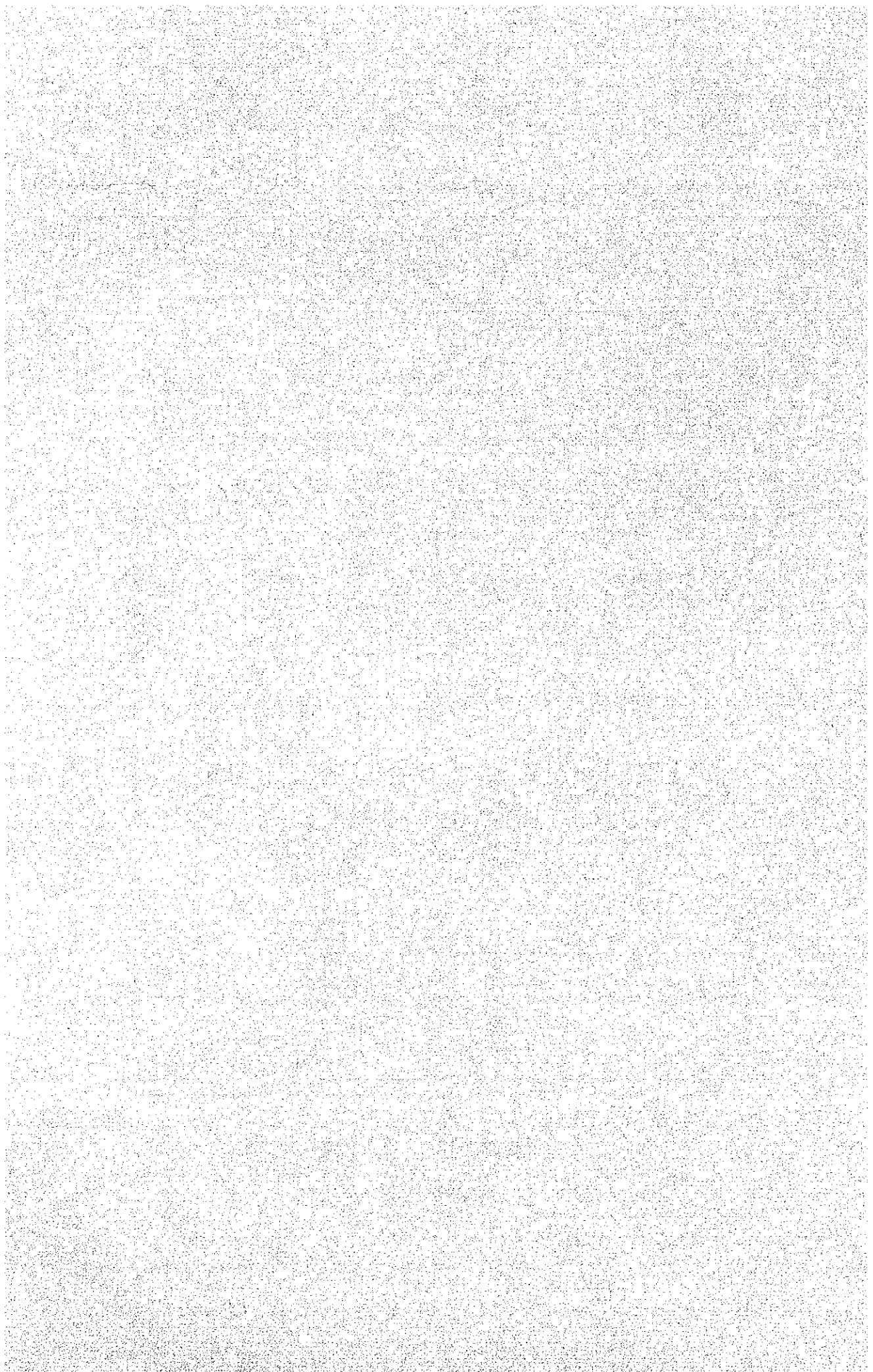


CHAPTER 5 CONSTRUCTION PLANNING

5-1 Work Planning

5-2 Scope of Work



5-1 Work Planning

After exchanging the instruments of agreement (exchange of Notes) between the Japanese and Bolivian Governments concerning the construction of the proposed hospital, a contract concerning implementation design and supervision is to be concluded before commencing implementation design work.

After preparing plans, specifications and documents necessary for a tender contract, tenders are invited from constructors, subject to Bolivian approval of the contents of implementation design documents.

After a contract has been concluded between the successful bidder and the Bolivian Government, construction is to commence, subject to Japanese verification of the contract.

The construction of the proposed hospital is expected to take about 18 months to complete. The construction of three centros de Gastroenterología (La Paz, Sucre and Cochabamba) with Japanese grant cooperation took 12 ~ 14 months. The longer period required for the construction of the proposed hospital is due to the factors outlined below.

- (1) Since very few of the construction materials are produced locally, they will have to be transported from the major cities in Bolivia. Moreover, the means of transportation are limited during the wet season.
- (2) The supply of labor including skilled labor will also have to be dependent on the major cities, and it will be difficult to obtain such labor.
- (3) The work which can be carried out is limited during the wet season lasting about six months.

Accordingly, in constructing the proposed hospital, it will be necessary to formulate a work plan by taking into consideration the points listed below.

- (1) Smooth procurement of construction materials.
- (2) Smooth procurement of labor including skilled labor.
- (3) Basic materials, e.g., gravel, sand, reinforcing bars, required at the initial stage of construction, are to be transported at the end of the wet season. Attention should be paid to the transportation of cement.
- (4) Work is to commence when the wet season is over.
- (5) It is advisable not to carry out earth works such as banking and excavation during the wet season.

- (6) Structural construction prior to roofing is to be carried out during the dry season.
- (7) Roofing work is to be completed during the dry season.
- (8) Finishing work, e.g., fittings, painting, is to be carried out during the dry season.
- (9) It is advisable not to carry out external work such as paving during the wet season.

The construction work of the proposed hospital is to be divided into 2 phases as shown in the table below.

	Building	Medical equipment	Others
1st phase	<ul style="list-style-type: none"> • Administration wing • Outpatients wing • Operation and delivery wing • Part of Service wing • Central corridor 	<ul style="list-style-type: none"> • Part of medical equipment 	<ul style="list-style-type: none"> • Electric supply work • Generator for emergency • Water tank • Elevated water tank • Septic tank • Part of external works
2nd phase	<ul style="list-style-type: none"> • Pediatric ward • Obstetric and gynecological ward • Service wing 	<ul style="list-style-type: none"> • Most of medical equipment 	<ul style="list-style-type: none"> • Kitchen facilities • Laundry facilities • Most of external work

The table shows the work schedule for this project.

Work Schedule

Note: The number of month is counted from the commencement of the implementation Design of the first phase.

Year	1981												1982												1983												1984																										
	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR																															
Number of month	-4	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27																															
GOVERNMENT OF BOLIVIA	Consulting Contract (First)												Construction Contract (First)												Construction Contract (Second)																																						
GOVERNMENT OF JAPAN	E/N												Verification												Verification																																						
CONSULTANT	Basic Design												Implementation Design (First)												Implementation Design (Second)												Supervision (First)												Supervision (Second)														
CONTRACTOR	Bidding												Estimation												Construction (First)												Construction (Second)																										
METEOROLOGICAL CONDITIONS	Rainy Season												Rainy Season												Rainy Season												Rainy Season																										
	Explanation of Draft Report												Exchange of Notes (First)												Consulting Contract (First)												Commencement of Construction (First)												Tender Invitation (First)														
													Exchange of Notes (Second)												Consulting Contract (Second)												Commencement of Construction (Second)												Construction Contract (Second)														
													Completion & Delivery (First)												Final Inspection (First)												Completion & Delivery (Second)												Final Inspection (Second)														

5-2 Scope of Work

In constructing the proposed maternity hospital, the Bolivian side is to prepare or carry out the following works.

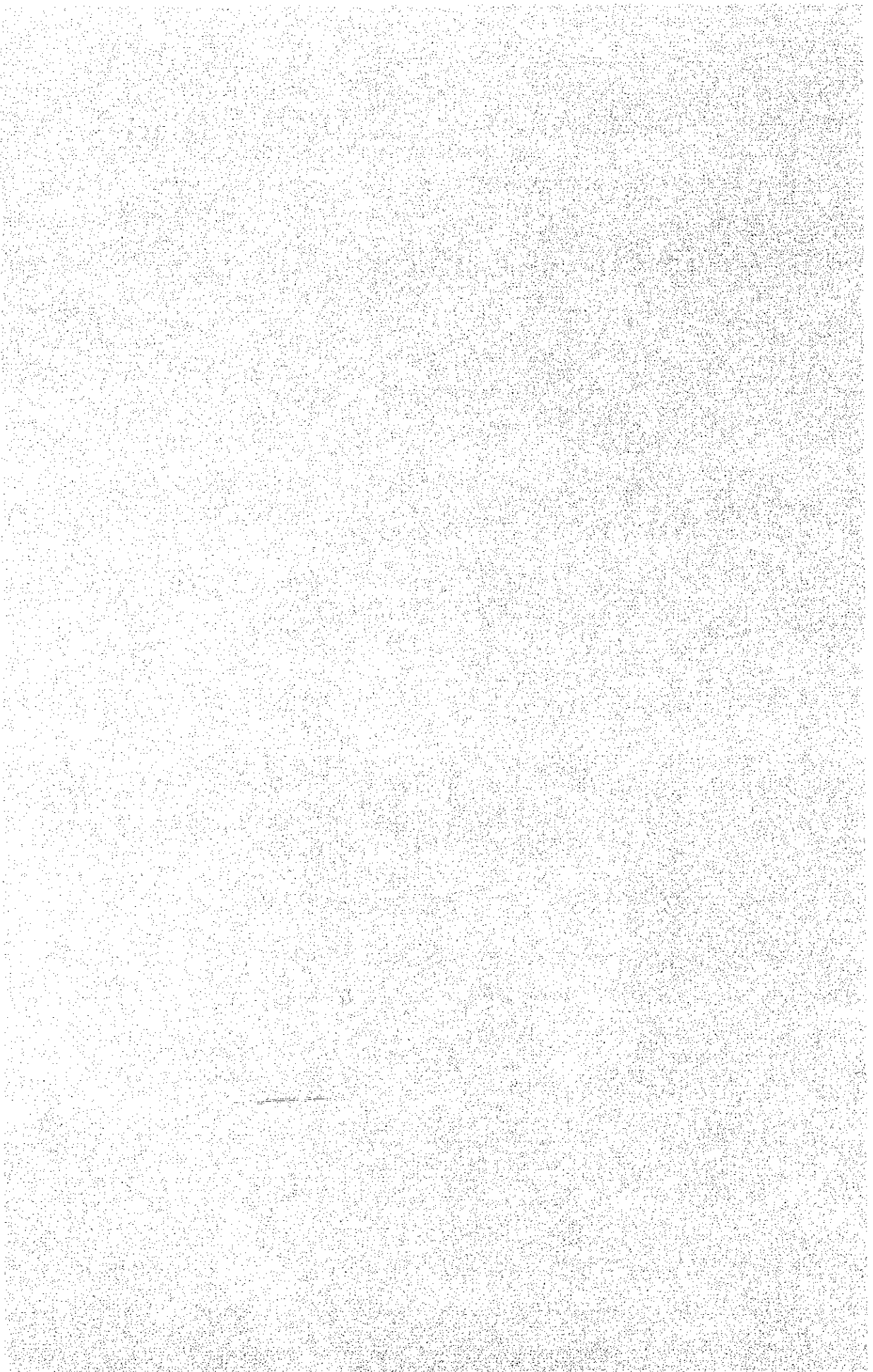
- (1) Preparation of land and banking.
- (2) Preparation and paving of the approach road to the site.
- (3) Provision of land space adjacent to the site for a site office, a yard, workshops, etc. required during construction.
- (4) Installation of temporary electric power and water supply and telephone required during construction.
- (5) Preparation of drainage routes for sewers and rainwater from the site area.
- (6) Power lead-in work up to the receiving and transforming unit and transformer installation.
- (7) Water main lead-in work to the site area.
- (8) Telephone line lead-in work up to the MDF unit in the building.
- (9) Construction of fence and gate, and plantation of trees in the site.

In addition, all the legal formalities required under Bolivian law are to be completed by the Bolivian side.

CHAPTER 6 EVALUATION OF THE PROJECT AND PROBLEMS

6-1 Evaluation of the Project

6-2 Points for Consideration



CHAPTER 6 EVALUATION OF THE PROJECT AND PROBLEMS

6-1 Evaluation of the Project

(1) Evaluation of Effectiveness

In cities in Bolivia's highlands, several medical facilities and hospitals built under Japan's grant aid cooperation programs are managed. In Trinidad and its surrounding area which is covered by the latest survey, the survey team came to the conclusion that medical facilities are extremely undeveloped despite the fact that this area is characterized by a high temperature and humidity and a high occurrence of disease.

As a result in this area the mortality rate of children and pregnant women is very high. Another contributing factor is the lack of cleanliness. (see Additional Data)

If a hospital for primary care, such as the hospital planned, were built it could be expected to decrease this mortality rate.

If a hospital, as described above, were constructed and managed in such an area, not only would it contribute to the medical care of mothers and children but far-reaching effects could be fully expected, as the general knowledge of all inhabitants about the prevention of disease and medical and health care were increased.

According to a plan of the Ministry of Public Health, the existing "public health center" will be moved to the site of the old children's hospital after completion of this new hospital. The department of Gynecology and Obstetrics in the existing general hospital will also be moved to the new maternal and children's hospital, thus making it possible to allocate space for treatment rooms, wards and other rooms to other departments of the general hospital.

(2) Financial Evaluation

a) In order that the proposed hospital may be managed without interruption, adequate financial planning will be necessary. At the present stage the following financial evaluation may be made.

The characteristics of national hospitals in Bolivia with regard to accounts may be summarized as below.

- i) Of the cost of medical services, the Government subsidies cover the entire personnel costs and, in special cases, utility costs, maintenance and administrative costs, and part of other necessary costs.
- ii) The patients pay prescribed hospitalization costs, medical costs and laboratory costs according to their income. Consequently, receipts for medical attention are dependent on the patients' incomes.

iii) Since dispensing is separated from medical practice, the patients buy drugs directly from the pharmacy.

b) In the light of the above characteristics, various figures may be estimated as below on the basis of past records.

(Income)

Gross annual earnings = annual total of treatment cases × average unit price

Annual total of treatment cases Assuming it to reach a normal figure from the third year onward, it was estimated as below from the number of beds, etc. The figures for the first and second years were estimated to be 60% and 80% of the third year respectively.

