

Geological Investigations and Tests Conducted

The following geological investigations and tests have been implemented for the Project up to date;

- ° Surface geological investigation of the upstream and downstream damsites and the reservoir areas, thereof for geological mapping of them;
- ° Bore-hole drillings for the above-mentioned two damsites and the diversion damsite (head works site) to prepare bore-hole logs;
- ° Excavation of test trenches and hand auger holes for the borrow areas;
- ° Soil test for embankment materials and tabulation of the test results;
- ° Rock test for embankment material and tabulation of the test results

The above-listed geological investigations and tests are briefly described below;

1. Surface Geological Investigations

Surface geological investigations have been carried out covering the both damsites and the borrow areas of about 9.7 km² in total by employing the Geology Section of I.D. (see Figures 3B-6 and 3B-7) The major findings and some considerations made in the field reconnaissance survey and in geological mapping are described in Appendix 4D-2.

2. Bore-Hole Drilling

13 bore-holes in total have been drilled up to date as shown in the following table.

Upstream Damsite

<u>Location</u>	<u>Hole Number</u>	<u>Drilled Length</u> (m)	<u>Remarks</u>
River bed	B.H.1	45.7	Vertical
River bed	B.H.2	30.5	Vertical
Left abutment	B.H.3	38.1	Vertical
Left abutment	B.H.4	35.1	Vertical
Left abutment	B.H.5	36.6	Vertical
Right abutment	B.H.6	54.9	Vertical
Right abutment	B.H.7	48.8	Vertical

Downstream Damsite

<u>Location</u>	<u>Hole Number</u>	<u>Drilled Length</u> (m)	<u>Remarks</u>
Left abutment	B.H.1	12.2	Vertical
Left abutment	B.H.2	18.3	Vertical
River bed	B.H.3	45.7	Vertical
Right abutment	B.H.4	21.3	Vertical

Diversion Damsite

<u>Location</u>	<u>Hole Number</u>	<u>Drilled Length</u> (m)	<u>Remarks</u>
On the terrace	B.H.1	12.2	Vertical
Right side of stream	B.H.2	14.3	Vertical

Figures 3B-8 shows the location of bore-holes and the geological logs at each bore-hole respectively.

3. Test Trenches and Hand Augers

Excavation of test trenches and hand auger holes has been undertaken at the borrow areas to study an obtainable quantity of impervious materials and to sample the soil test materials.

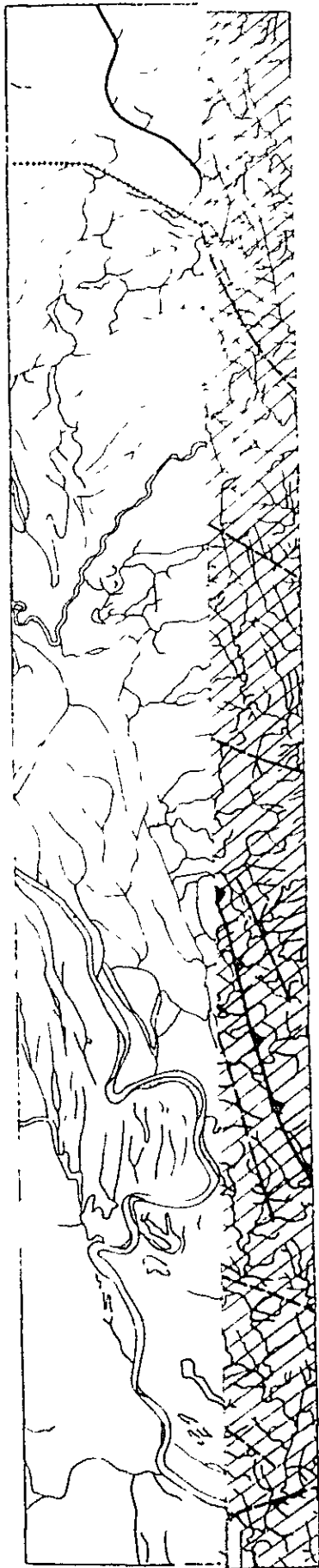
Five test trenches and 116 hand auger holes in total were excavated up to date. Figure 3B-7 show the location of these test trenches and hand auger holes.

