

	X-Ray Film Hanger	1 unit
	Film Illuminator	2 unit(s)
	(2 section banks)	
	X-Ray Film viewer	2 unit(s)
	X-Ray Film Cassette	5 unit(s)
	Dark Room Instrument	1 set
. Changing Room	Clothing basket	3 unit(s)
. X-Ray Control Room	Film storage	1 unit
	X-Ray Film Keeping Shelf	4 unit(s)
	Working desk (with chair)	1 set
. Sputum-taking room	Spittoon	1 unit
. Microscope room	Fluorescent microscope	1 unit
	Dark curtain	1 unit
. Sterilization room	Boiling Sterilizer	2 unit(s)
	(Table-Top type)	
	Boiling Sterilizer	1 unit
	(Stand type)	
	Autoclave	1 unit
	Dressing Drum	6 set(s)
	Distilling Apparatus	1 unit
	Working Table (Stainless steel)	1 unit
. B.C.G. vaccination	Injection set	2 set(s)
	Instrument cabinet	2 unit(s)
	Injection desk (with two chairs)	1 set
	Medicine cabinet	2 unit(s)
	Waste Receptacle	2 unit(s)
. Pharmacy	Medicine cabinet	2 unit(s)
	Medicine refrigerator	1 unit
	Working desk (with two chairs)	1 set
	Balance	1 unit
	Cardcase shelf	1 unit

. Waiting room	V.T.R. set	1 set
. Laboratory (O.P.D.)	Stand for blood sedimentation rack (10 tubes)	2 unit(s)
	EKDS Hemacytometer, Thoma	2 unit(s)
	Hand Tally Counter	3 unit(s)
	Hemoglobin Meter	1 unit
	Urine Analyzer	1 unit
	Microscope (classroom type)	3 unit(s)
	Dyeing set	2 set(s)
	Culture media set	2 set(s)
	Direct Reading Balance	3 unit(s)
	Water Bath	1 unit
	Test Tube Mixer	1 unit
	Spectrometer	1 set
	Coagulator	1 unit
	Distilling Apparatus	1 unit
	Pipette Washer	1 unit
	Clean Bench	1 unit
	Incubator (Table-Top type)	1 unit
	Medicine Cabinet	2 unit(s)
	Medicine Refrigerator	2 unit(s)
	Drying oven	1 unit
	Centrifuge	1 unit
	Centrifuge (Hematocrit)	1 unit
	Centre Table (with chair)	1 unit
	Side Table (with chair)	3 unit(s)
. Health education	V.T.R. set	1 set
	Overhead Projector	1 set
	Speaker system	1 set
	Lecturer Desk/Chair	1 set
	Trainee desk/Chair	15 set(s)
. Research & Supervision dept.		
. Bacteriological research room	Hand talley calculator	10 unit(s)
	Balance scale	10 unit(s)

	Dyeing set	10 set(s)
	Culture media set	10 set(s)
	Microscope (teaching type)	2 set(s)
	Microscope (classroom type)	5 unit(s)
	Water Bath	1 unit
	Test Tube Mixer	1 unit
	Coagulator	1 unit
	pH Meter	1 unit
	Distilling Apparatus	1 unit
	Pipette Washer	1 unit
	Clean Bench	1 unit
	Incubator (large type)	1 unit
	Medicine Cabinet	2 unit(s)
	Medicine Refrigerator	2 unit(s)
	Drying Oven	1 unit
	Centrifuge	1 unit
	Freezer (small type)	1 unit
	Center Table (with Chair)	1 unit
	Side Table (with Chair)	3 unit(s)
. Statistical research room	Personal Computer (with Stand, English, Statistical soft ware)	1 unit
	Typewriter (English, manual)	1 unit
	Book Shelf	2 unit(s)
	Reading Table with Chair	2 set(s)
	Calculator	1 unit
. Epidemiological research	Typewriter (English, manual)	1 unit
	Book Shelf	2 unit(s)
	Reading Table with Chair	2 set(s)
. Clinical research	Typewriter (English, manual)	1 unit
	Book Shelf	2 unit(s)
	Reading Table with Chair	2 set(s)

. Library	Book Shelves	15 set(s)
	Reading desks / Chair	2 set(s)
	Copy machine	1 unit
	(desk top with table)	
. Administration dept.		
. Director's room	Typewriter (English manual)	1 unit
	Typewriter (Nepalese manual)	1 unit
. Deputy director's room	Typewriter (English manual)	1 unit
	Typewriter (Nepalese manual)	1 unit
. Visiting medical expert's room (1)	Typewriter (English manual)	1 unit
	Film Illuminator	1 unit
	(2 section banks, desk top)	
	Film Illuminator	1 unit
	(8 section banks, stand type)	
. Visiting medical expert's room (2)	X-Ray Film Viewer	1 unit
. Office	Typewriter (English manual)	1 unit
	Typewriter (Nepalese manual)	1 unit
	Electric Calculator	1 unit
	(table-top type)	
	Personal Computer (English, with storage, accounting soft ware)	1 unit
. Preparation room	Copying Machine	1 set
	(desk type with table)	
	Printing Machine	1 set
	(offset, with plates)	
	Slide maker	1 set
	Lighting set (for photography)	1 set
	Working desk (with chair)	1 set
	Video T.V. camera	1 unit
	Instrument cabinet	1 unit

. Meeting room	Film Illuminator	1 unit
	(8 section banks, stand type)	
	Slide Projector	1 unit
	Portable Cassette Recorder	1 unit
	(double cassette tape)	
. Laundry	Washing machine	1 unit

Training building

. Training department

. Training hall	16mm Film Projector	1 unit
	Slide Projector	2 unit(s)
	Overhead Projector	1 unit
	Screen Set	1 set
	Lecturer's desk & others	1 set
	Speaker system	1 set
	Dark Curtain	1 set

. Training room 1	Slide Projector	1 unit
	Desk	30 unit(s)
	Chair	30 unit(s)
	Dark curtain	1 set
	Lecturer Desk/Chair	1 set
	Speaker system	1 set

. Training room 2	Microscope (classroom type)	8 unit(s)
	Clean Bench	1 unit
	Coagulator	1 unit
	Side table (with sink)	4 unit(s)
	Desk	30 unit(s)
	Chair	30 unit(s)
	Lecturer's desk, chair	1 set

. Preparation room	Working desk (with chair)	1 set
	Medicine cabinet	1 unit
	Instrument cabinet	3 unit(s)

. Drug supply dept.

. Storage Keeper	Calculator (Table-type)	1 unit
room	Card case	1 unit
	Working desk	1 unit
	Chair	2 unit(s)

. Medical Storage	Medicine cabinet	4 unit(s)
(NTC)	Instrument cabinet	4 unit(s)
	Medical refrigerator	1 unit
	Working desk	1 unit
	Shelves	28 unit(s)

. Medical Storage	Medicine cabinet	4 unit(s)
(RTC)	Instrument cabinet	4 unit(s)
	Medical refrigerator	1 unit
	Working desk	1 unit
	Shelves	18 unit(s)

. Garage	Microbus (15-passenger)	1 unit
(vehicles)	4-WD automobile	2 unit(s)
	Pickup Lorry	2 unit(s)
	Station wagon (4-WD type)	1 unit
	Motorcycle	10 unit(s)

. Dormitories

. Laundry	Washing machine	3 unit(s)
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. Dining room/lounge	Refrigerator	1 unit
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2) RTC

Main building

. Outpatient department

. Reception

Calculator (desk top)	1 unit
Manual typewriter (Nepalese)	1 unit

. Chart room

Chart Cabinet	2 unit
Card Cabinet (3 type)	2 unit(s)/type
X-Ray Film Cabinet	2 unit(s)

. Pre-consultation
room

Examination Desk	1 unit
Examination Chair (Doctor)	1 unit
Examination Chair (Patient)	1 unit
Examination Couch	1 unit
Wash Basin (with frame)	1 unit
Stethoscope	2 unit(s)

. Consultation room

Examination Desk	1 unit
Examination Chair (Doctor)	1 unit
Examination Chair (Patient)	1 unit
Examination Couch	1 unit(s)
Sphygmomanometer (desk type)	1 unit
Stethoscope	2 unit(s)
Wash Basin (with frame)	1 unit
Height scale	1 unit
Weighing scale	1 unit
Clothing basket	1 unit
Instrument Cabinet	1 unit(s)
Diagnostic Set	1 set
Treatment Instrument Set	2 set(s)
Waste Receptacle	1 unit(s)
Analptics instrument	1 unit
Oxygen Inhaler	1 unit
Film illuminator	1 unit

(2 section banks)

. Injection room	Injection set	1 set
	Instrument Cabinet	1 unit
	Injection Desk (with two chairs)	1 set
	Medical Cabinet	1 unit
	Waste Receptacle	1 unit
. Laboratory (O.P.D.)	Stand for blood sedimentation rack (10 tubes)	1 unit
	EKDS Hemacytometer, Thoma	1 unit
	Hand Tally Counter	2 unit(s)
	Hemoglobin Meter	1 unit
	Urine Analyzer	1 unit
	Microscope (classroom type)	2 unit(s)
	Dyeing set	1 set
	Culture media set	1 set
	Direct Reading Balance	2 unit(s)
	Water Bath	1 unit
	Test Tube Mixer	1 unit
	Spectrometer	1 set
	Coagulator	1 unit
	Distilling Apparatus	1 unit
	Pipette Washer	1 unit
	Clean Bench	1 unit
	Incubator (Table-Top type)	1 unit
	Medicine Cabinet	2 unit(s)
	Medicine Refrigerator	2 unit(s)
	Drying oven	1 unit
. X-Ray room	Centrifuge	1 unit
	Centrifuge (Hematocrit)	1 unit
	Centre Table (with chair)	1 unit
	Side Table (with chair)	3 unit(s)
	X-Ray Diagnostic System (Mass Minature, Direct)	1 set
	Cassette Pass-Box	1 unit

. Dark Room	X-Ray Film Developer	1 set
	X-Ray Film Viewer	1 set
	X-Ray Film Dryer	1 unit
	X-Ray Film Hanger	1 unit
	Film Illuminator	1 unit(s)
	(2 section banks)	
	X-Ray Film viewer	1 unit
	X-Ray Film Cassette	5 unit(s)
	Dark Room Instrument	1 set
. Changing Room	Clothing basket	2 unit(s)
. X-Ray Control Room	Film storage	1 unit
	X-Ray Film Keeping Shelf	1 unit
	Working desk (with chair)	1 set
. Sputum-taking room	Spittoon	1 unit
. Sterilization room	Boiling Sterilizer	1 unit
	(Table-Top type)	
	Boiling Sterilizer	1 unit
	(Stand type)	
	Autoclave	1 unit
	Dressing Drum	3 set(s)
	Distilling Apparatus	1 unit
	Working Table (Stainless steel)	1 unit
. B.C.G. vaccination	Injection set	2 set(s)
	Instrument cabinet	2 unit(s)
	Injection desk (with two chairs)	1 set
	Medicine cabinet	2 unit(s)
	Waste Receptacle	2 unit(s)
. Pharmacy	Medicine cabinet	1 unit
	Medicine refrigerator	1 unit
	Working desk (with two chairs)	1 set

	Balance	1 unit
	Cardcase shelf	1 unit
. Research & Supervision dept.		
. Bacteriological	Hand talley calculator	7 unit(s)
research room	Balance scale	7 unit(s)
	Dyeing set	7 set(s)
	Culture media set	7 set(s)
	Microscope (teaching type)	1 set
	Microscope (classroom type)	3 unit(s)
	Water Bath	1 unit
	Test Tube Mixer	1 unit
	Coagulator	1 unit
	Distilling Apparatus	1 unit
	pH Meter	1 unit
	Pipette Washer	1 unit
	Clean Bench	1 unit
	Incubator (large type)	1 unit
	Medicine Cabinet	2 unit(s)
	Medicine Refrigerator	2 unit(s)
	Drying Oven	1 unit
	Centrifuge	1 unit
	Freezer (small type)	1 unit
	Centre Table (with Chair)	1 unit
	Side Table (with Chair)	2 unit(s)
. Administration dept.		
. Director's room	Typewriter (English manual)	1 unit
	Typewriter (Nepalese manual)	1 unit
. Visiting medical	Typewriter (English manual)	1 unit
expert's room	Film Illuminator	1 unit
	(2 section banks, desk top)	
	X-Ray Film Viewer	1 unit
. Office	Typewriter (English manual)	1 unit
	Typewriter (Nepalese manual)	1 unit

	Electric Calculator	1 unit
	(table-top type)	
	Copy machine	1 unit
	(desk top with table)	
. Meeting room	Film Illuminator	1 unit
	(8 section banks, stand type)	
	Slide Projector	1 unit
	Portable Cassette Recorder	1 unit
	(double cassette tape)	
. Library	Book shelves	3 set(s)
	Reading desks/chairs	1 set
. Preparation room	Slide maker	1 set
. Training department		
. Training room	Desk	30 unit(s)
	Chair	30 unit(s)
	Lecturer's desk/chair	1 set
	Slide projector	1 unit
	Microscope (Classroom type)	5 unit(s)
	Side table (with sink)	3 unit(s)
	Dark curtain	1 set
. Drug supply dept.		
. Storage keeper's room	Calculator (Table-type)	1 unit
	Card case	1 unit
	Working desk (with chair)	1 unit
. Medical Storage	Medicine cabinet	4 unit(s)
	Instrument cabinet	4 unit(s)
	Medical refrigerator	1 unit
	Working desk	1 unit
	Shelves	8 unit(s)
. Garage	4-WD automobile	1 unit
(vehicles)	Motorcycle	5 unit(s)

4-3-4 Basic Design Drawings

1. Planned floor area table

2. Basic design drawings

1) NTC (National Tuberculosis Centre, Kathmandu)

1. Overall site plan
2. Main building floor plan (Ground floor, first floor)
3. Main building, elevation and cross-section
4. Training building floor plan (Ground floor, first floor)
5. Training building, elevation and cross-section
6. Dormitory floor plan
7. Dormitories elevation and cross-section
8. Floor plan, elevation and cross-section of other facilities.

2) RTC (Regional Tuberculosis Centre, Pokhara)

9. Overall site plan
10. Main building floor plan (Ground floor, first floor)
11. Main building, elevation and cross-section
12. Lecturer's guest houses, floor plan, elevation and section
13. Floor plan, elevation and section of other facilities.

Planned floor Area table

Building Name		Structure . stories	Total floor
NTC	1) Main Building	Reinforced concrete 2 storeies	2,550 m ²
	2) Training Building	Reinforced concrete 2 storeies	1,375 m ²
	3) Dormitory	Reinforced concrete 1 storeies	795 m ²
	4) Annex	Reinforced concrete 1 storeies	30 m ²
		sub-Total	4,750 m ²
RTC	1) Main Building	Reinforced concrete 2 storeies	1,560 m ²
	2) Guest House	Reinforced concrete 1 storeyed	165 m ²
	3) Annex	Reinforced concrete 1 storeyed	90 m ²
		sub-Total	1,815 m ²
		Total	6,565 m ²

1. NTC

1) Main building (2,550 m²)

a) Administration department (970 m²)

Room name	Number	Floor area (m ²)
Director's office	1	48
Deputy director's office	2	70
Expert's room (1)	1	48
Experts room (2)	1	30
Chief administrator's office	1	18
Office	1	60
Doctor's offices	5	90
Technician's offices	2	36
General staff room	2	60
Meeting room (1)	1	45
Meeting room (2)	1	15
Staff canteen, storage	1	18
Laborer's room	1	18
W.C., Hall ways, stairways, others	-	414
Total	-	970

b) Outpatient department (1,013 m²)

Room name	Number	Floor area (m ²)
Reception	1	36
Waiting room	1	120
Chart room	1	24
Pre-consultation room	1	12
Consultation room	4	48
Treatment room	1	22
BCG Vaccination room	1	18
Injection room	1	4
Room for taking sputa	1	12
Examination		
X-ray room (direct, indirect)	1	25
X-ray room (tomograph)	1	20
Changing room	2	8
Dark room	1	4
Film storage room	1	4
X-ray control room	2	28
Examination room	1	36
Microscopists room	1	18
Pharmacy	1	24
Sterilization room	1	15
Health education room	1	54
Equipment Storage	1	18
Storage	1	9
W.C., Hall ways, stairways, others	-	409
Total	-	1,013

c) Research & supervision department (361 m²)

Room name	Number	Floor area (m ²)
Epidemiology research room	1	36
Statistics research room	1	36
Treatment research room	1	36
Bacteriological research room	1	36
Library	1	45
Data preparation room	1	18
W.C., passage ways, others	-	154
Total	-	361

d) Others (206 m²)

Room name	Number	Floor area (m ²)
Staff canteen	1	52
Laundry	1	18
Electric substation	1	36
Generator room	1	18
Hallways, etc.	-	82
Total	-	206

2) Training building (1,375 m²)

a) Training department (996 m²)

Room name	Number	Floor area (m ²)
Training hall	1	120
Training room	2	144
Preparation room	1	36
Meeting room	1	36
Reception	1	18
Lecturer's room (1)	1	18
Lecturer's room (2)	1	36
W.C., hallways, stairways, others	-	516
Total	-	996

b) Drug supply department (198 m²)

Room name	Number	Floor area (m ²)
Storage NTC	1	108
Storage RTC	1	72
Storage keeper	1	18
W.C., hallways, stairways	-	--
Total	-	198

c) Others (181 m²)

Room name	Number	Floor area (m ²)
Driver's room	1	18
Garage	1	108
Equipment room	1	18
Storage	1	18
W.C., hallways, stairs	-	19
Total	-	181

3) Dormitories (795 m²)

Room name	Number	Floor area (m ²)
Lecturer lodging rooms	4	98
Trainee lodging rooms	13	513
Dining room/lounge	1	70
Staff room	1	6
Kitchen	1	35
Attendant's room	1	15
Storage	1	4
Linen room	1	4
Laundry	3	35
W.C., hallways, stairs	-	15
Total	-	795

4) Outer facilities (30 m²)

Room name	Number	Floor area (m ²)
Guard room	2	30
Total	-	30

2. RTC

1) Main building (1,560 m²)

a) Administration department (343 m²)

Room name	Number	Floor area (m ²)
Director's room	1	35
Expert's room	1	38
Office	1	35
Meeting room	1	33
Doctor's office	1	25
Medical staff room	1	20
Food storage	1	25
Hot water heater room	1	8
W.C., hallways, Laundry	-	124
Total	-	343

b) Outpatient department (656 m²)

Room name	Number	Floor area (m ²)
Reception	1	23
Waiting room	1	40
Chart room	1	25
Pre-consultation room	1	23
Consultation room	1	23
BCG vaccination room	1	18
Injection room	1	10
Room for taking sputa	1	15
X-ray room	1	27
Changing room	2	6
Dark room	1	6
Film examination room	1	18
Film storage	1	6
Sterilization room	1	15
X-ray control room	1	28
Examination room	1	58
Pharmacy	1	24
Health education area	1	40
W.C., hallways, stairs	-	251
Total	-	656

c) Research & supervision (176 m²)

Room name	Number	Floor area (m ²)
Statistics and epidemiological research room	1	80
Bacteriological research room	1	45
Library	1	19
W.C., Stairs, others	-	32
Total	-	176

d) Training department (150 m²)

Room name	Number	Floor area (m ²)
Training room	1	80
Lecturer's room	1	19
Preparation room	1	19
W.C. hallways, stairs	-	32
Total	-	150

e) Drug supply department (137 m²)

Room name	Number	Floor area (m ²)
Medical storage	1	72
Storage keeper's room	1	20
Others	-	45
Total	-	137

f) Other (98 m²)

