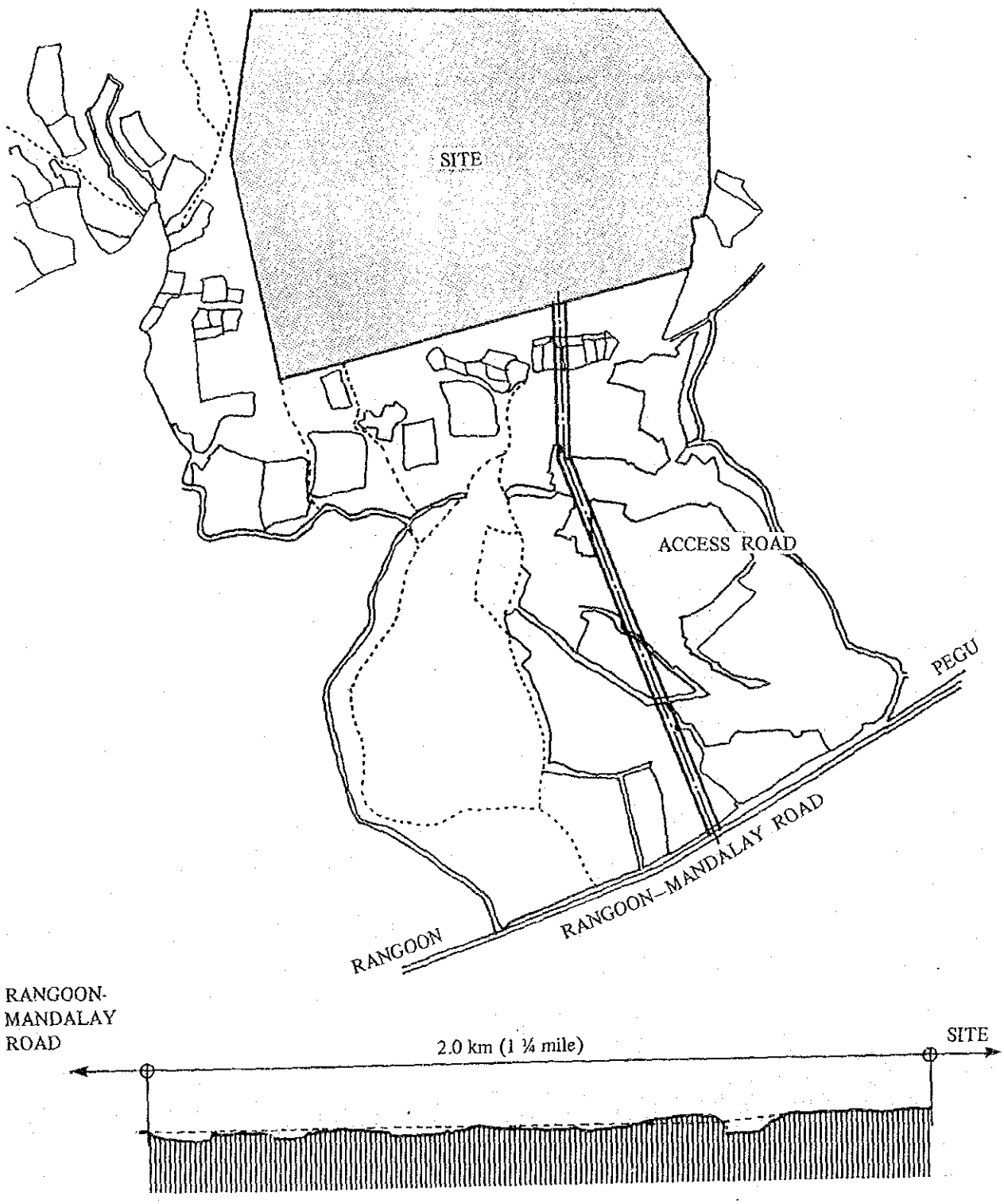
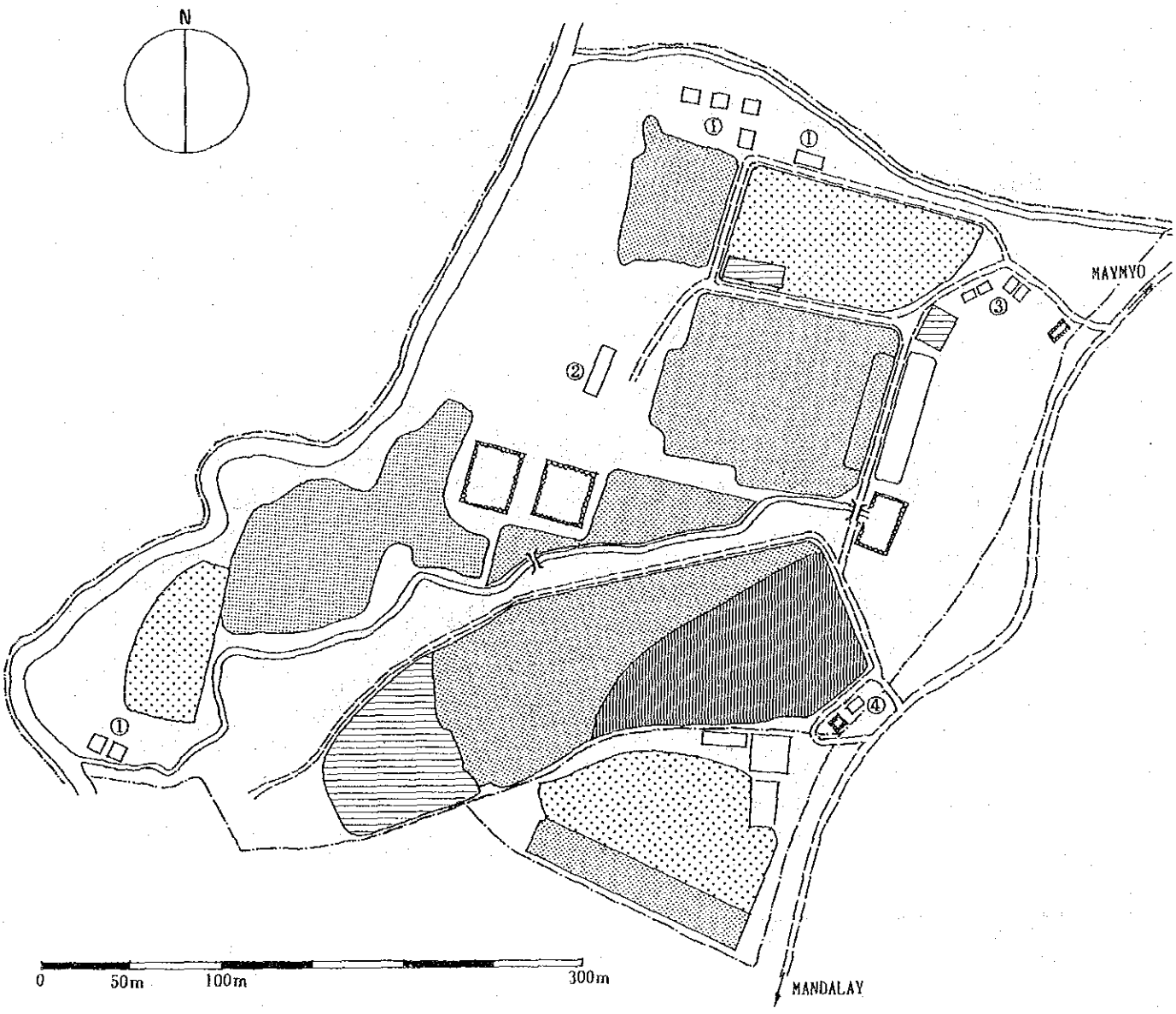
附属資料　II

進入道路の経路


SITE
ACCESS ROAD
PEGU
RANGOON
RANGOON–MANDALAY ROAD
RANGOON-
MANDALAY
ROAD
2.0 km (1 ¼ mile)
SITE

サブセンター及び地方実験農場の現況

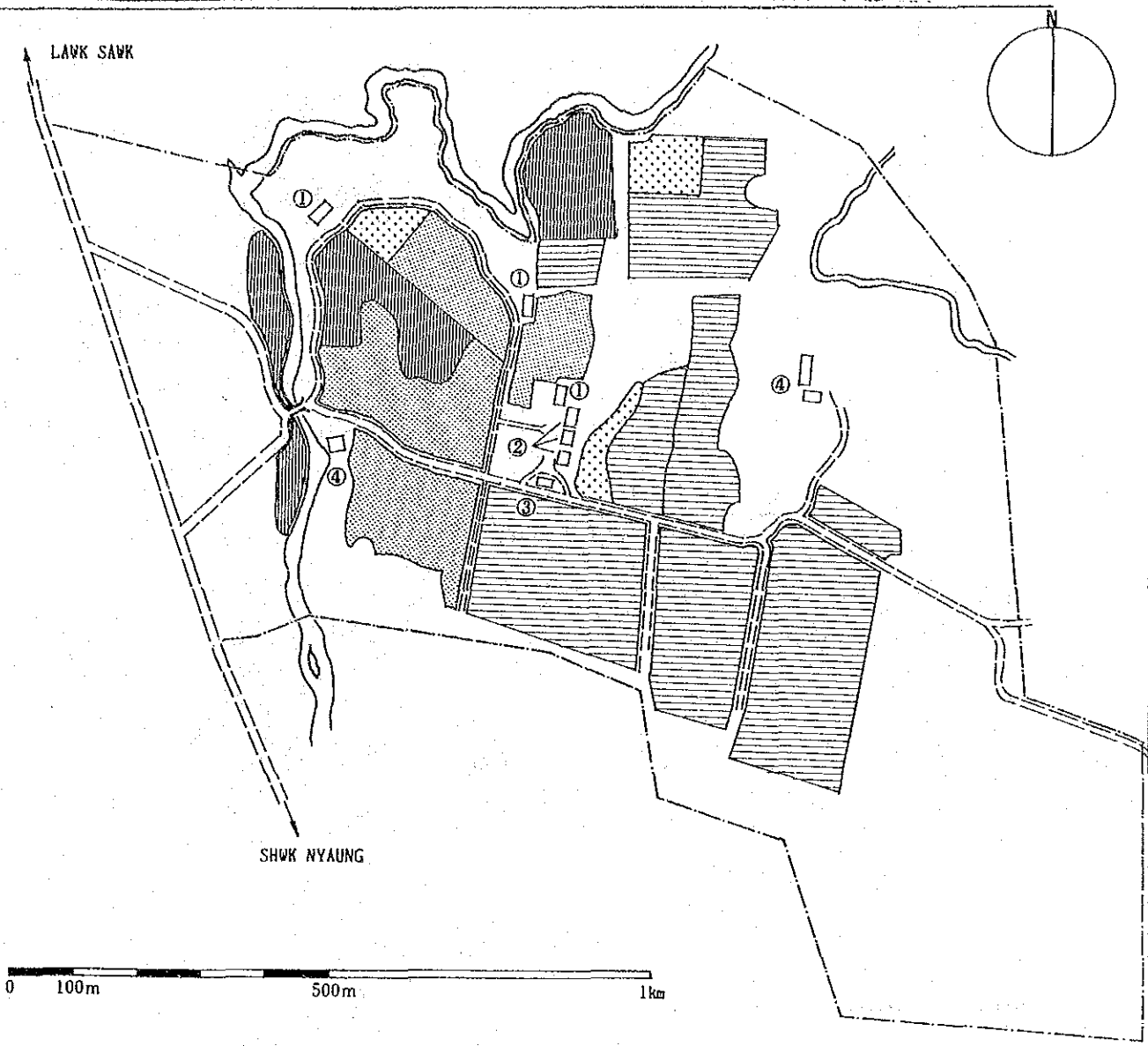
MAYMYO FARM (SOB-CENTER)