4. Soil Tests

Materials obtained at the open trenches and hand auger holes were sent to the Soil Laboratory of I.D. for physical and dynamic tests of which results are shown in Tables 3B-15, 3B-16 and 3B-17 together with the physical test results of the Okkan river deposits.









5. Rock Tests

Rock test of the boring cores obtained at the upstream damsite were carried out by the Soil Laboratory of I.D. to study the lithic characters of the bed rock and the results are shown in Table 3B-18.



**FIGURE 3B-6 GEOLOGICAL
MAP OF OKKAN AREA**

INDEX

-  RECENT ALLUVIUM
-  PLIOCENE IRRAWADDY FORMATIONS
-  MIOCENE-OLIGOCENE OBOON FORMATIONS
-  MIOCENE-OLIGOCENE KYAUKROK FORMATIONS
-  MIOCENE-OLIGOCENE PYAWWE FORMATIONS
-  FAULT (MINOR)
-  FAULT (MAJOR)
-  FOLD AXIS





INDEX

- RECENT CHAUNG SAND AND GRAVELS FORMING BARS INCLUDING SOME AMOUNT OF FINE PARTICLES
- YOUNGER ALLUVIUM TERRACE MATERIALS
- OLDER ALLUVIUM TERRACE MATERIALS
- DELLUVIUM MATERIALS.
- ELLUVIUM SOIL (WEATHERED SANDY SHALE OR SANDSTONE)
- SANDY SHALE IN WHICH FINE SAND ARE MORE PROMINENT IN BEDDING PLANES
- INTERBEDDED SANDSTONE & SHALE IN WHICH THINLY TO MODERATLY BUT OCCASIONAL THICKLY BEDDED JOINTED SANDSTONE ARE ENCOUNTERED
- DIP AND STRIKE
- DRILL HOLE WITH DEPTH
- HAND AUGER HOLE
- TEST PIT
- TEST TRENCH
- BOUNDRY BETWEEN DIFFERENT KINDS OF SOIL
- BOUNDRY BETWEEN DIFFERENT KINDS OF ROCK
- BORROW AREA AND ITS DESGINATION
- ROCK FALL
- LOCATION SHOWING STONE FOR CONSTRUCTION

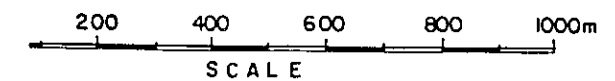


FIGURE 3B-6 GEOLOGICAL
MAP OF OKKAN AREA

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- RECENT ALLUVIUM
- PLIOCENE IRRAWADDY FORMATIONS
- MIOCENE-OLIGOCENE DROBON FORMATIONS
- MIOCENE-OLIGOCENE KYALKKOK FORMATIONS
- MIOCENE-OLIGOCENE PYAWWE FORMATIONS
- FAULT(MINOR)
- FAULT(MAJOR)
- FOLD AXIS

