5-3 SURVEY OF THE CONSTRUCTION SITE

A. Location of site

The planned site is located at the area to the south east and about 8Km apart from the city of Medan the capital of the State of North Sumatra where can be reached in about 20 minutes by car.
The area is about 8 ha. in size and the most of the area is occupied by the puddy rice field. The Government of Indonesia started negotiations to acquire the area as a construction site for the center.
At the 2nd visit of the Site, existing residences are all removed and site-reclamation has been executed by the Government of Indonesia.
Site reclamation will be shortly completed. The re-construction plan of the Bridge of the approach road to the Center from Medan will be constructed and/ or started.

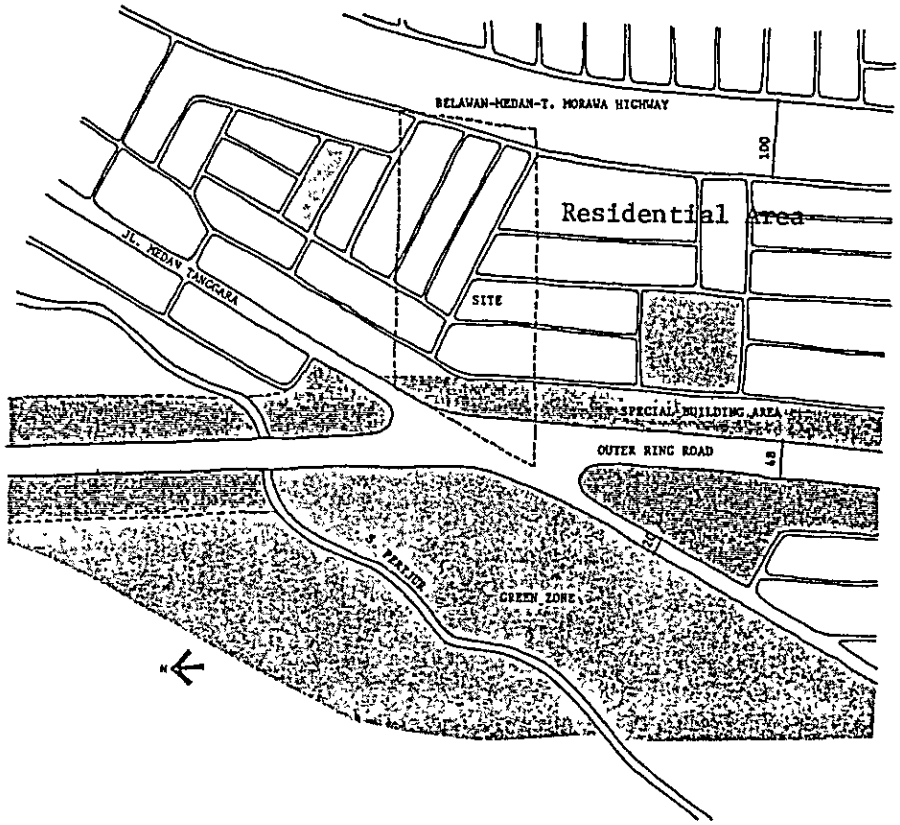
B. Surroundings of the construction site

The site is a rectangular and plain piece of land about 400m east-to-west and about 200m north-to-south and the most of the area is occupied by puddy rice field and firm land and the rest are banana plantation and rough terrain including two occupied residential houses which will be evacuated upon the conclusion of formal contract with the Government of Indonesia.
The land surveying should have been made by Indonesia side, however, since the surveying had not been completed yet by the time when this Basic Survey was being conducted, only the survey of rough level which is necessary for the project had been conducted during the period of basic design surveying.
The site has gentle upward gradient with about 1/100 in the direction of east-to-west and is lowered about an average of 2.0m from the level of the road in front of the projected site.
Subsequently, filling will be necessary to prevent the land from water flooding during rainy season.

