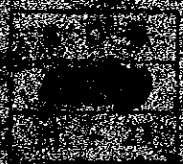


THE KINGDOM OF NEPAL
DETAIL DESIGN REPORT
ON
THE ESTABLISHMENT PROGRAMME
OF
MEDIUM WAVE RADIO BROADCASTING NETWORK

GENERAL DESCRIPTION

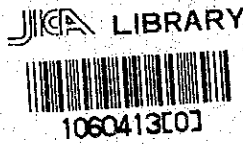
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DETAIL DESIGN REPORT
ON
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OF
MEDIUM WAVE RADIO BROADCASTING NETWORK

GENERAL DESCRIPTION

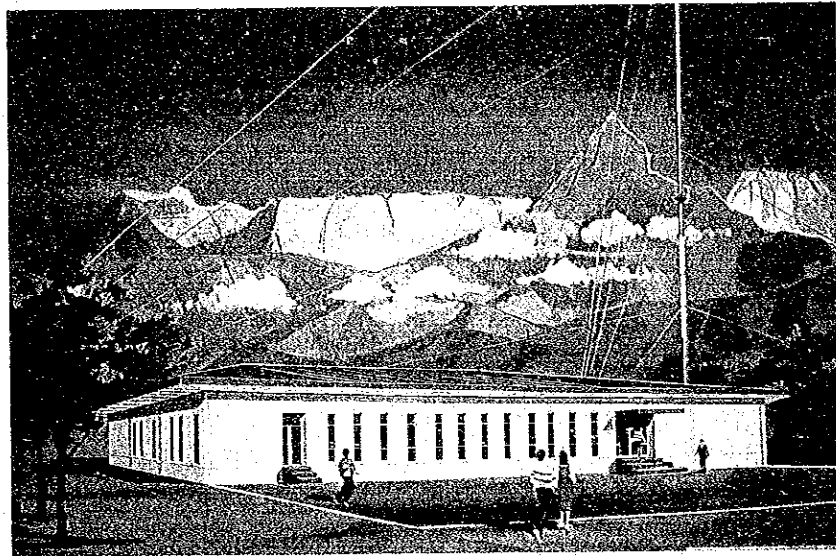


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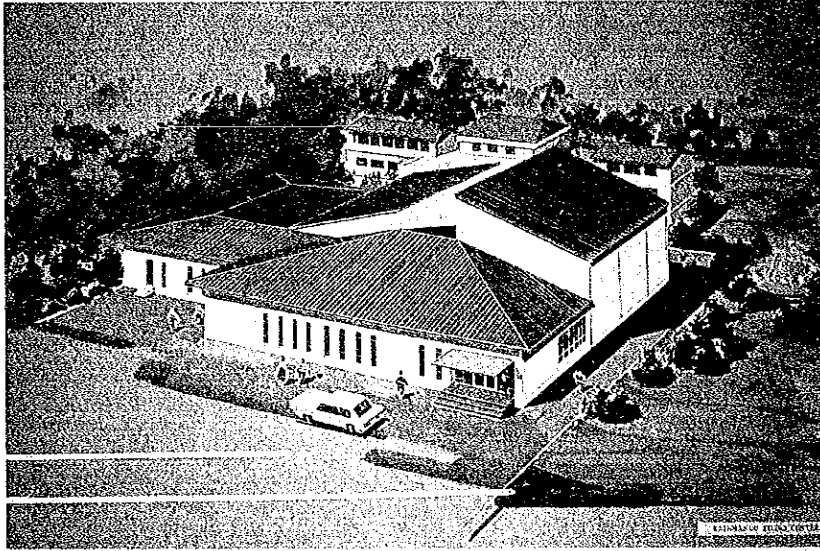
JAPAN INTERNATIONAL COOPERATION AGENCY