From the third year onward:	36,480 cases* ¹
Hospitalization:	4,380
Outpatient:	30,000
Delivery:	1,500
Operation:	600
From the first year onward:	21,888
From the second year onward:	29,184

Unit price per case 100 pesos/case*² (about 1/3 of that at hospitals in La Paz.)

*1: The total at existing hospitals (obstetric and gynecological department at the General Hospital and the Pediatric Hospital) is 13,156.

*2: La Paz Gastroenterological Center: gross earnings/total cases = 350 pesos/case (fiscal 1980).

(Expense)

Personnel costs Since they are to be paid by the Ministry of Public Health, they were excluded from the present financial computations.

Material costs The ratio of material costs (consumables, catering materials, etc.) excluding drug costs to the total earnings excluding personnel income is to be 13~14%. (Estimated from the Japanese hospital statistics and the local conditions regarding the supply of local equipment and materials.)

Utility costs Estimated costs: 900,000 pesos/year (first and second years are to be 60% and 80% respectively).

Repair costs The ratio of average annual repair costs to the costs of construction (local evaluation) was estimated as below based on service life.

Building: 0.725%
 Facilities: 2.192%
 Total 1.261%

The annual ratio was estimated as below on the basis of secular changes.

1 peso = ¥8.8

Secular period	Costs of construction Unit: 1,000 pesos	1~6	7~12	13~15	16~18	19~24 years
Building	70,000	0.12%			0.95%	
Facilities	45,000	0.41%			2.8%	
Medical equipment and materials	18,000	0.41%	2.8%			

Repair costs = costs of construction × ratio

Expenses and others In addition, other expenses were estimated to be 21% of the earnings.

c) Case study of the paying base

Unit: 1,000 pesos

Year		1	2	3	4	5	7~15	16~24
Earnings	Income	2,189	2,918	3,648	3,648	3,648	3,648	3,648
Expenditure	Material costs	306	408	511	511	511	511	511
	Utility costs	540	720	900	900	900	900	900
	Repair costs	343	343	343	343	343	773	2,429
	Expenses and others	460	613	766	766	766	766	766
	Sub-total	1,649	2,084	2,520	2,520	2,520	2,950	4,606
Balance		540	834	1,128	1,128	1,128	698	-958

Note: Inflation is not considered here.

According to the above case study, it may be possible to financially maintain and operate the hospital if the entire personnel costs are borne by the Ministry of Public Health and earnings from patients are ensured.

Although the expenditure for the 16th year of operation is exceeded in the case study, this is due to the fact that the service life of medical equipment and building facilities will end around the 16th year. However, it seems possible to cover the increase in expenditure with a secular financial accumulation and budgetary measures to be taken by the Ministry of Public Health.

(3) Project Evaluation

From the evaluation of effectiveness and financial evaluation, it is judged that the project will not only satisfy the desired function of providing a maternal and children's hospital to serve Trinidad and its surrounding area. It will also contribute to the propagation of medical care in Bolivia.

Further, from the future outlook, the extension of the number of cases to be treated is an important element. For example, in the case of the La Paz Gastroenterology Center (donated by the Japanese government in 1979), since the opening of the hospital, it is recorded that the total annual number of cases treated had doubled by last year. For this hospital also it is to be expected that with new facilities a latent demand for medical care will be awakened. Furthermore, in Trinidad and its surrounding area there is a natural population growth (annual rate greater than 4%). At the present time construction of road system is taking place and a railway construction is also planned in 5 years etc. With the completion of these transportation facilities, growth in demand for medical care can be fully expected.

6-2 Points for Consideration

(1) Management

a) Personnel

According to the Ministry of Public Health, physicians and other medical staff presently working in the Department of Gynecology and Obstetrics of the existing general hospital will be transferred to the new hospital when completed.

In order that the hospital should effectively complete its mission it is necessary that these medical workers be augmented both in number and quality. It is particularly important to employ adequate numbers of qualified nurses and midwives, whose shortage is conspicuous in Trinidad.

It is also vital that public health nurses be employed so that in addition to its routine activities the hospital can play a significant role in providing guidance on the health care of mothers and children.

b) Hygiene

Unlike ordinary hospitals, this hospital will treat physically weak babies and infants there is therefore a special need to maintain a hygienic environment.

Local medical facilities are generally not maintained to an adequate level of hygiene. It is necessary to keep clean not only the operation theaters, delivery rooms and neonatal rooms but also other parts of the hospital.

To prevent deterioration of the new hospital facilities it is important that all hospital staff including service staff are fully aware of this need.

c) Technical Cooperation

The survey team has approached this construction program on the assumption that there will be no continuing technical cooperation from Japan. However there have been strong requests from the Minister of Public Health and other Bolivian officials for technical cooperation.

In order to ensure that the hospital carries out its intended functions with maximum efficiency, it is desirable that there is some form of technical cooperation from the opening of the hospital until the time when it is operating smoothly.

(2) Hospital Facilities

The Bolivian Ministry of Public Health pledged in the Minutes to carry out a variety of tasks. Special consideration should be given to the following tasks, the completion of which are vital to maintain the program.

a) Public Facilities

The electricity supply is presently very poor and is suspended regularly by zone. Plans exist to increase the electricity power supply by the end of 1983 which coincides with the envisaged completion of the hospital. If there were to be any delay in the implementation of the plans to increase the power supply, there could be a need to devise alternative measures.

The Bolivian side also pledged in the minutes to install sewage disposal plants. As for the power supply, no concrete plans exist as yet and therefore there is apprehension that the existing situation will remain even after completion of the hospital. With this possibility in mind, it is perhaps necessary to work out details (including construction cost) for alternative means of draining foul water from the hospital, for example, by installing simple septic tanks.

b) Maintenance and Control

From inspection of the maintenance and control of existing medical facilities under the Ministry of Public Health, it was apparent that both the pediatric hospital and the Public Health Center were in an extremely insanitary condition for design and technical reasons because of budget limitations.

Under this new program it is attempted to design an easily controllable hospital while taking account of local factors such as the high temperature and humidity which tend to cause the hospital to become dirty very easily. It is therefore especially important to establish and carry out a system of maintenance and control both by design and technical considerations but also by adequate budgetary measures.

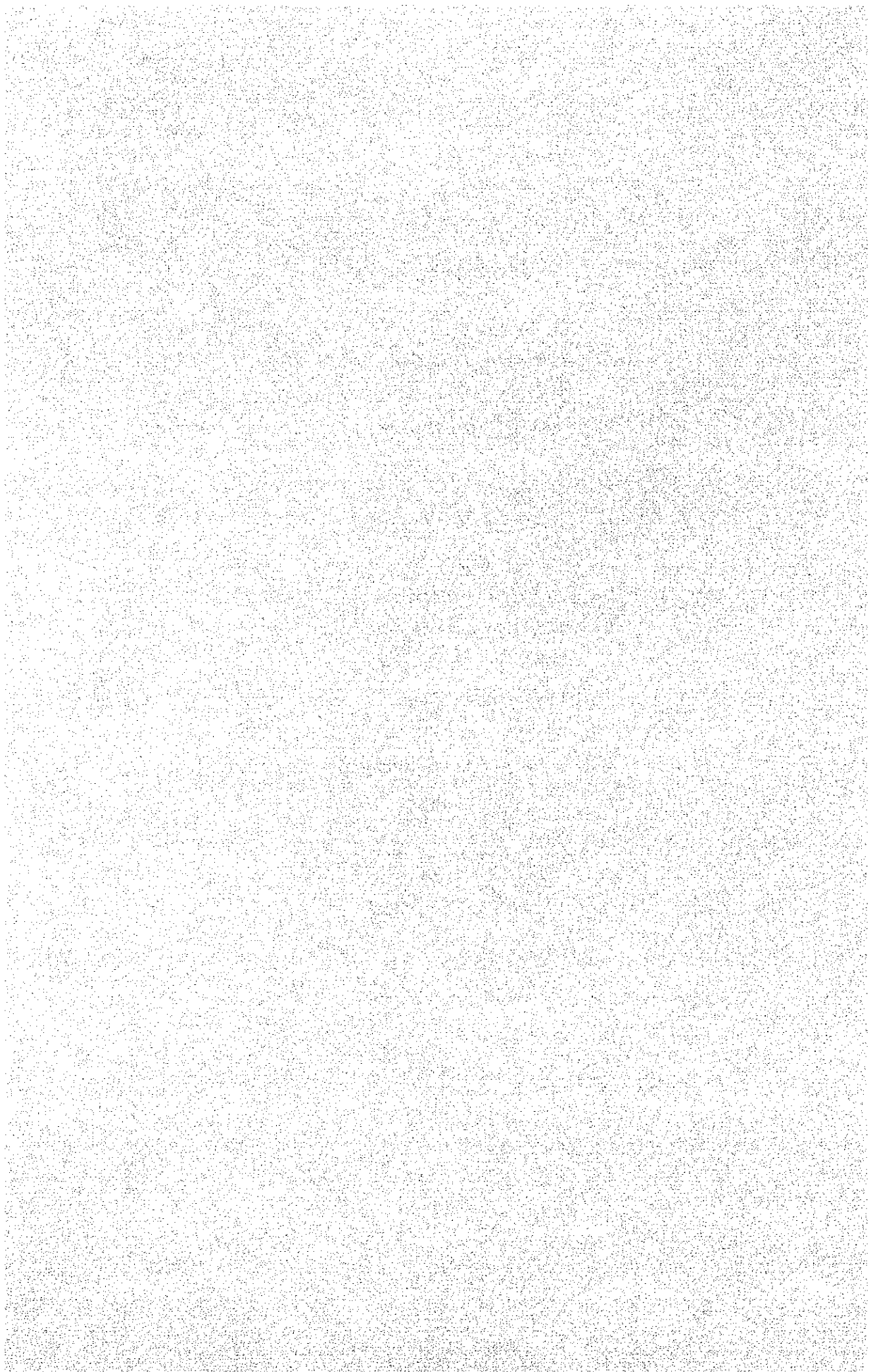
In this respect, a commitment was made in the Minutes by the Ministry of Public Health that it would take adequate budgetary measures in 1983. Judging from the limited budget thus far allocated for medical facilities, there is some apprehension about the provision of these adequate budgetary measures.

c) Access to the site

The selected site is rather far away from the city's urban area. The Bolivian side pledged to develop an access before the completion of the hospital facilities. Concrete measures have yet to appear for the development of a means of transport for the general public.

ADDITIONAL DATA

1. Members of the Survey Team
2. Basic Design Survey and Discussions
3. Signing of the Minutes
4. List of Bolivian Officials
5. Minutes
6. Itinerary of Field Survey
7. Medical Statistics for Trinidad
8. Survey of Hospitals
9. Population Statistics
10. Meteorological Diagrams
11. Ground Exploration
12. Analysis of City Water in Trinidad
13. Exchange Rate Fluctuations
14. Prices of Materials
15. Labor Costs
16. Reports in the Local Newspaper
17. List of Sources Obtained



1. Members of the Survey Team

(1) Basic Design Survey Team

Leader Yutaka Hosono
 Director
 Grant Aid Planning Division, Grant Aid
 Department, Japan International Cooperation
 Agency

Members Coordination for medical care
 Yoshiyuki Hanawa
 Professor
 Department of Pediatrics,
 Toho University School of Medicine

 Coordination for construction
 Masaji Suzuki
 Nihon Architects, Engineers & Consultants, Inc.

 Planning
 Masato Okano
 Nihon Architects, Engineers & Consultants, Inc.

 Construction structure
 Masahisa Fukumura
 Nihon Architects, Engineers & Consultants, Inc.

 Facilities and medical equipment
 Masatoshi Urimoto
 Nihon Architects, Engineers & Consultants, Inc.

(2) Report Explanation Team

Leader Yoshiyuki Hanawa
 (details already given)

Members Minoru Tomita
 Director
 Grant Aid Department
 Japan International Cooperation Agency

 Coordination for construction
 Masaji Suzuki
 (details already given)

 Construction planning
 Masato Okano
 (details already given)

Note: Nihon Architects, Engineer and Consultants Inc. has participated in this Basic Design Survey.

2. Basic Design Survey and Discussions

After its arrival in La Paz on July 27, 1981, the survey team met relevant officials from the Bolivian Ministry of Public Health and ascertained that the Bolivian official responsible for the project is Dr. Oscar Serrate P., Vice Minister of Public Health. The survey team explained the purpose and nature of the survey and began discussions with the Vice Minister of Public Health and other officials of the Bolivian Ministry of Public Health on the preliminary design and other matters.

(1) General Concept

The survey team was briefed on July 31 by the Bolivian Ministry of Public Health on the general concept of the proposed Trinidad Maternal and Children's Hospital. Basically the capacity was expected to be about 100, covering for Trinidad and about 1/10 of the population of Beni State. It was also suggested that breast cancer and uterine cancer be handled by obstetrics and gynecology as it had been the practice in Bolivia. However, as a result of discussions with the survey team, it was agreed that the two types of cancer will not be handled by the proposed hospital.

(2) Proposed Site

The survey team was briefed on July 31 by the Bolivian officials concerned on two prospective sites for the construction of the proposed hospital. Field surveys were conducted, covering the surrounding area as well. The two prospective sites were: (A) an area of 17,000m² situated outside the Circular Road in the northeast of the city and (B) an area of 10,000m² in a residential district situated inside the Circular Road in the east of the city, reserved as a park site. As a result of consultation with the Ministry of Public Health, Beni State and Trinidad officials and those connected with hospitals in Trinidad, the survey team concluded that site (A) was suitable for the project and obtained Bolivian agreement.

(3) Scope of Facilities

The survey team was asked by those connected with hospitals in Trinidad to take into consideration energy-saving, low maintenance costs and good ventilation in designing the building, thereby producing a hospital suitable for the climate of Trinidad. It was also requested that the capacity of the proposed hospital be about 80 in pediatrics and 50 beds in obstetrics and gynecology, totalling about 130 beds. Judging from the local condition of medical services, population, duration of hospitalization, birth rate, etc., the survey team concluded that an appropriate capacity would be 35 beds in pediatrics, 30 beds in obstetrics and gynecology and 10 beds for newborns and an agreement was reached with the Bolivian side after consultation. It was also considered necessary in actual planning to take into consideration the possibility of extension in the future so that it may be

possible to respond to changes in the condition of medical services.

(4) Maintenance of Facilities

The survey team felt strongly about the inadequacy of the existing facilities and the problem of maintenance. Since this problem is also expected to arise with the proposed hospital, the survey team held a series of talks with the Bolivian side. During the talks held on August 4 with the Ministry of Public Health, the Minister of Public Health gave an assurance that the Government is prepared to take adequate budgetary measures to maintain the facilities of the proposed hospital.