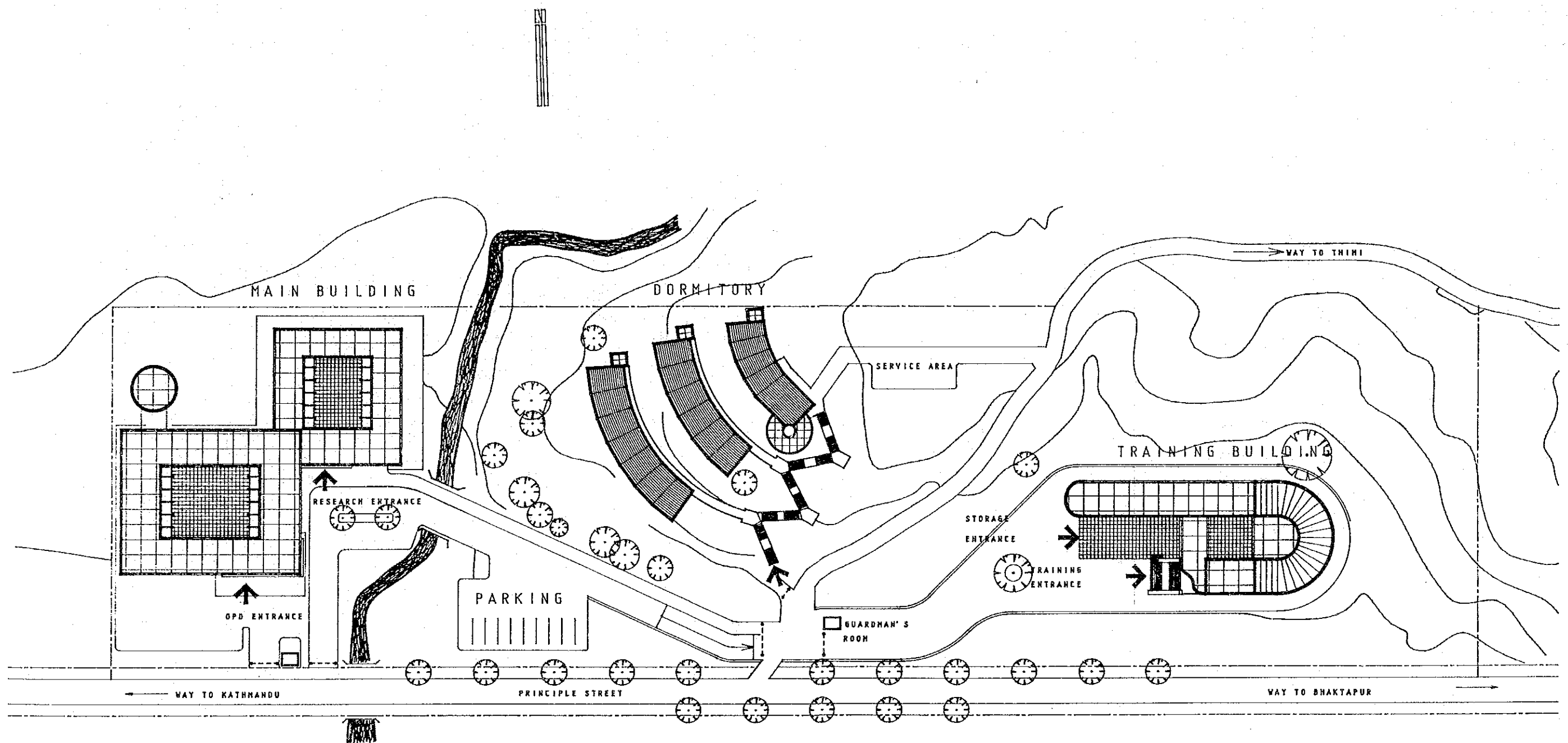
Room name	Number	Floor area (m ²)
Generator room	1	25
Electric substation	1	28
Pump room	1	33
Hallways, others	-	12
Total	-	98

2) Guest houses for lecturers (165 m²)

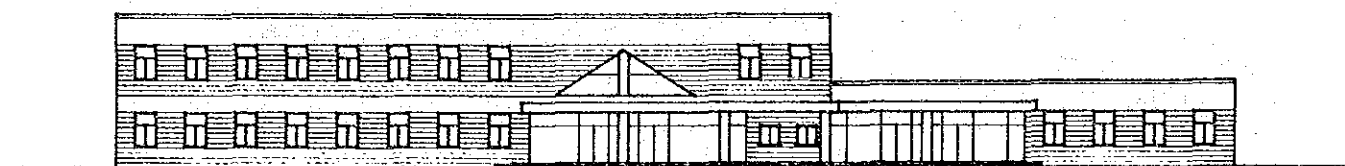
Room name	Number	Floor area (m ²)
Lodging unit (1)	1	69
Lodging unit (2)	2	96
Total	-	165

3) Other facilities (90 m²)

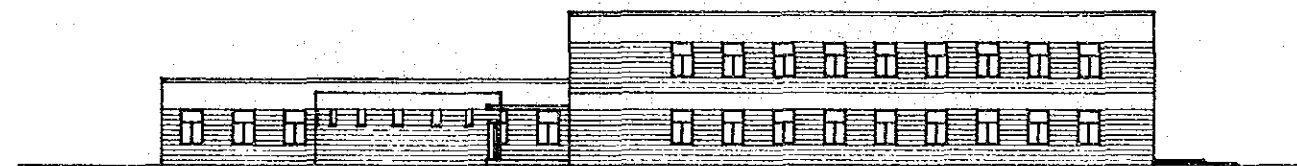
Room name	Number	Floor area (m ²)
Garage	1	75
Guard room	1	15
Total	-	90



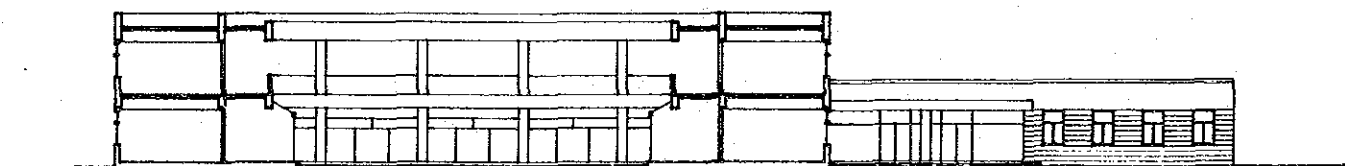
NATIONAL TUBERCULOSIS CENTRE SITE PLAN 1/900



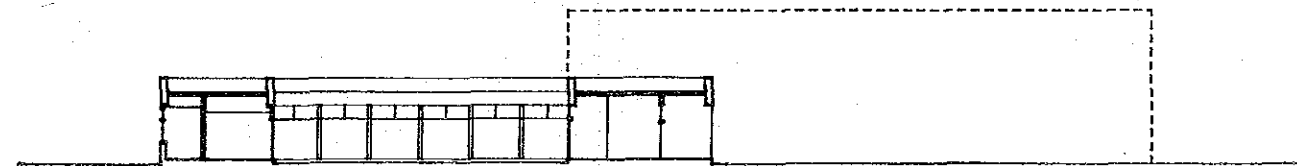
SOUTH ELEVATION 1/400



WEST ELEVATION 1/400

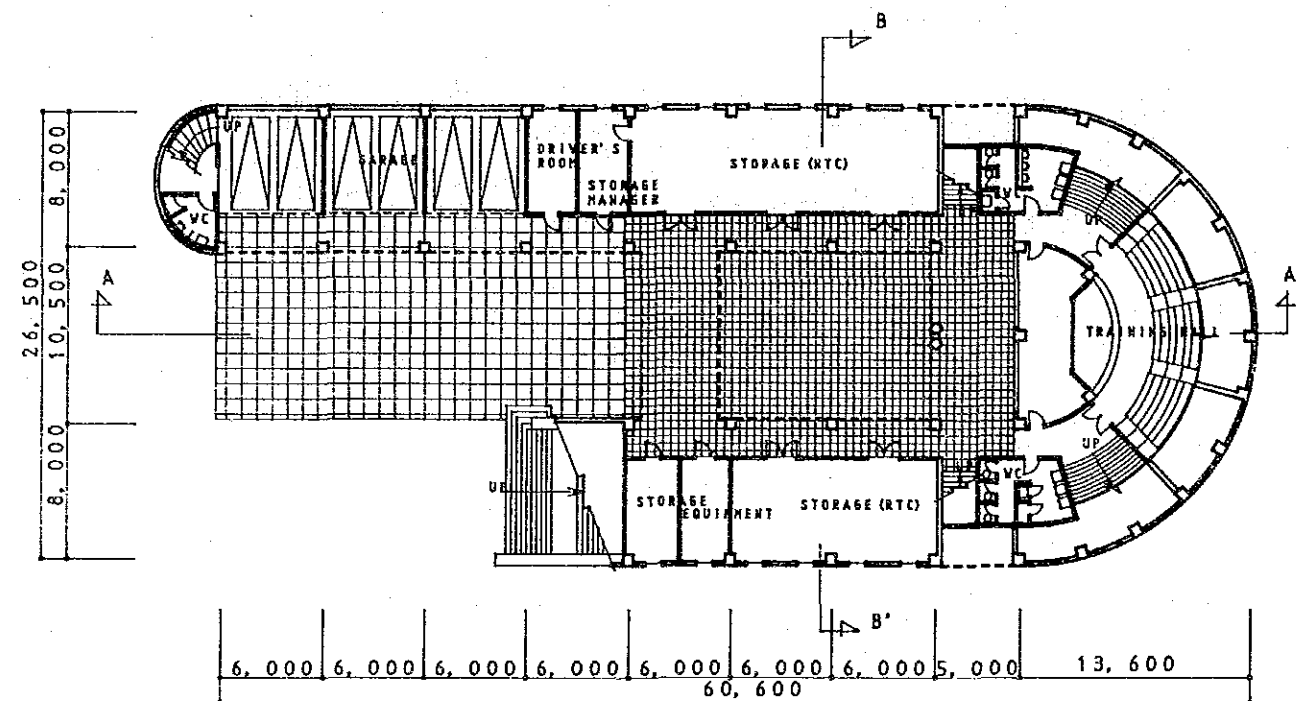


A-A' SECTION 1/400

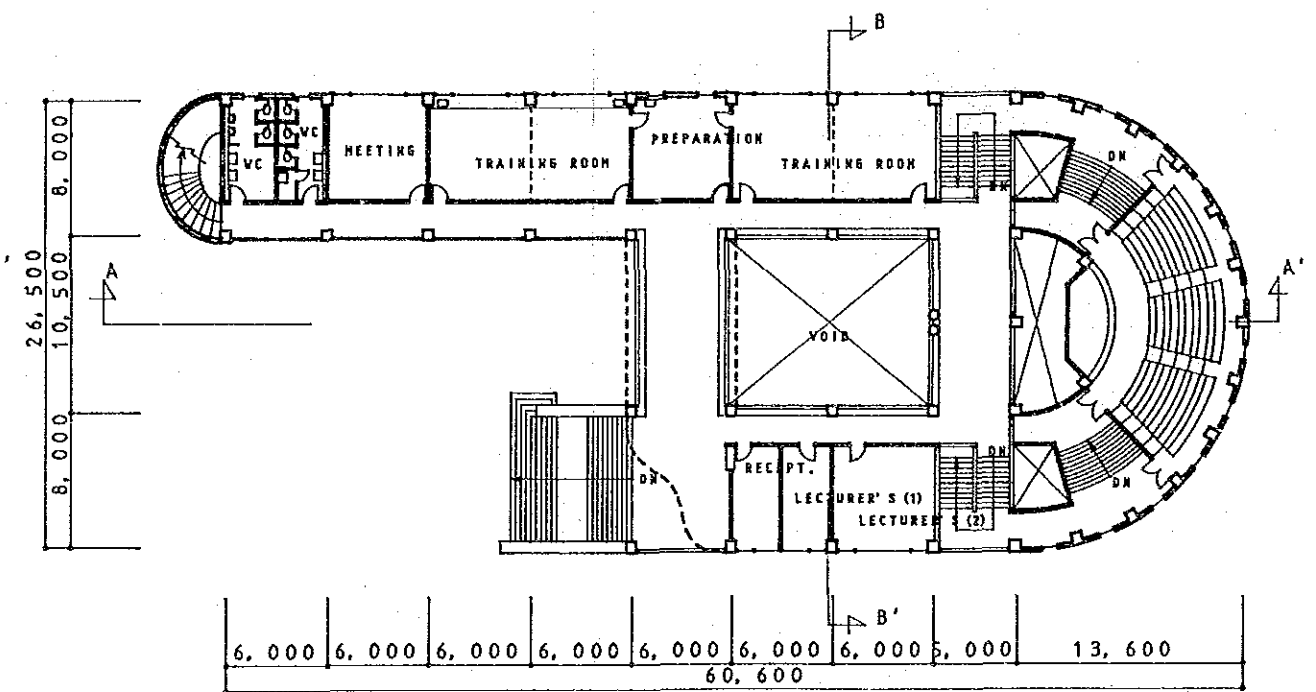


B-B' SECTION 1/400

NATIONAL TUBERCULOSIS CENTRE MAIN BUILDING

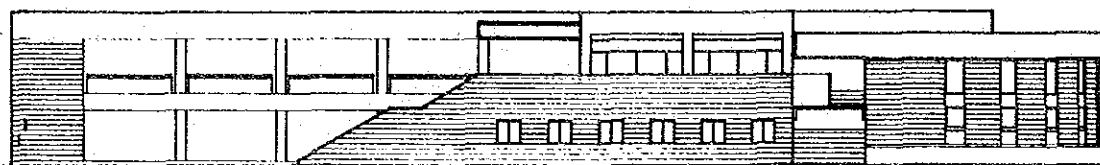


GROUND FLOOR PLAN 1/400

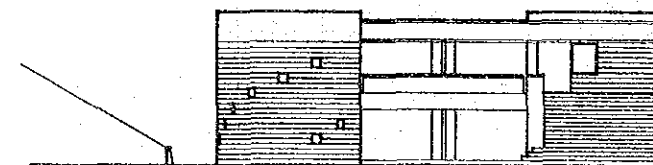


FIRST FLOOR PLAN 1/400

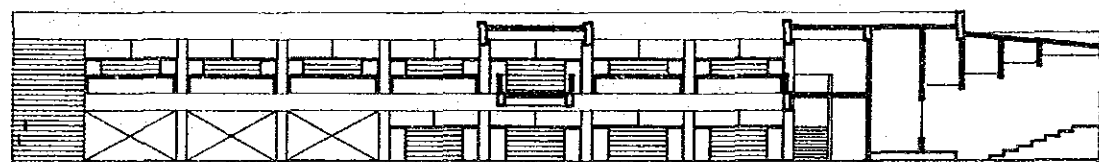
NATIONAL TUBERCULOSIS CENTRE TRAINING BUILDING



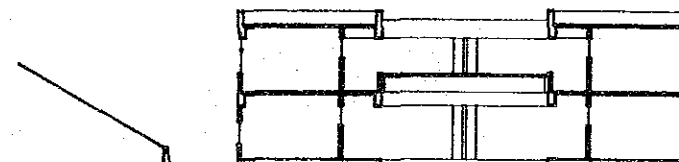
SOUTH ELEVATION 1/400



WEST ELEVATION 1/400

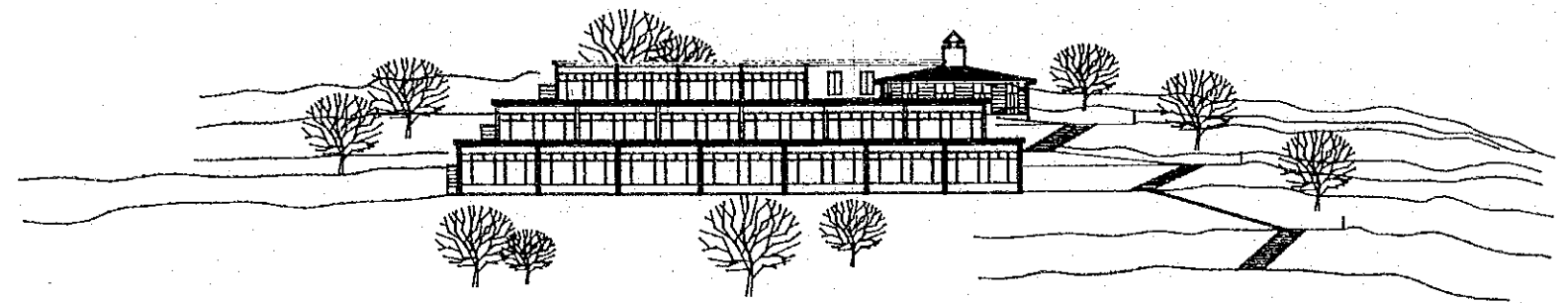
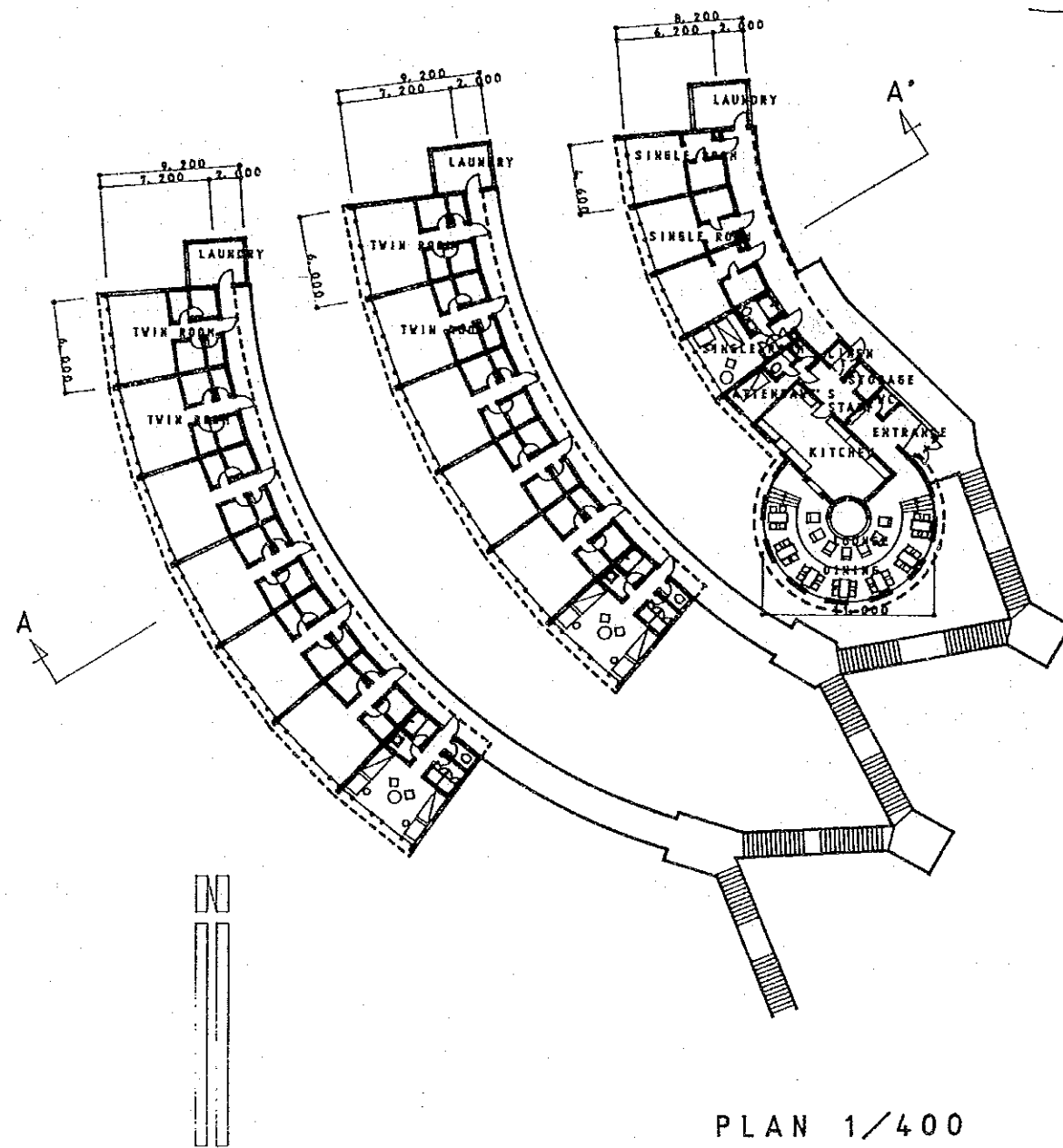