C Infrastructure around the construction site

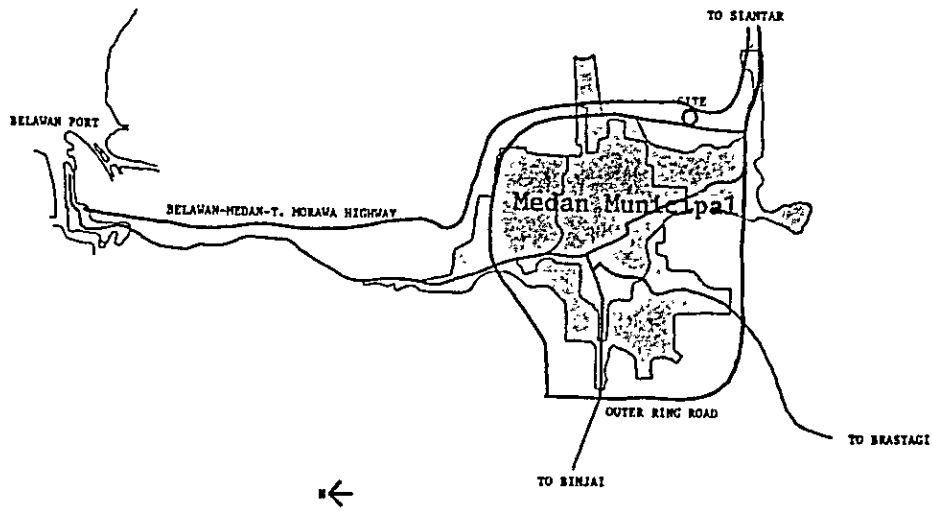
The road in front of the site has width of 14m and is paved 4m in the center zone. And some residential houses are scattered along the road, but since no shopping building exist, the residents have to go to the market which is located about 3Km apart from their residences along the Medan-Siantar road.
The river Pertjut is flowing at the point about 200m to the west of the proposed site crossing the road in front of the site.
An electrical high-voltage 20KV line, is running along the road in front of the site, therefore, it is possible to supply the necessary power to the center.
Neither sewer line nor city water supply main are provided in the vicinity of the site. The inhabitants in the adjoining area usually dril a well to pump up water. The unlined gutters along the both sides of the raod are available for storm drainage leading to the river Pertjut.

Medan City Planning



According to the investigation at the office of the Road Construction Bureau (Direktorat Jenderal Bina Marga) on June '80, Belawar-Medan-T.Morawa Highway is planned to be constructed 300M apart from the eastern boundary of the Site.

Medan Transportation Planning



D. Projected road in the vicinity of the proposed site

(1) Projected Highway Linking Belawan-Medan-Tanjun Morawa

The highway project is planned by the Road Construction Bureau (Direktorat Jenderal Bina Marga) totalling 34.6Km having the road width of 100m consisting of four lanes. For the time being, it is planned as the toll road which can control the flow of car entry and is expected to function as a by-pass road in the Medan Center and is scheduled to be completed during the period of the third five-year program.

(2) Ring Road

Renovation of the existing outer ring road having the width of 48m which is shown in the master plan prepared by Medan city is planned.
The two major road construction and renovation projects mentioned above will have great influence over the projected site for this center. An outer ring road on the western boundary and a toll road on the eastern boundary are planned to cross the part of the site, and the area having the width of 50m along the outer ring road is designated as a Special Building Area which limits the construction of general building.

E. Soil exploration

(1) Trial Pit

In order to identify the surface soil profile, one trial pit was drilled up to the depth of 1.8m during the basic design survey period.
The results of the test boring are shown in the following table.

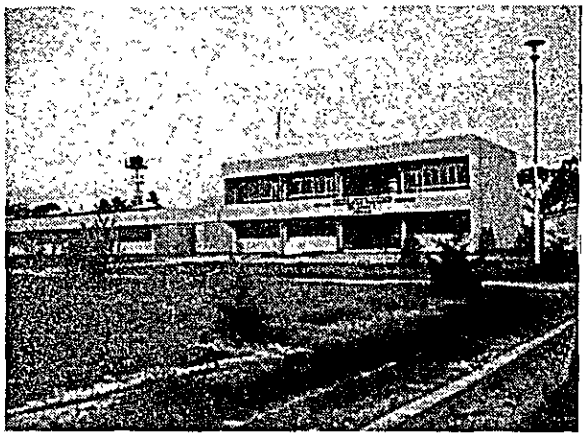
Depth (cm)	Soil	Classification	Color
0 - 40	Sandy clay	Rather hard	Dark gray
40 - 100	"	Hard	Blue gray
100 - 180	"	"	Brown gray