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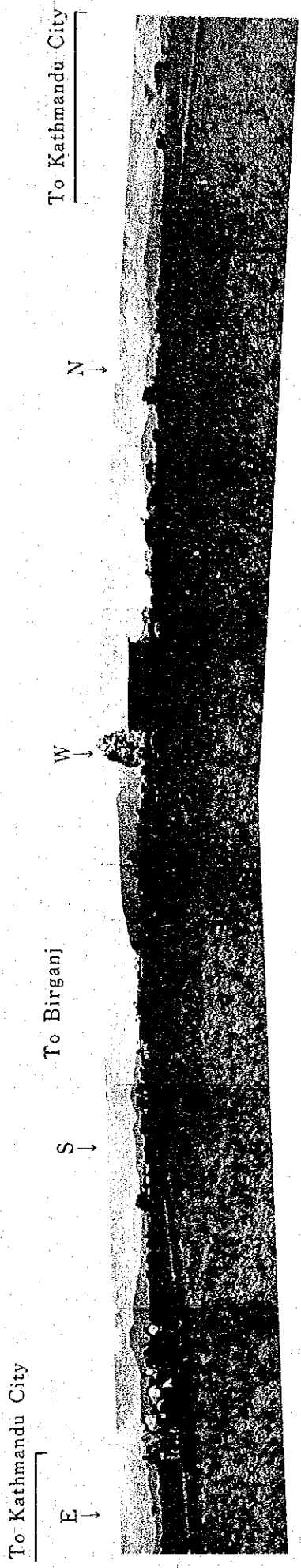
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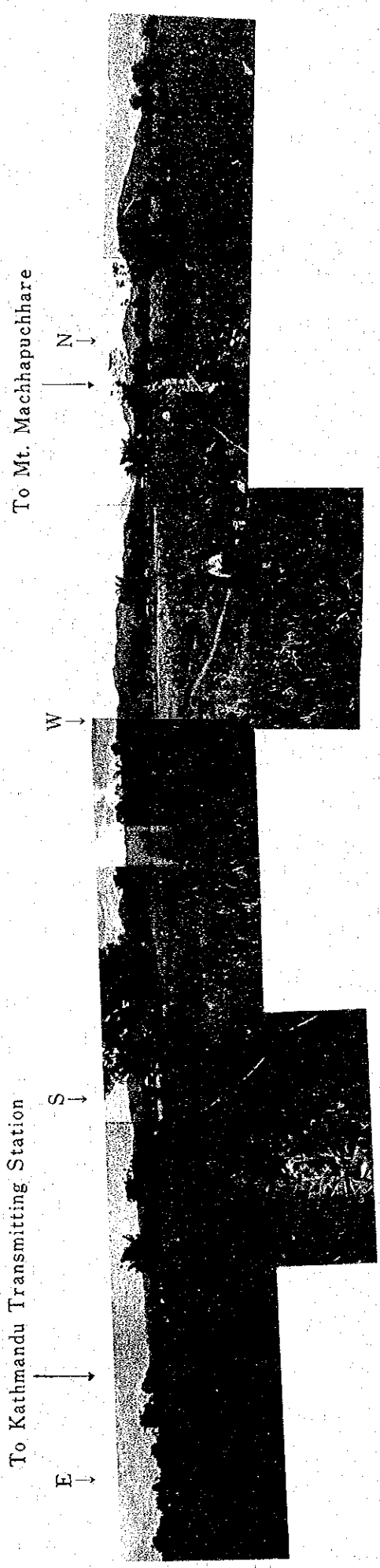
Perspective of the Pokhara Transmitting Station