A-A' SECTION 1/400

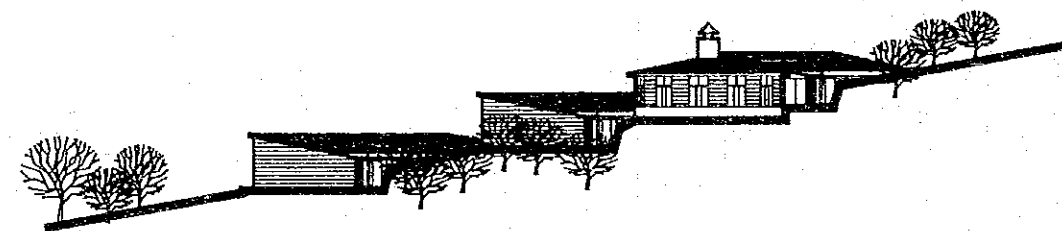


B-B' SECTION 1/400

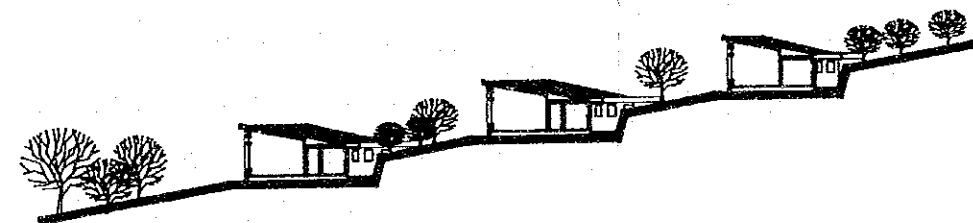
NATIONAL TUBERCULOSIS CENTRE TRAINING BUILDING



SOUTH ELEVATION 1/400

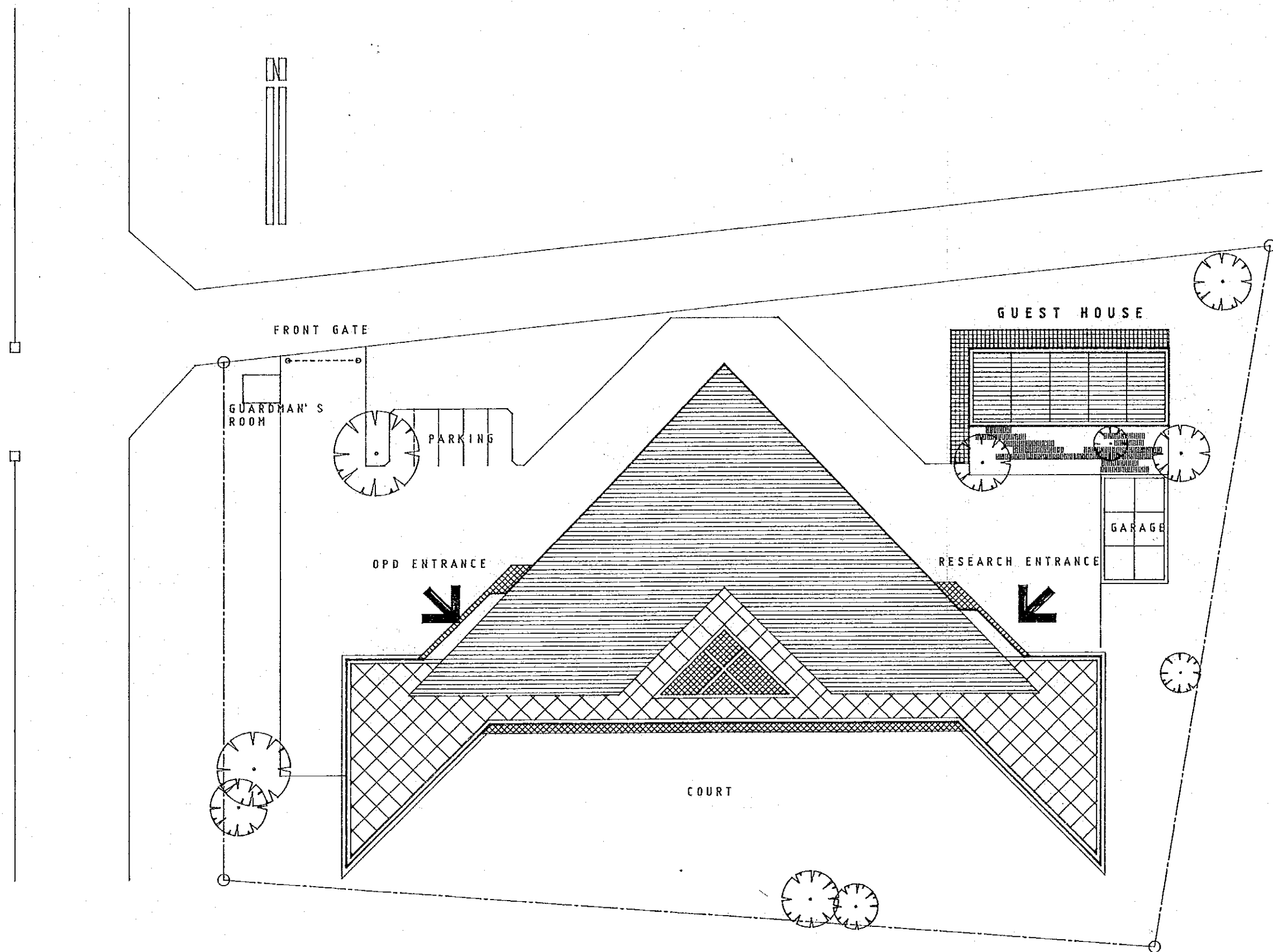


SOUTH EAST ELEVATION 1/400



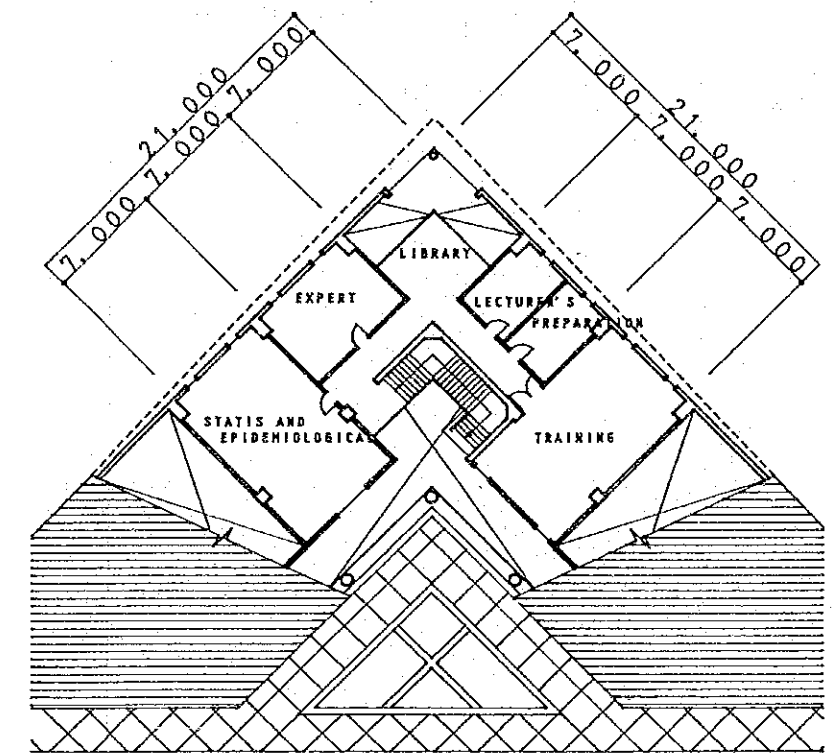
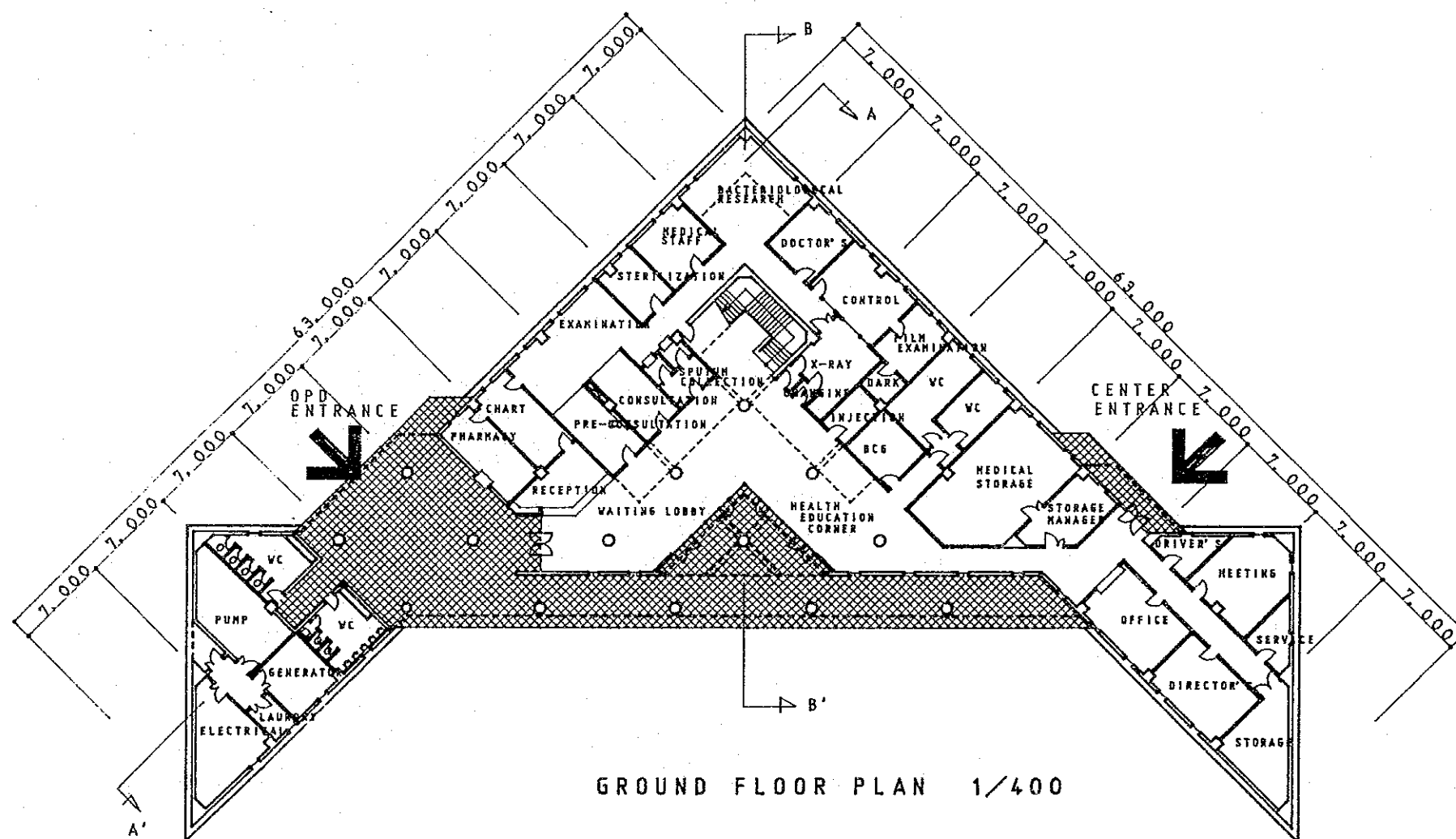
A-A' SECTION 1/400

NATIONAL TUBERCULOSIS CENTRE DORMITORY

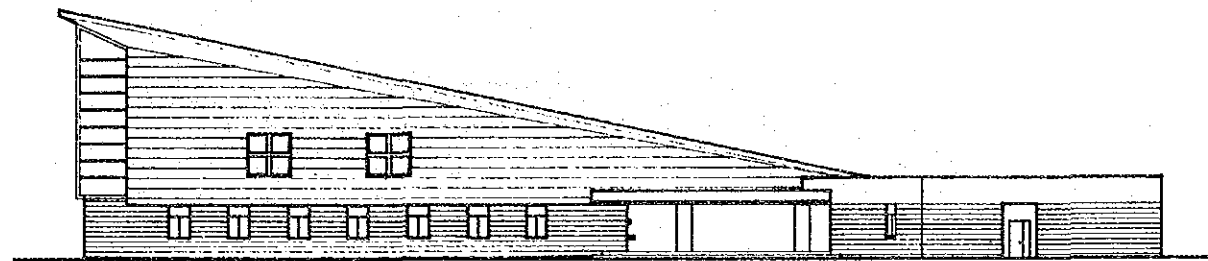


SITE PLAN 1/400

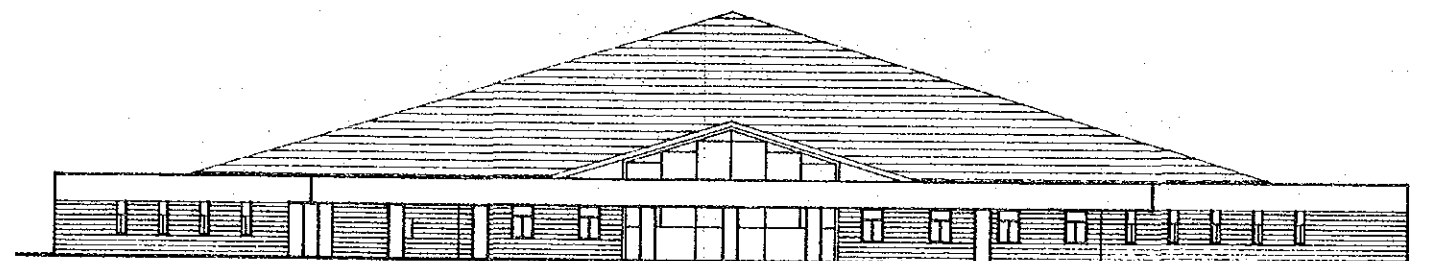
REGIONAL TUBERCULOSIS CENTRE



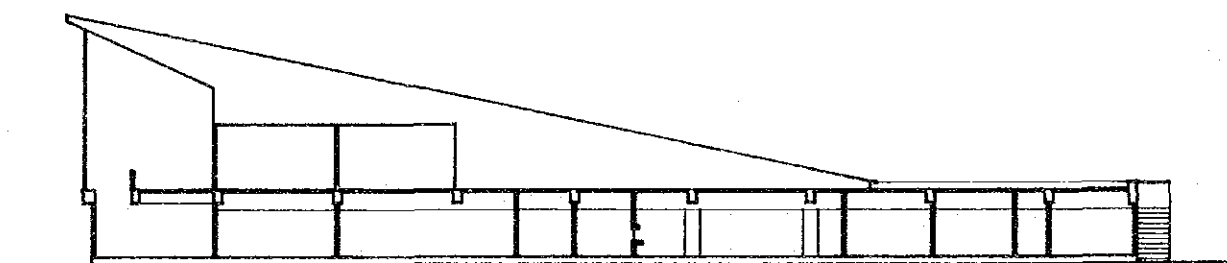
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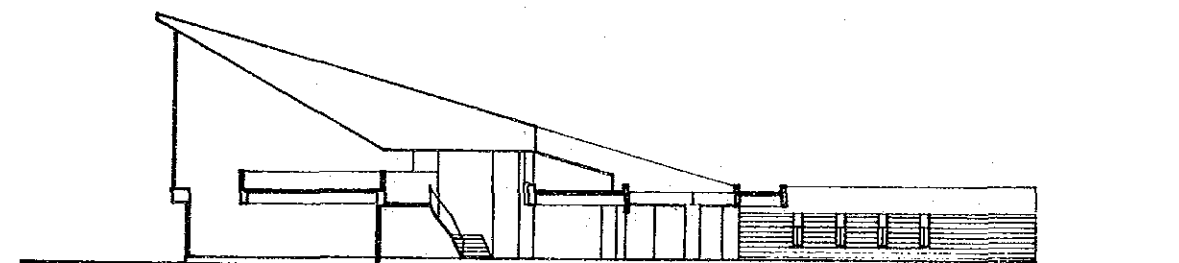
WEST ELEVATION 1/400



SOUTH ELEVATION 1/400

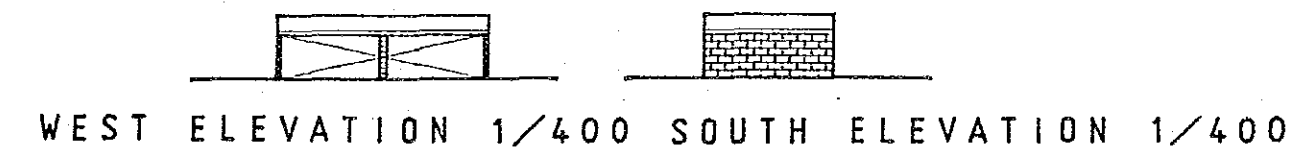
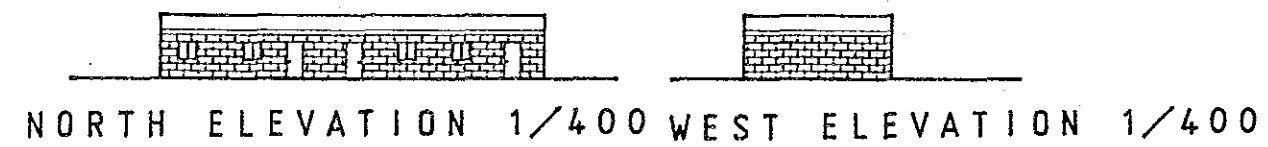
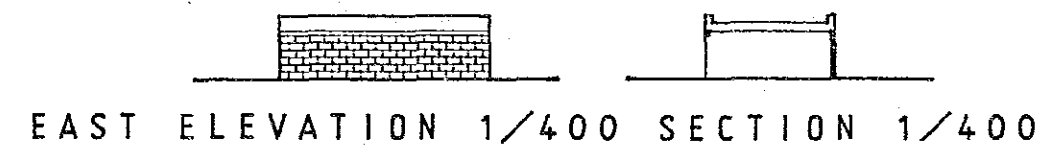
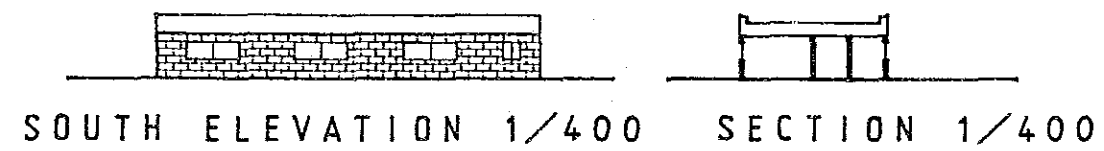
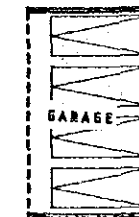
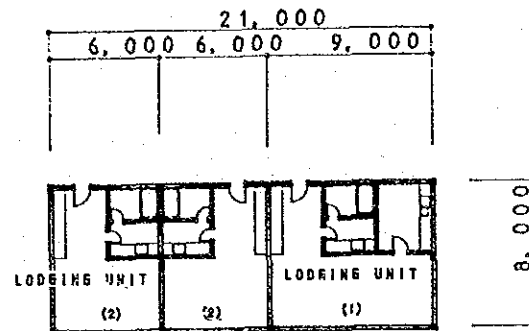


A-A' SECTION 1/400



B-B' SECTION 1/400

REGIONAL TUBERCULOSIS CENTRE



REGIONAL TUBERCULOSIS CENTRE

4-4 Project Implementation Plan

4-4-1 Project Implementation System

1) Executing Agency

The NTC (National Tuberculosis Centre) is to be controlled under the project execution agency which was organized in February 1987 under the Secretary, Ministry of Health. For construction of the centre, the NTC board which was organized in December 1986 when the JICA basic design survey team visited is responsible for decision making (the secretary, Ministry of Health has sole responsibility for management of the "NTC" board before completion of NTC facilities) In order to smoothly implement the project, it will be necessary to designate an official to handle relations with consultants and contractors.

As a responsible board to discuss the construction plan of NTC/RTC or other facilities being constructed, the board was established with the following members, taking the actual activities to be carried out after construction into consideration. It consists of the following members:

Dr. N.L. Maskay ————— Chairman, Ministry of Health

Mr. Baburam Shrestha ——— Ministry of Finance

Dr. N.G. Amatya ————— Ministry of Health

Dr. T.M. Sakya ————— Ministry of Health

Mr. H.B. Gurbacharya ——— Ministry of Health

Dr. D.S. Bam ————— Ministry of Health

Needless to say, the Ministry of Health of Nepal will bear the responsibility in deployment and operation of NTC/RTC, and the board, comprising the above 6 members, will be directly responsible for construction. Of these 6 members, 2 members are the representatives from the Ministry of Finance and the Ministry of Health, and 4 members are doctors specializing in tuberculosis.

2) Consultants

According to the Japan's Grant Aid system, a Japanese consultants is to undertake design and supervision. The scope of the consultants' works is as follows.

a) Detail design

The consultant is in charge of making execution drawings and specifications for tender.

b) Cooperation with Nepalese Government on tender and contract

a. Prequalification of tender contractors

b. Tender works

c. Attendance to contracts

c) Supervision

3) Contractors

According to the Japan's Grant Aid system, Japanese contractors are to be in charge of construction of the facilities and the supply of the equipment. The contractors are particularly responsible to meet the construction terms.

4-4-2 Scope of Work of each government

1) NTC (Kathmandu)

a) Scope of work by the Japanese government (under Japan's Grant Aid)

i) Facilities

1. Main works

Building construction: Main building, training building, Dormitory, annex (incinerator, guard house)

Building equipment : electric work, plumbing work, air conditioning work, ventilation work.

2. Following outside works within the site

- o Drainage works within site (including rain draining)
- o Wiring of electric current and telephones between buildings
- o Plumbing within the site
- o Bridge, retaining wall
- o Road pavement in the site (excluding markings)

ii) Medical equipment

- o Medical equipment, which are shown in 4-3-3, 'Medical Equipment Planning'.

iii) Others

- . transportation costs to the site for machines and materials used for the construction
- . transportation and installation costs to the site for medical equipment
- . making execution design drawings and specifications, consultation for tender and contract works, and supervision

2. Scope of work by the Nepalese government

o Main works

- . Site clearance before construction start (including removal of water tank at the nursery field)
- . Water supply, supply of electric power, and telephone service during construction including preparation time before and after construction.

o Outside works

- . Water supply to 1 m inside from the site border before construction start.
- . Drainage works outside the site
- . Supply of electric power to the site before construction start.
- . Installation of telephone wire to telephone switchboard

o Circumference works

- . Gardening
- . Fence and gate

o General Furniture

- . General furniture, stationery and others excluded from Japan's Grant Aid.

o Others

- . Commission of authorization to pay (A/P)
- . Exemption of customs and tax of imported materials and construction equipment
- . Exemption of customs and tax for Japanese concerning the construction
- . Appropriate maintenance and management of facilities established by Japan's Grant Aid.

- . Promotion to obtain official permission on construction and exemption of permission expense
- . Stable supply of construction materials produced in Nepal

2) RTC (Pokhara):

a) Scope of work by the Japanese government (under Japan's Grant Aid)

i) Facilities

1. Main works

Building construction: Main Building, guest house, annex
(incinerator, guard house, etc.)

Building equipment : electric work, plumbing work, air
conditioning work, ventilation work.

2. Following outside works within the site

- o Drainage works within site (including rain draining)
- o Wiring of electric current and telephones between buildings
- o Plumbing within the site
- o Bridge, retaining wall
- o Road pavement in the site (excluding markings)

ii) Medical equipment

- o Medical equipment, which are shown in 4-3-3, 'Medical Equipment Planning'.

iii) Others

- . transportation costs to the site for machines and materials used for the construction
- . transportation and installation costs to the site for medical equipment
- . making execution design drawings and specifications, consultation for tender and contract works, and supervision

2. Scope of work by the Nepalese government

o Main works

- . Site clearance before construction start (including removal of houses in the site)
- . Water supply, supply of electric power, and telephone service during construction including preparation time before and after construction.

