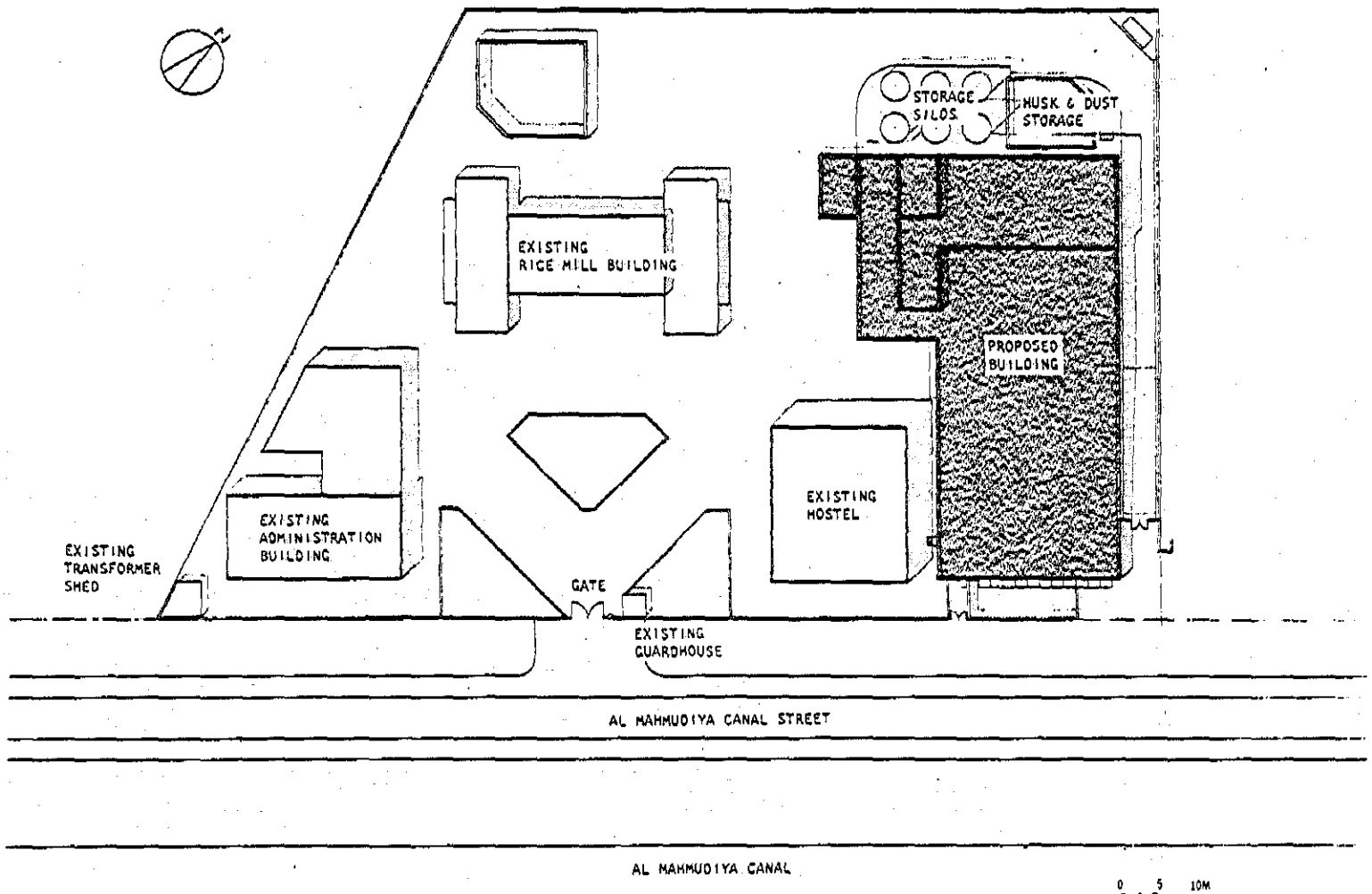
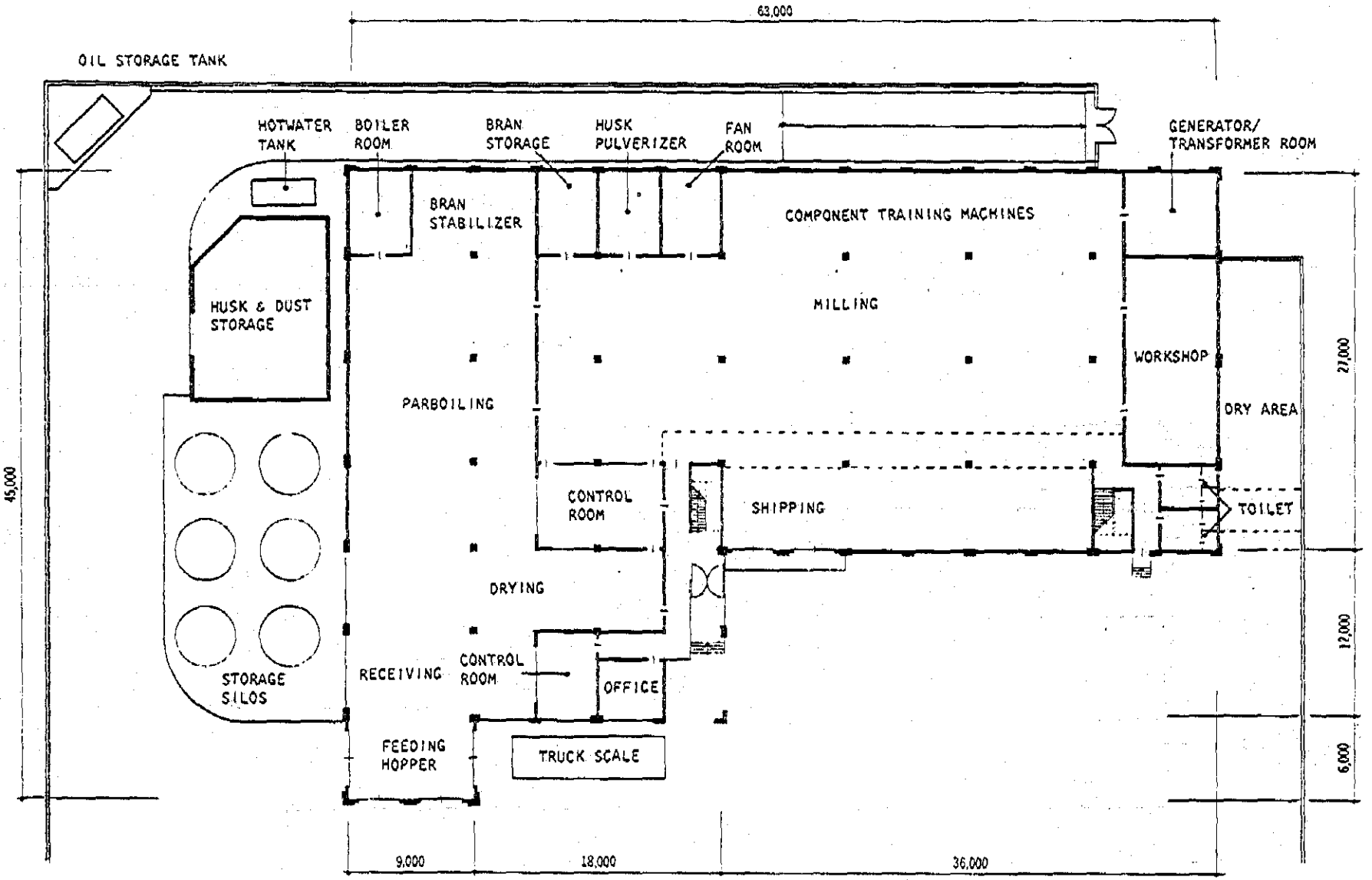
3. Design Drawings



