## 4-4 Basic Design Drawing

The preliminary Design Criterion for Sana'a, Hodeidah and Ta'iz Centres are following:

Sana'a Tuberculosis Centre (Headquarters)

1. Table of Floor Area
2. Site Plan
3. Ground Floor Plan
4. First Floor Plan
5. West and South Elevations
6. North and East Elevations
7. Sections

Hodeidah Tuberculosis Centre (Branch)

1. Table of Floor Area
2. Site Plan
3. Ground Floor Plan
4. East and North Elevations
5. West and South Elevations
6. Sections

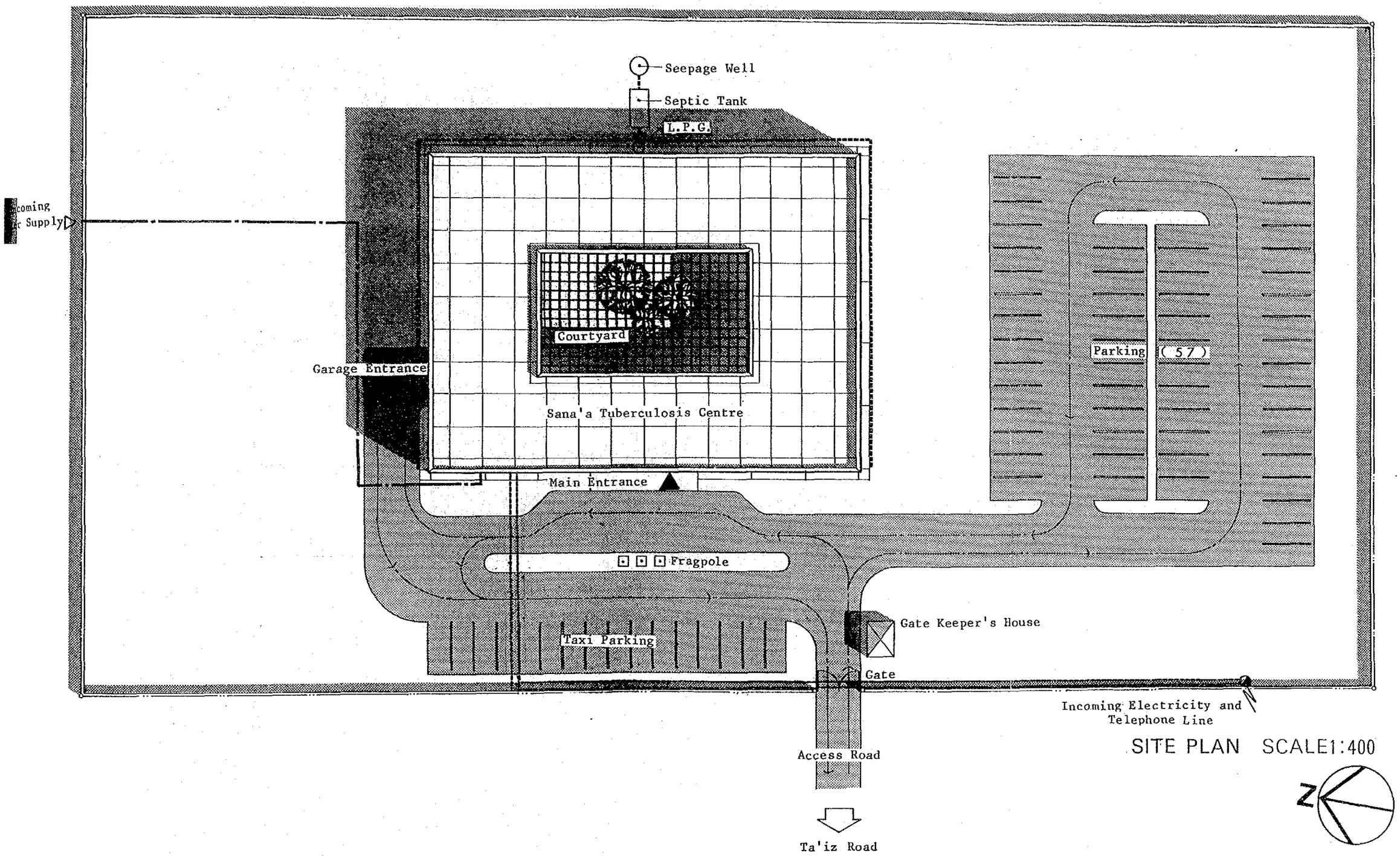
Ta'iz Tuberculosis Centre (Branch)

1. Table of Floor Area
2. Site Plan
3. Ground Floor Plan
4. North and West Elevations
5. South and East Elevations
6. Sections

## Proposed Floor Area of Sana'a Tuberculosis Centre

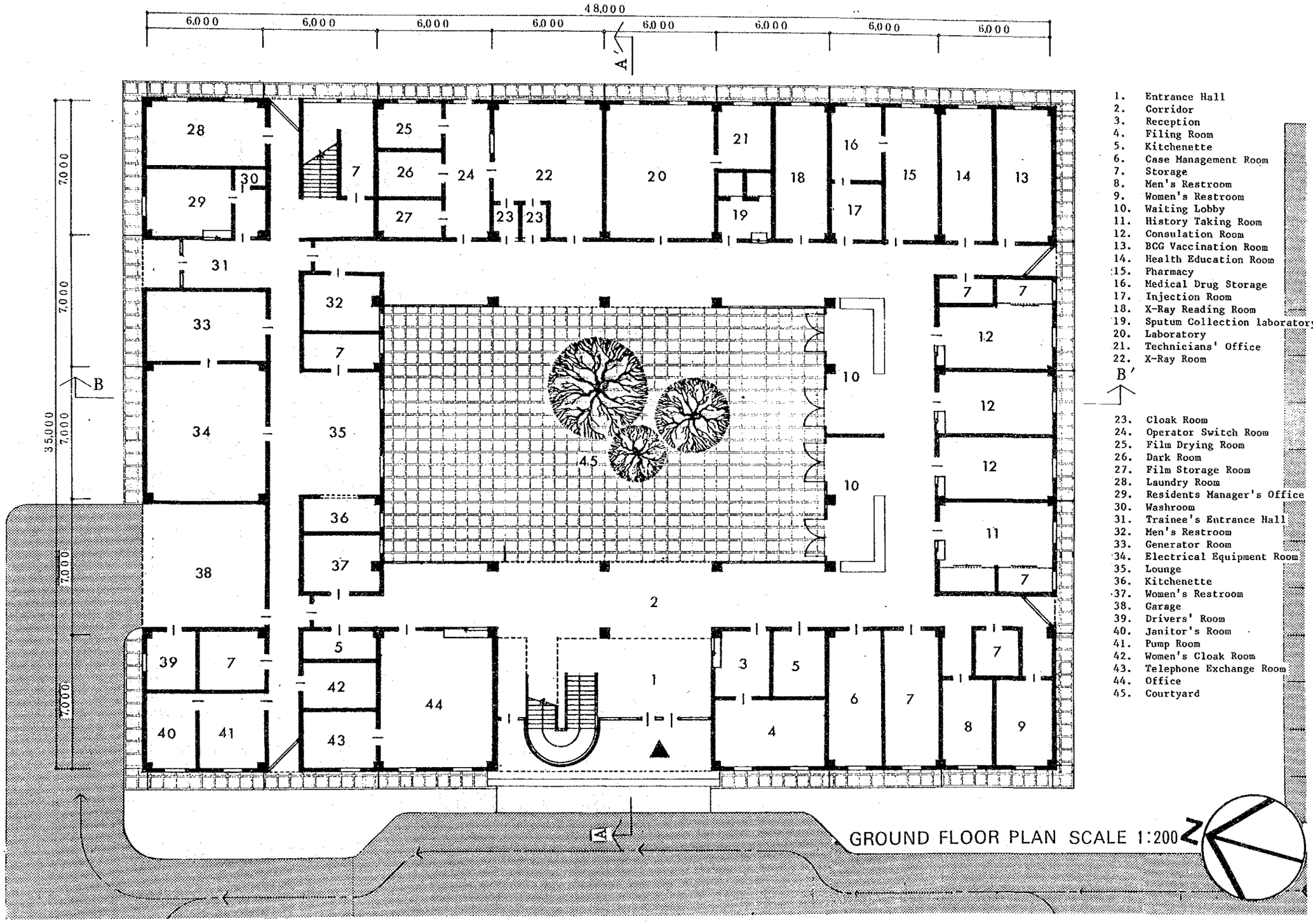
| Department | Room | Area ($m^2$) |
|---|---|---|
| Administration | Director's Office | 30 |
| | Secretary's Office | 12 |
| | Deputy Director's Office | 21 |
| | Advisor's Office | 30 |
| | Medical Staff Office | 30 |
| | Visiting Staff Office | 12 |
| | Office | 42 |
| | Telephone Exchange Room | 14 |
| | Meeting Room | 42 |
| | Drivers' Room | 9 |
| | Janitors' Room | 12 |
| | Women's cloak Room | 10 |
| | Sub-total | 264 |
| | | |
| Training | Class Room (1) (2) | 84 |
| | Bacteriological Training Laboratory | 63 |
| Dormitory | Residents Manager's Room | 18 |
| | Twin Room (10) | 210 |
| | Shower Room | 20 |
| | Lounge | 52 |
| | Kitchenette | 8 |
| | Sub-total | 455 |
| | | |
| Supervising | Epidemiological Research Room | 16 |
| | Statistics Room | 26 |
| | Case Management Room | 21 |
| | Sub-total | 63 |
| | | |
| Research | Library | 42 |
| | Research Laboratory | 63 |
| | Preparatory Laboratory | 42 |
| | Chemical Storage | 16 |
| | Sub-total | 163 |

| Department | Room | Area ($m^2$) |
|---|---|---|
| Clinical | Reception | 10 |
| | Waiting Lobby | 126 |
| | Filing Room | 28 |
| | History Taking Room | 21 |
| | Consultation Room (1) | 21 |
| | Consultation Room (2) | 21 |
| | Consultation Room (3) | 21 |
| | X-Ray Room | 35 |
| | Cloak Room | 7 |
| | Film Storage | 7 |
| | Dark Room | 7 |
| | Film Drying Room | 7 |
| | Operator Switch Room | 21 |
| | X-Ray Reading Room | 21 |
| | Sputum Collection Lab. | 9 |
| | Laboratory | 42 |
| | Technician's Office | 12 |
| | Pharmacy | 21 |
| | Injection Room | 9 |
| | Health Education Room | 21 |
| | BCG Vaccination Room | 21 |
| | Medical Drug Storage | 12 |
| | Sub-total | 500 |
| | | |
| Common Space | Entrance Hall | 794 |
| | Corridor | |
| | Restroom | 116 |
| | Kitchenette | 21 |
| | Storage | 81 |
| | Garage | 42 |
| | Electrical Equipment Room | 42 |
| | Generator Room | 24 |
| | Pump Room | 16 |
| | Laundry Room | 21 |
| | Sub-total | 1,157 |
| | | |
| | Total | 2,602 |

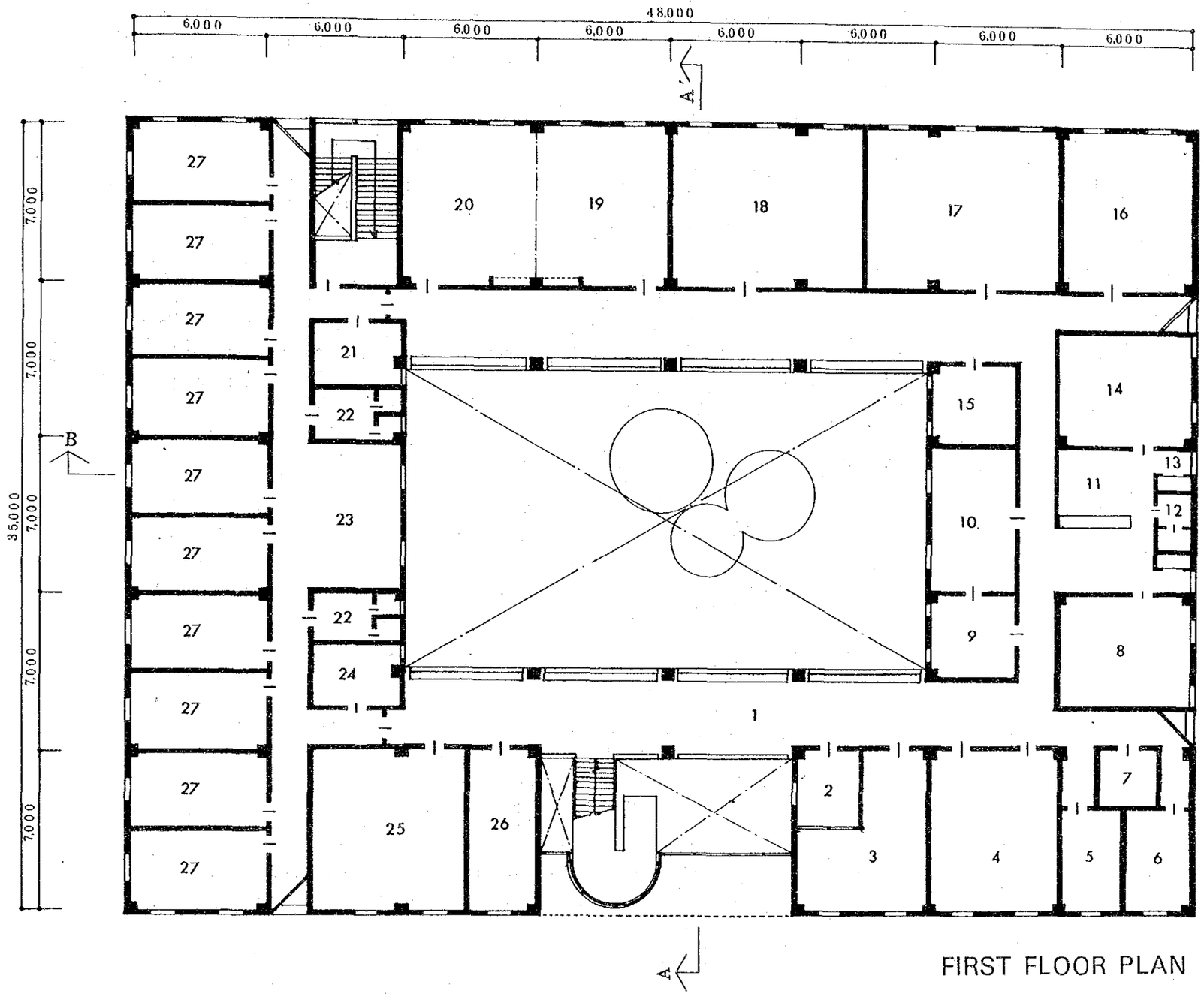



SITE PLAN SCALE1:400

# SANA'A TUBERCULOSIS CENTRE (HEADQUARTERS) 1984.6



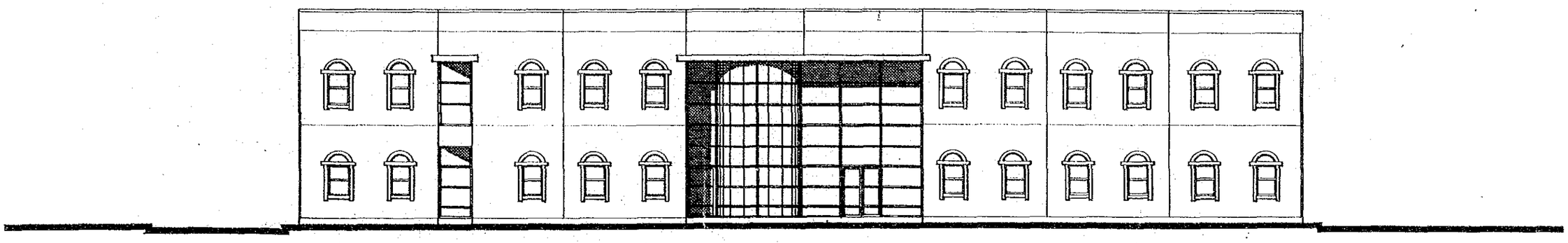

# SANA'A TUBERCULOSIS CENTRE (HEADQUARTERS) 1984.6



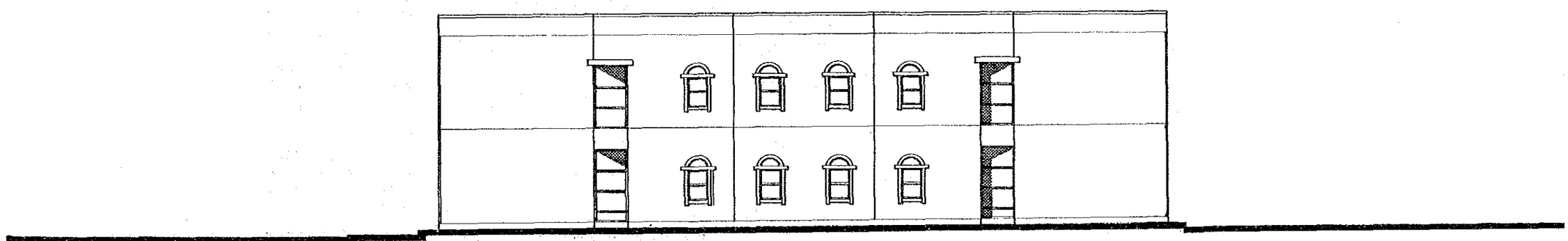

1. Corridor
2. Visiting Staff Office
3. Medical Staff,Office
4. Meeting Room
5. Men's Restroom
6. Women's Restroom
7. Kitchenette
8. Director's Office
9. Epidemiological Research Room
10. Statistics Room
11. Secretary's Office
12. Washroom
13. Kitchenette
14. Advisor's Office
15. Chemical Storage
16. Preparatory Laboratory
17. Research Laboratory
18. Bacteriological Training Laboratory
19. Class Room (1)
20. Class Room (2)
21. Men's Restroom
22. Shower Room
23. Lounge
24. Women's Restroom
25. Library
26. Deputy Director's Office
27. Twin Room

