
Campo d'aviazione (DC 3)
Chemin muletier
Saumpfad
Mule-track
Mulattiera
Terrain d'atterrissage (STOL)
Landepiste (STOL)
Landing-strip (STOL)
Pista d'atterraggio (STOL)
Chemin de fer
Eisenbahn
Railway
Ferrovia
Based on maps of the Survey of India
Relief: F. Ebster
T I B E T
Tsangpo
Phung Chu
Dzakar Chu
Kharta Chu
LOHUNG HAMGA HIMAL
Jongsang Ri
Kangchendzönga
Shisha Pangma
Gho Oyu
Nangpa La
Everest
Makalu
Kyirong
Nyalam
Lapche
Pokhara
KATHMANDU
Patan
Bhadgaon
Darjeeling
Bharatpur
Butwal
Bhairahawa
Bithari
Nautanwa
Jarwa
Simra
Amlekhganj
Bhikna Thori
Birganj
Raxaul
Narkatiaganj
Janakpur
Jaleswar
Jaynagar
Hanumannagar
Rajbiraj
Biratnagar
Jogbani
Jhapa
Bhadrapur
Dharan
Dhankuta
Pratapganj
Bhaptiahi
Sitamarhi
Madhubani
Darbhanga
Purnea
Chitawan
Rapti
Great Gandak
Bagmati
M A H A B H A R A T L E K H
S I W A L I K
T E R A I
I N D I A
84° 85° 86° 87° 88° 83° 26° 27° 30°
© KÜMMERLY & FREY, BERN



Perspective of the Pokhara Transmitting Station

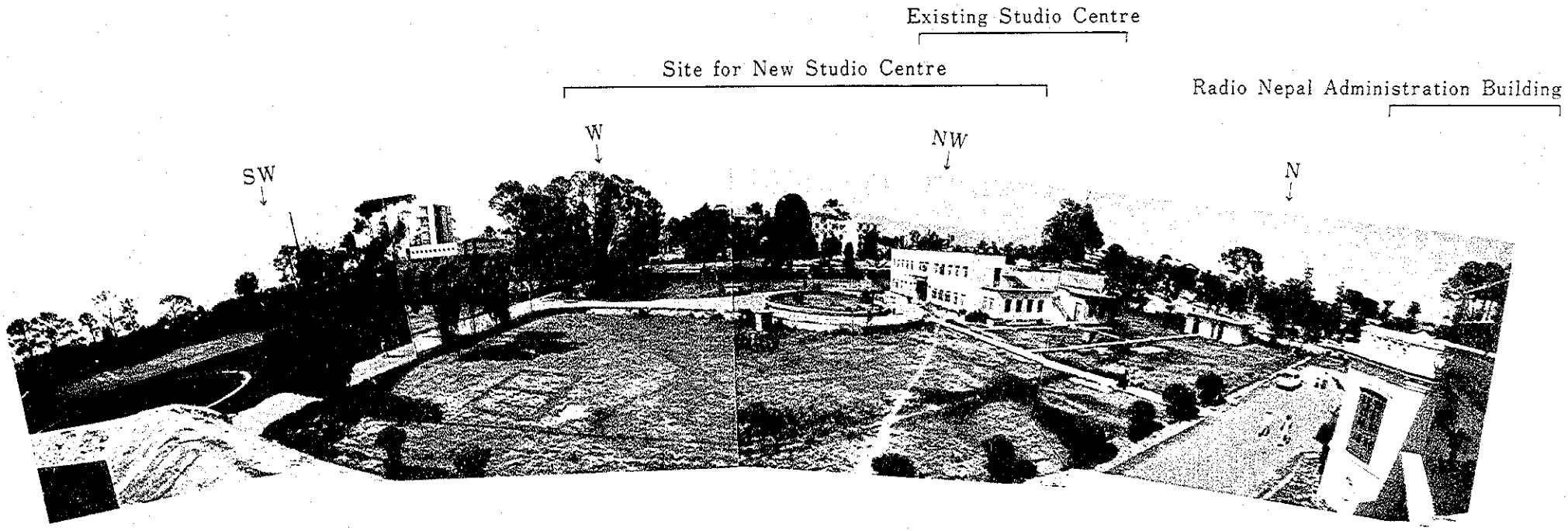


Perspective of the Kathmandu Studio Centre



Site for the Kathmandu Transmitting Station

Site for the Pokhara Transmitting Station



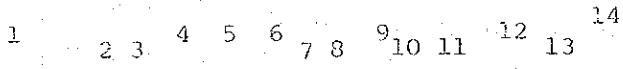
Site for the Kathmandu Studio Centre

Mr. S.Sakakibara
Leader,
Japanese Study
Team

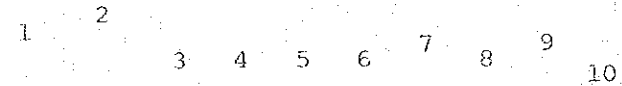
Mr. B.P.Shah
Acting Director General
Radio Nepal