INDEX

- : FARM BOUNDARY
- : PROPOSED PROJECT AREA (Vegetable)
- : PROPOSED PROJECT AREA (Fruit)
- : AREA UNDER CULTIVATION (Citrus)
- : AREA UNDER CULTIVATION (Coffee)
- : ROAD
- : STREAM
- : BUILDING
  - ① : Staff Quarter
  - ② : Training Hall
  - ③ : Storage
  - ④ : Office
- : POND

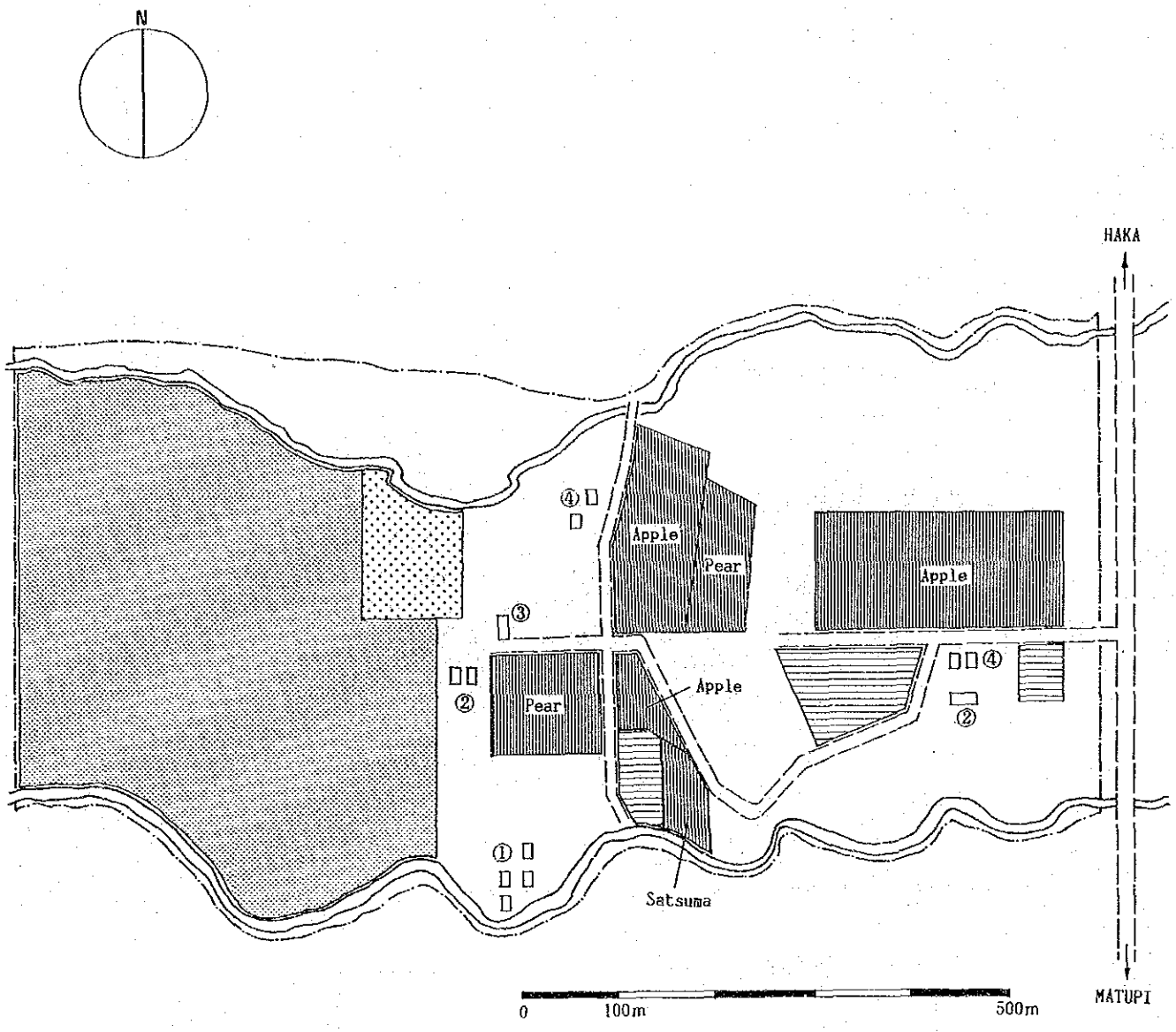
MAMLAT FARM (TAUNGGYI TOUNSHIP)



INDEX

- : FARM BOUNDARY
- : PROPOSED PROJECT AREA (Vegetable)
- : PROPOSED PROJECT AREA (Fruit)
- : AREA UNDER CULTIVATION (Orange)
- : AREA UNDER CULTIVATION (Annual Crops)
- : ROAD
- : STREAM
- : BUILDING
  - ① : Staff Quarter
  - ② : Storage
  - ③ : Office
  - ④ : Nursery & Sheds

CAWBUK FARM (HAKA TOWNSHIP)



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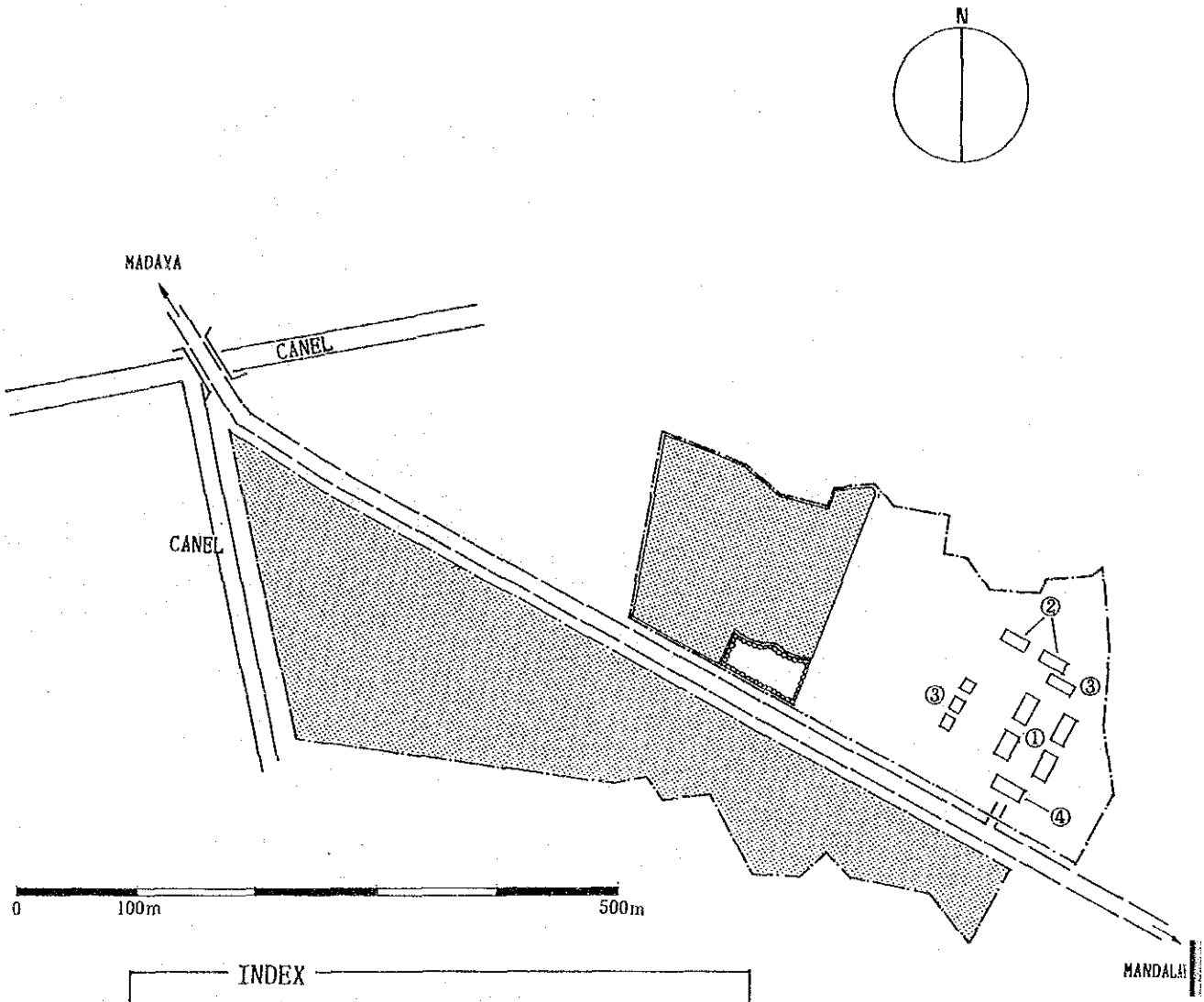
- : PROPOSED PROJECT AREA (Vegetable)
- : PROPOSED PROJECT AREA (Fruit)
- : AREA UNDER CULTIVATION (Vegetable)
- : AREA UNDER CULTIVATION (Fruit)
- : ROAD
- : STREAM
- : BUILDING
  - ① : Staff Quarter
  - ② : Storage
  - ③ : Office
  - ④ : Staff QTRS