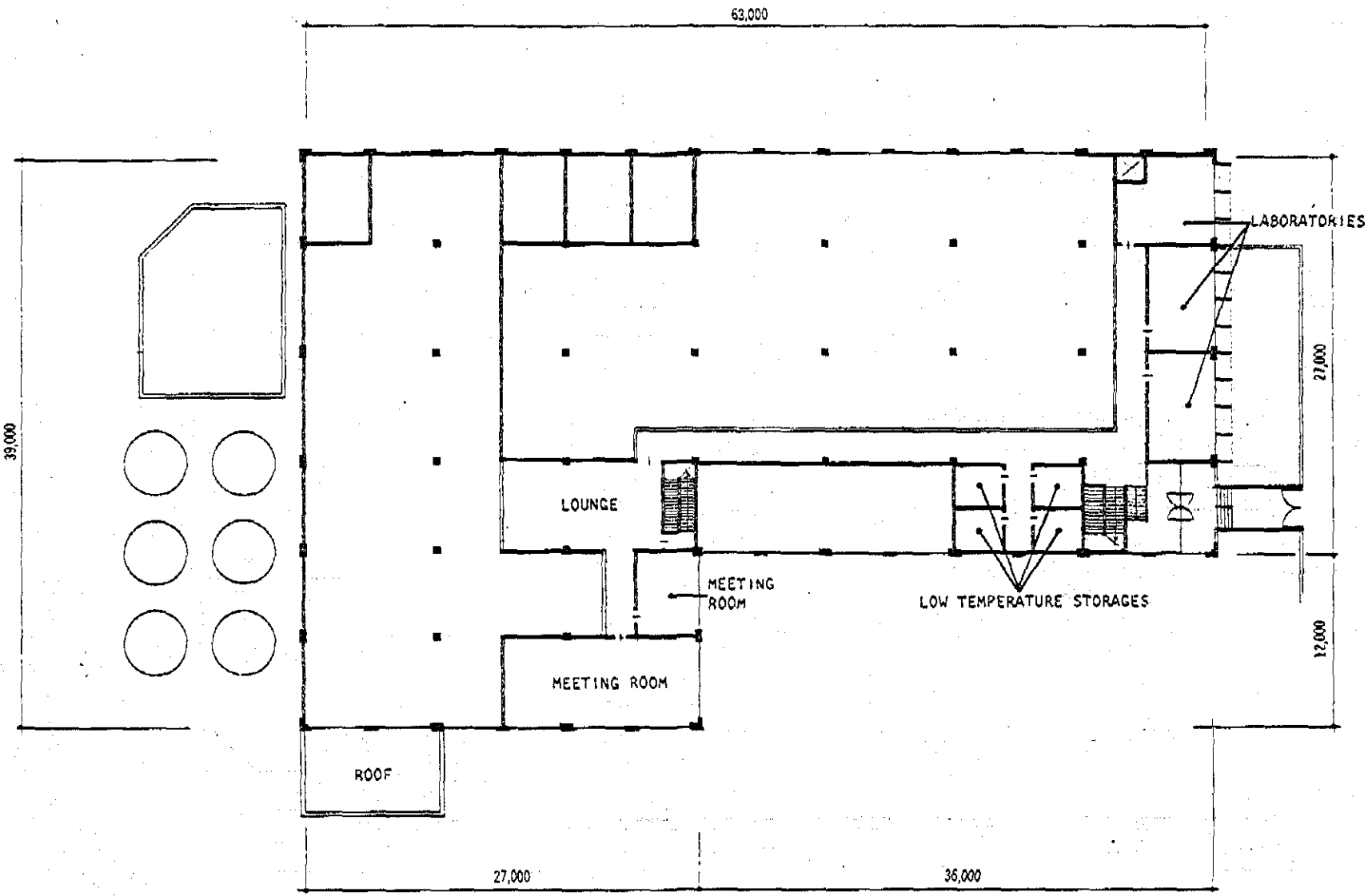
SITE PLAN

THE RICE TECHNOLOGY TRAINING CENTRE - ALEXANDRIA **1**



GROUND FLOOR PLAN 0 5 10M

THE RICE TECHNOLOGY TRAINING CENTRE - ALEXANDRIA **2**

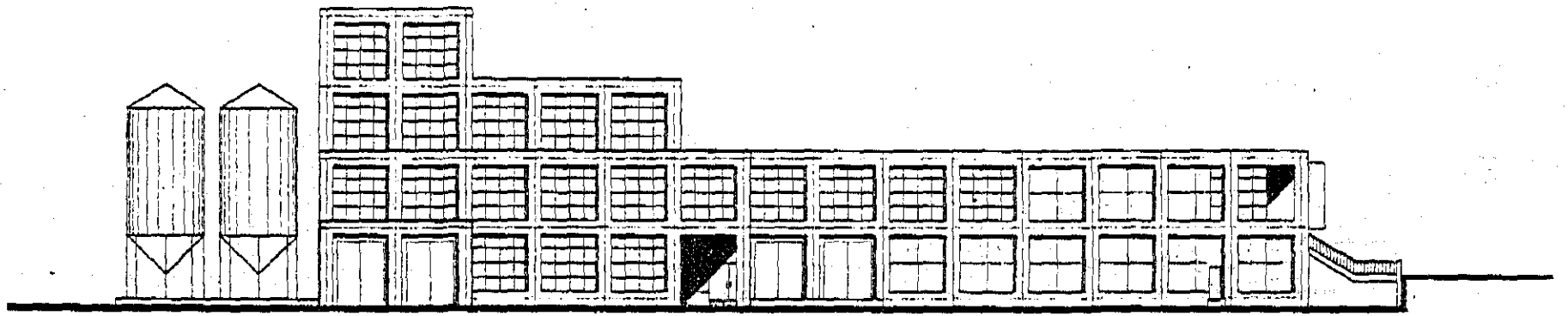


MEZZANINE PLAN

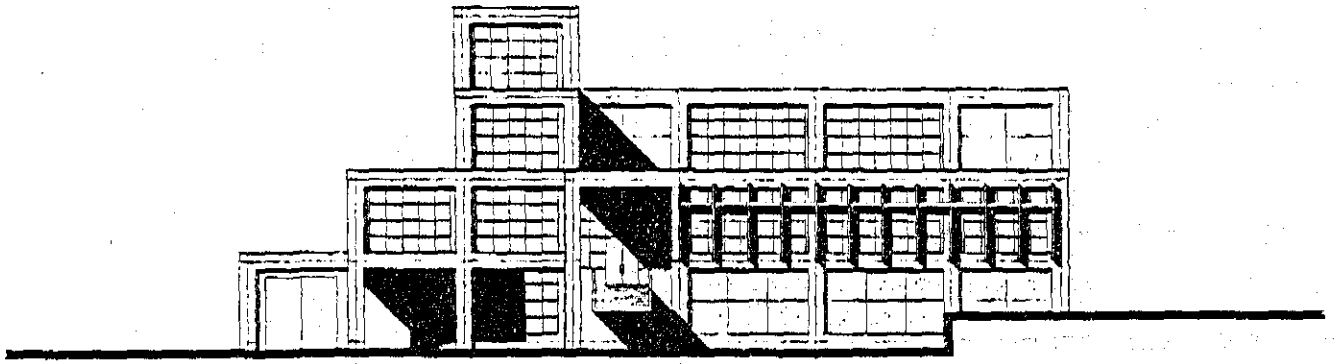
0 5 10M

THE RICE TECHNOLOGY TRAINING CENTRE - ALEXANDRIA

3



WEST ELEVATION

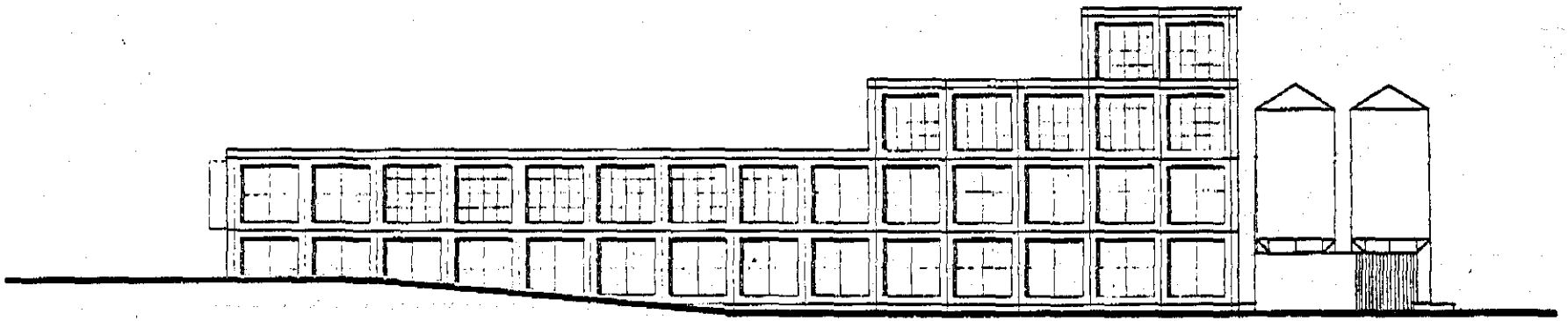


SOUTH ELEVATION

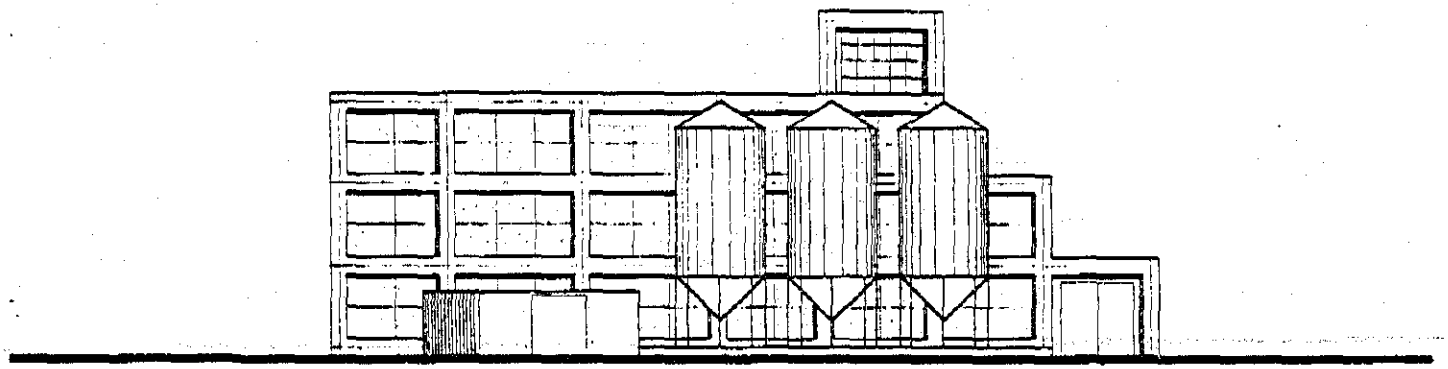
ELEVATIONS - I 0 5 10M

THE RICE TECHNOLOGY TRAINING CENTRE - ALEXANDRIA

4



EAST ELEVATION



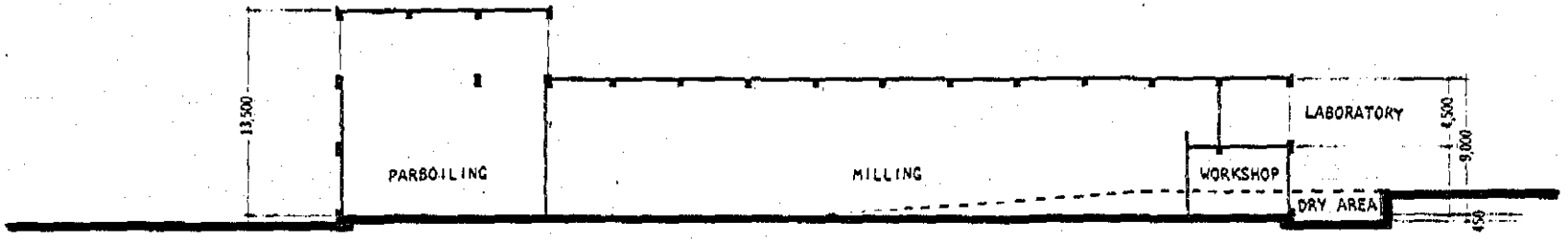
NORTH ELEVATION

ELEVATIONS - 2

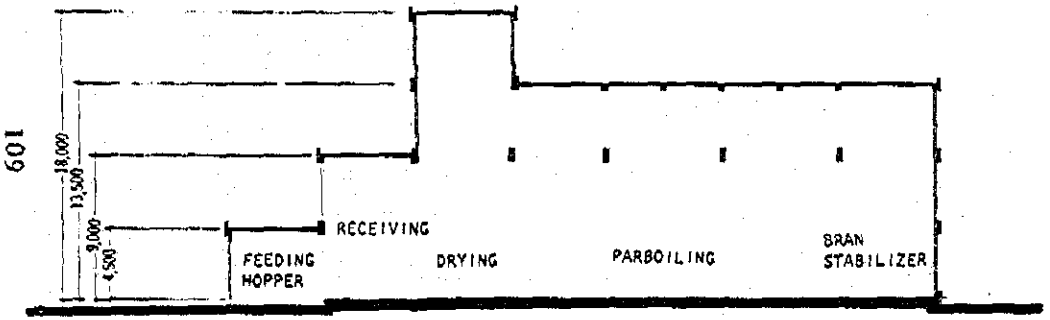
0 5 10M

THE RICE TECHNOLOGY TRAINING CENTRE - ALEXANDRIA

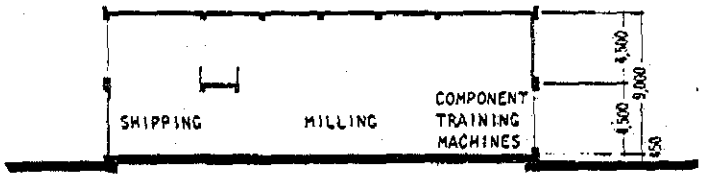
5



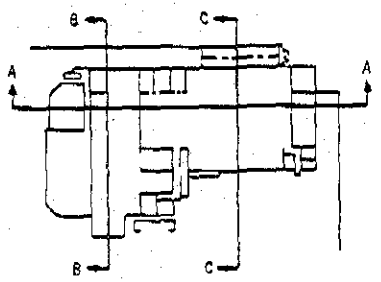
A-A SECTION



B-B SECTION



C-C SECTION



SECTIONS

0 5 10M

THE RICE TECHNOLOGY TRAINING CENTRE - ALEXANDRIA

6

PROJECT IMPLEMENTATION

CHAPTER FIVE PROJECT IMPLEMENATION

A. JAPANESE PORTION

The Government of Japan shall provide or build the following items in conjunction with the construction of this Centre:

a. Training equipment and facilities

b. Main building frame and finish

c. Water supply, drainage, sewage and related equipment within the building

d. Air conditioning and ventilation equipment and related works within the building

e. Electrical equipment and related works within the building including emergency generator

f. Firefighting and related works within the building

g. Telephone conduit works within the building

h. External works within one meter from external walls of the buildings including piping and connections, to service lines brought in by the Egyptian Government.

B. EGYPTIAN PORTION

In conjunction with the building of this Centre, the Egyptian Government will undertake the following:

a. Land grading and preparation of the site for construction of the Centre

b. Supply of utilities needed for the Centre

(1) Installation of water supply up to the Proposed Building

(2) Installation of exterior drainage main up to the Proposed Building, including a septic tank and seepage sump to handle sanitary waste from the Proposed Building

(3) Electric power supply up to the Proposed Building

(4) Telephone equipment and wiring works, complete

c. All external works such as gates and fences, gardens etc. further than one meter from the building walls

d. Furnishings other than those supplied by the Japanese Government

e. Temporary electric power and water up to the site for construction works

ADMINISTRATION AND MAINTENANCE PROGRAM

CHAPTER SIX ADMINISTRATION AND MAINTENANCE PROGRAM

A. ADMINISTRATION

Administration of the Rice Technology Training Centre will not change fundamentally after the improvement or addition of new training, research and development facilities.

B. ORGANIZATION

A new section to administer the new facilities will be added to the existing Training, Studies and Technology Department. The future organization chart of RTTC will be as follows:

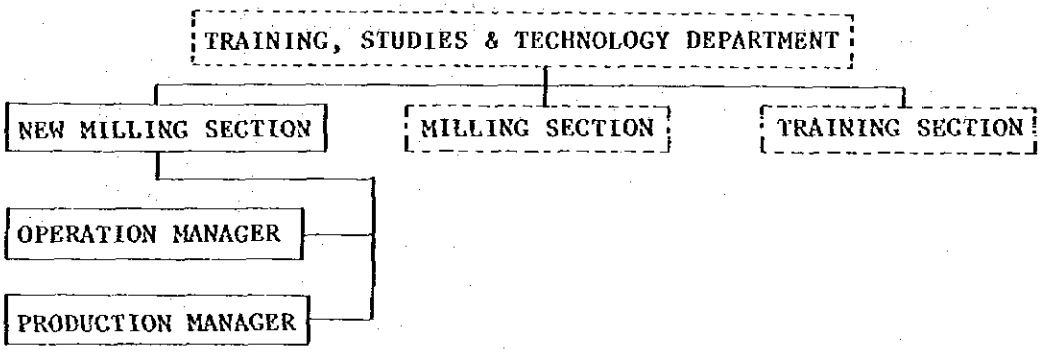


TABLE 6-1 FUTUR ORGANIZATIONAL CHART OF RTTC

The present organization is attached hereafter for reference.