- o Outside works
 - . Water supply to 1 m inside from the site border before construction start.
 - . Drainage works outside the site
 - . Supply of electric power to the site before construction start.
 - . Installation of telephone wire to telephone switchboard
- o Circumference works
 - . Gardening
 - . Fence and gate
- o General Furniture
 - . General furniture, stationery and others excluded from Japan's Grant Aid.
- o Others
 - . Commission of authorization to pay (A/P)
 - . Exemption of customs and tax of imported materials and construction equipment
 - . Exemption of customs and tax for Japanese concerning the construction
 - . Appropriate maintenance and management of facilities established by Japan's Grant Aid.

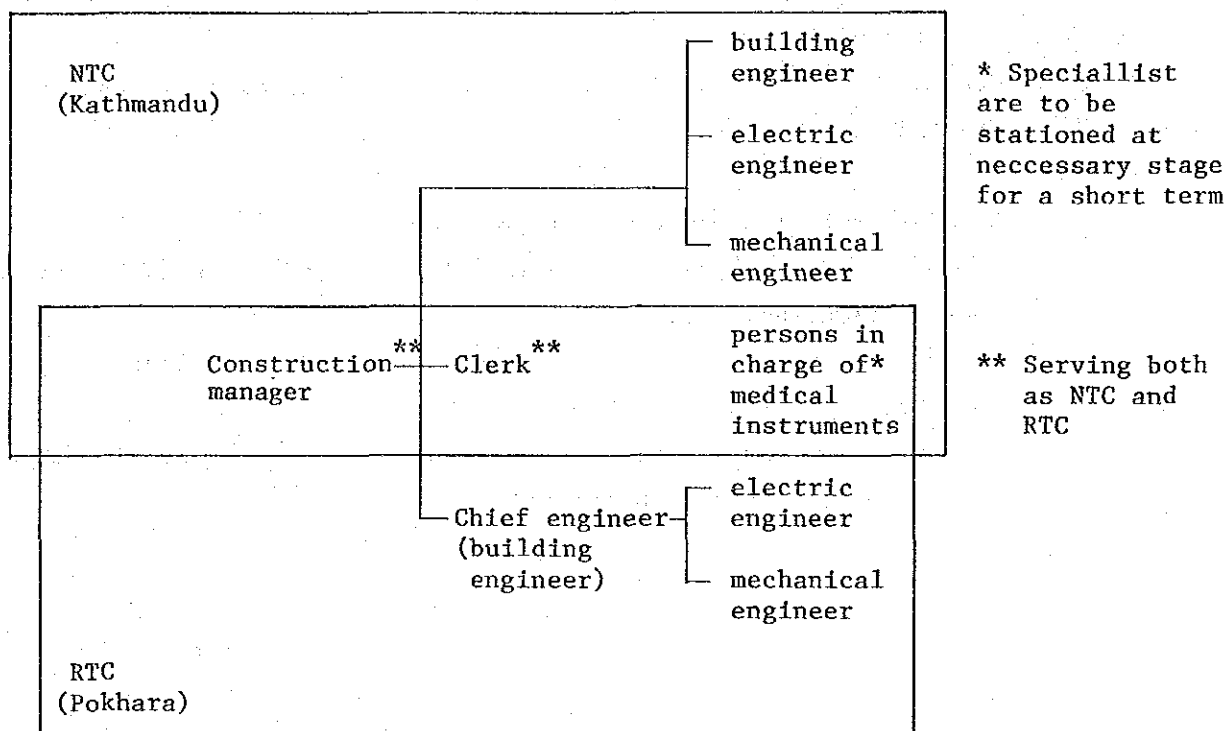
4-4-3 Construction and Supervisory Plan

4-4-3-1 Construction Plan

Since this project is executed under the Japan's Grant Aid, the project is based on the Japan Grant Aid regulations.

1) Organization of work

For the project, which has two sites, Kathmandu and Pokhara, an work organization as in the following diagram is, at least, desired.



2) The constructional situation in Nepal

Quite a number of businesses will have responsibility in the construction on the Nepal side. However, it is thought to be difficult to supply qualified workers to perform the type of construction work required for centres in either Pokhara or Kathmandu. To meet with the various requirements of construction works it is thought necessary to have Japanese engineers stationed in Nepal for a short term to oversee and guide implementation of certain works. Their presence can also be highly valuable in providing Nepal with the latest construction techniques. Also, in that the production capacity

of bricks and other construction materials in Nepal is somewhat limited, there is a need to make arrangements concerning such items beforehand to ensure that work does not fall behind the work schedule under the grant aid.

3) Scheduling of works

New Year's days in Nepal are different from Japan; these days are not public holidays. In the middle of October, there are holidays which are called Dasain, and the holidays continue for about one week. In making the working schedule, it is necessary to consider that holidays decrease efficiency. In addition, if excavation works or foundation works are executed from June to September, the works will be inefficient because of the rainy season. Particularly, because in Pokhara it rains three times as much as Kathmandu, the schedule has to have sufficient time. Since the Nepalese side construction has to be done before the Japanese side construction starts, it is necessary that the Nepalese side and the consultant carefully discuss construction details and construction time.

4-4-3-2 Supervisory Plan

On the basis of contracts with the Nepalese government, the consultant assigns a resident engineer in Nepal in order to coordinate opinions between Nepal and Japan, and to solve engineering problems.

For important inspections, confirmation and decisions about construction works, engineers are properly sent to Nepal in order to smoothly undertake the works of the consultant. On the other hand, a person in charge of the project is also assigned in Japan; this person is in charge of liaison business with the actual site, sending of reports to JICA, the Ministry of Foreign Affairs, and the government concerned officials.

4-4-4 Construction Materials and Machine Planning

1. Building material procurement

Most building materials in Nepal depend on imports from other countries. In the case of the construction works under Japan's Grant Aid, the materials produced in Nepal may not be given priority for the work except in certain instances because of a short construction term (i.e., the work is to be executed within one Japanese fiscal year in Japan); the construction works requires a lot of cement, aggregate, reinforcing bars and forms in a short term; however, the productive capacity in Nepal cannot always meet these terms. Materials can be supplied in Nepal, which are used in the project are as follows.

i) Aggregate (crushed stone, sand)

Sand can to be supplied from near by rivers.

Gravel for concrete, may be crushed at the site.

(There are no problems on quality and quantity for these)

ii) Cement

Currently, cement made in Nepal is marketed with large-scale factories producing it. Although both the quality and quantity of cement in Nepal have improved, its strength is not equivalent with that of Japan and Korea. Because of problems in productive capacity, cement made in Korea will be used mainly, but partially Nepalese cement may be used.

iii) Brick

Nepal has a large brick producing capacity and brick made in Nepal will be used. Because brick is common for external walls in Nepal, it is necessary to prepare brick lots in advance for short supply.

iv) Cement roofing tile

Cement roofing tile will be used for this project though it is rather heavy.

v) Terazzo

Since on site finished terazzo is common in Nepal along with brick, it will be used as a material in the project.

vi) Marble

Marble will be used in the project in limited quantities.

vii) Timber

Furniture made in Nepal is deemed suitable, but timber for interior finishing is rather expensive and may be only partially used.

Viii) Stone

A lot of stone is produced particularly in the Pokhara region and it is in use for external walls. Round stones produced in the Pokhara district will be used.

Materials (except the above and medical instruments) must be imported from Japan and third countries.

Materials Supply List

Kind of materials	Nepal	Japan	Other country
Aggregate (sand, gravel)	○		Korea
Cement	△		
Concerte		○	
Brick	○		
Cement roofing tile	○		
Terrezo	○		
Marble	○		
Stone	○		
Timber	△	○	
Alminium sash		○	
Water proof asphalt		○	
Various finishing materials		○	
Major equipment for facilities		○	

Materials other than those supplied at the site will be delivered to the Calcutta port in India and transported overland to Nepal. They will go through customs at Raxhaul and Birgunj between the borders of India and Nepal. There are two routes to Kathmandu and Pokhara from Birgunj; however, the route through Bharatpur will be generally used as the route through the mountains through Hetauda is unsuitable to transport materials in the monsoon season.

4-4-5 Implementation Schedule

After Exchange of Notes (E/N) on Japan's grant aid between the Japanese and Nepalese government, the consultant contract on the project is to be done and detail design will commenced immediately. The works after conclusion of the Exchange of Notes are classified into following three stages. The complete schedule is as follows.

The first stage : detail design

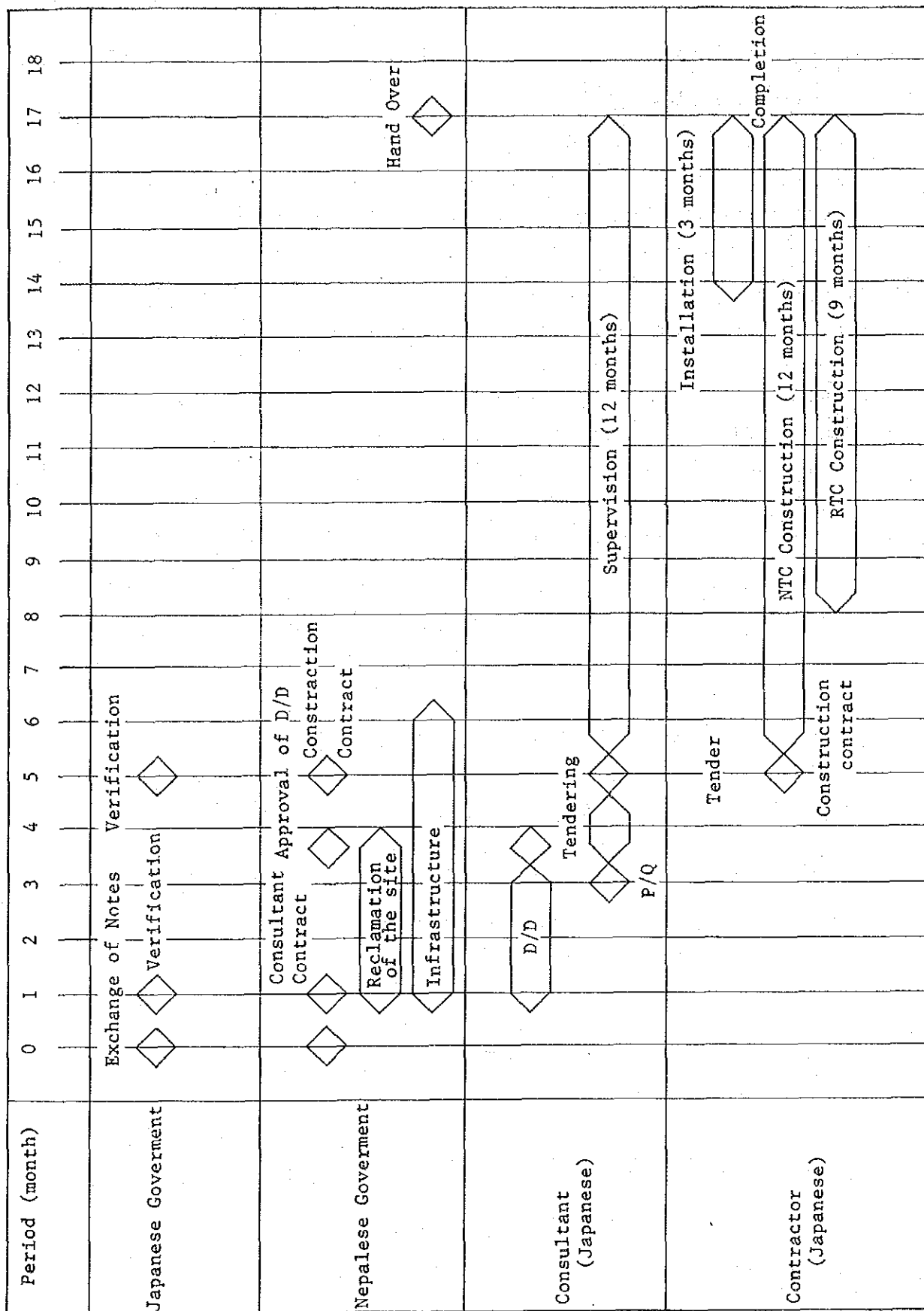
On the basis of the report, tender documents are estimated at three months.

The second stage: Prequalification of applicants for tender and public announcement of tender, witness of tender, witness of the contract. The second stage is estimated at two months.

The third stage : construction

Construction term of NTC (Katmandu) is 12 months, including installation of medical equipment and test operation. For the RTC (Pokhara), 9 months is estimated.

Schedule



4-5 Maintenance Plan

4-5-1 Maintenance plan

i) Facilities

Periodical inspection is required for electrical, water supply, air conditioning systems, etc. and this will have to be performed by qualified specialists.

ii) Medical equipment

In principle, maintenance and management of medical equipment and goods selected for supply to the facility will be in the charge of the respective NTC/RTC staff (doctors, and medical technicians, etc.). With certain sophisticated equipment, however, technical servicing by the manufacturer may be required.

4-5-2 Operation and maintenance Costs

After establishment of the centre, running costs of operation, maintenance costs and personnel expenses are as follows.

1. NTC

Table 1 Maintenance and Management Costs

Items		Costs (Rs/year)
1) operation costs	a. electricity	296,940
	b. water	4,480
	c. LPG	4,200
	total	305,620
2) maintenance costs	a. facilities	25,300
	b. equipment	84,000
	total	109,300
3) personnel expenses		1,150,000
grand total		1,564,920

≈ 1,570,000 Rs

The details are as follows

1) Operation costs

a) electricity

i) Main building

a. amount used a year (estimate) 193,000 Kwh

b. basic charge 75Rs/month x 12 months = 900 Rs

(Running charge for 50 KWH or less included)

meter-rate charge

$(193,000 \text{ Kwh} - 50 \text{ Kwh/month}) \times 12 \text{ month} \times 1.5 \text{ Rs/Kwh} = 288,600$

Rs/year

ii) Dormitories

a. amount used a year (estimate) 2,160 Kwh

b. $2,160 \text{ Kwh/year} \times 1.5 \text{ Rs/Kwh} = 3,240 \text{ Rs}$

iii) Training Building

a. amount used a year (estimate) 2,800 Kwh

b. charge $2,800 \text{ Kwh/year} \times 1.5 \text{ Rs/Kwh} = 4,200 \text{ Rs}$

b) water

i) Main building

Water demand $11 \text{ m}^3/\text{day}$

basic charge

168 Rs/month (including basic charge until $140 \text{ m}^2/\text{month}$)

$168 \text{ Rs/month} \times 12 \text{ month/year} = 2,016 \text{ Rs/year}$

meter-rate charge

$11 \text{ m}^3/\text{day} \times 25 \text{ day/month} = 275 \text{ m}^3/\text{month}$

$275 \text{ m}^3/\text{month} - 140 \text{ m}^3/\text{month} = 135 \text{ m}^3/\text{month}$

$135 \text{ m}^3/\text{month} \times 1.2 \text{ Rs/m}^3 = 162 \text{ m}^3/\text{month}$

$162 \text{ Rs/month} \times 12 \text{ month/year} = 1,944 \text{ Rs/year}$

Water charge a year 3,960 Rs

ii) training building

meter-rate charge

$180 \text{ m}^3/\text{year} \times 1.2 \text{ Rs/m}^3 = 216 \text{ Rs/year}$

Water charge a year 220 Rs

iii) dormitory

mater-rate charge

$$250 \text{ m}^3/\text{year} \times 1.2 \text{ Rs/m}^3 = 300 \text{ Rs/year}$$

Water charge a year 300 Rs

c) gas (LPG) for outpatient inspection room and pathological research room

$$\text{daily gas demand} \quad 1 \text{ kg/day} \times 25 \text{ day/month} \times 12 \text{ month} = 300 \text{ kg/year}$$

$$\text{yearly gas demand} \quad 300 \text{ kg} \times 14 \text{ Rs/kg} = 4,200 \text{ Rs/year}$$

2) maintenance costs

Since the facilities maintenance costs ratio to personnel expenses in the annual budget of C.C.C is 2.2 percent, maintenance costs of NTC are as follows

$$1,150,000 \times 2.2\% = 25,300 \text{ Rs}$$

maintenance costs of medical equipment are as follows.

$$1,150,000 \times 7.3\% = 84,000 \text{ Rs}$$

3) personnel expenses

Personnel expenses for each staff member are shown as the following table. Total amount of personnel expenses of NTC is 1,150,000 Rs.

Table Personnel expenses a month for each staff (NTC)

	salary	number	total
Doctor 1	3090	2	6,180
Doctor 2	2720	2	5,440
Doctor 3	2165	4	8,660
Auxillary Health Worker	1800	8	14,400
Statistic Assistant	1616	2	3,232
X-ray Technician	1268	2	2,536
Dark Room Assistant	933	2	1,866
Lab. Technician	1036	2	2,072
Public Health Nurse	1052	1	1,052
Nurse	1050	2	2,100
Statistic Officer	1616	1	1,616
Assistant Health Worker	1416	11	15,576
Statistic Assistant	913	2	1,826
Administrative officer	1416	2	2,832
Office worker	913	13	11,869
Storage keeper	913	2	1,826
Assistant Storage keeper	706	2	1,412
Typist	706	4	2,824
Guard man	458	2	916
Driver	806	4	3,224
Peon	434	10	4,340
1,150,000 ÷ 12 months x 95,799 RS			

2. RTC

Table Operation and maintenance costs

Items		Costs (Rs/year)
1) operation costs	a. electricity	232,500
	b. water	2,150
	c. LPG	2,100
	total	236,750
2) maintenance costs	a. facilities	9,800
	b. materials	32,600
	total	42,400
3) personnel expenses		446,000
grand total amount		725,150

≈ 750,000 Rs

Details are as follows

1) operation costs

electricity

amount used yearly (estimate) 155,000 Kwh

basic charge 75 Rs/month x 12 months = 900 Rs (Running charge for 50Kwh or less included)

Running charge (155,000 Kwh-50Kwh/month x 12 months) x 1.5 Rs/Kwh
= 231,600 Rs/year

total amount charge a year 232,500 Rs

water

Water demand $6 \text{ m}^3/\text{day}$

basic charge 56 Rs/month (included basic charge until $50 \text{ m}^3/\text{month}$)
 $56 \text{ Rs/month} \times 12 \text{ month/year} = 672 \text{ Rs/year}$

meteric-rate charge

1 $6 \text{ m}^3/\text{day} \times 25 \text{ day/month} = 150 \text{ m}^3/\text{month}$
 $150 \text{ m}^3/\text{month} - 50 \text{ m}^3/\text{month} = 100 \text{ m}^3/\text{month}$
 $100 \text{ m}^3/\text{month} \times 1.2 \text{ Rs/m}^3 = 120 \text{ Rs/month}$
 $120 \text{ Rs/month} \times 12 \text{ month/year} = 1,440 \text{ Rs/year}$

2 $32 \text{ m}^3/\text{year} \times 1.2 \text{ Rs/m}^2 = 38.4 \text{ Rs/year}$

annual water charge 2,150 Rs

gas (LPG) for outpatient inspection room and pathology study room

daily gas demand 0.5 kg/day

yearly gas demand $0.5/\text{day} \times 25 \text{ days/month} \times 12 \text{ month} = 150 \text{ kg/year}$
 $150 \text{ kg/year} \times 14 \text{ Rs/kg} = 2,100 \text{ Rs/year}$

2) maintenance costs

maintenance costs of facilities are as follows (same as NTC)

$446,000 \text{ Rs} \times 2.2\% = 9,800 \text{ Rs}$

maintenance costs of materials are as follows

$446,000 \text{ Rs} \times 7.7\% = 32,600 \text{ Rs}$

3) personnel expenses

personnel expenses of each staff are shown in the following table.

Total amount of personnel expenses of RTC is 446,000 Rs.

Table personnel expenses of RTC (monthly)

	number	salary Rs	total
doctor	1	3,090	3,090
administrative officer	1	1,416	1,416
office worker	4	913	3,652
storage keeper	1	913	913
Assistant Storage keeper	1	706	706
public health nurse	3	1,052	3,156
X-ray technician	1	1,268	1,268
lab . technician	3	1,036	3,108
assistant health worker	6	1,416	8,496
statistic officer	1	1,616	1,616
assistant statistic officer	3	913	2,739
dark room assistant	2	933	1,866
driver	2	806	1,612
guard man	1	458	458
peon	7	706	3,038
446,000 Rs/year \div 12 months x 37,134 Rs/month			

4-6 Estimate of Overall Construction Costs

Breakdown of Construction costs on the Nepalese side

	NTC	RTC	Total
Outside arranged services	1,350,000	660,000	2,010,000
Water supply	80,000	---	80,000
Electrical	360,000	250,000	610,000
Telephone	25,000	16,000	41,000
Fixtures	1,935,000	430,000	2,365,000
subtotal	3,750,000	1,356,000	5,106,000
Expenses (5%)	187,000	68,000	255,000
Total	3,937,000 Rs	1,424,000 Rs	5,361,000 Rs

CHAPTER 5 PROJECT EVALUATION

Chapter 5. Project evaluation

5-1 Effects of the project

The project is expected to have great effects regarding the following points and to contribute remarkably to tuberculosis control not only in Nepal but also in SAARC countries.

1) improvement of tuberculosis medical treatment services:

By means of the establishment of a new National Tuberculosis Centre in Katmandu and a Regional Tuberculosis Centre in Pokhara, medical treatment services for effective tuberculosis control in Nepal will be realized as a systematic follow-up survey of tuberculosis patients will be possible.