MADAYA FARM (MADAYA TOWNSHIP)



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: FARM BOUNDARY

: PROPOSED PROJECT AREA

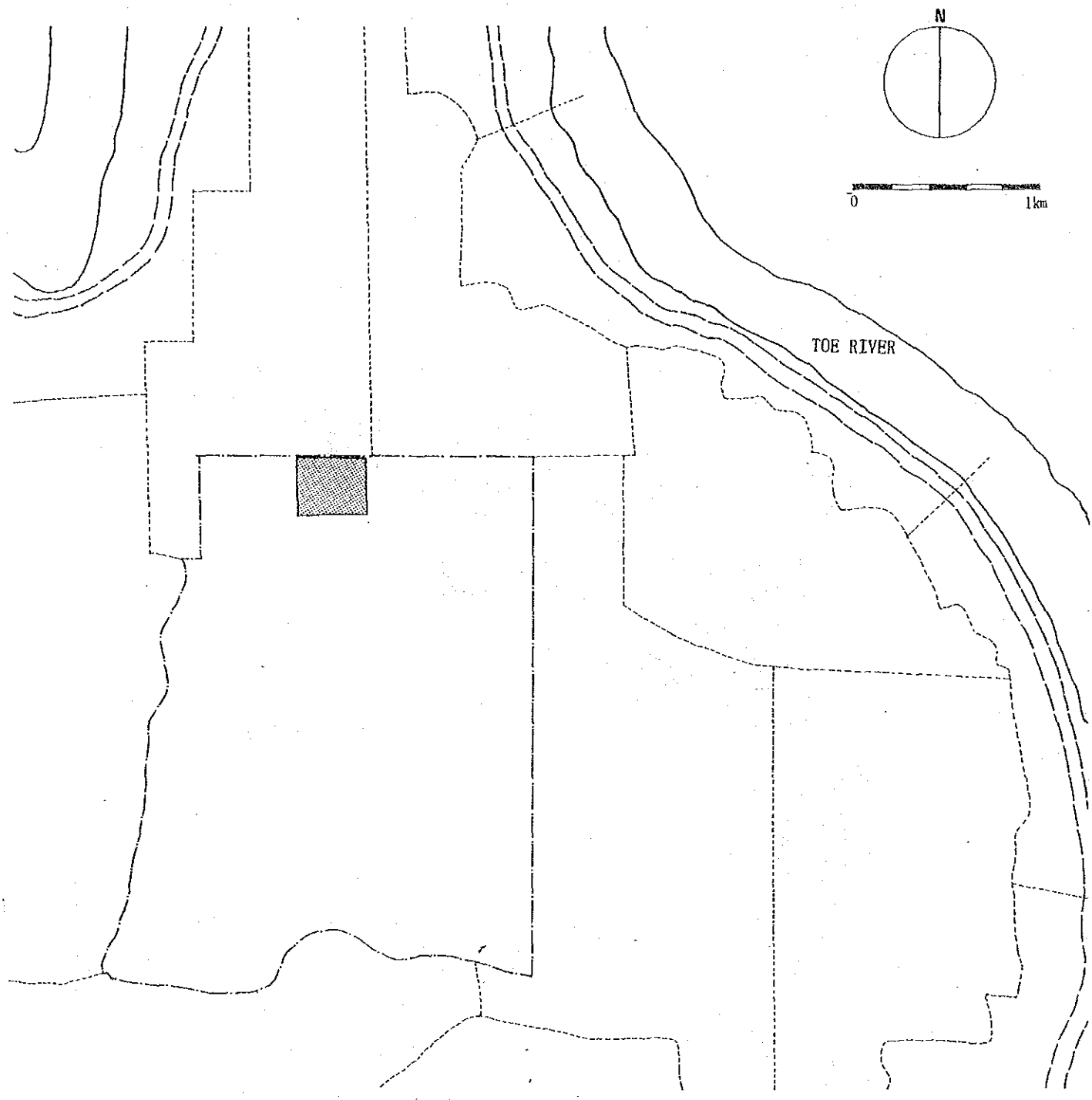
: ROAD

: BUILDING

① : Staff QTRS
② : Storage
③ : Office
④ : Tank

: POND

MA_UBIN FARM (MA_UBIN TOWNSHIP)



INDEX

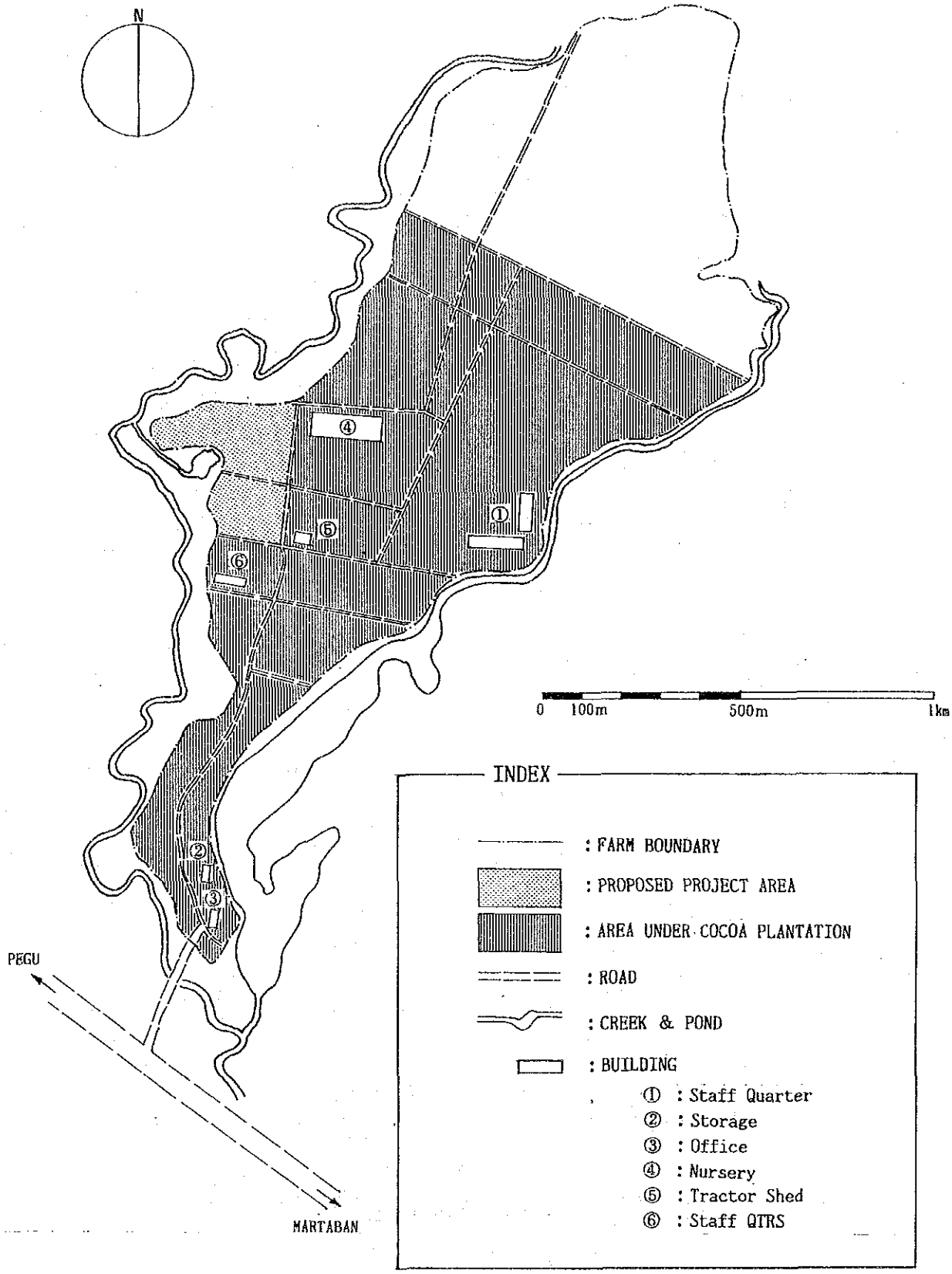
: FARM BOUNDARY

: PROPOSED PROJECT EREA

: ROAD

: STREAM

INGABO FARM (KYAIKHTO TOWNSHIP)



地盤調査

ပြည်ထောင်စုဆိုရှယ်လစ်သမ္မတမြန်မာနိုင်ငံတော်

ဆောက်လုပ်ရေးကော်ပိုရေးရှင်း

REPORT ON
SUBSURFACE INVESTIGATION AT VEGETABLE AND FRUIT RESEARCH AND DEVELOPMENT PROJECT SITE INDAING, RANGOON

သုတေသနနှင့်မြေအာစမ်းသပ်ရေးဓါတ်ခွဲခန်းမှူး

[illegible]

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CONSTRUCTION CORPORATION
RESEARCH & SOIL TESTING LABORATORIES
KAMAYUT ROAD, THUWUNNA

SUBSURFACE INVESTIGATION AT VEGETABLE AND FRUIT RESEARCH AND DEVELOPMENT PROJECT SITE, INDAING, RANGOON

1.0 INTRODUCTION

1.1 Authority

Letter number thapha/02 (286) 84-85, dated the 7th May, 1984 of the General Manager (Extension) of the Agricultural Corporation, Rangoon.

1.2 Scope of Work

This report pertains to the field and laboratory study of the subsurface on (4) boreholes, Comprising of the determination of the penetration resistance and of the underground water table at the subject site and also analysis of the basic engineering properties of the soil samples at the Central Laboratory.

2.0 S I T E

The subject site is situated at Indaing, Hlegu Township, Rangoon Division.

The terrain at the site is almost flat.