FIRST FLOOR PLAN SCALE 1:200

# SANA'A TUBERCULOSIS CENTRE (HEADQUARTERS) 1984.6



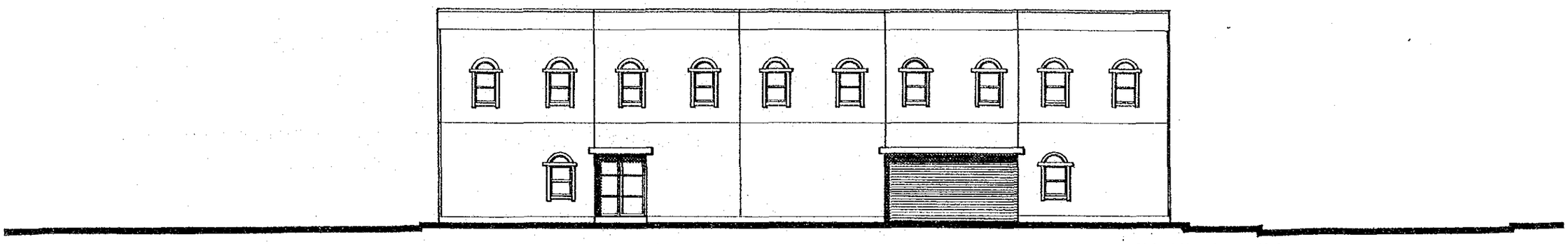
WEST ELEVATION



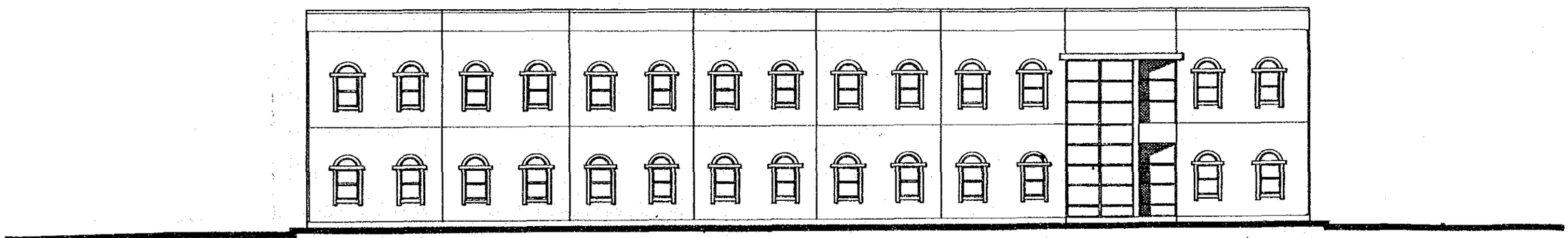
SOUTH ELEVATION

# SANA'A TUBERCULOSIS CENTRE(HEADQUARTERS)

SCALE 1:200 1984.6



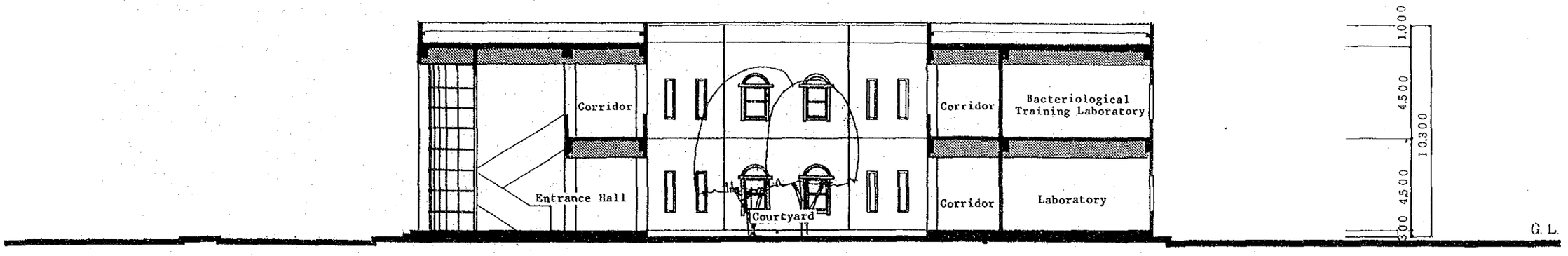
NORTH ELEVATION



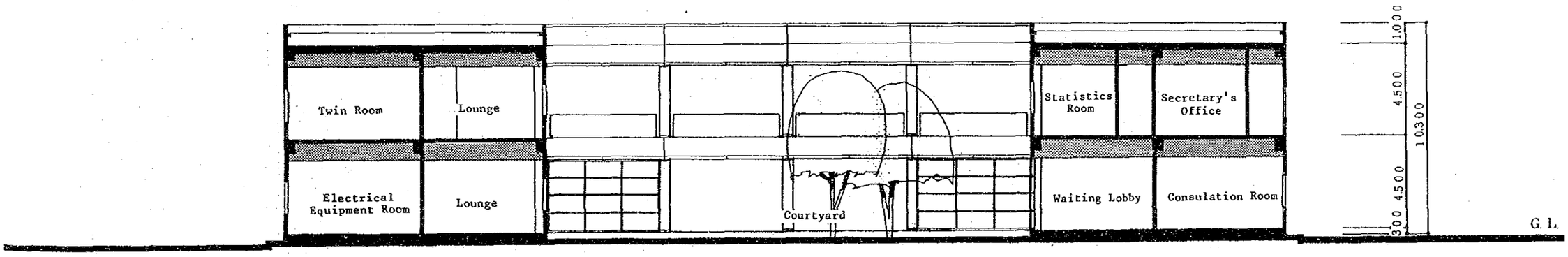
EAST ELEVATION

# SANA'A TUBERCULOSIS CENTRE (HEADQUARTERS)

SCALE 1:200 1984.6




A-A SECTION



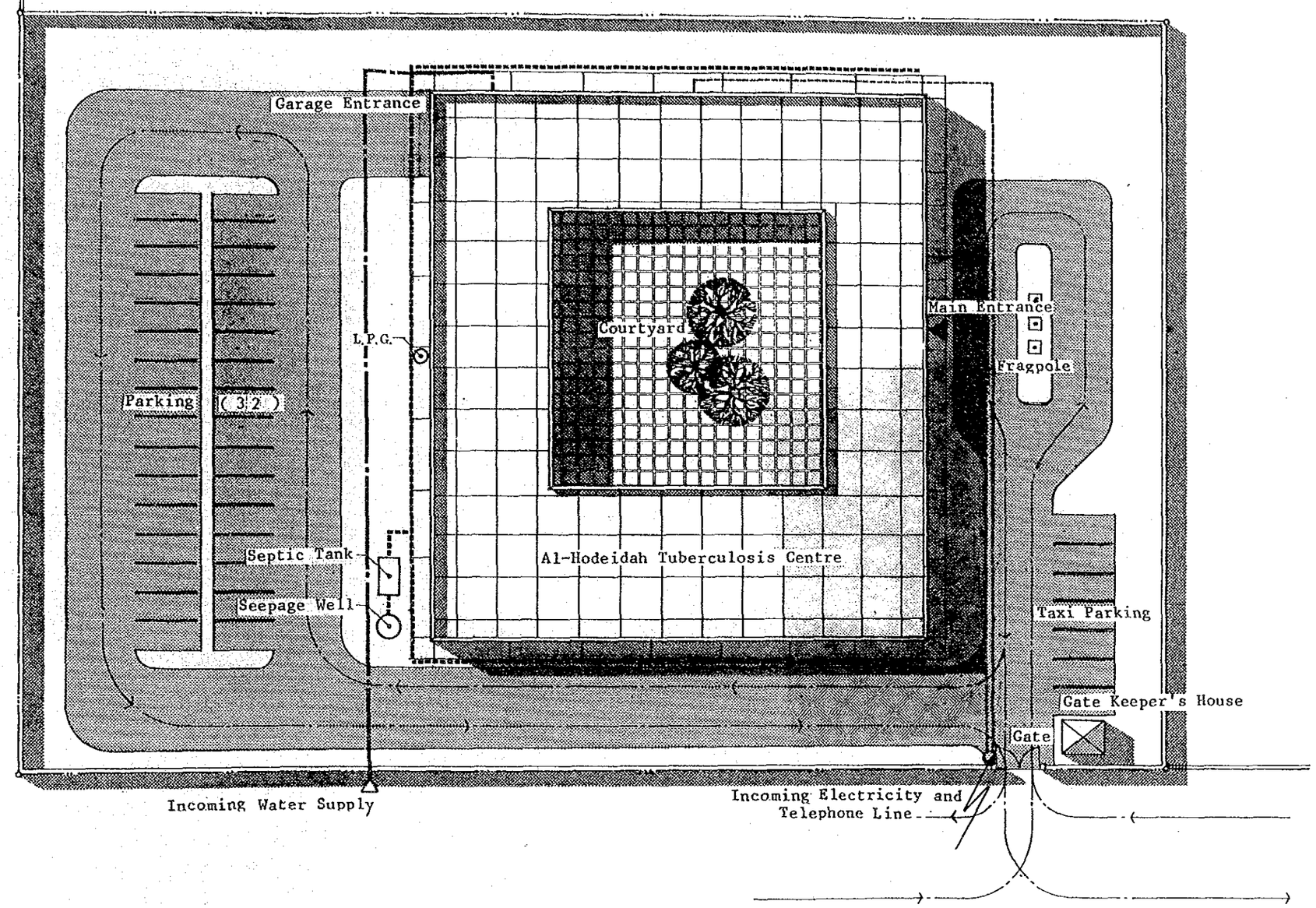

B-B SECTION

# SANA'A TUBERCULOSIS CENTRE(HEADQUARTERS)

SCALE 1:200 1984.6

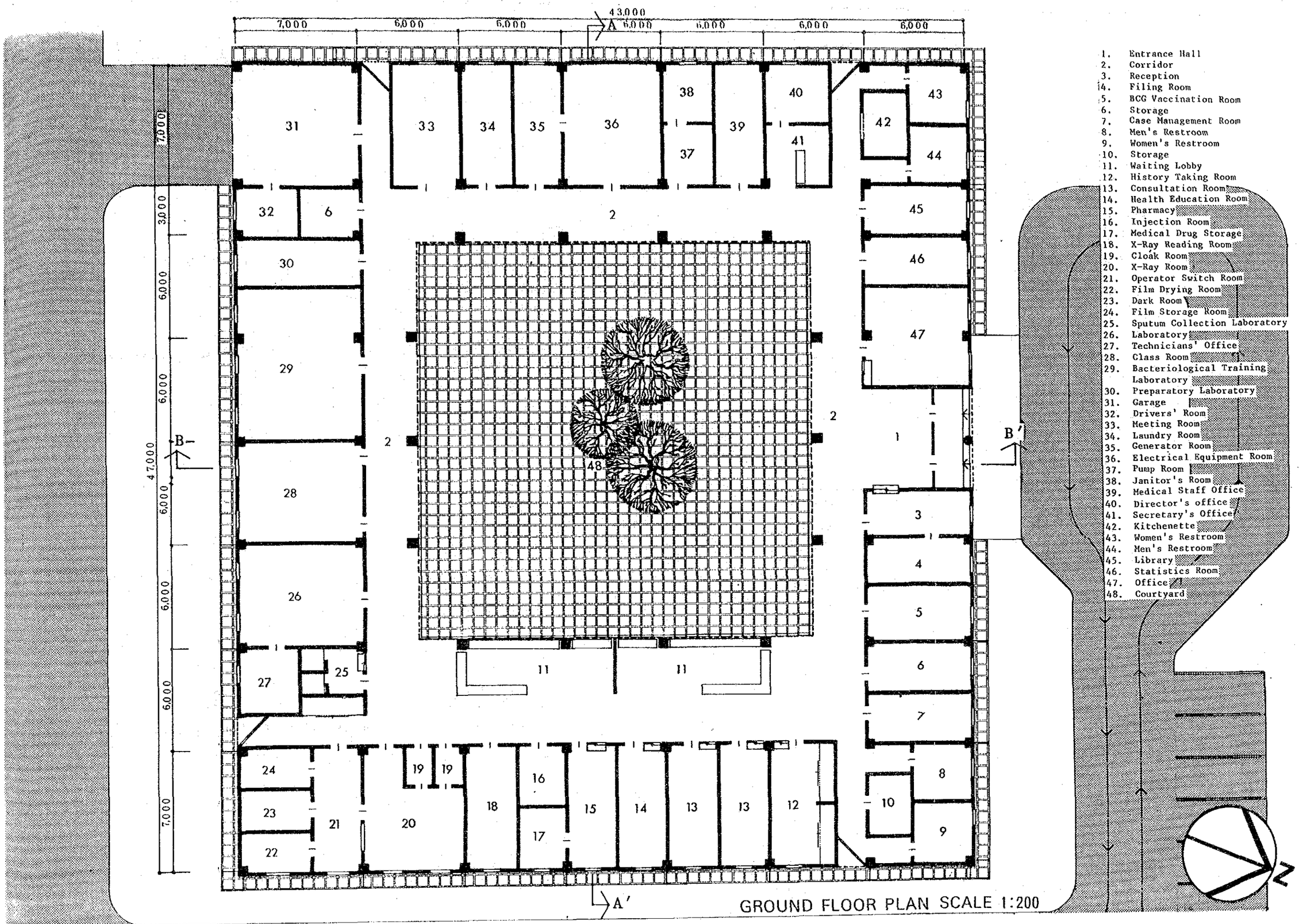
## Proposed Floor Area of Hodeida Tuberculosis Centre

| Department | Room | Area ($m^2$) |
|---|---|---|
| Administration | Director's Office | 14 |
| | Secretary's Office | 7 |
| | Medical Staff Office | 21 |
| | Office | 36 |
| | Meeting Room | 28 |
| | Drivers' Room | 9 |
| | Janitors' Room | 9 |
| | | |
| | Sub-total | 124 |
| | | |
| Training | Class Room | 42 |
| | Bacteriological Training Laboratory | 63 |
| | Preparation Laboratory | 21 |
| | Library | 18 |
| | Sub-total | 144 |
| | | |
| Supervising | Statistics Room | 18 |
| | Case Management Room | 18 |
| | Sub-total | 36 |
| | | |
| Clinical | Reception | 9 |
| | Waiting Lobby | 108 |
| | Filing Room | 18 |
| | History Taking Room | 21 |
| | Consultation Room (1) | 21 |
| | Consultation Room (2) | 21 |
| | X-Ray Room | 35 |
| | Cloak Room | 7 |
| | Film Storage | 7 |
| | Dark Room | 7 |
| | Film Drying Room | 7 |
| | Operator Switch Room | 21 |
| | X-Ray Reading Room | 21 |
| | Sputum Collection Lab. | 9 |
| | Laboratory | 42 |
| | Technician's Office | 12 |
| | Pharmacy | 21 |
| | Injection Room | 9 |
| | Health Education Room | 21 |
| | BCG Vaccination Room | 18 |
| | Medical Drug Storage | 12 |
| | Sub-total | 447 |
| | | |
| Common Space | Entrance Hall | 429 |
| | Corridor | |
| | Restroom | 56 |
| | Kitchenette | 10 |
| | Storage | 49 |
| | Garage | 49 |
| | Electrical Equipment Room | 42 |
| | Generator Room | 21 |
| | Pump Room | 12 |
| | Laundry Room | 21 |
| | Sub-total | 689 |
| | | |
| | Total | 1,440 |




SITE PLAN SCALE1:400

# AL-HODEIDAH TUBERCULOSIS CENTRE (BRANCH) 1984.6

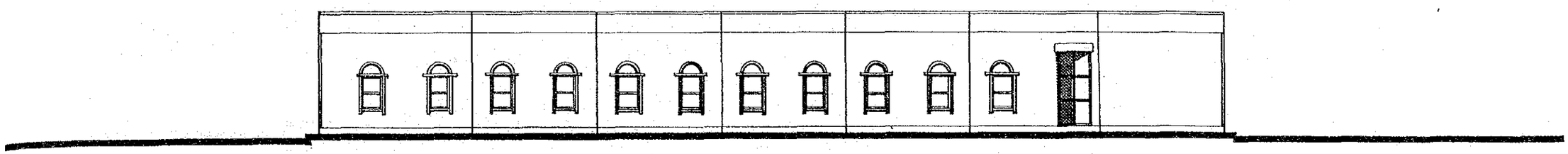



1. Entrance Hall
2. Corridor
3. Reception
4. Filing Room
5. BCG Vaccination Room
6. Storage
7. Case Management Room
8. Men's Restroom
9. Women's Restroom
10. Storage
11. Waiting Lobby
12. History Taking Room
13. Consultation Room
14. Health Education Room
15. Pharmacy
16. Injection Room
17. Medical Drug Storage
18. X-Ray Reading Room
19. Cloák Room
20. X-Ray Room
21. Operator Switch Room
22. Film Drying Room
23. Dark Room
24. Film Storage Room
25. Sputum Collection Laboratory
26. Laboratory
27. Technicians' Office
28. Class Room
29. Bacteriological Training Laboratory
30. Preparatory Laboratory
31. Garage
32. Drivers' Room
33. Meeting Room
34. Laundry Room
35. Generator Room
36. Electrical Equipment Room
37. Pump Room
38. Janitor's Room
39. Medical Staff Office
40. Director's office
41. Secretary's Office
42. Kitchenette
43. Women's Restroom
44. Men's Restroom
45. Library
46. Statistics Room
47. Office
48. Courtyard

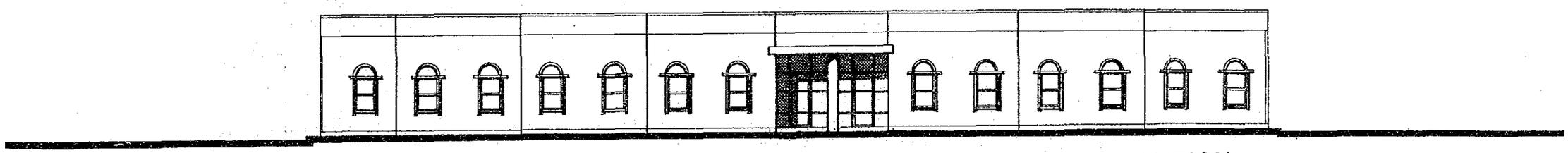
GROUND FLOOR PLAN SCALE 1:200

# AL-HODEIDAH TUBERCULOSIS CENTRE (BRANCH)

1984.6



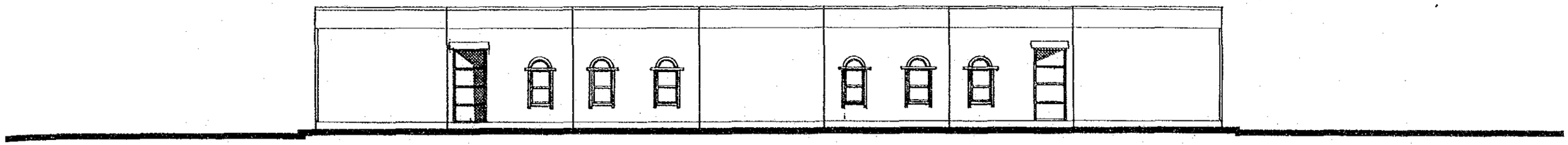
EAST ELEVATION



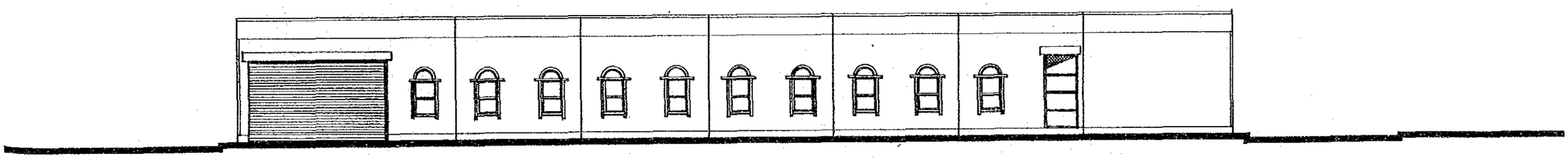
NORTH ELEVATION

# AL-HODEIDAH TUBERCULOSIS CENTRE (BRANCH)

SCALE 1:200 1984.6



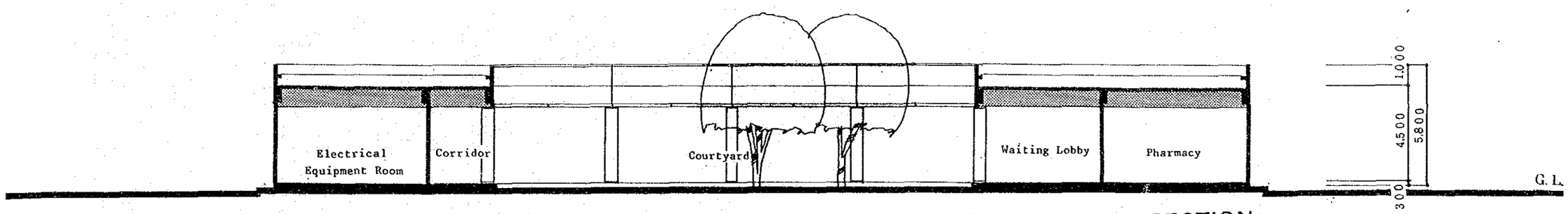
WEST ELEVATION



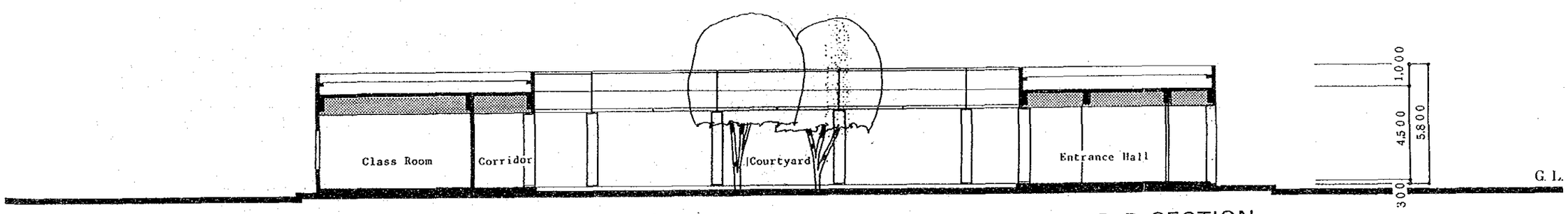
SOUTH ELEVATION

# AL-HODEIDAH TUBERCULOSIS CENTRE (BRANCH)

SCALE 1:200 1984.6




A-A SECTION




B-B SECTION

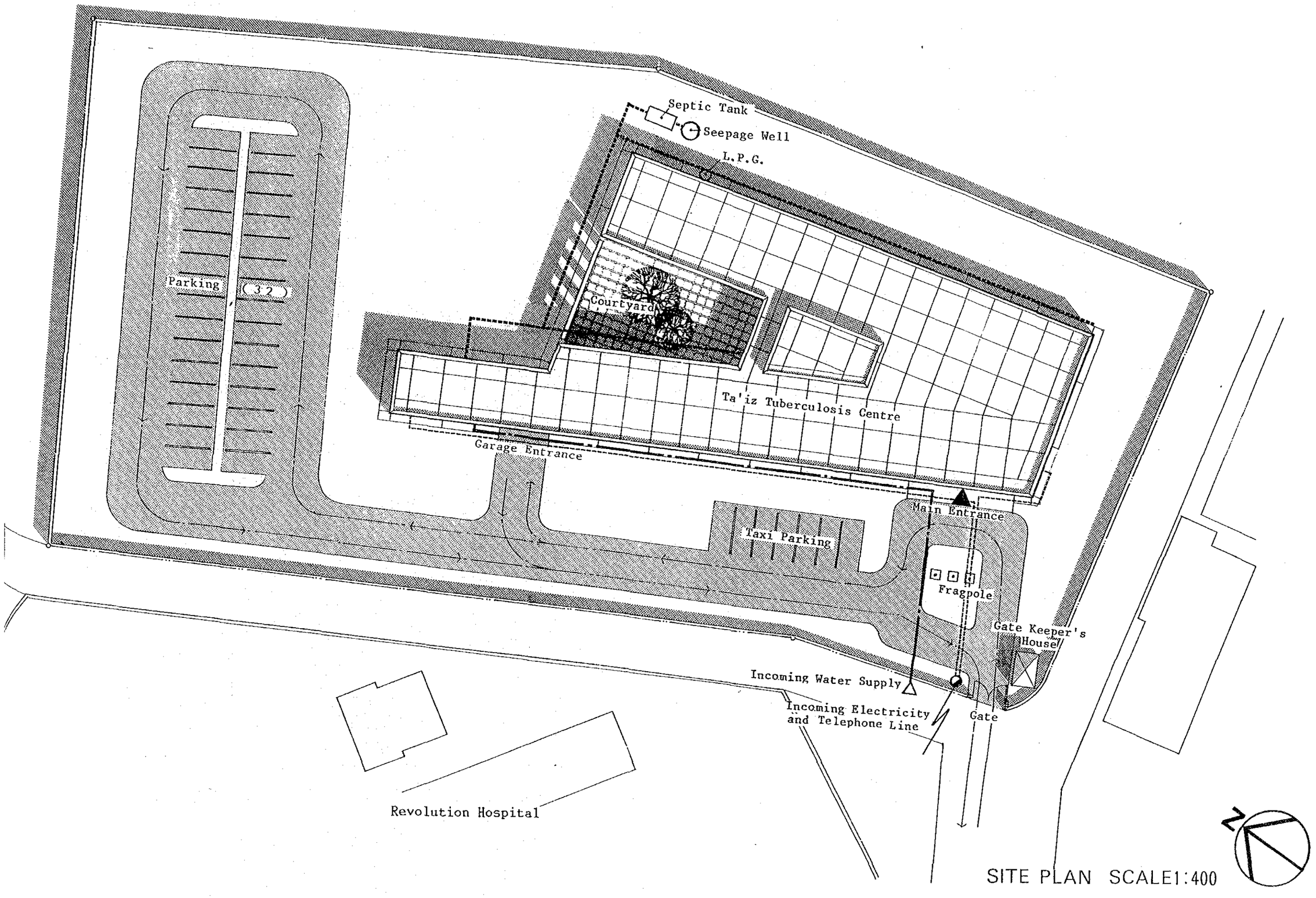
# AL-HODEIDAH TUBERCULOSIS CENTRE (BRANCH)

SCALE 1:200 1984.6

## Proposed Floor Area of Ta'iz Tuberculosis Centre

| Department | Room | Area ($m^2$) |
|---|---|---|
| Administration | Director's Office | 14 |
| | Secretary's Office | 7 |
| | Medical Staff Office | 24 |
| | Office | 35 |
| | Meeting Room | 28 |
| | Drivers' Room | 9 |
| | Janitors' Room | 9 |
| | | |
| | Sub-total | 126 |
| | | |
| Training | Class Room | 42 |
| | Bacteriological Training Laboratory | 63 |
| | Preparation Laboratory | 21 |
| | Library | 24 |
| | Sub-total | 150 |
| | | |
| Supervising | Statistics Room | 18 |
| | Case Management Room | 21 |
| | Sub-total | 39 |
| | | |
| Clinical | Reception | 14 |
| | Waiting Lobby | 90 |
| | Filing Room | 28 |
| | History Taking Room | 21 |
| | Consultation Room (1) | 21 |
| | Consultation Room (2) | 21 |
| | X-Ray Room | 35 |
| | Cloak Room | 7 |
| | Film Storage | 7 |
| | Dark Room | 7 |
| | Film Drying Room | 7 |
| | Operator Switch Room | 21 |
| | X-Ray Reading Room | 21 |
| | Sputum Collection Lab. | 9 |
| | Laboratory | 42 |
| | Technician's Office | 12 |