2) pushing forward a medical institutional network for tuberculosis:

Because staff, who are engaged in tuberculosis control at regional hospitals and health posts will be able to be trained, effective education and information exchange can be realized.

3) a nationwide network for drug and medical goods supply:

By means of the establishment of central facilities for drug supply, an area which has been imperfect so far, a nationwide network for drug supply can be realized.

4) improvement of the medical level of tuberculosis control and diffusion of tuberculosis control measures throughout SAARC:

Through the persons from Nepal and from SAARC who are to be trained at centres, smooth transfer of systematic knowledge and instruction to lower levels will be realized.

Futhermore, the centres will become a base for future technical cooperation through Japan's project system. The smooth execution of the project will bring about a significant improvement in tuberculosis control measures throughout Nepal and constitute an important step in creating a more intimate relationship between the Kingdom of Nepal and Japan.

5-2 Reasonableness of the Project

The achievements to be gained through implementation of the project (i.e. improvement and expansion of facilities and equipment, upgrading of

medical treatment services for tuberculosis, promoting both human and technical innovativeness in tuberculosis treatment and so on) may be difficult to achieve independently in view of Nepal's present economic and social conditions.

However, a board for construction of the project has been established by the Government of Nepal and preparations for improvement of the infrastructure and appropriating the budget for the next five years has started.

It is assumed that there will be no problem with the operation and management of the centres.

Based on the above reasons, the implementation of the project is deemed to be quite reasonable.

CHAPTER 6 CONCLUSION AND RECOMMENDATIONS

Chapter 6. Conclusion and Recommendations

When the project of the Nepal National Tuberculosis Centre is implemented, it is expected to contribute to improve tuberculosis control measures in Nepal, to improvement of the medical level and to aid in the technology transfer of medical achievements to SAARC. In order to gain the maximum benefits from the project and guarantee smooth implementation of undertakings, cooperation through Japan's Project-type Technical Cooperation Programme is essential. To ensure even smoother implementation of the project, enforcement of the following items is desired.

- 1) Although a board to implement the project was established, clear identification of the organizations responsible for NTC/RTC is desired in order to smoothly push forward previous planning arrangements.

According to the seventh national five-year plan in the Kingdom of Nepal, the project is a pilot project, with the eventual establishment of five tuberculosis centres planned. Particularly, it will be important to hire doctors and staff for the RTC at Pokhara.

- 2) Guarantee of working expenses, which are the responsibility of the Nepal side, is strongly desired.
- 3) Supply of consumable goods is indispensable for the unhindered operation of equipment.
- 4) It is highly important that a person is designated to be responsible for checking, maintaining and overseeing research and training equipment, and that an effective system of operating the equipment be established.

APPENDIX

Appendix

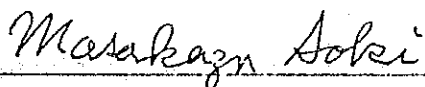
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MINUTES OF DISCUSSIONS
ON
THE BASIC DESIGN STUDY
OF
THE PROJECT FOR THE CONSTRUCTION
OF
NATIONAL TUBERCULOSIS CENTER
IN
THE KINGDOM OF NEPAL

In response to the request made by His Majesty's Government of Nepal for Grant Aid for the Project for the Construction of National Tuberculosis Center in Nepal (hereinafter referred to as "the Project"), the Government of Japan decided to conduct a basic design study on the Project and entrusted the Japan International Cooperation Agency (JICA) to send a Basic Design Study Team headed by Dr. Masakazu Aoki, Vice Director of the Tuberculosis Research Institute of the Japan Anti-Tuberculosis Association, to Nepal from December 2nd to December 28th, 1986.

The team had a series of discussions with the Authorities concerned of His Majesty's Government of Nepal and conducted a field survey in Kathmandu and Pokhara. As the result of the study, both parties have agreed to recommend to their respective Governments that the major points of understandings reached between them as attached herewith should be examined towards the realization of the Project.

Kathmandu, December 12, 1986



Dr. Masakazu Aoki
Leader,
The Basic Design Study Team
Japan International
Cooperation Agency (JICA)



Mr. Basudev Pradhan
Acting Secretary,
Ministry of Health

1. The objective of the Project is to strengthen the national Tuberculosis control programme in the Kingdom of Nepal, by solving the following two problems which have been the major obstacles to the past efforts to provide Tuberculosis services integrated with general health services:

- 1) To strengthen the existing 'national level Tuberculosis control organization set-up responsible for planning, implementation, supervision, evaluation and research of Tuberculosis programme.
- 2) To strengthen the capacity of trained manpower, necessary supplies and equipment and physical facilities.

2. The sites of the Project are as follows:

1) National Tuberculosis Center (NTC) in Kathmandu:

Thimi Area as seen in Annex 1-1 is the construction site for NTC.

2) Regional Tuberculosis Center (RTC) in Pokhara:

The team has strongly recommended the use of the candidate site inside the Veterinary Hospital rather than the alternative site in Lampatan which is not feasible for the reasons as seen in Annex 1-2. Ministry of Health will finalize the site for RTC not later than December 26th, 1986, when the last members of the team leave Nepal. The additional minutes to decide the site for RTC should be exchanged between Secretary of Health and the Resident Representative of JICA Nepal Office.

3. The activities of NTC and RTC are as follows:

1) NTC

- a. Planning, supervision and monitoring of Tuberculosis programme.
- b. Epidemiological studies and operational research of Tuberculosis programme.
- c. Training of manpower.
- d. Procurement, distribution and storage of necessary supplies and equipment and their maintenance.
- e. Clinical service to out-patients as a demonstration center of the nation.
- f. Education of patients.

M.A.

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2) RTC

- a Planning, supervision and monitoring of Tuberculosis programme at a regional level.
- , b Epidemiological studies and operational research of Tuberculosis programme
- c Training of manpower.
- d Storage and distribution of necessary supplies and equipment.
- e Clinical service to out-patients.
- f Education of patients.

4. The board consisting of the following members is recommended for the execution of the Project.

Dr. N. L. Maskay-Chairman, Ministry of Health

Mr. Baburam Shrestha-Ministry of Finance

Dr. N. G. Amatya-Ministry of Health

Dr. T. M. Sakya-Ministry of Health

Mr. H. B. Gurbacharya-Ministry of Health

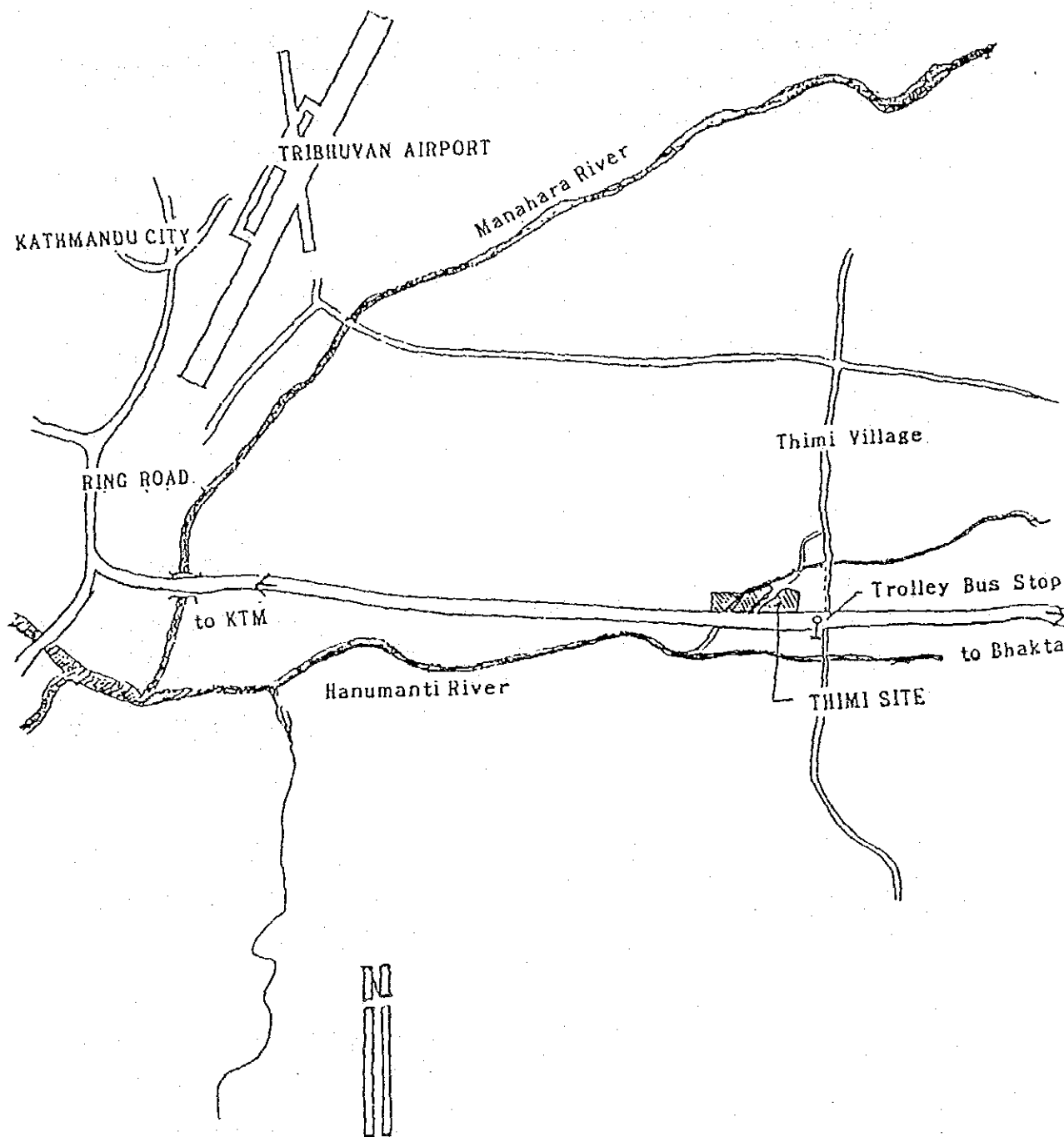
Dr. D. S. Bom-Ministry of Health

5. The Japanese Study Team will convey to the Government of Japan the desire of His Majesty's Government of Nepal that the former takes necessary measures to cooperate by providing the building and other items listed in Annex II within the scope of Japanese economic cooperation programme in grant form.
6. The Nepalese side has understood Japan's Grant Aid System explained by the Team which includes a principle of use of a Japanese Consultant Firm and Japanese General Contractor for the construction.
7. His Majesty's Government of Nepal will take necessary measures listed in Annex III on condition that the Grant Aid would be extended to the Project.

M.A.

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GUIDE MAP OF PROPOSED SITE AT KATHMANDU FOR NTC

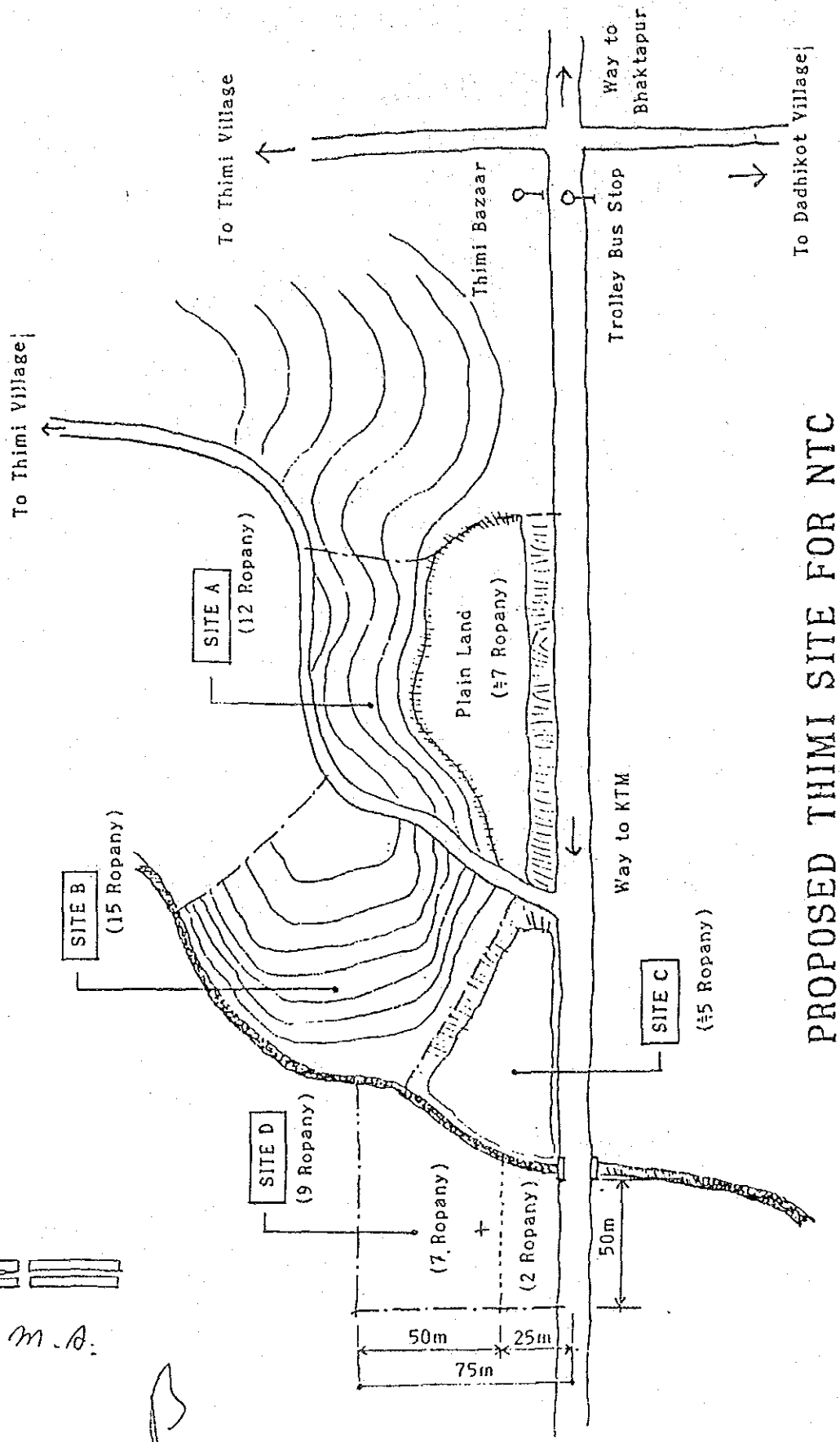


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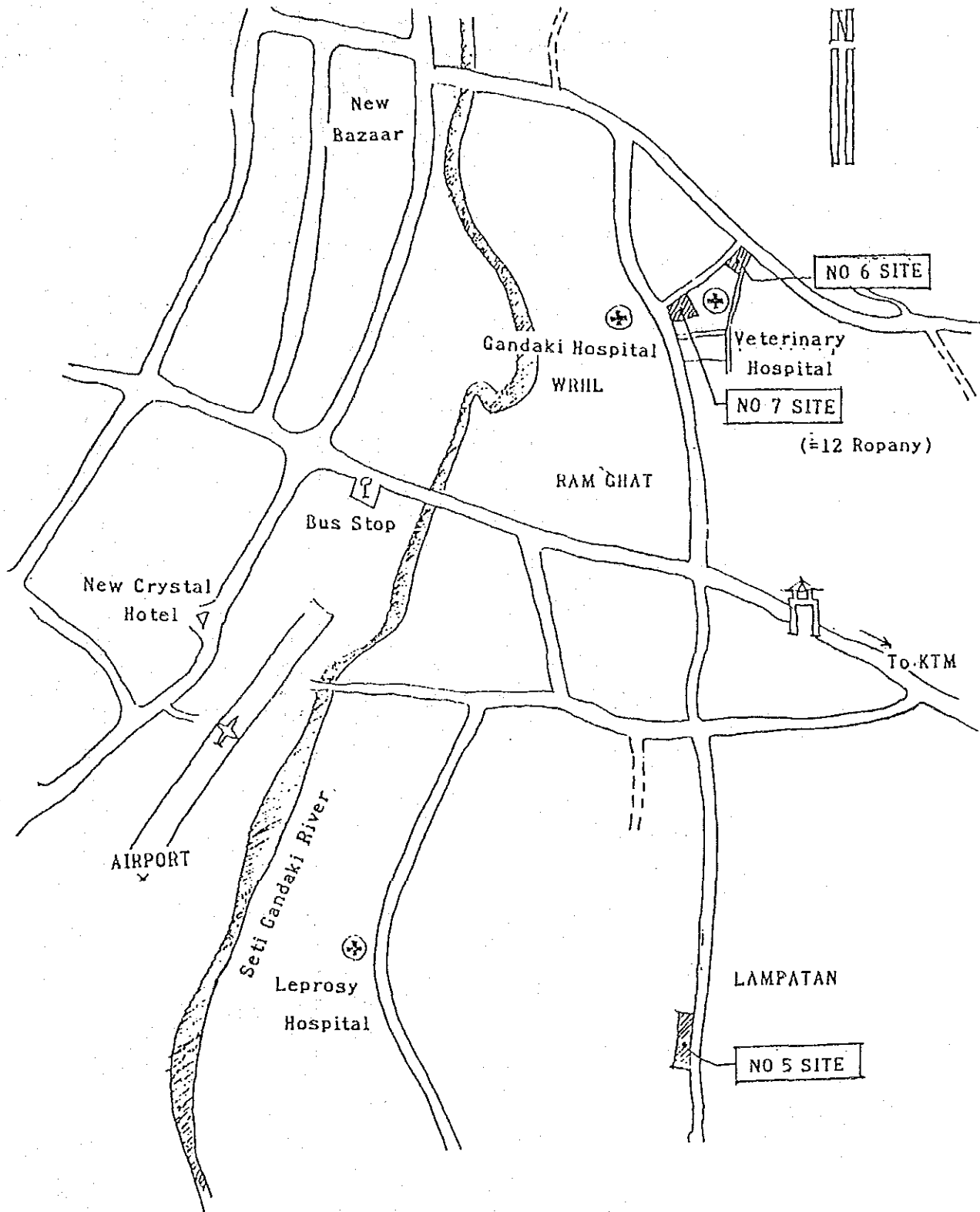
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PROPOSED THIMI SITE FOR NTC

GUIDE MAP PROPOSED SITE AT POKHARA FOR RTC


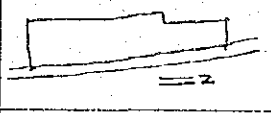
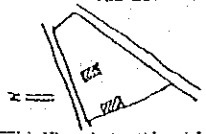
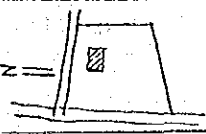
ANNEX 1-2



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List of Proposed Sites at Pokhara

Items	No.5 site	No.6 site	No.7 site
1) Area	20 ropany	7 ropany	12 ropany
2) Ownership	Government	Ministry of Agriculture	Ministry of Agriculture
3) Shape of site ( Housing)			
4) Location	Suburb of city	Near Gandaki Hosp.	Near Gandaki Hosp.
5) distance from the center	4.5 Km	1.5 Km	1.5 Km
6) Arrangement of Building	Bad	Not so good	Good
7) Land Acquisition Cost / Ropany	50 % (as No.7 is 100%)	80 % (as No.7 is 100%)	100 %
8) Accessibilities of patients	Bad	Good	Good
9) Land use	Vacant, Lawn	Housing, Lawn	Housing, Lawn
10) Ground condition	Flat within 1.5m	Flat within 1 m	Flat within 1.5 m
11) Noise at site	Noise of Airport (in the future)	Not so bad	Not so bad
12) Water supply	4" future 2" existing	320 m from Main 4"	4" existing
13) Electricity (150Kw, 200KVA)	1.6 Km from Main (11KV 3 ϕ Hightension)	11Kv 3 ϕ Available Hightension	11KV 3 ϕ Available Hightension
14) Telephone	June, 1988: 2 Line Available	2 Line Available	2 Line Available.
15) Drainage	Septic Tank Soak Pit	Septic Tank Soak Pit	Septic Tank Soak Pit
16) Rain	Be submerged in the heavy rain	Not so bad	Not so bad
Total evaluation	Bad	Not so good	Go

M.A. A

The Request Made by His Majesty's Government of Nepal

1. Construction of the National Tuberculosis Center in Kathmandu and the Regional Tuberculosis Center in Pokhara with the facilities of:
 - 1) Administration and supervising section
 - 2) Research section
 - 3) Training section (including dormitory for NTC)
 - 4) Out-patient section
 - 5) Storage section
 - 6) Others

2. Provision of equipment and materials to NTC and RTC necessary for the above mentioned facilities respectively. Major equipments are:
 - 1) X-ray diagnostic system
 - 2) Microscope
 - 3) Autoclave
 - 4) Refrigerator
 - 5) Audio visual equipment
 - 6) Personal computer
 - 7) Copy machine
 - 8) Vehicles
 - 9) Others

M. A.

B

Major Undertakings to be taken by the Nepalese side

1. To secure the site for the Project.
2. To clear, Level and reclaim the site prior to commencement of the construction.
3. To undertake incidental out-door works such as gardening, fencing, gates and exterior lighting in and around the site.
4. To construct the access road to the site prior to commencement of the construction.
5. To provide facilities for distribution of electricity, water supply, telephone, drainage and other incidental facilities to the Project site.
 - 1) Electricity distributing line to the site.
 - 2) City water distribution main to the site.
 - 3) Drainage city main to the site.
 - 4) Telephone trunk line to the main distribution panel of building.
 - 5) General furniture such as carpets, curtains, tables, chairs and others.
6. To bear commissions to the Japanese foreign exchange bank for the banking services based upon the Banking Arrangement.
7. To exempt taxes and to take necessary measures for customs clearance of the materials and equipment brought for the Project at the port of disembarkation.
8. To accord Japanese Nations whose services may be required in connection with the supply of products and the services under the verified contract such facilities as may be necessary for their entry into Nepal and stay therein for the performance of their work.
9. To maintain and use properly and effectively that the facilities constructed and equipment purchased under the Grant.
10. To bear all the expenses other than those to be borne by the Grant, necessary for construction of the facilities as well as for the transportation and the installation of the equipment.