The natural drainage condition is reasonably good.

The subsurface soil appears to be of SILT & CLAY, mixed with a trace or some Sand.

The positions of the borehole located by the client on the ground, are shown in fig.1.

3.0 FIELD INVESTIGATION

The field operation, covering a total footage of (296) feet of boreholes was carried out in early May, 1984, during the dry season.

The Construction Corporation Standard Method of Subsurface Investigation Designation Nos CCS 001-03:1983 and CCS 001-04:1983 were adopted.

The penetration resistance in terms of 'N' values were recorded during the field operation.

The ground water table was generally encountered at(18) feet depth from the surface during the operation period.

The field data are illustrated in fig.2.1 and 2.2.

The subsurface soil samples were duly collected, preserved and sent to the Central Laboratory for further analysis.

4.0 LABORATORY TEST

Altogether (86) soil samples were received and tested at the Central Laboratory, Construction Corporation.

The Testing Methods BS.1377 (1967) was adopted in analysing the engineering properties of soil samples.

The following tests were carried out:-

- natural moisture content, wet and dry densities and unconfined compressive strength tests, ,
- grain size analysis and Atterberg limits test,
- direct shear test and
- consolidation test.

The laboratory test results are presented in table 1,2,3,4 and also in fig. 2,3,4,5.

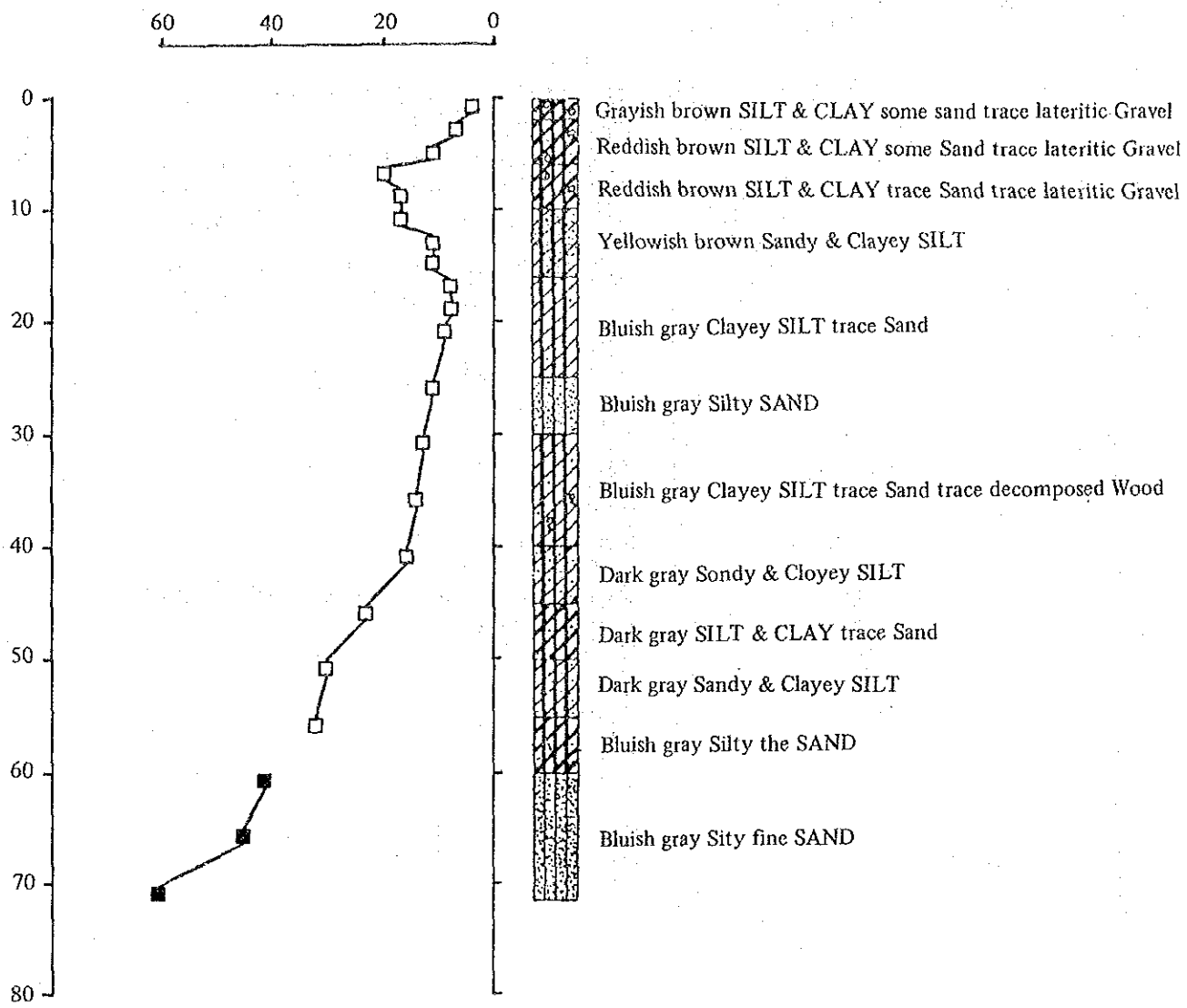
5.0 C O N C L U S I O N

The subsurface materials in the zone extending from the surface to a depth (63 ± 2) feet, is predominantly SILT and CLAY, except at sporadic places where some thin layers of SAND exist, The region at (10 ± 2)feet depth appears to be relatively stiffer judging from the SPT 'N' values.

The underlying zone until the ends of borings is of SAND or SAND and SILT mixed with a trace of Clay. In this zone the SPT 'N' values generally exceed (30).

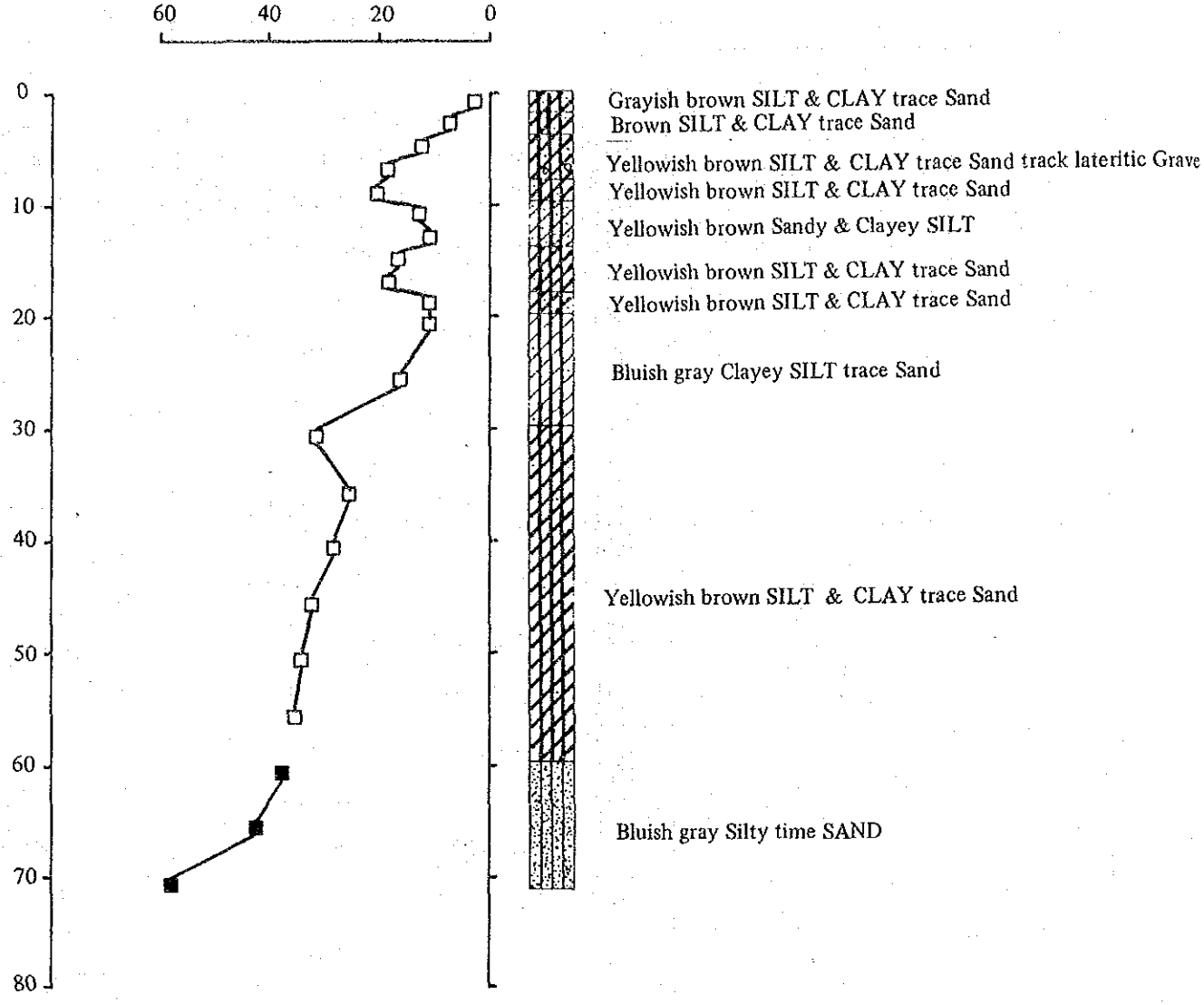
for (SHWE TUN MAUNG)
STAFF OFFICER II
RESEARCH & SOIL TESTING (LABS:)
CONSTRUCTION CORPORATION

AM/10-7-84



□ THE WALL STEEL SAMPLER DRIVEN WITH 140 LBS HAMMER, DROP 30″

■ STANDARD SPLIT – SPOON SAMPLER DRIVEN WITH 140 LBS HAMMER, DROP 30″



□ THE WALL STEEL SAMPLER DRIVEN WITH 140 LBS HAMMER, DROP 30″

■ STANDARD SPLIT – SPOON SAMPLER DRIVEN WITH 140 LBS HAMMER, DROP 30″

地 質 調 査

THE SOCIALIST REPUBLIC OF THE UNION OF BURMA

MINISTRY OF AGRICULTURE AND FORESTS

AGRICULTURE CORPORATION

(LAND USE)

2/84

REPORT ON THE SOIL SURVEY, OF THE FARM OF HORTICULTURE & VEGETABLE RESEARCH DEVELOPMENT PROJECT ZAYAT KWIN, HLEGU TOWNSHIP.