Perspective of the Kathmandu Studio Centre



Site for the Kathmandu Transmitting Station

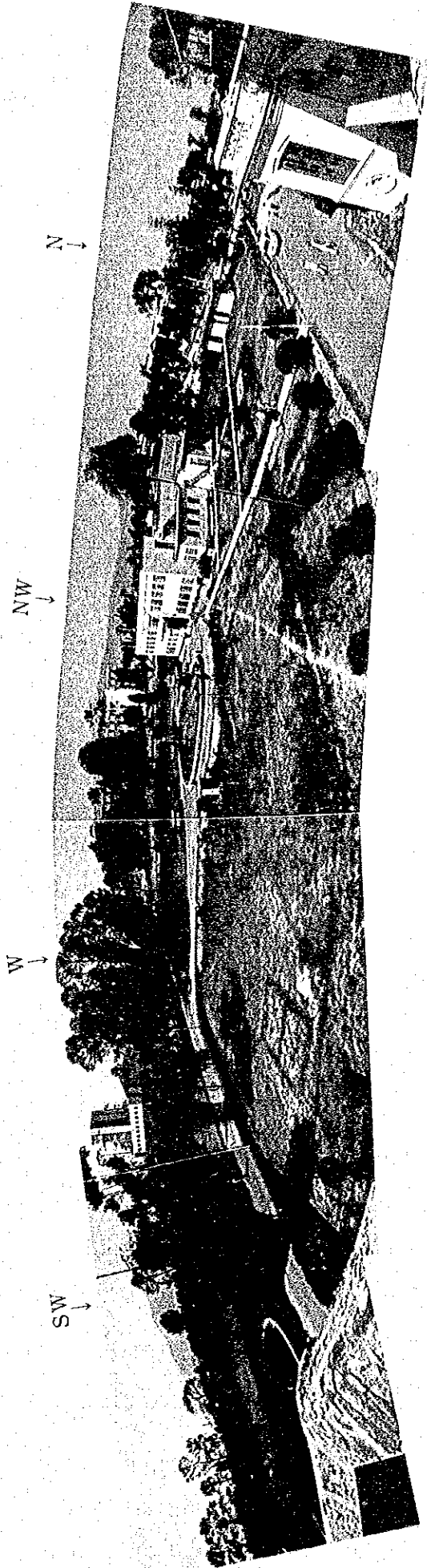


Site for the Pokhara Transmitting Station

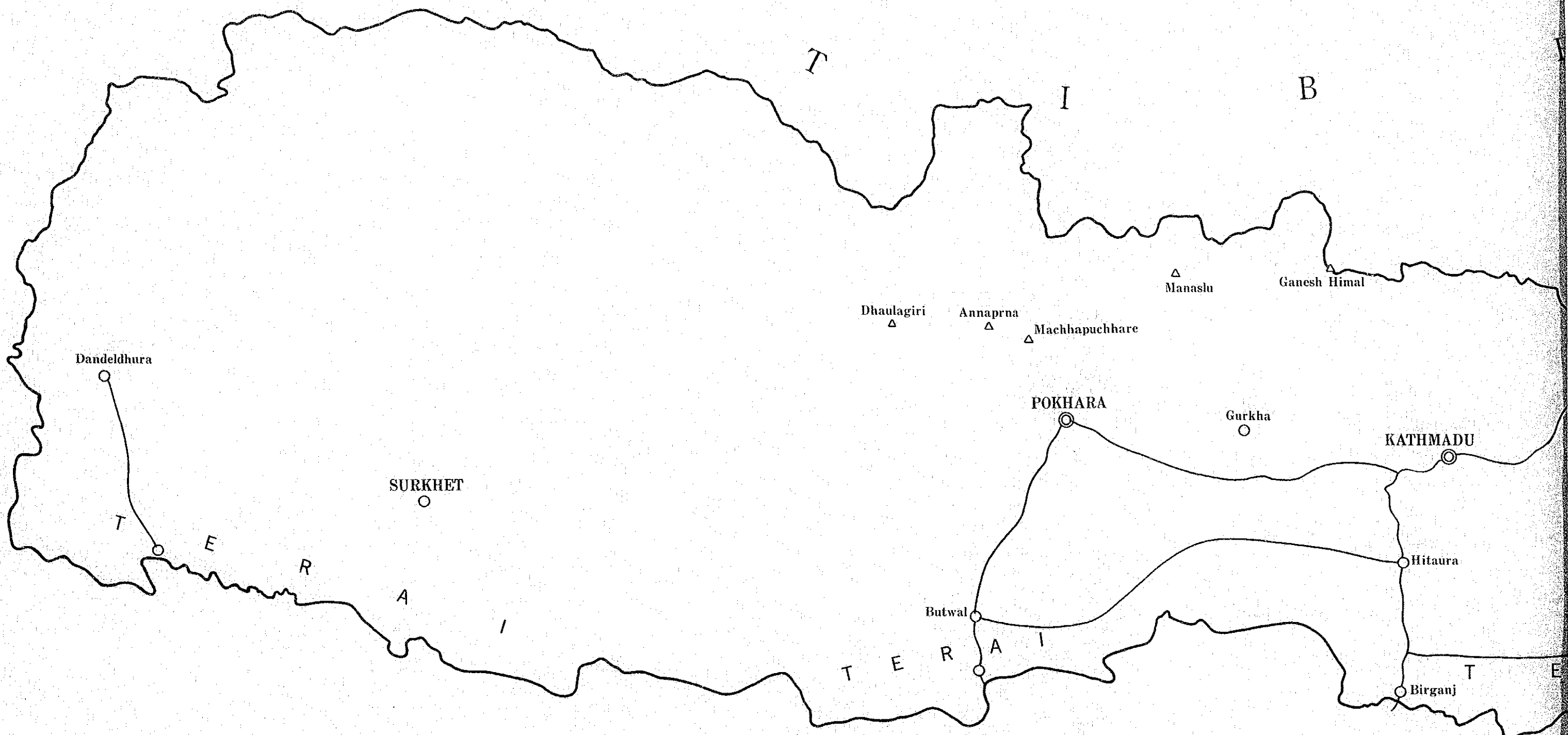
Existing Studio Centre

Site for New Studio Centre

Radio Nepal Administration Building