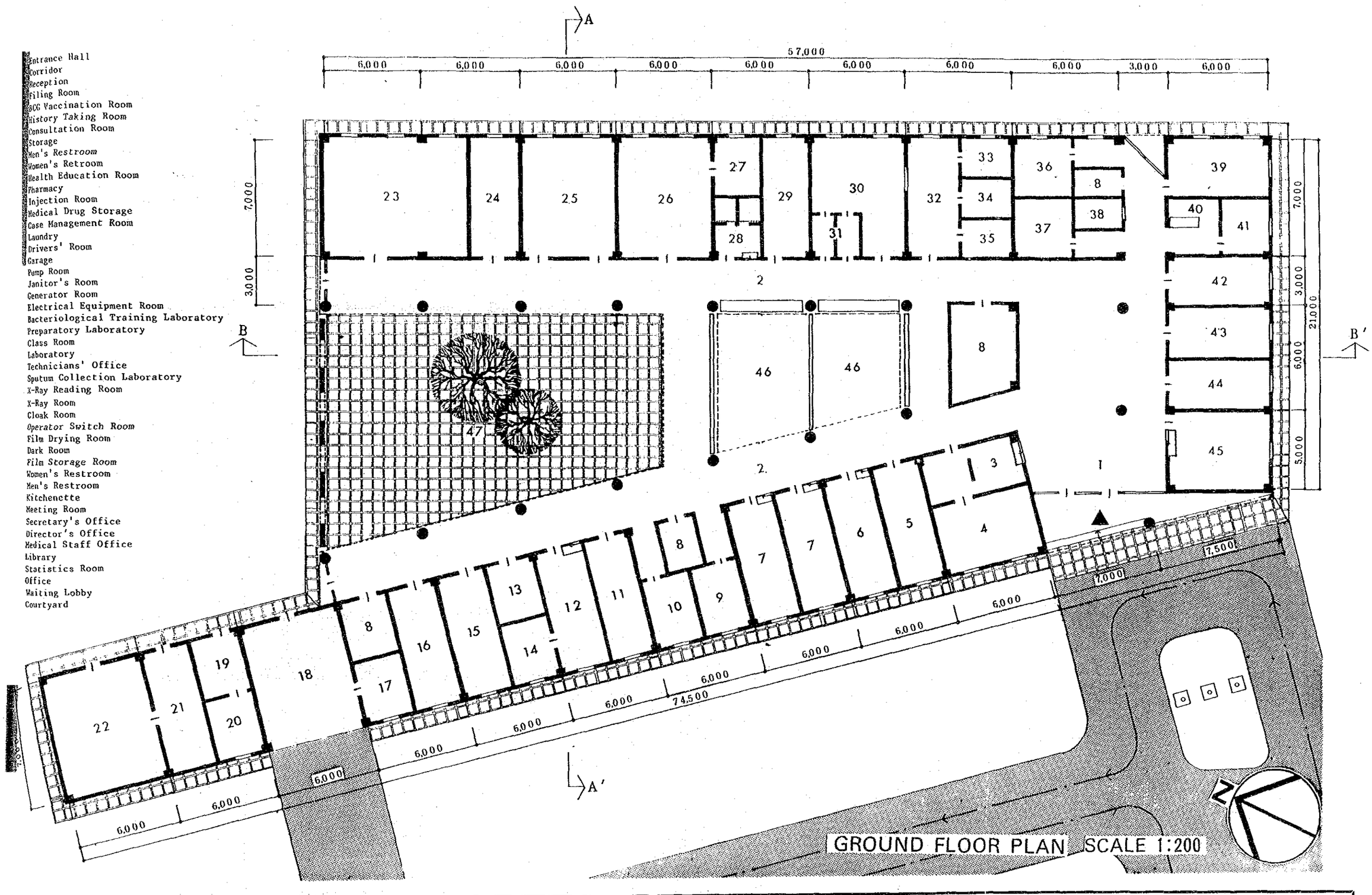
| Department | Room | Area ($m^2$) |
|---|---|---|
| | Pharmacy | 21 |
| | Injection Room | 9 |
| | Health Education Room | 21 |
| | BCG Vaccination Room | 21 |
| | Medical Drug Storage | 12 |
| | Sub-total | 447 |
| | | |
| Common Space | Entrance Hall | 460 |
| | Corridor | |
| | Restroom | 48 |
| | Kitchenette | 10 |
| | Storage | 37 |
| | Garage | 42 |
| | Electrical Equipment Room | 42 |
| | Generator Room | 21 |
| | Pump Room | 12 |
| | Laundry Room | 21 |
| | Sub-total | 693 |
| | | |
| | Total | 1,455 |




SITE PLAN SCALE1:400

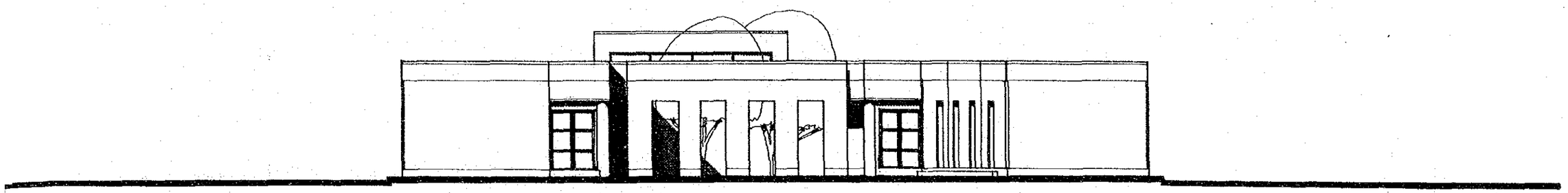
# TA'IZ TUBERCULOSIS CENTRE (BRANCH) 1984.6

1 Entrance Hall
2 Corridor
3 Reception
4 Filing Room
5 BCG Vaccination Room
6 History Taking Room
7 Consultation Room
8 Storage
9 Men's Restroom
10 Women's Retroom
11 Health Education Room
12 Pharmacy
13 Injection Room
14 Medical Drug Storage
15 Case Management Room
16 Laundry
17 Drivers' Room
18 Garage
19 Pump Room
20 Janitor's Room
21 Generator Room
22 Electrical Equipment Room
23 Bacteriological Training Laboratory
24 Preparatory Laboratory
25 Class Room
26 Laboratory
27 Technicians' Office
28 Sputum Collection Laboratory
29 X-Ray Reading Room
30 X-Ray Room
31 Cloak Room
32 Operator Switch Room
33 Film Drying Room
34 Dark Room
35 Film Storage Room
36 Women's Restroom
37 Men's Restroom
38 Kitchenette
39 Meeting Room
40 Secretary's Office
41 Director's Office
42 Medical Staff Office
43 Library
44 Statistics Room
45 Office
46 Waiting Lobby
47 Courtyard

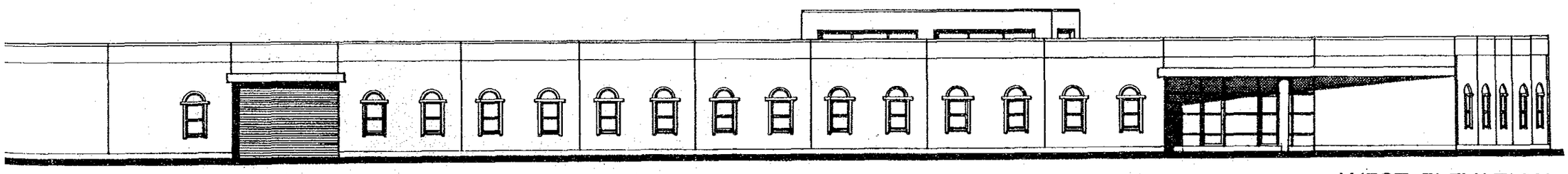



GROUND FLOOR PLAN SCALE 1:200

# TA'IZ TUBERCULOSIS CENTRE (BRANCH) 1984.6



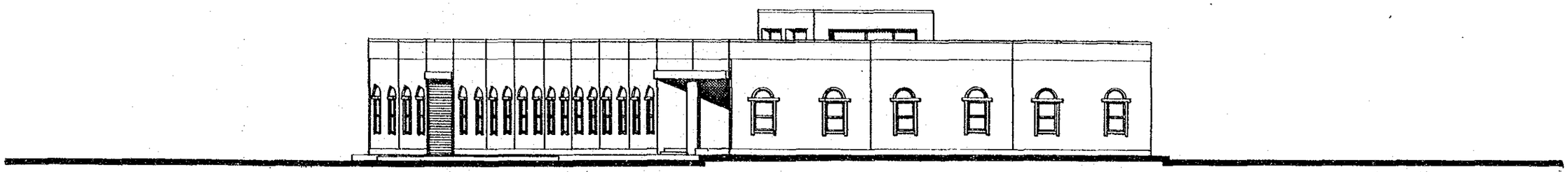
NORTH ELEVATION



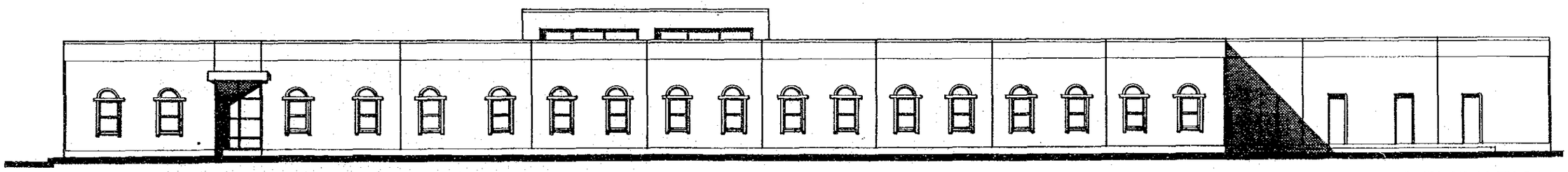
WEST ELEVATION

# TA'IZ TUBERCULOSIS CENTRE (BRANCH)

SCALE 1:200 1984.6



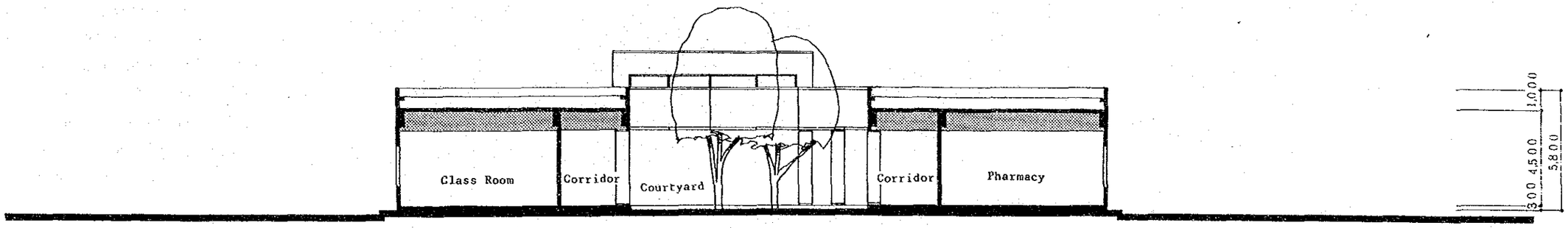
SOUTH ELEVATION



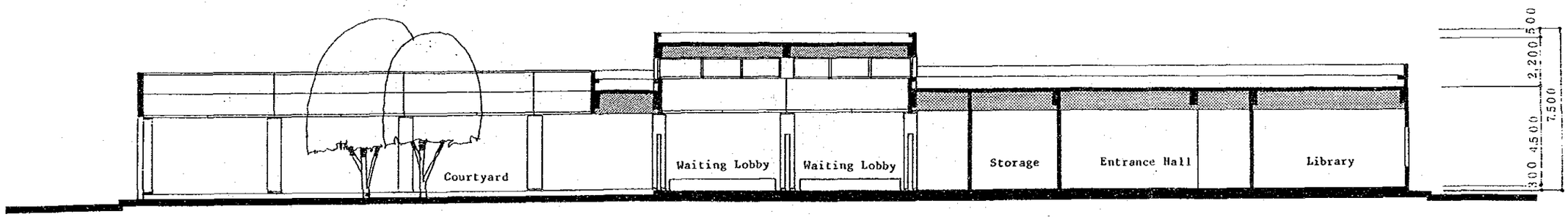
EAST ELEVATION

# TA'IZ TUBERCULOSIS CENTRE (BRANCH)

SCALE 1:200 1984.6




A-A SECTION




B-B SECTION

# TA'IZ TUBERCULOSIS CENTRE (BRANCH)

SCALE 1:200 1984.6

## 4-6 Technical Cooperation

After receipt of the YAR's request in 1983, the Japanese Government have been cooperating in the form of personnel assistance by dispatching tuberculosis specialist for a five year period. Consequently, on completion of the tuberculosis control facilities through this Project, the network system of the medical treatment activities for tuberculosis control will be able to expand with a nation-wide scale. Thus, the medical and technical cooperations, granted by the Japanese Government, will contribute effectively towards the promotion of the YAR's tuberculosis control operations.

# Chapter 5: PROJECT EXECUTION SYSTEM

## CHAPTER 5: PROJECT EXECUTION SYSTEM

### 5-1 Execution

The Ministry of Health, the YAR's major representative for the construction of the three Tuberculosis Centres in Sana'a, Hodeidah and in Ta'iz, is responsible for the initiation of the project. Accordingly, a Japanese corporate design consultant and a Japanese general contractor are to undertake the design supervision (design consultant) and the constructional works with construction supervision (contractor) in respect to the design contract and the construction contract, both to be concluded with the the Government of the YAR.

In addition, the Central Planning Organization, the Ministry of Public Works, the Ministry of Municipalities and Housing, the Ministry of Electricity, Water and Sewerage, and other concerned authorities of each governorate are to share in the responsibilities of the proposed project for reasons below:

a. the prime resource for the project is a grant sponcered by the Government of Japan; and

b. the tuberculosis Centres are the facilities for public used; and

c. the designated sites are located in three different Governorates.

Therefore, it is essential that a mutual understanding of views are expressed and felt among the various parties mentioned above, and are smooth transactions of procedures on any matters to accomplish the construction works within the allocated period.

In order to confirm this, an organization comparable to a "Project Execution Committee" with representation both from the previously mentioned concerned parties of the YAR, the Japanese design consultant and the general contractor, should be established. Also, the Committe should

be maintained under the chairmanship of a nominated Yemeni "Director", who is the one and only person to be responsible for the final decision-making.

## 5-2 Construction Plan

### (1) Construction Form

All the construction works, involved with the project, will be carried out under a bulk contract; i.e. all the necessary actions for supervision relating to design should be undertaken by the Japanese design consultant, and the execution of the construction should be carried out by the Japanese general contractor with designated local sub-contractor(s).

### (2) Construction Period

The estimated construction period for the accomplishment of the three tuberculosis centres is to be 23 months, beginning from the date on which the construction contract is signed. However, the exact construction period will be 16 months for Sana's Centre and 14 months for Hodeidah and Ta'iz Branch.

The estimation above has been based on a presumption that, prior to the commencement of the construction work, all the preparatory works such as clearing and leveling of each site, and the provision and installation of electricity, water supply, drainage, telephone lines and other incidental facilities to the sites will be completed by the Government of the YAR.

In Japan, similar projects of this nature would take 14 months for the Centre and 11 months for each of the Branch facilities to be completed, however, in the YAR the construction of the concerned facilities would take longer for the following reasons:

a. As with most developing countries, the procurement of the required construction materials/equipment in the YAR is relatively difficult since the nation produces few construction products

b. The efficiency, productivity and precision required would not be available due to the lack of well-trained labourers in the country

c. A lack of efficiency, delay or suspension of works could be presumed attributed to either inherent religious matters such as Ramadan, periods for praying during the coure of a day or unexpected heavy rainfalls during the rainy seasons

d. Insufficient construction machinery such as required concrete pumps, crains, and etc., available in the country limits the quantity of concrete to be placed in a day

e. There also exist some factors such as traffic congestion due to the inadequate road network, and working conditions under the highland climate (e.g. Sana'a is located at 2,300m above seal level) which will seriously effect the time involved in transportating of materials

f. The installation and testing of the required medical equipment might to be required to commence after the finishing work has been completed

Thus, for efficiency in executing the project, it is necessary to establish a construction schedule considering an account of these uncompromising conditions mentioned above.

Also, it is necessary to avoid the periods of Ramadan and the rainy season for beginning the construction. It would help the work process flow by correlating plans for procurement with transportation of the required construction materials.

(3) Project Control and Supervision

Within their terms of reference the Ministry of Health will assist the resident design consultant in coordinating the control and supervision of the project. In addition, the system for project control and supervision would be comparable to the one commonly practiced throughout Japan. In other words, the inspection and supervision would be carried out by the resident construction manager during the construction phase. The resident construction manager will regularly submit monthly reports stating the progress of works and the results of his inspection performance to the resident design consultant (resident Japanese design consultant). In turn the design consultant will submit monthly reports to the YAR government.

In addition, the resident design consultant should:

a. inspect the results of construction works with the client's (The Ministry of Health) attendance, particularly during the foundation, ridgepole and completion of each building; and

b. submit his monthly progress reports and inspection reports stating the results of these inspections to the client.

Engineer(s)/specialist(s) of selected medical equipment manufacturer(s) would be required to be present at the time of installation of the equipment and when the each building is completed.

5-3 Scope of Work to be Provided by the YAR Government

The following instructions are to be carried out according to the scope of work of which the Government of YAR is (fully) responsible for:

a. Acquisition of the sites for each Centre in Sana'a, Hodeidah, and Ta'iz.

b. Site preparation works such as clearing, leveling and necessary landfill/cut of each site prior to the construction starts.

c. Extension of electricity up to the receptacle and transformer at each site.

d. Installtion of the water supply to each site.

e. Provision for surface (rain) and waste water drainage outside of the site boundaries if needed.

f. Extension of telephone lines to the MDF, installed each building.

g. Construction of boundary fence/wall gate(s), other additional construction, and final landscaping.

h. provision of tables, chairs, cabinets and other furnitures for office case.

## 5-4 Execution Schedule

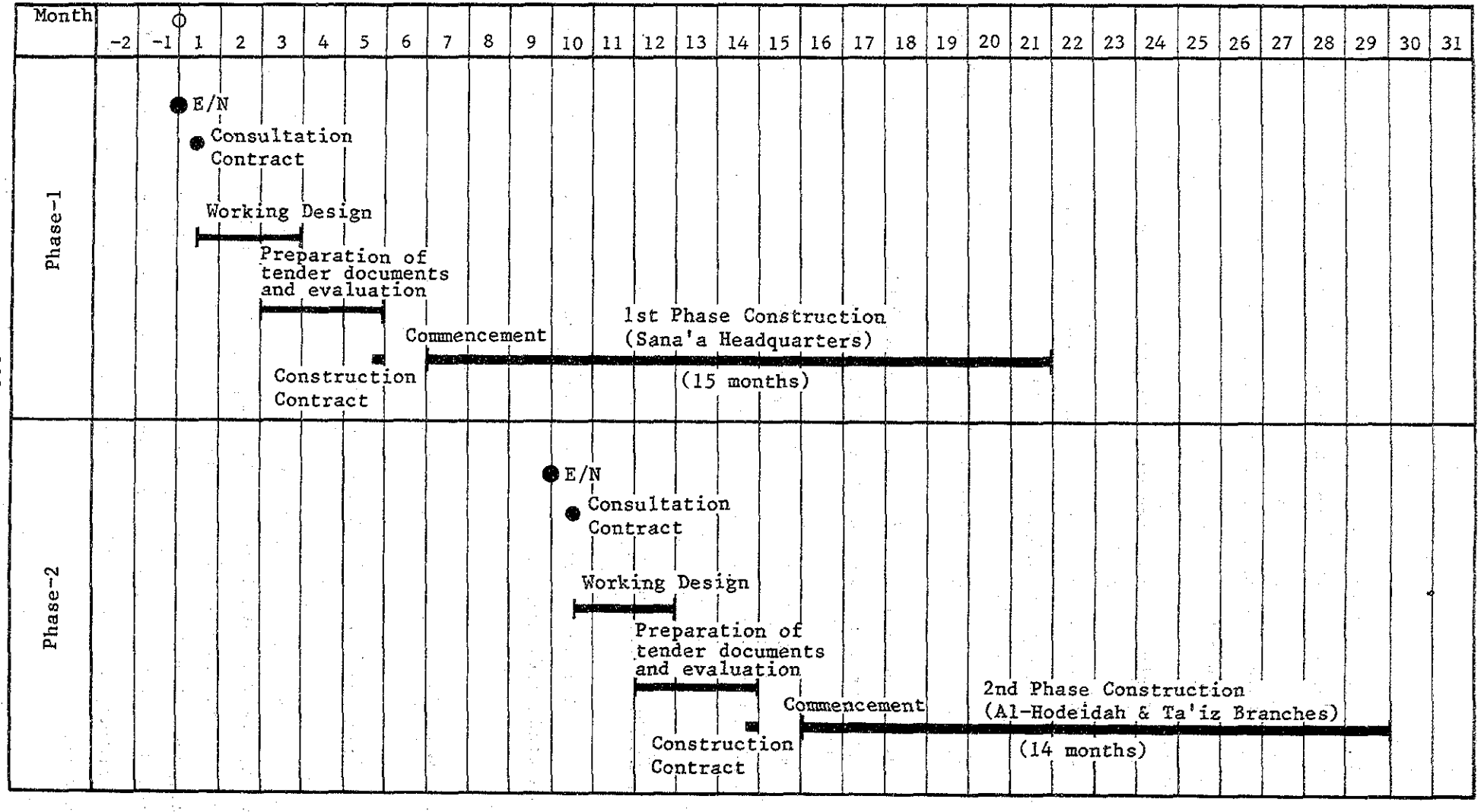
The entire execution and construction schedule for the project is indicated in the Fig. 23.

## 5-5 Management Plan for Maintenance

### (1) Form and Policy for Maintenance

After the completion of each of Centres in Sana'a, Hodeidah and Ta'iz, the management for maintenance of these facilities shall be left to the responsibility of the Ministry of Health. In detail, maintenance management for Sana'a Centre shall be undertaken by the Department of Planning in the Ministry; and for each Branch, the Planning Section under the Department of Health allocated in each governorate's municipality shall be in charge.