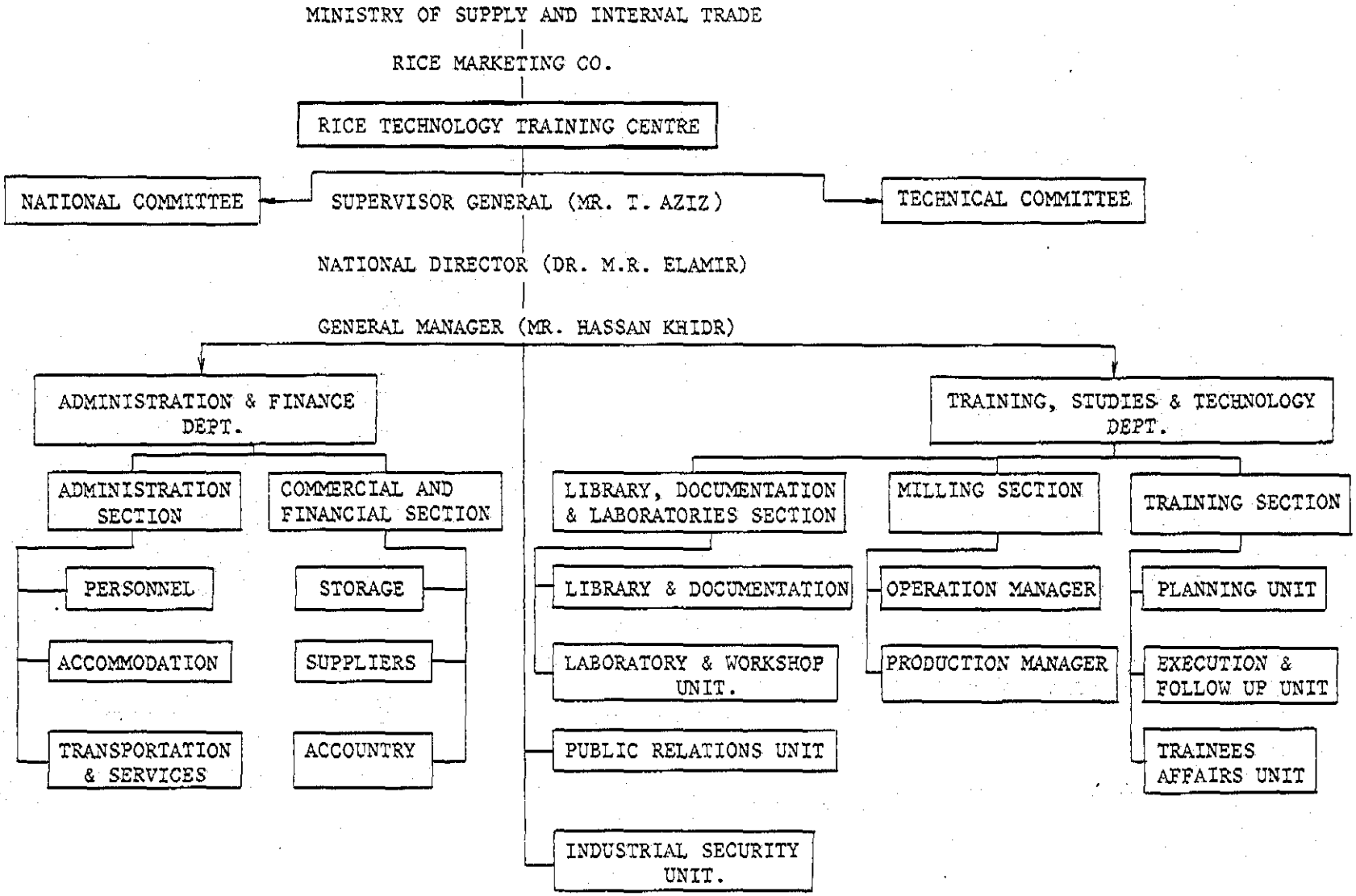


TABLE 6-2 PRESENT ORGANIZATIONAL CHART OF RTTC

C. BUDGET

Breakdown of the monthly budget required for administering and operating the new facilities during initial years is estimated as follows:

1.	Operational Expenses	384,000 LE
2.	Power and Utility Expenses	25,000
3.	Depreciation	4,000
4.	Taxes, Levies and Interest	1,000
Total		414,000

The budget will increase over the years due to increase of required expenses for building and equipment. Change in scope of training, research and development activities will affect corresponding expenses.

D. SECURING OF PADDY

The quantity of paddy required annually for training and research is estimated at 1,000 tons. This paddy must be procured during harvest seasons.

E. FUNDS

Funds for the operation and maintenance of the new facilities are to be borne by income generated by the activities of RTTC and governmental allotments and subsidies.

Breakdown of income is estimated as follows:

SHARES FROM RICE MILLS	110,000 LE
GOVERNMENT SUBSIDIES	134,000
TECHNICAL SERVICE	60,000
SOLD OF WHITE RICE	110,000
TOTAL	414,000

EVALUATION OF THE PROJECT

CHAPTER SEVEN EVALUATION OF THE PROJECT

A. GENERAL

This Project will have great influence on the outcome of the Food Security Plan which is one of Egypt's most important national programs. Rice production is rapidly intensifying its already important role in Egyptian agriculture in view of the necessity to retard its decreasing capability of overall food self-reliance. When considering the inherent conditions of agriculture in Egypt, rice production can prove to be a major element in redirecting the food self-reliance situation towards improvement.

This Project is closely related to post harvest processing which is the transformation of crude rice to a finished product or commodity. The milling of rice is needless to say an indispensable process before it is made edible to mankind. Described below is how the implementation of this Project will greatly contribute to the production of rice which is one of the main stables in Egypt, both quantitatively and qualitatively. Also outlined is how it can be expected to serve as a forerunner to improve the essence of the entire rice industry. As rice is the main staple in the Egyptian diet, the significance of this Project can be said to be enormous.

The evaluations treated below on important aspects show that this Project is timely, worthy and appropriate. The Egyptian enthusiasm to realize this Project is extremely keen, and it is evident that its implementation will become a great contribution to the friendship and good relationships between the two countries and their people.

B. SOCIAL EFFECTS

As this Project is concerning with the diversified activities of training, research and development, the exact qualitative measurement of the output gained by the capital input can not be properly expressed. However, it is evident that the fruits gained by this Project will be enormous when its direct and indirect effects are considered.

For instance, assuming that an improvement of 5% is attained in the volume and quality of the rice production in this country, this will mean an increase of 4 hundred million Egyptian Pounds or 10 billion Japanese Yen, corresponding to an increase of one US Dollar of GNP per capita. This Project can be expected to become the pilot to navigate this enormous profit.

Listed below are the effects which will be attained by the implementation of this Project.

1. Improvement of the Quality of Milled Rice

   An increase of productive worth will be attained by increasing the value of milled rice produced.

2. Improvement of Yield

   Increase of productive volume will be attained by the increase of quantity of edible milled rice produced.

3. Expansion of Export Market and Increase of Export Volume

   This improvement of the quantity of milled rice advancing rice processing techniques will enable the expansion of the rice export market and assure more advantageous transactions in export dealings.

4. Development of By-product Processing Technology

Production of edible oil from rice bran, for instance, will result in the decrease of edible oil imports, and save purchasing power accordingly for other ends.

5. Effects to Other Industrial Fields

An ideal overall agricultural processing environment will become an incentive for improvement in other processing facilities in other fields of industry.

The mere provision of superior individual machinery is inadequate without a proper system, layout and housing, the facility will ultimately undergo no improvement. As complete comprehensive equipment and facilities are to be provided by this Project, an ideal model for food processing will be established.

6. Improvement of Administrative Efficiency

Through improved facilities and advanced operation technology, the conservation of energy and manpower will effect a decrease in the cost of production at the same time that the quality of the end product is improved.

7. Improvement of Nutrition

By preventing the deterioration of rice quality and development of new technology such as production of nutrition intensified rice, the nutritive intake level of the people will be elevated as a contribution to the maintenance of the peoples health.

C. TECHNOLOGICAL EFFECTS

The rice milling circles of Egypt are evaluating highly the performances of Japanese made rice processing machines, and there is a good possibility that they may be adopting a policy of utilizing more Japanese machinery in greater quantity. Training with Japanese machinery at this facility will be very useful.

This facility will become a pilot plant paving the future course of upgrading rice mills in Egypt through the performances of technological training in the facility.

Specific technological effects are as follows:

1. Improvement of drying, storage and milling techniques.

2. Prevention of losses during drying, storage and milling processes.

3. Research and development in the application of new techniques, such as production of parboiled rice, bran stabilization, utilization of husks, utilization of broken rice, nutrition increase of milled rice and upgrading of milled rice.

4. Through the storage, sorting and indexing of data, the abundant experience and knowledge accumulated during the long history of this country, as well as newly acquired knowledge, will be made readily available for future progress.

D. OPERATIONAL AND ADMINISTRATIVE ASPECTS

1. The Rice Technology Training Centre has been very active in its past operational activities. However, requirements imposed on this Centre for future performances are very demanding and it is imperative that its functions are improved. Through the participation of its staff in JICA training programs, the operational capabilities of its staff must be advanced and their vision broadened through the accumulation of experience. It is also deemed valuable that continued operational guidance is obtained from visiting specialists as well as their participation in training courses abroad.

2. Administrative capabilities of the Rice Technology Training Centre staff have already been acquired through the administration of the existing facilities, and there will be no problem of this staff administering the new facilities.

E. FINANCIAL ASPECTS

Though the major part of finance required for the implementation of this Project is to be borne by the Japanese Government, the Egyptian Government is prepared to bear its portion of responsibilities. The major portion of operational funds are being derived from direct reimbursements obtained from rice milling companies for its activities such as the training of operators and technical guidance. As further funds are being obtained in the form of subsidies from the Government, no financial problems detrimental to the operation of the new facilities can be foreseen.

From long term consideration of the operation and maintenance of the new facilities, it is evident that auxiliary parts and supplies provided under this Project will eventually be depleted and that the Centre will be required to replenish by itself, some by imports, those items required to maintain the facilities. Again, it can be said that this will not be a problem as the Rice Milling Companies as well as the Rice Marketing Company have the capabilities and experiences in acquiring income, foreign currency and in importing machinery and supplies. The Egyptian side has already apportioned the amount of 70,000 Egyptian Pounds for the years 1982/83 in preparation for the realization of this Project. This is evidence of their enthusiasm and meticulous preparation for the Project.

CONCLUSION AND RECOMMENDATIONS

CHAPTER EIGHT CONCLUSIONS AND RECOMMENDATIONS

Food Security Plan is being executed as a major policy by the Egyptian Government in the important field of agriculture in order to improve the self-sufficiency ratio of food under the "New 5 Year Plan." It has been confirmed by this Study that the RTTC Improvement Project is to contribute to the increase of food production in consistency with objectives of higher level national policies. The improvement of self-sufficiency ratio of food is an urgent problem as food shortage in the future is feared due to the gradual decrease in the self-sufficiency ratio of food in recent years. This Project is to become a pilot of the Egyptian rice industry contributing to the improvement of food situation of the people and national economy. Production of Indica variety by double cropping is actually scheduled, and remodelling of rice mills is therefore an urgent problem. Technological research and training therefor must be started as early as possible as a certain period is required until results are obtained. By appropriate implementation and execution of this Project, it will be justifiable as a grant aid cooperation by the Japanese Government. In relation to technical cooperation, RTTC is performing activities well by its present staff. Post project technical cooperation, limited to technical guidance of machine operation, will be appropriate and sufficient as the existing ability to use facilities provided under this Project is sufficient.