Mr. M.S.Shrestha
Executive Engineer
Radio Nepal

Mr. K.Oka
Member,
Japanese Study
Team



1 Mr. T.Matsuzuru, Member
2 Mr. N.Komai, Member
3 Mr. T.Usa, Member
4 Mr. M.Yamato, Member
5 Mr. N.Shigeta, Member
6 Mr. T.Katagiri, Member
7 Mr. M.S.Shrestha, Executive Engineer
8 Mr. S.B.Nyachhyon, Asst. Engineer
9 Mr. S.Sakakibara, Leader
10 Mr. P.Adhikari, Asst. Engineer
11 Mr. B.P.Shah, Act.D.G.
12 Mr. K. Oka, Member
13 Mr. M.P.Adhikari, Asst. Engineer
14 Mr. M.S.Pradhan, Chief Editor



1 Mr. H.Imai, Member
2 Mr. K.Oka, Member
3 Mr. B.P.Shah, Act.D.G.
4 Mr. S.Sakakibara, Leader
5 Mr. K.B.Khatry, Chief Engineer
6 Mr. E.Sakihara, Member
7 Mr. J.Ohno, Member
8 Mr. M.S.Shrestha, Executive Engineer
9 Mr. M.Yamato, Member
10 Mr. Poksrel, Asst. Engineer

Mr. S.Sakakibara
Leader,
Japanese Study
Team

Mr. B.P.Shah
Acting Director General
Radio Nepal

Mr. M.S.Shrestha
Executive Engineer
Radio Nepal

Mr. K.Oka
Member,
Japanese Study
Team

1 2 3 4 5 6 7 8 9 10 11 12 13 14

1 Mr. T.Matsuzuru, Member
2 Mr. N.Komai, Member
3 Mr. T.Usa, Member
4 Mr. M.Yamato, Member
5 Mr. N.Shigeta, Member
6 Mr. T.Katagiri, Member
7 Mr. M.S.Shrestha, Executive Engineer
8 Mr. S.B.Nyachhyon, Asst. Engineer
9 Mr. S.Sakakibara, Leader
10 Mr. P.Adhikari, Asst. Engineer
11 Mr. B.P.Shah, Act.D.G.
12 Mr. K. Oka, Member
13 Mr. M.P.Adhikari, Asst. Engineer
14 Mr. M.S.Pradhan, Chief Editor