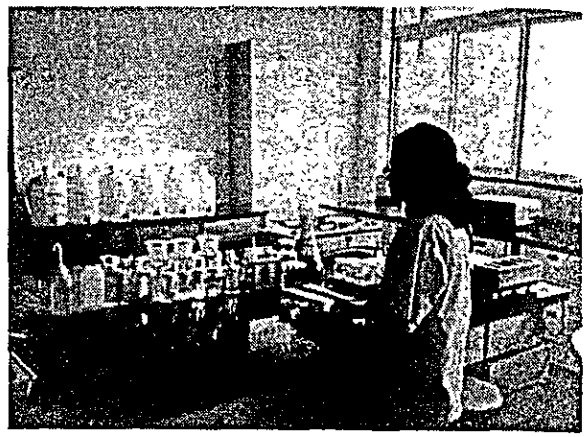
Surface soil of the site consists chiefly of sandy clay and since the top soil is covered with the puddy field, some organic substances are mixed in. And though no trace of ground water level was found within the depth digged by the trial pit, considerably high water level is prospected in rainy season. The hardness shown in the top soil was supposed due to exposure to the strong sunshine during dry season when the surveying was made. However, in a rainy season the top soil will show entirely different properties.

(2) Soil Survey

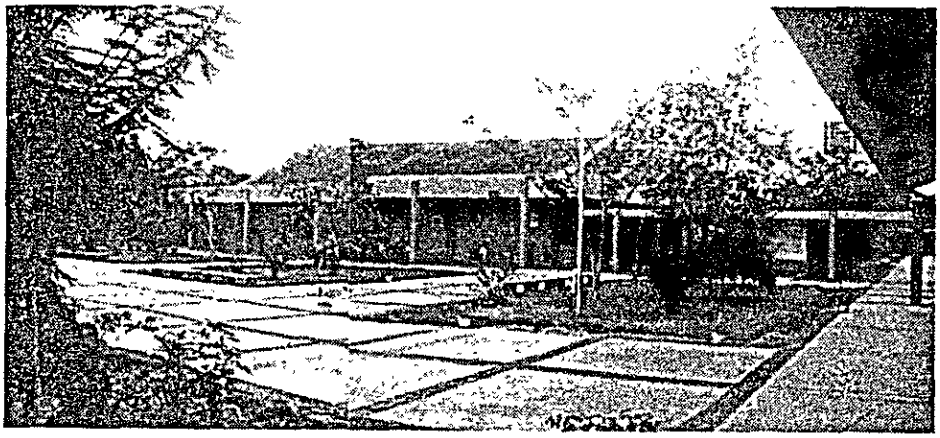
In order to identify soil profile of the site more accurately, the basic design survey team asked the Indonesian Government to carry out the standard penetration tests at four points in the projected site up to the depth of 15m and confirmation of the ground water level.

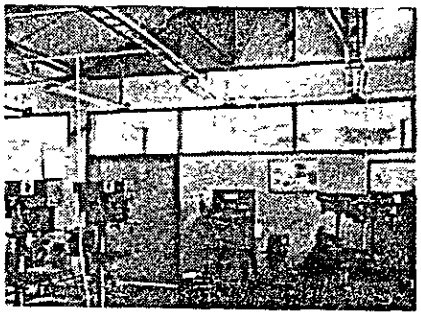
BALAI PENYIDIKAN PENYAKIT HEWAN WILAYAH-1 (ADIC)



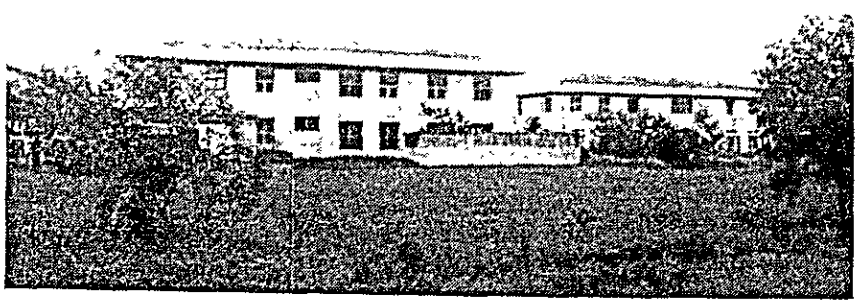


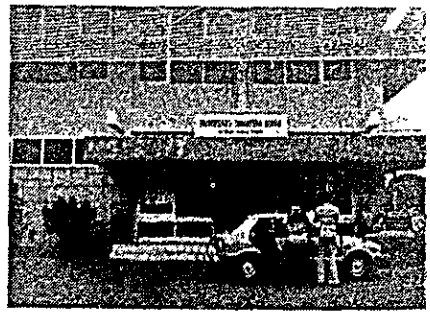
BALAI LATIHAN PENDIDIKAN TEKNIK (BLPT)