Site for the Kathmandu Studio Centre



Dandeldhura

SURKHET

Dhaulagiri

Annapurna

Machhapuchhare

Manaslu

Ganesh Himal

POKHARA

Gurkha

KATHMADU

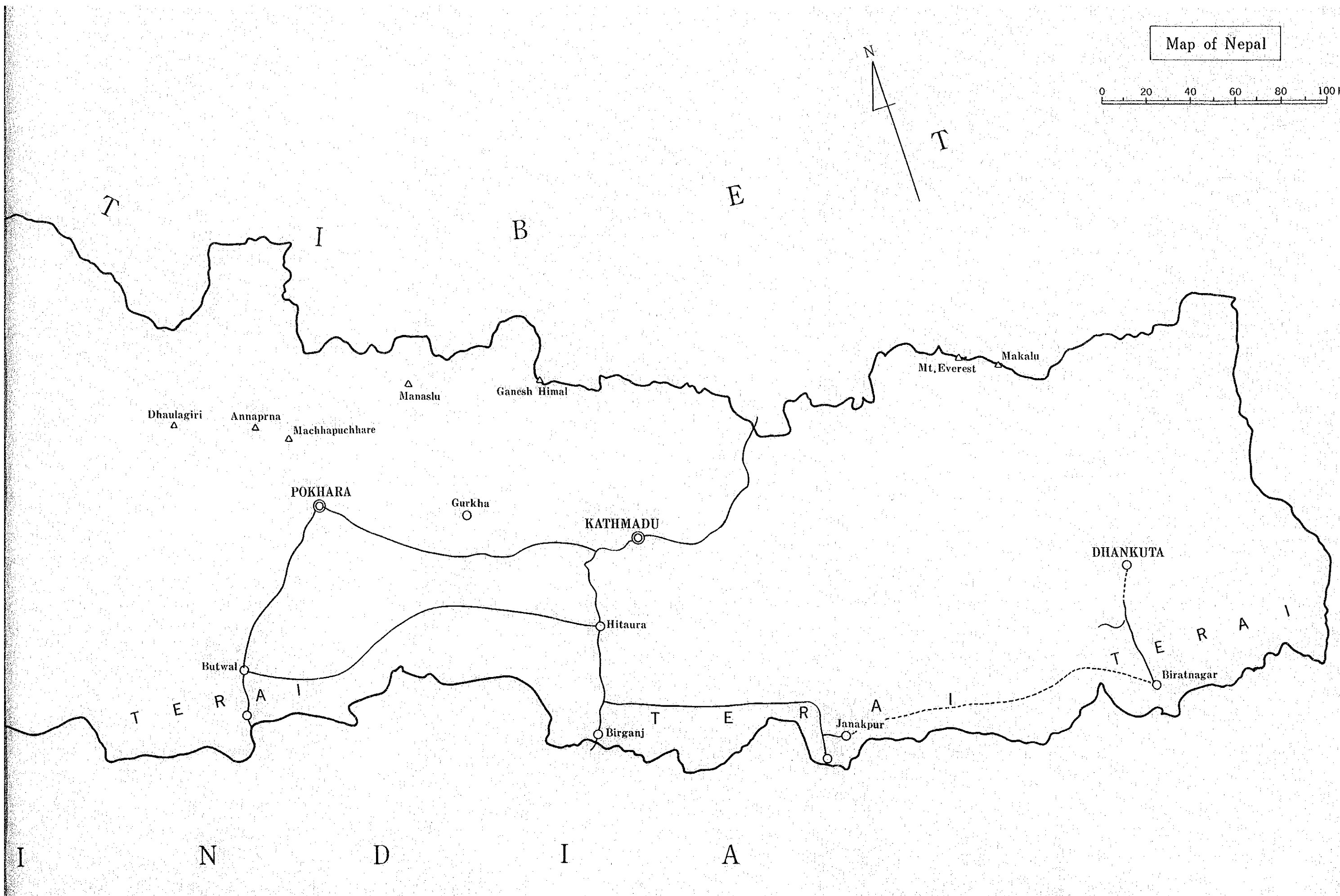
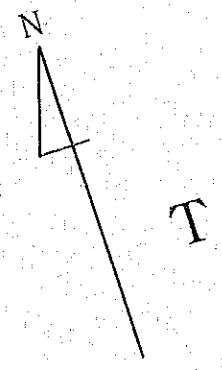
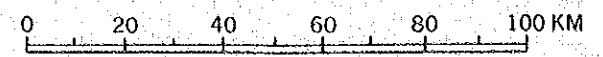
Hitaura