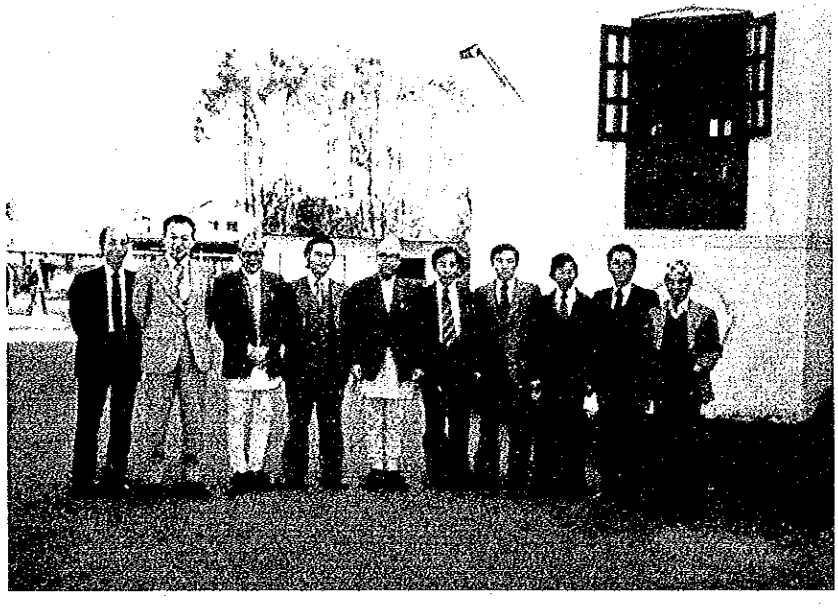
1 2 3 4 5 6 7 8 9 10

1 Mr. H.Imai, Member
2 Mr. K.Oka, Member
3 Mr. B.P.Shah, Act.D.G.
4 Mr. S.Sakakibara, Leader
5 Mr. K.B.Khatry, Chief Engineer
6 Mr. E.Sakihara, Member
7 Mr. J.Ohno, Member
8 Mr. M.S.Shrestha, Executive Engineer
9 Mr. M.Yamato, Member
10 Mr. Poksrel, Asst. Engineer

Signing of Record of Discussion
(June 18, 1979)

◀ Radio Nepal Staff Members and Japanese Study Team
(June 18, 1979)

Radio Nepal Staff Members and Japanese Study Team Visiting Nepal to Discuss Survey Report
(Dec. 6, 1979)



P R E F A C E

In response to a request of His Majesty's Government of the Kingdom of Nepal, the Government of Japan has decided to conduct a preliminary design study on the establishment of the medium wave broadcasting network which is included in its national development plan; and the Japan International Cooperation Agency(JICA) executed the study.

The JICA dispatched a study team of 8 experts headed by Mr. Seikichi Sakakibara, Deputy Director of Engineering Division, Broadcasting Department, Radio Regulatory Bureau, Ministry of Posts and Telecommunications to the Kingdom of Nepal for a period from May 24th to June 22nd, 1979 to hold discussions with officials concerned of the Government of Nepal and collect necessary data and information for the preliminary design study.

After the return of the team to Japan, it made futher studies and prepared this report for submission to the Government of Nepal.

I sincerely hope that this report will contribute to the establishment of a medium wave broadcasting network in Nepal, to its social and economic development as well as to the promotion of friendship between our two countries.

I would like to express my deep appreciation to the officials concerned of His Majesty's Government of Nepal for their full cooperation extended to the team.

January, 1980

Keisuke Arita
President
Japan International
Cooperation Agency

C O N T E N T S

SUMMARY

SUMMARY

1. Scope of Establishment of Stations and its Location

The scope of establishment of stations and its location was determined in accordance with the "scope of work" related to the preliminary design of this project.

In progressing the Establishment Programme of the Medium Wave Radio Broadcasting Network of the Kingdom of Nepal, it is appropriate to establish a transmitting station in the capital city of Kathmandu and the city of Pokhara, and a studio centre in the capital city of Kathmandu.

With the completion of this project, about 55 % of the total population will be able to receive the medium wave broadcasting service, and on the other hand, it will be able to ensure a medium wave service of high quality and reliability.

The programme transmission line consists of VHF transmission lines and terrestrial land lines.

The location of each transmitting station and the studio centre is expected as the following. It should be noted that the indications for each location were determined by Radio Nepal.

(1) Kathmandu Transmitting Station

1)	Location	:	Lalitpur, Kathmandu
2)	Latitude	:	27° 39' 10" N
3)	Longitude	:	85° 18' 30" E
4)	Altitude	:	1,351 m (above sea level)

(2) Pohkara Transmitting Station

1)	Location	:	Male Patan, Pokhara
2)	Latitude	:	28° 13' 10" N
3)	Longitude	:	83° 59' 00" E
4)	Altitude	:	902 m (above sea level)

(3) Kathmandu Studio Centre

1) Location : Singh Durbar, Kathmandu
2) Latitude : 27° 41' 45" N
3) Longitude : 85° 19' 35" E
4) Altitude : 1,285 m (above sea level)

2. Scale of Transmitting Station

In order to serve the Central Development Region with Kathmandu transmitting station, and the Western Development Region with Pokhara transmitting station, the transmitting power for each transmitting station was determined to 100 kW in accordance with the results of the propagation test etc., and the height of the transmitting antenna was determined to 100 m, respectively.

As for the facility plan, Kathmandu transmitting station is equipped with one main 100 kW transmitter unit and one 10 kW stand-by transmitter unit with the attached equipment. The engine generator is for supplying power to the 10 kW stand-by transmitter unit and the station building. The transmitting antenna is erected near the transmitting station building and the tuning unit is installed inside of the station building. The station building is a single storied reinforced concrete and brick structure with a total floor area of about 600 m^2.