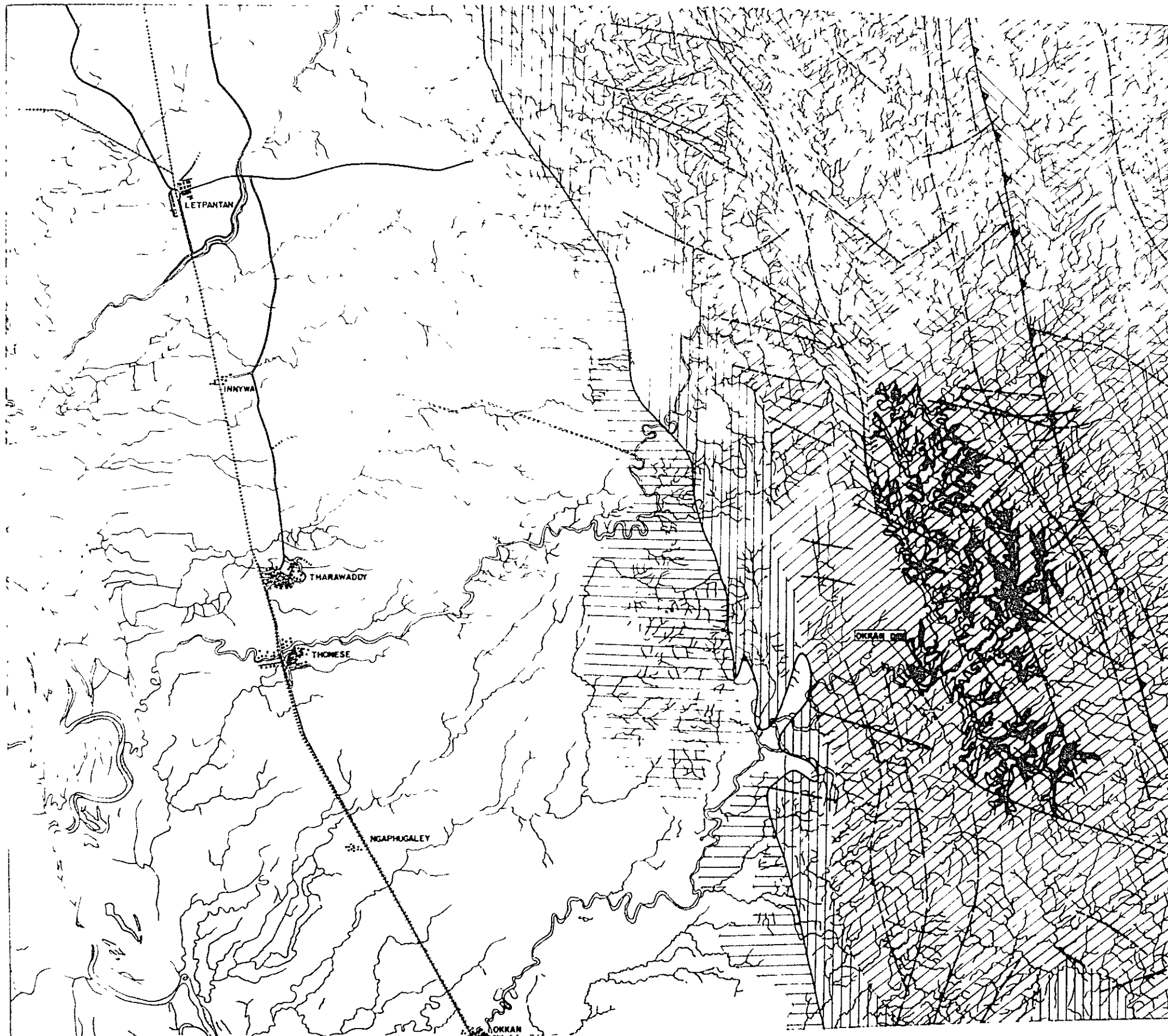
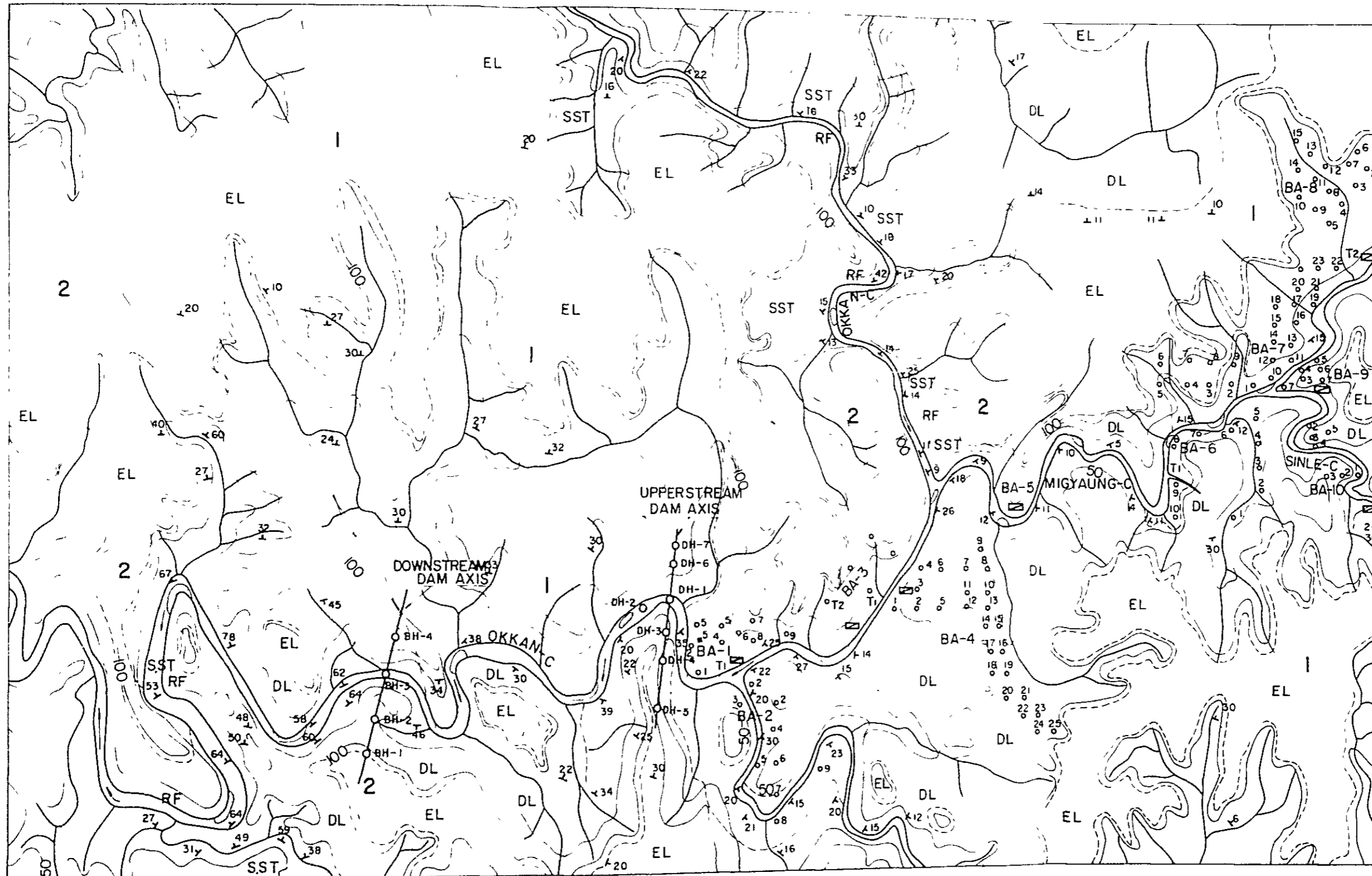
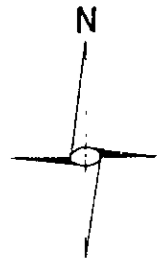



