Butwal

Birganj

N E P A L

Map of Nepal



Népal
Nepal

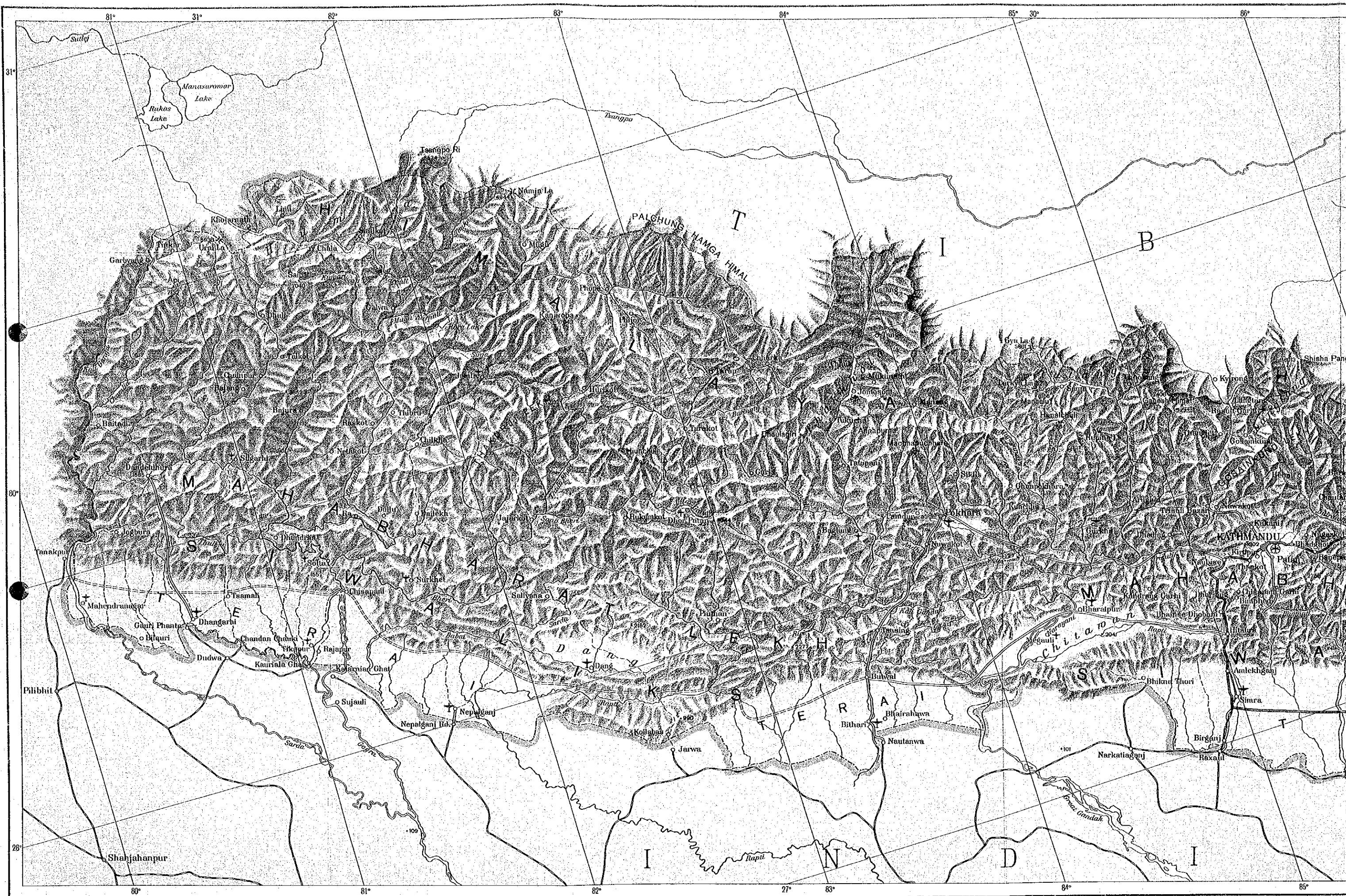


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Carte relief
Carta in rilievo

Kümmery+Frey

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P R E F A C E

In response to the request of His Majesty's Government of Nepal, the Government of Japan decided to conduct a survey on the establishment of a medium wave broadcasting network project and entrusted the survey to the Japan International Cooperation Agency.