The facility plan for Pokhara transmitting station is the same as the above Kathmandu transmitting station, but a studio facility which is described later, is installed. It is to be mentioned that a VHF band STL (Studio-to-transmitter link) and an engineering link is installed for connection of studio centre and transmitting station.

3. Scale of Studio Centre

The nationwide programme is produced at Kathmandu studio centre and distributed to the transmitting stations.

At Pokhara transmitting station, local programmes for Pokhara area and local programmes for the Western Development Region and Far Western Development Region are recorded, as well.

As for the broadcasting facilities of Kathmandu studio centre, one continuity studio and four programme production studios; a total of five studios is installed. An engine generator is installed for supplying power to the whole studio centre facilities. It is to be noted that this studio centre is designed as an annex to the present main studio building.

At Pokhara transmitting station, one production studio is installed for local continuity operation or for recording programmes. In addition, one outdoor broadcast wagon is provided for recording outdoor programmes.

4. Programme Transmission

The nationwide programmes are sent to Kathmandu transmitting station and Pokhara transmitting station from Kathmandu studio centre.

(1) Programme Transmission between Kathmandu Studio Centre and Kathmandu Transmitting Station.

For programme transmission between the above two locations, an STL of VHF band is installed. In addition, an engineering link of VHF band is also installed.

(2) Programme Transmission between Kathmandu Studio Centre and Pokhara Transmitting Station.

The programme transmission between the two locations is to be provided by the lines of the Telecommunications Corporation of Nepal. It is necessary to ensure one programme line and one closed engineering line to the transmitting station.

5. Frequency Assignment Plan

The broadcasting frequencies for Kathmandu and Pokhara transmitting station are respectively 792 kHz and 684 kHz, determined on the basis of the Final Acts of the Regional Administrative LF/MF Broadcasting Conference (Region 1 and 3) (Second Session) Geneva, 1975.

6. Construction Schedule

To accomplish the construction work of the establishment programme of medium wave radio broadcasting network, a term of about 15 months (minimum) is requested. In implementing the construction work, it is necessary to select an excellent broadcasting facility consultant and building contractor, and maintain close relation between them, so as to carry out the construction work in an orderly and efficient manner.

7. Construction Expense

With regard to the construction expenses, a total amount of about 1,884 million Yen (102 million Rs.) (excluding expense for incidental construction work of road, ground leveling, connection of electric power line, etc.) is necessary. The total amount for the incidental construction work is roughly estimated as about 126.3 million Yen (6.8 million Rs.).

Table S7-1

ESTIMATION OF CONSTRUCTION EXPENSE FOR ESTABLISHMENT PROGRAMME OF MEDIUM WAVE RADIO BROADCASTING NETWORK OF THE KINDGOM OF NEPAL (DRAFT)

As of 1980

Unit: Th. ¥

(Th. Rs.)

No.	Description	Broadcasting Facility	Building & Antenna	Total
1	Kathmandu Transmitting Station	207,590 (11,221)	287,150 (15,522)	494,740 (26,743)
2	Pokhara Transmitting Station	229,350 (12,397)	287,150 (15,522)	516,500 (27,919)
3	Kathmandu Studio Centre	178,020 (9,623)	503,740 (27,229)	681,760 (36,852)
4	Sub-total	614,960 (33,241)	1,078,040 (58,273)	1,693,000 (91,514)
5	Consultant Fee		191,000 (10,324)	
6	Grand Total		1,884,000 (101,838)	

Note: The transportation expense is included in the construction expense for each Station/Centre.

TABLE S7-2

Table S7-2 CONSTRUCTION SCHEDULE

PROJECT \ MONTH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. KATHMANDU STUDIO CENTRE															
1 EQUIPMENT	MANUFACTURE									TRANSPORTATION			TEST TRANSMISSION / INSTALLATION		
2 BUILDING	TRANSPORTATION						CONSTRUCTION								
2. KATHMANDU TRANSMITTING STATION															
1 EQUIPMENT	MANUFACTURE									TRANSPORTATION			TEST TRANSMISSION / INSTALLATION		
2 BUILDING	TRANSPORTATION						CONSTRUCTION								
3 ANTENNA	MANUFACTURE						TRANSPORTATION				CONSTRUCTION				
4 ANTENNA FOUNDATION & RADIAL EARTH	MANUFACTURE			TRANSPORTATION			CONSTRUCTION								
3. POKHARA TRANSMITTING STATION															
1 EQUIPMENT	MANUFACTURE									TRANSPORTATION			TEST TRANSMISSION / INSTALLATION		
2 BUILDING	TRANSPORTATION						CONSTRUCTION								
3 ANTENNA	MANUFACTURE						TRANSPORTATION				CONSTRUCTION				
4 ANTENNA FOUNDATION & RADIAL EARTH	MANUFACTURE			TRANSPORTATION			CONSTRUCTION								