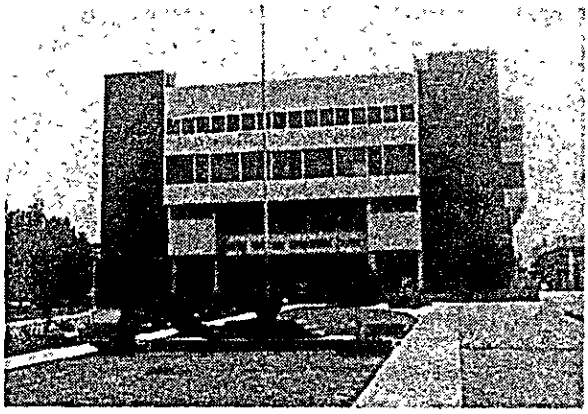
UNIVERSITAS SUMATERA UTARA (U.S.U)

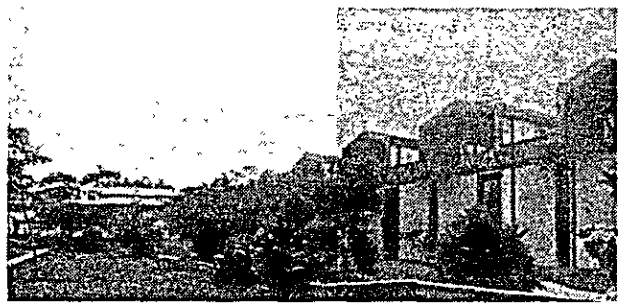




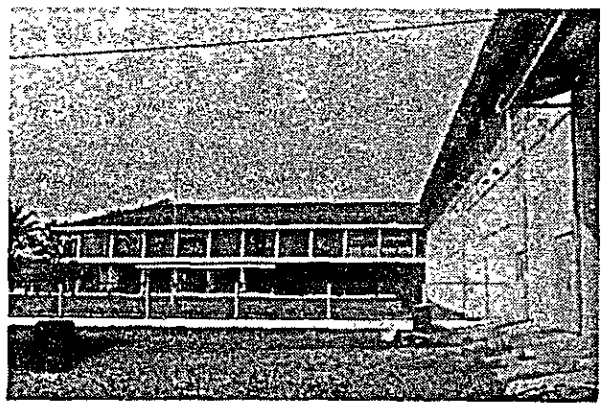
INSTITUT TEKNOLOGI BANDUNG

MIDC (METAL INDUSTRIES DEVELOPMENT CENTER)