(5) Nearby Institutions

About 700m from the proposed hospital there is a hotel with 30 rooms. The Basic Design Survey team asked the Ministry of Public Health to confirm that this hotel will be converted in the future into a hospital of the "Caja Nacional de Seguridad Social" (C.N.S.S.).

The vice Minister of Social Provision confirmed this but said that it would not include facilities for maternity and child clinic.

The officials concerned with this project in Bolivia as well as officials of the Ministry of Public Health and the city of Trinidad provided positive cooperation in this survey and were fully enthusiastic about the project.

3. Signing of the Minutes

(1) Basic Design Survey Team

After consultations with the related Bolivian officials basic design survey team reached agreement on the basic concept of the project and the minutes were jointly signed by the leader of the survey team, Yutaka Hosono, and Minister of Public Health, Dr. José Villarreal S. at his ministry on August 4, 1981.

(2) Report Explanation Team

In order to explain and discuss the draft report of the Basic Design Survey team, a Report explanation team, headed by Yoshiyuki Hanawa, Professor, Department of Pediatrics, Toho University School of Medicine, was sent to Bolivia between 30th October and 11th November 1981.

This Report Explanation Team met with representatives of the ministry of health Trinidad city explained the report and obtained their agreement on all points.

On November 7th, the agreement was signed between the team leader Yoshiyuki Hanawa and the Minister of public Health, Dr. Arnold Hofman-Bang S.

4. List of Bolivian Officials Concerned

Below is the list of those Bolivian officials concerned with this project (as of August 4, 1981).

(1) Ministry of Public Health

Minister of Public Health	Dr. José Villarreal S.
Vice Minister of Public Health	Dr. Oscar Serrate P.
Project Coordinator	Dr. Javier Estenssoro
Project Coordinator	Dr. Arnold Hofman-Bang S.
Architectural Engineer of Ministry of Public Health	Arq. Carlos Marcelo Crespo P.

(2) City of Trinidad

Governernor of Beni State	Capt. Armando Suarez Lambert
Mayor of Trinidad	Sr. Adolfo Velazco Unzueta
Director of Development Bureau, Beni State	Ing. Hans Dellien
President of Trinidad Medical Association	Dr. Eloy Avila Alverdi
Director of Public Health Bureau, Beni State	Dr. Willy Saravia
Director of the General Hospital	Dr. Pierre Farah Aguin
Head of Obstetrics and Gynecology Department General Hospital	Dr. Hernán Velarde
Director of the Children's Hospital	Dr. Jesús Vargas Aguin
Deputy Director of Development Bureau, Beni State	Ing. Martínez

Note: During the period from October 30th to November 11th during the attendance of the Report Explanation Team in Bolivia the following change were made to the above officials.

Minister of Public Health	Dr. Arnold Hofman-Bang S.
Vice Minister of Social Provision	Tcnl. Dr. Enrrique Gutiérrez E.
Governor of Beni State	Cnl. Juan Rico Toro
Major of Trinidad	Cnl. Edgar Tineo

5. Minutes

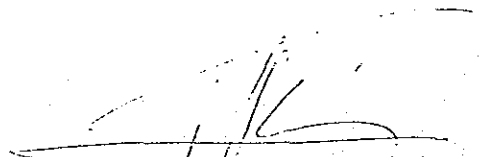
MINUTA DE DISCUSIONES

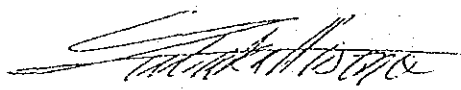
Respondiendo a la solicitud formulada por el Gobierno de la República de Bolivia, el Gobierno del Japón, a través de la Agencia de Cooperación Internacional del Japón (JICA), envió una Misión presidida por el señor Yutaka Hosono, miembro de JICA a la República de Bolivia en fecha 25 de julio al 14 de agosto de 1981, con el propósito de estudiar el diseño básico de la construcción del Hospital Materno Infantil en Trinidad.

La Misión durante su estadía en la República de Bolivia, sostuvo una serie de conversaciones e intercambios de ideas con los funcionarios del Ministerio de Previsión Social y Salud Pública, así como autoridades departamentales sobre la construcción del Hospital mencionado.

Ambas partes acordaron recomendar a sus respectivos Gobiernos analizar los resultados del estudio y conversaciones que se adjuntan, así como adoptar las medidas necesarias para realizar con éxito este proyecto.

La Paz, 4 de Agosto de 1981


Dr. José Villarreal Suárez
MINISTRO DE PREVISION SOCIAL Y SALUD
PUBLICA

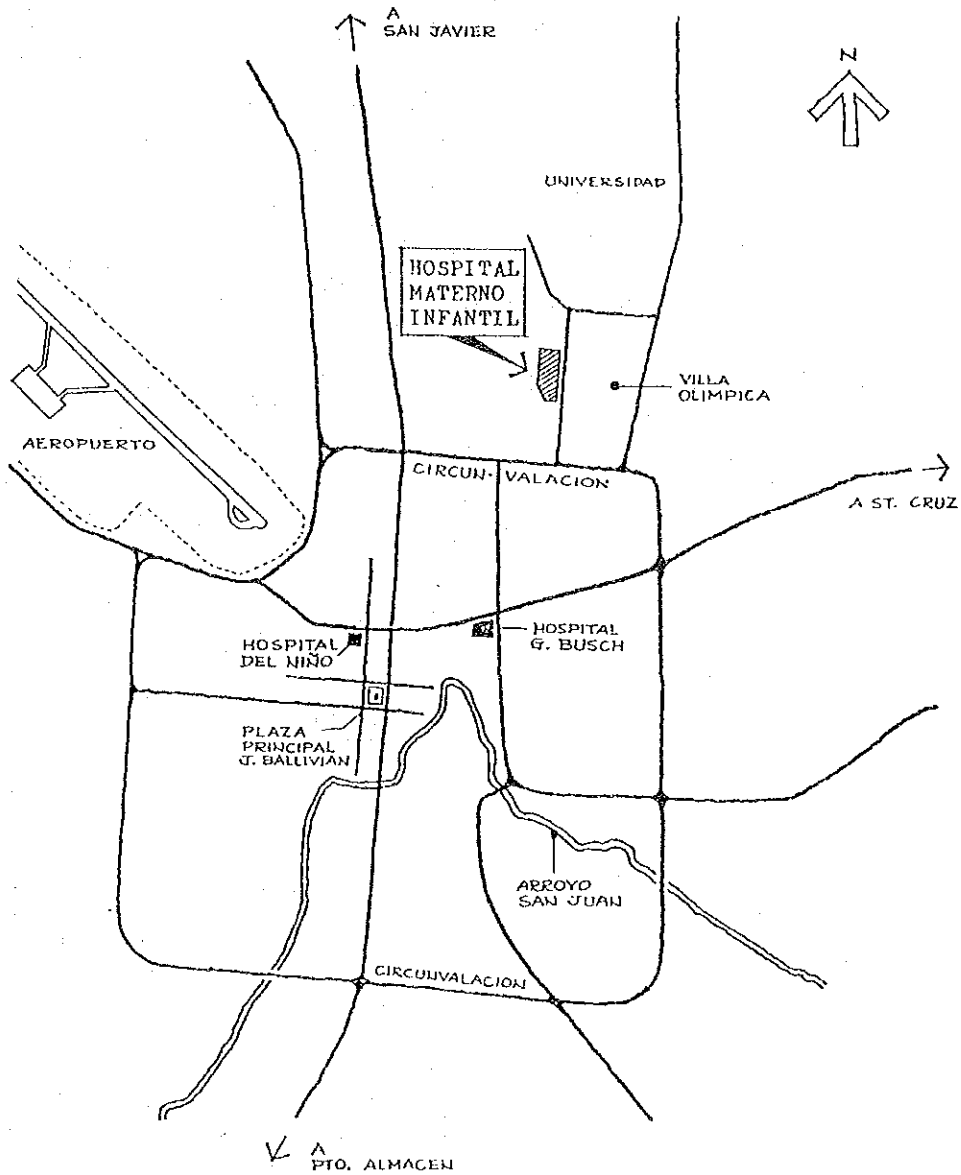

Yutaka Hosono
JEFE DE LA MISION JICA

- 1.- A través de la cooperación financiera no reembolsable del Gobierno del Japón al Gobierno de la República de Bolivia, este proyecto tiene la finalidad de proveer los medios para la construcción y equipamiento necesarios del Hospital Materno Infantil en la ciudad de Trinidad, cuyo objetivo será cubrir las necesidades de prevención, tratamiento, así como, de educación en salud para madres y niños.
- 2.- El Gobierno de Bolivia se compromete a proporcionar el terreno adecuado para la construcción del mencionado Hospital, con una superficie de 17.000 m², cuya situación legal estará debidamente saneada, así como también proveer todos los servicios públicos que se requieran. La ubicación de este terreno se señala en el plano adjunto (anexo N°I).
- 3.- El Gobierno de Bolivia a través de las autoridades locales se compromete a mejorar las condiciones de las vías de acceso peatonal y vehicular al Hospital hasta la entrega de la obra.
- 4.- La Misión Japonesa que suscribe este documento se compromete a transmitir a su Gobierno la petición formulada por el Gobierno de Bolivia, en el sentido de proveer los medios necesarios para la construcción y equipamiento del mencionado Hospital, cuyo detalle y órdenes de prioridad se adjuntan en el anexo II . Esta solicitud tendrá curso de acuerdo a las regulaciones de la cooperación financiera no reembolsable del Japón.
- 5.- Con el objeto de complementar este proyecto, el Gobierno de Bolivia se compromete a proporcionar los siguientes items:
 - 5.1. Datos e información necesarios para el diseño y construcción.
 - 5.2. Preparación y elevación adecuada del nivel del terreno mencionado, antes del comienzo de la construcción.
 - 5.3. Habilitar los medios de acceso necesarios al terreno.
 - 5.4. Facilitar los servicios públicos que se detallan en el anexo III durante la construcción y en forma definitiva para la obra.

///...

- 5.5. Se proporcionará un terreno adicional durante el período de construcción con el fin de servir de almacenaje y oficinas de campo para la empresa constructora.
- 5.6. La liberación de derechos aduaneros, impuestos internos y otras cargas fiscales a los materiales y equipos destinados a este proyecto, así como, el pronto despacho de éstos de los servicios de Aduana y su transporte en el territorio boliviano.
- 5.7. Asimismo, se exonerará del pago de todo impuesto a las personas japonesas encargadas de la ejecución de este proyecto y a la importación de equipaje, enseres de uso doméstico y vehículos de trabajo y se les concederá todas las facilidades (visas, permisos de circulación, etc.), necesarias durante su permanencia en Bolivia.
- 5.8. Una vez entregada la obra y su equipamiento, el Gobierno de Bolivia cubrirá los costos necesarios de mantenimiento adecuado a las instalaciones y equipos que asegure un rendimiento óptimo de la obra.

ANEXO I



UBICACION DEL TERRENO
PARA LA CONSTRUCCION DEL
HOSPITAL MATERNO INFANTIL

MAPA DE LA CIUDAD DE TRINIDAD



Anexo II

DETALLE Y ORDEN DE PRIORIDAD SOLICITADOS POR EL
GOBIERNO DE BOLIVIA PARA LA CONSTRUCCION DEL HOS
PITAL MATERNO INFANTIL EN TRINIDAD

Composición

I Edificio e Instalaciones

- 1.- Consulta externa
- 2.- Diagnósticos de Radiografía y Ecografía
- 3.- Laboratorios de Clínica General y Patología
- 4.- Internación de Ginecología, Maternidad y recién na
cidos normales-prematuros y nacidos enfermos-y Pe-
diatría General.
- 5.- Salas de Partos y Quirófanos
- 6.- Administración
- 7.- Cocina y Lavandería
- 8.- Sala de Máquinas
- 9.- Ambiente de Servicios
- 10.- Sala para Médicos
- 11.- Sala de Conferencias

II Equipos Médicos

- 1.- Equipo para consultorios externos
- 2.- Equipo de Radiografía
- 3.- Equipo de Ecografía
- 4.- Equipo de Laboratorios
- 5.- Equipo de Esterilización Central
- 6.- Equipo de Cirugía de Obstetricia, Ginecología y Pe
diatría.
- 7.- Equipo de parto
- 8.- Equipo de Pre y Post-Natal
- 9.- Equipo de Internación para Ginecología, Maternidad
y Pediatría.

ANEXO III

ITEMS QUE DEBE PROPORCIONAR EL GOBIERNO DE BOLIVIA

- 1.- Cañería matriz de agua potable hasta el edificio del Hospital.
- 2.- Alcantarillado o sistema de tratamiento de aguas servidas
- 3.- Línea matriz de energía eléctrica de acuerdo a los requerimientos del Hospital.
- 4.- Líneas telefónicas en número suficiente para el hospital y una línea adicional durante el período de construcción para utilización de las empresas encargadas de la construcción.
- 5.- Preparación del terreno y vías de acceso dentro del terreno y jardinería.
- 6.- Terreno adicional adyacente suficiente para oficinas de campo, almacenaje, área de trabajo, etc.

Minutes (English Translation)

Minutes of Discussions

In response to the request by the Bolivian Government, the Japanese Government, through Japan International Cooperation Agency, sent a survey team headed by Mr. Yutaka Hosono of JICA to the Republic of Bolivia for the period from July 25 to August 14, 1981, for the purpose of conducting a preliminary design survey required for the construction of the proposed Trinidad Maternal and Children's Hospital.

The survey team held a series of discussions and exchanged views with the Bolivian Ministry of Public Health and Beni State officials concerning the construction of the proposed hospital during their stay in Bolivia.

Both parties agreed that their respective governments be requested to study the results of the survey and discussions attached herewith and to take necessary measures for implementing the proposed project.

La Paz August 4, 1981

Minister of Public Health,
Republic of Bolivia
(signed)

Leader of the JICA Survey Team
(signed)

-
1. The object of the proposed plan is to construct a maternal and children's hospital in Trinidad with the cooperation provided by the Japanese Government for the Bolivian Government in the form of grant aid, supplying necessary equipment and materials, so that preventive measures necessary for maintaining the health of mother and child, treatment and training may be carried out.
 2. In order to construct the above hospital, the Bolivian Government gives an undertaking to provide 17,000 m² of land by taking appropriate legal measures for the construction of the proposed hospital and also all public facilities required. The attached plan (Appendix I) shows the location of the proposed site.
 3. The Bolivian Government gives an undertaking to have the access road to the proposed hospital improved for both pedestrians and vehicles by local government officials prior to taking delivery of the facilities concerned.
 4. The Japanese Survey Team signing this document give an undertaking to transmit the request by the Bolivian Government for the construction of the proposed hospital and the supply of necessary equipment and materials. Appendix II shows the contents of the request and the order of priority. This request is to be treated in accordance with the system of grant aid cooperation of the Japanese Government.