SECTION 1 INTRODUCTION

SECTION 1 INTRODUCTION

1-1 Background and Circumstances of Requirements

The Kingdom of Nepal is now eagerly progressing its social and economic development project, and therefore, education of nation is a problem of necessity. However, it seems so difficult to improve illiteracy ratio and transportation system in several years so as to promote the education by means of distributing publications. Therefore, the use of broadcasting for educational purposes has been taken up as a serious problem.

For these reasons, since the inauguration of short wave broadcasting in 1956 and medium wave broadcasting in 1968, the short wave and medium wave broadcasting transmitters have been gradually established. Although, the service area of medium wave broadcasting is limited to the district of the capital city of Kathmandu, and the majority of the population of Nepal is relying on short wave service. The service provided by short wave is unstable because of fading phenomena of wave and interference from other radio services etc., and the receiving set is relatively costly, in comparison to the medium wave receiving set, thus hindering the widespread of receivers. Therefore, in order to serve the whole nation with a stable broadcasting service and also to popularize receiving sets, it was decided to construct a nationwide medium wave broadcasting network.

In executing this nationwide medium wave network project, a 100 kW transmitting station is planned to be constructed at Dhankuta, Kathmandu, Pokhara and Surkhet; the central cities of the four development regions (East, Central, West and Far West), according to the general development project of His Majesty's Government of Nepal (hereinafter referred to as HMG of Nepal) under progress. For the several other regions, subsidiary stations are to be constructed.

In May 1977, on the occasion of the King of Nepal's visit to Japan, the cooperation to this project was requested.

1-2 Effectiveness of the Project

The scale of the Establishment Programme of Medium Wave Radio Broadcasting Network of the Kingdom of Nepal provided by the Government of Japan is to construct a 100 kW transmitting station and a studio centre in Kathmandu, and a 100 kW transmitting station in Pokhara.

The antenna power of the existing medium wave transmitting station is 10 kW and its service area is limited to the Kathmandu valley (about 5 %). However, according to the economic cooperation plan, the Central and Western development regions will both be involved in the medium wave broadcasting service, and thus about 55 % of the population of the Kingdom of Nepal will be able to receive the medium wave service, and it will enhance the present social and economic development project of the HMG of Nepal. With the completion of the studio centre, diversification of broadcasting programmes and improvement of programme quality is highly expected.

At Pokhara, a small studio is equipped in the transmitter building, and the performances of local musicians can be recorded by the outdoor broadcast wagon to introduce rural culture, thus contribute to the development of culture greatly.

1-3 Purpose of Survey Team

The HMG of Nepal has decided the establishment programme of medium wave radio broadcasting network, as a part of its social and economic development plan, and has requested economic cooperation to Japan for the implementation of the plan. Accepting this requirement, the Government of Japan has dispatched a preliminary survey team in February 1979.

The purpose of the survey for this time was to negotiate with HMG of Nepal, on the basis of the results of the preliminary survey team, and make investigations, measurements and gather necessary information and data for preliminary design. The survey team left Japan on May 24th, 1979, and returned on June 22nd, the same year.

1-4 Scope of Survey

The survey was performed on the following items necessary for determining the preliminary design.

(1) Investigation on fundamental plan for medium wave broadcasting of Kathmandu and Pokhara.

(2) Investigation on coverage area for Kathmandu and Pokhara transmitting station.

(3) Investigation on the following related to construction of transmitting station.

   a. Soil survey and determination of bearing capacity of soil.
   b. Measurement of ground conductivity.
   c. Determination of scale of building and height of antenna.
   d. Measurement of station site.

(4) Investigation on the following related to construction of studio centre.

   a. Soil survey.
   b. Determination of number of studios and scale of building.
   c. Measurement of site.

(5) Investigation related to transmitter and studio facility plan.