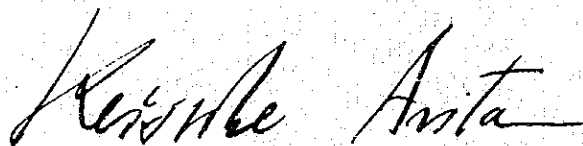
JICA sent to the Kingdom of Nepal a survey team headed by Mr. Seikichi Sakakibara, Deputy Director of Engineering Division, Broadcasting Department, Radio Regulatory Bureau, Ministry of Posts and Telecommunications from November 18th to December 8th, 1979.

The team exchanged views with the officials concerned of His Majesty's Government of Nepal and had discussions on the detailed design of the project and conducted a field survey in Kathmandu and Pokhara. After the team returned to Japan, further studies were made and the present report has been prepared.

I hope that this report will serve for the development of the project and contribute to the promotion of friendly relations between our two countries.

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

March, 1981



Keisuke Arita
President
Japan International Cooperation Agency

FORMATION OF DETAIL DESIGN REPORT

GENERAL DESCRIPTION

SUMMARY

- SECTION 1 Outline of Detail Design of
Broadcasting Equipment
- SECTION 2 Outline of Detail Design of
Buildings and Towers
- SECTION 3 Construction Schedule
- SECTION 4 Estimation of Construction Expense

APPENDIX

VOL. I TECHNICAL SPECIFICATIONS FOR BROADCASTING
EQUIPMENT

VOL. II TECHNICAL SPECIFICATIONS FOR BUILDINGS AND
TOWERS

VOL. III BILL OF QUANTITIES FOR BUILDINGS AND TOWERS

VOL. IV DRAWINGS

- IV-1 Design Drawings of Broadcasting Equipment
- IV-2 Kathmandu Studio Centre ---
Architectural and Structural Drawings
- IV-3 Kathmandu Studio Centre ---
Electrical and Heating, Ventilating and
Air-Conditioning Drawings
- IV-4 Drawings of Transmitting Stations

GENERAL DESCRIPTION

C O N T E N T S

(PERSPECTIVE OF THE POKHARA TRANSMITTING STATION)

(PERSPECTIVE OF THE KATHMANDU STUDIO CENTRE)

(SITE FOR THE KATHMANDU/POKHARA TRANSMITTING STATION)

(SITE FOR THE KATHMANDU STUDIO CENTRE)

(MAP OF NEPAL)

(PREFACE)

SUMMARY

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| 2. Outline of Detail Design Survey | 2 |
| 3. Outline of Detail Design | 3 |
| 4. Summary of Detail Design (Refer to Fig. S4-1) | 4 |
| 5. Construction Schedule (Refer to Table S5-1) | 7 |
| 6. Construction Costs (Refer to Table S6-1) | 11 |

SECTION 1 OUTLINE OF DETAIL DESIGN OF BROADCASTING EQUIPMENT

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SECTION 2 OUTLINE OF DETAIL DESIGN OF BUILDINGS AND TOWERS

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S U M M A R Y



SUMMARY

This report presents the detail design for the Radio Broadcasting Network Construction Project of the Kingdom of Nepal.

1. SCOPE OF THE PROJECT AND DETAIL DESIGN

1-1 NAME OF STATIONS

The following stations are to be constructed for this project.

(1) Kathmandu Transmitting Station

- 1) Location : Lalitpur, Kathmandu
- 2) Latitude : $27^{\circ} 39' 10''$ N
- 3) Longitude : $85^{\circ} 18' 30''$ E
- 4) Altitude : 1,351 m (above sea level)

(2) Pokhara Transmitting Station

- 1) Location : Male Patan, Pokhara
- 2) Latitude : $28^{\circ} 13' 10''$ N
- 3) Longitude : $83^{\circ} 59' 00''$ E
- 4) Altitude : 902 m (above sea level)

(3) Kathmandu Studio Centre

- 1) Location : Singh Durbar, Kathmandu
- 2) Latitude : $27^{\circ} 41' 45''$ N
- 3) Longitude : $85^{\circ} 19' 35''$ E
- 4) Altitude : 1,285 m (above sea level)

1-2 CONTENTS OF DETAIL DESIGN

- (1) Technical specifications
- (2) Quantities of necessary facilities, equipment and materials
- (3) Drawings
- (4) Construction schedule
- (5) Construction costs

2. OUTLINE OF DETAIL DESIGN SURVEY

2-1 SURVEY PERIOD

The survey was conducted for a period of 21 days, from November 18th, 1979 to December 8th, 1979, as to form a part of the explanation of the Preliminary Design Survey Report.

