付属資料－Ⅰ

Ⅰ－1　調査団の構成

調査団は、農林水産省農蚕園芸局種苗課審査官　佐藤武治郎氏を団長として下記の通り編成された。

団　　長	佐　藤　武治郎	農林水産省農蚕園芸局 種苗課　審査官
コーディネーター	近　藤　芳　久	国際協力事業団無償協力部 基本設計課
設備担当	森　　裕	株式会社　大建設計
種子生産管理	小　澤　　斉	株式会社　大建設計
建築担当	北　村　恭　一	株式会社　大建設計

1-2　エジプト国関係者

Ministry of Agriculture

Dr. Ali M. El Hossary	Under-Secretary for Engineering Affairs
Mr. Osama Mohamed Kamel	Mechanical Engineer, Under-Secretary of Dr. A. M. El Hossary
Mr. Magdy Nasheed	Engineering Department
Mr. Moustafa Abdel Aleem	Int'l Cooperation Division, Int'l Relation Department, Under-Secretary of Foreign Agriculture Relation

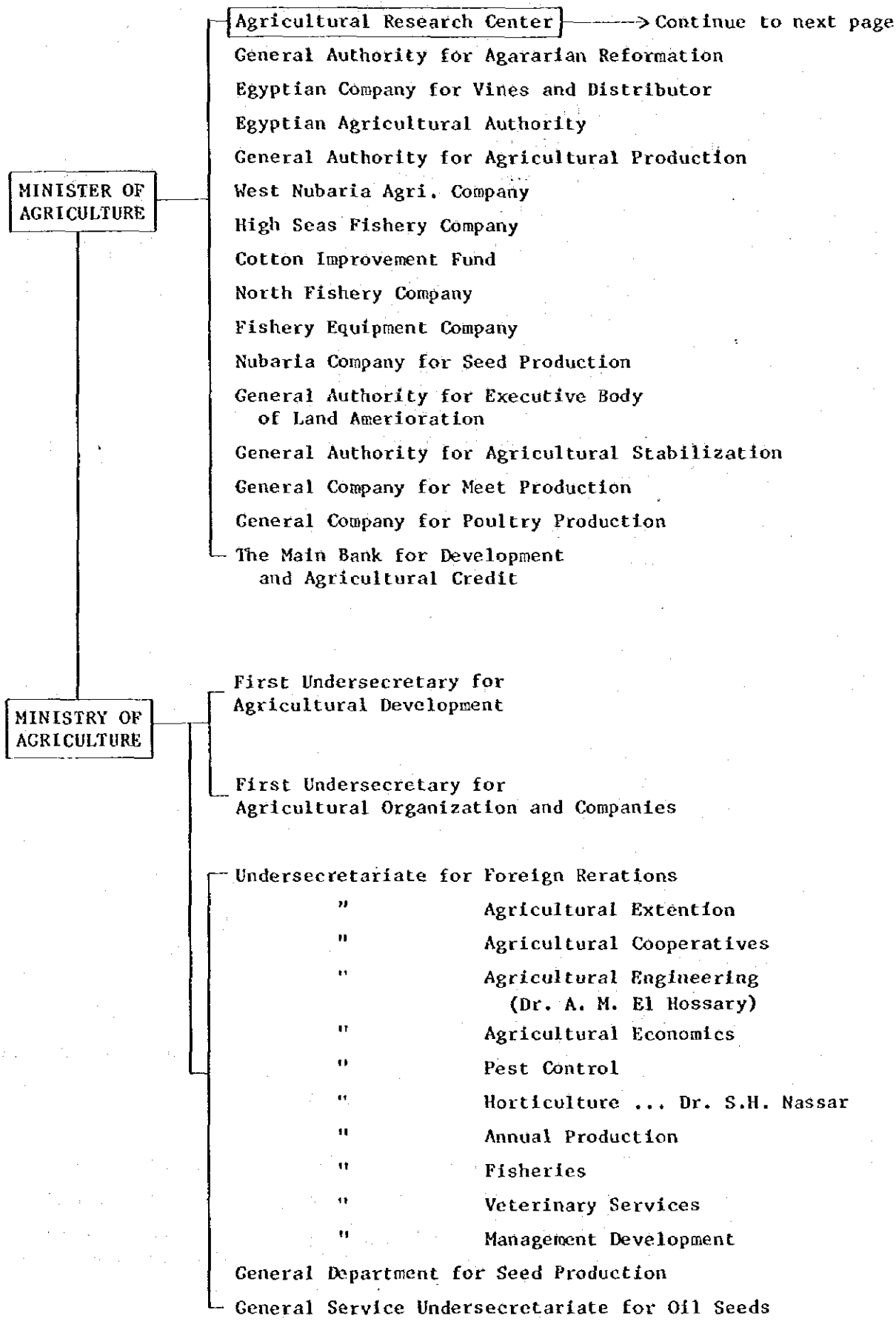
Vegetable Research Department , M O A

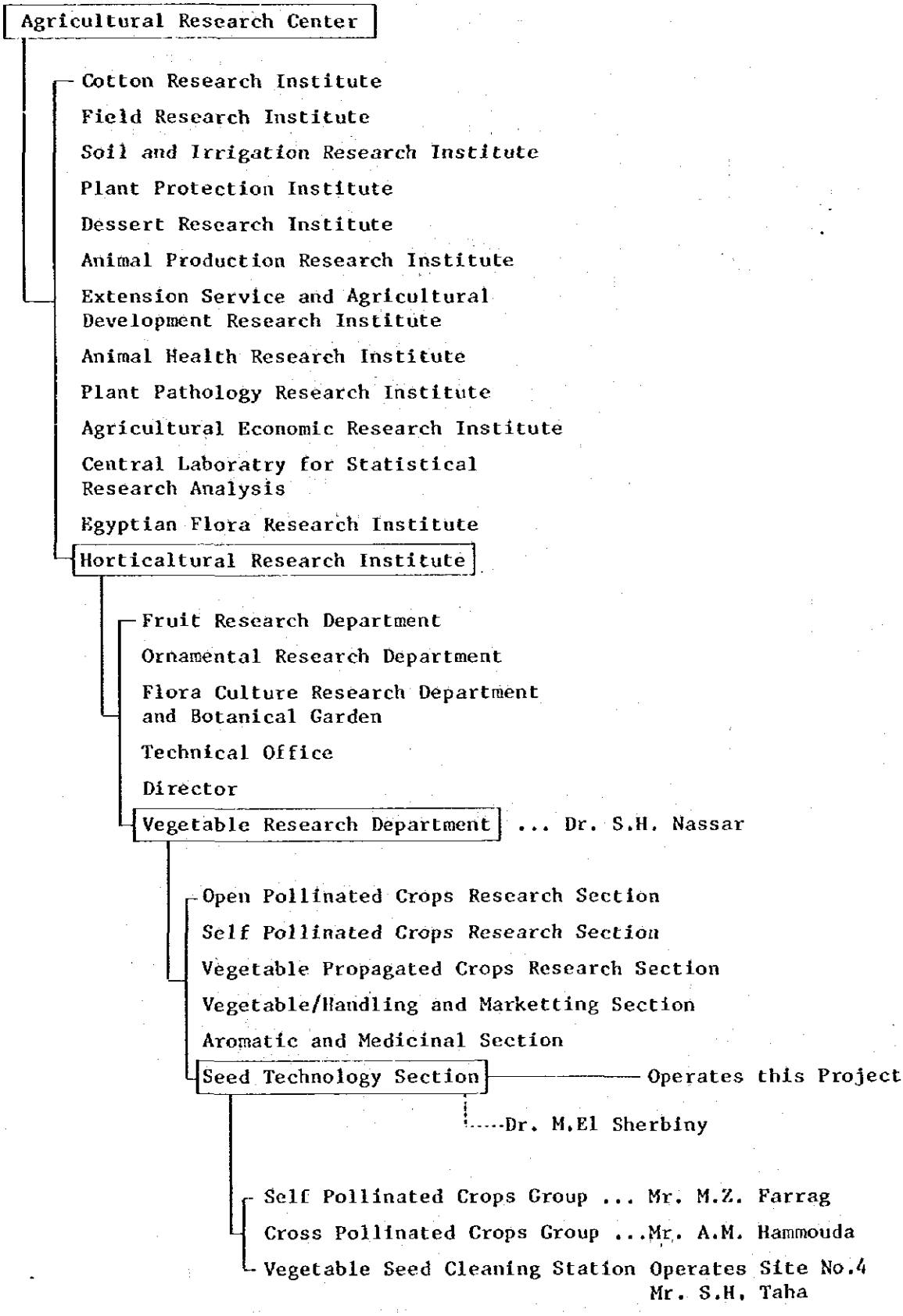
Dr. Sayed Hassan Nassar	Under-Secretary for Horticulture and Director, Vegetable Research Department
Dr. Moukhtar El Sherbiny	Manager, Vegetable Seed Technology Section
Mr. Mohamoud Z. Farrag	Senior Investigator, Vegetable Seed Technology Section
Mr. Ahmed Morsi Hammouda	Investigator, Vegetable Seed Technology Section
Mr. Salah Abd El Rarek	Manager, Qaha Farm
Mr. Saleh Hashem Taha	Manager, Seed Cleaning Station
Mr. Mohamed Sayied Nassar	Vegetable Seed Technology Section

Ministy of Economic and Cooperation

Mr. Mohsan Mohmed Ahmed Sadek	Ministry of Economic and Cooperation

I－3　エジプト国農業省組織




Agricultural Research Center
Cotton Research Institute
Field Research Institute
Soil and Irrigation Research Institute
Plant Protection Institute
Dessert Research Institute
Animal Production Research Institute
Extension Service and Agricultural Development Research Institute
Animal Health Research Institute
Plant Pathology Research Institute
Agricultural Economic Research Institute
Central Laboratry for Statistical Research Analysis
Egyptian Flora Research Institute
Horticaltural Research Institute
Fruit Research Department
Ornamental Research Department
Flora Culture Research Department and Botanical Garden
Technical Office
Director
Vegetable Research Department ... Dr. S.H. Nassar
Open Pollinated Crops Research Section
Self Pollinated Crops Research Section
Vegetable Propagated Crops Research Section
Vegetable/Handling and Marketting Section
Aromatic and Medicinal Section
Seed Technology Section
Operates this Project
Dr. M.El Sherbiny
Self Pollinated Crops Group ... Mr. M.Z. Farrag
Cross Pollinated Crops Group ...Mr. A.M. Hammouda
Vegetable Seed Cleaning Station Operates Site No.4
Mr. S.H. Taha

Ⅰ－4　調査団の日程

調査団は昭和５７年１月２６日から１８日間にわたり基本調査計画を実施した。

調査日程の概略は次の通りである。

月　日	曜　日	内　容
1月26日	火	東京（成田）発　ＪＬ４６３
1月27日	水	カイロ着 ＪＩＣＡカイロ事務所日程・作業方針打合せ 在カイロ日本国大使館表敬訪問・打合せ（八木一等書記官）
1月28日	木	エジプト国農業省表敬訪問、一般打合せ（ホサリー次官）
1月29日	金	調査団協議（調査項目、作業方針確認）
1月30日	土	農業省野菜研究所打合せ（ナサール次官） ドッキ地区既設種子精選場調査・実測 大使館あて中間報告書作成
1月31日	日	大使館・山崎大使に調査中間概要報告 野菜研究所打合せ（ナサール次官他関係者） ドッキ地区試験農場現地調査、既設網室利用状況調査
2月　1日	月	野菜種子流通状況調査 市内工事中現場調査 野菜研究所打合せ（ナサール次官他） ドッキ地区試験農場実測
2月　2日	火	バラジ地区果樹試験農場打合せ（イブラヒム所長）及び サイト候補地実測（大使館八木一等書記官同道）
2月　3日	水	野菜研究所打合せ（ナサール次官他） カハ地区サイト（園芸研究所付属農場）踏査打合せ、実測
2月　4日	木	野菜研究所打合せ（ナサール次官他） 〔カハ地区サイト評価について意見統一〕 野菜種子技術課打合せ（シェルビーニ博士） 〔種子検定用試験機器について〕 調査団協議 〔調査結果の検討〕
2月　5日	金	ナイルデルタ地区の農業事情並びに植生調査
2月　6日	土	ＪＩＣＡ事務所、大使館打合せ