FIGURE 3B-7 GEOLOGICAL CONDITION ON DAMSITE AND BORROW AREA



INDEX

-  RECENT CHAUNG SAND AND INCLUDING SOME AMOUNT
-  YOUNGER ALLUVIUM TERRACE
-  OLDER ALLUVIUM TERRACE
-  DELUVIUM MATERIALS
-  ELLUVIUM SOIL (WEATHERED)
-  SANDY SHALE IN WHICH PROMINENT IN BEDDING
-  INTERBEDDED SANDSTONE THINLY TO MODERATELY BEDDED JOINTED SANDSTONE
-  DIP AND STRIKE
-  DRILL HOLE WITH DEPTH
-  HAND AUGER HOLE
-  TEST PIT
-  TEST TRENCH
-  BOUNDARY BETWEEN DIFFERENT UNITS
-  BOUNDARY BETWEEN DIFFERENT UNITS
-  BORROW AREA AND ITS BOUNDARY
-  ROCK FALL
-  LOCATION SHOWING SOIL TYPE

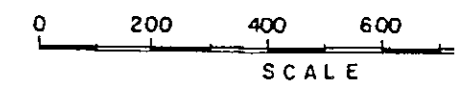
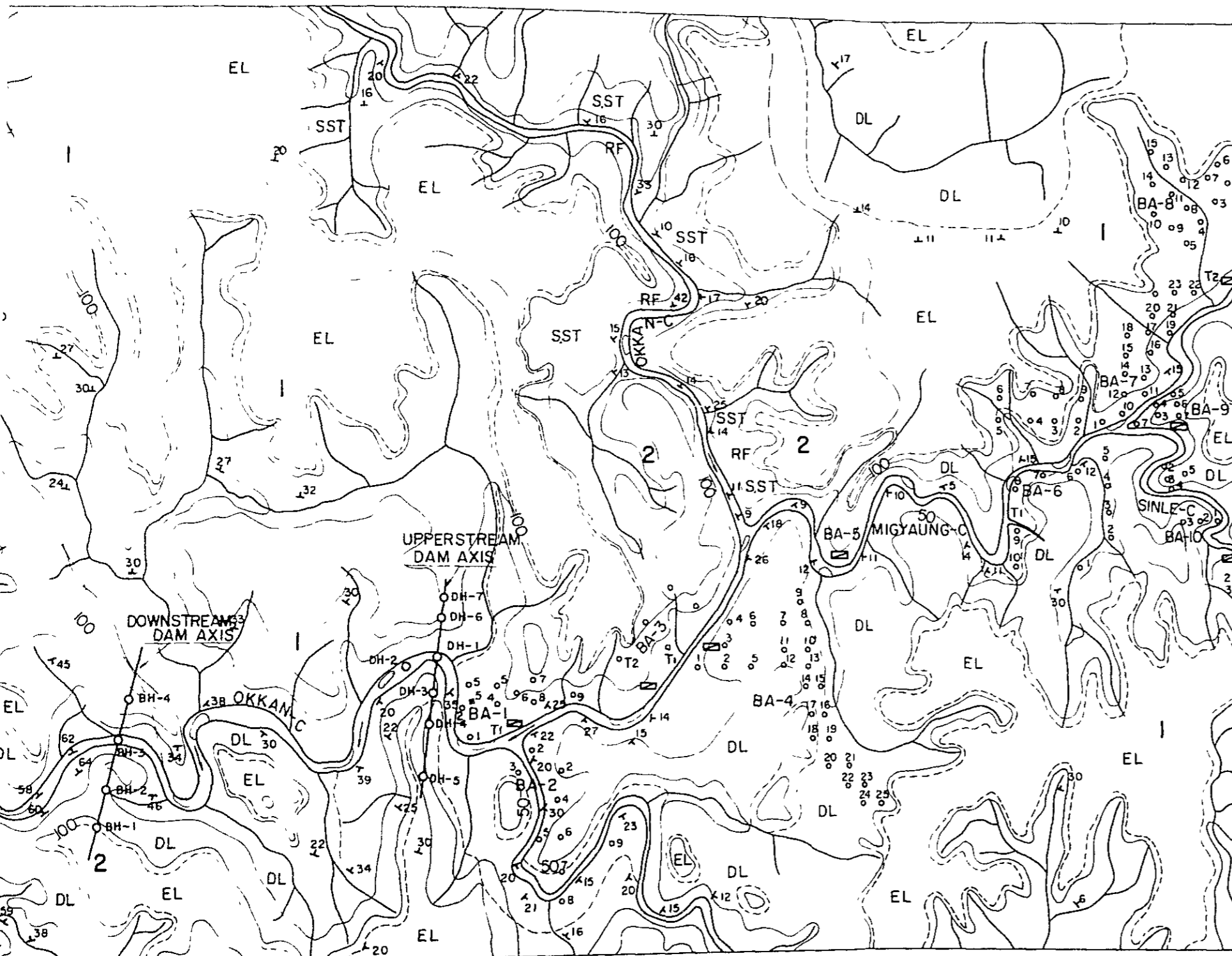





















FIGURE 3B-7 GEOLOGICAL CONDITION ON DAMSITE AND BORROW AREA



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-  LOCATION SHOWING STONE FOR CONSTRUCTION