2-2 CONSTITUTION OF SURVEY TEAM

<u>Duty</u>	<u>Name</u>	<u>Affiliated to</u>
Head: (in Charge)	Seikichi SAKAKIBARA	Ministry of Posts & Telecommunications
Members:		
(System Design)	Kaoru OKA	Japan Broadcasting Corporation (NHK)
(Architecture)	Michio YAMATO	NHK
(")	Hidetoshi IMAI	All Japan Television Services Co., Ltd. (AJTS)
(Broadcasting Equipment)	Jiro OHNO	AJTS
(General Coordination)	Eiji SAKIHARA	Japan International Cooperation Agency

2-3 CONTENTS OF SURVEY

- (1) The Preliminary Design Report on the Establishment Program of Medium Wave Radio Broadcasting Network was submitted to the Government of the Kingdom of Nepal, and explained.
- (2) Consultation was conducted with regard to the contents of design related to item (1) above, and were assured. The principal items which were agreed are indicated in the annex attached to this report.

3. OUTLINE OF DETAIL DESIGN

3-1 PERIOD OF DESIGN

The design was conducted from November 14th, 1980, to March 31, 1981, by Japan International Cooperation Agency.

3-2 Constitution of Engineers for preparing the Detail Design Report.

The engineers who mainly participated are as follows.

<u>Duty</u>	<u>Name</u>	<u>Affiliated to</u>
System Design (in Charge)	Kaoru OKA	Japan Broadcasting Corporation (NHK)
Studio Facility	(1) Toshinari MATSUZURU	NHK
"	(2) Tomohiko USUDA	All Japan Television Services Co., Ltd. (AJTS)
"	(3) Jiro OHNO	AJTS
Transmitting Facility	(1) Tsuneomi USA	NHK
"	(2) Yutaka OHMURO	"
"	(3) Tsutomu KIMURA	AJTS
"	(4) Yoshio KATSURAYAMA	"
Architecture	(1) Bunichiro NOGUCHI	NHK
"	(2) Hidetoshi IMAI	AJTS
"	(3) Mitsuto TAKADA	"
Structure	(1) Akihisa ASANO	NHK
"	(2) Kyoshichi KANNO	AJTS
"	(3) Kazuya OHKAWA	"
Building Facility	(1) Eijiro KUROI	NHK
"	(2) Chikara KANAZASHI	"
"	(3) Michio YAMATO	"
"	(4) Hajime OHTSUKI	AJTS
"	(5) Kazuo HANAGATA	"
"	(6) Akira NAKAGOME	"

<u>Duty</u>	<u>Name</u>	<u>Affiliated to</u>
Acoustics	(1) Harutoshi TSUKUDA	NHK
"	(2) Tohru FUKUNISHI	"
Building Cost Estimation	(1) Yoshinori YAMAZAKI	"
"	(2) Toshifumi MATSUMURA	AJTS

It is to be noted that during the above period mentioned in Item 3-1, All Japan Television Service Co., Ltd. Cooperated with Japan Broadcasting Corporation in the designing work.

4. SUMMARY OF DETAIL DESIGN (Refer to Fig. S4-1)

4-1 KATHMANDU TRANSMITTING STATION

- (1) As the Central Development Region around the capital of Kathmandu is to be the service area, a 100 kW transmitting station (stand-by transmitter unit is 10 kW, which is operated by a 70 kVA engine generator) is designed.
- (2) The height of transmitting antenna mast is 100 m above ground level. It is designed as a cylindrical mast guyed from three directions. The antenna will operate as a 0.31λ class against transmitting frequency of 792 kHz.
- (3) Station buildings consisting of a 643 m² ferro-concrete structure and a one-story brick structure are planned.