月　日	曜　日	内　　容
		（ミニッツ原案について） 野菜研究所打合せ（ナサール次官他） （ミニッツ内容確認合意） 野菜研究所構内（サイトNo.1）実測 団員協議 （用語の統一、サイトNo.確定）
2月　7日	日	農業省打合せ（ホサリー次官） （バラジー地区とカハ地区のサイトの評価について意見一致 ；ミニッツ打合せ）
2月　8日	月	農業省にてミニッツ、チェック済原稿受領
2月　9日	火	資料整理 ミニッツ調印（ホサリー次官、ナサール次官、佐藤団長）
2月10日	水	カイロ発　LH－623 フランクフルト着（泊）
2月11日	木	フランクフルト発　LH－650
2月12日	金	東京（成田）着

I－5　ミニッツ

MINUTES OF THE DISCUSSIONS

FOR

HIGH-QUALITY SEED PRODUCTION PROJECT

IN THE ARAB REPUBLIC OF EGYPT

In response to a request of the Government of the Arab Republic of Egypt for technical assistance of the basic design study on the high-quality seed production project in Egypt, the Government of Japan sent a study team headed by Mr. Takejiro SATO, Examiner, Seeds & Seedlings Division, Agricultural Production Bureau, Ministry of Agriculture, Forestry and Fisheries to Egypt to implement a basic design study from January 27 to February Io, I982.

The team has held a series of discussions, conducted the field survey, and exchanged views with officials of the Government of Egypt for the high-quality seed production project in Giza, Dokki, Kaha, Egypt.

As a result of the study and the discussions, the Japanese team and the Ministry of Agriculture agreed that the team will complete the final report and submit it to the governments for further study of the implementation of the Project.

The leading issues in the minutes having been confirmed by the Egyptian and Japanese counterparts, are explained in the annexes attached herewith.

In confirmation of mutual agreement, both parties fix our signatures.

Cairo, February 9, I982.

Sayed Hassan Nasaar
9/2/82

Dr. Sayed Hassan Nasaar
Under-Secretary for
Horticulture & Vegetables
MOA.

T. Sato

Mr. Takejiro Sato
Leader,
Japanese Basic Design
Study Team.

Dr. Eng. Ali M. El Hossary
Under-Secretary for
Engineering Affairs
MOA.

ANNEX I

1. The objectives of the project are to produce high-quality seeds for public and private companies in which certified seeds are to yield for distributing them to the farmers (1) by modernizing vegetable seed cleaning units at the Vegetable Research Department, Ministry of Agriculture, Giza and Dokki in Cairo, and (2) by improving vegetable seed production units at Dokki in Cairo and Qaha, Kalubia, Egypt.
2. The Government of Egypt removing the various existing cleaning equipment, very old-fashioned(50 years old) and partially broken, inside the workshop in the premises of the Horticulture Institute, Ministry of Agriculture, Giza, Cairo, Egypt, a new cleaning unit for various vegetable seeds is to be installed with the capacity of 150 tons per year.
3. A set of the cleaning laboratory equipment is to be installed at the unfurnished two lab. rooms of the Vegetable Research Department, Ministry of Agriculture at Dokki, Cairo.
4. Vegetable production units for basic seeds are to be installed at suitable locations, namely, air-conditioned lab-size glass houses with partitions and temperature-control glass houses at Dokki, Cairo, and also large-size plastic houses at Qaha, Kalubia, Egypt as illustrated in ANNEX II.
5. The Vegetable Research Department, Ministry of Agriculture shall be responsible for the management and operation of the facilities/equipment.
6. The outlined description of the facilities/equipment is shown in ANNEX III.
7. The Ministry of Agriculture confirmed that the plan and scale of the facilities may have to be adjusted corresponding to the grant-aid budget to be allocated by the Government of Japan.

Cont/d

Nassar. T.S

8. The team will describe in the study report including detailed function, size, quantity and specifications of facilities and equipment which are considered to be most suitable for the project.

9. The Government of the Arab Republic of Egypt shall take at its own expenses, necessary measures;
   1) To secure land suitable for establishing facilities and installing equipment,
   2) To clear and level the site, workshop, and laboratory, if necessary, before the commencement of the construction/installation of the facilities/equipment and to provide to the site, workshop, and laboratory, electricity, water supply, telephone, and any other incidental facilities necessary for the construction, installation, and operation of the facilities/equipment,
   3) To obtain in advance all licences or permit required by the provinces/any other authorities for building facilities/installing equipment, if any,
   4) To ensure prompt unloading and customs clearance at the port of entry in Egypt and the internal transportation of materials and equipment to their respective site,
   5) To provide all expenses and manpower necessary for the operation and maintenance of the facilities/equipment, and
   6) To exempt Japanese personnel concerned from taxes, duties, and any other charges & fees which may be imposed on the personnel and any equipment & materials entered into the Arab Republic of Egypt for the purpose of carrying out the services in connection with construction/installation of the facilities/equipment.

Nassar T.S

ANNEX II

1. Glass houses with partitions(air-conditioned) for breeding sophiscated basic seeds in the premises of the Vegetable Research Department, Ministry of Agriculture at Dokki, Cairo.

2. Glass houses with partitions(temperature-controlled) for breeding simple basic seeds in the premises of the Vegetable Research Department, Ministry of Agriculture at Dokki, Cairo.

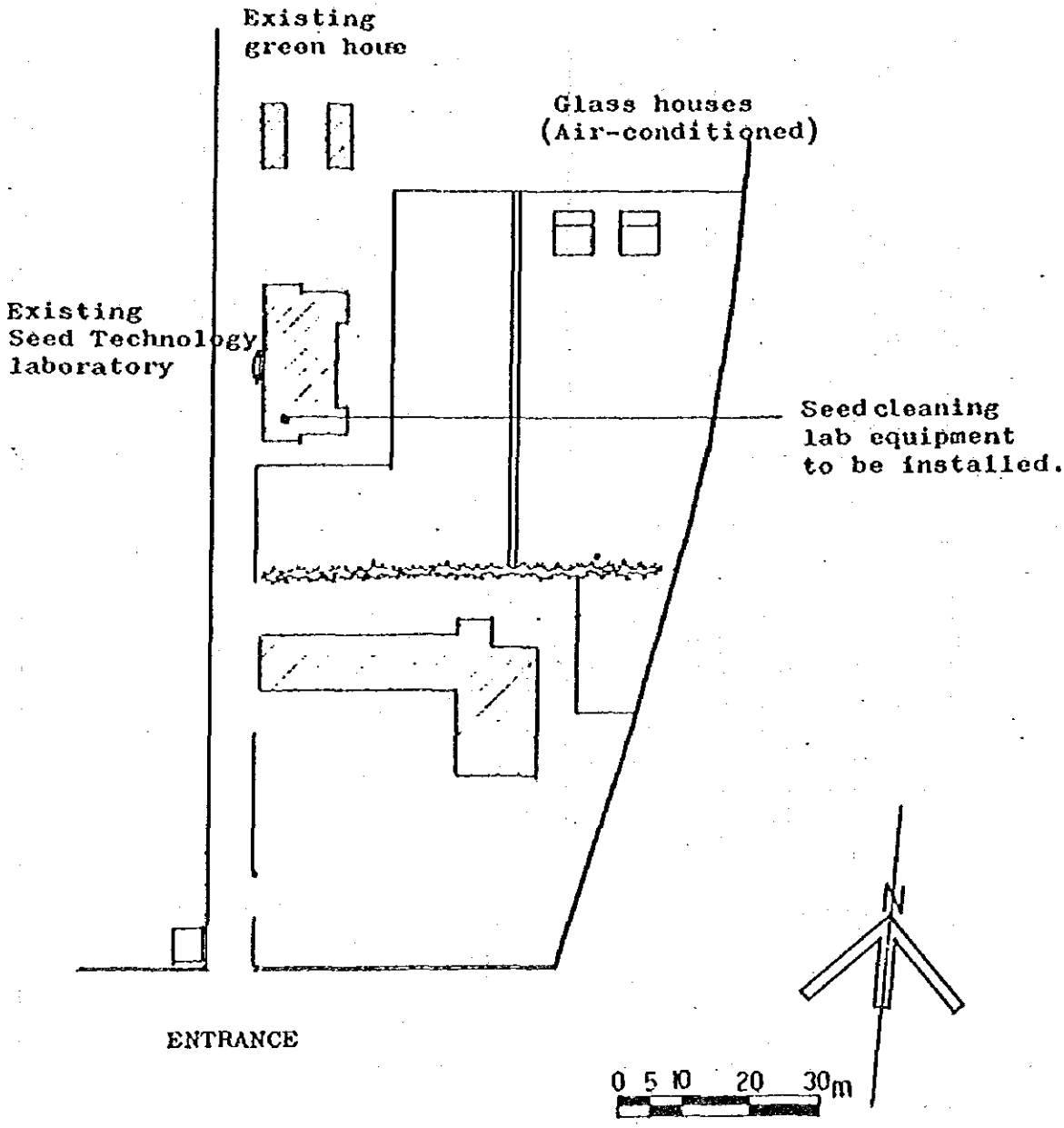
3. Large-size plastic houses(fixed type) for multiplying basic seeds at Qaha, Kalubia, Egypt.

Each plan is attached herewith in separate paper.