APPENDIXES

APPENDIX 1

MINUTES OF DISCUSSIONS

MINUTES OF DISCUSSION
FOR
BASIC DESIGN STUDY
ON
THE IMPROVEMENT PROJECT OF THE RICE TECHNOLOGY TRAINING CENTER
IN
THE ARAB REPUBLIC OF EGYPT

In response to a request by the Government of the Arab Republic of Egypt for grant aid assistance for the improvement Project of the Rice Technology Training Center(the Project),the Government of Japan has sent,through the Japan International Cooperation Agency(JICA),a survey team headed by Mr.Shigehisa NISHIKORI(Ministry of Agriculture,Forestry and Fishery) to carry out a basic design study on the Project from August 21st to September 10th,1982.

The team has carried out a field survey and held a series of discussions and exchanged views with officials concerned of the Ministry of Supply of the Arab Republic of Egypt(the authorities concerned) regarding the Project.

As the result of studies and discussions,both parties have agreed to recommend to their respective Governments to examine the result of the survey attached herewith toward the realization of the Project.

August 26. 1982

Shigehisa NISHIKORI
Team Leader
Japanese Survey Team
JICA

Mohamed Aly GAFER
Chairman
Rice Marketing Company
Ministry of Supply

ANNEX I

Items the cost if which will be borne by the Government of Egypt :

I Water supply mains up to the Building

2. External drainage and sewer line up to the Building

3. Electrical power main line up to the Building

4. Telephone lines and equipment complete

5. Exterior facilities and improvement such as access roads, parking facilities, exterior drainage and landscaping

6. Provision of space necessary for temporary facilities required for construction, such as offices or office buildings, working areas, stock yards, parkings areas and others

7. Provision of temporary water and electric supply up to the Building site prior to the start of works

ANNEX II

Items desired by the Government of the Arab Republic of Egypt are listed below in priority order:

BUILDING:

1.Building for training of rice processing technology

2.Building for paddy warehouse

EQUIPMENT:

1.Rice processing plant(rice milling unit) with parts ----A

2.Parboiling plant -----A

3.Training aids(video/projector/drawing/crosssection) ----A

4.Laboratory equipment ----B

5.workshop facility(machine tools for repair)----B

6.Component machinery for assembling and disassembling---B

7.Diesel generator set----B

8.Computor facilities-----C

9.Low temperature room----C

10.Byproducts equipments-----A

11-Belt Convayor ----- A

MINUTES

ATTACHMENT

1. The objective of the Project is to improve the existing Rice Technology Training Center for promoting rice milling technology in Egypt
2. The proposed site of the Project will be within the compounds of the existing Rice Technology Training Center in Alexandria.
3. The Japanese survey team will convey to the Government of Japan the desire of the Arab Republic of Egypt that the former takes necessary measures to cooperate in implementing the Project within the scope of the Japanese economic cooperation in grant form.
4. The Government of the Arab Republic of Egypt will take necessary measures in the event that the grant assistance by the Government of Japan is extended to the Project to -
   a) provide data and information necessary for the design and construction of the Project
   b) provide the land necessary for construction of the Project
   c) clear and level the Project Site before the start of construction
   d) provide items listed in ANNEX I
   e) ensure prompt unlording and custom clearance in the Arab Republic of Egypt and to facilitate internal transportation of imported material and equipment for the construction of the Project
   f) exempt Japanese nationals concerned from custom duties, internal taxes and other fiscal levies imposed in the Arab Republic of Egypt for the supply of goods and services for the Project
   g) provide and accord necessary permission, licences and all other authorizations deemed advisable for carrying out the Project

MINUTES OF DISCUSSIONS

ON

THE DRAFT FINAL REPORT OF THE BASIC DESIGN STUDY

ON

THE IMPROVEMENT/PROJECT OF

THE RICE TECHNOLOGY TRAINING CENTRE IN THE ARAB REPUBLIC OF EGYPT

The Government of Japan has sent, through Japan International Cooperation Agency (JICA), a Basic Design Survey Team to the Arab Republic of Egypt from October 21st to October 30th, 1982 for the purpose of presenting and explaining the Draft Final Report of the Basic Design Study (The Report) on the Improvement Project of the Rice Technology Training Centre in the Arab Republic of Egypt (The Project).

The team held meetings with the Egypt counterpart's party headed by Mr. M.Gaafar, Chairman of the Rice Marketing Co., to explain and to discuss on the Report.

The main items which were discussed and understood by both parties at the meetings are as follows :

1. The Egypt side principally approved the Report and appropriate alternations in design agreed during the discussions will be incorporated in the Final Report.
2. The Final Report (10 copies in English) on the Project will be submitted to the Government of Egypt by the end of December, 1982.
3. Both sides confirmed that the Egypt side understood the system of Grant Aid Programme to be extended by the Government of Japan, especially the arrangements to be taken by the Government of Egypt (as agreed in the Minutes for the Project dated Aug. 26th, 1982.).

October 27, 1982
Cairo , Egypt

Yoshifusa Shikama	Mohammed Aly Gaafar
Team Leader	Chairman
Japanese Survey Team	Rice Marketing Co.
JICA	Ministry of Supply , Egypt

APPENDIX 2

PERSONNEL CONCERNED

1. Egypt

a. Ministry of Supply

Mr. Ahmed Nauh	Minister
Mr. Aly El Katta	First Undersecretary

b. Rice Marketing Company (RIMCO)

Engineer Mohammed Aly Gaffer	Rimco Chairman
Engineer Ahmed T. Aziz	Supervisor General
Engineer Hassan Khidr	Member of the Board RTTC General Manager
Engineer A. El-Kadi	Member of the Board Packing & Storing Manager
Mr. Adel Aziz	Member of the Board Financial Manager
Engineer Moustafa El-Zouka	Alex Rice Marketing Company (Alex Branch) Assistant to Manager

c. Rice Technology Training Centre (RTTC)

Dr. M.R. El Amir	National Director Member of the Boad
Engineer Ahmed El-Morsy	RTTC Local Manager
Engineer Mahmoud Fakhry Fares	Rice Mill Manager

2. Japan

a. Embassy of Japan, Cairo

Mr. Hideki Kato

b. Japan International Cooperation Agency

Mr. Junsaku Koizumi, Representative

Mr. Hiromi Fujita

c. Basic Design Study Team

Mr. Shigehisa Nishikori, Leader

Deputy Head
Inspection Division, Executive Department
Food Agency
Ministry of Agriculture, Forestry and Fishery

Mr. Yoshifusa Shikama, Project Coordinator

Basic Design Division
Grant Aid Department
Japan International Cooperation Agency

Mr. Masao Takahashi, Planning Coordinator

Matsuda, Hirata & Sakamoto
Architects, Planners & Engineers, Inc.

Mr. Hiroshi Kikuoka, Building & Utility Planning

Matsuda, Hirata & Sakamoto
Architects, Planners & Engineers, Inc.

Mr. Isamu Yamazaki, Equipment Planning

Overseas Merchandise Inspection Co., Ltd.
(OMIC)

d. Second Study Team

Mr. Yoshifusa Shikama, Leader

Basic Design Division
Grant aid Department
Japan International Cooperation Agency

Mr. Masao Takahashi, Planning Coordinator

Matsuda, Hirata & Sakamoto
Architects, Planners & Engineers, Inc.

Mr. Isamu Yamazaki, Equipment Planning

Overseas Merchandise Inspection Co., Ltd.
(OMIC)

APPENDIX 3

SCHEDULES IN EGYPT

1. Basic Design Study

August 1982

21st	Sat	left Tokyo
22nd	Sun	arrived Cairo
23rd	Mon	Embassy of Japan, JICA, RIMCO
24th	Tue	to Alexandria, RTTC
25th	Wed	RTTC
26th	Thu	to Cairo, RIMCO
27th	Fri	
28th	Sat	JICA, Embassy of Japan, RIMCO
29th	Sun	RIMCO
30th	Mon	to Alexandria, RTTC
31st	Tue	RTTC

September

1st	Wed	to Cairo, RIMCO, Ministry of Supply
2nd	Thu	JICA, Embassy of Japan
3rd	Fri	field survey
4th	Sat	JETRO, RIMCO
5th	Sun	to Alexandria, RTTC
6th	Mon	RTTC, field survey
7th	Tue	field survey, to Cairo
8th	Wed	JICA, Embassy of Japan, RIMCO
9th	Thu	left Cairo
10th	Fri	arrived Tokyo

2. Second Study

October 1982

21st	Thu	left Tokyo
22nd	Fri	arrived Cairo
23rd	Sat	Embassy of Japan, JICA, RIMCO
24th	Sun	RIMCO, to Alexandria
25th	Mon	RTTC
26th	Tue	to Cairo, RIMCO
27th	Wed	RIMCO
28th	Thu	Embassy of Japan, JICA, RIMCO
29th	Fri	left Cairo
30th	Sat	arrived Tokyo

APPENDIX 4 ITEMS INVESTIGATED AND DISCUSSED

Items Investigated

Basic Design Study
August/September 1982

(1) Agricultural

(a) Agricultural Conditions

Agriculture in general

Food supply conditions and government policies, Food Security Plan, New 5-year Plan

Rice cropping conditions

Rice cropping policies;- double cropping, increase of rice production

Production;- transition of production, varieties, rotation system, harvesting

(b) Post Harvest Processes

Governmental authorities concerned and policies regarding post harvest processes

Actual conditions at each stage of processing;- processing methods and loss problems

(c) Rice Conditions

Distribution;- rice under governmental control, method of inspection and grading, distribution routes, transportation, storage

Processing;- rice mill conditions

Consumption;- trends of consumption and marketing price system

Rice quality;- quality standards for paddy and milled rice

(d) Rice Mill Conditions

Governmental policies for the rice industry

Distribution of operation types, (governmental and private), processing capacities, facilities

Conditions of operation

Equipment

Operators

Administration and maintenance;- acquisition of spare parts

Handling of raw material and finished products;- transportation, storage, packing

Rice milling data;- yield, occurrence of broken rice, milling accuracy

Utilization of by-products;- husk, bran, broken rice

(e) Present Condition of RTTC

Confirmation of objective of establishment and principles of activity

Organization, budget, operation

Existing facilities, equipment and their utilization, problems, administration, maintenance

Activity;- training, research and development, promotion of technology

Economic-technical cooperation;- dispatching of specialists, procurement of equipment, sending of trainees

(f) RTTC Improvement Program

Relationship of this program to overriding programs

Confirmation of requests and study of their urgency and appropriateness

Equipment specifications

Local technical level

Nature and necessity of technical cooperation

(g) Post Harvest Processing Equipment

Domestic;- Manufacturers, production, technical level

Imports;- Countries of origin, details

(h) Production of Parboiled Rice

Palatability of parboiled rice

Research, production

Equipment, production methods

(i) Drying of Paddy

Field and climatic conditions during harvesting

Conditions of rice plants and paddy during harvesting

Problems in paddy drying

(j) Investigation of Related Establishments

Rice Mills (public and private in different scale)

Rice Experimental Station

Rice Storages

Packing and Distribution Centre

Agricultural Mechanization Centre

Rice Harvesting and Processing Machines

Manufacturer

Rice Retailer

Rice Bran Oil Company

Rice Harvesting Site (rice field and farmers house)

(2) Architectural

(a) Environment Conditions

Site

Site survey

Underground obstacles

Overground obstacles

Locality

City Planning

Neighbourhood

Traffic

Road Planning

Main Arteries

Climatic conditions

Temperature

Humidity

Precipitation

Winds

Solar conditions

Earthquakes

Floods

Earth properties

Soil conditions

Boring tests

Water table

(b) Building Conditions

Codes and regulations

Permits and applications

Construction methods and time requirements

Costs for construction material and labour

Local material and equipment

Imported material and equipment

Transportation conditions

Contractors

Pile contractors

(c) Infrastructure

Electric power supply

Water supply

Drainage

Telephone

Gas supply

Fire protection

(d) Existing Buildings and Facilities

Location

Nature

Structure, height and areas

Items Discussed

Basic Design Study
August/September 1982

(1) Agricultural

Scope of Improvement Program

Relationship between Improvement Program and selected equipment

Confirmation of reasons of request (for each group and each machine)

Grouping of requested equipment and priority listing of requests

Clarification of specifications of requested equipment (confirmation of technical level)