5. In order to carry out the proposed plan, the Bolivian Government gives an undertaking to take the steps listed below.
 - 5.1 To provide data and information necessary for designing and constructing the proposed hospital.
 - 5.2 To prepare the site and carry out the elevating of the level of the level of the site prior to the commencement of construction.
 - 5.3 To provide necessary means of transportation for access to the proposed site.
 - 5.4 To install the public facilities listed in Appendix III for the proposed hospital during construction and on a permanent basis.
 - 5.5 To provide land space for the constructor for the purpose of setting up a yard and a site office during the period of construction.
 - 5.6 To exempt those machinery and materials to be used for the proposed hospital from import duties, domestic taxes and other levies and to ensure that these machinery and materials are given prompt customs clearance and speedily transported in the Bolivian territory.
 - 5.7 Further, to exempt those Japanese citizens assigned to the construction of the proposed hospital from all taxes on them and on their personal belongings and business vehicles and to provide them with necessary facilities (visa, pass, etc.).
 - 5.8 After taking delivery of the facilities, equipment and materials, the Bolivian Government is to bear the costs necessary for appropriately maintaining the facilities and equipment so that the facilities may be most efficiently managed.
-

Appendix I: Map (see the map shown elsewhere).

Appendix II: Contents of the request by the Bolivian Government and the order of priority concerning the construction of Trinidad Maternal and Children's Hospital.

Composition

I. Buildings and facilities

1. Outpatient consultation rooms
2. Radiography and ultrasonic diagnosis rooms
3. General clinical and pathological laboratory

4. Wards: gynecology, obstetrics, normal newborn--premature and sick--pediatrics
5. Delivery and operation rooms
6. Administration department
7. Kitchen and laundry
8. Machine room
9. Service department
10. Doctors' rooms
11. Conference rooms

II. Medical equipment

1. Equipment for outpatients
2. X-ray equipment
3. Ultrasonic equipment
4. Laboratory equipment
5. Equipment for the central sterilized supply department
6. Operation equipment for obstetrics, gynecology and pediatrics
7. Equipment for delivery
8. Prenatal and postnatal equipment
9. Equipment for gynecological, obstetric and pediatric wards

Appendix III: Steps to be taken by the Bolivian Government

1. Installation of the water main to the hospital buildings
2. Installation of a sewerage system, i.e., sewage treatment system
3. Installation of electric power supply to the hospital
4. Installation of a sufficient number of telephone lines, for the hospital and also for the constructor during the period of construction
5. Provision of passages and gardens in the site area
6. Provision of land space adjacent to the hospital site for a site office, a yard, workshope, etc.

CONVENIO ADICIONAL AL ESTUDIO DEL DISEÑO
BASICO PARA LA CONSTRUCCIÓN DEL HOSPITAL
MATERNO INFANTIL DE TRINIDAD

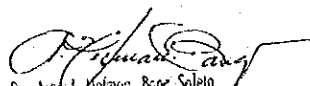
Como respuesta al requerimiento del Gobierno Boliviano al Gobierno Japonés, a través de la Agencia Internacional de Cooperación (JICA) para la construcción y equipamiento de un Hospital Materno Infantil en Trinidad, fue enviada una Misión para el estudio básico de éste proyecto en Julio 25 de 1981. Este equipo de trabajo encabezado por el Dr. Yoshiyuki Hanawa ha concluido este estudio, el cual ha sido sometido a consideración de las autoridades locales de Trinidad y el cuerpo médico así mismo a las autoridades del Ministerio de Previsión Social y Salud Pública en La Paz, en fechas 30 de octubre al 11 de noviembre de 1981.

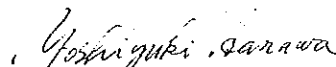
El estudio básico para la construcción y equipamiento del Hospital Materno Infantil de Trinidad ha merecido una total aprobación por parte de las autoridades locales de Trinidad y también por las autoridades del Ministerio de Previsión Social y Salud Pública.

J.I.C.A. se compromete a enviar 20 ejemplares al Ministerio de Previsión Social y Salud Pública del Informe final a fines de Diciembre de 1981.

En representación de sus respectivos Gobiernos y de común acuerdo los signatarios de éste documento se comprometen a dar continuidad a este Proyecto a través del cumplimiento de las Notas Reversales de noviembre 6 de 1981 y de los acuerdos llegados en las Minutas de Discusiones del 4 de Agosto de 1981

La Paz, noviembre 7 de 1981


Dr. Angel Esteban Bero Solero
MINISTERIO DE PREVISIÓN SOCIAL Y SALUD PÚBLICA


Dr. Yoshiyuki Hanawa
JEFE MISION JICA.

6. Itinerary of Field Survey

(1) Basic Design Survey Team

On July 25, the survey team departed from Tokyo, Japan, and arrived at La Paz on July 27.

On July 28, the survey team paid a courtesy call on the Minister of Public Health at the Ministry, were briefed by the Minister of Public Health, Vice Minister of Public Health and other officials on their basic requirement for the project and exchanged views. In the evening, Prof. Hanawa arrived in La Paz.

On July 29, the survey team visited the Hospital de Niño, Instituto Nacional de Maternidad and Centro de Gastroenterología and were briefed on the existing situation. They called on the Vice Minister of Public Health at the Ministry and exchanged views with Bolivian officials on the dimensions of the facilities envisioned in the project.

On July 30, the survey team discussed the draft minutes at the Ministry of Public Health and collected construction data in La Paz. On the same day, Prof. Hanawa went to Cochabamba. He visited the Centro de Pediatría -- Albina R. de Patiño -- and the Hospital Materno Infantil in the city and was briefed on the existing situation.

On July 31, the survey team moved from La Paz to Trinidad. They visited two possible construction sites in the city for a survey and study, and discussed the selection of the construction site with officials in Trinidad.

On August 1, the survey team visited the Hospital de Niño and the Hospital G. Busch and were briefed by related officials. They discussed with officials in Trinidad the character and scale of the facilities envisioned in the project.

On August 2, for the purpose of formulating a basic outline the survey team considered the selection of the construction site and the nature and scale of the facilities on the basis of the survey conducted in Trinidad.

On August 3, the survey team presented this basic outline of the project to Bolivian officials at the office of the Governor of the state of Beni and secured their agreement. (On the same day, the survey team were scheduled to return from Trinidad to La Paz but stayed in Trinidad as the local airport was closed due to a coup d'état).



JULY 29,
Discussion with the
Vice Minister of
Public Health and other
officials in La Paz



AUGUST 3
Discussion with the
authorities concerned
in Trinidad



AUGUST 4
The "Minutes" was signed
between the Minister of
Public Health and the
Team Leader

At the Beni State Development Bureau (Cordebene) in Trinidad, in the survey team collected data on electric power, water, climate, etc. They also visited and surveyed buildings under construction in the city.

On August 4, the survey team returned from Trinidad to La Paz to report the essentials of the survey and study to the JICA office in La Paz and the Japanese Embassy. Later, the team held a final talk with officials of the Ministry of Public Health on the contents of the minutes and both parties reached agreement.

On the same day, the minutes were jointly signed by the leader of the survey team, Yutaka Hosono, and the Minister of Public Health, Dr. José Villarreal S.

On August 5, the survey team reported the progress of the survey to the JICA office in La Paz and the Japanese Embassy and classified collected data. On the same day, Mr. Hosono, the team leader, and Prof. Hanawa left La Paz to return to Japan.

On August 6, part of the survey team moved from La Paz to Cochabamba. They visited construction sites in the city and classified and studied data (team members Suzuki and Okano). Two members of the team (Fukumura and Urimoto) had remained in Trinidad after August 4 to collect data on construction conditions and costs and surveyed the site.

On August 7 and 8, the group researched construction costs in Cochabamba and visited the factories of manufacturers of construction materials. They also collected data on transportation to Trinidad.

On August 9, the team moved from Cochabamba to La Paz. It reviewed collected data and studied the nature of the facilities and the construction methods.

On August 10, the survey team reported the progress of the survey to the JICA office in La Paz and the Japanese Embassy. In La Paz, the survey team were briefed on general aspects of construction and collected statistical data on prices, etc.

On August 11, the survey team discussed local ground conditions with a site investigation company in La Paz and collected construction data. On the same day, the team reported the results of the survey to the JICA office in La Paz and the Japanese Embassy.

On August 14, the team arrived at Tokyo.

(2) Report Explanation Team

The Report Explanation team left Tokyo on October 30th and arrived in La Paz on November 1st.

In the morning of November 2nd, the team visited the Japanese Embassy in La Paz and the JICA office and discussed the itinerary of the team transferred from La Paz to Trinidad. In the afternoon they visited the Children's Hospital in Trinidad.

On November 3rd, at the Trinidad Children's Hospital, the team explained the contents of the Basic Design Report for the proposed hospital to the Director of the Public Health Bureau, Beni State, the President of the Trinidad Medical Association, the Director of the Children's Hospital and related officials.

On November 4th, the team heard the opinions of Trinidad related officials on the contents of the Basic Design Study Report. There was agreement on all aspects of the report. On the same day, the team transferred to La Paz from Trinidad.

On November 5th, the team visited the Japanese Embassy in La Paz and reported on the progress of the explanation in Trinidad. On November 6th, the team were present at the Bolivian foreign ministry for the exchange of Notes (E/N). In the afternoon, they visited the Vice Minister at the Ministry of Public Health. Opinions on the content of the report were exchanged. Both parties were of similar opinion on all aspects of the report.

On November 7th, the agreement was signed between the team leader, Yoshiyuki Hanawa and the Minister of Public Health, Dr. Arnold Hofman-bang S.

On November 8th, the team left La Paz to return to Japan. The team arrived in Tokyo on November 11th.

Exchange of Notes (E/N) ⁹

7. Medical Statistics for Trinidad (Data supplied by the Health Department, Beni State)

(1) Outpatients and Inpatients at Medical Facilities (1980).

Institution		Number of beds	ⓑ Number of out-patients	Number of in-patients	ⓐ Operations	Deaths in hospital	Mortality rate of inpatients	Inpatient/outpatient ratio	Average hospitalization period	Bed occupancy ratio
A	Hospital de Clinicas G, Busch	80	3,686	4,091	1,562	64	1.6	1.1	4.5	75.6
B	Hospital de Niños	36	6,926	1,126	63	72	6.4	0.2	4.9	40.9
C	Unidad Sanitaria	-	1,087	-	-	-	-	-	-	-
D	Centro de Salud	-	2,240	-	-	-	-	-	-	-

Notes: 1) C and D are public health institutions with D being under the jurisdiction of C.

2) Although there are no other hospitals in Trinidad, there are private clinics (Consultorio Medico). However, there are no statistical data available.

ⓐ Details of Operations (1978, 1979)

	Number of hospitals*	Total			Major operations			Minor operations		
		Total	Out-patient	In-patient	Total	Out-patient	In-patient	Total	Out-patient	In-patient
		1978	2	1,309	6	1,303	545	-	545	764
1979	2	1,514	7	1,507	558	-	558		7	949

* They are a general hospital A and a children's hospital B.

ⓑ Details of Outpatients (1978, 1979)

Hospital or institution	Year	New patients	Outpatients	Total
A, B, D	1978	6,542	8,698	15,240
A, B, D and Bancel Health Center	1979	9,124	7,597	16,721

(2) Medical Personnel in Trinidad and Its Environs

Doctors: General surgery (1), Specialized surgery (4), Cardiologist (1), Orthopedist (2), Pediatrician (6), Public health (2), Obstetric and gynecologist (4), General internist (23), Pathologist (1), Otorhinologist (1), Hematologist (1), Radiologist (1), Anesthesiologist (3), Dermatologist (1), Total 51

Nurses: (all under the jurisdiction of the Ministry of Health). Qualified nurse (6), Assistant nurse (51),

Others: Technician (35), Assistant technician (48), Hospital worker (39).

(3) Obstetric and Gynecological Statistics in Trinidad General Hospital (1980)

Year	Normal delivery and cesarean section			Abortion					Gynecological disease	Total
	Normal Delivery	Cesarean section (death)	Cesarean section (normal delivery)	Total	In-Complete abortion	Infection	Total	Abortion/Total Birth ratio		
1975	472	22	4.7%	434	242	2	243	5.1%	-	1,072
1976	1,074	27	2.5	1,151	295	2	297	2.6	-	1,554
1977	943	54	5.7	997	421	1	422	4.2	-	1,419
1978	1,129	104	9.2	1,233	454	2	456	3.7	-	1,754
1979	1,073	(4) 69	6.4	1,142	510	2	512	4.5	-	1,741
1980	1,179	93	7.9	1,272	454	2	456	3.6	-	1,981
Total	5,870	(4) 369	6.3	6,239	2,399	7	2,406	3.9	54	9,112

- Notes: 1) The number of low weight newborns was 49 during the period from February to July, 1981.
- 2) Hospitalization periods by category were as follows:
 Normal delivery (2 days) Cesarean section (5-8 days)
 Abortion (1-5 days) Gynecological disorder (5-7 days)
- 3) Most of the abortion patients came to the hospital with bleeding due to unmedical procedures taken at home and other symptoms.
- 4) The number of deaths connected with cesarean section was 4 in 1979. No such death was recorded for other years.
- 5) Deaths of pregnant women were as follows:
 1975: Toxemia (2), Extrauterine trauma (1),
 1976: Toxemia (1), 1977: Toxaemia (2), 1978: Toxemia (1),
 1979: Bacteriogenic shock after cesarean section (4),
 Retention of the placenta and bleeding (1), Tetanus after abortion (1)
 1980: Tetanus after abortion (2)

(4) Inpatients at Trinidad Children's Hospital Classified by Disease

1978

ICD-8	Disease	Order	Cases by age group			
			Under 1	1-4 years old	5-14 years old	Total
A- 5	Gastro-enteritis and other forms of diarrhea	1	203	188	21	412
A- 93	Chronic bronchitis, asthma, pulmonary emphysema	2	22	55	7	84
A- 25	Measles	3	17	45	18	80
A- 89	Acute bronchitis	4	22	24	9	55
A- 106	Nephrosis, chronic nephritis	5	-	9	35	44
AN- 140	Fracture	6	-	9	31	40
A- 92	Pneumonia (bacteriogenic or those of unknown nature)	7	12	17	10	39
AN- 148	Burn	8	5	14	18	37
A- 65	Vitamin deficiency and malnutrition	9	10	23	2	35
A- 111	Genital and other urinary tract disorders	10	7	16	9	32
A- 137	Unclear symptoms and undiagnosed conditions		31	45	21	97
	Total		329	445	181	955

1979

A- 5	Gastro-enteritis and other forms of diarrhea	1	279	267	30	576
A- 93	Chronic bronchitis, asthma, pulmonary emphysema	2	50	38	11	99
A- 92	Pneumonia (bacteriogenic or those of unknown nature)	3	31	34	6	71
A- 25	Measles	4	16	36	15	67
A- 106	Nephrosis, chronic nephritis	5	4	24	20	48
AN- 140	Fracture	6	1	6	41	48
A- 89	Acute bronchitis	7	11	19	10	40
A- 111	Genital and other urinary tract disorders	8	13	16	11	40
AN- 148	Burn	9	1	15	13	29
A- 65	Vitamin deficiency and malnutrition	10	12	13	3	28
A- 137	Unclear symptoms and undiagnosed conditions		33	38	18	89
	Total		451	506	178	1135

Note: 1) The figures include some pediatric cases at the General Hospital.