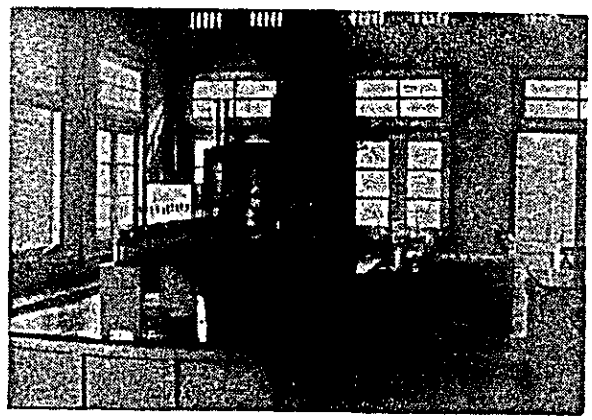




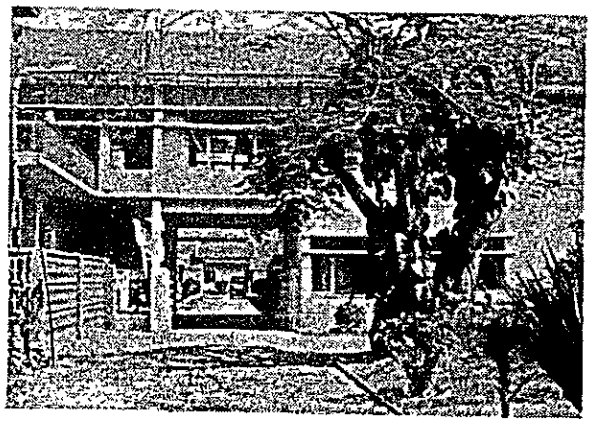
LEMBAGA PENELITAN SELLILOSA

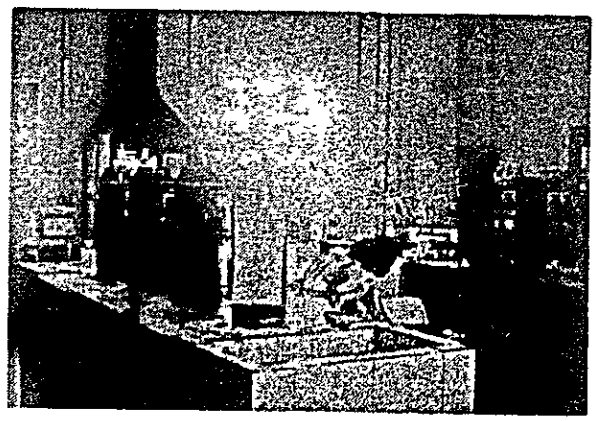


S.T.M.A (SEKOLAH TEKNOLOGI MENENGAH ATAS)



LEATHER INSTITUTE





GAJAMADAH UNIVERSITAS

5-4 SURVEY OF RELATED FACILITIES

Following related facilities are investigated and surveyed for their Architectural Specifications, Mechanical systems, Equipment and Facility Functions.

1) Medan City
- B.L.K.I. (Balai Latihan Kerja Industri): Industrial High School
- A.D.I.C. : Animal Disease Investigation Center, Medan
- B.L.P.T. (Balai Latihan Pendidikan Teknik) : Vocational Training Center
- Chemical Laboratory
- U.S.U. (Universitas Sumatera Utara) : North Sumatra University
- Chemical Small Industries

2) Bogor City
- Chemical Academy

3) Bandung City
- Institute Teknologi Bandung : Bandung Institute of Technology
- M.I.D.C. : Metal Industries Development Center
- Lembaga Penelitian Selulosa : Selulose Institute
- B.L.P.T. (Balai Latihan Pendidikan Teknik) : Vocational Training Center

4) Jogjakarta City
- S.T.M.A. (Sekolah Teknologi Menengah Atas) : Technical High School
- Batik & Hand Craft Institute
- Leather Institute
- Gajamadah University

5) Jakarta City
- P.K.P. (Pondok Karya Pembangunan)

APPENDIX

A.
(1) MEMBER OF THE SURVEY TEAM

- THE BASIC SURVEY TEAM

Name	Assignment	Position
Dr. Hiroshi Tsuboi	Team Leader	JICA Expert, Mining & Industrial Development Cooperation Dept. Japan International Cooperation Agency
Mr. Masahiko Tanaka	Curriculum & Equipment Plan	Advisory Staff Japan Chemical Industry Association
Mr. Seiichi Matsuda	Architectural Design	Executive Director Kume Architects-Engineers
Mr. Nobuo Horie	Mechanical Design	Engineer Mechanical Engineering Dept. Kume Architects-Engineers
Mr. Yasuaki Kawabe	Structural Design	Architect International Dept. Kume Architects-Engineers
Mr. Shunji Nagata	Quantity Survey	Engineer International Dept. Kume Architects-Engineers
Mr. Toshio Morooka	Coordination	JICA Staff Mining & Industrial Development Cooperation Dept. Japan International Cooperation Agency

- THE DRAFT SURVEY TEAM

Name	Assignment	Position
Dr. Hiroshi Tsuboi	Team Leader	JICA Expert, Mining & Industrial Development Cooperation Dept. Japan International Cooperation Agency
Mr. Masahiko Tanaka	Curriculum & Equipment Plan	Advisory Staff Japan Chemical Industry Association
Mr. Minori Sano	Coordination	JICA Staff Mining & Industrial Development Cooperation Dept. Japan International Cooperation Agency
Mr. Seiichi Matsuda	Architectural Design	Executive Director Kume Architects-Engineers
Mr. Yasuaki Kawabe	Structural Design	Architect International Dept. Kume Architects-Engineers

(2) INDONESIA AUTHORITIES CONCERNED

- Ministry of Industry (Departemen Perindustrian)

Mr. Soebroto	Chief, Education & Training Center
Mr. Soebagyo Soemadi	Education & Training Center
Mr. Soetikno	Education & Training Center
Mr. M. Soetedjo	Education & Training Center
Mr. Dulrasjid	Education & Training Center
Ir. Sjaiful Tazar	Bureau of Planning
Drs. Juzinir Muzahar	Bureau of Planning
Ir. Ridwa R.Pengadilan	Bureau of Planning
Drs. Oton Saudi	Bureau of Finance
Drs. Sujono	Bureau of Human Relation