4. Suitable farm machineries and tools used in soil preparation and plant protection as well as soil sterilizers.

Hassan T.S

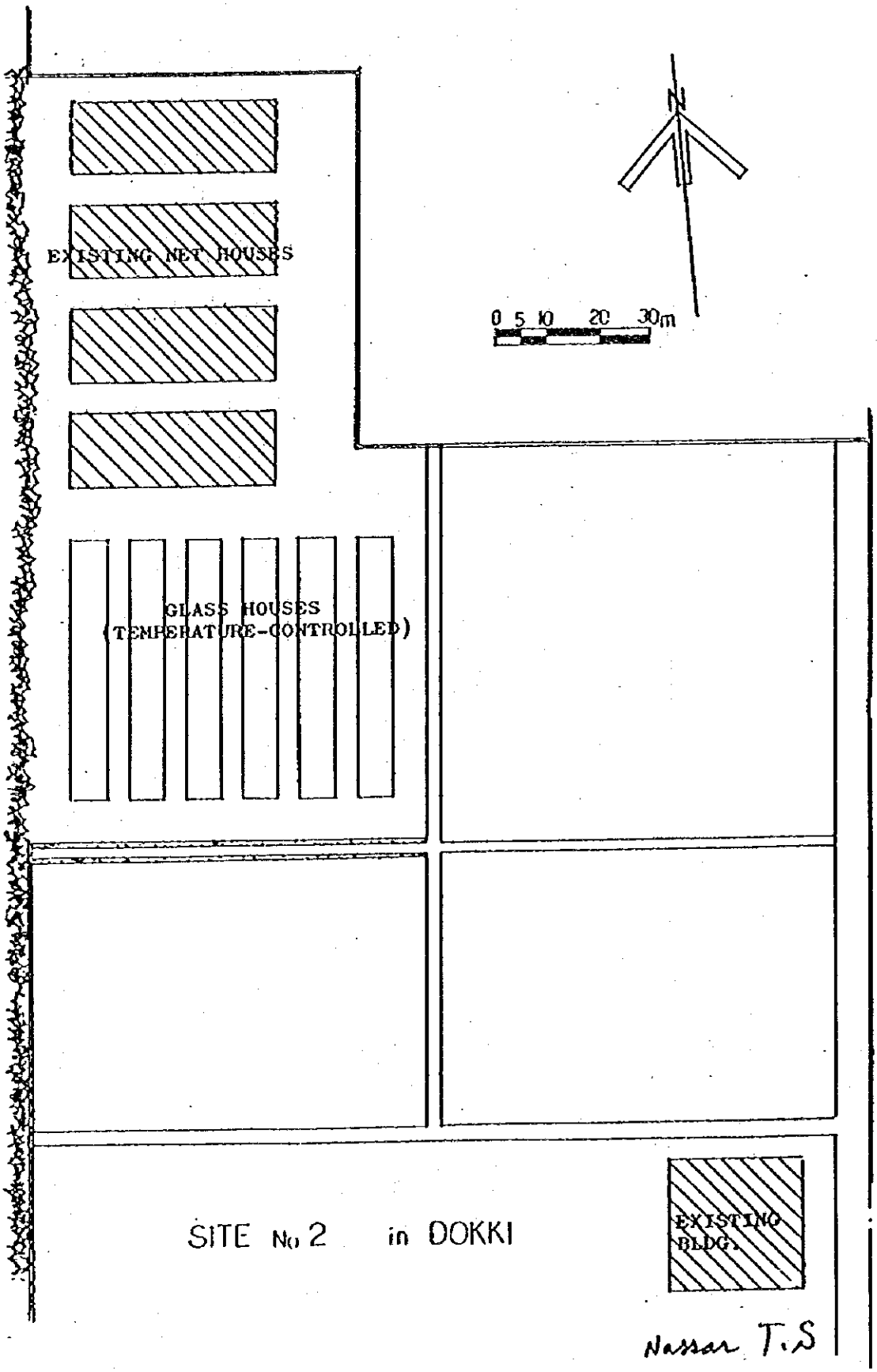
ANNEX II-1



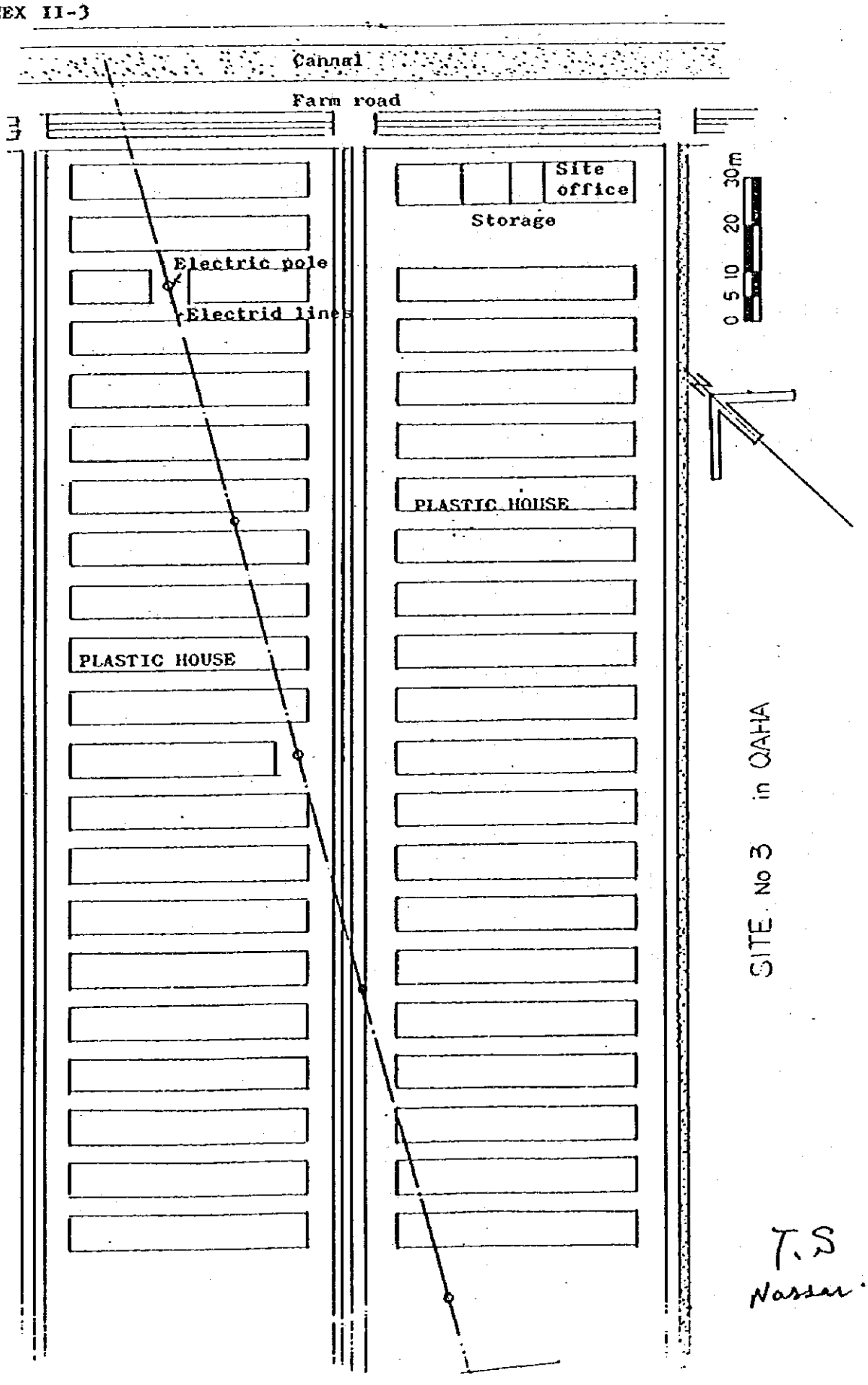
SITE No 1 in DOKKI

Nasser T.S

ANNEX II-2


N
EXISTING NET HOUSES
0 5 10 20 30m
GLASS HOUSES
(TEMPERATURE-CONTROLLED)
EXISTING BLDG.
SITE No 2 in OOKKI
Nassar T.S

ANNEX II-3


Cannal
Farm road
Site office
Storage
Electric pole
Electrid lines
PLASTIC HOUSE
PLASTIC HOUSE
0 5 10 20 30m
SITE. No 3 in QAHA
T.S
Nassar.

ANNEX III

1. Seed Cleaning Unit — One set

   To be installed at Giza, Cairo.
   The flow chart of the seed cleaning equipment for vegetables is attached herewith in ANNEX III-1 including the workshop plan in ANNEX III-2.

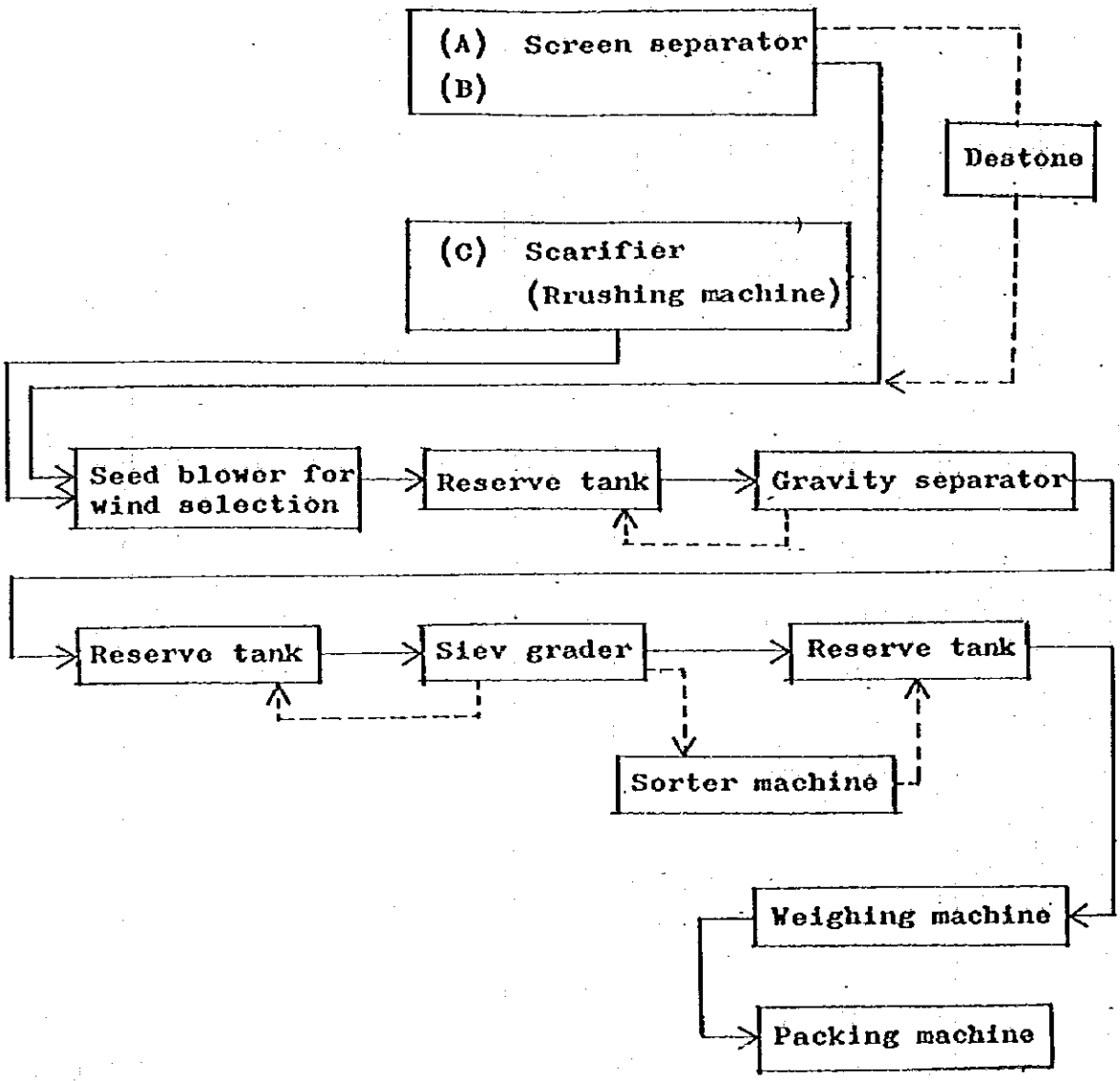
2. Seed Cleaning lab-size Unit — One set

   To be installed at Dokki, Cairo.