Confirmation of utilization plan of requested equipment

Layout of overall facilities

(2) Architectural

Proposed location of new facility

Relationship of new facility to those existing

Foundation conditions and requirements

Structural methods and requirements

Building size, layout and planning

Scheduling

SUPPLEMENTS

SUPPLEMENT 1

Distribution of Labour Population (%)

Item \ Year	1977	1978	1979
Agriculture	41.5	40.5	39.4
Mining & Manufacturing	12.6	12.7	12.8
Electric, Gas, Water Works	0.5	0.5	0.6
Construction	4.6	5.2	6.0
Transportation, Communication, Warehousing	4.5	4.4	4.3
Commerce, Financial, Insurance	10.6	10.7	10.7
Others	25.7	26.0	26.2
Total	100	100	100

Source: FAO, Production Year-book

SUPPLEMENT 2

Distribution of National Income (%)

Item \ Year	1977	1978	1979
Agriculture	28.6	29.0	26.2
Petroleum	6.9	8.2	14.0
Industrial	17.0	16.4	14.8
Construction	4.0	4.1	4.3
Electric Power	1.4	1.1	1.0
Transportation, Communication, Warehousing	6.9	7.4	8.5
Commerce, Financial	10.6	11.8	10.9
Others	24.6	22.0	20.3
Total	100	100	100

Source: National Bank of Egypt, Economic Bulletin

SUPPLEMENT 3

Agricultural Production Index

Index \ Year	Agricultural Production Index	Food Production Index	Food Production Index per Capita
1967	100	100	100
1970	115.1	115.1	106.5
1975	119.8	127.9	105.3
1976	122.1	130.2	104.3
1977	118.6	125.6	97.8
1978	122.1	127.9	97.8

Source: FAO, Production Year-book

SUPPLEMENT 4

Production Transition of Main Crops

Area: 1,000 feddans
Yield: 1,000 tons

Type \ Year		1961-65 average	1971-72	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81
Wheat	Planted area	1,326	1,239	1,396	1,207	1,381	1,391	1,326	1,400
	Production	1,459	1,616	1,960	1,697	1,933	1,856	1,796	1,938
Cotton	Planted area	1,757	1,552	1,248	1,423	1,189	1,195	1,245	1,178
	Production	452	514	386	399	438	484	529	539.2
Rice	Planted area	829	1,146	1,078	1,040	1,031	1,040	972	956
	Production	1,845	2,507	2,300	2,272	2,351	2,511	2,384	2,236
Maize	Planted area	1,614	1,531	1,891	1,765	1,898	1,885	1,906	1,924
	Production	1,913	2,417	3,047	2,724	3,117	2,938	3,231	3,309
Sugar cane	Planted area	126	202	242	249	248	249	252	-
	Production	4,155	7,713	8,446	8,379	8,296	8,791	8,618	-
Fruits	Planted area	-	253	348	321	365	340	395	402
	Production	-	1,347	2,011	1,902	2,084	2,373	2,281	2,274
Vegetables	Planted area	-	749	929	930	950	1,015	1,045	1,028
	Production	-	5,473	6,922	6,801	7,129	7,774	7,961	8,039

Source: 1961 - 72 FAO, Production Year-book
1975 - 81 Ministry of Agriculture

SUPPLEMENT 5

Rice Production and Quantity Purchased by the Government

Area: feddans
Quantity: tons

Item \ Year	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81
Planted area	1,047,461	1,078,437	1,037,490	1,025,058	1,039,651	970,096
Yield per feddan	2.31	2.13	2.19	2.29	2.41	2.46
Yield quantity	2,418,346	2,300,032	2,269,808	2,345,450	2,510,004	2,381,752
Quantity purchased by the Gov't	1,167,893	1,081,072	1,052,051	1,093,361	1,306,557	1,131,289
Quantity purchased by the Gov't per feddan	1.11	1.00	1.01	1.07	1.26	1.17

Source: Ministry of Supply

SUPPLEMENT 6

Production Estimate under New 5-Year Plan

Area: 1,000 feddans
Quantity: 1,000 ton[2]

Year \ Item	Planted area	Yield per feddan	Production
1976-78 average	1,050	2.20	2,308
1982	1,260	2.81	2,546
Rate of increase annual average	3.7%	5.0%	9.0%

Source: Ministry of Planning, the five year development

SUPPLEMENT 7

Predicted Balance of Supply and Demand of Cereals

Item \ Year	1975	1980	1985
Population (millions)	37.54	42.63	48.61
Production of cereals (million tons)	7.55	8.25	9.03
Consumption of cereals (million tons)	9.27	10.35	12.18
Production minus consumption	-1.72	-2.10	-3.10
Rate of self supply (%)	81.4	79.7	74.1

Source: Ministry of Planning, the five year development plan

SUPPLEMENT 8

RICE GRAIN SHAPES

Variety			Length	Width	Thickness	L/W
Japonica, Guiza	172	(PADDY)	5.61	2.52	1.85	2.1
		(WHITE RICE)	5.26	2.10	1.74	2.5
	173	(PADDY)	5.61	2.52	1.85	2.1
		(WHITE RICE)	5.26	2.10	1.74	2.5
Indica, IR-28	(PADDY)		8.26	2.74	2.30	3.01
	(WHITE RICE)		6.81	2.27	1.52	3.00
Indica, "9752"	(PADDY)		8.58	2.69	1.21	3.19
	(WHITE RICE)		6.92	2.23	1.09	3.10

Source: RTTC

SUPPLEMENT 9

Purity Degree of Paddy Procured in the Season 1980/81

Purity Degree	Quantity Procured (tons)		Total (tons)	Percentage of Procurement
	Japanese	Philippino		
94% and less	49,036	19	49,055	4%
95%	68,320	93	68,314	6%
96%	365,294	7,086	365,294	32%
97%	483,698	1,190	484,888	43%
98% and more	166,092	249	166,341	15%
Total	1,125,354 (98.2%)	8,637 0.8%	1,133,991 100%)	100%

Source: JICA, Post-harvest Rice Processing Course Country Report 1982

SUPPLEMENT 10

Economic-technical Cooperation Projects by Foreign Countries in Progress

	Project	Source
(1)	Westem Nabana Development Project	UK, IBRD
(2)	Rice Research and Training Project	USAID
(3)	El Salam Canal Project	Japan
(4)	El Hamoul Mansoul Project	Hungary
(5)	Shalgia Irrigation Project	Japan
(6)	El Ghonian North/South Project	France, Australia
(7)	New Valley Irrigation Project	USA, UNDP
(8)	Rice Mechanization Project	Japan
(9)	Crop Seed Project	Japan

Source: Bulletin of Egyptian Council of Agriculture and Food Import (October 1982).

SUPPLEMENT 11

RICE TECHNOLOGY TRAINING CENTRE

مركز تدريب تكنولوجيا الأرز

POST BAG: HAGAR EL-NWATIA

كيس بريد - حجر النواتية

Egyptian Rice Milling Statistics

1974, 1975, 1976 (PREPARED BY ELDON BEADLE)

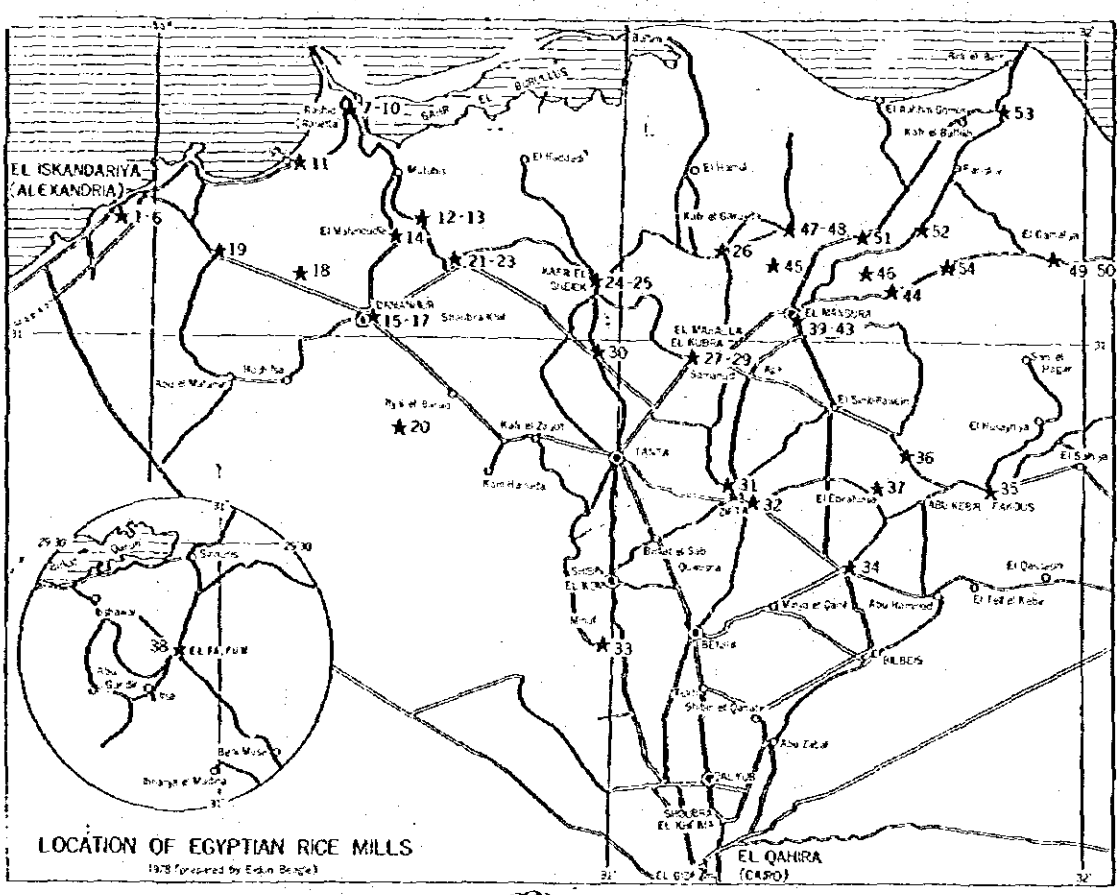
Key to Map*	Name of the Mill	Location	Distance Km	Capacity 24 HR Milled Rice +Brokens	Av. milled Paddy/Year 3 Years Av. M.T.	Rice Hulls Produced Calc. 16% M.T.	Hulls Used as Fuel M.T.	Hulls Available M.T.
				RASHID MILLS CO.				
7	Rashid El-Hadith	Rosetta	0	155	30,843	4,935	00	4,935
9	Doma	Rosetta	1	35	5,964	954	00	954
8	El-Taibany	Rosetta	1	25	2,738	438	00	438
10	Marzouk	Rosetta	3	35	1,459	233	00	233
11	Edkou	Edkou	19	120	26,216	4,195	00	4,195
12	Foua El-Hadith	Foua	48	45	10,212	1,634	00	1,634
13	El-Gauhouria	Foua	48	55	10,980	1,757	00	1,757
14	El-Mahmoudia	El-Mahmoudia	50	100	13,430	2,149	00	2,149
	Total			570	101,842	16,295	00	16,295
				ALEXANDRIA MILLS CO.				
2	El-Hadilla	Alexandria		105	22,880	3,660	1,420	2,240
1	El-Masria	Alexandria	0	90	17,425	2,790	00	2,790
3	Semouha	Alexandria	3	115	22,715	3,635	00	3,635
4	Moharem Bey	Alexandria	5	90	17,870	2,860	1,285	1,575
5	Karmouz	Alexandria	10	120	22,940	3,670	2,525	1,145**
6	El-Kabbary	Alexandria	15	120	19,535	3,125	00	3,125
	Total			640	123,365	19,740	5,230	14,510
				BEHERA MILLS CO.				
15	El-Behera	Damanhour‡	0	120	27,711	4,433	1,478	2,955
19	Kafr El Dawar	Kafr El Dawar	38	120	25,048	4,007	2,003	2,004
17	El Togaria	Zewyet Ghazal	4	110	21,135	3,381	1,690	1,691
18	Abou Hommos	Abou Hommos	18	155	25,031	4,005	00	4,005
16	El-Baharia	Damanhour	2	60	9,585	1,533	766	767
	Total			565	108,512	17,359	5,937	11,422
20	El-Delengat	El-Delengat‡	20	155+			00	
				KAFR EL-SHEIKH MILLS CO.				
21	El-Fath	Desouk‡	0	155	30,361	4,855**	00	4,855**
22	El-Nasr	Desouk	4	85	18,404	2,945	00	2,945
23	El-Hadith	Desouk	2	85	20,335	3,245	00	3,245
24	Ragab	Kafr El-Sheikh	32	90	28,546	4,567	00	4,567
25	El-Obour	Kafr El-Sheikh	31	75	16,018	2,569	00	2,569
26	Beala El-Hadith	Beala	57	155	20,708	3,315	00	3,315
	Total			645	134,372	21,496	00	21,496