M. A.

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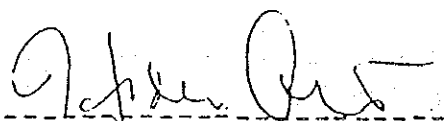
1-2 Supplementary Notes SUPPLEMENTARY NOTE
(site study team) FOR THE MINUTES OF DISCUSSIONS
ON
THE BASIC DESIGN STUDY
OF
THE PROJECT FOR THE CONSTRUCTION
OF
NATIONAL TUBERCULOSIS CENTRE
IN
THE KINGDOM OF NEPAL

Following the Minutes of Discussions signed on December 12, 1986 concerning the basic design study of the project for the construction of National Tuberculosis Centre, the basic design study team had supplemental discussions with the Authorities concerned of His Majesty's Government of Nepal.

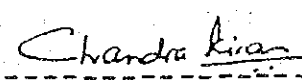
As the result of the study, both parties have agreed to recommend to their respective governments following points of understandings:

1. The site for Regional Tuberculosis Centre (RTC) in Pokhara is decided at the premises of the Veterinary Hospital as seen in Annex.
2. The Authorities concerned of Ministry of Health will take necessary measures in securing the land to be transferred from Ministry of Agriculture for construction of the Regional Tuberculosis Centre in Pokhara.

Kathmandu, December 24, 1986

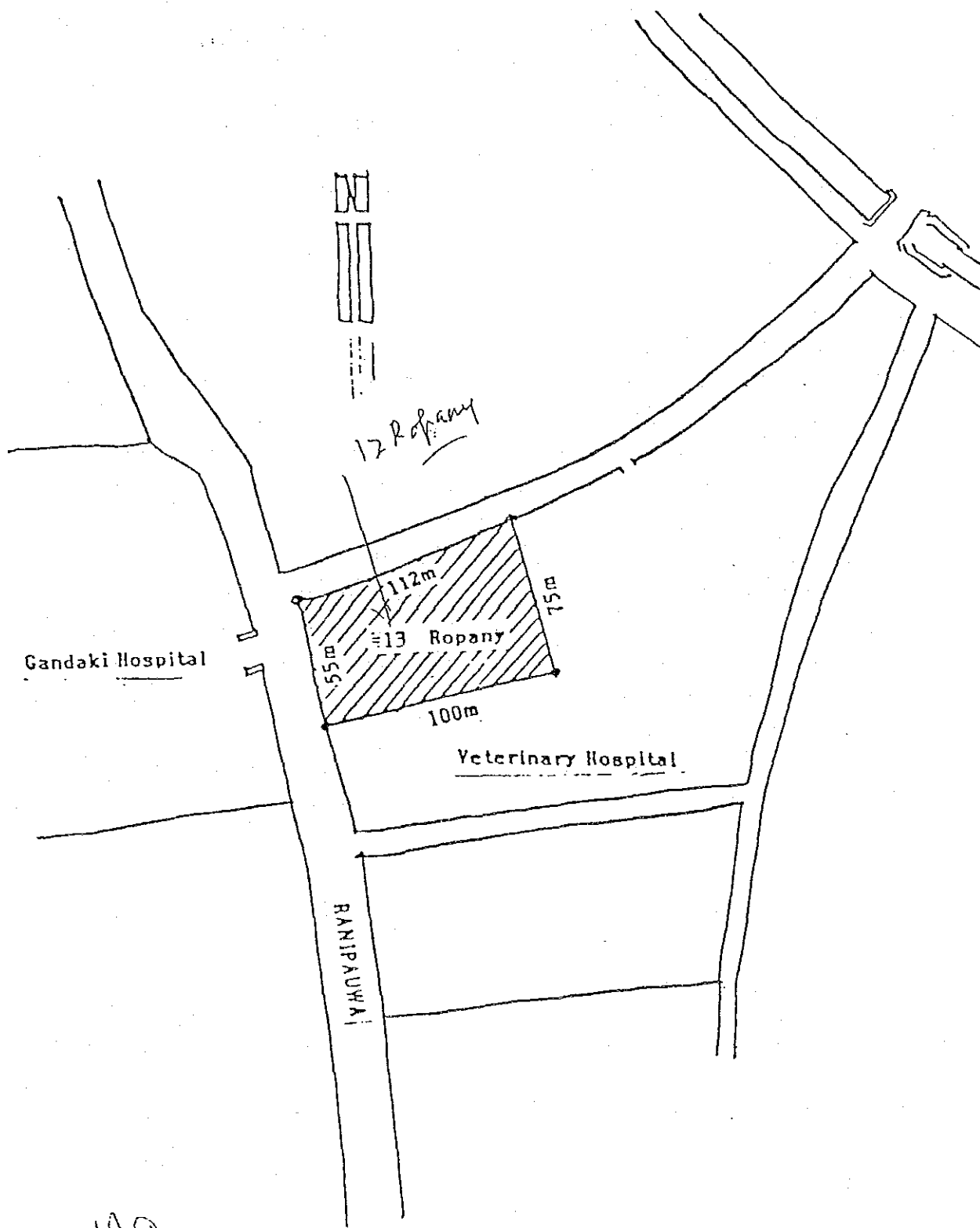


Mr. Hideo ONO
Resident Representative
Japan International Cooperation
Agency
on behalf of the Basic Design
Study Team



Mrs. Chandra Kala KIRAN
Secretary
Ministry of Health

PROPOSED SITE AT POKHARA FOR RTC



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1-3 Minutes of discussions,
(explanation of draft)

MINUTES OF DISCUSSIONS

THE DRAFT FINAL REPORT OF THE BASIC DESIGN STUDY

ON

THE PROJECT FOR THE CONSTRUCTION

OF

THE NATIONAL TUBERCULOSIS CENTRE

IN

THE KINGDOM OF NEPAL

In response to the request of His Majesty's Government of Nepal for Grant Aid for the Project for the construction of the National Tuberculosis Centre (hereinafter referred to as "the Project"), the Government of Japan decided to conduct a basic design study on the Project and entrusted the study to the Japan International Cooperation Agency (JICA). JICA sent to the Kingdom of Nepal the study team from December 2nd to 28th, 1986. As a result of the study, JICA prepared a Draft Report and dispatched a mission, headed by Dr. Masakazu Aoki, Vice Director of the Tuberculosis Research Institute of the Japan Anti-Tuberculosis Association, to explain and discuss it starting from March 8th to March 15th, 1987. Both parties had a series of discussions on the Report and, after clarifying its contents, agreed to recommend to their respective Governments that the major points of understanding reached between them, attached herewith, should be examined towards the realization of the project.

Kathmandu, March 13, 1987

Masakazu Aoki

Dr. Masakazu Aoki
Leader-Draft Final Report Team
of Basic Design Study,
Japan International Cooperation
Agency

N. L. Maskay

Dr. N.L. Maskay
Project Chief,
Chief of the Central Chest
Clinic, Ministry of Health

ATTACHMENT

1. Both parties agreed to reconfirm the Minutes of Discussions which was mutually signed on December 12, 1986.
2. The Nepalese side agreed in principle to the basic design proposed by the team of which specifications are shown in Annex I. The Nepalese side suggested that the building should reflect Nepali Architecture and culture heritage, if possible.
3. The Nepalese side confirmed the works to be undertaken by His Majesty's Government of Nepal as listed in Annex II.
4. The Final Report (10 copies in English) on the Project will be submitted to His Majesty's Government of Nepal in May, 1987.

M. A.

A handwritten signature in dark ink, appearing to be 'W. A.', with a horizontal line underneath.

SUMMARY

It is estimated that the average life span in the Kingdom of Nepal is under 50 years. Because of bad water supply and the sanitation situation, contagious disease, infectious of digestive and respiratory organs, undernourishment and so on are prevalent. 25% of newborn babies die before 5 years of age. Although there are no accurate data, the annual risk of tuberculosis infection and the incidence of smear positive T.B. are estimated as 1 to 3% and 0.12 to 0.13% respectively; these rates are about 20 times higher than those of Japan. This means that the Kingdom of Nepal is one of the highest tuberculosis prevalent countries in the world. The first step in the Kingdom of Nepal against tuberculosis was to establish the Tokha sanatorium with 50 beds in the suburb of Kathmandu in 1934. In 1951, the Central Chest Clinic was established in the Bir Hospital and the Central Chest Clinic became independent institution in 1961. Cuurently, Central Chest Clinic (C.C.C.), is working as a centre of diagnosis and treatment of tuberculosis patients in the city of Kathmandu and is playing the role as a centre of tuberculosis control in the country. In 1965, a Tuberculosis Control Project (TBCP) was organized in cooperation with WHO, after that, TBCP had carried out anti-tuberculosis countermeasures including B.C.G. vaccination, case detection and treatment of tuberculosis patients. At the same time, TBCP has worked as a center of supply of anti-tuberculosis drugs in all over the country. In 1978 and 1980, Tuberculosis Seminars were held in the Kingdom of Nepal, and the specialists of WHO and IUAT participated in the seminars. According to the advice of the seminars, establishment of National TB Programme (NTP) and its implementation by integrated health service system was strongly recommended because the existing door-to-door campaign method is not able to cover the entire country. The Government decided to establish the National Tuberculosis Centre (NTC) by the unification of CCC and TBCP and to strengthen tuberculosis control programme. The Government of Nepal had requested the Government of Japan to extend grant aid and technical cooperation in August 1985 because the Governmen

M. Aoki

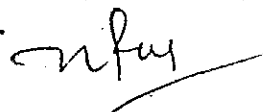
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of Japan had undertaken technical cooperation in the field of TB control in the Western Region previously for 7 years since 1978.

In response to the request, the Government of Japan sent the preliminary study team in July 1986 and confirmed necessity of the project, and establishment of the facilities. It was determined that construction of the facilities, which are necessary for active implementation of the project, are regarded as an object of grant aid. On the basis of the determination, the Japan International Cooperation Agency executed the basic design study by despatching the survey team. The survey team discussed with the concerned persons of the Government of Nepal about the requested contents, executed field research regarding candidate construction sites, related facilities and construction conditions, and collected data related to the project. On the basis of the field survey and discussions with the concerned persons in Nepal, a basic design draft final report was made on the following items: basic design of facilities, selection for machines and equipment and maintenance management planning.

According to the basic design study, a National Tuberculosis Centre (NTC) and Regional Tuberculosis Centre (RTC) are going to be constructed in Kathmandu and Pokhara respectively. The NTC will be managed under the Secretary, Ministry of Health and the RTC will be managed by the Regional Director of Health under the Secretary, Ministry of Health. The activities of the two centres are to play important roles, such as research center on epidemiology, bacteriology and clinical researches, education center of man-power by training, supply center for medicine to whole country and as a model of TB clinic and so on.

On the basis of these activities, it was concluded that it is indispensable to construct tuberculosis centres in the Kingdom of Nepal.

M.A. 

The contents of the project include the following items.

i) Facilities

NTC

The centre will consist of three buildings with a total floor area of 4,775 m²

1) Main building

(two-storied, including a one story section with a total floor area of 2,550 m²)

The building consists of three departments: administration department, outpatient department, department of research and supervision department.

2) Training building (two-storied: 1,375 m²)

The building consists of two departments: training department and drug supply department.

Training department: Trainers from throughout the country are trained to understand NTP and to refresh the technique to implement NTP.

Drug supply department: The department supplies anti-TB drugs and medical materials to the substructures of NTC and RTC.

3) Dormitories (one story, 835 m²)

Dormitories consist of two buildings for trainees (26 persons) and one for lecturers (4 persons). One is 320 m² for 14 trainees and one is 276 m² for 12 trainees; dormitory for lecturer is 239 m².

RTC

The centre consists of two building with a total floor area of 1,810 m²

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- 1) Main building (one story, including two storied section of 1,560 m²)

Ground floor: administration and outpatient department

First floor: research, supervision, and training

- 2) Guest House (one story, 160 m²)

Guest House for experts and lecturers, who stay for a short period of time.

ii) Equipment

NTC and RTC are equipped with necessary equipment for active operation of the centres.

1) NTC

Radio photograph apparatus

X-ray apparatus for full size film and tomograph

Apparatus for lung function test

Apparatus for blood biochemistry examination

Apparatus for bacteriological examination

Fluorescence microscope

Washing sterilizer

Personal computer

Apparatus for medical examination

Slide processor

Film and slide projectors

VTR sets

etc.

2) RTC

Radio photograph apparatus

Apparatus for blood biochemistry examination

Apparatus for bacteriological examination

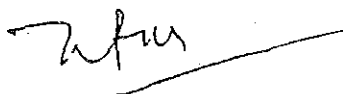
Washing sterilizer

Medical examination

Film and slide projectors

etc.

M. A.



iii), Implementation body

The Ministry of Health

iv) Expenses

Expenses, which the Government of Nepal bears are as follows: Management of the project, operation after completion of construction, maintaining the required number of personnels and their expenses, construction and material supply excluded that covered under the grant aid by the Government of Japan and their expenses and measures required for implementation of the grant aid. Estimated expenses of Nepalese side are Rs. 5,624,000.00

v) Schedule of construction

After the Exchange of Notes (E/N), the approximate period required for construction is as follows:

Detail design	:	about 3 months
Tendering	:	about 2 months
Construction	:	about 13 months
Total	:	about 18 months

vi) Proposed construction sites

Proposed construction sites are as follows:

NTC: Thimi village, suburbs of Kathmandu

RTC: in the city of Pokhara

vii) Maintenance and management costs

The estimated cost of the maintenance and management are as follows (which are the total of facility operation costs, maintenance costs and personnel expenses)

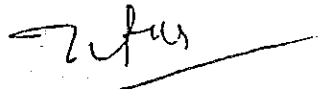
NTC (one year): 1,564,000 Rs.

RTC (one year): 746,000 Rs.

Total : 2,310,000 Rs.

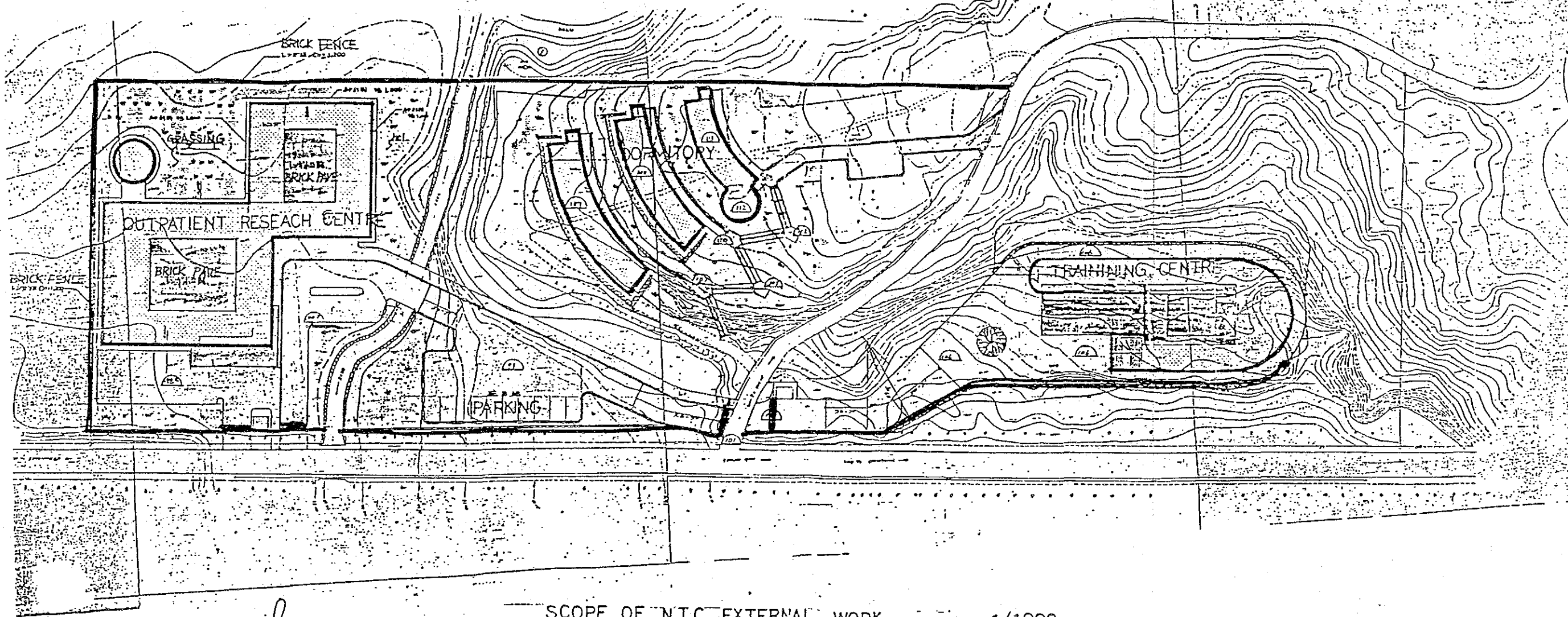
Government of Nepal should cover these expenses.

M.A





Nepal		SLOPE PROTECTION	H=1.200
Nepal		GATE	
		STONE WALL	H=1.000
Nepal		BRICK FENCE	H=1.200
Nepal		GRASSING	
Japan		CONCRETE KERB STONE	H=120
Japan		BRICK PAVEMENT	
Japan		ASPHALT PAVEMENT	
Japan		RETAINING WALL	



SCOPE OF N.T.C. EXTERNAL WORK
(JAPANESE + NEPALESE)

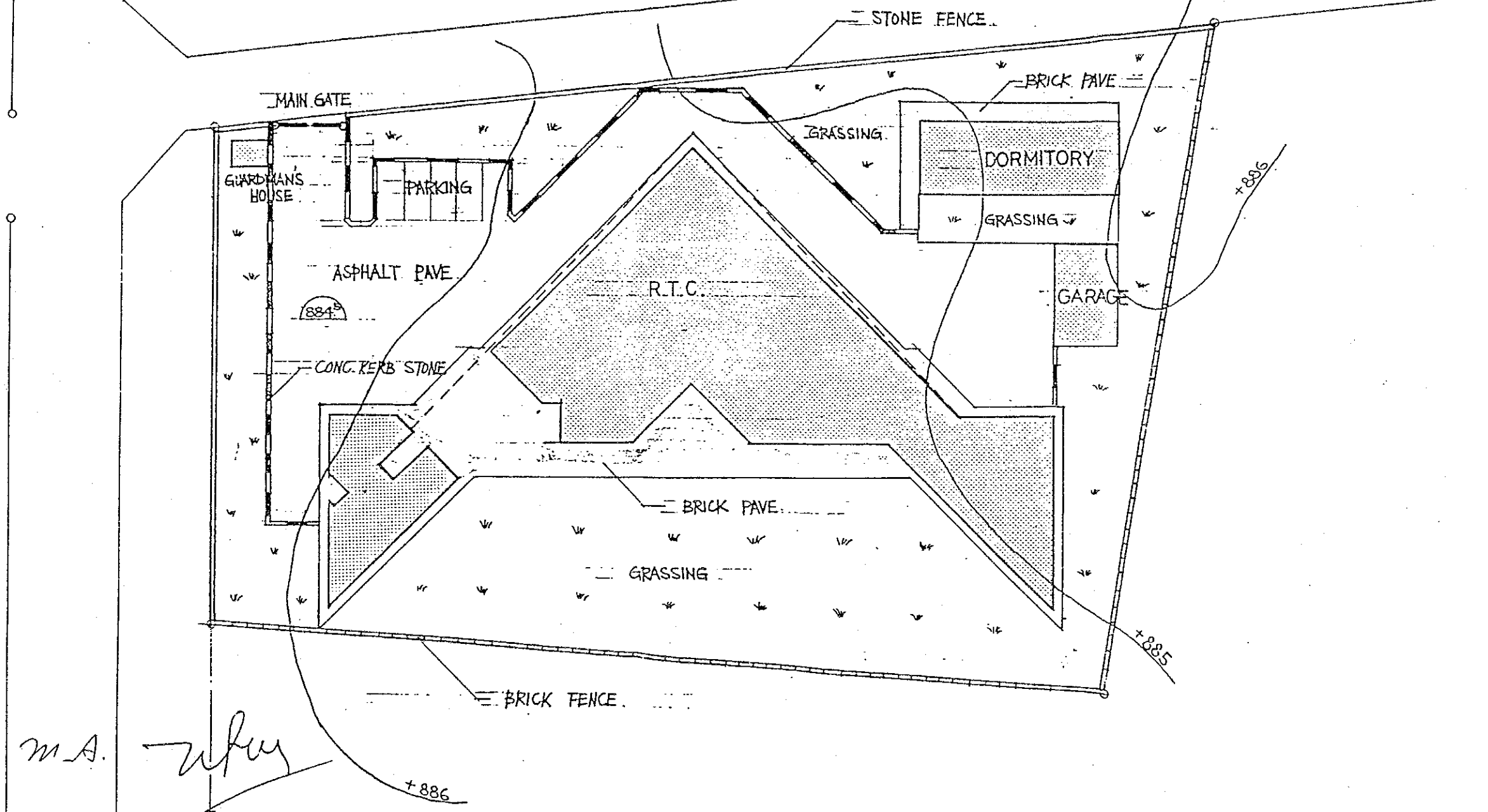
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Signature



Nepal		GRASSING
Nepal		BRICK FENCE H=1.200
Nepal		GATE
Japan		CONCRETE KERB STONE H=120
Japan		BRICK PAVEMENT
Japan		ASPHALT PAVEMENT



SCOPE OF R.T.C. EXTERNAL WORK 1/500
(JAPANESE + NEPALESE)

MAJOR UNDERTAKING TO BE TAKEN BY THE NEPALESE SIDE

The budget for the following items will be prepared by Nepalese side.