Priority order	Equipment list	Remarks
1	Different germinators *	* (a) For 20-30°C (b) 5°C
2	Divider	
3	Counter	(c) For past control (seed bone disease)
4	Petri-dishes	
5	Germination toweles. Bolotter	
6	Microscopes	
7	Scales/Balances	
8	Moisture tester	
9	Oven	130-150°C
10	Weighing dishes for balancex	
11	Dessicator	
12	Refregerator	
13	Sterilizer	
14	A set of sives	
15	Seed blower	
16	R. H. indicator	
17	Therms sample/get sample plus temperature reader	
18	Magnifier(series).	
19	Fans	
20	Slurry seed treatment	
21	Electric lab mill	
22	Microton/sector Microscope/camera	
23	Washer, driers	
24	Projector for seed inspection	

Nassar T.S

ANNEX III-1 Flow chart of the seed cleaning equipment for vegetables

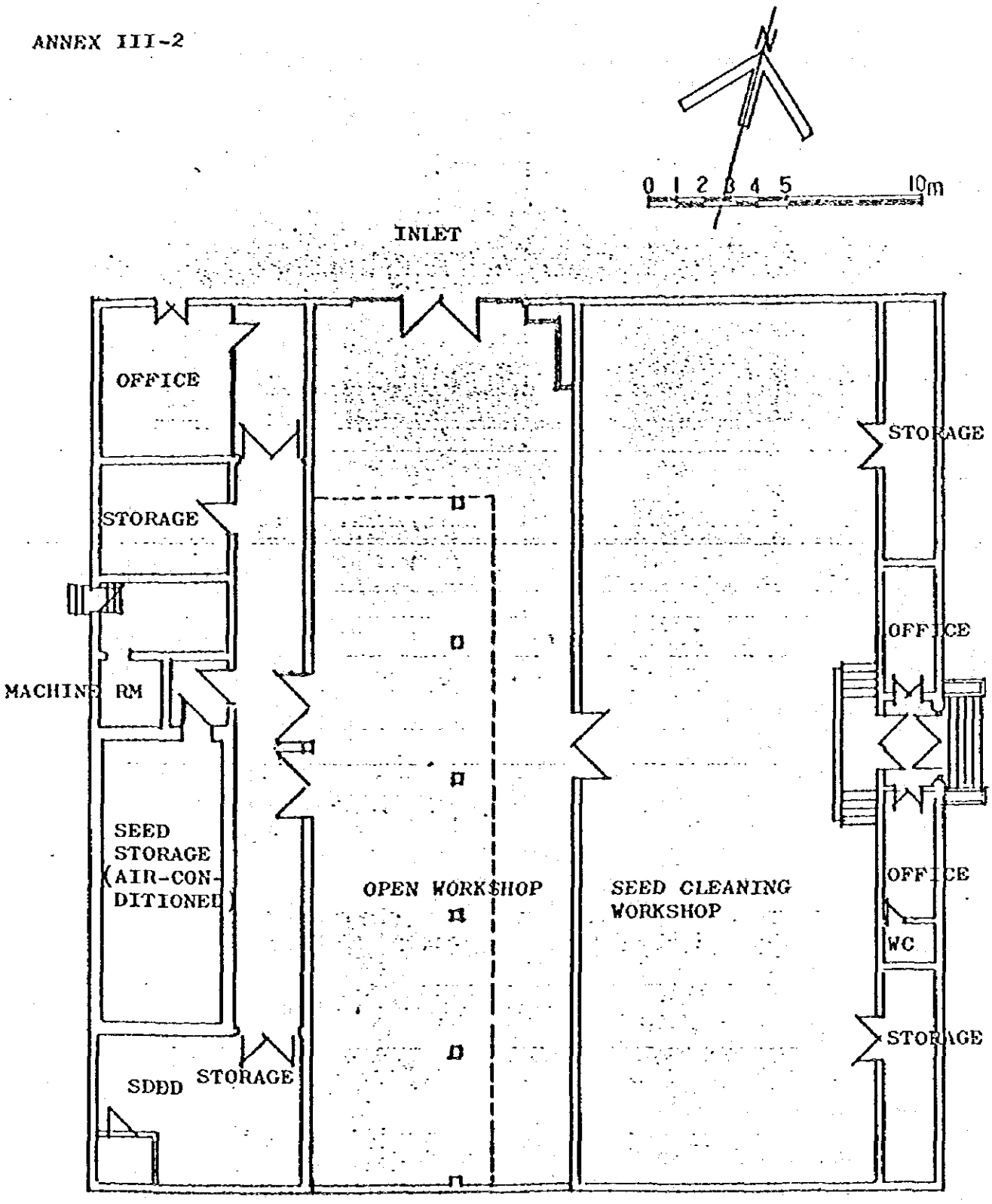


Note: Group of seeds

Small size seeds ... (A)
Large-size seeds ... (B)
Carrot ... (C)

Nasrat T.S

ANNEX III-2



SITE No 4. in GIZA T.S

Nasser

付属資料－II

II－1　エジプト国の概要
II－2　エジプト国の農業生産資料
II－3　現地気象
II－4　現地建設事情（別冊）

Ⅱ－1　エジプト国概要

Ⅱ－1－1　概　況

- 国　名　エジプト・アラブ共和国
  Arab Republic of Egypt
- 政　体　共和国
- 首　都　カイロ
- 国土面積　1,001,000㎢
- 人　口　41,990,000人
- 主要言語　アラビア語
- 国民総生産　18,672,000,000米ドル（480米ドル／人）
- 通貨単位　エジプト・ポンド（E.L）（0.822EL＝1米ドル）
- 宗　教　スンニー派イスラム教徒（人口の90%以上）
  コプト教徒（100万人以上）各派キリスト教徒

Ⅱ－1－2　地　理

- 位　置

アフリカ大陸の北東端、東径24°から35°北緯22°から32°に位置する。首都カイロは北緯30°で我が国の屋久島の南、口之島と同緯度である。北は地中海、東は紅海に面し、国境は西はリビヤ、南にスーダン、シナイ半島ではイスラエルと接する。

- 地　勢

可耕地および居住地はナイル川流域と地中海沿岸の一部約4万平方キロ、全国土の4%で残る96%は砂漠で、耕作地はカイロから地中海岸アレキサンドリヤに向けて扇状に広がる、いわゆるナイルデルタ地帯に集中している。

- 気　候

ほぼ乾燥した亜熱帯性気候である。ナイルダルタ地帯は地中海性気候のところが多く、北風により比較的温暖である。内陸部はきわめて暑いが、日没后は急速に気温が低下する。内陸部の降雨量は年間を通じて極めて少なく、比較的多いとされる地中海沿岸アレキサンドリヤでも200～300㎜／年しかない。

春季にはハムシーンと呼ぶ暑い砂塵をともなう風がたびたび吹き農作物にも被害を与えることがある。

Ⅱ－１－３　政　治

政治組織は、行政を大統領・立法を人民議会・司法を裁判所が司る。三権分立を基礎とする共和制人民議会は一院制（任期５年）で、与党国民民主党（８９％）のほか、社会主義労働党、自由党、無所属の党派がある。政治的安定度は中東の中では比較的高い。

Ⅱ－１－４　経　済

エジプトは中東の大国であるが、ＧＮＰは１８７億ドル（１人当り４８０ドル）と小さい。工業化の歴史も古く、アラブ諸国の中では工業も最も発達している。しかし、どの業種も生産量は少く、繊維、食品以外は国際競争力はなく、国内市場を対象とする工業である。ナセル前大統領は重化学工業化をめざして製鉄・アルミ・肥料・自動車等の工場を建設したが、いずれも世界的には規模が小さく、操業率も低く、国内需要さえまかないきれない状態である。

農業は依然として最大の産業で非農業部門、とくに工業部門の成長率が労働人口の増加分を吸収できないため、農業部門に労働力が滞留している。

エジプト経済は雇用機会を充分に作り出せず賃金水準も低いため、熟練労働者、医師、教師などの多くがアラブ産油国に流出し、出稼ぎ労働者の送金が国際収支の改善に大きく寄与している。

エジプト経済の中で最もめざましい成長をとげているのは石油産業である。イスラエルのシナイ半島返還が一応約束通り実施されたため、日産６０万バーレルとなり、石油・ガスは最大の輸出品となり８０年代前半には、日産１００万バーレルの大台に乗ることは確実視されており、石油収入の増加は慢性的赤字となっている財政・貿易収支の改善に寄与している。

Ⅱ－１－５　開発計画

エジプトは第１次５ヶ年計画（１９６０～６５）以降、いくつもの長期経済計画が策定されたが、さまざまな困難のため、完遂されたものは１つもない。第４次中東戦争後、新中期開発計画（１９７６～８０）、次いで新５ヶ年計画（１９７８～８２）が策定され、エジプト人民議会で承認され、現在実施中であるが、実質的には長期計画を組込んだ年次計画である。

最新の５ヶ年計画（１９８０～１９８４）は１９７９年１１月に発表され、総投資額は２００億ＥＬ（年平均４０億ＥＬ）が見込れている。部門別では農業３６億ＥＬ、住宅、インフラストラクチャー４５億ＥＬ、運輸通信４１５億ＥＬ、社会サービス１６億ＥＬであり、住宅・インフラストラクチャー；運輸通信が重視されている。

新計画は年間１０％の高成長を想定し、特に石油、スエズ運河・観光の三部門で成長率の４０％を期待している。その結果、石油は国民経済中最大の位置をしめ、スエズ運河・観光のシエア

一増大が計られている。（工業シェアーは不変）

新５ケ年計画（１９７８～８２）の発表時点ではインフラストラクチャーと経済ユーティリティの弱体による計画未消化が懸念されたが、その後政府がインフラ・電力等の投資に重点をおく様になった結果、最新計画では人材面でのネックが心配されている。

Ⅱ－2　エジプト国の農業生産資料

Table II-2-1 PRODUCTION AND CONSUMPTION OF FOODSTUFF PRODUCTS IN EGYPT FOR THE YEAR 1979 (IN 1000 METRIC TONS - CONSUMPTION RATIO BASED ON 40.56 MILLION INHABITANTS IN JULY 1979)

CROP	PRODUCTION	FOREIGN TRADE		AVAILABILITIES	DISTRIBUTION				RE-MAINING FOR HUMAN CONSUMPT.	PROCESSING CO-EFFICIENT	NET FOODSTUFF	PER CAPITA CONSUMP. IN GR/YR
		EXPORTS	IMPORTS		ANIMAL CONSUM	SEEDS USE	INDUST USE	LOSS				
GRAINS										%		
WHEAT	1895	-	2252	4483	-	104	-	179	4200	87.5	3675	90.6
WHEAT FLOUR	-	-	704	704	-	-	-	-	704	-	704	17.4
WHEAT BRAN	525	-	-	525	255	-	-	86	184	-	184	4.5
BARLEY	127	-	-	127	83	6	-	8	30	75	23	0.6
CORN	3117	-	494	3611	85	57	66	90	3313	94.6	3134	77.3
SORGHUM	681	-	-	681	32	40	-	31	614	92	565	13.9
RAW RICE	2351	138	-	2213	-	62	26	44	2081	69.1	1438	35.4
										TOTAL	9723	239.7
STARCH CROPS												
POTATOS	1049	113	7	943	-	183	-	94	666	85	566	14
CLAUCASSIA	99	-	-	99	-	7	-	10	82	82	67	1.7
SWEET POTATOS	103	-	-	103	-	-	-	10	93	83	77	1.9
STARCH	18	-	-	18	-	-	11	-	7	-	7	0.2
										TOTAL	717	17.8