Key to Map*	Name of the Mill	Location	Distance Km.	Capacity 24 HR Milled Rice +Brokens	Av. milled Paddy/Year 3 Years Av. M.T.	Rice Hulls Produced Calc. 16% M.T.	Hulls Used as Fuel M.T.	Hulls Used as Available M.T.
	SHARKIA MILLS CO.							
35	Fakous	Fakous+	35	155	35,000	5,600	00	5,600
36	Kafr Sakr	Kafr Sakr	35	155	35,000	5,600	00	5,600
34	Zakazik	Zakazik	0	100	20,000	3,200	00	3,200
37	El-Ebrahimea	Ebrahimea	17	70	18,000	2,880	00	2,880
38	El-Fayoum	El-Fayoum	210	75	18,000	2,880	00	2,880
	Total			455	126,000	20,160	00	20,160
	CHARBIA RICE MILLS CO.							
30	Kotour	Kotour	28	155	30,922	4,947	00	4,947
27	El-Nasr	Mehallah	0	150	25,817	4,130	1,500	2,630
28	Nour El-Din	Mehallah	0	100	19,762	3,171	00	3,171
29	El-Sawy	Mehallah	0	100	20,542	3,286	00	3,286
31	Kouper	Zephta	45	70	11,528	1,844	00	1,844
32	Borai	Meel Chamr	45	50	8,773	1,403	00	1,403
33	Sers	Sers El-Layan	85	65	8,326	1,332	00	1,332
	Total			690	125,690	20,113	1,500	18,613
	DAKAHLIA RICE MILLS CO.							
39	Behrend	Mansoura	0	120	23,121	3,699	00	3,699
40	Mansoura	Mansoura	0	120	22,733	3,637	00	3,637
41	El-Alrely	Mansoura	2	120	21,967	5,115	00	5,115
42	El-Shennawy	Mansoura	1	120	21,694	3,470	00	3,470
43	Mansoura	Mansoura	0	550	6,833	1,093	00	1,093
44	Dekernes	Dekernes	25	90	22,414	3,586	00	3,586
45	Kafr Behout	Kafr Behout	20	80	13,526	2,164	00	2,164
46	Demshelt	Demshelt	20	40	6,009	961	00	961
	Total			740	149,297	23,725	00	23,725
	DAMIETTA & BELKAS MLLLS CO.							
47	Abou Hassan	Belkas	30	80	15,000	2,400	00	2,400
48	Abou El-Fetouh	Belkas	30	80	15,000	2,400	00	2,400
49	Shelbaya(B)	El-Manzala	40	80	15,000	2,400	00	2,400
50	Hal	El-Manzala	40	80	15,000	2,400	00	2,400
51	Sherbin	Sherbin	12	100	10,000	1,600	00	1,600
52	El-Zarka	El-Zarka	0	155	35,000	5,600	00	5,600
53	El-Badry (*It is intended to stop the mill*)	Damietta	30	50	10,000	1,600	00	1,600
54	El-Read	El-Read	15	80	15,000	2,400	00	2,400
	Total			705	130,000	20,800		20,800
	NATIONAL TOTALS			5,010	999,078	159,688	12,667	147,021

*For 1 year - not an average
**Average taken over 2 years
***100% steam engine power
+ Under construction, Will produce at the end of 1979.
| Hulls grinding mill.

Source: RTTC

SUPPLEMENT 12



RICE TECHNOLOGY TRAINING CENTRE

POST BAG: HAGAR EL-NWATIA

مركز تدريب تكنولوجيا الأرز

كيلو ٢٥ - حجر النواتية

SUPPLEMENT 13

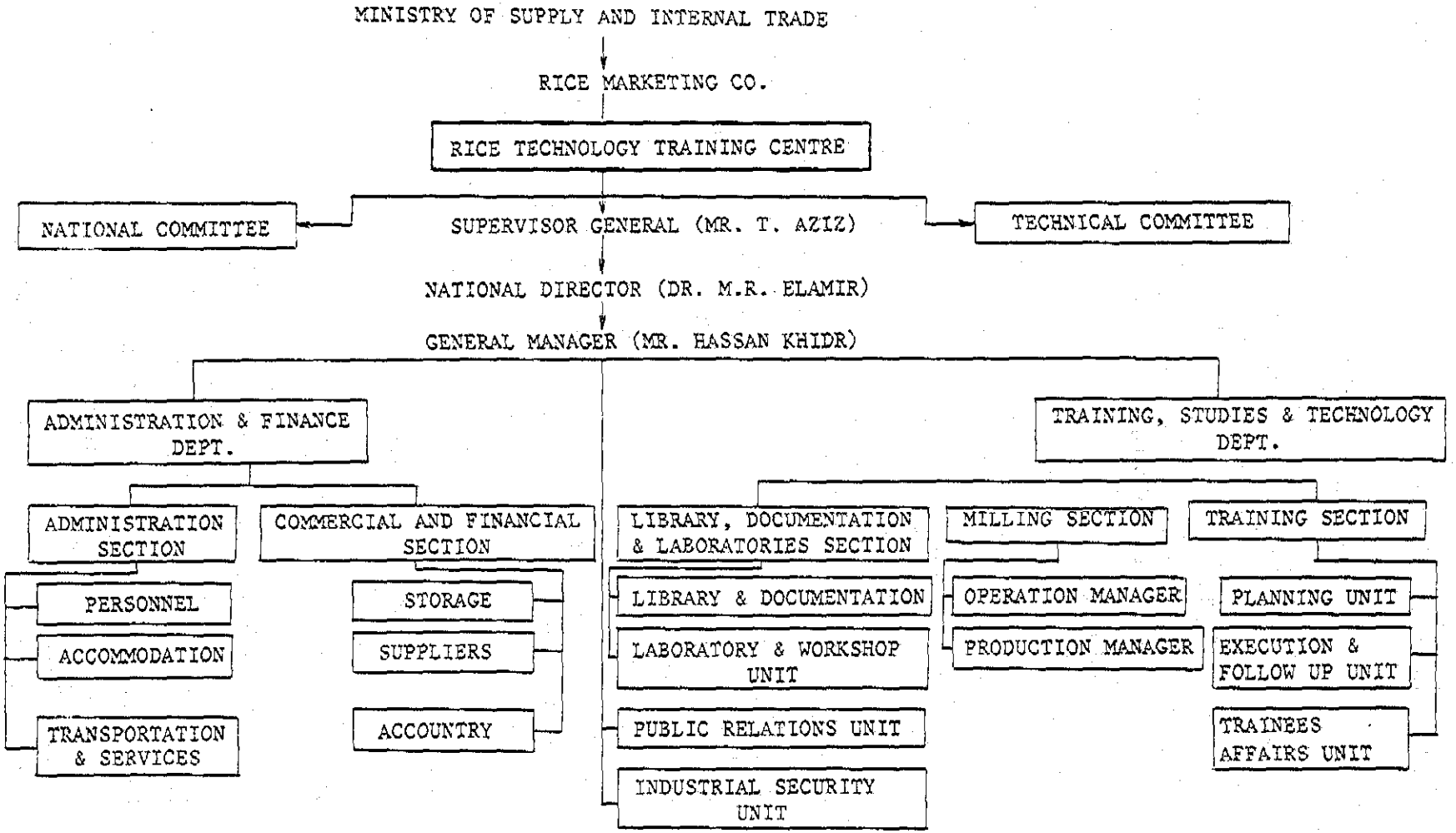
Rice Mills Equipped with Milling Machines of East German Make

Mill	Company
Abou Hommos Rice Mill	Behera Rice Milling Co.
Rashid Modern Rice Mill	Rashid Rice Milling Co.
Kotour Rice Mill	Gharbia Rice Milling Co.
El Hadith Rice Mill	Kafr El Sheikh Rice Milling Co.
Biela Rice Mill	"
Kafr Sakr Rice Mill	Sharkia Rice Milling Co.
Fakous Rice Mill	"
Zarka Rice Mill	Damietta Rice Milling Co.

Source: Country Report of JICA Post-harvest Rice Processing Course 1982

SUPPLEMENT 14

Present Organization Chart of RTTC



SUPPLEMENT 15

BOARD AND COMMITTEE MEMBERS OF RTTC

NATIONAL BOARD:

ENG. AHMED TALAAT AZIZ	CHAIRMAN
THE EIGHT CHAIRMANS OF RICE MILLS COMPANIES	MEMBERS
CHAIRMAN OF RICE MARKETING CO.	MEMBERS
DR. R. ELAMIR	"
ENG. H. KHIDR	"

TECHNICAL COMMITTEE:

ENG. A.T. AZIZ	- - - - - - - - - -	CHAIRMAN
ENG. SH.EL HARAWI	ROSETTA R/M CHAIRMAN	MEMBER
ENG. M. GAFFER	RIMCO CHAIRMAN	"
ENG. M. EL-HEFNAWY	SHARKIA R/M CHAIRMAN	"
MR. HOSNY KANDIL	DAKAHLIA R/M CHAIRMAN	"
MR. H. SHABANA	IST. UNDERSECRETARY MOS.	"
DR. A.F. EL AZIZY	MOAGRI RICE RESEARCH	"
ENG. M. SABRI	MOAGRI SEED PRODUCTION	"
DR. S.A. EL GUWAD	CHIEF RESEARCHER., CEREALS TECHNOLOGY, MOAGRI	"
MR. A. EL KHOLY	P.V.T. SECTOR RICE COOPS.	"
MR. A. A.EL-ALAMY	P.V.T. MILLS	"
MR. A. EL-MONGY	WORKSHOPING	"
ENG. H. KHIDR	RIMCO	"
ENG. H. ABASS	RIMCO	"

MANAGEMENT OF RTTC NATIONAL COMMITTEE

ENG. A.T. AZIZ	SUPERVISOR GENERAL
DR. R. EL-AMIR	NATIONAL DIRECTOR
ENG. H. KHIDR	GENERAL MANAGER
ENG. A. EL MORSY	RTTC LOCAL MANAGER

SUPPLEMENT 16

RICE MILLING EQUIPMENT
EXISTING IN RTTC
(1MT / HR)

ITEM	DESCRIPTION	QTY(PCS)	REMARKS
1	SWITCH BOARD & MAIN CONTROL	1	GDR MADE
2	FARMER MILL	1	ENGELBERG (U.K.)
3	FARMER MILL	1	JAPANESE MADE
4	SWITCH BOARD	1	JAPANESE MADE
5	HOPPER SCALE	1	FOR PADDY, (GDR)MADE
6	SEPARATOR ASPIRATOR	1	GDR MADE
7	THICKNESS GRADER	1	GDR MADE
8	STONER SEPARATOR	1	JAPANESE MADE
9	SPECIFIC GRAVITY GRADER	1	KIPP KELLY (CANADA)
10	UNDER RUNNER DISCSHELLER	1	GDR MADE
11	RUBBER ROLL HUSKER	1	JAPANESE MADE
12	HUSK SEPARATOR	1	GDR MADE
13	TABLE SEPARATOR	1	30 COMPORTMENT (GDR)
14	" "	1	20 COMPORTMENT (GDR)
15	THICKNESS GRADER	1	GDR MADE
16	CONE WHITNER (75 CM DIA)	1	" "
17	WHITENING M/C (ABRASIVE)	1	JAPANESE MADE
18	" " (FRICTION)	1	" "
19	PLAIN SIFTER	1	GDR MADE
20	WHITE RICE GRADING	1	" "
21	TALC MIXER	1	" "
22	GLUCOSE MIXER	1	" "
23	TANK FOR BRAN	1	" "
24	HUSK BLOWING FAN	1	" "
25	CONTROL TANK	8	" "
26	BUCKET ELEVATOR DUAL TYPE	8	-----
27	BUCKET ELEVATOR SINGLE TYPE	5	-----
28	MAGNET SEPARATOR	2	GDR MADE
29	CYCLONE	5	GDR MADE