(6) Radio wave propagation test for Kathmandu transmitting station and reception test at southern region.

(7) Trial calculation of construction expenses for transmitting station and studio centre.

(8) Preparation of construction plan for transmitting station and studio centre.

(9) Investigation on training of staff.

1-5 Constitution of Survey Team

The survey team consisted of the following 8 members appointed by Japan International Cooperation Agency.

(Leader)	Seikichi	SAKAKIBARA	: Ministry of Posts and Telecommunications
(Member)	Noriyuki	SHIGETA	: same as above
"	Kaoru	OKA	: Japan Broadcasting Corporation (NHK)
"	Tsuneomi	USA	: same as above
"	Toshinari	MATSUTSURU	: same as above
"	Michio	YAMATO	: same as above
"	Nobutaka	KOMAI	: All Japan Television Service Co., Ltd.
"	Tokuichi	KATAGIRI	: Japan International Cooperation Agency.

1-6 Itinerary of the Survey Team

The survey team departed from the Narita Airport, Japan, on May 24th, 1979, and returned on June 22nd, 1979.

For the sake of efficiency, the survey team was divided into five groups; (1) Propagation Analysis Group, (2) Facility Planning Group, (3) Ground-Conductivity Measurement Group, (4) Building Design Group, (5) Boring Group, and carried on the surveys, measurements and consultations.

The itenerary was as follows.

May 24 (Thur) Left Narita Airport, arrived in Bangkok.

25 (Fri) Left Bangkok, arrived in Kathmandu.

May 26 (Sat)	Consultations, at the JICA office, with Counsellor Higuchi of the Japanese Embassy and Director Saito of JICA on the survey schedule. Survey of proposed site for Kathmandu Transmitting Station.
27 (Sun)	Courtesy call at the Ministry of Foreign Affairs and the Ministry of Finance of the Kingdom of Nepal. Consultations with Radio Nepal officers. The Boring Group visits the Tribhuvan University for consultations on the boring survey schedule.
28 (Mon)	Survey schedule consultations at the Radio Nepal.
29 (Tue)	Consultations at the Radio Nepal. Boring Group made survey of the transmitter site.
30 (Wed)	Propagation Analysis Group (Usa and Shigeta) moves from Kathmandu to Hetauda. On its way, conducted measurement of field strength. Ground-Conductivity Measurement Group conducted measurement of ground-conductivity at the transmitter site.
31 (Thur)	Consultations at the Radio Nepal. Land survey and ground-conductivity measurement at the construction site of Kathmandu Transmitting Station. Measurement of field strength at Hetauda.

June 1 (Fri) Meeting with Radio Nepal staff about facility plan for Pokhara Transmitting Station. and studio centre.
Building Design Group conducted survey at the site of Kathmandu Transmitting Station.
On the way from Hetauda to Birganj, conducted measurements of field strength.

2 (Sat) Measurement of Kathmandu transmitter site, start of boring test. On the way from Birganj to Janakapur, conducted measurement of field strength.

3 (Sun) Ground-Conductivity Measurement Group (Sakakibara, Oka and Katagiri) moved from Kathmandu to Janakpur.
Conducted measurement of ground-conductivity and field strength at Janakpur.
Boring survey at the Kathmandu transmitter site.

4 (Mon) Boring survey at Kathmandu transmitter site.
Survey of the construction site in Kathmandu.
The five members originally scheduled to move from Janakpur to Kathmandu were obliged to stay on in Janakpur by airplane flight trouble.

5 (Tue) Moved from Janakpur to Kathmandu.
Meeting with Radio Nepal staff.

6 (Wed) Meeting with Radio Nepal staff.
Boring survey at Kathmandu transmitter site.

7 (Thur) Moved from Kathmandu to Pokhara (all the members).
Conducted field-strength survey on the way.

June	8 (Fri)	Survey of transmitting site for Pokhara station.
	9 (Sat)	Ground-conductivity measurement and land survey at the transmitter site at Pokhara. Conducted survey of microwave terminal station.
	10 (Sun)	Conducted visibility survey on transmitter site and a geological survey and building progress survey at the construction site of the hospital.
	11 (Mon)	All the members moved from Pokhara to Kathmandu.
	12 (Tue)	Preparation of interim report.
	13 (Wed)	" "
	14 (Thur)	Preparation of interim report. Meeting with Radio Nepal staff.
	15 (Fri)	Explanation about the contents of the draft interim report to Counsellor Higuchi of the Japanese Embassy and Director Saito of JICA.
	16 (Sat)	Submission of and explanation on the draft interim report to Radio Nepal.
	17 (Sun)	Consultations at Radio Nepal. Consultations at the Institute of Engineering, Tribhuvan University about geological survey.
	18 (Mon)	Submission of interim report and signing of the Record of Discussion.
	19 (Tue)	Courtesy call on the Minister, Assistant Minister of the Ministry of Communications. Final Consultations about boring at the Institute of Engineering, Tribhuvan University.