RANGOON, MAY, 1984

INTRODUCTION

The soil survey was carried out by the Land Use Division as requested by the General Manager, (Extension), Agricultural Corporation vide Memo Thama/02/83–84 (260) dated the 22nd March, 1984, to investigate and supply soil data and soil maps for the centre for Horticulture and Vegetable Project to be constructed with Japanese Government Aid, at Zayat Kwin, Hlegu Township.

U Hla Aye Deputy General Manager, Land Use Division, and three assistants, viz. U Mya Tin, U Khin Aung, U Kyaw Shwe carried out the soil investigations in March, 1984.

The area surveyed is about 280 acres in area and is situated on the edge of the upland (Kwin No. 1023 – Yemongale South) adjoining the paddy lowland plain.

Traverses were made, soils were examined at 42 sites out of which 8 were 60″ pits, 8 were 30″ pits, and 36 were 18″ pits. Soil samples from 38 sites and water from 4 wells were chemically analysed. Twelve soil mapping units were distinguished, soil maps topographic maps were drawn on a 16″ = 1 M scale together with drawings of geomorphic profiles and soil profiles.

Relevant climatic geological floral farm management and other data were collected and the final findings are herewith presented in the form of a report by U Hla Aye, leader of the team.

TABLE S–2/1

Sheet No. 1

CHEMICAL PROPERTIES
AGRICULTURE CORPORATION (LAND USE)
PROJECT ZAYAT KWIN VEGETABLE AND FRUIT RESEARCH FARM

Division – RANGOON
Township –HLEGU (ZAYAT KWIN)

Soil Name and Numbers	Profile No.	Horizon	Depth in Inchies	Moisture %	pH		Texture %			Orbanic carbon %	Humus %	C.E.C. mc/ 100gm	Cations						Available Nutrient mg/100gm		
					H_2O	CK1	Sand	Silt	Clay				Ca^{++}	Mg^{++}	K^{+}	Na^{+}	H^{+}	Al^{+++}	N_2	P_2O_5	K_2O
1.	2	3.	4.	5.	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
YBF I	VKA-4	A	0– 7	0.5	4.9	4.3	55.0	25.3	19.0	0.75	1.30	–	2.91	1.66	–	–	–	–			
		A/B	7–17	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	3.8	0.9	2.9
		B	17–26	1.3	4.7	4.2	37.2	34.1	28.9	0.42	0.73	10.88	0.83	2.08	–	–	–	–	3.8	0.6	2.8
LYBF	VKS-9	A	0– 3	0.4	5.5	4.3	38.1	35.6	22.8	0.15	0.26	–	1.25	0.41	–	–	–	–	3.5	2.7	5.5
(FC-15″)		B	3–14	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
II		C	14–18	1.1	5.3	3.6	39.9	32.2	24.2	0.15	0.26	4.25	0.83	1.65	–	–	–	–	2.8	1.1	3.4
GBF	VKA-6	A	0– 5	0.3	5.0	4.2	59.4	20.2	16.6	0.90	1.56	5.83	1.67	0.83	–	–	–	–	3.6	1.5	3.3
		A/B	4–16	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
		B	16–24	0.3	4.5	3.2	61.8	16.7	19.7	0.36	0.62	3.88	1.25	1.66					3.4	0.5	2.2
LYBF	VKS7	A	0– 7	0.8	5.3	3.6	29.1	52.0	18.7	0.15	0.26	–	1.25	2.91	–	–	–	–	3.6	1.45	–
(L-20″)		B_I	7–17	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
		B_{II}	17–28	0.7	4.7	3.5	52.6	26.1	17.7	0.45	0.78	–	0.42	2.50	–	–	–	–	2.5	2.7	–
LYBF	VKS13	A	0– 8	0.3	4.8	4.0	35.2	43.0	19.8	0.30	0.52	–	0.83	1.67					2.5	0.7	1.7
(L-30″)		B	8–36	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
IV		B/C	36–40	0.8	4.8	3.6	47.1	30.0	18.9	0.09	0.15	–	0.83	1.25	–	–	–	–	2.5	0.9	2.2
LYBF	VKS-5	A	0– 8	0.7	4.8	3.5	16.3	44.2	37.2	0.39	0.67	–	1.25	Trace	–	–	–	–	3.06	–	1.05
(FC-15″)		B_I	8–28	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
		B_{II}	28–35	1.5	5.1	3.4	31.1	42.4	24.1	0.09	0.15	–	0.21	3.12	–	–	–	–	2.48	–	0.65
LYBF	VKS-15	A	0– 8	0.3	5.2	3.4	31.1	42.4	24.1	0.93	1.61	–	1.67	2.08	–	–	–	–	–	–	–
(BC-40″)		B_I	8–21	0.6	5.0	4.5	22.8	42.9	33.6	0.45	0.78	–	0.42	1.64	–	–	–	–	–	–	–
		B_{II}	21–37	0.8	4.0	3.2	21.1	34.2	41.6	–	–	–	0.50	2.50	–	–	–	–	–	–	–
		B/C	37–45	1.3	6.2	4.5	34.1	45.2	17.1	–	–	–	Trace	4.99	–	–	–	–	–	–	–
LYBF	VM-9	A	0– 7	0.7	4.2	3.6	12.5	–	21.1	0.45	0.78	–	Trace	2.08	–	–	–	–	3.4	0.6	2.4
(L-20″)		A/B	7–16	1.1	4.0	3.4	10.8	–	27.1	0.48	0.83	–	Trace	2.08	–	–	–	–	–	–	–
III		B_I	16–20	0.6	4.2	3.6	12.2	–	22.7	–	–	–	0.42	2.08	–	0.134	–	–	–	–	–
		B_{II}	30–50	0.8	5.0	4.8	24.6	–	24.5	–	–	–	0.42	2.08	–	0.134	–	–	–	–	–
LGBF	VM-11	A	0– 7	0.9	4.7	3.2	9.4	–	26.9	0.36	0.62	4.38	0.42	2.08	–	0.186	–	–	2.8	0.6	2.2
(FC-30″)		A/B	7–20	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
VII		B_I	20–32	0.8	4.1	3.2	15.6	–	26.0	0.06	0.10	3.75	Trace	2.50	–	0.143	–	–	3.6	0.5	1.5

PHYSICAL AND WATER PHYSICAL PROPERTIES OF SOILS

S. No. Pit No.	Name of Soil	Texture	Layer in inches	* Specific gravity	o Volumetric weight gm/cm³	+ Porosity % by Volume	Moisture Contents at (% by wt)		Permeability mm/hr. (K)	
							Maximum water holding capacity	The time of Sampling (December)	For each layer	For the whole profile of soil
1.	Light Yellow Brown	Sicl	0– 8	2.60	1.42	45	22.6	15.6	10.2	
	Forest Soils (Lateritic)	Sicl	8–22	2.60	1.42	45	21.1	16.0	25.5	25.26
	(HVRDP–3, 4)	cl	22–40	2.65	1.67	37	20.7	11.7	76.5	
2.	Shallow Yellow Brown	Sil	0– 9	2.60	1.49	43	18.9	16.6	1.70	
	Forest Soils	Sicl	9–16	2.60	1.38	47	24.5	13.7	33.30	
	(Lateritic)	Sicl	16–36	2.65	1.52	43	19.5	15.5	57.1	6.96
	(HVRDP–2, 3)	Sicl	36–46	2.65	1.57	41	20.1	18.5	–	
3.	Light Grey Brown	Sicl	0– 8	2.65	1.53	42	15.5	9.4	62.90	
	Meadow Soils	Sicl	8–18	2.65	1.52	43	25.2	24.6	6.94	8.56
		Sicl	18–40	2.67	1.66	20	20.5	20.5	0.50	

* Particle density
o Bulk Density
\+ Pore - Space

READILY ACCESSIBLE WATER FOR THE SOILS OF CADTC PROJECT AREA

Sr. No.	Name of Soils	Depth of Layer in ins.	Physical Clay %	Moisture F.C.	Content W.P.	Accessible Water (inches)		Remarks
						For each layer	For 48 of soils	
1.	Light Yellow Brown Forest (Lateritic) Soils	0– 8	62.4	32.09	9.23	1.83		* Physical Clay is Physically active Particles, is < 0.01 mm
		8–22	65.7	29.96	9.23	2.90	10.97	
		22–48	54.2	33.74	9.78	6.24		
2.	Shallow Yellow Brown Forest (Lateritic) Soils	0– 9	57.7	28.16	8.34	1.78		The Moisture Stock is Calculated for 48 inches of soils layer.
		9–16	52.4	33.81	8.56	1.77	10.49	
		16–36	57.8	29.64	8.66	4.20		
3.	Light Gray Brown Meadow	0– 8	30.0	23.72	6.43	1.38		WP =Wilting Coefficient (Obtained from previously determined soils phsical data of similar soil Type) F.C.= Maximum Water Holding Capacity.
		8–18	45.3	38.30	7.90	3.04	11.44	
		18–48	40.9	34.03	8.63	7.02		

水 量 調 査

Telex : Agrico BM 2033
Cable : AGRICORP
Telephones :—
General Manager 80355
Dy: General Manage 80356
Office 80353
80354

THE SOCIALIST REPUBLIC OF THE UNION OF BURMA
MINISTRY OF AGRICULTURE AND FORESTS
Agriculture Corporation (Extension)
NO. 74, SHWEDAGON PAGODA ROAD.
RANGOON, BURMA.

No...540/Ka(6)84/1081....

Dated the,.....28th June 84.....

To,

MR.A Motosugi,
First Secretary,
Embassy of Japan,
Rangoon.

Subject:: Vegetable & Fruit Research and Development Project

Dear MR. Motosugi,

We wish to refer the relevent letter despatched under letter No.540/Ka (6)84/999 dated 12th: June Concerning the Captioned subject.