Table II-2-2 PRODUCTION AND CONSUMPTION OF FOODSTUFF PRODUCTS IN EGYPT FOR THE YEAR 1979 (IN 1000 METRIC TONS - CONSUMPTION RATIO BASED ON 40.56 MILLION INHABITANTS IN JULY 1979)

CROP	PRODUCTION	FOREIGN TRADE		AVAILABILITIES	ANIMAL CONSUM / SEEDS USE / INDUST USE — DISTRIBUTION			LOSS	REMAINING FOR HUMAN CONSUMPT.	PROCESSING CO-EFFICIENT	NET FOODSTUFF	PER CAPITA CONSUMP. IN GR/YR
		EXPORTS	IMPORTS									
SUGAR AND HONEY										%		
GLUCOSE	34	-	-	34	-	-	-	-	34	-	34	0.8
SUGAR CANE	8296	-	-	8296	-	292	5858	83	2063	10	206	5.1
RAW SUGAR	624	-	-	624	-	-	313	-	311	-	311	7.7
REFINED SUGAR	286	28	188	446	-	-	-	-	446	-	446	11
BEE HONEY	8	-	-	8	-	-	-	-	8	-	8	0.2
MOLASSES	74	-	-	74	-	-	-	-	74	-	74	1.8
										TOTAL	1079	26.6
LEGUMES, NUTS AND SEEDS												
PEANUTS	26	6	-	20	-	1	-	-	19	66	13	0.3
HORSE BEANS	234	2	29	261	34	22	0	13	192	0	192	4.7
LENTILS	5	-	26	31	-	2	-	1	28	80	22	0.5
OTHER LEGUMES	55	-	-	55	-	5	-	2	48	-	48	1.2
NUTS	4	-	8	12	-	-	-	-	12	60	7	0.2
SESAME	9	-	13	24	-	-	-	-	23	-	23	0.6
										TOTAL	305	7.5

Table II-2-3 PRODUCTION AND CONSUMPTION OF FOODSTUFF PRODUCTS IN EGYPT FOR THE YEAR 1979 (IN 1000 METRIC TONS - CONSUMPTION RATIO BASED ON 40.56 MILLION INHABITANTS IN JULY 1979)

CROP	PRODUCTION	FOREIGN TRADE		AVAILABILITIES	ANIMAL CONSUM	SEEDS USE	INDUST USE	LOSS	REMAINING FOR HUMAN CONSUMPT.	PROCESSING CO-EFFICIENT	NET FOODSTUFF	PER CAPITA CONSUMP. IN GR/YR
		EXPORTS	IMPORTS		DISTRIBUTION							
FRESH VEGETABLES										%		
ONIONS	533	83	-	450	-	4	-	27	419	92	390	9.6
OTHER VEGETABLES	5457	34	11	5434	-	-	-	546	4888	83	4057	100
										TOTAL	4447	109.6
FRUITS												
BANANAS	113	-	6	119	-	-	-	12	107	71	76	1.9
CITRUS	990	83	-	907	-	-	-	99	808	71	574	14.2
DATES	257	-	-	257	-	-	-	13	244	89	217	5.4
WATER MELONS & MELONS	1479	10	-	1469	-	-	-	148	1321	54	713	17.6
GRAPES	242	-	9	251	-	-	-	25	226	92	208	5.1
OTHER FRESH FRUITS & JUICES	386	60	53	379	-	-	-	39	340	71	241	5.9
DEHYDRATED FRUITS	157	-	-	157	-	-	-	8	149	85	127	3.1
OTHER DEHYDRATED FRUITS	-	-	2	2	-	-	-		2	89	2	-
OLIVES FOR CANNING	6	-	21	27	-	-	-		26	76	20	0.5
										TOTAL	2187	53.7

Table II-2-4 PRODUCTION AND CONSUMPTION OF FOODSTUFF PRODUCTS IN EGYPT FOR THE YEAR 1979 (IN 1000 METRIC TONS - CONSUMPTION RATIO BASED ON 40.56 MILLION INHABITANTS IN JULY 1979)

CROP	PRODUCTION	FOREIGN TRADE		AVAILABILITIES	ANIMAL CONSUM	SEEDS USE	INDUST USE	LOSS	REMAINING FOR HUMAN CONSUMPT.	PROCESSING CO-EFFICIENT	NET FOODSTUFF	PER CAPITA CONSUMP. IN GR/YR
		EXPORTS	IMPORTS		DISTRIBUTION							
MEAT												
BEEF	79	-	-	79	-	-	-	-	79	75	59	1.5
VEAL	48	-	36	84	-	-	-	-	84	75	63	1.6
BUFFALO MEAT	139	-	-	139	-	-	-	-	139	75	104	2.6
LAMB MEAT	39	2	1	38	-	-	-	-	38	76	29	0.7
GOATS	18	-	-	18	-	-	-	-	18	75	14	0.3
HOGS	1	-	-	1	-	-	-	-	1	82.5	1	-
CAMELS	5	-	-	5	-	-	-	-	5	75	4	0.1
POULTRY	119	-	20	139	-	-	-	-	139	-	139	3.4
										TOTAL	413	10.2
FISH												
FRESH FISH	142	-	25	167	-	-	-	17	150	-	150	3.7
PRESERVED FISH	-	-	9	9	-	-	-	-	9	-	9	0.2
SALTED FISH	-	-	-	-	-	-	-	-	-	-	-	-
										TOTAL	159	3.9

Table II-2-5 PRODUCTION AND CONSUMPTION OF FOODSTUFF PRODUCTS IN EGYPT FOR THE YEAR 1979 (IN 1000 METRIC TONS - CONSUMPTION RATIO BASED ON 40.56 MILLION INHABITANTS IN JULY 1979)

CROP	PRODUCTION	FOREIGN TRADE		AVAILABILITIES	ANIMAL CONSUM DISTRIBUTION	SEEDS USE	INDUST USE	LOSS	REMAINING FOR HUMAN CONSUMPT.	PROCESSING CO-EFFICIENT	NET FOODSTUFF	PER CAPITA CONSUMP. IN GR/YR
		EXPORTS	IMPORTS									
MILK												
COW MILK	648	-	767	1415	-	-	-	-	1415	-	1415	34.9
BUFFALO MILK	1196	-	-	1196	-	-	-	-	1196	-	1196	29.4
GOAT MILK	7	-	-	7	-	-	-	-	7	-	7	0.2
										TOTAL	26.5	64.5
EGGS	76	-	1	77	-	-	9	2	66	-	66	1.6
VEGETABLE EDIBLE OILS												
COTTONSEED OIL	104	-	176	280	-	-	139	4	137	-	137	3.4
OTHER EDIBLE OILS	7	-	134	141	-	-	23	-	118	-	118	2.9
HYDROGENATED OILS	158	-	-	158	-	-	-	-	158	-	158	3.9
										TOTAL	413	10.2
										TOTAL	22118	545.3

Table II-2-6 Production of Main Crops in Egypt

(Unit: tons)

CROP	1975	1976	1977	1978	1979
Rice	2,423,446	2,300,032	2,272,309	2,350,675	2,510,754
Wheat	2,033,265	1,959,995	1,697,395	1,933,073	1,856,375
Barley	118,169	123,197	111,372	131,810	121,554
Fenugreek	23,979	19,781	13,940	15,780	22,126
Beans	233,735	254,482	269,697	231,223	235,801
Lentils	39,216	37,998	24,067	15,723	9,113
Cnickpeas	4,317	6,170	9,830	9,734	9,480
Linseed	26,784	24,180	29,556	31,134	34,476
Cotton seed	662,227	678,709	690,332	735,745	-
Garlic 1)	84,131	90,306	117,462	100,518	105,751
Carlic 2)	42,854	54,966	88,667	54,648	55,420
Groundnuts	27,655	28,407	30,034	25,518	26,922
Sesame	17,326	13,009	17,693	9,213	12,645
Sugarcane	7,902,270	8,445,759	8,378,669	8,296,320	-
Maize	2,780,519	3,046,538	2,724,083	3,117,024	2,938,208
Lupine	5,181	6,616	6,772	4,332	4,748
Soybean	4,808	11,407	26,496	78,828	106,033
Potato	719,825	892,663	1,010,366	772,364	1,018,725
Onion 3)	228,347	239,851	262,732	223,457	156,957
Onion 4)	44,209	82,705	141,002	77,903	84,301
Onion 5)	222,716	218,204	235,342	202,208	214,237
Onion 6)	76,555	111,213	83,994	95,738	104,512
Flax straw	138,805	124,298	155,820	161,907	181,349
Lint cotton	382,119	396,274	398,688	438,346	-
Tomato	2,106,663	2,066,493	1,966,744	2,197,432	2,420,555

Notes :
1) Single cropping
2) Inter-cropping
3) Winter cropping
4) Summer cropping
5) Summer cropping
6) Autum cropping

Table II-2-7 Cultivation Area of Main Crops in Egypt

(Unit: feddan)

CROP	1975	1976	1977	1978	1979
Rice	1,052,688	1,078,437	1,039,647	1,030,572	1,040,094
Wheat	1,393,950	1,395,599	1,207,151	1,380,612	1,391,324
Barley	99,576	103,774	95,208	113,823	106,755
Fenugreek	31,954	28,599	20,839	21,404	29,692
Beans	245,574	259,638	291,790	238,954	249,509
Lentils	58,367	63,584	48,309	35,504	22,277
Chickpeas	5,922	8,481	13,688	13,898	14,958
Flax	54,464	47,490	58,573	59,918	68,525
Cotton	1,345,990	1,247,628	1,423,365	1,188,603	-
Garlic 1)	12,181	12,110	15,340	12,786	13,269
Garlic 2)	10,637	13,530	21,906	13,432	13,048
Groundnuts	31,790	32,083	36,406	30,915	31,005
Sesame	32,650	30,799	40,011	23,348	37,120
Sugarcane	218,024	242,482	249,305	247,592	-
Maize	1,829,747	1,890,927	1,764,945	1,898,103	1,884,652
Lupine	7,912	9,919	9,607	6,460	6,808
Soybean	8,505	16,959	33,128	81,713	100,421
Potato	98,428	128,236	152,279	127,650	142,169
Berseem 3)	1,688,031	1,710,750	1,969,760	1,789,151	1,740,953
Berseem 4)	1,123,948	1,045,804	1,157,605	993,308	1,031,126
Onion 5)	26,634	30,663	36,927	29,182	23,180
Onion 6)	6,596	11,974	19,590	11,343	11,864
Onion 7)	91,881	81,545	87,528	70,202	68,211
Onion 8)	10,964	16,877	12,418	13,565	13,267
Tomato	324,782	307,998	293,385	310,641	328,561

Notes :

1) Single cropping
2) Inter-cropping
3) Full-term cropping
4) Catch-cropping
5) Winter cropping
6) Summer cropping
7) Summer inter-cropping
8) Autumn cropping

Table II-2-8 Average Yield of Vegetables in Egypt

(Unit: tongs/feddan)