Fig. 23 Implementation Schedule



The Sana'a Centre should have few problems in regard to its maintenance and repair of the centre's building, mechanical and medical equipments because already existing in the city is the Sana'a Hospital and Central Laboratories, both equiped with the technical personnel and spare parts and, both of which the Sana'a Centre can contact in the event any related problem should arise. In addition, various reparing services and retail stores maintaining either facilities or equipments are easily accessible in Sana'a.

The Hodeidah Branch's management for maintenance will be even less difficult because of the following two reasons:

a. the building is to be adjacent to the Revolution Hospital; and

b. a good distribution network already exist in Hodeidah since the city is developed around the vicinity of its international harbour.

In addition, a branch of the General Workshop could provide support to the Hodeidah Branch for its maintenance requirements.

The Ta'iz Branch site vicinity will be similar to the situation at the Hodeidah Branch, since the building is to be adjacent to the Revolution Hospital in Ta'iz as well. However, in Ta'iz, the commercial and goods distibution network has not yet developed to the level of the other two cities. This is primary because Ta'iz is a mountain city developed on a limited area surrounded by mountains and its residents major occupation is agriculture. Therefore, all the necessary materials for maintenance and stock of spare parts would be provided.

In any case, all management in maintenance should be followed in accordance with a "Maintenance Manual" or "Operation Manual" which the Japanese general contractor will provide to the concerned parties of the YAR Government after the completion of the constuction work.

(2) Estimated Maintenance Cost (Administrative Running Cost)

Basis for Estimation

a. Personal Expenditure (Salary, Overtime Allowance, Bonus and Travelling allowance)

The wage classification and rate were based on the date obtained from the "Preliminary Investigation Report on Tuberclosis Control Programme in the YAR" (JICA June 1983). All the rates indicated were valued at the year of 1986, which was converted using the overall average annual wage increase rate (1.53%/year) over a five consecutive year period from 1977 to 1982 in accordance with "Statistical Year Book 1982".

b. Monthly Charges of Electricity Water and Gas

i) Electric Charges

The monthly electric charges is 1.1 YR/KWH in the YAR, and additional 63 YR/month is required as the meter charge.

For estimation purposes, examples of similar facilities in Japan were studied in order to figure out the consumption demand, electric capacity of each equipment and the amount used were based upon the master plan.

o Sana'a Headquarters:
  - Electric capacity of equipments ..... 3ϕ, 4W, 150 KVA
  - Demand rate of transformer(s) ..... 0.15

o Hodeidah and Ta'iz Branch:

- Electric capacity of equipments ..... 3ϕ, 4W, 75 KVA
- Demand rate of transformer(s) ..... 0.15

The electricity would be used for 6 hrs./day through a month (25 days) in each building.

ii) Water Charges

The present water charges in the YAR are as follows:

Up to 20 $m^3$ ..... 4 YR/$m^3$·month
More than 20 $m^3$ ..... 8 YR/$m^3$·month

For estimation purposes examples of similar facilities in Japan were referred to figure out the consumption demand. However, considering of the water supply situation, life-style or behavioural conditions in the YAR, 50% of these numbers are adopted as the required amount of water demand and the results were:

| | |
|---|---|
| 60 lit/day·person ..... | Demand of staff and commuting trainee |
| 110 lit/day·person ..... | Resident trainee |
| 10 lit/day·person ..... | Out-patient |

iii) Cost of LPG

In this project, the use of LPG is very partially adopted not for the heat source but only for laboratory use since no city gas is available in the YAR. Therefore, the cost of LPG, as it is presumably a little, is included in the item 'd' (consumable material and office supply cost).

c. Maintenance and Repair Costs

i) Building

Based on a data applied for 'a', 62 YR/year/person was adopted as for an estimated maintenance cost required per a worker in a tuberculosis centre.

ii) Vehicle

3,600 YR/year/vehicle, a cost indicated in the National Health Programme 1976/77 - 1981/82, was adopted. The number of vihicles to be distributed to each Centres was assumed that four cars for the Headquarters and two each for Branch.

iii) Medical, Mechanical and Office Equipments

For the maintenance costs required for the items described above, the distribution ratio 1.8:2.2:0.8 corresponding to the maintenance cost for building was adopted based ona statistical data estimated for similar facilities.

Each cost is adjusted as the prsent value in 1986 with the application of the estimated annual increasing rate of wages as 1.53%/year.

d. Cost of Consumable Materials and Office Supplies

The budget for materials and office supplies including the cost of petroleum allocated to the Tuberculosis Control and Training Centre in Sana'a is approximately maintenance, repair and miscellaneous expenditures amount to (10% of the sum).

The actual cost for materials and office supplies is 401,060 YR/ year which is figured out by reducing the above three components from the sum.

The incremental rate of staff to be distributed to the Sana'a Centre will be 1.5 times as compared with the existing Tuberculosis Control and Training Centre.

For estimation purposes the rate was adopted as perimeter for figuring out the cost, i.e., 601,590 YR/year (including expenses needed for the training programme). Accordingly, the same cost for each Branch was estimated by comparing the existing number of staff with the proposed one; i.e. to be 30% of 601,590 YR/year.

Thus, the cost of materials and office supplies available for each Branch is to be 421,100 YR/year.

Also, the sum was adjusted to 3.81%, the average annual increasing rate of consummer price during 1980 to 1982, in accordance with the "Eleventh Annual Report 1982 (CBY)".

e. Cost of Petrol

According to the estimation undertaken by the Ministry of Health of the YAR, the assumption of petrol for each Centre will be 5,000 l/year for the Headquarters and 1,000 l/year for each Branch. For the calculation purpose, the annual increasing rate of consumer prices 3.81% was adopted to figure out the value as of 1986.

f. Miscellaneous Cost

10% of the current expenditure plus personnel expences.

Following are the results of calculations derived from the estimation described above.

A. Sana'a Centre

a. Personnel Expenditure

| | | |
|---|---|---|
| i) | Salary | 707,750 YR/year |
| ii) | Overtime allowance | 16,750 " |
| iii) | Bonus | 401,180 " |
| iv) | Travelling allowance | 39,580 " |
| | Total personnel expenditure | 1,165,260 YR/year |

b. Charges for Electricity and Water

| | | |
|---|---|---|
| i) | Electric charges | 61,000 YR/year |
| ii) | Water charges | 13,820 " |
| | Total charges for electricity and water | 74,820 YR/year |

c. Maintenance and Repair Costs

| | | |
|---|---|---|
| i) | Building | 2,850 YR/year |
| ii) | Vehicle | 14,400 " |
| iii) | Medical equipment | 5,130 " |
| iv) | Mechanical equipment | 6,270 " |
| v) | Office equipment | 2,280 " |
| | Total maintenance/repair costs | 30,930 YR/year |

| | | |
|---|---|---|
| d. | Costs of Material and Office Supplies | 648,510 YR/year |
| e. | Cost of Petrol | 12,150 YR/year |
| f. | Miscellaneous Cost ( a + b + c + d + e ) x 10% | 193,200 YR/year |
| | Total annual running cost of Sana'a Centre (Present value as of 1986) | 2,124,870 YR/year |

B. Hodeidah Branch, Ta'iz Branch

a. Personnel Expenditure

| | | |
|---|---|---|
| i) | Salary | 467,720 YR/year |
| ii) | Overtime allowance | 6,170 YR/year |
| iii) | Bonus | 272,130 YR/year |
| iv) | Travelling allowance | 35,820 YR/year |
| | Total personnel expenditures | 781,840 YR/year |

b. Charges for Electricity and Water

| | | |
|---|---|---|
| i) | Electric charges | 30,500 YR/year |
| ii) | Water charges | 8,450 YR/year |
| | Total charges for electricity and water | 38,950 YR/year |

c. Maintenance and Repair Costs

| | | |
|---|---|---|
| i) | Building | YR/year |
| ii) | Vehicle | 7,200 " |
| iii) | Medical equipment | 3,560 " |
| iv) | Mechanical equipment | 4,360 " |
| v) | Office equipment | 1,580 " |
| | Total maintenance/repair costs | 18,680 YR/year |

d. Costs of Material and Office Supplies — 453,950 YR/year

e. Costs of Petrol — 2,430 YR/year

f. Miscellaneous Cost ( a + b + c + d + e )) x 10% — 129,600 YR/year

| | |
|---|---|
| Total annual running cost of respective Branches in Hodeidah and Ta'iz | 1,425,450 YR/year |
| (Present value as of 1986) | |

## 5-6 Procurement and Transportation of Materials and Equipments

### (1) Procurement

The procurement of construction materials and mechanical and medical equipments required for each tuberculosis centre in Sana'a, Al-Hodeidah and Ta'iz should be scheduled through the examinations on the adoptabilities of those items to the existing circumstances to site. Because of the extreme shortage of maintenance engineers/technicians, and of the fact that the repairment works for mechanical and medical equipments installed at the existing medical facilities are mostly relying upon the foreign engineers, the selection of these equipments should be carefully undertaken not as to require a high level of maintenance or repairing techniques.

The basic plan of procurement for each items are described as follows.

#### 1 Construction Materials

The procurable construction materials being produced in the YAR are limited.

Cement, concrete aggregates, ready-mixed concrete, concrete block, cement tile, terazzo tile, brick, building stone, arabesque window frame and wooden doors and sashes are typical.

However, except for the primary products such as aggregates and building stones, inconsistency of the quality of the products and fluctuations in stocks in the market can be observed. Those are attributed to the existing undeveloped production systems and the lack of quality standards applicable for the industrial products.

The tendencies described above are commonly noticeable especially in the industrial products, such as metal fixtures, utilizing foreign-made half products. In addition, interior finishing materials, sanitation fix-

tures, lock sets, hardwares and etc., are not produced in the country; and those are mostly imported.

Therefore, a large amount of procurement of these goods with high quality would relatively difficult.

2 Construction Equipments

Because of the seldomness of the domestic construction equipments, and of the size or numbers of local business in leasing heavy equipments/machineries are limited, the procurement of the construction equipments within the country would be difficult.

For the construction performance of this project, the utilization of equipments owned by local contractors or their procurement outside of the YAR would be necessary. Although 55 local contractors are enlisted in the Ministry of Public Works as of November 1980, only a few of them are possessing various heavy equipments/machineries.

Therefore, the procurement plan for the construction equipments has to be realistically established with examining these matters described above.

In addition, the consideration of the absolute shortage of available equipments along with the present incremental demand of construction shoud be remarked.

## 3 Mechanical Equipments

It shoud be acknowledged that the procurement of the domestic mechanical equipments are almost impossible in the YAR for the reasons similar to the case of the construction equipments.

In addition, both for temporary and for construction works, following three matters should be examined for the selection of mechanical equipments required:

a. countermeasures for damages caused by dust (dry season in particular)

b. means to cope with frequent fluctuation of electric voltage

c. accommodations for hard water contains a large amount of calcium.

Generally, it is said that those factors above are causing the hindrances of equipments installed at the existing medical facilities.

Therefore, reserving the supplementary equipments and spare parts should be prepared to cope with the difficulties in securing the immediate repairments within the country, due to the shortage of well-experienced personnel.

## 4 Medical Equipments

The required medical equipments would be mostly purchased in Japan, since almost anyones are inavailable in the YAR.

## 5 Labour

According to the CYDA census in 1981, 1.4 million people, or 16% of the total population of 8.54 million, are expatriates working in the

foreign countries. This creates the serious shortage of skilled labour force in the YAR; and makes it difficult to attain the large number of local technicians and experienced engineers for the reason that there exists few opportunities for gaining the adequate technical instructions or training.

Concerned with the procurement of foreign labours, the observance to the YAR's national labour law and relevant regulations, applied to the foreign labours, for issuing visa and working permission would be required.

(2) Transportation

As previously stated, the transportation planning for the materials and equipments required for this project is considered to be an important subject, since the most of these would be procured outside of the YAR in order to accomplish the construction works within the limited period.

Particularly, the inland transportation for those materials and equipments originated from the designated landing place and delivered to each destination (site) should be carefully examined because the constructions are to be executed at three different sites in Sana'a, Al-Hodeidah and Ta'iz respectively.

1 Overseas Transportation

Presently, the YAR has four ports maintaining the adequate harbour facilities; i.e. Port of Al-Hodeidah, Sarief, Kassieb and Mocha.

Among these, the Al-Hodeidah Port is the principal port because of its outstanding capabilities for handling the amount both of imported and exported goods.

Therefore, almost every construction materials and mechanical and medical equipments procured outside of the country would be brought through the Al-Hodeidah Port.

Concerned with the overseas transportation, cargo ships of the Nihon Yusen (NYK) and Shosen Mitsui Co. (MOSK) are placed in commission from Japan to the YAR, and entering into the Al-Hodeidah Port once or twice in a month; and, usually it takes two to three weeks for transporting of the ocean freights.

In addition to those commissions, as a number of ships from China, South Korea, the United States and several European countries are in service, there exist few constraints regarding the means for overseas transportation.

The charges and fees required for the ocean transportation of materials/equipments sending from Japan to Al-Hodeidah Port are as follows:

| | | |
|---|---|---|
| a. | Charge for standard packing ..... at a port of landing | ¥18,000 - 20,000/$m^3$ (Vacuumed packing) ¥14,000/$m^3$ (case) |
| b. | Warehouse storage fee at a ..... port of landing | ¥40/$m^3$·day |
| c. | Custom clearance fee ..... | ¥4,600/item |
| d. | Shipping charge ..... | ¥4,000/$m^3$ |
| e. | Ocean freight charge ..... | US$150 - 180/$m^3$·t (conference carrier) |

## 2 Inland Transportation

The construction materials and mechanical and medical equipments discharged at the Port of Al-Hodeidah are delivered by on-land transportation system to each site at Al-Hodeidah, Sana'a and Ta'iz. As there exists no rail road transportation networks in the YAR, the means of conveyance are limited to trucks or trailers.

The distance between Al-Hodeidah and Sana'a is 256 km and 272 km to Ta'iz; and altitudal difference between Al-Hodeidah and others are more than 2,000m.

These three cities are inter-connected to each other by the asphalt paved interurban trunk roads. However, being influenced by the complicated land form, both inclination and curvature of these roads are large; and are comprising of single lane with the width of 8 meters.

Furthermore, the routes with continuous curves are winding mountain paths with no guardrails are installed.

Accordingly, the trip by automobile from Al-Hodeidah to Sana'a or Ta'iz would take 10 to 12 hours minimum, and if the vehicle is over-loaded, it might have a difficulty to run through the steeply inclined places.

## 3 Cost for Custom Clearance and Inland Transportation

Although it is expected that the exemptional measures for custom and other internal taxes will be applied for the project, the following matters regarding the forms or documents necessary for custom clearance, rate of taxes including customs and various charges are worth of being indicated as for the purpose of this report:

a. required forms/documents for custom clearance:

i) Original Bill of Lading (duly endorsed)
ii) Invoice, Packing Lists, Specification List
iii) Certificate of Origin in duplicate
iv) Insurance Certificate (Local) indicating premium
v) Non-Blacklist Certificate
vi) Customs Exemption Certificate

b. Customs

| | | |
|---|---|---|
| i) | Building Materials ..... | 15 - 20% on CIF |
| ii) | Steel Bars ..... | 15% on CIF |
| iii) | Cement ..... | 30% on CIF |

c. Other Taxes

| | | |
|---|---|---|
| i) | Deffence Tax ..... | 7% of Custom Duty |
| ii) | Co-operative Tax ..... | 2% " |
| iii) | Damar Earthquake Victims Relief Tax ... | 1% " |
| iv) | Port Tolls ..... | YR7.10 - 8.10/FT (including clearing charges) |

d. Demurrage

i) Port Demurrage (Unit: YR/FT/day)

| | Open Site | Sheds |
|---|---|---|
| 2 days after discharge | - | - |
| 3 - 5 days after discharge | 0.25 | 1.20 |
| 6 - 8 days after discharge | 0.50 | 2.40 |
| 9 - 11 days after discharge | 0.75 | 3.60 |
| 12 - days after discharge | 1.00 | 5.00 |

ii) Line Container Demurrage (Unit: U.S. dollars)

| | 20' container | 10' container |
|---|---|---|
| First 15 days from Discharge | - | - |
| Next 5 days (per day) | 5 | 10 |
| Second 5 days (per day) | 10 | 20 |
| Thereafter (per day) | 20 | 40 |

e. Costs for Inland Transportation

i) In the case of container transportation (Unit: U.S. dollars)

| | 20' container | 40' container |
|---|---|---|
| Al-Hodeidah - Sana'a/Ta'iz | 1,491 | 2,583 |
| Inside of Al-Hodeidah City | | |
| (within 5 km from the port) | 580 | 961 |
| (within 10 km from the port) | 624 | 1,005 |

Note:
Above costs are including the fees for custom clearance, loading, transportation and returning back of empty container to the port.

ii) General Cargos (Unit: U.S. dollars)

| | |
|---|---|
| Per freight ton ..... | 65 |
| Minimum ..... | 450 |

f. Other Costs

i) Custom exemption certificate

The drawing up of application form for exemption and the acquiring the certificate could be undertaken by local custom agency(s). In this case, the charges for the substitution will be US$110/shipment.

ii) Truck detention charge

In any case that if the unloading works cannot commence within six hours, after the arrival of truck or trailer at the site, following detention charges will be required:

| | |
|---|---|
| Truck ..... | US$120/day |
| Trailer ..... | US$240/day |

4 The Number of Days Necessary for Transportation

The following number of days will be necessary for commencing the transportation after the custom clearance.

| | |
|---|---|
| 1st day ..... | Documentation |
| 2nd day ..... | Survey |
| 3rd day ..... | Handling and Loading |
| 4/5th day ..... | Transportation |

In order to avoid a great deal of unnecessary time and effort, it will be essential to have all the documents required for custom clearance indicated 3 -a.

# Chapter 6: FUTURE IMPACT EVALUATED AND RECOMMENDATIONS

## CHAPTER 6: FUTURE IMPACT EVALUATED AND RECOMMENDATIONS

### 6.1 Evaluation of Plans

The direct and indirect effects described as follows can be expected from the implementation of this plan. As the direct effect, the following items are realized through developing the medical facility, equipments and staffs for tuberculosis control which are necessary to promote the measures against tuberculosis.

a. It is possible to serve up to half the population in tuberculosis medical services, though three already operated facilities; new Sana'a Tuberculosis Centre (Headquarters), Hodeidah Tuberculosis Centre (Branch) and Ta'iz Tuberculosis Centre (Branch) supporting their head office; could not do so.

b. It is possible to increase the opportunities in instruction by providing a systematized structure for knowledge and techniques necessary for the tuberculosis control activities to the manpower in the health facilities for tuberculosis, with the training or educational activities provided through the training department allocated in the three tuerculosis centres; eventually enabling the peripheral health facilities to achieve the desired level of medical treatments of tuberculosis. Also, it is possible to up-grade the overall levels of medicines in tuberculosis by the integration of the research department.

c. It is possible to expect the enforced effect (extended effect) as a model case, which can be reference for comprehensive medical measures on promoting the eradication of serious diseases as with spreading malaria and schistosomiasis.

Indirectly, the eradition of tuberculosis prevents the loss of human lives and secures both physical and financial resources essential for the nation's socio-economic development.

It is safe to say that a. the integration of medical facilities and equipments, b. further developing the medical manpower and the technical area, c. the favourable impact on the institutional improvements for the tuberculosis control, acquired through the achievement of this project, whould be hardly attainable with the nation's existing economic and social resources and capabilities.

From this point, the significance of this project's accomplishment would be worthwhile investment.

## 6.2 The Point at Issue

### ① Management and Operation System

The history of comprehensive countermeasure for tuberculosis is very young, beginning in 1977 when the task force for dealing with tuberculosis was established within the Directorate of Preventive Medicine in the Directorate General of Health and Medical Services of Ministry of Health. Therefore, when the medical system of the country was assessed, preventive injections such as BCG, etc. found under the jurisdiction of Directory of Basic Health Services in the Ministry of Health. Public hospitals are under the jurisdiction of the Therapeutics section, and, feared that the lateral coordination between each related organization for tuberculosis and its activities may not be satisfactorily disclosed.

Further, it was disclosed that the Sana'a headquarters will be under direct control of the Ministry of Health while the two others, Al-Hodeidah and Ta'iz branches will be managed by their governorate administration. In connection with the administrative mechanism, the Central government, the Ministry of Health, the Minister of Health is to convey its administrative guidance to the Director of Health of each of the respective governorate administration, but, it is feared that, because of the domesitc political system of the YAR in which the administrative power of each governorate is, as a rule, respected, an inconsistency in a vertical line of coordination between both parties (Central government and Governorate's

government) with regard to unified management and integrated operation of each tuberculosis centre.

② Sharing the Operation Cost

It is estimated that the total budget to operate the three proposed facilities including personnel, will amount to approximately YR 4,975,770 annually, (YR 2,124,870 for the Sana'a headquarters, YR 1,425,450 each for Al-Hodeidah and Ta'iz branches). On the other hand, of the total planned investment sum, YR 754,000,000, for the health and hygiene area during the second five-year plan, the investment sum for that of the preventive medical treatment will, when domestic and foreign sums are totaled, amount to YR 27,784,000, YR 3,556,800 annually. This sum only represents a planned investment sum, 50% of which depends solely on foreign capital.

In addition, as indicated in data in the materials for this report, a large sum of unfavourable balance of international payments and the accumulated financial deficit due to a slowdown of remittance from labourers working in neighbouring oil producing countries. Therefore, it is necessary to secure its own budget, under these circumstances, to operate the proposed facilities.

Furthermore, operation of the branches at Al-Hodeidah and Ta'iz are to be shouldered by a respective organization, it is feared that frictions between the Central government/Health Ministry and a respective state government will arise in connection with sharing the operation cost.

③ Staff Distribution Plan

The staff distribution plan adopted in this project is entirely based on the second five-year plan. However, it is clear that it will be a specially important task to secure enough personnel to be engaged in medicine, to begin with doctors, in order to have the three facilities

fully function. It will also be necessary to reduce the number of capable persons engaged in medicine from leaving public medical organization which is at present a problem in the country, and, at the same time, to further expand the scheme of training medical personnel at the Health Manpower Institute, Sana'a University's medical faculty and nurses' training school.

It will also be important to instruct personnel in the areas of medicine, engineering and technical areas to maintain the facilities and appliances.

# II. APPENDIX

(A) Members of the Investigation Team

- Dr. Toru Mori (Team Leader, incharge of General Management)
  Research Institute of Tuberculosis, J.A.T.A.