In this connection, pleased to enclose herewith a copy of the tube-well log received from the Construction Corporation in respect of water supply of the said project. We shall be much appreciated if you will kindly transmit the same to Ms.Yamashita Architects and Engineers Inc: Tokyo, at your earliest convenience.

With best regards,

Yours sincerely,

28/6/84

for General Manager (Extension)
(MG KYIN, DEPUTY GENERAL MANAGER)

CC:Director General,Planning and
Statistics Department,M.A.F.

Soe/28684.

CONSTRUCTION CORPORATION, RANGOON DIVISION.

WATER SUPPLY & SANITATION SECTION, TUBE WELL LOG.

NAME OF WORK. Yemon V.F.R.D.C Project

4" ϕ gravel packed Test TUBE WELL No. (1)

LOCALITY

TOWNSHIP လှိုင်ကျောင်မြို့နယ် (HLEGU TOWNSHIP)

VILLAGE ရဲမွန်ရွာ (YEMON VILLAGE)

SITE V.F.R.D.C site

DRILLING METHOD Manual Drilling

TYPE OF DRILL Reverse Circulation

DRILLER NAME U Saw Kyaing & Party

DATE OF COMMENCED 25.5.84

DATE OF COMPLETED 6.6.84

BORE HOLE SIZE 15" Inch

ADVANCED BORING 8" Ft

STEP OF BORING 8" to 13" Inch

DEPTH OF DRILLED 245' Ft

CASING PIPE(a)SIZE 4" ϕ Inch

(b)LENGTH 158' Ft

SCREEN PIPE, size 4 Inch, LENGTH 30 Ft

SLOTTED SIZE Local Slotted

TYPE OF STRAINER -

CLAY SEAL DEPTH 0'-0" to 130'-0" = 130 Ft

DEPTH OF GRAVEL 130'-0" to 200'-0" = 70 Ft

BLANK PIPE AT 185'-0" to 195'-0" = 10 Ft

SCREEN PIPE AT 155'-0" to 185'-0" = 30 Ft

WATER LEVEL(Measure from Ground Level)

(a)STATIC 19'-0" Ft

(b)DYNAMIC Ft

YIELD 3600 galls. Gal per hr

WATER STRUCK AT Ft

STARTING PRESSURE p.s.i

PUMPING PRESSURE p.s.i

CASING	THICKNESS (FT)	DEPTH (FT)		DESCRIPTION
A (EL)			0	N.G.L
			1	ဝဝံမြေ (a)
		20'-0"	2	
		30'-0"	3	နုံးသဲစေး (b)
			4	သဲဆီနု (c)
		50'-0"	5	
		60'-0"	6	သဲဝါကြမ်း (d)
		70'-0"	7	သဲဝါကြမ်း (d) + ကျောက်စရစ်ခဲ (x)
			8	
			9	(a) ဂဝံ + ကျောက်စရစ်ခဲ (x)
			10	
		105'-0"	11	သဲဖြူနု (P)
		115'-0"	12	သဲဖြူကြမ်း (q)
B		130'-0"	13	ကျောက်စရစ်ခဲ (x)
			14	ကြပ်သဲကြမ်း (n)
		145'-0"	15	သဲဖြူကြမ်း (s)
C		160'-0"	16	
			17	သဲဖြူနု (P)
		175'-0"	18	သဲဖြူကြမ်း (q)
D		195'-0"	19	သဲဖြူကြမ်း (q)
	195'	245'	195'	+ ဂဝံ (a) ကျောက်စရစ်ခဲ (m)

Data Collected by __________ Logged by __________ Approved __________

Remarks: - Explanation for ⊗ (Description) attached . . . . .

Explanation

1.	(a)	Lateritic Soil	(ဂုံမြေ)
2.	(b)	Yellowish Mud	(ခွံဝါရေး)
3.	(c)	Yellowish fine sand	(သဲဝါနု)
4.	(d)	Yellowish Coarse sand	(သဲဝါကြမ်း)
5.	(x)	Gravel	(ကျောက်စရစ်)
6.	(p)	Whitish fine sand	(သဲဖြူနု)
7.	(q)	Whitish Coarse sand	(သဲဖြူကြမ်း)
8.	(n)	Bluish fine sand	(ကြမ်းသဲပြာနု)
9.	(s)	Bluish Coarse sand	(သဲပြာကြမ်း)
10.	(m)	Bluish Mud	(ကြမ်းပြာရေး)

水 質 調 査

(Hygiest) From No. 2.

THE NATIONAL HEALTH LABORATORY, BURMA

Bacteriological Report on Water Sample

No. 892-13 P 1 Dated Rangoon, the 26-6- 1984.

Laboratory No. W-254/ 84. Identification mark or No.

Source (Description) Tube well.

Location V.F.R.D.C Project, Hlaing. Hlegu.

Submitted by Engineer III(W/S), Construction(12), Construction Corporation, Rangoon.

Collected at 12 noon. on 14-6-84. and received in the

Laboratory 11:30AM. on 15-6-84. ~~Packed~~ not Packed in ice

Bottle not sealed.

with the letter No. , dated

RESULT OF ANALYSIS

It yielded the following reactions:-

(a) Colonies on Ager at 37° after 24 hours 300

(b) Coli form Organism in M.P.N. 161

(c) E. Coli in M.P.N. Nil

Remarks

Unsatisfactory

Director,
National Health Laboratory,
Rangoon.

To,

Engineer III(W/S), Construction(12),
Construction Corporation,
Rangoon.

REPORT OF THE WATER ANALYSIS

No. 319/84.

Source	Physical Character				Chemical Tests										
					Quantitative (Parts Per Million)										
	Appearance	True Colour (Pt. Co. Scale)	Smell	Sediment	Sulphate (as SO_4)	Nitrates N.	Nitrites N.	Ignition	Total Solid	Chloride (as SO_4)	Total hardness (as $CaCO_3$)	Permanent hardness	Saline ammonia	Albuminoid ammonia	Iron (as Fe)
Tube well (200'), No.1 V.E.R.D.C Project, Hlegu.	Clear	6 Units	Nil	Slight	4.0	0.50	0.004	Slight charring	230.0	6.0	66.0	10.0	0.176	0.004	1.14

Manganese (as Mn)	=	0.82	ppm.
Copper (as Cu)	=	Nil	
Zinc (as Zn)	=	Nil	
Oxygen absorbed from permanganate at 37°C for 3 hours	=	Trace	
Total alkalinity as $CaCO_3$	=	106.0	ppm.
pH.	=	7.4	

Remarks:— Slightly high iron content.

DAW KHIN KHIN SOE,
M. Sc., D. Sc., D. P. H.
Asst. Director, H. E. L.

職員の資格と給与

STAFF REQUIREMENT AND ESTIMATED PAYMENT

VEGETABLE & FRUIT RESEARCH AND DEVELOPMENT PROJECT

Description	Pay Scale	Nos of staff	month	year	Minimum Qualification
1	2	3	4	5	6
PROJECT MANAGER'S OFFICE					
Project manager	1,800	1	1,300	15,600	B. Ag. with PG training and 10 years experiance
Dy. Project manager	1,000-50-1,200	1	1,200	14,400	"
Junior Officer	320-15- 440	1	440	5,280	B.Ag./Dip. Ag.
U.D.C	185-15- 305	1	305	3,660	BEHS + experinace
L.D.C	150-10- 220	2	440	5,280	"
TOTAL		6	3,685	44,220	
ADMIN & ACCOUNT SECTION					
Admin Officer	450-25- 700	1	700	8,400	B. Ag/Dip. Ag with experiance
Account Officer	450-25- 700	1	700	8,400	B. Com/B. E con with experiance
	400-20- 520	1	520	6,240	BEHS + experiance
Junior Officer	320-15- 440	1	440	5,280	B. Ag/Dip. Ag
Auditor	320-15- 440	1	440	5,280	B. Com/B. Econ with experiance
Librarian	320-15- 440	1	440	5,280	B. Ag. with Dip (Ltb)
B.C	300-15- 420	1	420	5,040	BEHS + experiance
Store keeper	300-15- 420	1	420	5,040	"
V.T.M	210-15- 330	2	660	7,900	B. Ag/Dip. Ag
Asst. Auditor	210-15- 330	1	330	3,960	BEHS + experiance
Br. Typist	210-15- 330	1	330	3,960	"
U.D.C	185-15- 305	1	305	3,660	"
Record keeper	150-10- 220	1	220	2,640	BEHS
Projectionist	185-15- 305	1	305	3,660	BEHS/THS + experiance
Electricien	185-15- 305	1	305	3,660	"
V.M	180-10- 220	1	220	2,640	B. Ag/Dip. Ag
Jr. Auditor	150-10- 220	1	220	2,640	BEHS + experiance
Jr. Typist	150-10- 220	1	220	2,640	BEHS
L.D.C	150-10- 220	1	220	2,640	"
Driver	130-10- 200	2	400	9,800	—
Watch man	100- 2- 110	2	220	2,640	—
TOTAL		24	8,035	96,420	
VEGETABLE SECTION					
Research Officer (1)	800-40-1,000	1	1,000	12,000	B. Ag. with PG training and 10 years experiance
Research Officer (2)	500-30- 800	1	800	9,600	B. Ag. with PG training and 7 years experiance
Research Officer (3)	450-25- 700	2	1,400	16,800	B. Ag. with PG training and 5 years experiance
Junior Research Officer	320-15- 440	4	1,760	21,120	B. Ag.
V.T.M	310-15- 330	0	—	—	B. Ag/Dip. Ag.
V.M	150-10- 220	0	—	—	"
TOTAL		8	4,960	59,620	