(5) Death Cases Among Inpatients at Trinidad Children's Hospital
Classified by Disease

1978

ICD-8	Disease	Order	Cases by age group			
			Under 1	1-4 years old	5-14 years old	Total
A- 5	Gastro-enteritis and other forms of diarrhea	1	7	8	0	15
A- 92	Pneumonia (bacteriogenic or those of unknown nature)	2	7	4	2	13
A- 135	Perinatal disorder (immaturity, abnormal delivery, etc.)	3	9	0	0	9
A- 65	Vitamin deficiency and malnutrition	4	3	5	0	8
A- 25	Measles	5	3	3	1	7
AN- 148	Burn	6	-	1	3	4
A- 84	Cardiac diseases (excluding rheumatism)	7	2	1	0	3
A- 6	Tuberculosis	8	1	0	1	2
A- 20	Tetanus	9	2	0	0	2
AN- 143	Intracranial damage	10	1	1	0	2
A- 137	Unclear symptoms and undiagnosed conditions		5	7	0	12
Total			40 (12.2)	30 (6.7)	7 (3.9)	77 (8.1)

1979

A- 5	Gastro-enteritis and other forms of diarrhea	1	7 (2.5)	18 (6.7)	0 (0)	25 (4.3)
A- 25	Measles	2	10 (62.5)	3 (8.3)	0 (0)	13 (194)
A- 92	Pneumonia (bacteriogenic and those of unknown nature)	3	11 (2.5)	1 (6.7)	0 (0)	12 (4.3)
A- 135	Perinatal disorder (immaturity, abnormal delivery, etc.)	4	7	0	0	7
A- 72	Meningitis	5	2	3	1	6
A- 65	Vitamin deficiency and malnutrition	6	3	2	0	5
A- 20	Tetanus	7	3	0	0	3
AN- 143	Intracranial damage	8	2	0	1	3
A- 106	Nephrosis, chronic nephritis	9	0	2	1	3
A- 29	Mumps and other virus infections	10	1	0	1	2
A- 137	Unclear symptoms and undiagnosed conditions		1	3	0	4
Total			47 (10.4)	32 (6.3)	4 (2.2)	83 (7.3)

Note: 1) The figures include some pediatric cases at the General Hospital.
Note: 2) Figures in () indicate in-hospital mortality rate (%).

8. Survey of Hospitals (other than Trinidad)

(1) Hospital del Niño, La Paz (1980)

Ward: 137 beds (including newborns, infants, children)
Infections cases and burns with surgical and traumatic cases in a separate wing

Doctors: 23 (pediatrics 13, cardiology 1, neurosurgery 1, surgery 3, plastic surgery and orthopedics 3, anesthetic 2)

Nurses: 94 (qualified nurse 24, assistant nurse 70)

Outpatients: 13,634 (new patients 11,476, another outpatients 2,158)

Hospitalization:

Inpatients: 1,948

Deaths: 221 (mortality rate 11.3%)

Average hospitalization period: 18 days

Average number of inpatients per day: 95.5 persons

(2) Instituto Nacional de Maternidad

Wards: 69 beds (gynecology 27 beds, obstetrics 42 beds)

Doctors: 13

Nurses: 28 (qualified nurse 8, assistant nurse 20, midwife 0)

Hospitalization:

Number hospitalized: 4,440 (gynecology 1,117, obstetrics 3,323)

Average hospitalization period: gynecology 6 days, obstetrics 3 days

Pregnancy examination: once a month from the 5th month of pregnancy about, twice a month from the 9th month. Hb, WaR, blood sugar, urinalysis

Mortality rate of pregnant women among inpatient: 48/10,000 (2.2/10,000 in Japan)

(3) Centro de Pediatria, Albina R. de Patriño (donated by Switzerland 14 years ago. No surgical operations.)

Wards: 45 beds

Doctors: 6

Outpatients: 27,270 (general diseases 40%, vaccination 27%, emergency 23%, specialized outpatients 9%.
Vaccinations administered: BCG, DPT, MMR (German measles, measles, mumps), polio

Ages of patients: under 1 year 44%, 1-4 years 39%, 5-9 years 12%, 10-15 years 5%

Diseases: respiratory infections 34%, diarrhea 26%, other digestive disorders 4%, parasites 10%, hemolytic streptococci infection 6%, skin and subcutaneous 3%, malnutrition 3%, others 14%

Specialized outpatients: 2,489 (neurology, orthopedic, nutrition, tuberculosis, dentistry, endocrinology)

Hospitalization:

Number of inpatients: 974

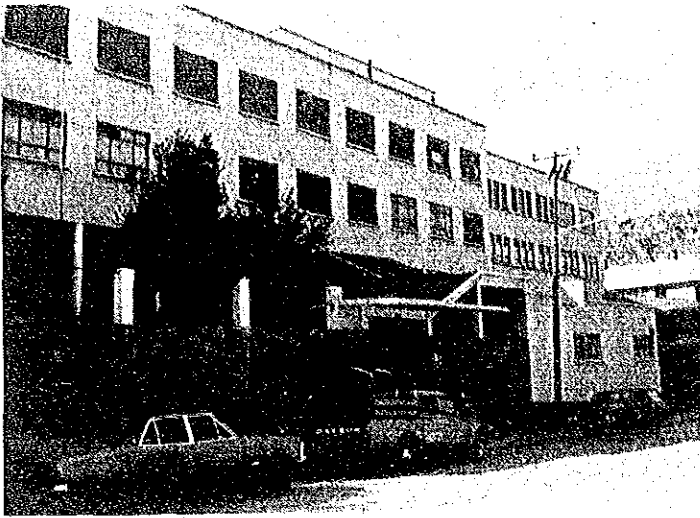
Average hospitalization period: 10 days

Average number of inpatients per day: 33

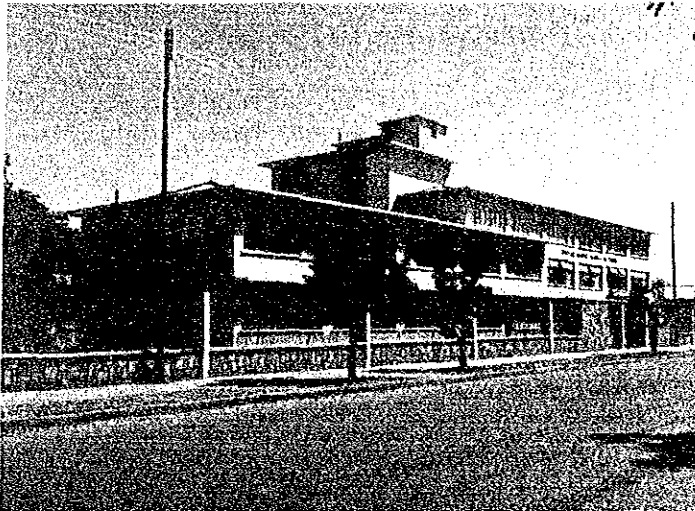
Mortality rate: 5.4% (more than 48 hours after hospitalization)
3.0% (within 48 hours of hospitalization)
Aggregate 8.4%
(The mortality rate showed a decrease of 1.3% compared to the previous year.)

Ages of patients: under 1 month 6%, 1-11 months 44%, 1-4 years 38%, 5-9 years 8%, over 10 years 4%.

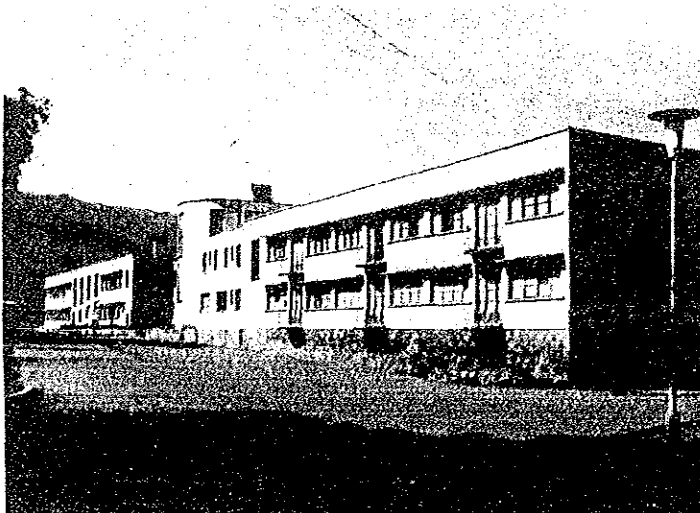
Diseases: diarrhea 20%, other digestive disorders 3%, pneumonia 15%, other respiratory disorders 4%, bacillary and amebic dysentery 12%, meningitis 4%, genitourinary disorders 3%,



National Pediatric Hospital "Hospital del Niño" in La Paz



Pediatric Center "Albina R. de Patiño" in Cochabamba



Maternity Hospital "Hospital Materno Infantil" in Cochabamba

sepsis 2%, tuberculosis 2%, typhoid fever 2%, others 33%

Diseases resulting in death: gastro-enterities and diarrhea 18 cases, sepsis 16 cases, broncho-pneumonia 13 cases, meningitis 13 cases, amebic dysentery 4 cases, tuberculosis 4 cases, others 14 cases.

(4) Hospital Materno-Infantil German Urgeridi (maternity hospital developed from a maternity clinic)

Wards: 156 beds (obstetric and gynecology 86 beds, pediatric 70 beds with obstetric beds used by both mother and child)

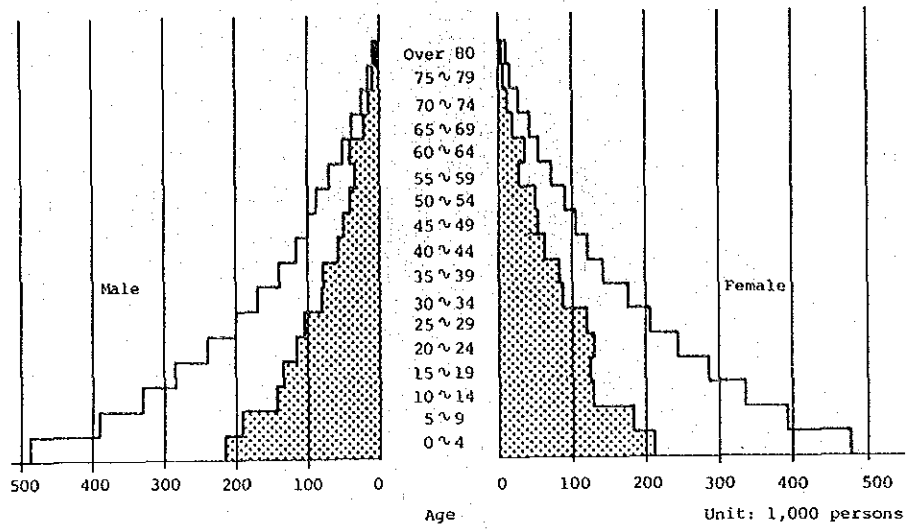
Doctors: 7, resident doctors 4, interns 5

Outpatients: health guidance and vaccination services provided.

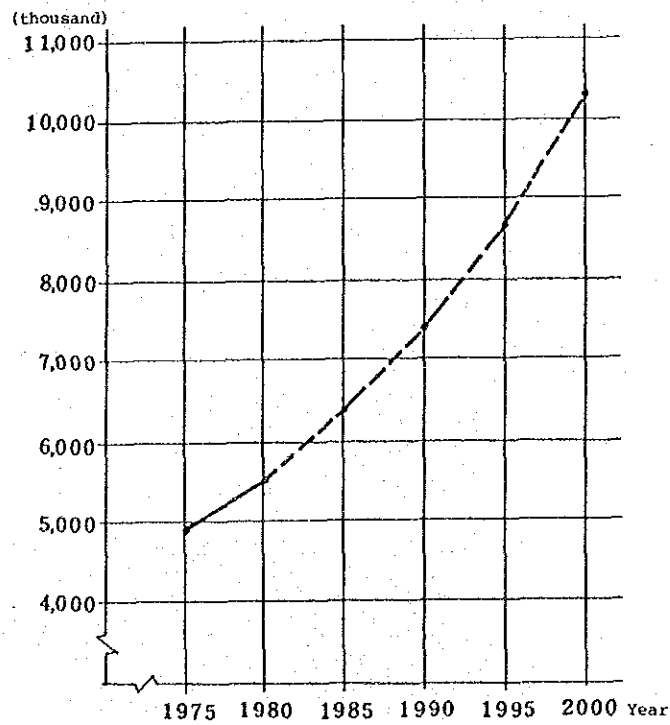
Others: newborn and immature ward (10 beds with 3 incubators); isolation ward: 10 beds in separate wing (whooping cough, scabies, diphtheria); pediatric surgery in separate wing: ICU 5 beds (beds only), operating table 1 (2-3 operations per day), average hospitalization period 3-4 days, fracture, brain surgery, orthopedics

9. Population Statistics (data from the National Statistical Bureau)

(1) Population Diagram by Age and Sex: 1980 ([stippled] for 1950).