Crop	1975	1976	1977	1978	1979
Squash	7.547	7.727	7.707	7.695	7.974
Green bean	3.088	3.355	3.568	3.584	3.619
Pea	2.291	3.062	3.136	3.161	3.445
Cow pea	0.778	0.781	-	0.789	0.785
Egyptian mallow	10.731	11.263	11.474	10.590	11.104
Cabbage	9.472	9.685	9.916	10.035	10.165
Cauliflower	8.718	8.923	9.330	9.545	9.680
Eggplant	8.786	9.172	8.659	8.819	8.934
Pepper	6.766	6,843	6.237	6.596	6.925
Okra	6.015	5.781	5.867	5.986	6.031
Jewish mallow	6.996	7.217	7.914	7.716	8.939
Spinach	5.777	6.010	6.266	6.712	6.875
Taro	10.923	10.943	12.793	12.984	13.284
Radish	4.978	5.152	5.025	5.413	5.693
Turnip	7.149	7.441	7.665	7.844	7.825
Lettuce	8.207	8.692	8.796	8.498	8.780
Carrot	7.356	8.461	8.374	9.418	9.932
Parsley	10.205	10.803	8.411	11.165	12.477
Rocket	6.785	9.139	8.425	9.424	9.822
Egyptian leek	11.736	11.874	10.245	11.232	12.784
Watermelon	10.967	11.136	10.423	10.834	9.778
Melon	10.885	10.651	9.633	9.589	9.713
Cucumber	6.086	6.378	6.073	6.362	6.735

Table II-2-9 Cultivation Area of Vegetables in Egypt

(Unit: feddan)

Crop	1975	1976	1977	1978	1979
Squash	46,314	48,876	51,048	55.512	57,046
Green bean	15,480	18,694	23,210	24,980	30,361
Pea	17,579	13,669	13,758	10,771	12,980
Cow pea	8,613	8,806	3,697	6,245	7,900
Egyptian mallow	955	965	724	652	789
Cabbage	33,852	34,000	34,251	34,664	35,375
Cauliflower	7,999	9,254	9,272	8,929	10,056
Eggplant	24,729	25,047	27,655	31,622	34,942
Pepper	18,569	20,201	19,756	23,641	25,320
Okra	10,539	10,451	11,004	10,780	11,364
Jewish mallow	8,643	8,322	9,198	8,967	9,581
Spinach	4,891	5,249	5,357	5,429	6,060
Taro	5,766	7,039	5,665	6,389	7,450
Radish	5,277	4,676	4,445	5,352	5,338
Turnip	6,437	6,164	5,514	6,607	7,588
Lettuce	8,260	9,920	10,643	12,373	14,564
Carrot	11,405	11,223	10,556	11,481	13,670
Parsley	1,887	2,055	1,992	1,692	2,790
Rocket	3,136	2,880	3,309	4,286	4,528
Egyptian leek	2,004	1,763	1,958	2,427	2,780
Watermelon	110,525	122,299	113,864	121,084	124,697
Melon	15,701	14,118	13,568	14,752	18,467
Cucumber	37,087	35,174	35,477	36,327	40,427

Table II-2-10 Production of Fruits in Egypt

(Unit: tons)

Crop	1975	1976	1977	1978	1979
Citrus	1,013,314	888,750	796,912	989,730	1,216,273
Grapes	225,181	279,430	247,887	273,743	242,303
Mangoes	92,169	83,715	57,198	90,338	115,407
Bananas	111,861	111,786	126,927	113,394	112,552
Figs	15,101	14,258	14,166	13,764	16,209
Guavas	74,636	90,978	82,097	97,834	118,852
Pomegranates	18,149	16,877	6,862	10,776	13,106
Olives	8,303	7,455	5,413	5,168	6,086
Apricots	13,774	11,585	8,930	17,867	14,786
Pears	20,979	26,463	30,322	32,007	50,173
Apples	8,105	9,629	9,487	16,812	17,642
Peaches	10,407	10,169	10,437	11,027	9,798
Plums	1,976	2,334	2,634	4,213	5,086
Dates	415,059	416,958	461,061	376,893	406,056
Almonds	2,471	2,086	2,086	2,483	2,482
Custard apples	-	13	13	86	126
Quinces	167	120	119	-	157
Japanese loquats	-	237	239	168	160
Persimmons	48	43	29	97	139
Pecans	957	1,006	932	1,446	1,436
Avocados	3	-	5	2	2
Jujubes	42	-	2	2	2

Table II-2-11 Cultivation Area of Fruits in Egypt

(Unit: feddan)

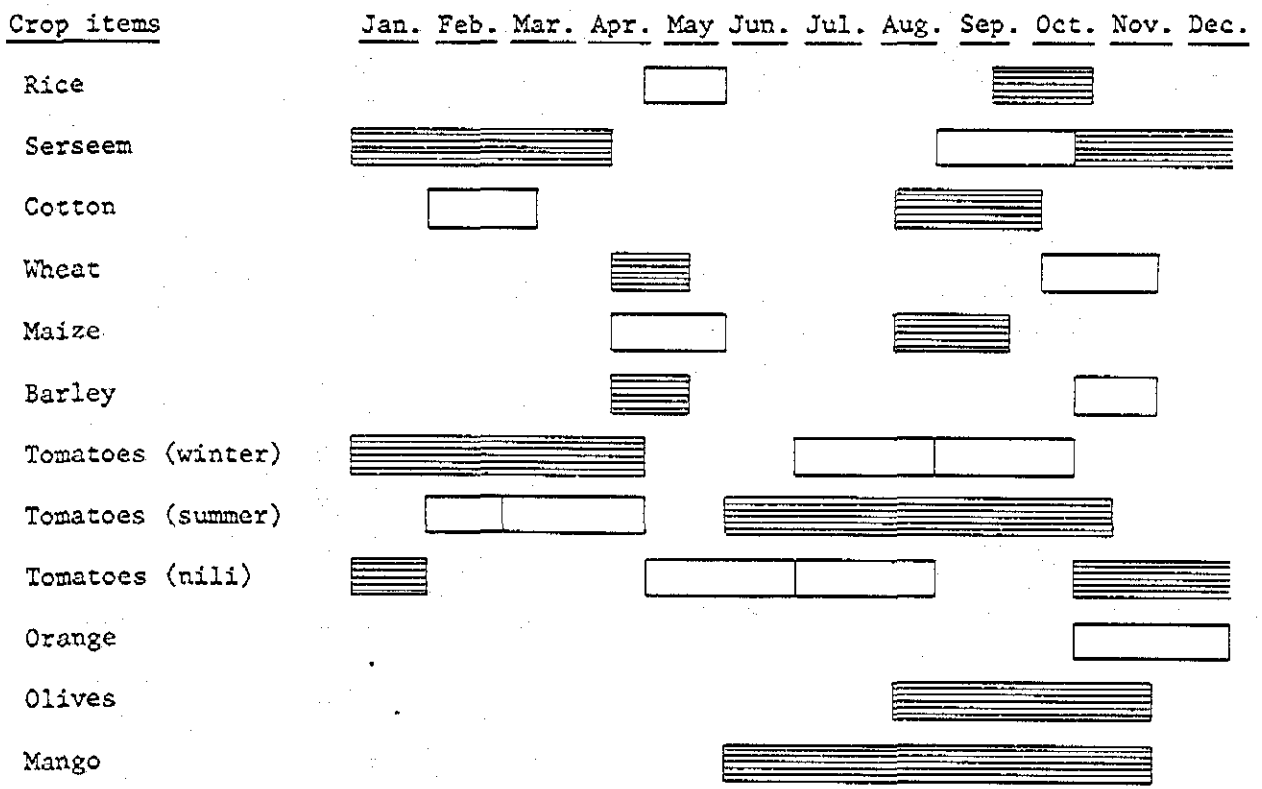
Crop	1975	1976	1977	1978	1979
Citrus	161,609	178,337	182,610	188,127	189,749
Grapes	42,071	46,276	48,300	50,390	52,459
Mangoes	22,993	25,260	25,429	26,894	27,023
Bananas	11,553	12,287	12,509	13,060	13,678
Figs	7,296	7,315	7,286	7,266	7,137
Guavas	12,500	12,462	12,794	14,007	14,615
Pomegranates	3,233	3,360	3,472	3,473	3,546
Olives	3,568	4,361	4,373	3,302	4,024
Apricots	4,603	4,746	4,788	4,825	4,872
Pears	5,832	6,810	6,683	7,906	8,749
Apples	3,696	4,407	4,695	4,855	5,017
Peaches	1,932	1,840	1,931	2,114	2,230
Plums	1,380	1,912	2,278	2,713	2,989
Dates	-	34,896	-	33,014	-
Almonds	-	531	531	1,021	1,245
Custard apples	-	28	37	21	21
Quinces	26	25	25	-	25
Japanese loquats	-	51	56	49	45
Persimmons	17	35	35	32	42
Pears	580	589	561	572	567
Avocados	2	-	3	8	8
Jujubes	8	-	3	5	5

Table II-2-12 Area of Veg. Crops in 1000 Feddans

Period	Winter	Summer	Nili	Total* area	Total Production 1.000 F
1950-1954	70	120	69	259	1.745
1955-1959	104	200	91	395	2.674
1960-1964	149	260	138	547	3.922
1965-1969	170	328	170	668	4.893
1970-1972	185	339	203	727	5.335
1973-1976	171	359	190	720	5.094
1977-1980	243	425	180	840	6.286

* Potato, Garlic and Onion are excluded from this area.

Table II-2-13 Present Cropping Pattern in Delta Area



Legend

Planting

Harvesting

Notes: 1/ Planting in nursery

2/ Transplanting

Table II-2-14 Maximum Fertilization and Seedling Level (1980)

(Unit: Kg/feddan)

Crop	Calcium uitrate 2/4/	Supper-phosphate 3/4/	Seed 5/
Rice	200	100	60
Cotton	350	100	60
Wheat	325	50	75
Berseem	-	100	25
Maize	400	-	20
Barley	300	-	60
Tomato	600	150	
Potato	600	150	
Sesame	200 1/	100	2
Groundnuts	100 1/	100	40
Beans	50	150	60
Lentils	50	100	20
Fenugreek	50	100	
Lupine	50	100	35
Flax	300	100	65
Alfalfa	60	300	10
Most of vegetables	300	-	

Note: 1/ Level fixed especially for the Sharkia Covernorate

2/ N: 15.5

3/ P_2O_5:15

Source: 4/ The Principal Bant for Development and Agricalutural Credit

5/ Ministry of Land Reclamation

Ⅱ－3　現地気象

Table II-3-1 QAHA

Month	Period 1924-1960													Period 1961-1960					
	Pressure(mb.) Corrected to M.S.L.			Temperature (°C)										Relative Humidity (%)			Total Sky Cover (oktas)		
				Max.	Min.	Mean of Day $(\frac{A+B}{2})$	Absolute Records				Dry Bulb								
	0600 U T	1200 U T	1800 U T	(A)	(B)		Max.	Date	Min.	Date	0600 U T	1200 U T	1800 U T	0600 U T	1200 U T	1800 U T	0600 U T	1200 U T	1800 U T
January	-	-	-	19.9	6.3	13.1	29.1	2/1934	-1.0	29/1950	10.2	-	-	78	-	-	2.7	-	-
February	-	-	-	21.3	6.9	14.1	34.0	29/1958	-2.0	6/1050	11.5	-	-	75	-	-	2.5	-	-
March	-	-	-	23.9	8.6	16.2	38.5	30/1958	1.4	3/1928	14.2	-	-	69	-	-	2.2	-	-
April	-	-	-	28.4	11.2	19.8	42.0	23/1928 18/1958	5.0	1/1956	18.6	-	-	66	-	-	2.0	-	-
May	-	-	-	32.4	14.9	23.6	46.2	9/1941	8.1	5/1944	23.0	-	-	62	-	-	1.8	-	-
June	-	-	-	34.5	17.6	26.0	46.4	13/1933	12.0	1/1928 2/1943	25.3	-	-	66	-	-	1.1	-	-
July	-	-	-	35.6	19.3	27.4	43.6	16/1947	13.0	4/1959	26.2	-	-	72	-	-	1.6	-	-
August	-	-	-	34.6	19.9	27.2	41.0	1/1954	16.2	24/1949	25.2	-	-	73	-	-	2.0	-	-
September	-	-	-	32.0	18.4	25.2	41.0	25/1939	14.0	15/1959 16/1959	24.6	-	-	76	-	-	1.7	-	-
October	-	-	-	30.3	16.1	23.2	40.2	3/1943	10.5	3/1943	22.1	-	-	76	-	-	1.6	-	-
November	-	-	-	25.9	12.5	19.2	38.5	2/1959	1.5	30/1936	17.6	-	-	79	-	-	1.9	-	-
December	-	-	-	21.5	8.3	14.9	32.0	11/1960	-3.0	28/1936	12.4	-	-	76	-	-	2.5	-	-
Annual Mean	-	-	-	28.4	13.3	20.8	-	-	-	-	19.2	-	-	72	-	-	1.9	-	-