Manufacturer: Fortschritt, German Democratic Republic

Trader: Veb Muhlebou Dresden, German Democratic Republic

SUPPLEMENT 17

EXISTING PADDY DRYER IN RTTC

PADDY DRYER 1 SET

MANUFACTURER: Cimbria, Denmark

COMPONENTS Receiving Equipment (Hopper and sorter)

Drier

4 ton/30 min./ 1 pass (moisture content drop 2.0%)

Tempering tank

24 ton (6 ton x 4)

Tempering cycle 6 - 8 hours

Silo

240 ton (5m diameter x 12 corrugated sections Manufacturer: Read, USA)

SUPPLEMENT 18

LABORATORY EQUIPMENT

EXISTING IN RTTC

ITEM	DESCRIPTION	QTY	REMARKS
1	INFRARED MOISTURE METER	1	KET BRAND (JAPAN)
2	DRYING OVEN	1	BARABENDER (W.G.)
3	DRYING OVEN	1	MADE IN (GDR)
4	DRYING OVEN	1	" (JAPAN)
5	MUFFLE OVEN	2	" (W.G.)
6	BROWN DOVEL MOISTURE METER	1	" (U.S.A.)
7	SATAKE MOISTURE METER	1	" (JAPAN)
8	UNIVERSAL MOISTURE METER	1	" (U.S.A.)
9	WILE MOISTURE METER	1	" (FINLAND)
10	ANALYTIC BALANCE SCALE	2	" (JAPAN)
11	HYGRO THERMO GRAPH	1	" (U.S.A.)
12	GERMINATOR	1	" (")
13	FEUTRON MOISTURE METER	1	" (GDR)
14	TESTING HUSKER	5	" (JAPAN)
15	HECTOLITER WEIGHER	2	" (W.G.)
16	TESTING PLAIN SIFTER	2	" (")
17	DOUBLE BEAM BALANCE	2	" (U.S.A.)
18	PADDY COUNTER	4	" (JAPAN)
19	HAND OPERATING HUSKER	5	KT 10 (")
20	SAMPLE PANS	25	" (U.S.A.)
21	DOUBLE BEAM BALANCE	1	" (JAPAN)
22	BAG TRIEUR	10	" (")
23	EXPERIMENTAL PARBOILING UNIT	1	SCHULE (W.G.)
24	ROTARY DRYER	1	" (")
25	SIEVES (DIFFERENT SIZE)	4 SETS	" (JAPAN/U.S.A.)
26	TACHOMETER	3	" (JAPAN/ GDR)
27	RUBBER HANDNESS METER	1	" (W.G.)
28	MAGNIFIER	2	MADE IN (U.S.A.)
29	INVERTED GLASS JAR	20	" (JAPAN)

SUPPLEMENT 19

LABORATORY EQUIPMENT

EXISTING IN RTTC

ITEM	DESCRIPTION	QTY	REMARKS
30	GLASS JAR (DIFFERENT SIZE)	250	LOCAL MADE
31	ASPIRATOR	1	MADE IN (U.S.A.)
32	COMPRESSOR	1	LOCAL MADE
33	GRAIN DIVIDER	2	MADE IN (JAPAN)
34	TWIZERS	20	" (U.S.A.)
35	BALANCE SCALE	1	" (GDR)
36	SEALING M/C	1	" (U.S.A.)
37	WHITENING M/C (ABRASIVETYPE)	2	" (JAPAN)
38	" " (PEARLER)	2	" (")
39	ABRASIVE WHITENING CONE	1	" (ITALY)
40	HARDNESS METER	2	" (JAPAN)
41	INDENTED CYLINDER	2	" (JAPAN)
42	" PLATES	4	" (ITALY)
43	WHITENESS METER	1	" (JAPAN)
44	GRAIN SHAPE TESTER	2	" (")
45	CRACK INSPECTOR	1	" (")
46	STOP WATCH	2	" (GDR)
47	SAMPLE CONTAINER (POLYTHELYNE/PAPER)	500	" (GDR)
48	THERMOMETER	10	JAPAN/(W.G.)

SUPPLEMENT 20

Training Courses Held at RTTC, 1981

Training Season

The training courses take place during the period from March to September of every year, according to the instructions of the National Committee of the Centre.

1981 Season

Number of Training Courses	:	14
Number of Trainees	:	311
Number of Lecturers	:	61

Classification of the Courses

- No. 8 Technical Courses
- No. 3 Administrative Courses
- No. 2 Commercial Courses
- No. 1 Financial Course

Participation of the Rice Mills Companies in the Training Courses

- Alexandria Rice Mills Co.	:	39 Trainees
- Rashid Rice Mills Co.	:	45 "
- Behera Rice Mills Co.	:	49 "
- Kafr El Sheich Rice Mills Co.	:	53 "
- Gharbia Rice Mills Co.	:	3 "
- Dakahlia Rice Mills Co.	:	21 "
- Damietta & Balkas Rice Mills Co.	:	29 "
- Sharkia Rice Mills Co.	:	31 "
- Rice Marketing Co.	:	41 "
Total		311 "

SUPPLEMENT 21

Training Courses held at RTTC, 1982

1982 Season up to 24/6/82

Number of Courses: 16
Number of Trainees: 270
Number of Lecturers: 189

Classification of the Courses

- No. 5 Technical Courses
- No. 6 Administrative Courses
- No. 3 Commercial Courses
- No. 2 Financial Courses

Participation of the Rice Mills Companies in the Training Courses

- Alexandria Rice Mills Co.	:	33 Trainees
- Rashid Rice Mills Co.	:	44 "
- Behera Rice Mills Co.	:	34 "
- Kafr El Sheich Rice Mills Co.	:	46 "
- Gharbia Rice Mills Co.	:	2 "
- Dakahlia Rice Mills Co.	:	--
- Damietta & Balkas Rice Mills Co.	:	14 "
- Sharkia Rice Mills Co.	:	62 "
- Rice Marketing Co.	:	35 "
Total		270

SUPPLEMENT 22

TRAINING CURRICULUM OF RTTC:

(A) TECHNICAL COURSES:	PERIOD OF TRAINING 1981	1982	1983
1 Introduction of Rice Milling Technology	3 weeks x 2 times	6 weeks	
2 Quality Control	3 weeks	4 "	
3 Rice Milling Technology (for Chief Operators)	3 "		
4 Storage and Pest Control	3 "		
5 Advanced Rice Milling Technology (Senior Engineers & Mill Managers)	4 "	4 "	
6 Management (Rice Mill Managers)	3 "	4 "	
7 Emery Stone Remolding for Shellers and Cones (for Skilled Technicians)	2 "	2 "	
8 Packing Systems (Operators)	2 "	3 "	
9 Industrial Security	2 "		
10 Training in the Different Stages of Rice Milling	2 "	3 "	
11 Maintenance of Machines of Power Consumption			
12 Training for Cold Storage Equipment Operation		3 "	
13 Worker Training / Maintenance and Repairs		3 "	
14 Rice Milling Operator Training		3 "	
Sub-Total	30	35	(36)

(B) COMMERCIAL COURSES:	
1 Cooperative Marketing	2 weeks
2 Supplies & Warehousing	2 "
3 Importation Techniques	2 "

(C) ECONOMIC COURSES:

1	Planning and Administration	2 weeks
2	Projects Evaluation & Financing	2 "

(D) FINANCIAL COURSES:

1	Financial Analysis & Costs	3 "
2	Unified Accounting System	2 "
3	Budgeting	2 "

(E) ADMINISTRATIVE COURSES:

1	Personnel	2 "
2	Social Insurance and Wages	2 "
3	Secretary & Archives	2 "
4	Public Relations	2 "
5	Administration & Job Evaluation	3 "

(F) HIGHER MANAGEMENT COURSES:

After satisfactory completion of a course, successful trainees are offered certificates indicating that they have attended such course. The performance of each trainee and the number of courses he passed in RTTC, are taken into consideration in his job evaluation process during his career.

SUPPLEMENT 23

Expected activities of "RTTC"

The expected activities of "RTTC" are as follows:-

1. Study of paddy and rice on its physico-chemical characteristics, botanical character, milling character, drying character, cooling character, etc.
2. Establishment of grading standard of rice and paddy, inspection standard, inspection methods and identification and development of inspection equipment.
3. Survey and analysis of domestic production and demand of paddy and rice, its transition, preference of the people, selectivity and the plasticity in different varieties.
4. Research and study of post-harvest field operation including harvesting, drying, transportation and other processes.
5. Research and development of paddy and rice storage facility in commercial scale and of farm level.
6. Grain protection technology against birds, rodent, insect and mould.
7. Study on paddy drying technology and development of paddy dryer.
8. Parboiling technology and the development of the equipments.
9. Paddy husking and milling technology including related processes.
10. Weighment, packing, handling and transportation of paddy and rice.
11. Study on rice marketing economy, the possible policies for domestic and international rice situation.
12. By-product utilization technology.
13. Extension, publication and dissemination of the developped technology.
14. Development of industrial manufacturing technology of rice processing equipment, machinery and structures.
15. Opening seminar, symposium, etc. for world-wide study and training.

SUPPLEMENT 24

JICA GROUP TRAINING COURSE IN POST-HARVEST RICE PROCESSING

LIST OF PARTICIPANTS ——— Egypt

YEAR	NAME	OFFICE
1974	Mr. Ahmed Hamdy Mohamed Abdel Aziz	2 Mohamed Wagih Kalil Heliopolis Cairo, Egypt
	Mr. Omar M. Elsaid Mechanical Engineer	Dimiat & Belgass Rice Mill Co. Bilgass, A.R.E.
1975	Mr. El Mahdy H. Shehata	Dakahlia Rice Mill Company P.O. Box 121 El Mansoura Egypt
1977	Mr. Amer Ahmed Abde-el Aziz	Rosetta Rice Mills Co. Nozha, Alexandria Egypt
	Mr. Maher Mohamed Mohamed Awad	Alexandria Rice Mills Co. Moharem-beh Alexandria, Egypt
1978	Mr. Talaat M. Younis Technical Office Manager	Kafr El Sheikh Rice Mill Co. Desouk, Egypt
1980	Mr. Ahamed Abd-El Kader El Hissewi	Agricultural Research Center, Ministry of Agriculture Giza, Egypt
1981	Mr. Aref Rashed Hatem Chief Production	Technical Specialist of Rice Milling Machinery, Rice Technology Training Centre Post Bag: Hagar El Nwatia
1982	Mohmoud Mahmoud El Siginy	Laboratory Manager Rice Technology Training Center Alexandria of the Rice Market- ing Company

SUPPLEMENT 25

Rice Technology Training Centre
Alexandria-Egypt

Record Sheet for Parboiling Test Date: 23/9/81

Variety: Japonica Locality: Fayoum Harvest: 1980

Code No.: 5A

Steeping and Gelatinization: 3h- 62°- 2kg/cm^2- 10'out- 5' 84°- 5kg/cm^2

Drying: left for next day- 30'- 50°/41°- 30' -40°/34°- 24.0 %; 30' temp.- 30' - 50°/43°- 15'- 40°/37°-14.5% tempering 45 h-15.7%

Paddy Quality: Sun cracked 36%, chalky grains 3.6%, Moisture: 11.3%

Remarks: (sample II)

No.	Datas	A1-1/2	B2'	C2-1/2	White Rice, 2'	Cargo
1	Milling time	1-1/2	2'	2-1/2	2'	
2	Moisture %	13.4	13.4	13.4	11.3	
3	Total bran + germ %	5.5	7.1	8.6	7.8	
4	Total broken %	3.8	4.1	4.7	25	
5	Chalky grain %					
6	Black spot grain %					
7	Damaged grain %					
8	Head yield %	72.1	70.4	68.1	48	
9	Colour score					
10	Odour score					
11	Cracked grains (in cargo)	38	38	38	36	
12	Hardness test					

SUPPLEMENT 26

Rice Technology Training Centre
Alexandria-Egypt

Record Sheet for Parboiling Test Date: 24/9/81

Variety: Japonica Locality: Fayoum Harvest: 1980

Code No.: 6A

Steeping and Gelatinization: 150'- 67°-2kg/cm^2- 12'out-10'-95°-5kg/cm^2

Drying: 44h tempering-30'-50°/42°- 30'-40°/36°-21%; 1 h tempering-30'-50°/41°-16.8%; 18h tempering 16.1%-40'-40°/37°- 13.5%

Paddy Quality: Sun cracked 36%, chalky grains 3.6%, Moisture: 11.3%

Remarks: (sample I)