- Mr. Katsuji Onoda (Incharge of Planning and Coordination)
  Japan International Agency, Dept. of planning

- Mr. Hitoshi Kawamura (Inchare of Construction Planning)
  Sato Architects and Engineers Co., Ltd.

- Mr. Jutaro Hara (Incharge of Mechanical Planning)
  Sato Architects and Engineers Co., Ltd.

- Mr. Kazuteru Ushioda (Incharge of Materials and Equipments)
  Sato Architects and Engineers Co., Ltd.

- Mr. Sero Okada (Incharge of Architectural Planning)
  Sato Architects and Engineers Co., Ltd.

(B) Organizations and Personnel Concerned with the Central Government

1 The Central Government

o Ministry of Health

| | |
|---|---|
| Minister of Health | Dr. Mohamed Al-Kabab |
| Deputy Minister of Health | Mr. Aliel Al-Alofi |
| Director of Medical Health | Dr. Ahmed Ali Hamami |
| General Director of Administrative Health Directorate | Dr. Mohamed Hajjar |
| Chief of Preventive Medicine | Mr. Abdul Raheem Sanabani |
| Chief of International Health | Mr. Khaled Al-Sakaf |
| Chief of Industrial Health | Mr. Hussein Al-Gunied |
| Chief of T.B. Control | Dr. Yahia Al-Drum (Director of National T.B. Measure Centre) |

o Planning Bureau in Ministry of Health

| | |
|---|---|
| Technical Officer of Minister of Health | Dr. Ahmed S. Attia |
| Technical Officer of Minister of Health | Mr. Abdul-Hakeem Ali Thabet |
| Officer Incharge of the Site for Ministry of Health | Mr. Ahmed Yahia Abohlani |

o National T.B. Control and Training Centre

| | |
|---|---|
| Director | Dr. Yahia Al-Drum |
| Technical Adviser | Mr. Saeed Saad (provided by WHO) |
| X-rays technician | Mr. Hellen Notenboom (Volunteer provided by the Netherlands) |

o Central Health Laboratory

| | |
|---|---|
| Deputy Director | Dr. Ahamed Al-Amary |

o Ministry of Municipalities and Housing

| | |
|---|---|
| Director of General of Phyisical Planning Department | Mr. Lotfy Hugaira |

o Central Planning Organization

| | |
|---|---|
| Deputy Minister of C.P.O | Mr. Fathi Salem Ali |
| Technical Officer | Mr. Saeed Kassem |
| Technical Officer | Ms. Nabia Mugahed Hassan |

o Ministry of Electricity, Water and Sewerage

| | |
|---|---|
| National Water Supply and Sewerage Authority Engineer | Mr. Salah Ghalib |

2 Organization and Personnel Concerned with the Governorates Governments

o Governorate of Al Hudaydah (Hodeida)

| | |
|---|---|
| Governor | Saieh Abdulla El-Jamali |
| Director of Health | Dr. A/Kareem El-Gunied |

o Governorate of Ta'iz

| | |
|---|---|
| Governor | Mohsen Alyosfi |
| Deputy-Governor | Abdul Kareem Abdulelah |
| Director of Health | Dr. Yasin Abdula-Wareth |
| Director of T.B. Control Centre | Dr. Sultan Showaler |

(C) Investigation Itinerary

1. Investigation Itinerary

Period: From Jan. 28, 1984 to Feb. 23 (27 days)
From May 19, 1984 to May 28 (10 days)

Jan. 28 (Sat)

16:00 Departed from Narita MS 865 (via Manila, Bangkok):
Dr. Mori (The Team Leader), Mr. Kawamura, Mr. Okada depart.

Jan. 29 (Sun)

4:45 Arrive at Cairo, Mr. Onoda joins the group

16:10 Departed from Cairo, IY 737

20:00 Arrived at Sana'a, Team of Mr. Azuma
Met Dr. Azuma, the team leader sent to Sana'a T.B. Control Centre: from
Dr. Yahia Al-Drum, Mr. Hajjar (Ministry of Health) and the first secretary.
Stayed at the Tai'z·Sheba Hotel

22:00 "In-house" team meeting

Jan. 30 (Mon)

9:30 Visited Japanese embassy

10:30 Meeting at the Ministry of Health;
Meeting for the investigation schedule, etc.

11:30 Inspection of the Sana'a T.B. Control Centre
Sites investigation

13:30 Meeting at CPO (Central Planning Organization)

Jan. 31 (Tue)

9:00 Visited Minister of Health: Dr. Mohamed Al-Kabab
Meeting with the counterparts of the Ministry

15:00 "In-house" team meeting

Feb. 1 (Wed)

Meeting with the member from the Health Ministry at The Ministry of Health

14:00 Left for Sana'a to Al Hudaydah (Hodeida) by land

20:00 Arrived at Al Hodeidan city
Stayed at the Ambassador Hotel

Feb. 2 (Thu)

9:30 Visited Health Department of Al Hudaydah

10:30 Meeting with Governor of Al-Hodeidah Governorate

11:30 Investigation and Inspection of the proposed site

14:00 Departed for Ta'iz by land

22:00 Arrived at Ta'iz
Stayed at the Al-Ikuwa Hotel

Feb. 3 (Feb)

Off

Feb. 4 (Sat)

Meeting at the health department at the Governorate's Headquarters Ta'iz

10:00 Meeting with the governor,
Mr. Mohsen Alyosfi, the chief of Health department,
and Dr. Yasin Abdula-Wareth

11:30 Investigation for Ta'iz T.B. Control Centre

13:00 Left for Ta'iz to Sana'a by land

18:00 Returned to Sana'a
Stayed at the Tazi·Sheba Hotel

Feb. 5 (Sun)

9:00 Meeting at the Ministry of Health

13:30 Inspection of "Al Jeldah" district

20:00 Mr. Hara and Mr. Ushioda arrived at Sana'a via Cairo
( Feb. 4 : Departure from Narita; MS 865
Feb. 5 : Cairo to Sana'a; IY 737 )
and joined the investigation team
(Stayed at the Tai'z·Sheba Hotel)

Feb. 6 (Mon)

For the whole day visited the governorate's Headquarters of Mahrivet and inspection of Health Centre

Feb. 7 (Tue)

9:00 Meeting at The Ministry of Health

11:00 Visited Ministry of Municipalities and Housing
Meeting with Mr. Lotfy Hugaira (Director General)

12:00 Inspection of the proposed sites in Sana'a city

15:00 "In-house" meeting of investigation team

Feb. 8 (Wed)

9:00 - 11:00 Discussion on the Minutes of Discussions
Investigation of the building of Sana'a Tuberculosis Control Centre (Mr. Hara, Mr. Ushioda)

11:30 Inspection of the proposed site neighboring the Chinese Embassy

Feb. 9 (Thu)

9:00 The Minutes of Discussions concluded at Health Ministry
Investigation of the states concerning buildings, materials, construction methods
(Mr. Hara, Mr. Ushioda, Mr. Okada)

Feb. 10 (Fri)

9:00 Dr. Mori (team leader), Mr. Onoda left Sana'a

Feb. 11 (Sat)

9:00 Meeting at the Ministry of Health

10:00 Meeting at Planning Bureau of the Ministry of Health (Hadda branch)

11:00 Inspection of the proposed site for a Health Centre in "Hadda New Town"

12:00 Meeting at The Hadda Branch

14:30 Meeting with the group of investigation

Feb. 12 (Sun)

9:00 Meeting at Sana'a T.B. Control Centre

14:30 "In-house" team meeting

16:00 Sana'a City suburbs

Inspection of National Medicine, Factory, Shamran Health Centre (presently closed)

Feb. 13 (Mon)

8:00 Meeting at the Ministry of Health

9:30 Meeting with Mr. Lotfy Hugair (Planning Director) at the Ministry of Municipalities and Housing

11:00 Inspection of Republican Hospital and Kuwait Hospital in Sana'a City, concerning medical activities, institution, equipment by both hospitals

15:30 Discussion with engineers of China Construction Co., Ltd concerning conditions of construction, method supply of materials, equipment procuration of labor, etc.

Feb. 14 (Tue)

9:00 Meeting at the Planning Bureau in the Hadda Branch of the Ministry of Health

11:30 Inspection of a ready mixed concrete factory in Sana'a city, relating to the capacity of production and supply ability, etc. (by Mr. Kawamura, Mr. Okada)

Investigation of construction materials and the conditions of the supply system (by Mr. Hara, Mr. Shioda)

Feb. 15 (Wed)

9:00 Inspection of districts "Al-Matlaa" and Al-Jardda"

12:00 Reported to the Japanese Embassy

Feb. 16 (Thu)

9:00 Meeting at CPO

10:00 Meeting at Central Health Laboratory

11:30 Inspection of General Workshop concerning the conditions of maintenance and repair of medical equipments

14:30 "In-house" team meeting

Feb. 17 (Fri)

Off

Inspection of building situations in the city

Feb. 18 (Sat)

9:00 Inspection of Revolution Hospital in Sana'a city

10:30 Investigation of equipments and materials, production retail and wholesale prices, etc.

Inspection of each Local Workshops

13:30 Sana'a city suburbs

Inspection of factory for metal-wood fixture (Saeed Ralpa-Taru Industries Led.)

14:00 Sana'a city suburbs

Inspection of Sana Remicon Co., Ltd.

15:00 Inspection of Sana'a University

16:30 Mr. Hara left Sana'a for Al Hudaydah (Hodeida) Ta'iz by land

Feb. 19 (Sun)

9:00 Meeting with Dr. Mohamed Hajjar (Director General) at The Ministry of Health

10:30 Reported to CPO

11:30 Meeting at Planning Bureau of the Ministry of Health in Hadda branch

Feb. 20 (Mon)

8:30 Meeting at The Ministry of Health

11:30 Meeting at The Ministry of Public Works for collection of data, maps, etc.

12:30 Meeting with The Ministry of Electricity, Water and Sewerage, and National Water Supply and Sewerage Authority

Feb. 21 (Tue)

9:00 Final meeting at Ministry of Health

12:00 Reported to Japanese Embassy

Feb. 22 (Wed)

Returned to Japan

7:00 Left Sana'a by IY 738 via Ta'iz Airport and Luxor Airport

12:40 Arrived at Cairo by JAL 462 (From Rome Airport; delayed 5 hours and one half hours) via Kuwait Airport and Bangkok)

Feb. 23 (Fri)

22:20 Arrived at Narita (via Bangkok)

May 19 (Sat)

18:40 Departed from Narita JL-463 (via Bangkok, Delhi):
Dr. Mori (The Team Leader), Mr. Onoda, Mr. Kawamura, Mr. Okada depart.

May 20 (Sun)

8:30 Arrived at Cairo

16:00 Departed from Cairo, IY-731

20:00 Arrived at Sana'a, The Team of Dr. Mori meet Dr. Azuma (the team leader sent to Sana'a T.B. Control Centre), Mr. Wanibuchi (the Japanese Minister to the YAR), Mr. Mogi (Japanese Embassy staff), Dr. Yahiya Al-Drum, (the president of Sana'a T.B. Control Centre) and Mr. Al-Gunied (Ministry of Health).

21:00 "In-house" team meeting

May 21 (Mon)

9:30 Visited Ministry of Health:
Meeting with Mr. Aliel Al-Alofi (Deputy-minister of the Ministry).
Submitted the draft final report.

14:00 "In-house" team meeting

May 22 (Tue)

9:30 Discussion on the report

12:00 Inspected "Al Jaldah" district

14:00 "In-house" team meeting

May 23 (Wed)

9:00 Meeting with the counterparts of the Ministry of Health at the Ministry

12:30 Meeting with engineers of the Planning Bureau of the Ministry of Health

14:00 "In-house" team meeting

May 24 (Thu)

10:00 Signing of the Record of Discussion (Minutes) at the Central Planning Organization

(Mr. Aliel-Alofi, Deputy-minister of the Ministry of Health, Mr. Fathi Salum Ali, Deputy-minister of the Central Planning Organization, Dr. Mori, the team leader)

14:00 Report to Japanese Embassy

May 25 (Fri)

9:00 Dr. Mori and Mr. Onoda left Sana'a

13:00 Inspection of the construction sites in the city

May 26 (Sat)

10:00 Meeting at the Ministry of Health

12:00 Reported to Japanese Embassy

May 27 (Sun)

Returned to Japan

7:00 Left Sana'a by IY730

9:00 Arrived at Cairo

19:05 Departed from Cairo by JL464 (via Delhi and Bangkok)

May 28 (Mon)

20:45 Arrived at Narita

MINUTES OF DISCUSSIONS ON BASIC DESIGN STUDY
FOR THE EXPANSION PROJECT OF THE NATIONAL
TUBERCULOSIS CENTER IN THE YEMEN ARAB REPUBLIC

In response to the request made by the Government of the Yemen Arab Republic for the Expansion Project of the National Tuberculosis Center in the Yemen Arab Republic (hereinafter referred to as "the Project") the Government of Japan, through Japan International Cooperation Agency (JICA), has dispatched a survey team headed by Dr. Toru Mori, Chief of Epidemiology Section, Research Institute of Tuberculosis in Japan (hereinafter referred to as "the Team") to conduct the basic design study on the Project from 29th January to 22nd February 1984.

The Team has carried out a field survey and had a series of discussions with the Yemen Arab Republic authorities concerned of the Project (hereinafter referred to as "the Authorities).

As a result of the Survey and discussions, the Team and the Authorities have agreed to recommend to their respective Governments that the result of the survey and discussions attached herewith should be examined toward the realization of the Project.

Sana'a, 9th February, 1984.

Dr. Toru Mori
Head of Japanese Survey Team

Dr. Mohamed Ahmed Al-Kabab
Minister of Health,
The Yemen Arab Republic

Mr. Mohamed A. Al-Gunaid
Minister of Development
Chairman of Central Planning Organisation

ATTACHMENT

1. The objective of this Japanese Grant Aid Programme is to provide necessary buildings, facilities and equipment for expanding the National Tuberculosis Center in the Yemen Arab Republic (hereinafter referred to as "the Center")

2. The purpose of the Project is to expand and strengthen activities of the Center through construction of Sana'a main Center, Hodeidah branch and Taiz branch.

3. The proposed sites of the Project are the lands acquired by the Government of the Yemen Arab Republic in Sana'a, Hodeidah and Taiz. The sites are shown in Annex I, II, III.

4. The objectives of the Center are :

   - To serve as training Center for personnels of National Tuberculosis Control Programme

   - To serve as supervision and research center of tuberculosis control activities of the country and respective Governorates.

   - To serve as center of clinical service for tuberculosis patients, especially in ambulatory treatment.

5. The implementation body in the Yemen Arab Republic is the Ministry of Health.

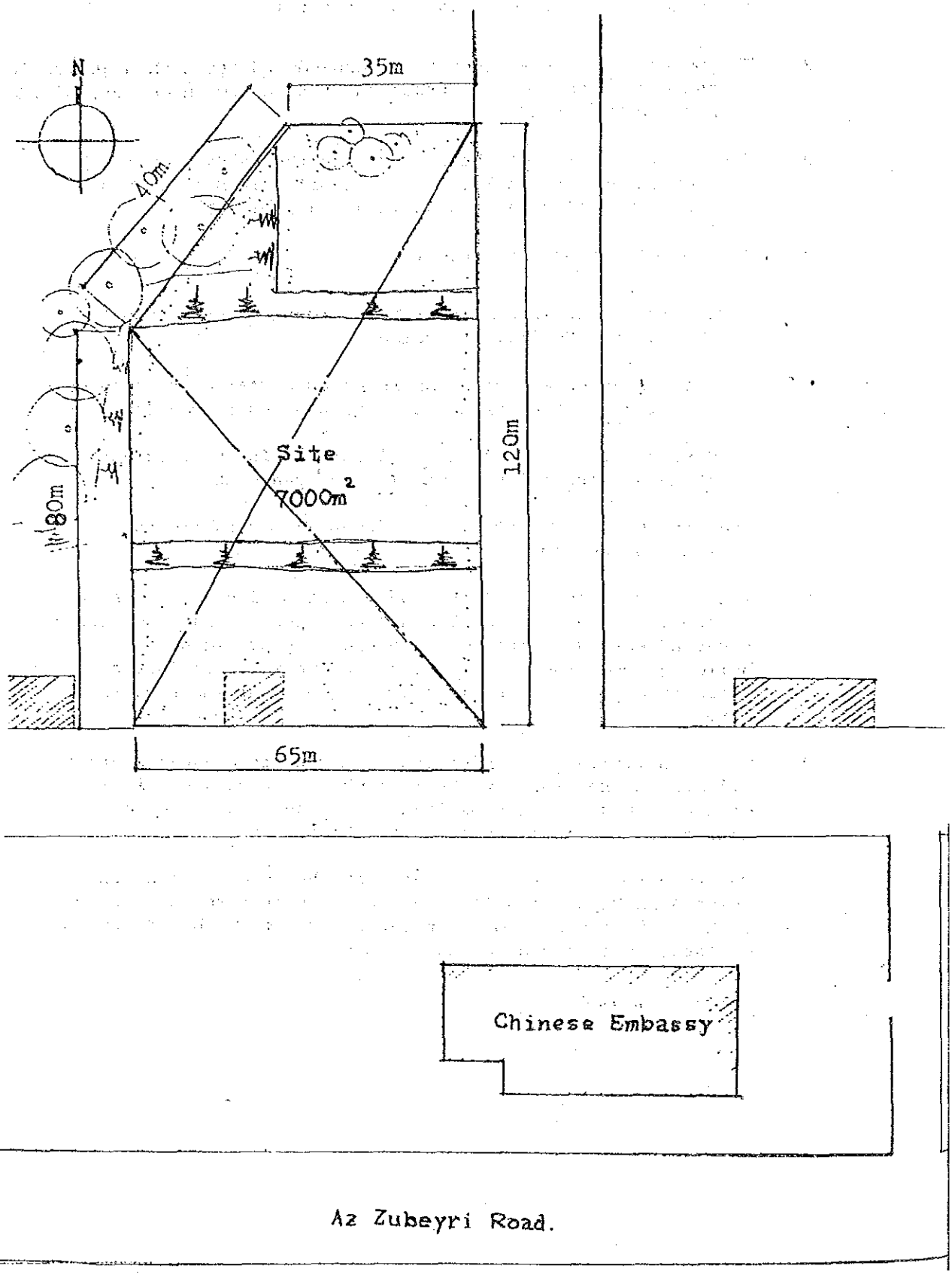
6. The Team will convey to the Government of Japan the desire of the Government of the Yemen Arab Republic that the former takes necessary measures to cooperate by providing the buildings and other items listed in Annex IV within the scope of Japanese economic cooperation programme in grant form.

7. The Authorities have understood and confirmed Japan's Grant Aid System explained by the Team which includes a principle of use of a Japanese consultant firm and a Japanese General contractor for implementation of the Project.

8. The Authorities have confirmed that the Government of the Yemen Arab Republic will take necessary measures as listed in Annex V on condition that the grant aid by the Government of Japan is extended to the Project.

ANNEX - I

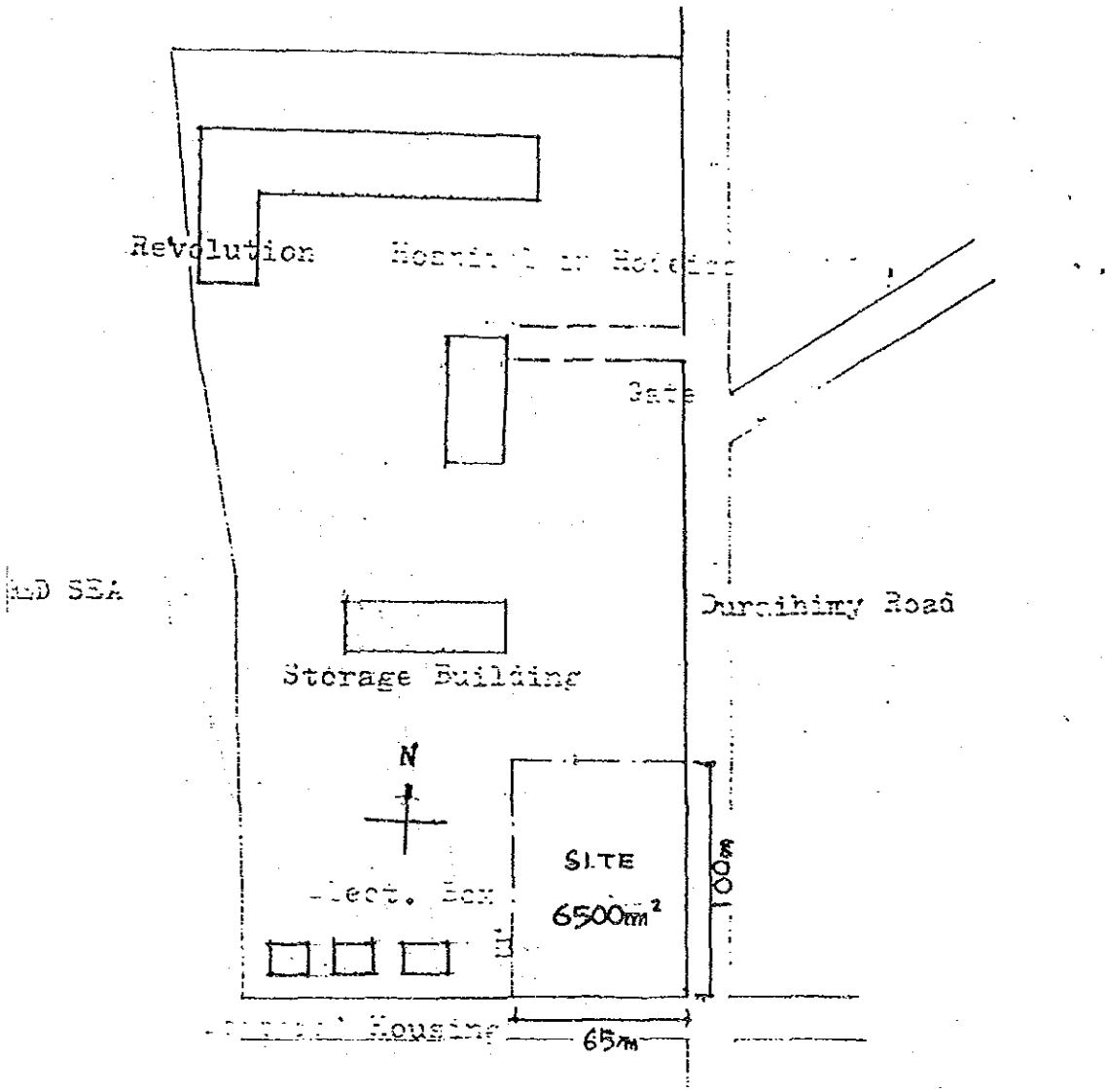
Proposed Site of the Main Center in Sana




T.M.