Table II-3-2 QAHA

Month	Period 1924-60 Evaporation per Day in mms. (Piche)	Period 1936 - 1960					Period 1937 - 1956								
		Rain fall (mms.)					Surface Wind (0600UT)								
		Total	Max. in one Day	Date	No.of Days with Rain		Mean scalar wind speed (knots)	Percentage Frequency of Surface Winds Blowing From the Following Directions							
					≥0.1	≥1.0		N	NE	E	SE	S	SW	W	NW	Calm
January	2.6	3.3	9.5	14/1938	1.6	1.1	4.3	11.3	6.6	2.6	9.6	18.5	16.8	12.7	9.5	12.4
February	3.4	5.0	12.0	22/1943	1.6	1.2	3.9	13.8	8.6	3.6	6.9	13.7	14.1	11.6	13.6	14.1
March	4.0	2.5	12.0	19/1940	0.6	0.5	3.7	14.7	9.4	4.3	5.7	8.9	11.8	15.7	16.8	12.7
April	5.4	0.4	5.8	9/1937	0.4	0.3	3.2	19.0	17.4	8.2	3.5	4.3	5.6	11.0	17.2	13.8
May	7.2	0.7	9.0	2/1946	0.4	0.2	2.4	23.1	20.0	8.5	3.1	3.4	2.9	6.5	16.3	16.2
June	7.9	0.0	0.0	-	0.0	0.0	1.5	26.2	17.5	6.2	1.6	1.6	1.1	5.3	20.5	20.0
July	7.7	0.0	0.0	-	0.0	0.0	2.2	25.4	14.0	4.4	0.6	0.8	0.6	8.5	25.5	20.2
August	6.0	0.0	0.0	-	0.0	0.0	2.0	30.6	9.4	5.3	1.4	1.4	2.1	6.4	25.2	18.2
September	4.7	0.0	0.0	-	0.0	0.0	1.9	28.1	17.2	4.4	0.8	1.0	0.9	6.4	21.1	20.1
October	4.1	1.5	24.5	27/1937	0.3	0.2	2.2	23.4	16.4	6.3	2.7	3.4	4.8	8.1	17.1	17.8
November	3.0	0.8	5.0	29/1957	0.5	0.4	3.0	21.2	12.6	3.2	2.3	6.4	9.4	10.4	17.1	17.4
December	2.4	6.6	17.1	14/1953	1.8	1.6	3.4	13.3	6.2	2.4	7.4	12.8	13.4	13.5	16.0	15.0
Total	-	20.8	-	-	7.2	5.5	-	-	-	-	-	-	-	-	-	-
Annual Mean	4.9	-	-	-	-	-	2.8	20.8	12.9	5.0	3.8	6.4	7.0	9.7	18.0	16.4

Table II-3-3 GIZA Period 1956-1960

Month	Air Temperature (°C)					Duration in Hours to the Nearest decimal of Air Temperature Above the Following Values										
	Max.	Min.	Mean of the Day	Night Time Mean	Day Time Mean	-5°C	0°C	5°C	10°C	15°C	20°C	25°C	30°C	35°C	40°C	45°C
January	19.3	6.4	11.5	10.4	14.9	24.0	24.0	23.3	14.9	7.0	0.9	0.1	0.0	0.0	0.0	0.0
February	20.7	6.8	12.7	11.2	15.9	24.0	24.0	23.4	16.9	8.8	2.3	0.4	0.1	0.0	0.0	0.0
March	24.3	9.0	15.6	13.8	19.0	24.0	24.0	24.0	20.7	13.7	6.0	1.8	0.4	0.1	0.0	0.0
April	29.0	12.5	20.0	17.5	23.1	24.0	24.0	24.0	23.5	19.1	11.8	5.6	1.9	0.5	0.0	0.0
May	31.9	15.8	23.3	20.5	26.0	24.0	24.0	24.0	24.0	22.9	16.6	9.8	3.8	0.7	0.0	0.0
June	34.1	19.0	26.0	23.5	28.5	24.0	24.0	24.0	24.0	24.0	21.3	13.1	6.6	1.2	0.1	0.0
July	34.8	20.5	26.9	24.7	29.2	24.0	24.0	24.0	24.0	24.0	23.5	14.6	8.1	1.1	0.1	0.0
August	34.9	2.0	27.0	29.6	24.0	24.0	24.0	24.0	24.0	24.0	23.5	15.0	8.0	1.1	0.0	0.0
September	17.1	18.5	24.8	23.0	27.3	24.0	24.0	24.0	24.0	24.0	20.6	11.9	3.8	0.2	0.0	0.0
October	30.1	16.3	22.3	20.7	26.2	24.0	24.0	24.0	24.0	23.0	16.5	8.0	1.7	0.1	0.0	0.0
November	25.9	12.4	18.1	16.8	20.5	24.0	24.0	24.0	23.5	18.0	9.5	2.2	0.2	0.0	0.0	0.0
December	21.8	9.2	14.1	13.3	17.1	24.0	24.0	23.9	19.5	11.2	3.1	0.4	0.0	0.0	0.0	0.0
Annual Neab	28.2	13.9	20.2	18.3	23.0	24.0	24.0	23.9	21.9	18.3	13.0	6.9	2.9	0.4	0.0	0.0

Table II-3-4 GIZA Period 1956-1960

Month	Maximum Temperature (°C)				Minimum Temperature (°C)				Absolute Minimum Temperature (°C) Above					
									Dry Soil		Wet Soil		Grass(Libya)	
	Highest	Date	Lowest	Date	Highest	Date	Lowest	Date	Temp.	Date	Temp.	Date	Temp.	Date
January	28.2	15-60	14.2	11-57	11.9	2-58	-1.8	24-57	-6.2	24-57	-3.8	24-57	-7.1	24-57
February	34.0	28-58	11.8	2-57	12.3	19-57	0.9	28-59	-3.1	28-59	-1.8	2-56	-4.5	28-59
March	38.6	30-60	17.1	3-59	18.7	31-58	3.1	1-59	-1.1	3-58	0.6	6-57 3-58	-3.1	3-58
April	41.3	18-58	21.9	3-57	23.5	24-60	5.8	1-56	2.6	7-59	4.1	4-59 1-56	0.5	4-57
May	40.7	5-60	19.1	9-57	21.8	28-59	10.0	3-56	5.7	3-56	6.8	3-56	4.0	8-58
June	43.0	10-59	28.9	4-60	22.8	26-57	14.8	10-58	10.8	10-58	11.2	10-58	9.5	6-59
July	42.1	23-56	31.6	5-59	23.2	26-59	17.4	4-59	13.7	13-56	14.2	13-56	11.1	13-56
August	40.6	8-56	31.1	31-58	23.6	28-58	17.3	4-56 30-58	14.5	4-56	14.2	31-58	11.5	4-56
September	41.0	4-58	28.1	12-59	22.6	11-60	13.6	13-59 14-59	9.9	13-59 15-59	10.7	15-59	7.7	15-59
October	37.2	15-60	20.9	25-59	23.2	8-57	10.6	28-58	7.2	24-59	8.0	24-59	5.5	28-58
November	37.8	2-59	18.8	27-58	20.8	1-57	4.4	30-59	0.6	30-59	2.0	30-59	-1.4	30-59
December	32.3	12-60	16.0	27-59	17.0	12-60	3.0	3-59 30-60	-1.5	3-59	0.1	3-59	-2.8	3-59

Table II-3-5 GIZA Period 1956 - 1960

Month	Wind Speed (Metres per Second)			Solar+Sky Radiation gnt.cal./cm^2	Duration of Bright Sunshine in hours			Relative Humidity, Hours of Duration		Relative Humidity (%)		Vapour Pressure in (mms.)		Evaporation (mms.)		Amount of Rainfall in (mms.)
	Mean of the Day	Night Time Mean	Day Time Mean		Total Actual	Total Possible	Percentage (%)	>90%	>80%	Mean of the Day	at 1200 UT	Mean of the Day	at 1200 UT	Piche	Pan Class (A)	
January	1.9	1.2	2.9	8751	216.3	324.4	67	107.2	250.8	76	48	7.2	7.2	5.8	3.46	5.3
February	1.8	1.2	3.0	10801	227.3	311.7	73	108.2	269.2	73	46	7.8	7.5	7.2	3.95	4.7
March	2.0	1.3	3.1	15646	275.8	371.9	74	77.0	187.8	63	35	8.0	7.2	10.3	6.28	0.9
April	2.4	1.2	3.3	17713	293.0	387.2	76	36.5	138.0	55	29	8.8	7.5	14.5	8.76	0.3
May	2.8	2.3	3.6	19933	338.3	423.5	80	13.8	120.8	52	28	10.4	9.0	17.8	11.18	1.1
June	2.8	2.2	3.7	20646	361.1	421.4	86	9.8	133.5	55	30	12.8	11.2	18.4	12.45	0.0
July	2.4	1.9	3.1	21003	369.4	430.0	86	15.2	180.0	61	35	14.9	13.2	15.7	11.35	0.0
August	2.0	1.5	2.8	19585	350.4	409.6	86	67.5	246.8	67	38	16.4	14.8	13.5	10.00	Tr.
September	1.9	1.3	2.8	16629	309.2	370.5	83	89.8	234.5	67	40	14.9	13.8	12.1	8.37	0.0
October	1.9	1.4	2.7	13423	289.1	355.0	81	109.5	250.2	70	40	13.2	12.0	10.7	6.61	0.3
November	1.9	1.2	2.9	9708	249.8	319.8	78	137.2	270.0	75	46	11.1	10.4	7.9	4.75	2.0
December	1.7	1.0	2.5	8127	222.4	317.8	70	129.0	256.0	78	49	9.0	9.0	5.6	3.26	5.6
Total	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20.2
Annual Mean.	2.1	1.5	3.0	15164	291.8	370.2	78	75.1	211.5	77	38	11.2	10.2	11.6	7.54	-