Description	Pay Scale	Nos of Staff	month	year	Minimum Qualification
1	2	3	4	5	6
FRUIT RESEARCH SECTION					
Research Officer (1)	800-40-1,000	1	1,000	12,000	B. Ag. with PG training and 10 years experiance
Research Officer (2)	500-30- 800	1	800	9,600	B. Ag. with PG training and 7 years experiance
Research Officer (3)	450-25- 700	2	1,400	16,800	B. Ag. with PG training and 5 years experiance
Junior Research Officer	320-15- 440	4	1,760	21,120	B. Ag.
V.T.M	210-15- 380	0	—	—	B. Ag/Dip. Ag.
V.M	150-10- 220	0	—	—	〃
TOTAL		8	4,960	59,520	
SOIL & NUTRITION SECTION					
Research Officer (2)	500-30- 800	1	800	7,600	B. Ag. with PG training and 7 years experiance
Research Officer (3)	450-25- 300	2	1,400	16,800	B. Ag. with PG training and 5 years experiance
Junior Research Officer	320-15- 440	4	1,760	21,120	B. Ag.
V.T.M	210-15- 330	0	—	—	B. Ag/Dip. Ag
V.M	150-10- 220	0	—	—	〃
TOTAL		7	3,960	47,520	
PLANT PROTECTION SECTION					
Research Officer (2)	500-30- 800	1	800	9,600	B. Ag. with PG training and 7 years experiance
Research Officer (3)	450-25- 300	2	1,400	16,800	B. Ag. with PG training and 5 years experiance
Junior Research Officer	380-15- 440	4	1,760	21,120	B. Ag.
V.T.M	210-15- 330	0	—	—	B. Ag/Dip. Ag
V.M	150-10- 220	0	—	—	〃
TOTAL		7	3,960	47,520	
FARM SECTION					
Farm manager	500-30- 800	1	800	9,600	B. Ag. with PG training and 7 years experiance
Dy. Farm manager (Vege.)	450-25- 700	1	700	8,400	B. Ag./Dip. Ag. with experiance
Dy. Farm manager (Fruit)	450-25- 700	1	700	8,400	〃
Irrigation Engineer	450-25- 700	1	700	8,400	B.E. with 5 years experiance
Agri. machinery Engineer	320-15- 440	2	880	10,660	B. Ag./Dip. Ag
Asst. Irrigation Engineer	320-15- 440	1	440	5,280	A.G.J.I.
Fore man	320-15- 440	1	440	5,280	〃
V.T.M	210-15- 330	3	990	11,880	B. Ag./Dip. Ag
Mechanic (1)	150-10- 220	2	660	7,900	A.G.J.I.

Description	Pay Scale	Nos of Staff	month	year	Minimum Qualification
1	2	3	4	5	6
V.M	150-10- 220	3	660	7,920	B. Ag./Dip. Ag
Mechanic (2)	150-10- 220	3	660	7,920	"
TOTAL		20	8,330	99,960	
SUB TOTAL		80	37,890	454,680	
SUB CENTRE					
Research Officer (1)	800-40-1,000	1	1,000	12,000	B. Ag. with PG training and 10 years experiance
Research Officer (2)	500-50- 800	1	800	9,600	B. Ag. with PG training and 7 years experiance
Research Officer (3)	450-25- 700	2	1,400	16,800	B. Ag. with PG training and 5 years experiance
Junior Research Officer	320-15- 940	4	1,960	21,120	B. Ag.
Dy. Farm manager	450-25- 700	1	700	8,400	"
V.T.M	210-15- 330	4	1,320	15,840	B. Ag./Dip. Ag
U.D.C	185-15- 305	1	305	3,660	BEHS + experiance
V.M	150-10- 220	4	880	10,860	B. Ag./Dip. Ag
Jr. Typist	150-10- 220	2	440	3,280	BEHS
L.D.C	150-10- 220	2	440	5,280	BEHS
Driver	130-10- 200	1	200	2,400	—
watch man	100- 2- 110	2	220	2,640	—
SUB TOTAL		25	9,465	113,580	
REAS					
Dy. Farm manager	480-25- 700	5	3,500	42,000	B. Ag.
Asst. Farm manager	320-15- 440	5	2,200	26,400	B. Ag./Dip. Ag
V.T.M	210-15- 830	10	3,200	39,600	"
V.M	150-10- 220	20	4,400	52,800	"
Jr. Typist	150-10- 220	5	1,100	13,200	BEHS
L.D.C	150-10- 220	5	1,100	13,200	"
SUB TOTAL		50	15,600	187,200	
GRAND TOTAL					
MAIN CENTRE		80	37,890	454,680	
SUB CENTRE		25	9,465	113,580	
REAS		50	15,600	187,200	
		155	32,955	755,460	

野菜果樹に関する資料

Ammount of Production of Vegetable (1982 – 1983)

UNIT: ton

State and Division \ Production	Cabbage	Cauli-flower	Carrot	Mustard	Lettuce	Radish	Bottle gourd	Water melon	Tomato	Aspara-gus	Other	Onion	Garlic	Chilli	TOTAL
1. Kachin State	1,386	567	174	3,153	71	482	247	317	913	–	9,840	78	337	230	17,795
2. Kayah State	163	94	–	867	19	17	333	–	273	–	2,633	14	235	43	4,691
3. Karen State	52	35	–	34	27	227	287	814	1,465	15	–	2	–	501	3,459
4. Chin State	350	21	–	461	203	–	–	–	97	–	–	296	238	1,019	2,685
5. Sagaing State	12,771	2,055	8		424	2,001	3,735	40,399	–	–	47,069	14,076	1,758	1,240	129,849
6. Tenasserim Division	52	207	–	–	7	112	219	279	148	–	2,723	–	–	173	3,920
7. Pegu Division	5,622	4,879	–	20	39	2,082	2,965	17,213	21,117	13	45,973	1,978	3	3,768	105,667
8. Magwe Division	5,142	3,441	19	552	227	164	772	642	22,878	–	3,489	40,780	941	3,750	82,797
9. Mandalay Division	4,102	3,649	939	1,593	49	1,481	1,137	1,815	75,831	–	16,602	69,040	2,048	16,034	194,320
10. Mon State	377	480	712	53	72	2,418	2,563	957	2,300	–	17,268	–	–	1,408	28,608
11. Rakhine State	798	403	28	19	31	944	558	1,032	972	–	10,497	892	86	4,241	30,501
12. Rangoon Division	1,932	3,483	–	181	189	5,104	1,369	3,646	1,785	5	12,464	55	–	256	30,469
13. Shan State	37,307	10,241	619	12,490	903	806	977	158	40,153	–	12,809	5,702	20,751	2,482	145,398
14. Irrawaddy Division	8,174	3,280	127	271	538	7,716	7,122	4,621	25,214	427	2,076	6,408	–	8,384	74,361
TOTAL	78,228	32,830	2,626	23,796	2,586	21,977	20,550	35,229	233,545	460	183,443	139,321	26,397	43,532	844,526

Amount of Production of Fruit (1982 – 1983)

State and Division	Coconut (Fruit)	Orange (Ton)	Litchi Fruit)	Plum (Ton)	Shaddock (Fruit)	Apple (Ton)	Mango (Fruit)	Grapd (Ton)	Banana (Bundle)	Durian (Fruit)	Lime (Fruit)	Pear (Ton)
1. Kachin State	454,950	5,871	24,235,600	112	278,750	14	7,684,100	0.8	1,299,701	–	1,175,200	321
2. Kayah State	134,600	–	27,900	–	3,800	–	1,255,000	–	260,026	–	80,000	–
3. Karen State	1,187,440	–	315,200	119	8,523,603	–	16,674,540	–	800,404	3,467,000	19,351,877	–
4. Chin State	49,000	351	–	–	–	189	2,775,685	41	691,464	–	743,300	128
5. Sayaing State	3,775,783	113	568,800	8,457	890,000	–	62,318,057	–	4,641,588	–	22,581,800	–
6. Tenasserim Division	18,918,358	–	–	13	11,542,250	–	14,874,000	–	1,644,839	12,436,800	3,632,434	–
7. Pegu Division	7,059,498	5	–	1,087	3,853,338	–	246,616,436	–	2,836,458	218,880	32,053,337	–
8. Magwe Division	576,733	–	–	2,374	8,300	–	13,091,600	40	514,426	–	949,000	–
9. Mandalay Division	1,530,834	48	2,130,000	28,606	860,000	4	50,366,725	2,388	5,005,299	–	34,412,500	241
10. Mon State	13,072,222	–	–	154	4,427,734	–	35,860,950	–	1,460,463	7,342,270	42,108,130	–
11. Rakhine State	10,445,313	135	497,000	431	7,145,990	–	104,335,630	–	798,057	–	63,821,150	–
12. Rangoon Division	2,465,520	5	–	84	446,200	–	78,079,020	–	1,580,346	–	20,574,500	–
13. Shan State	333,586	19,900	3,120,600	45	9,348,325	47	4,626,160	17	2,430,253	–	6,724,860	4,253
14. Irrawaddy Division	56,615,004	48	–	458	510,000	0.6	248,022,750	–		–	5,019,482	–
TOTAL	116,618,841	26,476	30,895,100	41,940	48,412,990	254.6	886,580,653	2,486.8	41,301,247	23,964,950	224,384,570	4,943

The Distribution Chart of Producing Districts of Vegetable (1982 – 1983)

UNIT: ha

State and Division \ Production	Cabbage	Cauli-flower	Carrot	Musterd	Lettuce	Radish	Bottle gourd	Water melon	Tomato	Aspara-gus	Other	Onion	Garlic	Chilli	TOTAL
1. Kachin State	181	113	25	609	13	94	38	32	191	–	1,947	25	92	274	3,634
2. Kayah State	34	23	–	130	5	6	45	–	93	–	763	40	73	159	1,371
3. Karen State	11	10	–	10	7	77	66	235	582	6	2,380	6	–	733	4,123
4. Chin State	157	16	–	239	82	–	6	–	23	–	2,571	59	100	8,404	11,657
5. Sagaing State	1,074	443	2	1,155	66	92	343	491	8,043	–	7,977	2,228	548	2,229	24,691
6. Tenasserim Division	6	34	–	–	1	16	25	32	21	–	602	–	–	172	909
7. Pegu Division	566	693	–	8	32	307	517	2,413	2,888	4	4,047	296	1	4,064	15,836
8. Magwe Division	190	130	6	82	38	26	120	87	4,154	–	1,049	5,122	308	6,402	17,714
9. Mandalay Division	496	572	91	416	35	168	201	168	24,193	–	5,526	10,558	632	28,639	71,685
10. Mon State	57	90	100	29	24	332	179	157	295	–	4,177	–	–	1,421	6,861
11. Rakhine State	79	56	5	12	10	244	137	208	198	–	2,682	144	53	4,502	8,330
12. Rangoon Division	74	122	–	63	61	800	238	821	375	1	3,278	9	1	254	6,096
13. Shan State	2,549	1,443	318	4,089	429	449	153	21	6,909	–	5,464	917	6,263	1,296	30,300
14. Irrawaddy Division	532	438	43	52	179	729	403	432	1,346	45	2,980	800	–	11,053	19,030
TOTAL	6,006	4,183	590	6,894	980	3,340	2,471	5,097	49,311	56	45,443	20,204	8,070	69,592	222,237