No.	Datas	A1-1/2	B2'	C2-1/2	White Rice,2'	Cargo
1	Milling time	1-1/2	2'	2-1/2	2'	
2	Moisture %	13.5	13.5	13.5	11.3	
3	Total bran + germ %	5.8	6.8	7.3	7.8	
4	Total broken %	4.7	6.8	7.6	25	
5	Chalky grain %					
6	Black spot grain %					
7	Damaged grain %					
8	Head yield %	71.0	68.1	66.3	48	
9	Colour score					
10	Odour score					
11	Cracked grains	40	40	40	36	
12	Hardness test					

SUPPLEMENT 27

Rice Technology Training Centre
Alexandria-Egypt

Record Sheet for Parboiling Test Date: 27/9/1981

Variety: Japonica Locality: Fayoum Harvest: 1980

Code No.: 7A

Steeping and Gelatinization: 105'-65°-2kg/cm^2- 12'out-8'-97°-65kg/cm^2

Drying:

Paddy Quality: Sun cracked 36%, chalky grains 3.6%,
Moisture: 11.3%

Remarks: (sample III)

No.	Datas	A1-1/2	B2'	C2-1/2	White Rice, 2'	Cargo
1	Milling time	1-1/2	2'	2-1/2	2'	
2	Moisture %	13.1	13.1	13.1	11.3	
3	Total bran + germ %	7.0	7.6	8.5	7.8	
4	Total broken %	2.8	3.0	3.1	25	
5	Chalky grain %					
6	Black spot grain %					
7	Damaged grain %					
8	Head yield %	71.5	70.3	69.5	48	
9	Colour score					
10	Odour score					
11	Cracked grains	38	38	38	36	
12	Hardness test					

SUPPLEMENT 28

Rice Technology Training Centre
Alexandria-Egypt

Record Sheet for Parboiling Test Date: 28/9/1981

Variety: Japonica Locality: Fayoum Harvest: 1980

Code No.: 8A

Steeping and Gelatinization: 3h-65°- 2kg/cm^2- 15'out-5'- 95°- 4kg/cm^2 - 1'-95°/no pressure/cm^2 6'-95°- 4kg/cm^2 95°

Drying: left for next day-45'- 50/44°- 17.6%- left for 20 h- 17% - 30'- 40/37°- 14%

Paddy Quality: Sun cracked 36%, chalky grains 3.6%, Moisture: 11.3%

Remarks: (sample V)

No.	Datas	A1-1/2	B2'	C2-1/2	White Rice, 2'	Cargo
1	Milling time	1-1/2	2	2-1/2	2	
2	Moisture %	14	14	14	11.2	
3	Total bran + germ %	5.7	6.2	6.8	8.2	
4	Total broken %	1.0	1.0	1.3	26.4	
5	Chalky grain %					
6	Black spot grain %					
7	Damaged grain %					
8	Head yield %	76	75.6	74.3	47.9	
9	Colour score					
10	Odour score					
11	Cracked grains in Cargo	27	27	27	40	
12	Hardness test					

SUPPLEMENT 29

Rice Technology Training Centre
Alexandria-Egypt

Record Sheet for Parboiling Test Date: 28/9/1981

Variety: Japonica Locality: Fayoum Harvest: 1980

Code No.: 9

Steeping and Gelatinization: 3h- 65°- 2kg/cm^2- 35'out- 8'steaming- 1.1 kg/cm^2- 8'open- steaming 0.6 kg

Drying: tempering 20h- 60'- 50°/43°- 21.3%- 20'-50°/44°- 18.0%; 20h tempering- 17%- 30'- 40°/38°- 14.2%

Paddy Quality: Sun cracked 36%, Chalky grains 3.6%, Moisture:11.2%

Remarks: (sample IV)

No.	Datas	A1-1/2	B2'	C2-1/2	White Rice, 2'	Cargo
1	Milling time	1-1/2	2	2-1/2	2	
2	Moisture %	14.2	14.2	14.2	11.2	
3	Total bran + germ %	5.6	6.7	7.2	8.2	
4	Total broken %	2	2	2.3	26.4	
5	Chalky grain %					
6	Black spot grain %					
7	Damaged grain %					
8	Head yield %	74.2	72.4	71.6	47.9	
9	Colour score					
10	Odour score					
11	Cracked grains	18	18	18	40	
12	Hardness test					

SUPPLEMENT 30

Alexandria Climate

Monthly Average Temperatures (°C)

J	F	M	A	M	J	J	A	S	O	N	D	annual
13.7	14.5	16.0	18.5	21.4	24.2	26.1	26.8	25.5	23.0	19.3	15.4	20.4

Monthly Average Humidity (%)

J	F	M	A	M	J	J	A	S	O	N	D	annual
70	68	66	66	68	71	73	72	68	68	69	72	69

Monthly Rainfall (mm)

J	F	M	A	M	J	J	A	S	O	N	D	annual
44	24	15	2	1	0	0	0	0	10	35	59	190

Term: 1951 - 1968

SUPPLEMENT 31

COMPARATIVE AVERAGE MONTHLY CLIMATE

	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
Temperature (°C)													
Alexandria	13.7	14.5	16.0	18.5	21.4	24.2	26.1	26.8	25.5	23.0	19.3	15.4	20.4
Rangoon	24.3	25.2	27.2	29.8	29.5	27.8	27.6	27.1	27.6	28.3	27.7	25.0	27.4
Naha	16.1	16.5	17.9	20.4	23.4	25.9	27.9	27.4	26.7	24.0	21.2	18.1	22.1
Humidity (%)													
Alexandria	70	68	66	66	68	71	73	72	68	68	69	72	69
Rangoon	62	66	69	66	73	85	86	87	85	78	71	65	74
Naha	73	76	77	81	85	88	84	85	82	77	76	73	80
Precipitation (mm)													
Alexandria	44	24	15	2	1	0	0	0	0	10	35	59	190
Rangoon	8	5	6	17	260	524	492	574	398	208	34	3	2,530
Naha	121	137	168	165	246	329	180	296	167	154	146	114	2,222

Latitude

Alexandria	L(N)	31°12'
Rangoon	L(N)	16°46'
Naha	L(N)	26°14'

Source: Tokyo Astronomical Observatory

SUPPLEMENT 32

Solar Table of Alexandria

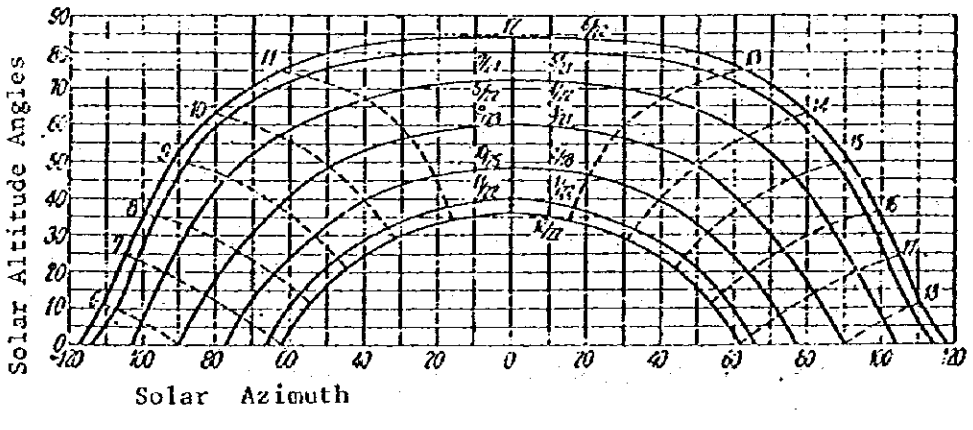
Latitude 31°12' N
Longitude 29°57' E

Time	June 21 Summer Solstice		December 22 Winter Solstice	
	Azimuth (Deg.)	Altitude Angle(Deg.)	Azimuth (Deg.)	Altitude Angle(Deg.)
8.00	-97.074	36.813	-53.903	10.496
8.50	-93.641	43.172	-49.050	15.495
9.00	-89.901	49.556	-43.699	20.121
9.50	-85.655	55.938	-37.787	24.292
10.00	-80.427	62.278	-31.273	27.916
10.50	-73.323	68.501	-24.149	30.889
11.00	-62.163	74.424	-16.467	33.109
11.50	-41.020	79.488	- 8.353	34.484
12.00	0.0	81.850	0.0	34.950
12.50	41.020	79.488	8.353	34.484
13.00	62.163	74.424	16.467	33.109
13.50	73.323	68.501	24.149	30.889
14.00	80.427	62.278	31.273	27.916
14.50	85.655	55.938	37.787	24.292
15.00	89.901	49.556	43.699	20.121
15.50	93.641	43.172	49.050	15.495
16.00	97.074	36.813	53.903	10.496

SUPPLEMENT 33

Solar Data of Alexandria

30°N



SUPPLEMENT 34

EXPORT FIGURES OF EGYPTIAN RICE

Export Figures of Egyptian Rice

Year	Export		Paddy Production (t)
	Milled Rice (t)	Amount (LE 1000)	
1976/77	191,333	20,706	2,269,808
1977/78	132,640	18,535	2,345,450
1978/79	94,878	22,072	2,510,004
1979/80	98,072	24,649	2,381,752
1980/81	——	10,112 (Jan.-Jul)	——

Source: Monthly Statistics of Foreign Trade Index
Ministry of Supply and Internal Trade

SUPPLEMENT 35

Packing and Distribution Centres

District	Number of Centres
Alexandria Governorate	4
Menoufia G.	2
Kalubia G.	1
Suez Canal Zone	4
Guiza G.	7
Cairo G.	19
Upper Egypt Zone	8
Total	45

SUPPLEMENT 36

SPECIFICATIONS OF EGYPTIAN RICE (CARGO AND WHITE)

ACCORDING MINISTERIAL ORDER
NO. 667/1978

VARIETY GRADE	BROKENS %	RED STRIPED GRAINS %	DETERIORATED & YELLOW GRAINS %	IMMATURED & CHALKY GRAINS %	IMPURITIES & FOREIGN GRAINS %	PADDY %	MOISTURE %	REMARKS
CARGO								
EXT SUPERIOR	1.50	0.50	0.15	2.00	0.02	0.50	14.50	
SUPERIOR	2.00	1.00	0.20	3.00	0.05	1.00	14.50	
NO. 1	3.00	2.00	0.25	4.00	0.25	2.00	14.50	
NO. 2	6.00	2.00	0.50	5.00	0.50	2.00	14.50	
WHITE								
EXT FANCY	1.00	0.50	0.10	1.00	0.02	-	14.50	
FANCY	2.00	0.50	0.20	1.50	0.03	-	14.50	
NO. 1	3.00	1.50	0.25	2.00	0.05	-	14.50	
NO. 2	6.00	2.00	0.50	2.50	0.10	-	14.50	
NO. 3	12.00	2.50	1.00	3.50	0.20	0.3	14.50	
NO. 4	20.00	3.00	1.50	5.00	0.30	0.04	14.50	
NO. 5	30.00	3.50	2.00	8.00	0.60	0.10	14.50	
NO. 6	40.00	4.00	2.50	12.00	0.70	0.20	14.50	

SUPPLEMENT 37

NOS. OF RICE MACHINERY & EQUIPMENT SUPPLIED TO EGYPT FROM JAPAN

FROM 1975 TILL 30TH JUNE 82 (7-1/2 YEARS)

ITEM	M/C & EQUIPMENT	NOS. SETS/UNITS
1	HUSKERS	41
2	WHITENING M/CS	32
3	STONERS	46
4	PADDY SEPARATORS	12
5	ASPIRATORS	17
6	AUTOMATIC PACKING M/CS	77
7	COMPRESSORS	6
8	BELT CONVEYORS	14
9	GRADING M/CS	1
10	LAB. EQUIPMENT	46
11	SHUTTER SCALES	23
12	HUSK GRINDING UNIT	1
13	FARMER MILL	1
14	TESTING HUSKERS NOS(500) (HANDY TYPE)	1 LOT
15	FIELD EQUIPMENT	500

REMARKS:

(1) IN ADDITION TO THE SPARE PARTS LOTS RELEVANT TO THE ABOVE SETS/ UNITS

(2) ABOVE MACHINES WERE SUPPLIED TO:

(A) RICE MILLING COMPANIES

(B) RICE MARKETING COMPANIES

(C) RICE TECHNOLOGY TRAINING CENTER.

Source: RTTC