Table II-3-6 Giza

Month	Period 1956-1960								Period 1958-1960								
	Max. Rain in One Day		Lowest Relative Humidity(%)		Vapour Pressure (mms.)				Number of Days of Surface Wind Speed Reaching of Exceeding Specified L'mits of Velocity (knots)							Highest Gust in 24 Hours	
					Highest		Lowest										
	Amount	Date	Value	Date	Value	Date	Value	Date	10	15	20	25	30	35	40	Value (knots)	Date
January	5.4	1-60	21	23-56	12.4	14-60	2.8	23-57	20.0	9.3	1.7	0.0	0.0	0.0	0.0	29	9-58
February	4.4	23-59	11	27-58	11.4	18-57	3.4	6-59	19.0	4.7	0.7	0.0	0.0	0.0	0.0	31	24-59
March	2.8	12-57	12	31-58 30-60	13.3	27-57	3.4	2-58	22.7	9.7	2.7	0.0	0.0	0.0	0.0	34	7-58
April	1.0	3-59	5	14-57 15-57	14.2	17-58	3.4	17-57	26.0	12.7	2.0	0.0	0.0	0.0	0.0	35	23-60
May	5.0	9-57	6	2-60	17.2	24-60	3.6	2-60	27.0	13.7	2.0	0.0	0.0	0.0	0.0	29	18-60
June	Tr.	12-57	9	10-59	18.7	25-57 27-57 30-58	6.3	6-57 1-60	26.0	13.7	3.0	0.0	0.0	0.0	0.0	32	20-58
July	0.0	-	17	12-58	19.8	16-57 6-60	6.7	12-58	24.7	13.0	2.3	0.0	0.0	0.0	0.0	27	10-58
August	0.1	22-56	19	15-60	21.1	27-58 28-58 15-59	9.2	15-60	24.7	6.7	1.7	0.0	0.0	0.0	0.0	30	25-60
September	Tr.	11-57 24-57	17	4-58	20.5	11-60	8.8	12-60	28.3	7.3	0.3	0.0	0.0	0.0	0.0	26	1,12, 30-60
October	1.0	19-57	15	15-60	20.7	7-57	7.1	30-58	25.7	4.7	0.0	0.0	0.0	0.0	0.0	27	24-58
November	5.0	29-57	11	2-59	17.6	1-57	3.0	22-58	23.3	4.3	1.0	0.0	0.0	0.0	0.0	28	30-58
December	12.0	6-56	21	3-59	15.2	26-60	4.7	19-59	16.0	3.7	0.3	0.0	0.0	0.0	0.0	28	4-59
Annual Mean.	-	-	-	-	-	-	-	-	23.6	8.6	1.8	0.0	0.0	0.0	0.0	-	-

Table II-3-7 Giza

Period 1956-1960

Extreme Soil Temperatures in Dry Field at Depths (centimetres)

Month	0.2		1		2		5		10		20		50		100		200		300	
	Highest	Lowest	Highest	Lowest	Highest	Lowest	Highest	Lowest	Highest	Lowest	Highest	Lowest	Highest	Lowest	Highest	Lowest	Highest	Lowest	Highest	Lowest
January	38.5	-4.0	32.5	8.0	29.0	0.3	24.7	6.5	2.0	9.0	17.5	11.3	20.3	16.0	22.5	18.5	24.8	21.5	25.7	23.5
February	48.5	-0.5	47.0	0.7	40.5	1.0	31.5	6.0	25.3	7.4	21.5	11.5	20.2	15.0	20.5	18.0	23.2	21.0	24.6	22.5
March	56.7	3.0	53.0	4.0	47.3	4.0	37.1	9.5	29.2	13.2	25.5	13.1	23.5	17.2	22.0	19.2	22.1	21.0	23.7	23.0
April	61.6	6.0	58.0	9.0	51.5	9.5	40.4	14.7	33.0	17.5	28.0	19.0	26.5	20.5	24.6	21.0	23.1	21.0	23.0	22.0
May	65.3	12.0	61.1	14.0	55.0	14.0	45.0	18.5	35.7	21.5	31.0	22.9	29.6	25.5	27.3	23.5	24.6	21.5	23.6	22.5
June	68.0	18.5	66.5	19.5	59.5	21.5	46.2	23.6	37.5	26.5	34.5	25.7	32.0	28.0	29.5	26.0	26.3	23.5	24.5	23.0
July	66.0	26.0	62.8	22.0	57.0	22.0	44.9	26.0	38.7	28.0	35.0	28.2	33.1	30.5	31.0	28.5	27.8	21.0	25.5	24.5
August	67.0	18.0	61.5	19.5	55.5	21.5	45.0	26.0	38.6	28.5	36.0	28.0	33.5	32.0	31.1	30.5	28.8	26.5	26.5	25.4
September	63.0	14.4	59.5	15.4	53.0	16.9	44.0	21.3	36.5	25.0	34.0	25.5	33.0	29.9	31.5	29.9	29.1	28.0	27.0	26.5
October	52.0	9.9	49.5	10.9	45.0	12.4	38.5	15.7	33.5	21.2	31.5	20.4	31.0	25.8	30.5	27.4	29.0	27.5	27.3	26.0
November	50.9	3.3	45.6	4.6	43.6	6.9	35.0	10.9	30.0	16.5	27.5	16.5	28.5	22.2	28.8	24.5	28.5	26.0	27.3	26.4
December	39.0	1.1	36.1	2.1	34.3	5.2	28.0	8.8	24.7	10.0	22.0	13.3	23.5	18.0	25.9	21.0	27.4	24.0	26.9	25.7

Table II-3-8 GIZA

Period 1956-1960

Extreme Soil Temperatures in Wet Field at Dephths (centimetres)

Month	0.3		1		2		5		10		20		50		100		200		300	
	Highest	Lowest	Highest	Lowest	Highest	Lowest	Highest	Lowest	Highest	Lowest	Highest	Lowest	Highest	Lowest	Highest	Lowest	Highest	Lowest	Highest	Lowest
January	27.0	0.5	23.0	1.0	21.0	1.0	19.5	4.0	17.5	7.0	16.0	10.0	16.3	12.9	18.5	15.5	20.5	18.5	-	-
February	31.5	1.5	31.0	2.4	29.5	3.1	25.5	5.0	21.5	5.3	18.0	9.5	16.5	12.5	17.0	15.0	19.0	17.5	-	-
March	34.5	4.0	34.0	4.0	33.1	5.3	27.5	6.5	24.5	9.1	21.0	11.2	19.0	13.3	18.0	14.9	18.5	17.3	-	-
April	49.5	5.0	35.0	8.9	34.0	9.0	31.5	10.0	27.5	12.0	24.5	14.5	21.5	16.5	20.0	17.1	19.5	17.7	-	-
May	52.5	11.5	36.5	12.0	36.5	12.0	33.0	13.5	29.0	16.5	26.0	18.5	23.3	19.7	21.6	19.4	20.5	18.7	-	-
June	51.0	16.0	37.0	16.0	36.0	16.0	34.5	16.9	32.0	19.9	28.0	22.1	26.0	22.5	23.5	21.3	21.3	20.0	-	-
July	51.5	18.0	41.0	18.0	39.0	18.5	35.5	19.0	32.5	22.0	29.5	24.0	27.0	24.5	25.5	23.2	23.0	21.2	-	-
August	53.5	17.0	40.0	17.5	39.5	18.0	36.5	19.9	34.5	22.5	30.0	24.5	28.0	25.5	26.0	24.5	24.0	22.5	-	-
September	44.5	15.0	39.5	15.1	39.0	15.3	34.0	16.8	33.0	19.9	30.0	22.3	27.5	23.9	26.5	24.0	24.5	23.3	-	-
October	38.0	10.4	35.5	10.9	35.5	11.5	31.5	12.2	29.5	15.0	27.0	17.0	26.0	20.0	25.0	21.6	24.5	22.8	-	-
November	31.0	6.0	29.5	6.0	29.5	7.0	26.0	8.3	25.0	11.3	24.0	13.5	23.5	16.5	24.0	19.4	24.0	21.5	-	-
December	28.0	2.5	26.6	4.9	26.4	4.5	22.7	6.5	20.5	9.5	19.0	11.0	19.0	14.9	21.0	17.0	23.0	19.8	-	-

Table II-3-9 GIZA

Period 1956-1960

Extreme Soil Temperatures in Grass Field at Depths (centimetres)

Month	0.3		1		2		5		10		20		50		100		200		300	
	Highest	Lowest	Highest	Lowest	Highest	Lowest	Highest	Lowest	Highest	Lowest	Highest	Lowest	Highest	Lowest	Highest	Lowest	Highest	Lowest	Highest	Lowest
January	26.5	2.0	-	-	-	-	17.5	6.5	16.0	7.8	15.5	10.2	17.0	13.5	18.7	16.0	-	-	-	-
February	36.5	4.0	-	-	-	-	21.0	7.0	20.0	7.0	18.0	10.5	17.3	13.5	17.5	15.5	-	-	-	-
March	35.5	6.0	-	-	-	-	24.5	7.9	22.5	8.7	20.0	10.9	19.7	13.9	18.6	15.5	-	-	-	-
April	34.5	8.5	-	-	-	-	27.5	12.0	26.5	13.5	23.0	15.0	21.7	17.0	20.6	17.3	-	-	-	-
May	37.0	13.5	-	-	-	-	29.5	15.0	28.0	17.0	26.5	19.1	24.5	20.5	22.8	19.5	-	-	-	-
June	41.5	18.0	-	-	-	-	31.0	19.2	29.5	19.6	29.5	21.4	26.5	22.5	25.0	21.5	-	-	-	-
July	36.5	21.0	-	-	-	-	31.5	21.5	27.0	21.9	29.5	23.7	27.7	24.5	26.5	23.5	-	-	-	-
August	39.0	20.5	-	-	-	-	32.5	22.0	31.0	22.1	30.0	23.8	28.2	26.5	27.0	25.0	-	-	-	-
September	35.5	18.0	-	-	-	-	30.5	19.6	29.0	19.8	28.5	21.6	27.3	24.5	26.5	25.0	-	-	-	-
October	39.0	14.1	-	-	-	-	27.5	15.1	26.5	15.7	26.5	17.8	26.5	21.6	26.5	23.0	-	-	-	-
November	27.5	9.4	-	-	-	-	23.5	11.2	23.0	12.0	24.0	14.3	24.1	18.5	24.5	20.8	-	-	-	-
December	24.2	6.5	-	-	-	-	19.5	9.0	19.0	9.5	19.5	11.9	20.5	15.5	22.0	18.0	-	-	-	-

参　考　文　献

日本育種学会編	育種学用語集	1980	養賢堂東京
日本作物学会編	作物学用語集	1957	養賢堂東京
野菜種子生産研究会編	野菜の採集技術	1978	誠文堂新光社東京
秋　谷　良　三	蔬菜園芸ハンドブック	1963	養賢堂東京
野菜園芸大事典編集委員会	野菜園芸大事典	1977	養賢堂東京
農林省農林水産技術会議事務局	総合野菜技術事典	1975	㈶農業技術協会東京
FAO編（越部平八郎訳）	農業園芸種苗	1978	㈶日本種苗協会東京
長　尾　正　人　ほか	農学実験法	1956	養賢堂東京

Agricaltural Atmosphere in Egypt　1972　Ministry of Agriculture

Contemporary Egyptian Agriculture　1974　El-Tobgy , H.A. Beirut , Lebanon

Agri-Business Seminan　1981　Bank of America , MISR America International Bank

㈶日本種苗協会編	種苗法関係法令通達集	農林水産省農蚕園芸局種苗対策室監修
㈶日本施設園芸協会	園芸施設共済の引受に係る評価基準に関する調査報告（特定園芸施設の建築価格）昭和56年3月	昭和55年度
三原義秋編著	温室設計の基礎と実際	養賢堂東京
羽倉弘人，立花一雄	施設園芸ハウスの設計と施工	オーム社東京