ANNEX II

Proposed site of Hodeida Branch

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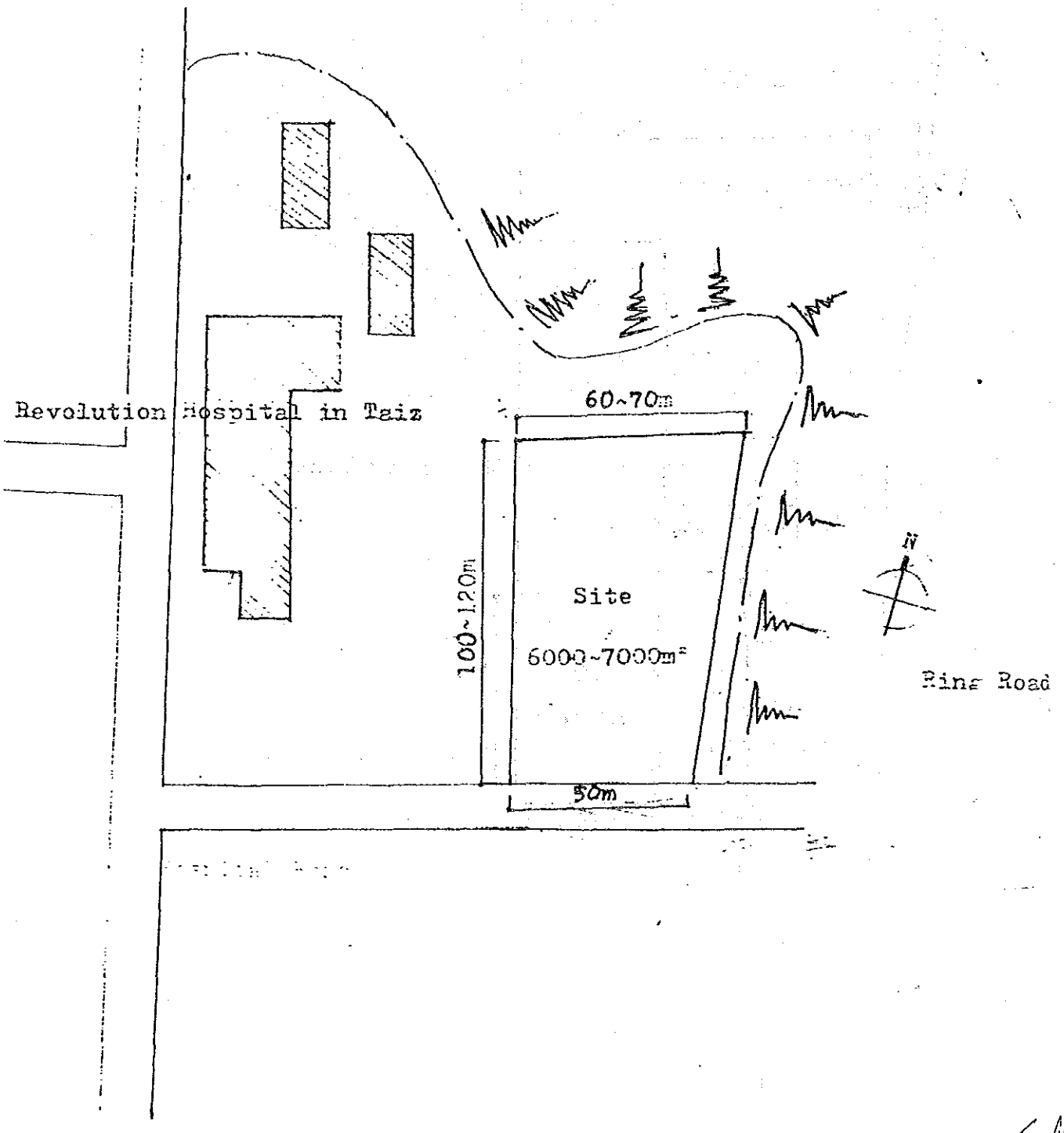
ANNEX III

Proposed site of Taiz Branch



ANNEX IV

Items requested by the Government of the Yemen Arab Republic, the cost of which will be borne by the Government of Japan:-

1. Sana'a Center

Main building for
- Director's room
- Administration offices
- Training rooms
- Supervision and research rooms
- Laboratories
- Clinics
- Others

Annex building(supporting facilities)

Dormitory

Equipment for
- Training
- Supervision
- Research
- Clinical Service

2. Hodeidah and Taiz branches

Main building for
- Director's room
- Administration rooms
- Training rooms
- Laboratories
- Clinics
- Others

Annex building(Supporting facilities)

Equipment for
- Training
- Supervision
- Clinical Service

Footnote: In case of Hodeidah branch, special fence to protect from sea wind is included.

T.M

ANNEX V

Following arrangements are required to be taken by the Government of the Yemen Arab Republic.

1. To carry out site preparation such as clearing and leveling before commencement of construction work

2. To construct the gate and general fence in and around the sites and develop the landscape in the site.

3. To provide facilities for distribution of electricity, water supply, drainage,telephone lines and other incidental facilities to the sites.

4. To furnish general furnitures such as office tables and Chairs, cabinets and others.

5. To bear the commissions (Advising Commission of Authority to Pay and Payment Commission) to the Japanese foreign exchange bank for the banking services based upon the Banking Arrangement.

6. To ensure prompt unloading and customs clearance at ports of disembarkation in the Yemen Arab Republic.

7. To exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which may be imposed in the Yemen Arab Republic with respect of the supply of the Product and services under the verified contracts.

8. To accord Japanese nationals whose services may be required in connection with the supply of the products and the services under the verified contract such facilities as may be necessary for their entry into the Yemen Arab Republic and stay therein for the performance of their work.

9. To maintain and use properly and effectively these 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.

....

1.4

MINUTES OF DISCUSSION

ON

THE EXPANSION PROJECT OF THE NATIONAL TUBERCULOSIS CENTER IN THE YEMEN ARAB REPUBLIC

At the request of the Government of the Yemen Arab Republic for a grant capital aid on the Expansion Project of the National Tuberculosis Center in the Yemen Arab Republic (the Project), the Government of Japan sent a mission to carry out the basic design study (the Study) on the Project through Japan International Cooperation Agency(JICA) from 29th January to 22nd February, 1984.

As a result of the Study, JICA prepared and submitted a Draft Final Report on the Study and dispatched a mission to explain and discuss on this Report from 20th May to 27th May, 1984.

The Mission and the Yemeni Authorities concerned had a series of discussions on the Report and have agreed to recommend to their respective Governments to examine the major points of understanding reached between them, attached herewith in Annex I, toward the realization of the Project.

Sana'a, 24th May 1984

Dr. Toru HORI
Head of
Japanese Mission

Mr. Ali Ismail AL-ALOFI
Deputy Minister of Health
The Yemen Arab Republic.

Mr. Fathi Salem ALI
Deputy Minister of Development,
Central Planning Organisation
The Yemen Arab Republic.

ANNEX I

## MAJOR POINTS OF UNDERSTANDING

1. The Yemeni side in principle has agreed to the basic design proposed in the Draft Final Report with some amendments, particularly the proposed site of Sana'a Main Center which will be located at Al Jarda. The new site is shown in Annex II.

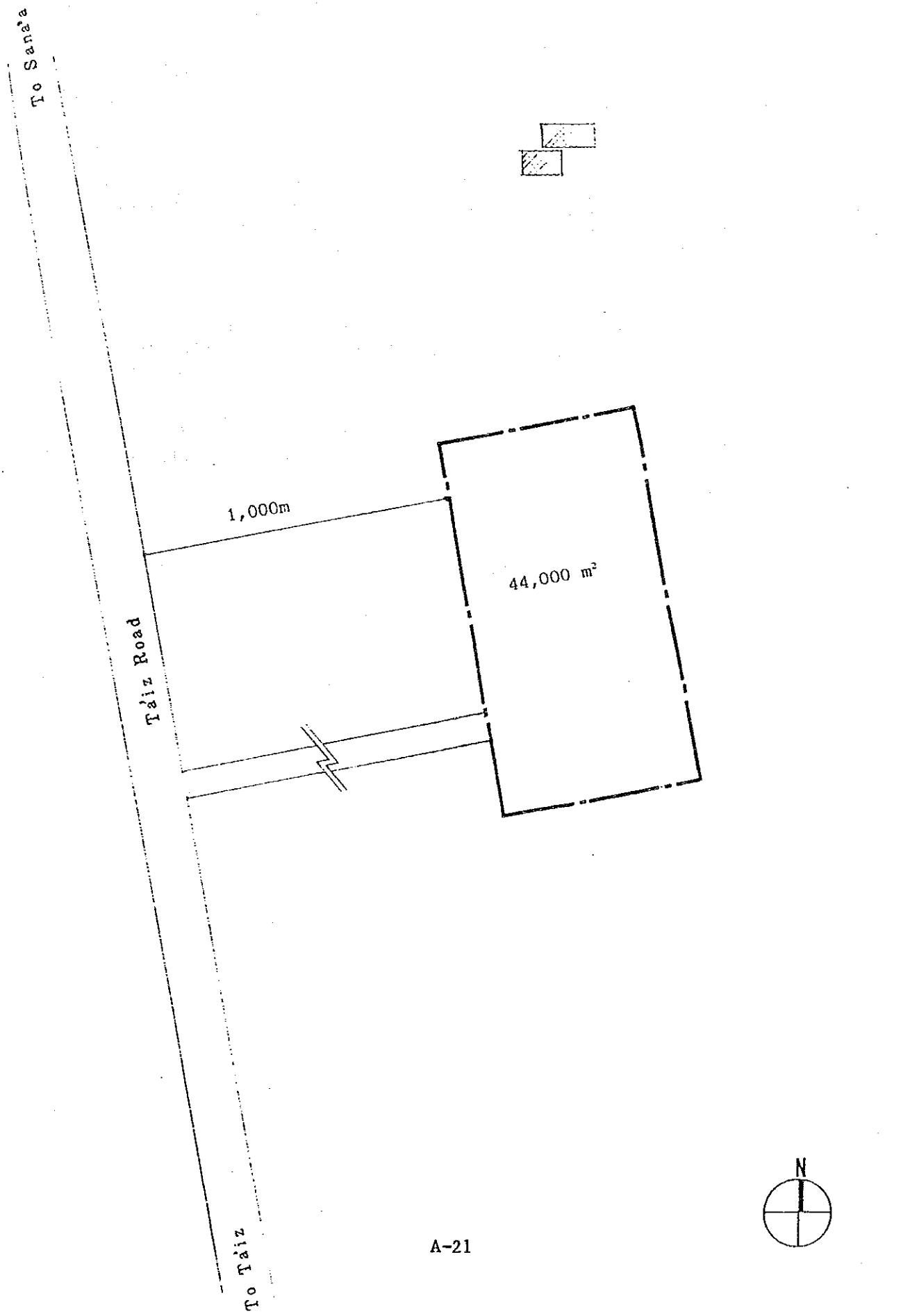
2. The Final Report (10 copies in English) on the Project will be submitted to the Government of the Yemen Arab Republic by the end of July, 1984.

3. Both sides have confirmed that the Yemeni side understood the system of Grant Aid Programme to be extended by the Government of Japan, especially the arrangements to be taken by the Yemeni side including infrastructural works which is shown in the agreed Minutes for the Project dated on 9th February, 1984.

4. The Yemeni side has expressed its intention for the early completion of the infrastructural works which are scheduled as in Annex III.

ANNEX II

Proposed Site of the Main Center in Sana'a



ANNEX III

The Ministry of Health has confirmed its commitment in following points :

1. Confirmation of acquisition of the three construction sites.

2. Completion of extension works of electric supply and telephone service to the construction site, Sana'a, within one month hereafter.

3. Completion of well construction within two months hereafter.

# DATA FOR GENERAL CONDITIONS

## CHAPTER 1: GENERAL CONDITIONS

### 1-1 Population Statistics

#### (1) Population

##### 1) Total Population

According to the Census in 1981, the total population of the Republic of Yemen & Arabia (Abbreviated as "YAR" from now on) was 8,540,119, the structure of which is illustrated in the table below. The notable characteristic is that the number of Yemeni emigrant labourers is relatively high, about 1.40 million which corresponds to 21% of total population. However, registration concerning notification of births and deaths, has not yet been established, and therefore, an accurate total population is unknown.

Population Statistics
(Census in 1975, 1981)

| Category | 1975 Census | 1981 Census |
|---|---|---|
| 1. Recorded population residing within the country | 4,540,230 | 6,439,363 |
| 2. Population in uncovered areas | 294,500 | - |
| 3. Un-enumerated population due to technical reasons and social reasons | 423,800 | 705,978 |
| 4. Number of emigrants outside YAR | 1,234,000 | 1,394,778 |
| Total | 6,492,530 | 8,540,119 |

* Census by Corporation of Yemeni Development Association (CYDA)

(CPO : Statistical Year Book 1982)

50% of the total population of YAR is living in the three major governorates, Sana'a, Ta'iz and Hodeidah. Of the overall population 10% is actually residing in the urbanized city proper areas of these governorates, and the remaining 90% is found living in the country's agricultural areas.

Population of Each Governorate
(Census in 1975, 1981)

| Governorate | 1975 Census | | 1981 Census | |
|---|---|---|---|---|
| | Population | % | Population | % |
| Sana'a | 819,010 | 18.0 | 1,306,535 | 20.3 |
| Ta'iz | 877,777 | 19.3 | 1,173,147 | 18.2 |
| Hodeidah | 673,113 | 14.8 | 816,319 | 12.7 |
| Ibb | 789,494 | 17.4 | 1,018,422 | 15.8 |
| Dhamar | 453,888 | 10.0 | 594,132 | 9.2 |
| Hajjah | 394,827 | 8.7 | 664,869 | 10.3 |
| Sa'adah | 158,410 | 3.5 | 249,307 | 3.9 |
| Mahweet | 175,129 | 3.9 | 247,275 | 3.8 |
| Beida | 159,129 | 3.5 | 223,531 | 3.5 |
| Ma-arib | 39,121 | 0.9 | 83,760 | 1.3 |
| Al-Jawf | - | - | 62,066 | 1.0 |
| Total | 4,540,278 | 100.0 | 6,439,363 | 100.0 |

* Statistics by only registered population

(CPO : Statistical Year Book 1982)

Population of Each Governorate Capital
(Census in 1975, 1981)

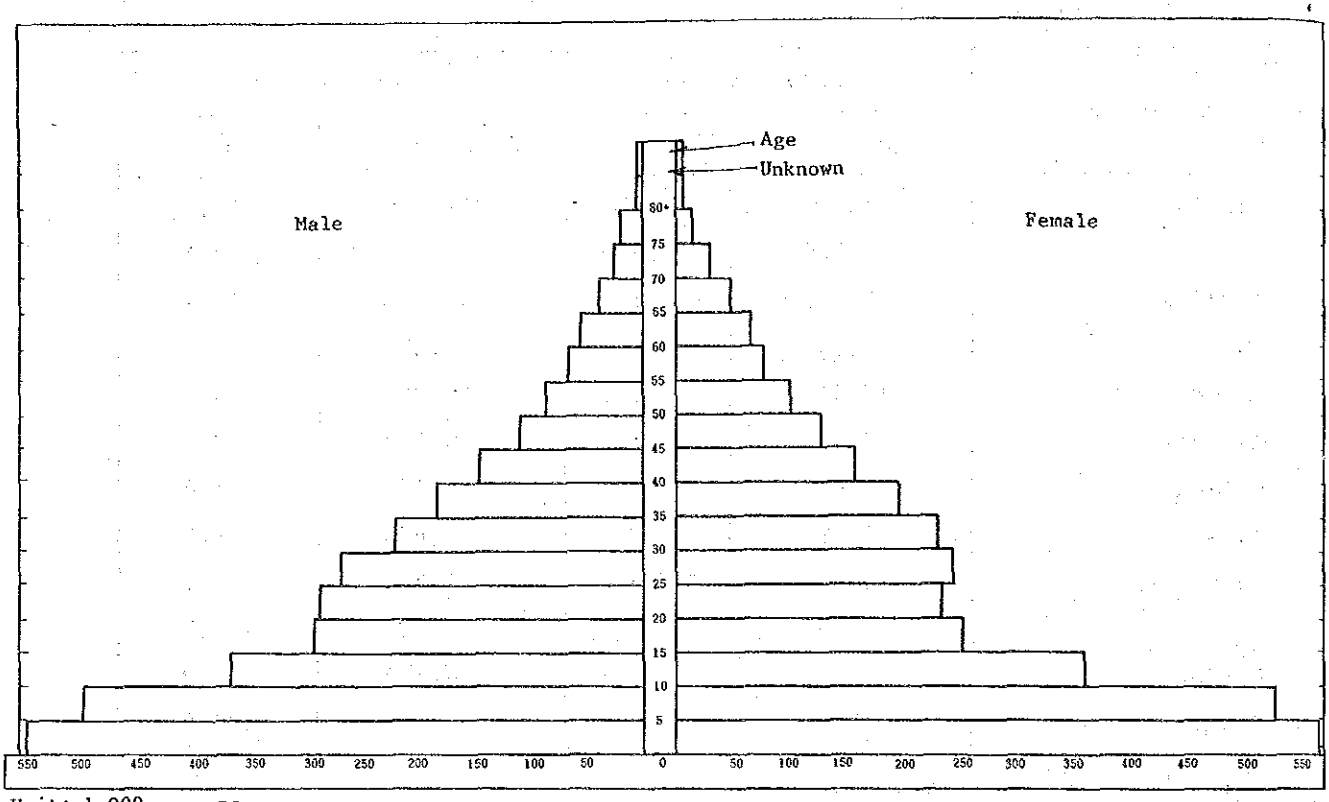
| Governorate | 1975 Census | | 1981 Census | |
|---|---|---|---|---|
| | Population | % | Population | % |
| Sana'a | 135,625 | 39.3 | 211,150 | 42.2 |
| Ta'iz | 79,720 | 23.8 | 87,698 | 17.5 |
| Hodeidah | 72,895 | 21.1 | 95,873 | 19.1 |
| Ibb | 17,496 | 5.1 | 25,888 | 5.2 |
| Dhamar | 19,540 | 5.7 | 30,367 | 6.1 |
| Hajjah | 3,294 | 1.0 | 19,302 | 3.9 |
| Sa'adah | 3,806 | 1.1 | 7,131 | 1.4 |
| Mahweet | 2,292 | 0.7 | 9,626 | 1.9 |
| Beida | 10,419 | 3.0 | 5,503 | 1.1 |
| Ma-arib | 292 | 0.1 | 3,607 | 0.7 |
| Al-Jawf | - | - | 4,652 | 0.9 |
| Total | 345,379 | 100.0 | 500,788 | 100.0 |

* Statistics of registered population only

(CPO : Statistical Year Book 1982)

The population status according to those between the ages of 0 - 14 years old attrtibutes to 46.8% of the total population. This kind of distribution tends to be a common characteristic with most developing nations. The main reason for a small male population in the prime working age, most are emigrant laborers.

Population Age Pyramid after Revision (1975)




Unit: 1,000 persons

(CPO : Statistical Year Book)

2) Rate of Population Growth

According to the census in 1981, it was estimated that the rate of population growth was 2.62%; birth rate of 46.65/1000, and a death rate of 16.4/1000 on the average.

According to the estimation by World Bank, however population growth rate was expected to rise to 2.91% in 1980. It was also estimated that average male life expectancy would extend to 53 years, and that of female, 55, in 1990, as compared to 48 and 50 respectively in 1980.

Population Growth Rate of Each District

| District Surveyed | 1975 Census % | 1981 PDS % | Growth Rate |
|---|---|---|---|
| Sana'a | 3 | 4.3 | 8.2 |
| Ta'iz, Ibb, Hodeidah and Dhamar | 4.2 | 4.6 | 3.9 |
| Other urban district | 4.2 | 3.5 | -.001 |
| Total urban district | 11.4 | 12.4 | 3.8 |
| Total rural district | 88.6 | 87.6 | 2.5 |
| Total Yemen | 100.0 | 100.0 | 2.6 |

(CPO : Statistical Year Book)

3) Population Density

Population density in the YAR is 34.8/km$^2$ on an average. Population density of the three most populated govenorates (G.) and their capitals are as follows.

| District | Population | Area | Popuration Density |
|---|---|---|---|
| Sana'a G, | 831,949 | 20,440 km$^2$ | 40.7 |
| Sana'a City | 138,625 | 70 | 980.4 |
| Hodeidah G. | 695,631 | 13,570 | 51.3 |
| Hodeidah City | 82,723 | 100 | 827.2 |
| Ta'iz G | 882,063 | 10,570 | 83.4 |
| Ta'iz City | 134,436 | 630 | 213.4 |
| Total Yemen | 4,705,336 | 135,230 | 34.8 |

(1975 Census CPO Statistical Year Book 1982)

4) Educational Status

The main characteristic of the educational status in the YAR is that the country has an extremely high illiteracy rate which is common to most developing nations. The female illiteracy rate is very high, attributing to more than 95% of the total female population, an overall population average of more than 80%.