- Ministry of Finance (Departemen Kenangan)

  Ir. Saadudin

- BAPPENAS (Badan Perencanaan Pembangunan Nasional)

  Dra. Suwarti

- BAPPEDA (Badan Perencanaan Pembangunan Daerah)

  Ir. H.M.Abduh Pane Secretaris

- Dinas Perindustrian Propinsi Daerah

  Drs. S.L. Tobing
  Mr. Ramli Hasan

- Dinas Tata Kota Kotamadya Medan

  Ir. Fachry Mudadalam

- Pelabuhan Belawan

  Mr. H.G. Luntungan Administrator

(3) OFFICIALS OF THE JAPANESE GOVERNMENT & JICA STATIONED IN INDONESIA

- Embassy of Japan in Indonesia

Mr. Masao Sawaki	Ambassador Extraordinatory and Plenipotentiary
Mr. Hiroshi Tsukamoto	First Secretary
Mr. Makoto Sugihara	Second Secretary

- Japan International Cooperation Agency, Jakarta Office - JICA

Mr. Moriya Miyamoto	Director
Mr. Kimio Hada	Assistant Resident Representative

- Consulate of Japan, Medan

Mr. Hiroshi Masuda	General Consul
Mr. Masahiro Obata	Consul
Mr. Toshio Satoh	Vice Consul
Mr. Akira Nagai	Vice Consul
Mr. Osamu Fukuda	Vice Consul

B.

Table-1. Indonesia Chemical Industry

Types \ Fields	Organic Chemical Industry	In-organic Chemical Industry	Agro Chemical Industry	Cellulose and rubber Chemical Industry	Point at issue
Basic Chemical Industry	1. LNG Center (Sumatra) 2. Olefin Center (raw material for plastics) (Sumatra) 3. Aroma Center (raw material for synthetic fabrics) (Sumatra) 4. Methanole (Sumatra)	1. Fertilizer (Sumatra, Java Kalimangtan) 2. Aluminium (Sumatra) 3. Carbon black (Sumatra) 4. Cement (Sumatra, Java Sulawesi) 5. Alkali industry (Java)		1. Pulp and paper industry (Sumatra, Java Kalimangtan) 2. Rubber industry (Sumatra, Java)	1. Shotage of engineers and technicians, among other things middle-standing engineers and technicians (in number and quality) 2. Absence of institutions for providing technical guidance 3. Shortage of technical information 4. Shortage of organizations playing a key role in technical fields 5. Development of smaller enterprises
Processed Chemical Industry	1. Plastic Processing industry Molding and processing of plastics 2. Synthetic fabric processing industry Spinning, clothing and dyeing of synthetic fabrics	1. Sheet glass manufacturing industry 2. Printing ink manufacturing industry	1. Essential oil industry Palm oil (edible oil), coconut oil, perfumed hair oil 2. Agro Chemicals and herbicide industry	1. Rubber processing industry Tire, other rubber goods 2. Special paper industry 3. Tropical plant fiber industry	

Note: Numbers encircled show projects planned for the third five-year program.