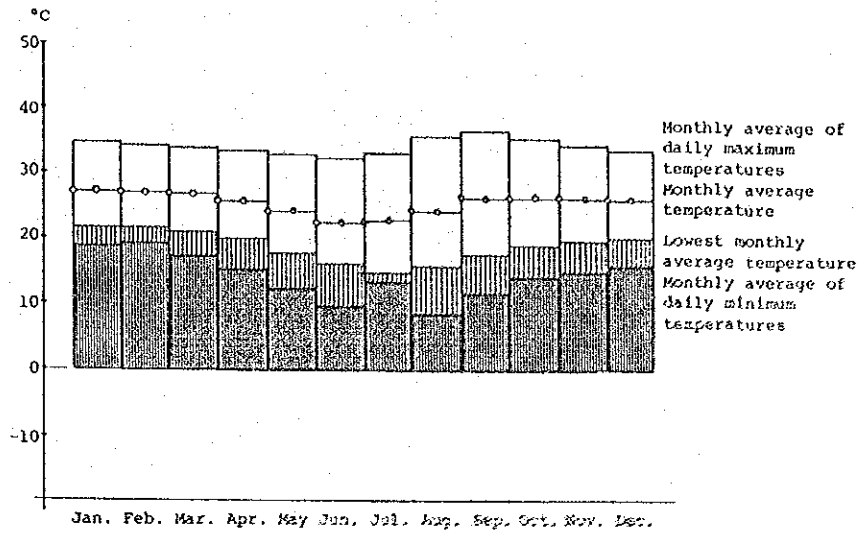


(2) Population Forecast (based on the rate of increase during the period from 1970 to 1975)

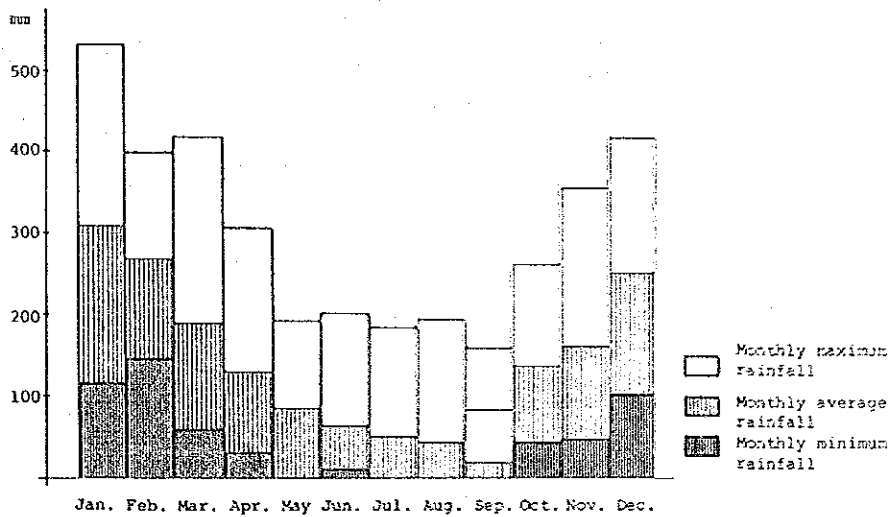


10. Meteorological Diagrams (compiled by Beni State Development Bureau and the City of Trinidad)

(1) Average Temperatures in Trinidad



(2) Rainfall in Trinidad



11. Ground Exploration

(1) Results of Trial Pits

In order to ascertain the ground condition of the proposed site, excavation to a depth of about 2.0m was carried out in the center section during the survey period.

Judging from the trial pit log supplied by the Municipal Water Works, the ground condition may be presented as below.

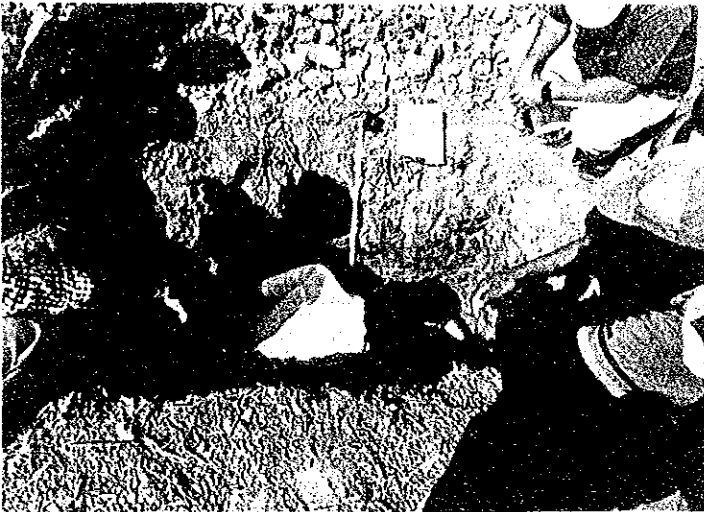
Depth (M)	Soil	Depth (M)	Mark	Color	Soil	Remarks
0	Surface soil	0.1	[Diagonal hatching pattern]	Dark brownish grey	Surface soil	<ul style="list-style-type: none"> • Soft • High permeability • Low bearing capacity
	Clay	0.2				
	Sand with clay	0.3				
10		0.4				
20	Fine sand	0.5	[Diagonal hatching pattern]	Dark brown	Organic clay	<ul style="list-style-type: none"> • Unsuitable as the bearing stratum • Bearing capacity about 2.0 t/m²
30		0.6				
40	Clay	0.7	[Diagonal hatching pattern]	Yellowish brown with dark brown	Clay	<ul style="list-style-type: none"> • Hard but contains organic clay in some sections • Bearing capacity 5.0 ~ 8.0 t/m²
50	Sand with clay	0.8				
60	Fine sand with clay	0.9				
70		1.0	[Horizontal hatching pattern]	Yellowish brown	Solid clay	<ul style="list-style-type: none"> • Solid clay • Bearing capacity around 10.0 t/m²
80		1.1				
90	Fine sand	1.2				
100		1.3				

Boring log

Results of boring

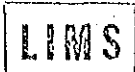


Trial Pits were dug
at the Site



Completed Pit in
the Site

(2) Results of the Boring Survey



I n g e n i e r o s C o n s u l t o r e s

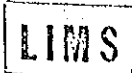
ESTUDIO GEOTECNICO

CLIENTE : NIHON ARCHITECTS ENGINEERS & CONSULTANTS, INC.
O B R A : HOSPITAL MATERNO INFANTIL
UBICACION : TRINIDAD

1. El presente estudio geotécnico ha sido realizado por nuestra Empresa a requerimiento de NIHON ARCHITECTS ENGINEERS & CONSULTANTS, INC. del Japón, a fin de investigar los parámetros mecánicos del subsuelo del terreno ubicado en la ciudad de Trinidad donde se proyecta la construcción del Hospital Materno Infantil.
2. La investigación fué realizada por medio de la perforación de 4 pozos, utilizando un Auger de 4" de \varnothing (Ver Plano de ubicación de son dajes), de acuerdo al siguiente detalle:

<u>POZO</u>	<u>PROFUNDIDAD (mts.)</u>
1	6.00
2	6.00
3	4.00
4	4.00

3. La toma de muestras se hizo de acuerdo a lo estipulado en contrato con la Empresa NIHON, sobre las que se efectuaron ensayos de laboratorio que nos permitieron realizar la clasificación de los suelos en contrados; así mismo, se ejecutaron ensayos de Standard Penetration Test (S.P.T.), a fin de comprobar los valores de resistencia del suelo, de acuerdo a las siguientes normas de ensayo:



Peso del martinete:	65 kgs.
Altura de caída:	75 cms.
Penetración:	30 cms.
Punta de cono:	18.5 cm ² .
Cuchara de Terzaghi	Ø ext. 50.8 mm. Ø int. 34.9 mm

Los índices de penetración o número de golpes (N) cada 30 cms. señalan el grado de compactación para el caso de gravas y arenas y la consistencia para el caso de las arcillas.

4. Los ensayos ejecutados en campo fueron los de Standard Penetration Test, por medio de los cuales se obtuvieron muestras para realizar en laboratorio los siguientes análisis:

- a) Peso específico
- b) Humedad natural
- c) Límite líquido
- d) Límite plástico
- e) Índice plástico
- f) Análisis granulométrico

El resultado de los ensayos de peso específico que obtuvimos por medio del método del Volumasure. AASHTO T205-64 para cada horizonte y en cada pozo, es el siguiente:

HORIZONTE	Espesor (mts.)	Pozo 1	Pozo 2	Pozo 3	Pozo 4
Arcilla limosa orgánica	0.8 a 1.00	1.54 gr/cm ³	1.54gr/cm ³	1.56gr/cm ³	1.52gr/cm ³
Arcilla limosa	2.20 a 2.50	1.80 "	1.26 "	1.79 "	1.81 "
Arena limosa		1.81 "	1.82 "	1.80 "	1.84 "

3.-

5. Los pozos de investigación fueron ubicados de acuerdo a las indicaciones de la firma HIRON (Ver Plano de ubicación de sondajes), la correlación de los horizontes encontrados en el subsuelo es buena, como lo demuestra el perfil de correlación A-A' y los respectivos perfiles de sondaje correspondientes a cada pozo. Hasta la profundidad alcanzada los 4 pozos de investigación nos muestran horizontes conformados por suelos finos dispuestos de la siguiente manera:

HORIZONTE 1.- Arcilla limosa orgánica

Se trata de un horizonte conformado por una arcilla limosa orgánica de coloración negruzca; muestra contenido de material vegetal (raíces) y su espesor varía de 0.80 a 1.0 metros en toda el área estudiada.

HORIZONTE 2.- Arcilla limosa

Subyaciendo al anterior horizonte se ubica material clasificado como una arcilla limosa poco húmeda, amarillenta con tonos blanquecinos, plástico. Su espesor varía de 2.20 a 2.50 mts. sobre este horizonte se recomienda la ubicación de las fundaciones.

HORIZONTE 3.- Arena limo-arcillosa

Material que se encuentra hasta el límite de profundidad de los pozos, se clasifica como una arena limosa en el pozo 1 y como una arena limo-arcillosa en el resto de los pozos; es poco compacta, amarillenta blanquecina, poco permeable, poco húmeda.



4.-

6. Hasta la profundidad investigada no se encontró ningún nivel freático; solamente un aumento del contenido de humedad natural en función de la profundidad.
7. Recomendamos ubicar las fundaciones a 0.80 mts. de profundidad utilizando una fatiga admisible de 0.7 kg/cm². De existir variaciones en el espesor de la arcilla orgánica, no detectados por los pozos de investigación, las cimentaciones deberán ser colocadas sobrepasando este material.
- 8.- Los ensayos de compresión simple no se ejecutaron por cuanto los laboratorios encargados de realizar este trabajo no se encontraban disponibles así como, por la prontitud con que se nos exigió la entrega del presente informe.
- 9.- Adjuntamos Cuadros de Ensayos, Plano de ubicación de pozos, Perfil de correlación, Perfiles individuales de cada pozo y Diagramas de Penetración, de tal manera que si se varían las características del proyecto se pueda elegir el nivel de fundación mas conveniente.

Carlos Abán G.

La Paz, 11 de septiembre de 1981

CUADRO DE ENSAYOS

CLIENTE: NIÑON ARCHITECTS

UBICACION: TRINIDAD

OSMA: HOSPITAL MATERNO INFANTIL

POZO	PROF. MTS.	HUMEDAD NATURAL	T A M I C E S & Q U E P A S A										COLPES/30	FATIGA ADMISIVE Kg/Cm2			
			2	172	1	3/4	2/8	4	10	40	100	200			LL	IP	
1	0.50	25.7										100	99	48	22	6	0.3 - OH
	0.75	25.5										100	98	47	23	7	0.4 - OH
	1.00	21.5							100	98	95	47	21	8	8	1.0 - CL	
	1.50	22.0							100	99	97	46	22	7	7	0.8 - CL	
	3.00	12.4						100	98	92	51	24	8	6	6	0.7 - SC	
	4.00	8.8						100	99	97	40	NP	NP	6	6	- SM	
2	5.00	10.6						100	98	96	42	NP	NP	6	6	0.8 - SM	
	0.50	26.3										100	98	49	23	7	0.4 - OH
	0.75	19.2										100	99	48	22	6	0.5 - OH
	1.00	18.5							100	99	98	45	20	6	6	0.7 - CL	
	1.50	19.1							100	98	97	46	21	7	7	0.8 - CL	
	3.00	20.0						100	97	94	54	28	5	6	6	0.7 - SC	
	4.00	15.8						100	99	92	43	26	4	7	7	0.8 - SC	
	5.00	16.3						100	97	94	45	25	3	6	6	0.7 - SC	