Population Ratio by Academic Career of Each Governorate
(Population of Those Older Than Ten-Years Old) 1975 Census

| Governorate | % | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Total | Not Stated | University | Secondary School | Preparatory School | Primary School | Read and Write | Read Only | Illite-rate |
| Sana'a | 100 | 0.4 | 0.3 | 0.5 | 0.5 | 0.8 | 13.2 | 6.6 | 77.7 |
| Ta'iz | 100 | 0.3 | 0.1 | 0.2 | 0.4 | 1.2 | 14.1 | 4.4 | 79.3 |
| Hodeidah | 100 | 0.2 | 0.1 | 0.2 | 0.3 | 0.7 | 7.00 | 4.00 | 87.0 |
| Ibb | 100 | 0.2 | 0.04 | 0.1 | 0.2 | 0.3 | 10.4 | 6.8 | 82.1 |
| Dhamar | 100 | 0.2 | 0.04 | 0.1 | 0.2 | 0.1 | 8.8 | 6.1 | 84.0 |
| Hajjah | 100 | 1.01 | 0.02 | 0.1 | 0.2 | 0.1 | 7.2 | 5.2 | 86.2 |
| Sa'adah | 100 | 0.2 | 0.03 | 0.1 | 0.2 | 0.06 | 10.05 | 4.1 | 85.3 |
| Mahweet | 100 | 0.3 | 0.01 | 0.05 | 0.1 | 0.04 | 6.9 | 0.6 | 87.0 |
| Beida | 100 | 0.2 | 0.03 | 0.1 | 0.3 | 0.3 | 12.1 | 2.7 | 84.4 |
| Ma'arib | 100 | 6.6 | 0.02 | 0.1 | 0.3 | 0.2 | 11.8 | 1.5 | 79.4 |
| Total | 100 | 0.4 | 0.1 | 0.2 | 0.3 | 0.5 | 10.6 | 5.3 | 82.6 |

(CPO : Statistical Year Book 1982)

Male

| Governorate | % | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Total | Not Stated | University | Secondary School | Preparatory School | Primary School | Read and Write | Read Only | Illite-rate |
| Sana'a | 100 | 0.6 | 0.6 | 0.9 | 1.0 | 1.3 | 25.4 | 12.8 | 57.4 |
| Ta'iz | 100 | 0.4 | 0.2 | 0.4 | 0.8 | 2.3 | 29.8 | 9.1 | 57.0 |
| Hodeidah | 100 | 0.3 | 0.2 | 0.4 | 0.6 | 1.1 | 12.7 | 6.7 | 78.0 |
| Ibb | 100 | 0.3 | 0.1 | 0.2 | 0.4 | 0.5 | 22.4 | 14.4 | 61.7 |
| Dhamar | 100 | 0.2 | 0.1 | 0.1 | 0.4 | 0.3 | 19.4 | 13.2 | 66.3 |
| Hajjah | 100 | 0.4 | 0.1 | 0.2 | 0.4 | 0.2 | 14.7 | 10.6 | 73.4 |
| Sa'adah | 100 | 0.2 | 0.1 | 0.2 | 0.5 | 0.1 | 21.3 | 8.6 | 69.0 |
| Mahweet | 100 | 0.4 | 0.0 | 0.1 | 0.3 | 0.1 | 15.2 | 12.4 | 71.5 |
| Beida | 100 | 0.3 | 0.1 | 0.2 | 0.7 | 0.6 | 27.3 | 5.7 | 65.1 |
| Ma'arib | 100 | 6.9 | 0.0 | 0.2 | 0.6 | 0.4 | 23.4 | 2.8 | 65.7 |
| Total | 100 | 0.4 | 0.2 | 0.4 | 0.6 | 1.0 | 21.6 | 10.8 | 65.0 |

Female

| Governorate | % | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Total | Not Stated | University | Secondary School | Preparatory School | Primary School | Read and Write | Read Only | Illite-rate |
| Sana'a | 100 | 0.3 | | 0.1 | 0.1 | 0.2 | 2.1 | 0.9 | 96.2 |
| Ta'iz | 100 | 0.3 | 0.01 | 0.03 | 0.1 | 0.3 | 2.4 | 0.9 | 95.90 |
| Hodeidah | 100 | 0.3 | 0.1 | 0.06 | 0.07 | 0.2 | 1.2 | 1.2 | 96.9 |
| Ibb | 100 | 0.1 | - | - | 0.01 | 0.04 | 0.7 | 0.6 | 98.5 |
| Dhamar | 100 | 0.2 | - | - | | - | 0.4 | 0.4 | 99.0 |
| Hajjah | 100 | 1.5 | - | - | | 0.01 | 0.5 | 0.3 | 97.7 |
| Sa'adah | 100 | 0.1 | - | - | | - | 0.4 | 0.2 | 99.2 |
| Mahweet | 100 | 0.2 | - | - | | - | | 0.3 | 99.2 |
| Beida | 100 | 0.1 | - | - | 0.01 | 0.03 | 1.4 | 0.5 | 97.9 |
| Ma'arib | 100 | 6.4 | - | - | | - | 0.7 | 0.2 | 92.6 |
| Total | 100 | 0.4 | 0.02 | 0.03 | 0.1 | 0.1 | 1.3 | 0.7 | 97.3 |

(CPO : Statistical Year Book 1982)

(2) Educational System

The basic educational system in the YAR is the 6·3·3 system: 6-years in primary school 3-years in preparatory school and 3-years in secondary school education. School attendance is not compulsory, and therefore, the percentage of school attendance is extremely low. The Secondary School Educational System is comprised of three main components; the Commercial, the Technical and the Secondary School. The Primary School Teacher Training, and the General Teacher Training School are at the same level as that of the above-mentioned secondary schools. The number of these schools and students have both increased by about 25% during the 1981 -1982 period. This was due to policy initiated to raise the level of education. However, the female students' school attendance percentage remains at about 15% lower than that of the male students.

At present, Sana'a University is the only university educational institution. It's departments include law, art, science, commerce, economics and medical science (newly found in 1982), but has no departments related to technology.

Number of Schools, Classes and Students in Total YAR

| Type of School | Agricultural Institutes | Literizational Centers | General Teachers Training Institutes | Primary Teachers Training Institutes | Technical High School | Commercial High School | Secondary School | Preparatory School | Primary School |
|---|---|---|---|---|---|---|---|---|---|
| Number of schools | 2 | 4 | 10 | 7 | 2 | 6 | 94 | 324 | 3711 |
| Classrooms | 4 | 9 | 34 | 22 | 7 | 18 | 358 | 977 | 15619 |
| Male students | 147 | 383 | 578 | 375 | 454 | 331 | 10292 | 27995 | 451602 |
| Female students | - | - | 310 | 284 | - | 96 | 1353 | 4571 | 71394 |
| Total | 147 | 383 | 888 | 659 | 454 | 427 | 11645 | 32566 | 522996 |

(CPO : Statistical Year Book 1982)

(3) Religion

As with the other Arabian nations, the religion of the YAR is Islam, which regulates all the aspects of social life.

After Ali, son-in-law of Muhammad, was assassinated in A.D. 661, Islam was divided into two sects: Sunni and Shida. Since then, the tribes of the YAR have been affiliated to Sheer Sect. Since the Middle Age era, the YAR hasn't experienced any major social change. The Sa'id Sect, one of Shi'a Sect, have maintained dominating power in the YAR. Even today about half the population of the YAR are affiliated to the Sa'id Sect. Based on these social regulations and distribution of power, Yemeni societies consist of four different classes: namely, Sa'id, Katani, Shafi Sect in city areas and a group called Akuda'am.

(4) Employment Situation

In the YAR, as previously mentioned the educational level is relatively low and the average life expectancy is relatively short, persons of ten years old and older qualify as manpower. The total manpower according to the 1975 census was 2.81 million. However out of this total manpower, the actual registered labourforce and the unemployed sector represents 1.12 million, less than half of the calculated manpower. More than 1.50 million, receive income from the more than 1.20 million emigrant laborers, not registered in the YAR.

The employment situation of each governorate and of each employment category are explained in further detail in tables 2-3 and 2-4-(2).

Educational Status and Employment
(Population more than Ten-Years Old) 1975 Census

| Relation to Economic Activity / Educational Status | Employed | Seeking Work for the First Time | Un-employed | Income Recipient | Student | Unable to Work | Un-stated | Total | Man-power | Labor Force | Out of Labor Force |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Illiterate | 764715 | 25497 | 24658 | 1511067 | 2087 | 78651 | 2294 | 2408969 | 2328024 | 814870 | 1513154 |
| | 72.3 | 79.4 | 65.1 | 96.0 | 1.8 | 85.9 | 19.8 | 82.5 | 82.7 | 72.3 | 89.6 |
| Read Only | 95992 | 2493 | 3266 | 28575 | 19204 | 5846 | 177 | 155553 | 149530 | 101751 | 47779 |
| | 9.1 | 7.8 | 8.6 | 1.8 | 16.6 | 6.4 | 1.5 | 5.3 | 5.3 | 9.0 | 2.8 |
| Read and Write | 181037 | 3962 | 9563 | 31158 | 76354 | 6869 | 297 | 309240 | 302074 | 194562 | 107512 |
| | 17.1 | 12.3 | 25.2 | 2.0 | 66.2 | 7.5 | 2.6 | 10.6 | 10.7 | 17.3 | 6.4 |
| Primary Level | 3449 | 68 | 150 | 879 | 11345 | 54 | 18 | 15963 | 15891 | 3667 | 12224 |
| | 0.3 | 0.2 | 0.4 | 0.1 | 9.8 | 0.1 | 0.2 | 0.3 | 0.7 | 0.3 | 0.7 |
| Preparatory | 3502 | 34 | 93 | 398 | 5132 | 3 | 16 | 9178 | 9159 | 3629 | 5530 |
| | 0.3 | 0.1 | 0.2 | 0.0 | 4.5 | 0.0 | 0.1 | 0.3 | 0.3 | 0.3 | 0.3 |
| Secondary | 4249 | 16 | 90 | 268 | 1021 | 19 | 66 | 5729 | 5644 | 4355 | 1289 |
| | 0.4 | 0.0 | 0.2 | 0.0 | 0.9 | 0.0 | 0.6 | 0.2 | 0.2 | 0.4 | 0.1 |
| University | 2903 | 10 | 24 | 95 | 23 | 9 | 48 | 3112 | 3055 | 2937 | 118 |
| | 0.3 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.4 | 0.1 | 0.1 | 0.3 | 0.0 |
| No stated | 1719 | 29 | 53 | 1059 | 156 | 94 | 8687 | 11837 | 3016 | 1801 | 1215 |
| | 0.2 | 0.2 | 0.2 | 0.1 | 0.2 | 0.1 | 74.8 | 0.5 | 0.0 | 0.1 | 0.1 |
| Total | 1057566 | 32109 | 37897 | 1573499 | 115322 | 91545 | 11603 | 2919581 | 2816393 | 1127572 | 1688821 |
| | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

(CPO : Statistical Year Book 1982)

## (5) Transportation

Vehicular traffic on existing roads is the major means of transportation in the YAR. An expressway connecting the three major cities, Sana'a, Ta'iz, and Hodeidah, and the trunk road leading north from Sana'a City, as well as the branch-road network, are under construction at a rapid pace, being assisted by foreign countries.

Road Construction Situation in 1961 - 1982
(Roads under construction, executed by cooperation association are excluded.)

| Year | Index Number 1976=100 | Annual Growth Rate % | Total | Non-Asphalted Roads | Asphalted Roads |
|---|---|---|---|---|---|
| 1961 | 16 | - | 231 | - | 231 |
| 1969 | 30 | 83 | 423 | - | 423 |
| 1973 | 72 | 140 | 1016 | 585 | 431 |
| 1974 | 74 | 3 | 1044 | 599 | 445 |
| 1975 | 75 | 1 | 1054 | 609 | 445 |
| 1976 | 100 | 34 | 1413 | 648 | 765 |
| 1977 | 125 | 25 | 1771 | 728 | 1043 |
| 1978 | 132 | 6 | 1872 | 759 | 1113 |
| 1979 | 138 | 4 | 1943 | 796 | 1147 |
| 1980 | 156 | 13 | 2200 | 798 | 1402 |
| 1981 | 171 | 10 | 2422 | 844 | 1578 |
| 1982 | 209 | 22 | 2948 | 917 | 2031 |

(CPO: Statistical Year Book 1982)

Number of Registered Vehicles (in each classification)
of 3 Major Governorates
Total (1978 - 1982)

| Governorate·Year | Hodeidah | | | | Ta'iz | | | | Sana'a | | | | Total | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Vehicular Classification | 1982 | 1981 | 1980 | 1979 | 1982 | 1981 | 1980 | 1979 | 1982 | 1981 | 1980 | 1979 | 1982 | 1981 | 1980 | 1979 |
| Public transportation | 2271 | 2034 | 3233 | 1511 | 914 | 887 | 1584 | 1920 | 1715 | 2682 | 8019 | 6284 | 9630 | 12092 | 19319 | 11865 |
| Private transportation | 576 | 240 | 729 | 582 | 235 | 163 | 356 | 349 | 1341 | 1106 | 1032 | - | 3421 | 2505 | 2673 | 2228 |
| Taxi | 1211 | 623 | 964 | 1227 | 626 | 538 | 328 | 863 | 1459 | 1379 | 1712 | 1250 | 4515 | 4092 | 4703 | 5029 |
| Private car | 925 | 748 | 967 | 797 | 900 | 581 | 626 | 704 | 3099 | 1652 | 1809 | 1487 | 7676 | 4735 | 4991 | 5110 |
| Bus | - | 5 | 18 | 3 | 1 | - | - | 2 | 33 | 27 | 74 | 4 | 34 | 33 | 93 | 10 |
| Temporary car | - | - | - | - | - | - | - | - | 630 | 680 | 753 | 316 | 630 | 680 | 753 | 316 |
| Government car | - | - | - | - | - | - | - | - | 592 | 762 | 1008 | 275 | 592 | 774 | 1099 | 275 |
| Private motorcycle | 126 | 1038 | 970 | 1043 | - | 66 | 234 | 139 | 74 | 385 | 374 | 775 | 353 | 1650 | 1887 | 2260 |
| Government motorcycle | - | - | - | - | - | - | - | - | 61 | 130 | 7 | 76 | 61 | 130 | 7 | 76 |
| Temporary motorcycle | - | - | - | - | - | - | - | - | - | 10 | - | - | - | 10 | - | - |

Source: Traffic Department

(CPO : Statistical Year Book 1982)

## 1-2 Geographical Features

### (1) Geographical Features · Geology

Geographical features of YAR can be divided into five zones, each possessing different characteristics.

Zone I: Coastal Plain Zone ("Tihama")

This zone consists of plains facing the long coast of the Red Sea and very gradual-sloping seaside terraces, maintaining a depth of 30 km to 60 km. This plain can also be divided into three districts running north-south with each having distinct ecological characteristics.

① Coastal sandy district with a precipitation of about 50 mm per year.

② Middle district with some undulation, and precipitation at about 100 - 200 mm per year. Eight large wadis cross this district and during the rainy season rain water flows rapidly through the wadis.

③ The base of the mountain with gentle slopes, in parallel with Western Piedmont Zone, precipitation about 200 - 300 mm per year.

From these geographical and topographical characteristics, rainfalls in the Western Piedmont and Central Highland Zones are carried by wadis until finally flowing into the Red Sea. Accordingly, if irrigational facilities are to be established, this Coastal Plain Zone would have fertile arable land potential.

Zone II: Western Piedmont Zone

This zone is located in the east side of the Coastal Plain Zone and expands north-south covering an area of about 35,000 $km^2$. By making good use of precipitation (300 - 500 mm per anum), the slope is utilized in terracing cultivated fields, total cultivated land of the overall Western Piedmont Zone is about 500 thousand square hectares, corresponding to 1/3 of the total cultivated land in the YAR.

Zone III: Central Highland Zone

This zone is located between the Western Piedmont and the Eastern Mountain Zones, and consisting of mountains which spread from the northern parts of the nation to Yarim in the south, having a total area of about 32,000 $km^2$. The mountain peaks are high. Among them is the highest mountain in the YAR, Nabi Shuayb (3720m), whose peaks are 2000m - 3000m high above sea level. The surface of mountains are of bare rock and numerous arable ravines exist between peaks. A terraced cultivated land facilitating irrigational facilities have optimised a precipitation of 200 - 400 mm/YR. in an area of land amounting to some 550,000 hectares.

Zone IV: Eastern Mountain Zone

This zone, about 38,000 $km^2$ in area, and is located between the Central Highland Zone and the desert. The land is dry and barren, with precipitation about 100 - 200 mm per year.

Zone V: Southern Plateau Zone

The Southern Plateau Zone extends from the Central Highland with a relative low height ranging from 800 to 2000m. 500,000 $ha^2$ of land is cultivated out of the total 25,000 $km^2$. The area's annual precipitation ranges between 600 - 800 mm. Except for in the eastern area, the land is lacking in sufficient underground water sources. However, the land is generally fertile with a warm climate and intensive irrigation facilities producing 50 - 80% of the total grain production of the YAR.

(2) Climate

The nation is located in the torrid zone. However, it is sub-divided into different (characteristic) zones ranging from torrid zone to temperate zone, in accordance with the classification described in the preceding geographical features' section.

| Zone | Climate | Altitude | Average Temperature | Average precipitation/ year |
|---|---|---|---|---|
| 1) Coastal Plains | Torrid | 0 - 500m | 22 - 35°C | 0 - 300 mm |
| 2) Western Piedmont | Torrid-subtropical | 500 - 2,100 | 16 - 26 | 200 - 600 |
| 3) Central Highland | Temperate | 1,800 - 3,700 | 10 - 18 | 200 - 1,800 |
| 4) Eastern Mountains<br>5) Desert | Subtropical | 800 - 1,800 | 16 - 28 | 0 - 400 |

As for detailed data about temperature, humidity, precipitation, wind, etc., refer to the meteorological conditions in Annex B 1-1.

(3) Area and Arable Land

The total area of YAR is about 195,000 $km^2$. 3.50 million hectares, or about 18% of the total area, is considered arable land; however, less than half of it is actually cultivated. Remaining 1.90 million hectare is cultivated about once in every five years, and is presenting affected by annual precipitation.

The total area of forest and shrubbery is approximately 1.60 million hectares, or about 8% of the total land area of YAR. More than 70% of the land is covered with desert and mountains whose surfaces are made of bare rocks.

(Annex A)

## CHAPTER 2: ECONOMIC SITUATIONS

### 2.1 GDP (Gross Domestic Product)

(1) GDP Growth Rate during First Five-Year Plan Period by each section.

(Unit: 100 million YR)

| Economic Activities | Base Year 75/76 | First Five-Yar Plan Period | | | | | Annual Growth Rate Achieved % | Planned Average Annual Growth % | Ratio of Achieve-ment % |
|---|---|---|---|---|---|---|---|---|---|
| | | 76/77 | 77/78 | 78/79 | 79/80 | 80/81 | | | |
| | (in millions of rials) | | | | | | | | |
| Agriculture, forestry and fisheries | 2,011 | 1,850 | 1,653 | 1,926 | 2,008 | 2,111 | 1.0 | 5.5 | 18.1 |
| Mining and quarries | 32 | 42 | 46 | 74 | 78 | 74 | 18.2 | 12.6 | 144.4 |
| Manufacturing | 257 | 274 | 309 | 361 | 416 | 448 | 11.7 | 11.0 | 106.4 |
| Electricity and water | 17 | 17 | 22 | 28 | 37 | 43 | 20.4 | 20.4 | 100.0 |
| Construction | 283 | 373 | 511 | 581 | 480 | 469 | 10.6 | 14.4 | 73.6 |
| Wholesale and retail trade | 948 | 944 | 987 | 963 | 1,063 | 1,059 | 2.3 | 10.1 | 21.8 |
| Catering | 64 | 68 | 72 | 76 | 81 | 83 | 5.3 | 10.1 | 52.5 |
| Transportation and communications | 150 | 160 | 200 | 208 | 211 | 217 | 7.7 | 11.3 | 68.1 |
| Financial institutions | 141 | 227 | 338 | 380 | 421 | 448 | 25.9 | 9.5 | 272.6 |
| Real estate and business services | 207 | 193 | 221 | 226 | 2418 | 265 | 5.1 | 3.6 | 141.7 |
| Personal and social services | 42 | 44 | 52 | 58 | 61 | 63 | 8.5 | 7.5 | 113.3 |
| Minus imputed services | 134 | 211 | 305 | 360 | 405 | 41 | .... | .... | .... |
| Total of business sector | 4,018 | 3,981 | 4,124 | 4,521 | 4,692 | 4,862 | 3.9 | 8.0 | 48.8 |
| Government services | 509 | 451 | 585 | 672 | 760 | 833 | 10.4 | 10.0 | 104.0 |
| Non-Profit private organizations | 14 | 17 | 19 | 21 | 23 | 24 | 10.4 | 7.5 | 138.7 |
| Customs duties | 394 | 737 | 887 | 774 | 843 | 836 | 16.2 | .... | .... |
| Gross domestic product | 4,935 | 5,186 | 5,615 | 5,988 | 6,318 | 6,555 | 5.9 | 8.2 | 72.0 |

(CPO : The Second Five-Year Plan 1982 - 1986)

(2) GDP Growth Rate in Second Five-Year Plan Period (Planned target)

(in million YR, survey by market price 1981)

(Unit: 100 million YR)

| | 1981 | 1986 | Annual average growth rate(%) | Change in structure | |
|---|---|---|---|---|---|
| | | | | 1981 | 1986 |
| Agriculture, Forestry and Fisheries | 3,690 | 4,665 | 4.8 | 28.5 | 25.7 |
| Mining and Quarries | 156 | 275 | 12.0 | 1.2 | 1.5 |
| Manufacturing | 770 | 1,515 | 14.5 | 6.0 | 8.3 |
| Electricity and Water | 89 | 272 | 25.0 | 0.7 | 1.5 |
| Construction | 1,139 | 1,260 | 2.0 | 8.8 | 6.9 |
| Wholesale and Retail Trade | 2,124 | 2,852 | 6.0 | 16.4 | 15.7 |
| Catering | 139 | 200 | 7.5 | 1.1 | 1.1 |
| Transportation and Communications | 483 | 648 | 6.0 | 3.7 | 3.6 |
| Financial Institutions | 1,013 | 1,495 | 8.1 | 7.8 | 8.3 |
| Real Estate and Business Service | 552 | 760 | 6.5 | 4.3 | 4.2 |
| Private and Social Services | 135 | 199 | 8.1 | 1.0 | 1.1 |
| Sub Total | 10,290 | 14,141 | 6.5 | 79.5 | 77.9 |
| Minus Imported Services | -889 | -1,348 | 8.7 | 6.9 | 7.5 |
| Total of Business Sector | 9,401 | 12,793 | 6.3 | 72.6 | 70.4 |
| Government Services | 1,907 | 2,935 | 9.0 | 14.7 | 16.2 |
| Non-Profit Private Organizations | 24 | 36 | 8.5 | 0.2 | 0.2 |
| Customs Duties | 1,617 | 2,398 | 8.2 | 12.5 | 13.2 |
| GDP | 12,949 | 18,162 | 7.0 | 100.0 | 100.0 |

(CPO : Second Five-Year Plan 1982 - 1986)

Actual annual average GDP growth rate during the First Five-Year Plan period was 5.9%, lower than the target rate 8.2%.

However, this 5.9% acutal growth rate is not necessarily considered to be unsatisfactory, considering the YAR's economic situation and insufficient natural resources.

On the whole, growth in service sections rather than production sections was notable.

The major reasons why target growth rate was not achieved, was due to a stagnation in the agriculture industry, which is the most important production area in the YAR.