1. To secure the site for the Project.
 2. To clear, level and reclaim the site prior to commencement of the construction. (including the demolishing of the water tank and older buildings).
 3. To undertake incidental out-door works such as gardening, brick fencing, gates and sloping along the rivulet.
 4. To provide facilities for distribution of electricity, water supply, telephone, drainage and other incidental facilities to the Project site prior to commencement of the construction.
 - i) Electricity distributing line to the site.
 - ii) City water distribution main to the site.
 - iii) Drainage city main to the site.
 - iv) Telephone trunk line to the main distribution panel of building.
 5. To provide general furniture such as carpets, curtains, tables chairs and others. **
 6. To bear commissions to the Japanese foreign exchange bank for the banking services based upon the Banking Arrangement.
 7. To exempt taxes and to take necessary measures for customs clearance of the materials and equipment brought for the Project at the port of disembarkation.
 8. To accord Japanese Nationals whose services may be required in connection with the supply of products and the services under the verified contract such facilities as may be necessary for their entry into Nepal and stay therein for the performance of their work.
 9. To maintain and use properly and effectively that the facilities constructed and equipment purchased under the Grant.
 10. To bear all the expenses other than those to be borne by the Grant, necessary for construction of the facilities as well as for the transportation and installation of the equipment.
- ** Furnitures directly related to technical component will be provided by Japanese side.

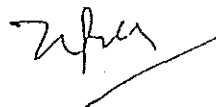
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Once these centres are completed, National Tuberculosis Programme in Nepal will be established under the network system extending through out the country. By developing activities based on this system, more detailed data can be obtained in the fight against tuberculosis and greater progress can be made in implementing tuberculosis control programme.

Thus, it is appropriate to implement this project under Japan's grant aid. Furthermore, Japanese technical cooperation will cooperate to the implementation of NTP. The following two points can be cited to ensure even smoother implementation of this project

- 1) To secure the running cost of medical equipment and facilities is essential.
- 2) To secure the medical staff is indispensable for the operation of facilities, not only at NTC but also at RTC in Pokhara.

M. A. 

1-4 Composition of study team

1) Basic design study team

Position	Name	Organization
Team Leader	Dr. Masakazu AOKI	Vice Director, The Research Institute of Tuberculosis Japan Anti-Tuberculosis Association
Measures for Tuberculosis	Dr. Hirohisa EGUCHI	Assistant Director, Tuberculosis, Intractable Diseases and Infections Diseases Division, Health Service Bureau Ministry of Health and Welfare
Project Coordinator	Ms. Yuriko MINAMOTO	First Basic Design Study Department, Grant Aid Planning and Survey, Division, Japan International Cooperation Agency (JICA)
Architectural Planning	Mr. Minoru YAMADA	GKK Consultants, Inc.
Architectural Design	Mr. Shinji NAKAYAMA	GKK Consultants, Inc.
Facilities Planning	Mr. Minory YAMADA	GKK Consultants, Inc.
Medical Equipment	Mr. Takenori MATSUMURA	GKK Consultants, Inc.

2) Team for explanation of draft

Position	Name	Organization
Team Leader	Dr. Masakazu AOKI	Vice Director, The Research Institute of Tuberculosis Japan Anti-Tuberculosis Association
Project Coordinator	Ms. Yuriko MINAMOTO	First Basic Design Study Department, Grant Aid Planning and Survey, Division, Japan International Cooperation Agency (JICA)
Architectural Planning	Mr. Minoru YAMADA	GKK Consultants, Inc.
Medical Equipment	Mr. Takenori MATSUMURA	GKK Consultants, Inc.

1-5 Study schedules

1) Basic design study schedules
(from December 2 - December 28, 1986)

Date	Content of study
Dec. 2 (Tue.)	<ul style="list-style-type: none"> - Leave Narita (TG-741) - Arrive in Bangkok
Dec. 3 (Wed.)	<ul style="list-style-type: none"> - Leave Bangkok (TG-311) - Arrive in Kathmandu <ul style="list-style-type: none"> . Courtesy call to JICA office <ul style="list-style-type: none"> - Adjust the schedules
Dec. 4 (Thr.)	<ul style="list-style-type: none"> . Courtesy call to the Japanese Embassy . Courtesy call to Ministry of Health; discussions <ul style="list-style-type: none"> - Explain Inception Report - Submit questionnaire - Request the establishment of the project implimentation Committee board . CBC (Field cooperative consultant) <ul style="list-style-type: none"> - Discussion construction conditions and infrastructure . Discussion with Ministry of Health <ul style="list-style-type: none"> - Relating the problems of the building site in Pokhara
Dec. 5 (Fri.)	<ul style="list-style-type: none"> . Survey building sites (in Dadhikot, Thimi) . Courtesy call to Ministry of Foreign Affairs . NEA (Nepal Electrical Authority, Kathmandu) <ul style="list-style-type: none"> - Survey infrastructure . Courtesy call to Ministry of Finance <ul style="list-style-type: none"> - Survey infrastructure . NEA (Bhaktapur) <ul style="list-style-type: none"> - Survey infrastructure - Water supply and Sewerage Dept. (Bhaktapur) <ul style="list-style-type: none"> - Survey infrastructure

Date	Content of study
Dec. 6 (Sat.)	<ul style="list-style-type: none"> . Discussion with Ministry of Health <ul style="list-style-type: none"> - Discussion on selection of the building sites. Thimi (for outpatients) and Dadhikot (for TB centre) are the most hopeful. - Leave Kathmandu (RA-309) - Arrive in Pokhara <ul style="list-style-type: none"> . Survey building sites (Lampatan-No.5, Veterinary Hospital No.6, No.6') . Gandaki hospital . TBCP <ul style="list-style-type: none"> - Discussion present situation of building sites and the plans for the future
Dec. 7 (Sun.)	<ul style="list-style-type: none"> . WRHL (West Region Health Laboratory) . CBC <ul style="list-style-type: none"> - Survey infrastructure and environmental conditions . Veterinary Hospital <ul style="list-style-type: none"> - Survey new site (No.7) and have a discussion about it. . Discussion with people in charge of infrastructure in Pokhara City. (Gandaki Hosp.) . Survey building site and infrastructure . Team meeting <ul style="list-style-type: none"> - Discussion about the arrangement of the staff and required room
Dec. 8 (Mon.)	<ul style="list-style-type: none"> - leave Pokhara (Substitute for RA-310) - Arrive in Kathmandu <ul style="list-style-type: none"> . Survey infrastructure and building sites <ul style="list-style-type: none"> - Examination of the enlargement plan for portion of Thimi site (Nursery of the Ministry of Agriculture) . Team meeting <ul style="list-style-type: none"> - Comparative examination of candidate building sites

Date	Content of study
Dec. 9 (Tue.)	<ul style="list-style-type: none"> . Inspection of Teaching Hospital . Inspection of Bir Hospital . Inspection of Kalimati Hospital . Inspection of CCC and discussion <ul style="list-style-type: none"> - Hearing on management organization, etc. . Survey on building sites <ul style="list-style-type: none"> - Discussion on construction area of the building site . Team meeting <ul style="list-style-type: none"> - Discussion on arrangement of staff and the contents of the facilities
Dec. 10 (Wed.)	<ul style="list-style-type: none"> . Ministry of Health <ul style="list-style-type: none"> - Discussion of minutes . Re-examination of building sites <ul style="list-style-type: none"> - Examine the plan including the west site of the Nursery . Team meeting <ul style="list-style-type: none"> - Discuss about contents and scale of the facilities
Dec. 11 (Thur.)	<ul style="list-style-type: none"> . Confirmation of NTC building site . Team meeting <ul style="list-style-type: none"> - Minutes Annex discussion . Implimentation committee Board discussion <ul style="list-style-type: none"> - The final adjustment of the content of the Minutes - Answer the questionnaire
Dec. 12 (Fri.)	<ul style="list-style-type: none"> . CCC Survey <ul style="list-style-type: none"> - Checking of actual situation usage of CCC . Team meeting <ul style="list-style-type: none"> - Check on staff arrangement, medical equipment and instruments

Date	Content of study
Dec. 13 (Sat.)	<ul style="list-style-type: none"> . Ministry of Health <ul style="list-style-type: none"> - Signing of the minutes . JICA office <ul style="list-style-type: none"> - Adjustment of schedule for the latter half of the field research . The Embassy <ul style="list-style-type: none"> - Report the contents of the Minutes . Team leader Aoki and Eguchi and Minamoto staff members leave Nepal (TG-312)
Dec. 14 (Sun.)	<ul style="list-style-type: none"> . Team meeting <ul style="list-style-type: none"> - Schedule adjustment . TBCP <ul style="list-style-type: none"> - Discussion about the measurement of building sites . Topographical Survey Branch <ul style="list-style-type: none"> - Discussion on the measurements of building sites . Thimi building site <ul style="list-style-type: none"> - Discussion about the measurement area of building sites . Topographical Survey Branch, Statistical Research Bureau etc. <ul style="list-style-type: none"> - Obtain reference maps and data
Dec. 15 (Mon.)	<ul style="list-style-type: none"> . Discussions with Ministry of Health <ul style="list-style-type: none"> - Adjustment of schedule for inspection of similar medical facilities . Teaching Hospital affiliated dormitory for nurses . CCC <ul style="list-style-type: none"> - Research on medical equipment and instruments . Teaching Hospital affiliated nurses; training school
Dec. 16 (Tue.)	<ul style="list-style-type: none"> . Organize study data <ul style="list-style-type: none"> - National Day

Date	Content of study
Dec. 17 (Wed.)	<ul style="list-style-type: none"> . Kalimati Hospital <ul style="list-style-type: none"> - Survey of medical equipment . Patan Hospital <ul style="list-style-type: none"> - Survey of facilities and medical equipment . JICA office <ul style="list-style-type: none"> - Report study schedule
Dec. 18 (Thr.)	<ul style="list-style-type: none"> . Bhaktapur Hospital <ul style="list-style-type: none"> - Survey of facilities and medical equipment . Central Health Laboratory <ul style="list-style-type: none"> - Survey of facilities and medical equipment . TBCP <ul style="list-style-type: none"> - Discussion about measurement of the building sites and inquire for training results data.
Dec. 19 (Fri.)	<ul style="list-style-type: none"> . CCC <ul style="list-style-type: none"> - Submit supplementary note (draft) . Dept. of Housing, Building and Physical Planning <ul style="list-style-type: none"> - Inquire building cost data . Brick and Tile factory (Lalitpur) <ul style="list-style-type: none"> - Survey of manufacturing quantity and material costs. . Marble factory <ul style="list-style-type: none"> - Survey of manufacturing quantity and material costs . CBC <ul style="list-style-type: none"> - Collect construction information
Dec. 20 (Sat.)	<ul style="list-style-type: none"> - Leave Kathmandu (by car) . Bajrani Health Post <ul style="list-style-type: none"> - The office was closed for holiday . Gajuri Tar Health Post <ul style="list-style-type: none"> - Survey of the facilities and medical equipment

Date	Content of study
	<ul style="list-style-type: none"> - Arrive in Pokhara . TBCP <ul style="list-style-type: none"> - Confirm the study schedule . Batulechaur Health Post <ul style="list-style-type: none"> - Survey of the facilities and medical equipment
Dec. 21 (Sun.)	<ul style="list-style-type: none"> . Western Region Health Laboratory (WRHL) <ul style="list-style-type: none"> - Survey of the facilities and medical equipment . WRHL affiliated dormitory <ul style="list-style-type: none"> - Research for the facilities . Survey of building site (No.7, in the building site for the veterinarian hospital) <ul style="list-style-type: none"> - Attend the measuring of the building site. . Water Supply Sewerage Corp. (WSSC) <ul style="list-style-type: none"> - Collect data . Shishuwa Health Post <ul style="list-style-type: none"> - Survey of the facilities and medical equipment . Maintenance Survey Section <ul style="list-style-type: none"> - Receive a survey map of the building site
Dec. 22 (Mon.)	<ul style="list-style-type: none"> - Leave Pokhara (RNA-311) - Arrive in Kathmandu . Horticulture Development Centre site <ul style="list-style-type: none"> - Hearing on the construction situation
Dec. 23 (Tue.)	<ul style="list-style-type: none"> . JICA office <ul style="list-style-type: none"> - Intermediate report of the outline of the Study . Dept. of Housing, Building and Physical Planning <ul style="list-style-type: none"> - Receive price lists . Technical interface <ul style="list-style-type: none"> - Survey of construction materials and labor costs

Date	Content of study
Dec. 24 (Wed.)	<ul style="list-style-type: none"> . Discussion with Ministry of Health <ul style="list-style-type: none"> - Discuss about the content and layout of the facilities, building site No.7 was determined. . Telecommunication Corp. <ul style="list-style-type: none"> - Confirm the future plan for facilities . Dept. of Water Supply and Sewerage (Bhaktapur) <ul style="list-style-type: none"> - Receive the schematic of the water supply system of the surrounding area of the building site . Nepal Carriers <ul style="list-style-type: none"> - Survey of transportation for the materials and equipment of construction . Ministry of Health <ul style="list-style-type: none"> - Sign Supplementary Note
Dec. 25 (Thr.)	<ul style="list-style-type: none"> . CCC <ul style="list-style-type: none"> - Discuss on the content of the facilities and checking the content of the trainings . CBC <ul style="list-style-type: none"> - Receive data of construction material cost . Himal Cement Company <ul style="list-style-type: none"> - Survey of manufacturing quantity and material cost
Dec. 26 (Fri.)	<ul style="list-style-type: none"> . Discussion with Ministry of Health <ul style="list-style-type: none"> - Discuss about supplementary items . TBCP <ul style="list-style-type: none"> - Receive a survey map of the building site . The Japanese Embassy <ul style="list-style-type: none"> - Report the outline of the study . JICA office <ul style="list-style-type: none"> - Report the outline of the Study

Date	Content of study
Dec. 27 (Sat.)	<ul style="list-style-type: none"> - The consultant leaves Nepal (Kathmandu) (TG-312) - Arrive in Bangkok
Dec. 28 (Sun.)	<ul style="list-style-type: none"> - Leave Bangkok - Arrive in Narita (TG-740)

2) Draft Report explanation schedules
(from March 8 - March 15, 1987)

Date	Content of study
Mar. 8 (Sun.)	<ul style="list-style-type: none"> - Leave Narita (TG-643) - Arrive in Bangkok
Mar. 9 (Mon.)	<ul style="list-style-type: none"> - Leave Bangkok (TG-311) - Arrive in Kathmandu . Courtesy call to JICA office <ul style="list-style-type: none"> - Adjust the schedules . Courtesy call to the Japanese Embassy . Team Meeting
Mar. 10 (Tue.)	<ul style="list-style-type: none"> . Discussion with Board members (CCC) <ul style="list-style-type: none"> - scope of work, the contents of the facilities . Courtesy call to Ministry of Health
Mar. 11 (Wed.)	<ul style="list-style-type: none"> . Discussion with Board members (CCC) <ul style="list-style-type: none"> - the contents of the facilities, medical equipment, scope of work . Supplementary Survey <ul style="list-style-type: none"> - Checking of actual situation usage of CCC - Collect the supplementary Data of Central Health Laboratory - Collect general health information
Mar. 2 (Thur.)	<ul style="list-style-type: none"> . Discussion with Board members (CCC) <ul style="list-style-type: none"> - the contents of the facilities, etc. - receive supplementary data from CCC and TBCP - Request the execution of boring test - Discuss about content of the Minutes . Supplementary Survey <ul style="list-style-type: none"> - Collect boring data

Date	Content of study
Mar. 13 (Fri.)	<ul style="list-style-type: none"> . Ministry of Health <ul style="list-style-type: none"> - Signing of the minutes . Courtesy call to Ministry of Finance
Mar. 14 (Sat.)	<ul style="list-style-type: none"> - Leave Kathmandu (TG-312) - Arrive in Bangkok
Mar. 15 (Sun.)	<ul style="list-style-type: none"> - Leave Bangkok (TG-740) - Arrive in Narita

1-6 List of Nepalese officials to meet for discussions

Organization, Name	Position
<u>Ministry of Health</u>	
Mrs. Chandra Kala Kiran	Secretary
Mr. T.B. Prasai	Secretary
Mr. Basuder Pradhan	Acting Secretary
Mr. H.B. Gurbacharya	Under Secretary
<u>CCC (Central Chest Clinic)</u>	
Dr. N.L. Maskay	Chief
Dr. N.G. Amatya	Deputy Chief
Dr. Sakya	Medical Officer
<u>TBCP (Tuberculosis Control Project)</u>	
Dr. D.S. Bam	Acting Project Leader
Mr. K.B. Karki	Supervision (Pokhara)
Mr. Gyanendra Joshi	Supervision (Kathmandu)
Mr. N.B. Shrestha	Senior Supervision
Mr. Pel Man Gwung	Statician
<u>Central Region Health Directorate</u>	
Dr. Y.M.S. Pradhan	Director
<u>Western Region Health Directorate</u>	
Dr. Badri Lal Shrestha	Regional Director
<u>Health Planning Division</u>	
Dr. B.R. Pandey	Chief
<u>Ministry of Foreign Affairs</u>	
Mr. K.B. Shrestha	Joint Secretary
<u>Ministry of Finance</u>	
Mr. L.B. Shrestha	Secretary
Mr. P.P. Dahal	Joint Secretary
Mr. Baburam Shrestha	Under Secretary
Mr. D.P. Pant	Section Officer

Organization, Name	Position
<u>Gandaki Hospital</u> Dr. R.B.P. Singh	Director
<u>WRHL (Western Region Health Lab.)</u> Dr. Ram Patan Upadhaya	Chief
<u>Veterinary Hospital in Pokhara</u> Dr. Ram Milan Upadhaya	Acting Regional Director
<u>Town Panchayat in Pokhara</u> Mr. Surja BDR.	Vice Chairman
<u>Gajur Tar Health Post</u> Mr. Muneshwar Thakur	Health Assistant Worker
<u>Shishuwa Health Post</u> Mr. Chaulaghi	Superintendent
<u>Central Health Lab.</u> Mr. Nirmal K. Acharya	Medical Technologist
<u>Tribhuvan Teaching Hospital</u> Dr. K.K. Kafle	Deputy Director
<u>Bhaktapur Hospital</u> Dr. Kakila Vaidya Mr. Debakar Bhattarai	Superintendent Lab. Technician
<u>Patan Hospital</u> Dr. Robert Gesuman	Acting Chief
<u>Bir Hospital</u> Dr. Shobhana Shrestha	Head of Dept. of Pathology

Organization, Name	Position
<u>Dept. of Housing Building and Physical Planning</u>	
Mr. D.P. Gorkhaly	Deputy Chief Engineer
<u>Topographical Survey Branch</u>	
Mr. Rajendra Prashad Maratha	Chief Survey Officer
<u>Nepal Electrical Authority</u>	
Mr. K.G. Shrestha	Div. Chief (Kathmandu)
Mr. R.N. Singh	Engineer (Bhaktapur)
Mr. K.L. Joshi	Deputy Manager (Pokhara)
<u>Dept. of Water Supply and Sewerage</u>	
Mr. Rajendra Pradhanang	Engineer (Bhaktapur)
Mr. D.J. Rana	Engineer (Pokhara)
<u>Nepal Telecommunication Corp.</u>	
Mr. V.B. Bajracharya	Manager (Operation & Maintenance) KTM
Mr. B.M. Pradhan	Project In charge (Pokhara)

2. Outline of the study of similar facilities

1) Facilities list

1. CCC (Central Chest Clinic)

This is a specialized hospital for treatment of tuberculosis tentatively established in Kalimati Hospital. CCC consists of two buildings: the administrative building and outpatient treatment building. There are no wards in CCC. When NTC/RTC are established, it is planned to combine CCC with TBCEP. The Director of CCC is Dr. Maskay; the Deputy Director is Dr. Amatya.

2. TBCEP (TB Control Project, Kathmandu, Pokhara)

Katmandu: This is an organization which instructs and trains staff to be involved in TB control centering on health posts distributed nation wide. In the study, a hearing was carried out regarding the training project. The Director of TBCEP, Dr. Upadya, was out of town on our visit and Dr. Bam was acting in his place.

Pokhara: TBCEP is located in the Gandaki Zonal Hospital and is in charge of supervising and instruction of health posts in the Pokhara region. There is not a doctor at TBCEP so we had a hearing with Mr. Karki of the Supervision regarding the activities of TBCEP. The regular staff of TBCEP consists of 10 people; microscopist (1), senior H.W. (1), Junior A.H.W. (6) and porter (1) in addition to Supervision staff.