LMS

CUADRO DE ENSAYOS

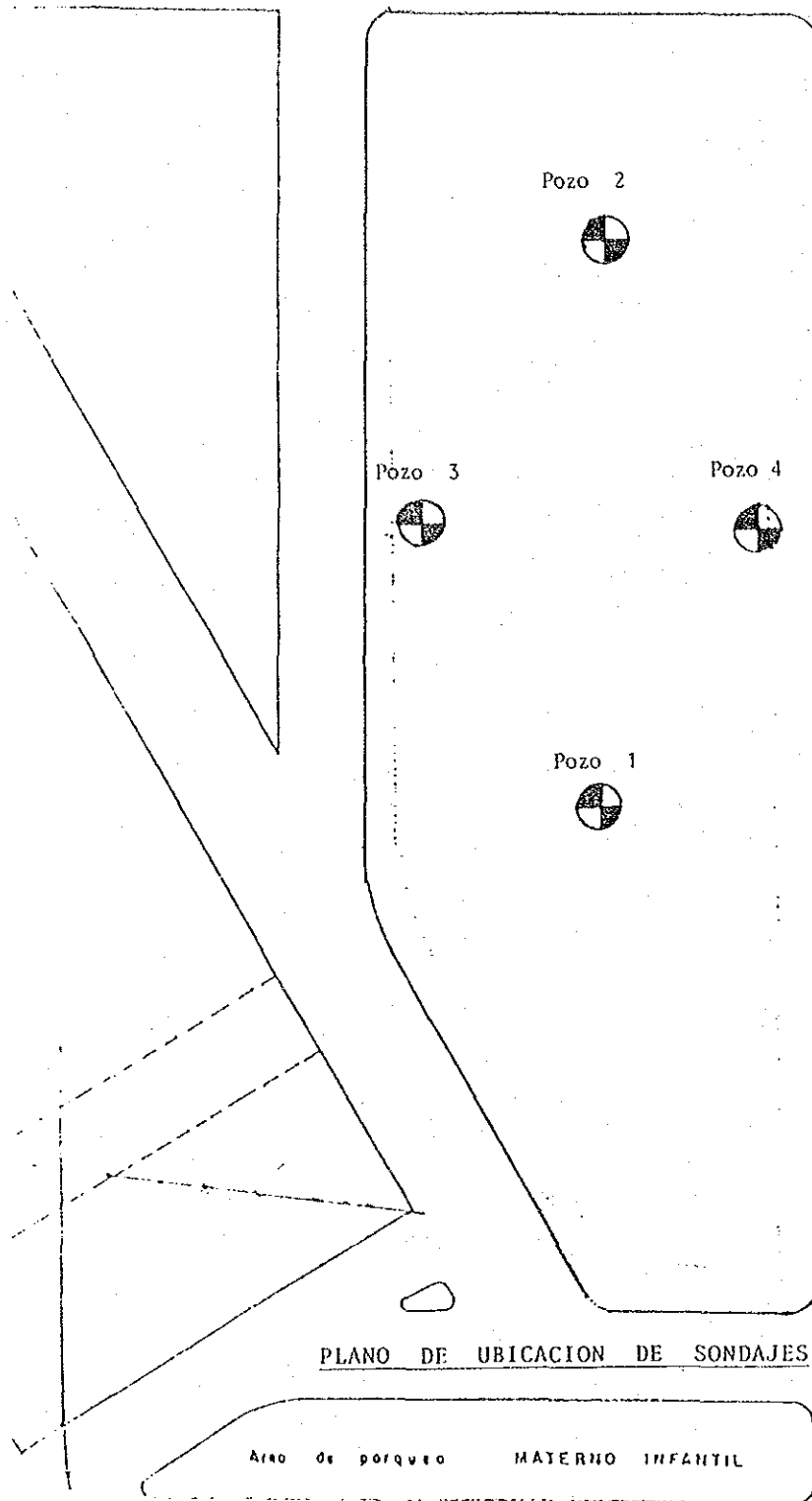
CLIENTE: NIÑOS ARCHITECTS

UBICACION: TRINIDAD

OBRA: HOSPITAL MATERNO INFANTIL

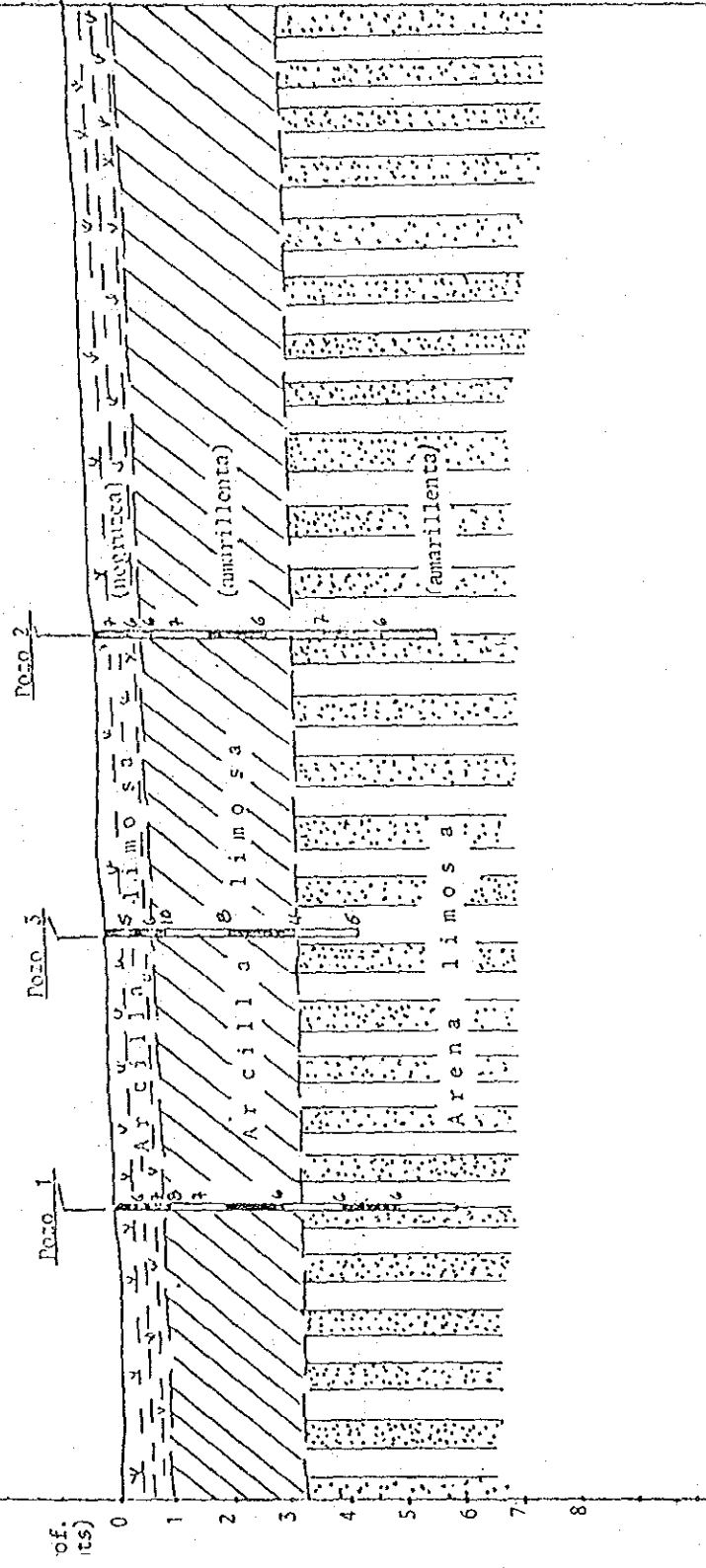
P O Z O	PROF. MTS.	HUMEDAD NATURAL	T A M I C E S V Q U E P A S A										LL	IP	GOLPES/30	FATIGA ADMISIBLE Kg/Cm2		
			2	1 1/2	1	3/4	5/8	4	10	40	100	200						
3	0.50	23.1											100	98	47	25	5	0.2 - OH
	0.75	22.5											100	96	46	24	6	0.3 - OH
	1.00	21.0							100	98	95	35	10	10	1.2 - CL			
	2.00	21.4							100	98	97	46	23	8	1.0 - CL			
	3.00	19.3						100	98	95	67	24	8	4	0.5 - SC			
	4.00	15.7						100	96	94	77	36	15	5	0.6 - SC			
4	0.50	24.2											100	99	48	21	5	0.2 - OH
	0.75	23.7											100	98	47	22	7	0.4 - OH
	1.00	23.5							100	99	98	46	20	8	1.0 - CL			
	2.00	24.2							100	98	96	43	24	5	0.6 - CL			
	3.00	19.1						100	99	95	63	22	6	6	0.7 - SC			
	4.00	16.7						100	96	92	54	23	4	5	0.6 - SC			

LMS



OLIMPICA

P E R F I L A - A°



CLIENTE: N I H O N	CERA: Hospital Materno Infantil	UBICACION: Trinidad	ESCALAS: V: 1:100 H: 1:1000	DIB: REV:	INGENIEROS LIVIS CONSULTORES
-----------------------	------------------------------------	------------------------	--------------------------------	--------------	---

LIMS

Ingenieros Consultores

PERFIL DE SONDAGE

Local: ... TRINIDAD

Tipo de Obra: ... HOSPITAL MATERNO INFANTIL

Inicio: ... 5/9/81

Tipo de Pozo: ... AUGER

FECHA: Fin: ... 6/9/81

Cota:

Cliente: ... NIMON ARCHITECTS

Inicial: ... NO.SE

Pozo N°: ... 1

N.A. 24 hrs.:

Final: ... ENCONTRO

PROF.	Golpes			Esp.	Perf. Horiz Geol.	mts	Penetración/30					CLASIFICACION DEL MATERIAL
	1	2	3				2	4	6	8	10	
0.80	1	2	4	0.80								Arcilla limosa, negruzca, rígida, orgánica.
	1	3	4									
	2	3	5	2.40			1					Arcilla limosa, amarillenta, rígida, plástica, poco húmeda.
	2	3	4									
3.20	1	2	4				3					Arena limosa, amarillenta, poco compacta, húmeda, no plástica.
	2	3	3			4						
	2	3	3			5						
6.00						6						
						7						
						8						
						9						

LIMS

Ingenieros Consultores

PERFIL DE SONDAJE

Local: TRINIDAD

Tipo de Obra: HOSPITAL MATERNO INFANTIL

Inicio: .. 8/9/81

Tipo de Pozo: AUGER

FECHA: Fin: .. 9/9/81

Cota:

Cliente: NIKON ARCHITECTS

Inicial: NO...SE.....

Pozo N°: 2

H.A. 24 hrs.:

Final: ..ENCUENTRO.....

PROF.	Golpes			Esp. Horiz	Perf. Geol.	mts	Penetración/30					CLASIFICACION DEL MATERIAL
	1	2	3				2	4	6	8	10	
0.80	1	3	4	0.80								Arcilla limosa, negruzca, orgánica, húmeda
	2	2	4									
3.50	1	3	3	2.70		1						Arcilla limosa, amarillenta, rígida, plástica.
	2	3	4									
6.00	1	4	2			3						Arena limo-arcillosa; poco compacta húmeda, plástica.
	2	3	3									
						4						
						5						
						6						
						7						
						8						
						9						

LIMS

Ingenieros Consultores

PERFIL DE SONDAJE

Local: TRINIDAD

Tipo de Obra: HOSPITAL MATERNO INFANTIL

Inicio: 7/9/81

Tipo de Pozo: AUGER

FECHA: Fin: 8/9/81

Cota:

Cliente: NIHON ARCHITECTS

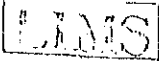
Inicial: NO SE

Pozo N°: 3

N.A. 24 hrs.: ENCONTRO

Final:

PROF.	Golpes			Esp. Horiz	Perf. Geol.	mts	Penetración/30					CLASIFICACION DEL MATERIAL
	1	2	3				2	4	6	8	10	
0.80	1	2	3	0.80	↓ ↓ ↓							Arcilla limosa, negruzca, orgánica.
	2	4	6	2.40	[Hatched Pattern]	1						Arcilla limosa, amarillenta, rígida, húmeda, plástica.
	2	3	5			2						
3.00	1	2	2		[Dotted Pattern]	3						Arena limo arcillosa, amarillenta, húmeda, poco compacta.
4.00	1	2	3		[Dotted Pattern]	4						
						5						
						6						
						7						
						8						
						9						



Ingenieros Consultores

PERFIL DE SONDAS

Local: TRINIDAD

Tipo de Obra: HOSPITAL MATERNO INFANTIL

Inicio: 6/9/81

Tipo de Pozo: AUGER

FECHA: Fin: 7/9/81

Cota:

Cliente: NILON, ARCHITECTS

Inicial: .. NO SE

Pozo N°: 4

N.A. 24 hrs.:

Final: ENCONTRO

PROP.	Golpes			Esp. Horiz.	Perf. Geol.	mts	Penetración/30					CLASIFICACION DEL MATERIAL
	1	2	3				2	4	6	8	10	
1.00	1	2	3	1.00	↓ ↓ ↓ ↓	1						Arcilla limosa, negruzca, orgánica húmeda, agrietada.
	1	3	4									
3.10	2	3	5	3.10	/ / / /	2						Arcilla limosa, amarillenta, rígida, plástica, húmeda.
	1	2	3									
4.00	1	2	4	4.00	3						Arena limo arcillosa, amarillenta, poco compacta.
	1	2	3									
						5						
						6						
						7						
						8						
						9						

12. Analysis of City Water in Trinidad (tested by a research section of the Ministry of Health)

Water tested: E-1 Well of the Water Works (CORPAGUAS),
Trinidad

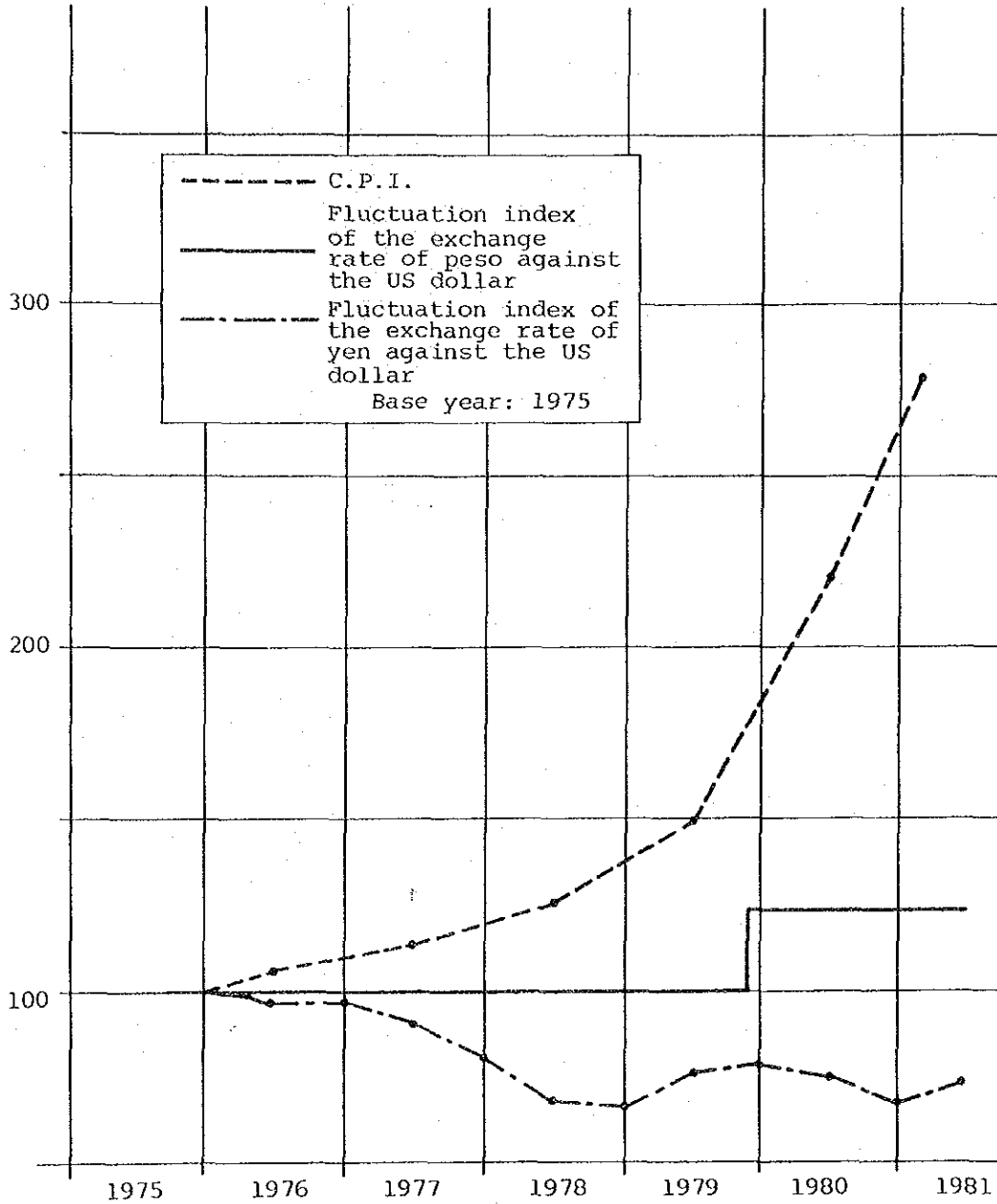
Date: Samples collected on September 7, 1979,
tested on September 12

Observation: Uncolored and clear. No sedimentation after
24 hours.