Table-2

JAPANESE COOPERATION & OPERATION TIMING OF THE SUMATRA CHEMICAL INDUSTRIES CONCERNED

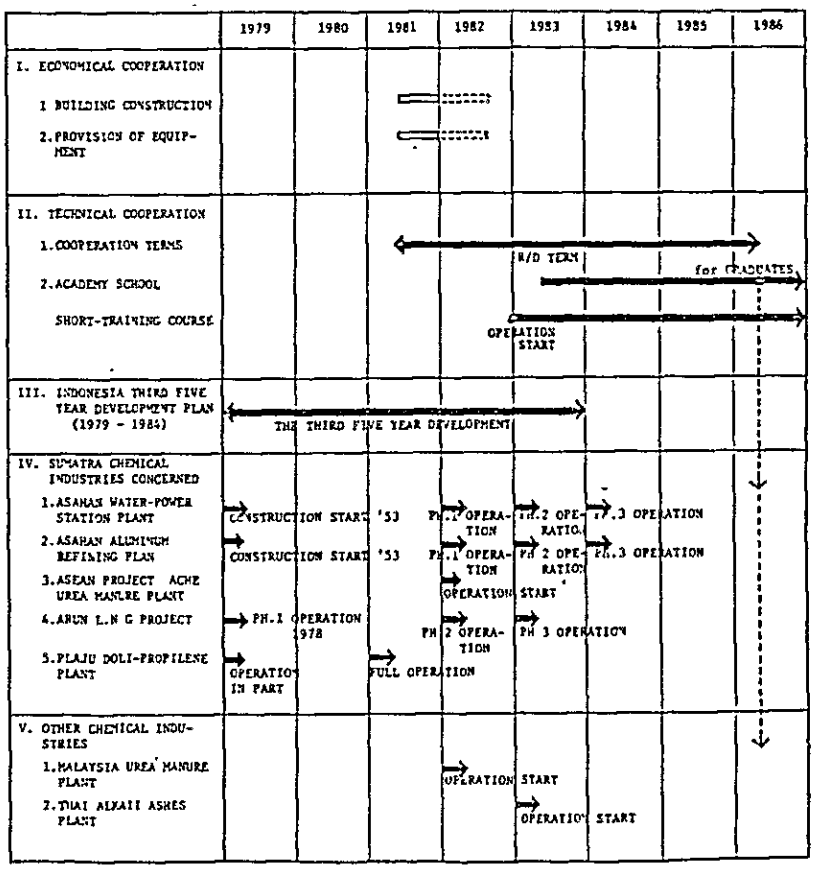


Chart-1. Organization position of the Center within the Ministry of Industry

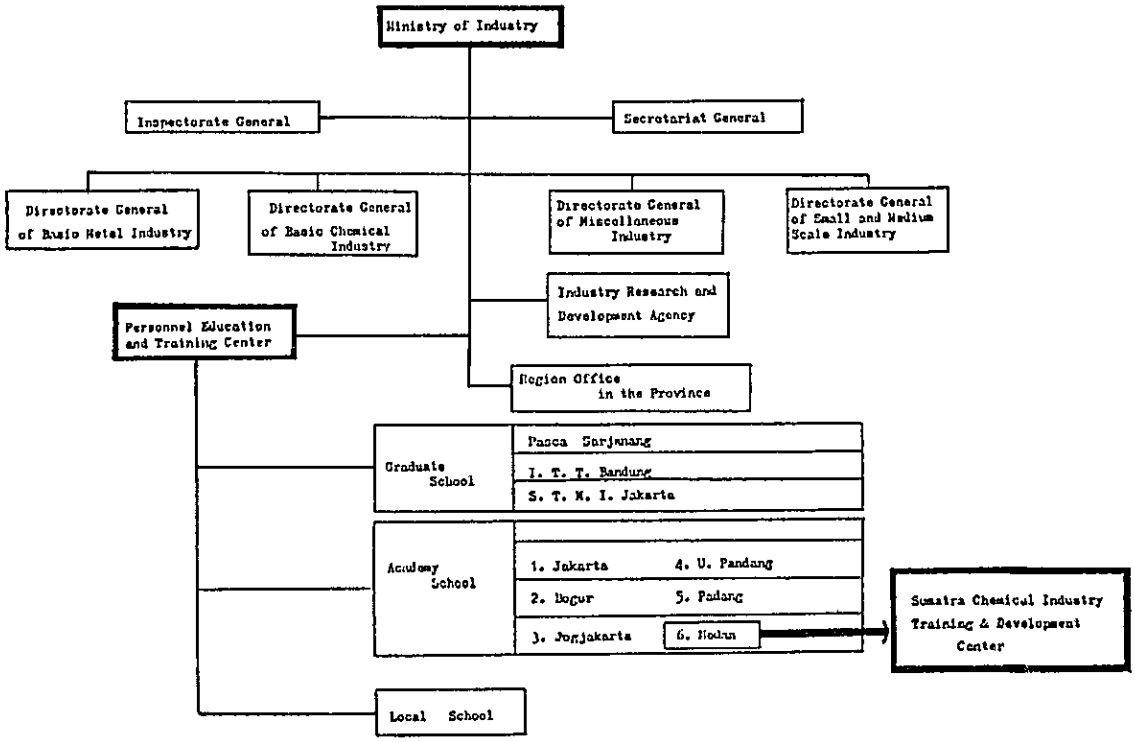


Table-3. Organization and the Field of the Center

Organization		Field of Affairs
Center		
Training Affairs Division	Education Section	Curriculum, Planning of Technical Development
	Student Affairs Section	Preparation of Instructor, Employment Assistance for Students
	Administration for Students Section	Affairs on Students' & Trainees' Control, Theoretical and Practical Training
Training & Development Division	Inorganic Chemical Industry Section	Technical Development & Lecture in the fields of inorganic chemical industry such as "Fertilizer", "Aluminum", "Carbon Black", "Cement", "Alkali", "Sheet Glass"
	Organic Chemical Industry Section	Technical Development & Lecture in the fields of organic chemical industry such as "LNG", "Olefin", "Aromatic", "Methanol"
	Agro-chemical, Cellulose & Rubber Section	Technical Development & Lecture in the fields of Agrochemical, Cellulose & Rubber such as "Palm Oil", "Agricultural Chemicals", "Pulp & Paper", "Gum"
Technical Service Division	Library Section	Library Administration, Planning of Technical Development
	Information & Statistics Section	Information Service, Issue of Report
	Technical Advisory Service Section	Technical Advisory Service, Management of equipments, Experiment & Research Service to the companies
General Administration Division	General Affairs Section	Center Management
	Personnel Section	Dormitory Administration, Health Control of Students, Personnal Affairs to Center Staff
	General Administration Section	General Affairs of the Center
	Finance Section	Budget control, Payrole, Accounting

Table-4.

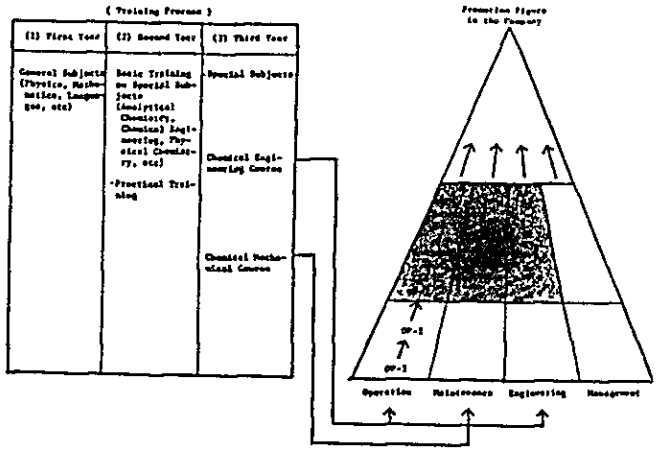
(1) Academy Course

Requirments for Admission :

1. Graduates from senior high schools
2. Those equivalent to senior high school graduates in ability

(Training Target)

1. To secure middle class engineers for chemical industries (4 fields - inorganic, organic, agro-chemical, cellurose and rubber)