3. Gandaki Zonal Hospital

This is one of six regional hospitals in Gandaki. The director of the hospital is Dr. R.N.P. Singh.

4. Central Health Laboratory

This laboratory is in charge of performing the physical examinations. Comparatively recent examination equipment and instruments from all over the world, including Japan, are installed. A training room with AV equipment and a quite large storage area are available in the Central Health laboratory.

5. Western Region Health Laboratory

This Laboratory is located in the Gandaki Zonal Hospital and was established under grant aid and technical cooperation of Japanese Government. The facility includes a training room with a experiment table and a conference room with 100 seats.

6. Bir Hospital

This is general hospital with 300 beds located in the centre of Kathmandu. CCC was established here before.

7. Patan Hospital

This is a general mission hospital.

8. Bhaktapur Hospital

This hospital has 50 beds. Also it has an detached or seperate T.B. wards with 24 beds. This is a centre of medical treatment in Bhaktapur area, including Thimi, where NTC will be built.

9. Teaching Hospital

This is an affiliated hospital of Medical Faculty of Tribuhvan University and was established under grant aid and technical cooperation of Japan. The outpatient treatment facility was established in July, 1983 and a ward was established in Feb., 1985. All the facilities could not start operating at the same time because of the construction situation, so the hospital did not have many patients initially. But according to recent data, patients seem to be increasing.

The Teaching Hospital has 500 staff and accomodations for 300 patients (including 16 beds in the detachad or seperate ward), and 400 to 550 outpatients a day.

10. Bajrani Health Post

This is a health post constructed under grant aid and technical cooperation of Japan which was started in 1978. When we visited, the Bajrani Health Post was closed for a holiday.

11. Gajuri Tar Health Post

This health post was constructed at about the same period as the Bajrani Health Post and with the same grant aid and technical cooperation of Japan. Approx. half of the staff undergo training once a year at Birganji. Each staff member is in charge of a residential quarter and works actively.

12. Batulechaur Health Post

This is a model health post in of Pokhara region. It has 15 staff and is managed well in the same manner as Gajuri Tar. Approx. 50 outpatients come to the post a day.

13. Shishuwa Health Post

This health post is located in the suburbs of Pokhara City. The facilities are not completely equipped but there are 9 staff members and approx. 50 outpatients a day.

14. WRHL affiliated dormitory

This is an affiliated dormitory of West Region Health Laboratory.

3-1 Staff distribution plan (proposed by Nepalese Side)

Proposed Man-power for
National Tuberculosis Centre

Central Level				
S.No.	Designation	Class	Numbers	Remark
✓1	Chief	Gazetted 1st.	1	Tec ✓
2	Deputy Chief	" "	(2)	" ✓
3	Sr.TB Specialist	" "	1	"
4	TB Specialist	" 2nd.	4	"
5	Medical Officer	" 3rd.	(5)	"
6	Administrative Off	" 2nd.	1	Adm
7	Chief Accountant	" 2nd.	1	"
8	Planning Officer	" 2nd.	1	Tec
9	Sr.Statistician	" 2nd.	1	"
10	Sr.Supervisor	" 2nd.	2	"
11	Section Officer	" 3rd.	(2)	Adm
12	Account Officer	" 3rd.	(3)	"
13	Evaluation Officer	" 3rd.	1	Tec
14	Statistical "	" 3rd.	1	"
15	Research Officer	" 3rd.	1	"
16	Procurement "	" 3rd.	1	Adm
17	Sr.Store Keeper	" 3rd.	1	"
18	Health Educator	" 3rd.	1	Tec
19	Sr. Cartographar	" 3rd.	1	"
20	Sociologist X	" 3rd.	1	"
21	Hostel Incharge	" 3rd.	1	Adm
22	Medical Technologist	" 3rd.	1	Tec
23	Nayab Subba	Non " 1st.	5	Adm
24	Accountant	" " 1st.	6	"
25	Sr.Stat.Assistant	" " 1st.	4	Tec
26	Procurement "	" " 1st.	1	Adm
27	Store Keeper	" " 1st.	1	"
28	Training Assistant	" " 1st.	2	Tec
29	Cartographar	" " 1st.	1	"
30	Sr. Typist	" " 1st.	1	Adm
31	Tel.Receptionist	" " 1st.	1	"
32	Public Health Nurse	" " 1st.	2	Tec
33	Lab. Technician	" " 1st.	2	"

S.No.	Designation	Class	Nos.	Remark
34.	Librarian	Non.Gazetted 1st	2	Tec
35.	Maintenance Technician	" " 1st	1	"
36.	X-ray Technician	" " 1st	2	"
37.	Dark Room Assistant	" " 1st	2	"
38.	Karidar Cum Typist	" " 2nd	5	Adm
39.	Mukhiya Cum Typist	" " 3rd	1	"
40.	Assistant Accountant	" " 2nd	2	"
41.	Assistant Store Keeper	" " 2nd	1	"
42.	A. N. M.	" " 2nd	5	Tec
43.	A. H. W.	" " 2nd	3	"
44.	Assist.Lab.Technician	" " 2nd	4	"
45.	Assist.Maint.	" " 2nd	2	"
46.	Driver		10	
47.	Peon		15	
48.	Guard		4	
49.	Gardener		1	
50.	Sweeper		5	
Total			125	

Regional Level:

S.No.	Designation	Class	Number	Remark
1	Regional Officer	Gazetted 2nd.	5	Tec
27	Section Officer	" 3rd.	5	Adm
3	Senior Supervisor	" 3rd.	8	Tec
4	Accountant	Non Gazetted 1st	10	Adm
5	Assistant Accountant	" " 2nd	10	"
6	Nayab Subba	" " 1st	5	"
7	Karidar	" " 2nd	5	"
8	Mukhiya Cum Typist	" " 3rd	5	"
9	Sr. Stat. Assistant	" " 1st	5	Tec
10	Stat. Assistant	" " 2nd	5	"
11	Assist. Cartographer	" " 2nd	5	"
12	Sr. Store Keeper	" " 1st	5	Adm
13	Store Keeper	" " 2nd	5	"
14	Supervisor	" " 1st	10	Tec
15	Lab. Technician	" " 1st	10	"
16	Public Health Nurse	" " 1st	5	"
17	Peon		20	
18	Driver		5	
Total			128	

3-2 Population area and density of Nepal

POPULATION BY SEX, AREA IN SQ. KILONETERS AND DENSITY FOR
DEVELOPMENT REGIONS, ZONES AND DISTRICTS-1981

Development Regions, Zones and Districts	Total Population	Male	Female	Area in Sq. Kms.	Density Per Sq Kms.
NEPAL	15,022,839	7,695,536	7,327,503	147,181	102.1
East. Dev. Regions	3,708,923	1,901,957	1,806,966	28,456	130.3
1 Mech Zone	932,625	481,359	451,266	8,196	113.8
2 Koshi Zone	1,423,624	731,610	692,014	9,669	147.2
3 Sagarmatha Zone	1,352,674	688,988	663,686	10,591	127.7
Cent. Dev. Regions	4,909,357	2,538,615	2,370,742	27,410	179.1
4 Janakpur Zone	1,688,115	864,100	824,015	9,669	174.6
5 Bagmati Zone	1,782,439	931,076	851,363	9,428	189.1
Sindupalchok	232,326	122,663	109,663	2,542	91.4
Kavrepalanchok	307,150	156,218	150,932	1,396	220.0
Lalitpur	184,341	97,678	86,663	385	478.8
Bhaktapur	159,767	81,833	77,934	119	1,342.6
Kathmandu	422,237	227,934	194,303	395	1,069.0
Nuwakot	202,976	104,493	98,483	1,121	181.1
Rasuwa	30,241	15,719	14,522	1,544	19.6
dhading	243,401	124,538	118,863	1,926	126.4
6 Narayani Zone	1,438,803	743,439	695,364	8,313	173.1
West. Dev. Regions	3,128,859	1,584,542	1,544,319	29,398	106.4
7 Gandaki Zone	1,107,569	545,728	561,841	12,275	90.2
Gorkha	231,294	114,614	116,680	3,610	64.1
Lamjung	152,720	72,565	80,155	1,692	90.3
Tanahu	223,438	113,316	110,122	1,546	144.5
Syangja	271,824	129,666	142,158	1,164	233.5
Kaski	221,272	112,024	109,248	1,017	109.7
Manang	7,021	3,543	3,478	2,264	3.1
8 Dhawalagiri Zone	453,462	228,621	224,841	8,148	55.7
9 Lumbini Zone	1,567,828	810,193	757,635	8,975	174.7
Mid-West dev. Region	1,955,611	994,505	961,106	42,378	46.1
10 Rapiti Zone	876,723	438,810	437,913	10,482	83.6
11 Bheri Zone	836,402	429,859	406,543	10,545	79.3
12 Karnali Zone	242,486	125,836	116,650	21,351	11.4
Far West. Dev. Region	1,320,089	675,717	644,372	19,539	67.6
13 Seti Zone	794,911	401,020	393,891	12,550	63.3
14 Mahakali Zone	525,178	274,697	250,481	6,989	75.1

3-3 Growth of Population

GROWTH OF POPULATION

Year	Population(000)	Percentage, variation over the previous period
1911	5,639	
1921	5,574	(-) 1.2
1931	5,533	(-) 0.07
1941	6,284	13.6
1952/54	8,473	34.8
2961	9,413	11.1
1971	11,556	22.8
1981	15,023	30.0
1986*	17,131	14.0
1991*	19,370	13.1
1996*	21,539	11.2
2001*	23,593	9.5

* Population for the years 1986-2001 are projected at medium variant.

Source : Central Bureau of Statistics

3-4 Number of doctors, health workers

NUMBER OF DOCTORS, NUMBER, HEALTH WORKERS ETC. (JANUARY, 1986)

Particulars	Under Ministry of Health	Others
1. Docots	573	119
2. Nurses	488	254
3. Auxiliary Nurses Midwives	1,085	760
4. Senior Auxiliary Health		
5. Auxiliary Health Workers	1,659	
6. Village Health Workers	2,492	
7. Panchayat Based Health Workers	2,598	
8. Kaviraj Vaidya	282	

Source : Planning Division, Ministry of Health

3-5 Number of Hospitals and beds

NUMBER OF HOSPITALS AND BEDS BY ZONE
(1983/84 TO 1986 FEB.)

Zone	1983/84		1984/85		1986Feb.	
	Hospitals	Beds	Hospitals	Beds	Hospitals	Beds
1. Mechi	2	65	2	65	4	95
2. Koshi	11	289	11	289	11	289
3. Saga matha	7	140	7	140	7	140
4. Janakpur	5	130	5	130	5	130
5. Bagmati	20	1,856	20	1,856	20	1,856
6. Narayani	5	175	5	175	6	200
7. Gandaki	5	215	5	215	6	330
8. Lumbini	8	241	8	241	9	256
9. Dhawalagiri	2	30	2	30	2	30
10. Rapti	1	15	1	15	1	15
11. Karnali	1	15	1	15	1	15
12. Bheri	4	86	4	86	5	101
13. Seti	5	195	5	195	7	225
14. Mahakali	4	70	4	70	5	85
Total	80	3,522	80	3,522	89	3,759

Source : Planning Division, Ministry of Health

3-6 Number of Health centres, health posts

NUMBER OF HEALTH CENTRES, HEALTH POSTS AND
AYURVEDIC DISPENSARIES BY ZONE.
(1983/84 TO 1986 FEB.)

Zone	1983/84			1984/85			1986Feb.		
	HC	HP	AD	HC	HP	AD	HC	HP	AD
1. Mechi	3	37	7	3	37	8	1	37	9
2. Koshi	1	63	8	1	63	10	1	64	10
3. Saga matha	2	60	7	2	60	7	2	60	7
4. Janakpur	2	66	9	2	66	9	2	66	9
5. Bagmati	3	78	17	3	78	18	3	78	18
6. Narayani	1	57	6	1	57	7	1	57	9
7. Gandaki	2	66	17	2	66	20	1	66	21
8. Lumbini	3	58	9	3	58	9	2	58	11
9. Dhawalagiri	1	36	5	1	36	5	1	36	6
10. Rapti	2	51	6	2	51	6	2	51	6
11. Karnali	2	40	4	2	40	4	2	40	4
12. Bheri	2	44	6	2	44	8	1	44	8
13. Seti	2	49	9	2	49	10	1	49	12
14. Mahakali	-	39	3	-	39	4	-	39	5
Total	26	744	113	26	744	125	20	745	135

HC Health Centre ; HP Post.

AD-ayurvedic Dispensary :

Source : Planning Division, Ministry of Health

STATION KATHMANDU AIRPORT YEAR 1982

Month	AIR TEMPERATURE °C						RELATIVE HUMIDITY % Observed at		PRECIPITATION mm.									
	Mean			Absolute extreme		Number of days		Total	Maximum in 24 hrs & date	Number of rainy days								
	Max.	Min.	Daily	Max. date	Min. date	Max. >=30	Min. <=0			>=1.0	1.0 - 9.9	10.0 - 24.9	25.0 - 49.9	50.0 - 99.9	>=100.			
JAN	18.9	2.8	10.8	22.0 9	-0.4 13	0	2	14	9 / 28	3	3	0	0	0	0	0		
FEB	18.5	3.5	11.0	22.7 26	0.4 24	0	0	22	10 / 2	4	4	0	0	0	0	0		
MAR	22.8	7.5	15.2	26.4 22	2.2 4	0	0	36	16 / 7	6	5	1	0	0	0	0		
APR	26.5	10.9	18.7	28.6 7	7.2 9	0	0	49	10 / 27	8	7	1	0	0	0	0		
MAY	29.9	14.4	22.2	32.9 26	10.8 19	14	0	40	14 / 4	6	5	1	0	0	0	0		
JUN	28.5	18.5	23.5	31.0 2	11.1 29	6	0	200	88 / 28	12	8	2	0	2	0	0		
JUL	28.7	19.6	24.2	30.2 14	19.0 1	1	0	238	52 / 31	17	9	5	2	1	0	0		
AUG	28.9	20.2	24.6	30.8 11	17.8 30	4	0	384	52 / 28	25	12	6	6	1	0	0		
SEP	27.3	17.8	22.6	31.2 9	11.8 29	4	0	155	38 / 4	14	8	5	1	0	0	0		
OCT	25.6	11.2	18.4	28.4 16	7.5 30	0	0	9	8 / 10	1	1	0	0	0	0	0		
NOV	21.3	7.9	14.6	25.5 1	3.0 30	0	0	18	18 / 10	1	0	1	0	0	0	0		
DEC	18.8	3.9	11.4	21.5 10	-1.0 31	0	2	3	3 / 29	1	1	0	0	0	0	0		
Year	24.6	11.5	18.1	32.9 May	-1.0 Dec	29	4	1168	88 / Jun	98	63	22	9	4	0	0		

STATION POKHARA AIRPORT YEAR 1982

Month	AIR TEMPERATURE °C							RELATIVE HUMIDITY %		PRECIPITATION mm.							
	Mean			Absolute extreme		Number of days		Observed at	1740.	Total	Maximum in 24 hrs & date	Number of rainy days					
	Max.	Min.	Daily	Max. date	Min. date	Max. >=30	Min. <=0					>= 1.0	1.0 - 9.9	10.0 - 24.9	25.0 - 49.9	50.0 - 99.9	>= 100.
JAN	20.2	7.4	13.8	23.1 24	5.0 28	0	0	85	66	55	50 / 27	2	1	0	0	1	0
FEB	19.8	8.4	14.1	25.5 20	4.8 6	0	0	85	63	42	17 / 5	6	5	1	0	0	0
MAR	24.3	11.1	17.7	28.3 30	6.6 4	0	0	75	52	71	22 / 3	11	9	2	0	0	0
APR	28.5	14.7	21.6	31.9 7	11.7 21	7	0	68	51	177	58 / 18	12	7	3	1	1	0
MAY	30.8	17.0	23.9	35.3 27	14.0 19	24	0	63	54	151	35 / 29	12	5	6	1	0	0
JUN	29.7	20.2	25.9	32.0 3	17.0 2	17	0	79	71	593	91 / 9	24	8	7	6	3	0
JUL	30.2	20.8	25.5	32.4 2	20.4 1	22	0	85	72	855	164 / 10	27	10	7	6	2	2
AUG	30.5	21.7	26.1	32.4 7	20.0 20	21	0	79	75	722	123 / 5	24	8	2	10	3	1
SEP	27.9	20.3	24.1	34.0 9	15.2 29	6	0	82	80	558	156 / 18	21	7	7	4	2	1
OCT	26.5	15.1	20.8	28.0 16	12.4 28	0	0	76	72	78	41 / 23	5	3	1	1	0	0
NOV	22.4	13.2	17.8	25.8 2	8.0 30	0	0	86	82	32	13 / 10	5	4	1	0	0	0
DEC	19.5	8.3	13.9	21.8 15	3.2 31	0	0	90	83	21	21 / 31	1	0	1	0	0	0
Year	25.9	14.8	20.4	35.3 May	3.2 Dec	97	0	79	68	3355	164 / Jul	153	67	53	29	12	4

3-8 List of Main data

GENERAL

SATISTICAL POCKET BOOK 1986
NEPAL IN FIGURES 1986
ECONOMIC REPORT 1981 - '82
CLIMATOLOGICAL RECORDS IN NEPAL 1981 - '82
QUARTERLY ECONOMIC BULLETIN MID-OCT '85 - MID-JAN '86
HEALTH INFORMATION BULLETIN 1984
NEPAL MAP
KATHMANDU CITY MAP
POKHARA CITY MAP
SURVEY MAP (KATHMANDU AND POKHARA)
OTHERS

PLANNING

NEPAL TUBERCULOSIS ASSOCIATION ANNUAL REPORT 1978 - '79
THE NEPAL ANTI-T.B. ASSOCIATION
BUDGET OF TBCEP (1985/87)
BUDGET OF CCC (1985/86)
LIST OF STAFFS AT CCC AND TBCEP
LIST OF EQUIPMENT AT TB C.P.
OTHERS

CONSTRUCTION

BUILDING CONSTRUCTION BILL OF QUANTITY (GOVERNMENT OF NEPAL)
PRICE LIST (CONSULTANTS)
PRICE LIST (CONSTRUCTORS)
TENDER DOCUMENT (SPECIFICATIONS)
- for The Other Project in Nepal -
OTHERS

3-9 Data for Calculation of Scale

In accordance with project plan and fundamental principles, the scale of each facility is calculated based on standards or examples in Japan and the actual conditions of investigation in Nepal.

Area Calculation Data

*: In the case of no remarks, Tsukuba standard of the Ministry of Construction, Japan

I. Outpatient research

Department	Name of Room	Standard in Japan	Remarks
A. Administration	1. Office	4.0 m ² /person Conversion rate: Chief 18 (72 m ² /person) Manager 9 (36 m ² /person) Chief of section 5 (20 m ² /person) Assistant chief of section 2.5 (10 m ² /person) Chief clerk 1.8 (7.2 m ² /person) General 1 (4 m ² /person)	
	2. Meeting room	Over 25 persons 2.1 m ² /person Over 50 persons 1.6 m ² /person	
B. Medical examination	1. Consultation room	Case by case	
	2. Clinical examination room	Case by case	
C. Research	1. Research room	4.0 m ² /person Conversion rate: Manager 9 (36 m ² /person) Chief 5 (20 m ² /person) Research worker 1.8 (7.2 m ² /person) Assistant research worker 1.8 (7.2 m ² /person)	
	2. Standard laboratory workroom	16 m ² /person	

Department	Name of Room	Standard in Japan	Remarks
	3. Special laboratory workroom	Case by case	
	4. Library	35 m ²	Books: 2000, Magazines: 2000 $(2,000+2,000) \div 160/\text{m}^2 = 25 \text{ m}^2$ Reading space: $2\text{m}^2/\text{person} \times 5\text{persons} = 10 \text{ m}^2$ $25\text{m}^2 + 10\text{m}^2 = 35\text{m}^2$ (from Architectural Institute of Japan; Design data book)

II. Training building

Department	Name of Room	Standard in Japan	Remarks
Training department	1. Training hall	1.0 - 1.3 m ² /person	(from Architectural Institute of Japan; Design data book)
	2. Training room	1.6 - 2.1 m ² /person (Seminar type)	(from Architectural Institute of Japan; Design data book)
	3. Lecturer room	4.0 m ² x conversion rate ₂ /person, about 10 m ² /person	
	4. Lounge	1.0 m ² /person	
	5. Laboratory room	16 m ² /person	
	6. Administration room	4 m ² /person	

III. Dormitory

Department	Name of Room	Standard in Japan	Remarks
A. Dormitory	1. Lodging room for lecturers	32 m ² /room (single)	Based on single room of hotel (bed, living room, shower, closet)
	2. Lodging rooms for trainees	$1.25\text{m}^2/\text{person} \times 1.25 = 16\text{m}^2/\text{person}$ Washing stand $0.58\text{ m}^2/\text{person}$ Toilet $0.53\text{ m}^2/\text{person}$ Shower $1.5\text{ m}^2/\text{person}$ Corridor 3.0 m^2	British Standards for Student Dormitory NTT standards NTT standards AIJ standards
		Total 40 m ²	
B. Leisure	1. Lounge	1.0 m ² /person	AIJ standards
C. Dining	1. Dining room	2.0 - 2.3 m ² /seat (company dormitory standard)	AIJ standards
	Kitchen	Dining area x 0.5	AIJ standards

AIJ: Architectural Institute of Japan
 NTT: Nippon Telecommunication Telephone Corp.

JICA