Results of analysis:

PH	5.0 (15°C)
Calcium ion	6.84 mgr/ℓ
Magnesium ion	2.52 "
Iron	0.10 "
Manganese	0.20 "
Chloride	3.40 "
Sulfate	43.61 "
Turbidity	Less than 25.0 U-Jackson
Alkalinity	241.5 mgr/ℓ
Hardness	27.09 "
Residuals	361.0 "

13. Exchange Rate Fluctuations



14. Prices of Materials

(1) Survey of Retail Prices in Cochabamba: August, 1981

Item	Type	Unit	Price in peso	Remarks
Angle steel	3/4" (Thickness 1/8)	6 m	98.0	Standard size 6 m
	1" (")	"	134.0	"
Deformed steel bar	3/8"	"	59.0	"
	5/8"	"	152.0	"
	5/16"	"	39.0	"
	1/2"	"	93.5	"
	1/4"	"	27.0	"
Wire mesh	Width 1,000 × 46m	1 Roll	515.0	
Paint	Ordinary	3.5ℓ	349.0	
	Latex	"	294.0	
	Latex	4.5ℓ	270.0	Coralatex
Galvanized sheet iron	Corrugated sheet iron	1 Sheet	205.0	0.9 × 3.0m
	Sheet GLS. 32#	"	118.0	1.0 × 2.0m
Glass	Clear Thickness 3mm	1 Square foot	27.0	
	Shaped glass	"	36.0	
Nail		1 kg	28.0	
Insect preventive net	Width 900	1 m	75.0	Galvanized
Cast iron pipe	1/2" Elbow	1	15.0	
	3/4" Elbow	1	20.0	
Cement	CEMENTO VIACHA 241103	50 kg	150.0	

Item	Type	Unit	Price in peso	Remarks
Vinyl pipe	1/2"	3 m	20.0	Standard size 3 m
	5/8"	"	27.0	"
	3/4"	"	35.0	"
	1"	"	55.0	"
Drain pipe	1 1/2"	4 m	150.0	Standard size 4 m
	2"	"	330.0	"
	3"	"	380.0	"
	4"	"	460.0	"
Water pipe	1/2"	5 m	170.0	Standard size 5 m
	3/4"	"	220.0	"
Sanitary ware	Low tank general grade	1	2,000.0	Ideal standard
	Low tank high grade	1	2,550.0	Deca
	Urinal	1	1,500.0	With siphone
Wash basin	Large size general grade	1	1,370.0	With metal fittings
	High grade	1	1,650.0	"
	Medium size general grade	1	720.0	"
	Stand type	1	2,300.0	"
Soap container	150 × 150	1	125.0	
	150 × 75	1	85.0	
	With a knob	1	135.0	
Shower tub	750 × 750 × 150	1	2,000.0	
Towel hanger		1	125.0	

Item	Type	Unit	Price in peso	Remarks
Sink	Enameled sheet iron	1	850.0	
	Enameled sheet iron (small size)	1	780.0	595 × 370
	Stainless double sink	1	3,900.0	1,800 × 500 Spanish make
Lock	Cylinder lock	1	2,800.0	Ornamental
	Yale-type box lock	1	250.0	
Switch	Single	1	45.0	Italian make
	Double	1	60.0	"
	With outlet	1	75.0	"
Tile	150 square, white, first grade	1 Box	521.84	Box of 88 for about 2 m ² ; @5.93 pesos
	" second grade	"	462.0	" @5.25 pesos
	150 square, color, first grade	"	577.28	" @6.56 pesos
	" second grade	"	521.84	" @5.93 pesos

(2) Survey of Retail Prices in Trinidad: August, 1981

Item	Type	Unit	Price in peso	Remarks
Brick	Hollow, six-hole, first grade	1	5.47	1% of tax payable for a lot of more than 1,000.
	First grade for paving	1	6.65	"
	First grade for flooring	1	2.70	"
	21-hole first grade	1	5.09	"
	Hollow, three-hole, first grade	1	3.51	"
	Hollow, six-hole 1/2, first grade	1	2.735	"
	First grade for girder	1	8.72	"
	Clear, first grade	1	5.06	"
	Hollow, six-hole, second grade	1	3.83	"
	Second grade for paving	1	4.65	"
	Second grade for flooring	1	1.89	"
Roofing materials	Spanish tile	1	5.00	
	Corrugated slate	1 m ²	218.00	
	Long slate	1 m ²	375.00	
	Tile style corrugated slate	1 m ²	285.00	

Item	Type	Unit	Price in peso	Remarks
Sewerage pipe	2"	1	40.0	Standard size 75 cm
	4"	1	80.0	"
	6"	1	120.0	"
	8"	1	160.0	"
Terrazo flooring	Hand-polished	m ²	500 ~ 600.0	
	Color cement	m ²	300.0	
Wood products	Small flooring board	m ²	420.0	
	Small ceiling board	m ²	300.0	
	2" × 6"	m	30.0	
	Door 0.9 × 2.1	1 Set	1,920.0	Including the door frame

15. Labor Costs (based on the Table of Unit Prices of Labor prepared by the Development Bureau, Beni State.)

Work	Unit	Labor costs (peso)	Remarks
Manual digging	m ³	100.0	
Filling, tamping	m ³	55.0	
Wall demolition	m ²	25.0	
Floor demolition	m ²	70.0	
Tiled roof dismantling	m ²	15.0	
Galvanized roofing demolition	m ²	10.0	
Reinforced concrete demolition	m ³	1,600.0	
Galvanized roofing	m ²	120.0	
Tile roofing	m ²	135.0	
Hollow brick foundation	m ³	350.0	
Second grade brick foundation	m ³	500.0	
Hollow brick flooring	m ³	350.0	
Foundation waterproofing	m	10.0	
Hollow brick wall	m ²	40.0	12 cm thickness
21-hole brick wall	m ²	55.0	12 cm thickness
Hollow brick wall	m ²	45.0	10 cm thickness
Second grade brick wall	m ²	70.0	15 cm thickness
Brick flooring	m ²	38.0	
Flooring with tamped crushed brick	m ²	40.0	
Terrazo flooring	m ²	130.0	
Mortar flooring finished by floating	m ²	80.0	

Work	Unit	Labor costs (peso)	Remarks
Brick flooring with concrete base	m ²	70.0	
Brick flooring	m ²	38.0	
Tile plinth	m	16.0	
Terrazo plinth	m	22.0	
Mortar plasterer	m ²	35.0	
Tiling	m ²	135.0	
Hollow brick column	m	40.0	25 cm square
21-hole brick column	m	50.0	25 cm square
Lime plaster ceiling	m ²	55.0	
Small board ceiling	m ²	50.0	
Reinforced concrete column, girder	m ³	1,600.0	
Reinforced concrete slab	m ³	1,700.0	
Reinforced concrete staircase	m ³	1,600.0	
Reinforced brick slab	m ²	70.0	
Plain concrete	m ³	350.0	
Paint work	m ²	14.0	
Door frame fixing	1 location	100.0	
Window frame fixing	"	100.0	
Reinforced brick lintel	m	40.0	
Wooden lintel	m	25.0	
Brick arch	m	80.0	21-hole brick used
Infiltration well	1 location	6,000.0	

Work	Unit	Labor costs (peso)	Remarks
Clarification tank	1 location	3,200.0	
Sewer inlet	"	300.0	
Installation of sanitary ware	"	400.0	
PVC piping 2"	m	15.0	
" 4"	m	18.0	
Brick open channel	m	40.0	

16. Reports in the Local Newspaper

The PRESENCIA, July 29, 1981.

PRESENCIA

La Paz, Bolivia, miércoles 29 de julio de 1981

JICA diseñará planos para el Materno-Infantil de Trinidad

Una misión especial de la Agencia Internacional de Cooperación del Japón (JICA) ha llegado a La Paz para diseñar los planos

básicos para la construcción del Hospital Materno-Infantil de Trinidad, se informó oficialmente.

La misión está presidida

por Yutaka Hosono, director de planificación de JICA, e integrada por Yoshiyuki Hanawa (consejero médico), los arquitectos Masaji Suzuki y Masato Okano y los ingenieros Masotoshi Urimoto y Masahita Fukumura. La misión visitó ayer al Ministro de Previsión Social y Salud Pública, Dr. José Villarreal.

Los miembros de la misión se trasladarán el viernes a Trinidad, para comprobar las necesidades previo a la construcción del Materno-Infantil, establecer los terrenos apropiados y, finalmente, comenzar a elaborar los estudios de diseño básico.

En la visita al Ministro de Salud, la misión solicitó, según el informe, la liberación de impuestos para internar al país materiales y equipos de construcción para el futuro hospital, que será construido con un crédito no reembolsable del gobierno japonés.

El Ministro de Salud anunció que el gobierno "dará todo su apoyo" para concretar la obra, en vista de que existe "alto índice de morbi-mortalidad del binomio madre-hijo", en Trinidad.

Japón iniciará estudios para centro de maternidad del Beni

"Dentro de unos 15 días llegará al país una Misión técnica japonesa, con objeto de iniciar estudios de geología en los terrenos donde se construirá un Centro de Maternidad en la capital del Beni (Trinidad).

La información fue proporcionada en fuentes del Ministerio de Salud, a propósito de aquel proyecto que será encarado por el gobierno del Japón mediante su organismo de coope-

ración Internacional (JICA).

Aquel gobierno tiene comprometido donar todos los recursos para realizar esos trabajos hospitalarios en Trinidad.

Los técnicos japoneses que llegarán próximamente, elaborarán también los planos respectivos, dice el informe.

CAPACITACION

Por otra parte se informó que en la víspera se dió comienzo a un curso de capacitación para oficiales de estadísticas de salud y registros de atención médica.

Entre los objetivos principales se señalan los de "identificar y planificar las técnicas de recolección, tabulación y presentación de datos estadísticos de acuerdo

con normas establecidas"

Entre los temas a enseñarse se encuentran los siguientes: Revisión de matemáticas, principios de salud pública, elementos de epidemiología, conceptos educativos sanitarios, administración general, administración hospitalaria, anatomía, términos médicos, clasificación de enfermedades, estadística descriptiva, estadística de salud y registros de atención médica.

BECAS

Mediante el Ministerio de Planeamiento se informó que el gobierno de Israel ofrece becas para cursos de post grado en Salud Pública.

Se indica que dichos cursos comenzarán en noviembre del presente año y serán dictados en idioma Inglés.

Japoneses estudian ubicación para un hospital en Trinidad

TRINIDAD, 3 (PRESEN-CTA). El prefecto, Armando Suárez Lambert, el alcalde, Adolfo Velasco; el presidente de la Corporación de Desarrollo y las autoridades sanitarias, estuvieron en el aeropuerto para dar la bienvenida a los técnicos japoneses que han venido con el objeto de ubicar los terrenos en donde construirá el edificio del Hospital Materno Infantil donado por el gobierno del Sol Naciente.

Yutaka Hosono, director de división de planeamiento del Departamento de Cooperación Financiera; el Dr. Yoshiyuki Hanawa, consejero médico de la misión y catedrático de pediatría de la Universidad de Toho; Arq. Masaji Suzuki, arquitecto principal de la Nihon Architects; el Arq. Masato Okano, de la misma entidad; el Ing. Masahisa Fukumura, Ing.

de estructuras y el Ing. Masatoshi Urimoto, ingeniero electrónico, forman esta comisión que ha de dar, previo el estudio correspondiente, el lugar en donde se levantará el moderno y amplio edificio del nuevo nosocomio.

Después de informarse de los detalles de las varias posibilidades que le han hecho conocer las autoridades y de visitar los terrenos seleccionados, estuvieron observando las instalaciones del hospital de pediatría "Alberto Reyes d'Avila", insuficiente para atender las demandas de la población de los niños de este distrito.

La Alcaldía, la Prefectura, la Corporación de Desarrollo y los médicos han colaborado con los profesionales nipones para que su objetivo sea cumplido dentro de lo previsto con el

propósito de que la construcción también se lucie en el plazo fijado.

Para los bennanos, este donativo ha despertado mucha expectativa porque es el primero en este aspecto y de esta envergadura, dadas las condiciones de salubridad que tienen y donde la parasitosis, las endemias, epidemias y la desnutrición hacen estragos en la población infantil.

La evaluación, estudios de suelos y otros aspectos que se prevén como exigencias, han de ser sometidos a consideración de la empresa constructora que empezará su tarea en los primeros meses del año venidero. Sin embargo, se debe contar con todos los antecedentes, dijo uno de los técnicos, para que la obra no solamente sea concluida sino que preste verdaderamente los servicios que corresponden a una unidad de este tipo.

17. List of Sources Obtained

- 1) Bolivia en Cifras 1980 (Instituto Nacional de Estadística)
- 2) Resumen Estadístico 1980 (Instituto Nacional de Estadística)
- 3) Proyecciones de la Población (Instituto Nacional de Estadística)
- 4) Boletín Demográfico Departamental del Beni (Instituto Nacional de Estadística)
- 5) Resultados del Censo Nacional de Población y Vivienda 1976 - Departamento del Beni (Instituto Nacional de Estadística)
- 6) Proyecciones de Algunos Indicadores del Nivel de Salud (Ministerio de Previsión Social y Salud Pública)
- 7) Estadística en Salud Pública (Unidad Sanitaria del Beni)
- 8) Datos Generales de Empresas Constructoras en Bolivia (Cámara Boliviana de Construcción)
- 9) Estadísticas de Transportes y Comunicaciones (Instituto Nacional de Estadística)
- 10) Estadística de Costos Unitarios de Materiales de Construcción (Ministerio de Urbanismo y Vivienda)
- 11) Índice de Precios al Consumidor, Febrero 1981 (Instituto Nacional de Estadística)
- 12) Expediente Urbano I, Trinidad (Cordebeni)
- 13) Informe de Laboratorio de Agua de Pozo Profundo (Ministerio de Previsión Social y Salud Pública)
- 14) Estudio Geotécnico - Hospital Materno Infantil, Trinidad (LIMS, Ingenieros Consultores, La Paz)
- 15) Presupuesto por Mano de Obra (Cordebeni)
- 16) Mapa Vial de Bolivia 1978 (Servicio Nacional de Caminos)
- 17) Mapa de la Ciudad de Trinidad (Consejo del Plan Regulador, Trinidad)
- 18) Reports in the Local Newspapers (Presencia and Hoy)
- 19) La Población Boliviana en Gráficos (Instituto Nacional de Estadística)
- 20) Estadísticas de Salud del Sector Público (Instituto Nacional de Estadística)

JICA