4-2 POKHARA TRANSMITTING STATION

- (1) As the Western Development Region around Pokhara is to be the service area, a 100 kW transmitting station (stand-by transmitter unit is 10 kW, operated by a 70 kVA engine generator) is designed.
- (2) The height of the transmitting antenna mast is 100 m above ground level. It is designed as a cylindrical mast guyed from three directions. The antenna will operate as 0.27λ class against transmitting frequency of 684 kHz.

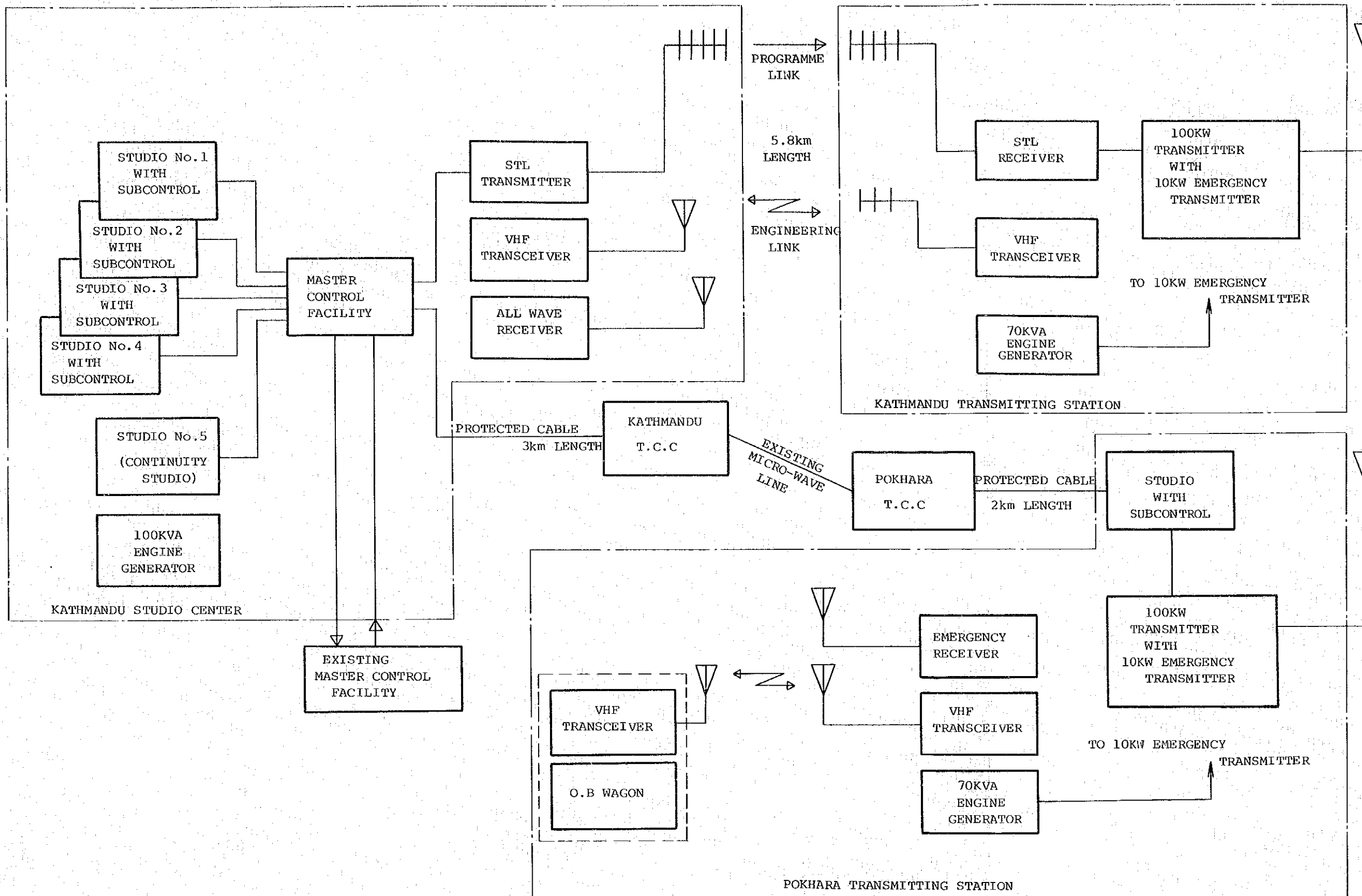


Fig. s4-1 SCHEMATIC DIAGRAM OF TOTAL SYSTEM