The Distribution Chart of Producing Districts of Fruit (1982 – 1983)

Unit: ha

Production / State and Division	Coconut	Orange	Litchi	Plum	Shaddock	Apple	Mango	Grape	Banana	Durian	Lime	Pear	Other Fruit	Total
1. Kachin State	89	526	240	74	25	4	147	0.4	1,159	–	31	23	1,965.6	4,284
2. Kayah State	20	36	3	0.4	2	–	13	–	314	–	0.8	–	48.8	438
3. Karen State	391	68	10	70	200	–	873	–	998	441	517	–	3,670	7,238
4. Chin State	14	524	–	55	83	272	246	14	1,210	–	227	71	610	3,326
5. Sagaing State	1,108	8	23	874	20	–	1,211	–	5,168	–	241	–	1,383	10,036
6. Tenasserim Division	3,887	–	–	15	156	–	245	–	1,728	2,584	75	–	24,727	33,417
7. Pegu Division	984	4	–	282	395	–	6,976	–	2,506	34	1,284	–	23,858	36,323
8. Magwe Division	100	–	–	315	9	–	710	15	715	–	73	–	518	2,455
9. Mandalay Division	467	40	29	1,347	35	13	2,556	376	4,527	–	668	96	2,694	12,848
10. Mon State	2,282	5	–	12	450	–	1,628	–	1,082	1,942	837	–	18,970	27,208
11. Rakhine State	2,697	21	4	111	217	–	2,366	–	1,128	–	471	–	4,146	11,261
12. Rangoon Division	862	0.4	–	77	51	–	4,225	–	1,790	–	556	–	7,097.6	14,659
13. Shan State	80	2,728	64	5	1,368	20	147	15	2,681	–	234	687	3,017	11,046
14. Irrawaddy Division	12,693	13	–	151	55	0.4	7,185	–	16,066	–	533	–	15,160.6	61,855
TOTAL	25,674	3,973.4	373	3,388.4	3,066	309.4	28,526	420.4	41,172	5,001	5,747.8	877	117,865.6	236,394

Utilization of Chemical Fertilizers

NO.	Crops	1978/79	1979/80	1980/81	1981/82 (Provisional actual)	1982/83 (Provisional)
1	Paddy	161,618	173,904	105,330	224,175	262,379
2	Wheat	841	1,331	6,767	7,213	8,187
3	Maize	1,209	1,803	2,890	3,996	5,000
4	Millet			147	442	500
5	Pulses	690	1,509	1,537	2,125	2,073
6	Ground nut	5,532	8,937	9,356	10,647	12,744
7	Sesamum		26	608	3,182	4,000
8	Sunflower	605	995	857	1,636	2,000
9	Palm oil	1,282	709	120	804	953
10	Cotton	3,412	5,449	5,640	5,610	5,700
11	Jute	9,912	7,343	4,528	2,685	5,088
12	Rubber	518	301	841	1,279	2,920
13	Sugareane	3,910	4,769	5,163	5,800	6,277
14	Mulberry	77	97	55	9	13
15	Potatoes	371	352	1,227	1,400	1,600
16	Vegetables	268	331	35	188	200
17	Others	1,976	1,116	1,438	4,519	4,654
	TOTAL	192,221	208,972	246,539	27,910	324,288

(unit: ton)

Utilization of Insecticides

upper row : lbs
lower row : gallons

NO.	Crops	1978/79	1979/80	1980/81	1981/82 (Provisional actual)	1982/83 (Provisional)
1	Paddy, Wheat, Maize	296,636	512,347	367,375	357,303	154,270
		40,057	24,854	34,624	35,036	30,731
2	Millet			17,360	12,047	
3	Pulses	13,884	40,845	4,001	141,463	2,840
		151	1,572	981	2,428	
4	Ground nut	426,095	280,400	578,184	1,032,519	476,178
		5,406	4,579	7,377	14,695	5,061
5	Sesamum	1,422	1,317	4,407	36,835	38,558
		226	225	2,088	6,489	475
6	Sunflower			4,469	27,835	2,325
				209	116	100
7	Cotton	34,547	180,931	175,449	153,146	319,803
		85,672	46,038	40,937	44,239	60,234
8	Jute	1,543	6,935	10,906	4,404	1,264
		1,952	2,300	1,574	2,068	497
9	Sugareane	17,940	60,343	69,773	49,502	66,965
		19	177	108	118	141
10	Potates	2,050	1,500	4,020	2,050	39,500
		18	30	245	1,120	60
11	Vegetables	1,388				1,970
		179	60	235	598	62
12	Others	27,310	45,399	80,628	70,932	48,311
		790	1,614	8,034	3,547	2,143
	TOTAL	822,815	1,130,017	1,116,572	1,888,036	1,161,984
		134,443	81,449	96,349	110,454	99,504

Research Workers of the Horticultural Experimental Farms (Extension Division) No. 1

No.	State & Division	Township	Farms	AGM		FM		DFM		VTM.		VM		DVM		Apprentice	
				Nos	Qualification	Nos	Qualification	Nos	Qualification	Nos	Qualification	Nos	Qualification	Nos	Qualification	Nos	Qualification
1	KACHIN	PUTAO	Malikhu			1	B. Ag.			1	Trained	7	B. Ag 1 + SAHS 3 + Trained 3				
2	KAREN	THANDAUNG	Pathichaung							1	Dip. Ag.						
		THANDAUNG	Thahtaygone					1	Dip. Ag.					1	Trained	1	Dip. Ag.
		THANDAUNG	Nagale									1	Dip. Ag.	1	Trained		
3	CHIN	MINDAT	Bawkhwe					1	Dip. Ag.	1	Dip. Ag.	1	Trained			1	Dip. Ag.
		FALAM	Wayluwun							1	Trained						
		FALAM	Lunppi							1	Trained	1	Trained				
		HAKA	Healthelan			1	Malaysia Trained					2	Trained				
		HAKA	Cawbuk									2	Trained				
4	TENASERRIM	YEBYU	Ayecani							1	Dip. Ag.	2	Dip. Ag.				
5	MAGWE	YENANGYAUNG	Pinchaung					1	Dip. Ag.	1	Dip. Ag.	4	Trained				
6	MANDALAY	KYAUKPAKAUNG S	Sehank	1	B. Sc (Agri.)	1	B. Ag.	1	B. Ag.	1	Trained	8	Dip. Ag 2+ Trained 6				
		KYAUKPAKAUNG	Popa					1	Trained			5	Trained				
		NYAUNG-U	Nyaung-U					1	B. Ag.	1	Trained	4	Dip. Ag 1+ Trained 3				
		MAYMYO	Dokwin			1	M. Sc (Horti)	2	B. Ag.	1	Trained	2	Trained			1	B. Ag.
		MAYMYO	Phaungtaw									1	Trained				
		MAYMYO	Paytaung					1	Dip. Ag.	1	B. Ag.	1	Trained				
		MAYMYO	Kyundaing														
		PATHEINGYI	Htonbo					1	B. Ag.			3	Trained				
		NYITTHA	Kinda														
		MAKAYA	*Sedawgyi														

Research Workers of the Horticultural Experimental Farms (Extension Division) No. 2

No.	State & Division	Township	Farms	A G M		F M		D F M		V T M		V M		D V M		Apprentice	
				Nos	Qualifi-cation	Nos	Qualifi-cation	Nos	Qualifi-cation	Nos	Qualifi-cation	Nos	Qualifi-cation	Nos	Qualifi-cation	Nos	Qualifi-cation
7	MON	PAUNG	Kyonka					1	B. Ag.	1	Trained	4	Dip. Ag 2+ Trained 2				
		MUDON	Kangalay					1	B. Ag.			1	Dip. Ag.			4	B. Ag 2+ SAHS 2
		KYAIKHTC	Inkabo					1	Dip. Ag.	1	Trained	3					
8	RANGOON	MINGALADON	Shwenatha					3	B. Ag 1+ Dip. Ag 2	1	Dip. Ag.	5	B. Ag 1+ B. Sc (Bot) 2+ Tr. 1+ SAHS 1			8	B. Ag 2+ Dip. Ag 4+ SAHS 2
		BAHAN	Myay-Pa-day-tha					1	Dip. Ag.			3	B. Sc (Bot) 1+ Trained 2				
		MINGALA–	Kandawgale			1	Dip. Ag.					4	B. Sc (Bot) 2+				
		TAUNGNYUNT											Trained 2				
		TAIKKYI	Kanthaya					1	B. Ag.	1	Trained	1	B. Ag.			1	B. Ag.
9	SHAN	TAUNGYI	Namlat			1	Foreign Trained	1	Dip. Ag.			2	Dip. Ag 1+ Trained 1				
		NAUNGCHO	Naungcho					1	Dip. Ag.			2	Trained				
		HSIPAW	Hsipaw						B. Ag.			2	B. Ag1+ Tr. 1				
		KUTKAI	Kutkai							1	B. Ag.	2	Trained				
10	IRRAWADDY	LAPUTTA	Laputta									2	Trained				
		HANZADA	Chinkwin									1	Dip. Ag.				
		MA–UBIN	*Ma-ubin														
11	MANDALAY	MOGOK	*Kyinthcyatwek														
	TOTAL			2		6		23		15		76		2		16	

Note: A.G.M. = Assistant General Manager
F.M. = Farm Manager
D.F.M. = Deputy Farm Manager
V.T.M. = Village Tract Manager
V.M. = Village Manager
D.V.M. = Deputy Village Manager
SAHS = Sate Agricultural High School Graduate
* = New Farms to be established
B. Ag = Bachelor of Agriculture
Dip. Ag = Diploma of Agriculture
B. Sc (Bot) = Bachelor of Science (Botany)
M. Sc (Horti) = Master of Science (Horticulture)