2. To secure engineers in the fields of operation, maintenance and engineering necessary for the company operation (except for management).
3. To give enough knowledge and ability to understand the company's own training after graduation.
4. To give common basic knowledge and ability to the above 4 fields' chemical industries.



(2) Short Training Course

(Training Target)

1. To re-train engineers from the companies and grade up the technical ability and performance
2. To train engineers from the companies to brush up their technical skills
3. To secure engineers who can contribute to the promotion of production with practical training

(Training Contents)

1. Theory and operation
2. Principle and handling of measuring apparatus
3. Practical training

(Training Period and Number of Trainees)

1. Training period : Around 3 weeks
2. Training number/ training period
   .....10--15 trainees (Maximum 20 trainees available)

(Others)

1. Training is charged (U$ 40/person . one time)
2. Lodging facility is available to trainees

C. LETTER TO IR.SOEBROTO,CHIEF OF EDUCATION & TRAINING CENTER

April 12, 1980.

Ir. Soebroto
Chief of
Education and
Training Center
MINISTRY OF INDUSTRY

Dear Sir,

Project: CHEMICAL INDUSTRY TRAINING
& DEVELOPMENT CENTER

This letter will serve to confirm our understanding for the Basic Survey of the Project.

You are kindly requested to investigate and obtain the following informations for the Project.

1) Building Material Price List issued by CIPTA KARYA.

DAFTAR HARGA SATUAN BAHAN BANGUNAN
(BASIC PRICE)
P.T. INDONESIA, TRIWULAN IV/1979

2) Site Boring Analysis Report on the 4 points as indicated by Survey Team.

3) Land Surveying Map of the Project Site.

4) If it is available, Analysis report of Well-water in Medan.

Furthermore, telephone connecting to the Project Site is very dificult according to our negotiation with Telecomunicasi, So, you are kindly requested to negotiate with Telecomunicasi.

Your kind cooperation will be highly appreciated, and these informations will be sent to JICA, attention: Mr. Morooka, by the end of April 1980 through Japan International Cooperation Agency, Mr. Hada.

Yours truly,

Basic Design Survey Team

Hiroshi Tsuboi
Team Leader

HT/n.