June 20	(Wed)	Courtesy call on the Embassy of Japan and the JICA office preparations for homeward trip.
21	(Thur)	Left Kathmandu by RA-401, arrived in Bangkok.
22	(Fri)	Left Bangkok by CX-700/500, arrived in Tokyo

1-7 Memo of Agreement

During the survey term, the survey team had a series of meetings with the authorities concerned of the HMG of Nepal, including confirmation of "Scope of Work", and made survey of the matters necessary for the preliminary design of the establishment programme. As a result of meeting, both came to an agreement on the fundamental conception of this project.

Hence, the survey team prepared an "Interim Report" and on June 17th, the leader of the survey team, Mr. Sakakibara, handed it over to Mr. Bhogya Prasad Shah, the Acting Director General, Department of Broadcasting, Ministry of Communications, HMG of Nepal.

Furthermore, on June 18th, Mr. Sakakibara and Mr. Bhogya Prasad Shah both signed the "Record of Discussion", and exchanged the papers.

A copy of the "Interim Report" and "Record of Discussion" is respectively shown in Appendix 1-1 and 1-2.

SECTION 2 RESULTS OF SURVEY

SECTION 2 RESULTS OF SURVEY

2-1 Location, Shape of Site and Surroundings

2-1-1 Kathmandu Studio Centre

The studio centre is located in the present site of the Radio Nepal building as shown in Fig. 4-1-1. The shape of the whole site is almost square and covers an area of about 16,000 m^2. The present studio building and administrative building are located in this site, and the new studio centre is built in the remaining space.

This site is in the Kathmandu city, a place relatively near Patan city, and it is a quiet place where the main gate is shared with the government buildings; such as the Ministry of Communications, the Ministry of Foreign Affairs etc.

The distance to the airport is about 4.0 km, and the site is away from the flight route, although some considerations should be taken in respect to prevent airplane noise.

Location of Kathmandu studio centre is as follows:

Location : Singh Durbar, Kathmandu
Longitude: 85° 19' 35" E
Latitude : 27° 41' 45" N
Altitude : 1,285 m

2-1-2 Kathmandu Transmitting Station

The site for the Kathmandu transmitting station was selected from the four proposed sites, considering the relation to the studio centre, access road to the station, etc. The site is about 2.0 km away from the Ring road as shown in Fig. 4-1-2. The total area of the site is about 44,400 m^2 and it is all a private farm-land with many rugged hills. Three farmers are living in the site which will have to move out, and the ground has to be leveled.

In addition, the road to the Ring road of a distance of about 2.0 km is not paved yet, but considering the

rainy season, it is desirable to paved it at an early date.

The location of Kathmandu transmitting station is as follows:

Location : Lalitpur, Kathmandu
Longitude : 85° 18' 30" E
Latitude : 27° 39' 10" N
Altitude : 1,351 m

2-1-3 Pokhara Transmitting Station

The site was selected from the two proposed sites and it is shown in Fig. 4-1-3. The area of the site is about 50,870 m^2, and it is in the city of Pokhara where Mt. Machhapuchhare is seen. It is a quiet place away from the main roads. However, as it is near the Pokhara airport where many small planes are taking off and landing, it is necessary to provide some measures against air plane noise.

At present, only a part of the proposed site is state public land and the rest of it is a private farm-land. The topography is very rugged and trees are also growing. There is one farmer living in the proposed site.

It is necessary to level the ground and cut down the trees and have the farmer move out. When leveling the ground, some kind of measure is to be provided to avoid dirt and sand from flowing into the river during the rainy seasons, becuase the ground level near the river on the south side of the site is very low at present.

The location of Pokhara transmitting station is as follows:

Location : Male Patan, Pokhara
Longitude : 83° 59' 00" E
Latitude : 28° 13' 10" N
Altitude : 902 m