## 2-2 Foreign Currency Situations

### (1) Balance of Payments

| | 1975/76 | 1976/77 | 1977/78 | 1978/79 | 1979/80 | 1980 | 1981 | 1982 |
|---|---|---|---|---|---|---|---|---|
| 1. Current Account | 1100.4 | 1257.4 | 1472.7 | -621.3 | -1480.4 | -3110.5 | -2989.4 | -2771.3 |
| Trade Accont | -1666.0 | -3199.9 | -4102.7 | -5613.2 | -6925.5 | -8562.0 | -7820.4 | -8764.1 |
| Exports | 55.3 | 83.9 | 31.8 | 13.2 | 32.1 | 57.5 | 47.4 | 21.6 |
| Cotton | 30.7 | 56.6 | 20.6 | 9.0 | 1.0 | - | 12.1 | 8.8 |
| Others | 24.6 | 27.3 | 11.2 | 4.2 | 31.1 | 57.5 | 35.3 | 12.8 |
| Imports | -1721.3 | -3283.8 | -4134.5 | -5626.4 | -6957.6 | -8619.5 | -7867.8 | -8785.7 |
| Imports by Private Sector | -1452.4 | -2992.1 | -3529.2 | -4419.1 | -5570.7 | -6295.7 | -6229.5 | -6441.0 |
| Government Imports | -268.9 | -291.7 | -605.3 | -1207.3 | -1386.9 | -2323.8 | -1638.3 | -2344.7 |
| Inviaible Account | 2766.4 | 4457.3 | 5575.4 | 4991.9 | 5445.1 | 451.5 | 4831.0 | 5992.8 |
| Receipts | 3219.3 | 5453.4 | 7401.7 | 7995.2 | 8147.4 | 8248.9 | 7567.4 | 8886.1 |
| Against Sevices | 342.8 | 522.3 | 589.7 | 997.5 | 1525.9 | 1549.6 | 1606.8 | 1521.5 |
| Private transfers | 2363.3 | 4561.2 | 6350.7 | 5595.0 | 6118.4 | 6034.1 | 4444.2 | 5360.6 |
| Official Transfers (cash) | 458.0 | 417.9 | 409.3 | 1350.6 | 5451.1 | 613.2 | 1464.4 | 1879.0 |
| Official Transfers (kind) | 55.2 | 52.0 | 52.0 | 52.0 | 526.0 | 52.0 | 52.0 | 125.0 |
| Payments | -452.9 | -996.1 | -1826.3 | -3003.3 | -2702.3 | -2797.4 | -2736.4 | -2893.3 |
| Against Services | -146.9 | -225.7 | -371.0 | -1158.4 | -1527.4 | -1642.9 | -1839.2 | -1690.0 |
| Private Transfers | -306.0 | -770.4 | -1446.3 | -1844.9 | -1174.9 | -1154.5 | -897.2 | -1202.2 |
| Official Transfers | - | - | -9.0 | - | - | - | - | -1.1 |
| 2. Capital Account | 199.0 | 188.2 | 340.4 | 932.5 | 1301.8 | 2678.7 | 1390.1 | 972.0 |
| Drawings on Loans | 213.1 | 207.6 | 366.5 | 511.7 | 558.8 | 2099.3 | 1178.9 | 1042.6 |
| Development & Commodity Loans | 213.1 | 188.1 | 329.8 | 495.2 | 558.8 | 1919.3 | 950.5 | 933.0 |
| Cash Loans | - | 19.5 | 36.7 | 16.5 | - | 180.0 | 228.4 | 109.6 |
| Portfolio | - | - | - | - | - | -0.4 | -0.1 | - |
| Investment | - | - | - | 54.5 | 184.5 | 195.2 | 14.3 | 7.6 |
| Short-Term Loans | - | - | - | 410.6 | 592.0 | 453.4 | 455.8 | 13.9 |
| Capital transfers in kind | - | - | - | - | - | - | - | 105.0 |
| Repayments of Loans | -14.1 | -19.4 | -26.1 | -44.3 | -33.5 | -68.8 | -258.8 | -197.1 |
| Errors & Omissions including (Private Capital Movements)(Net) | 122.0 | 53.5 | 199.5 | 452.8 | 169.4 | 109.0 | 104.1 | 207.8 |
| Balance of Payments Positon | 1421.4 | 1409.1 | 2012.6 | 764.0 | -9.2 | -322.8 | -1495.2 | -1591.5 |
| Monetary Movement | -1421.4 | -1409.1 | -2012.6 | -764.0 | 9.2 | 322.8 | 1495.2 | 1591.5 |
| Central Bank | -1244.8 | -1990.2 | -1733.0 | -911.6 | 546.3 | 647.8 | 1490.6 | 1832.1 |
| Commercial Banks | -176.6 | 491.1 | -279.6 | 147.6 | -537.1 | -325.0 | 4.6 | -240.6 |

(Central Bank of Yemen 11th Annual Report)

Current account in 1982 was 2.77 billion YR deficit. This figure is close to 2.99 billion YR, the largest deficit during the First Five-Year Plan period. The deficit is mainly due to excess of imports over exports in trade balance, which is 8.76 billion YR in 1982, exceedig non-trade account, 5.99 billion YR.

(2) Foreign Currency Sources

Table (1-5)
Financing Gross Captial Formation During the First Five-Year Plan
1976/77 - 1980/81
(in million rials at Current Prices)

| Items | First Five-Year Plan Period | | | | | Total | Relative Percentage |
|---|---|---|---|---|---|---|---|
| | 76/77 | 77/78 | 78/79 | 79/80 | 80/81 | | |
| Gross Fixed Capital Formation | 1,496 | 3,160 | 4,445 | 4,882 | 5,413 | 19,396 | 96.1 |
| Changes in Stock | -105 | 407 | 30 | 355 | 107 | 794 | 3.9 |
| Gross Capital Formation | 1,391 | 3,567 | 4,475 | 5,237 | 5,520 | 20,190 | 100.0 |
| Gross Domestic Product Savings | -1,836 | -674 | -1,825 | -2,425 | -2,721 | -9,841 | -46.9 |
| Net Income from Abroad | +994 | 1,332 | 1,743 | 2,160 | 1,899 | 8,128 | 40.3 |
| Net Current Transfer from Abroad | 3,490 | 4,392 | 3,936 | 4,022 | 3,362 | 19,192 | 95.0 |
| Total Savings | 2,648 | 5,040 | 3,854 | 3,757 | 2,540 | 17,839 | 88.4 |
| Net Capital from Abroad | 54 | 200 | 453 | 169 | -234 | 642 | 3.2 |
| Financing of Gross Capital Formation | 1,391 | 3,567 | 4,475 | 5,237 | 5,520 | 20,190 | 100.0 |
| Net Loans from Abroad | +1,311 | +1,673 | -168 | -1,311 | -3,214 | -1,709 | -8.5 |
| Gross Domestic Product | 6,487 | 8,220 | 10,166 | 11,919 | 12,629 | 49,421 | |

(CPO : Second Five-Year Plant 1982 - 1986)

Gross capital formation amount was 20.19 billion YR. Out of this amount, 17.84 billion YR, 1,71 billion YR, or 8.4% of the total was supplied or 88.4% of the total sum, was sent by emigrants out of the YAR by the loans from foreign countries and 0.64 billion YR, remaining 3.2% of the total was supplied by capital transfers.

Sources of Capital Formation
During the First Five-Year Plan

| Source | Amount (in millions of rials) | Percentage of Total |
|---|---|---|
| Remittance from Yemeni Workers Abroad | 17,839 | 88.4 |
| Net Capital Transfers from Abroad | 642 | 3.2 |
| Net Loans from Abroad | 1,709 | 8.4 |
| Total | 20,190 | 100.0 |

(CPO : Second Five-Year Plan 1982 - 1986)

As for the foreign financing creditors in 1982, besides International & Regional Organizations, Socialist countries (mainly U.S.S.R.) and Arabian countries are the main ones, followed by Japan and Western Europe countries.

The list of creditors is shown in the following table.

Foreign Loans 31/12/1982 (Unit: Millin YR)

| Creditor | Drawings 1982 | Position as at end of 1982 | | |
|---|---|---|---|---|
| | | Drawing | Balance | Total |
| International & Regional Organizations | 288.0 | 1232.4 | 1057.0 | 2289.4 |
| I.D.A. | 58.6 | 579.0 | 657.4 | 1236.4 |
| A.F. for Eco. & Soc. Dev. | 86.5 | 482.7 | 210.8 | 693.5 |
| OPEC Fund | 15.5 | 40.9 | 45.9 | 86.8 |
| Islamic Bank | 10.1 | 11.9 | 26.1 | 38.0 |
| International Fund for Agriculture Development | 7.7 | 8.3 | 116.8 | 125.1 |
| AMF | 109.6 | 109.6 | - | 109.6 |
| Arab Countires | 248.8 | 2205.4 | 1143.6 | 3349.0 |
| Kuwait | 25.9 | 231.4 | 228.0 | 459.4 |
| Iraq | 78.3 | 834.8 | 424.4 | 1259.2 |
| Abu Dhabi | 25.5 | 118.7 | 100.6 | 219.3 |
| Saudi Arabia | 119.1 | 1019.4 | 387.2 | 1406.6 |
| Algeria | - | 1.1 | 3.4 | 4.5 |
| Western Countries & North America | 72.7 | 233.5 | 31.7 | 265.2 |
| Holland | 11.8 | 82.0 | 9.0 | 91.0 |
| France | - | 84.5 | 0.2 | 84.7 |
| U.S.A. | 14.8 | 20.9 | 7.7 | 28.6 |
| Danmark | 1.3 | 1.3 | 14.8 | 16.1 |
| Canada | 44.8 | 44.8 | - | 44.8 |
| Eastern Europe & China | 317.7 | 2516.8 | 1818.8 | 4335.6 |
| U.S.S.R. | 280.6 | 2080.1 | 1691.1 | 3771.2 |
| P.R. of china | 37.1 | 393.1 | 122.5 | 515.6 |
| Czechoslovakia | - | 26.3 | - | 26.3 |
| D.R. of Germany | - | 17.3 | 5.2 | 22.5 |
| Asian Countries | 101.9 | 192.7 | 6.7 | 229.4 |
| Japan | 101.9 | 192.7 | 36.7 | 229.4 |
| Others | 13.5 | 13.5 | 27.6 | 41.1 |
| Total | 1042.6 | 6394.3 | 4115.4 | 10509.7 |

(Central Bank of Yemen 11th Annual Report 1982)

(3) Liabilities Amount (Foreign Liabilities)

International transactions items during the First Five-Year Period are shown in the following table. As shown in the table, foreign liabilities are increasing steadily, and accumulated total amount reaches about 3.98 billion YR (Net).

International Transactions Items during First Five-Year Period

(in million YR)

| Item | 76/77 | 77/78 | 78/79 | 79/80 | 80/81 | Total |
|---|---|---|---|---|---|---|
| Current Transactions | | | | | | |
| Exports of Goods and Services | 279 | 242 | 474 | 803 | 805 | 2,603 |
| Net Compensation of Workers Abroad | 771 | 975 | 1,217 | 1,423 | 1,356 | 5,742 |
| Net Entrepreneurial Property and Income from Abroad | 223 | 357 | 526 | 737 | 543 | 2,386 |
| Net Current Transfers from Abroad | 3,490 | 4,382 | 3,936 | 4,022 | 3,362 | 19,192 |
| Current Revenues | 4,763 | 5,956 | 6,153 | 6,985 | 6,066 | 29,923 |
| Less: Imports of Goods and Services | 3,506 | 4,483 | 6,774 | 8,465 | 9,046 | 32,274 |
| State Surplus from Current Account | 1,257 | 1,473 | -621 | -1,480 | -2,980 | -2,351 |
| Capital | | | | | | |
| State Surplus from Current Account | 1,257 | 1,473 | -621 | -1,480 | -2,980 | -2,351 |
| Net Capital Transfer from Abroad | 54 | 200 | 453 | 169 | -234 | 642 |
| Net Loans Abroad | 1,311 | 1,673 | -168 | -1,311 | -3,214 | -1,709 |
| Net Foreign Liabilities | 188 | 340 | 932 | 1,302 | 1,217 | 3,979 |
| Earning | 1,499 | 2,013 | 764 | -9 | -1,997 | 2,270 |
| Net Acquisition from Foreign Financial Assets | 1,499 | 2,013 | 764 | -9 | -1,997 | 2,270 |
| Payments | 1,499 | 2,013 | 764 | -9 | -1,997 | 2,270 |

(CPO: Second Five-Year Plan)

(4) Replayment Situations

Repayment amount in 1982 fiscal year is only 244 million YR, including principal and interest repayment. This amount corresponds to only 4.5% of the total sum sent by emigrant labourers. Thus, the repayment amount's percentage to the foreign currency acquisition is small; however, the total liabilities' amount's percentage to GDP is smaller than those of similar developing countries.

Liabilities Repayment Situations

Unit: Million YR

| | 1981 | 1982 |
|---|---|---|
| Repayment of principal | 258.8 | 197.1 |
| Interest payments | 47.7 | 47.7 |
| Total | 306.5 | 244.8 |

(11th Annual Report 1982
Central Bank of Yemen)

(5) Exchange Rate

As of March 31, 1982

| | |
|---|---|
| TTS rate | 1$ = 5.05 YR |
| TTB rate | 1$ = 5.00 YR |

## 2-3 Domestic Resources

### (1) Mining Industry

Major mining resources of the YAR (oil is not available) are various stone materials such as lime stone and gypsum, which are used for construction materials.

Major stone materials are marble, basalt, granite, sandstone, etc.

Production amount in 1982

| | |
|---|---|
| Stone materials | 529,000 $m^3$ |
| Stone materials gypsum | 451,000t |

In the YAR a large part of the land surface is rock, and rock deposits as a mining resource is enormous. Cement, manufactured from these stone materials, lime stone, and gypsum, is one of the few produced domestic construction materials.

### (2) Agriculture and Livestock Industry

#### 1) Agriculture

Even though the YAR is an agricultural country, main domestic products are grains such as corn, millet, vegetables, potatoes, fruits, and etc. Other food products are mostly relied on imports. (Food import including live stocks corresponds to 36% of total imports in 1981.)

As previously mentioned, only 1.6 million hectare, less than one fourth of the total arable land, 3.5 million hectare, is cultivated at present.

When irritation facilities are established in the Southern Plateau Zone, etc., more land will be cultivated.

Agricultural Production Amount (1/2)

Unit: 1000t, 1000ha, t/ha

| | 1976/ 1977 | 1977/ 1978 | 1978/ 1979 | 1979/ 1980 | 1981 | Prov. 1982 |
|---|---|---|---|---|---|---|
| Cereals (total) | | | | | | |
| **Production** | 760 | 712 | 778 | 788 | 812 | 760 |
| Area | 924 | 783 | 826 | 812 | 849 | 836 |
| Yield | 0.82 | 0.91 | 0.94 | 0.97 | 0.96 | 0.91 |
| **Sorghum and millet** | | | | | | |
| Production | 613 | 585 | 627 | 632 | 635 | 581 |
| Area | 782 | 644 | 683 | 673 | 697 | 689 |
| Yield | 0.78 | 0.91 | 0.92 | 0.94 | 0.91 | 0.84 |
| **Wheat** | | | | | | |
| Production | 61 | 45 | 63 | 63 | 70 | 67 |
| Area | 65 | 60 | 66 | 62 | 66 | 61 |
| Yield | 0.94 | 0.75 | 0.96 | 1.02 | 1.09 | 1.05 |
| **Barley** | | | | | | |
| Production | 42 | 39 | 42 | 45 | 54 | 53 |
| Area | 47 | 48 | 46 | 46 | 52 | 50 |
| Yield | 0.89 | 0.81 | 0.91 | 0.98 | 1.04 | 1.06 |
| **Maize** | | | | | | |
| Production | 44 | 43 | 46 | 48 | 53 | 59 |
| Area | 30 | 31 | 31 | 31 | 34 | 36 |
| Yield | 1.47 | 1.39 | 1.48 | 1.55 | 1.50 | 1.60 |
| **Legumes** | | | | | | |
| Production | 82 | 77 | 79 | 80 | 80 | 75 |
| Area | 72 | 76 | 74 | 72 | 74 | 70 |
| Yield | 1.14 | 1.01 | 1.07 | 1.11 | 1.08 | 1.08 |
| **Potatoes** | | | | | | |
| Production | 100 | 107 | 116 | 127 | 138 | 150 |
| Area | 8.6 | 9.3 | 9.5 | 10.6 | 11.5 | 12.1 |
| Yield | 11.63 | 11.51 | 12.21 | 11.98 | 12.00 | 12.30 |
| **Vegetables** | | | | | | |
| Production | 210 | 226 | 230 | 254 | 291 | 305 |
| Area | 22.2 | 23.6 | 26.9 | 26.4 | 29.4 | 30.5 |
| Yield | 9.46 | 9.58 | 8.55 | 9.62 | 9.90 | 10.00 |
| **Fruits** | | | | | | |
| Production | 72.0 | 77.0 | 73.0 | 76.0 | 80.7 | 84.0 |
| Area | 13.4 | 13.9 | 13.9 | 14.2 | 14.5 | 15.0 |
| Yield | 5.37 | 5.54 | 5.25 | 5.35 | 5.57 | 5.60 |

Agricultural Production Amount (2/2)

Unit: 1000t, 1000ha, t/ha

| | 1976/ 1977 | 1977/ 1978 | 1978/ 1979 | 1979/ 1980 | 1981 | Prov. 1982 |
|---|---|---|---|---|---|---|
| **Coffee** | | | | | | |
| production | 3.4 | 3.9 | 3.6 | 3.5 | 3.5 | 3.3 |
| Area | 7.5 | 7.7 | 7.7 | 7.7 | 7.7 | 7.7 |
| Yield | 0.45 | 0.51 | 0.47 | 0.45 | 0.45 | 0.44 |
| **Grapes** | | | | | | |
| Production | 47.0 | 45.0 | 49.0 | 55.0 | 64.3 | 67.9 |
| Area | 10.0 | 10.2 | 10.2 | 11.5 | 12.5 | 13.1 |
| Yield | 4.70 | 4.41 | 4.80 | 4.78 | 5.14 | 5.18 |
| **Cotton** | | | | | | |
| Production | 5.3 | 3.9 | 4.8 | 2.8 | 5.0 | 6.5 |
| Area | 6.3 | 4.7 | 5.6 | 3.0 | 5.3 | 7.4 |
| Yield | 0.84 | 0.83 | 0.86 | 0.93 | 0.94 | 0.87 |
| **Tobacco** | | | | | | |
| Production | 7.4 | 4.6 | 6.4 | 7.0 | 6.3 | 6.7 |
| Area | 5.3 | 5.6 | 5.6 | 6.1 | 6.1 | 6.4 |
| Yield | 1.21 | 0.82 | 1.14 | 1.15 | 1.03 | 1.04 |
| **Sesame** | | | | | | |
| Production | 6.5 | 6.3 | 6.3 | 6.0 | 5.2 | 5.5 |
| Area | 10.2 | 10.2 | 10.2 | 10.1 | 9.9 | 10.1 |
| Yield | 0.63 | 0.62 | 0.59 | 0.59 | 0.52 | 0.54 |
| **Alfalfa** | | | | | | |
| Production | 41 | 41 | 42 | 43 | 45 | 49 |
| Area | 3.4 | 3.4 | 3.5 | 3.6 | 3.8 | 4.0 |
| Yield | 12.06 | 12.06 | 12.00 | 11.94 | 11.80 | 12.30 |

Sources: Ministry of Agriculture and Central Planning Organization.
(11th Annual Report 1982 Central Bank of Yemen)

2) Livestock Industry

Livestock industry plays the improtant role in Yemeni agriculture. Livestock farming is maintained by 4 million goats and sheeps, etc. However, in recent years, livestock import is increasing. Meats, eggs and milk, etc. are produced from the imported livestock, but the production cannot supply the increasing domestic demand under the present situations. Only leather is the export item.

Number of possessed livestock (1970 - 1982)

Unit: in thousand

| YEAR | COMMERCIAL CHICKEN | LOCAL CHICKEN | CAMELS | CATTLE | SHEEP / GOATS |
|---|---|---|---|---|---|
| 1970 | - | 2230 | .... | 813 | 3034 |
| 1971 | - | 2275 | .... | 857 | 3677 |
| 1972 | - | 2320 | 70 | 900 | 3308 |
| 1973 | - | 2360 | 60 | 810 | 3287 |
| 1974 | - | 2400 | 60 | 900 | 3460 |
| 1975 | - | 2450 | 63 | 950 | 3633 |
| 1976 | - | 2494 | 60 | 800 | 2460 |
| 1977 | - | 2546 | 63 | 840 | 3598 |
| 1978 | 500 | 2600 | 63 | 840 | 3598 |
| 1979 | 1150 | 2642 | 60 | 861 | 3670 |
| 1980 | 1300 | 2800 | 57 | 883 | 3751 |
| 1981 | 2000 | 3000 | 57 | 906 | 3834 |
| 1982 | 2800 | 3075 | 75.7 | 924 | 3903 |

(Source: Ministry of Agriculture)

Livestock production amount (1970 - 1982)

| Year | Poultry (Tons) | Beef & Sheep (Tons) | Wool (Tons) | Eggs Million | Hides (Tons) | Milk (1000 Tons) |
|---|---|---|---|---|---|---|
| 1970/1971 | .... | .... | 1678 | 56 | 3585 | 73.0 |
| 1971/1972 | .... | .... | 1764 | 57 | 3746 | 77.0 |
| 1972/1973 | .... | .... | 1649 | 58 | 3667 | 75.5 |
| 1973/1974 | .... | .... | 1687 | 59 | 3602 | 75.5 |
| 1974/1975 | .... | .... | 1773 | 60 | 3952 | 80.5 |
| 1975/1976 | .... | .... | 1773 | 62 | 3842 | 77.5 |
| 1976/1977 | 3586 | 18400 | 3704 | 105 | 3704 | 75.0 |
| 1977/1978 | 3642 | 19171 | 3791 | 107 | 3791 | 77.5 |
| 1979/1979 | 4439 | 19171 | 3826 | 109 | 3826 | 82.5 |
| 1979/1980 | 5464 | 19555 | 3915 | 111 | 3915 | 85.0 |
| 1980 | 5862 | 19981 | 3954 | 117 | 3954 | 90.0 |
| 1981 | 7171 | 20432 | 4048 | 126 | 4048 | 95.0 |
| 1982 | 11171 | 20943 | 4180 | 128 | 4180 | 95.75 |

(Source: Ministry of Agriculture)

## 2-4 Labour and Technical Level

### (1) Gross Labour

1-1 As already mentioned in population statistics (according to Census, 1975), the registered population of the YAR is approximately 4,500,000.

The gross labour population (over ten years old) is 2,810,000, but the already employed population is 1,120,000. More than 1,500,000 people (most of them are women) receive remittances from more than 1,200,000 people who work in foreign abroad. More than half of labour (especially men) of YAR work in foreign countries.