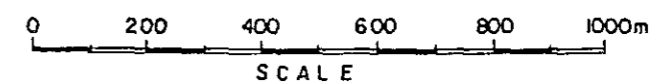


FIGURE 3B-8(I) GEOLOGICAL LOGS OF THE UPPERSTREAM DAMSITE

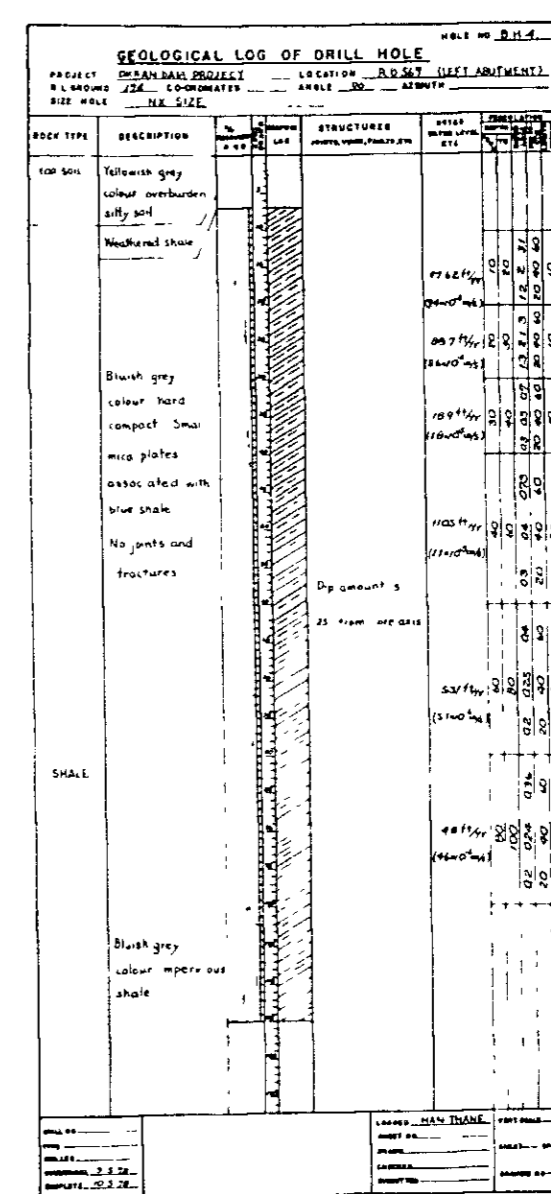
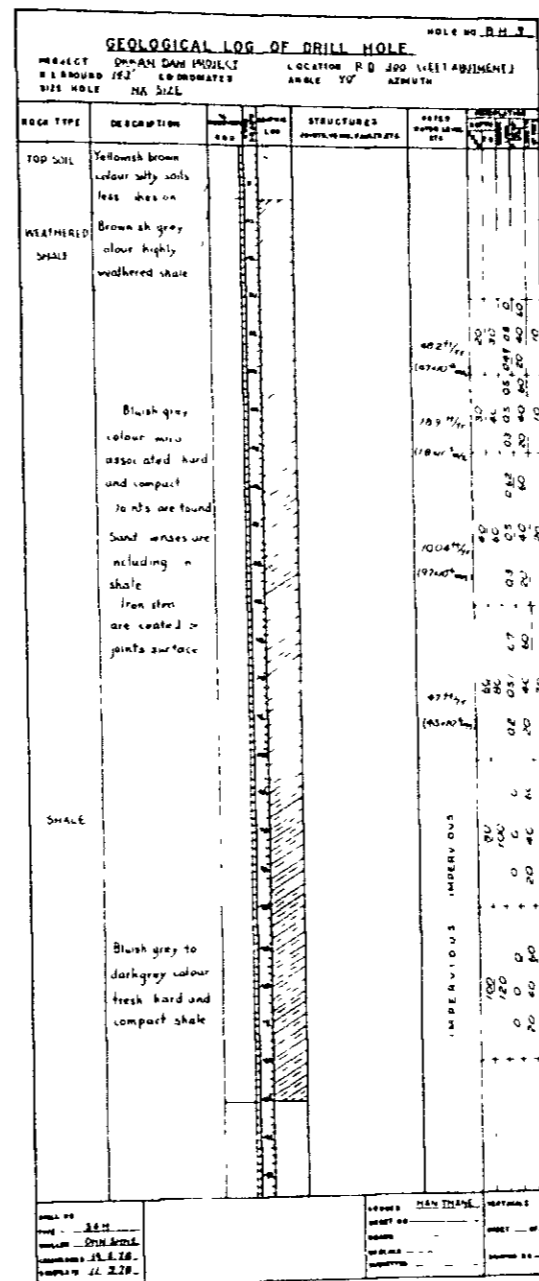
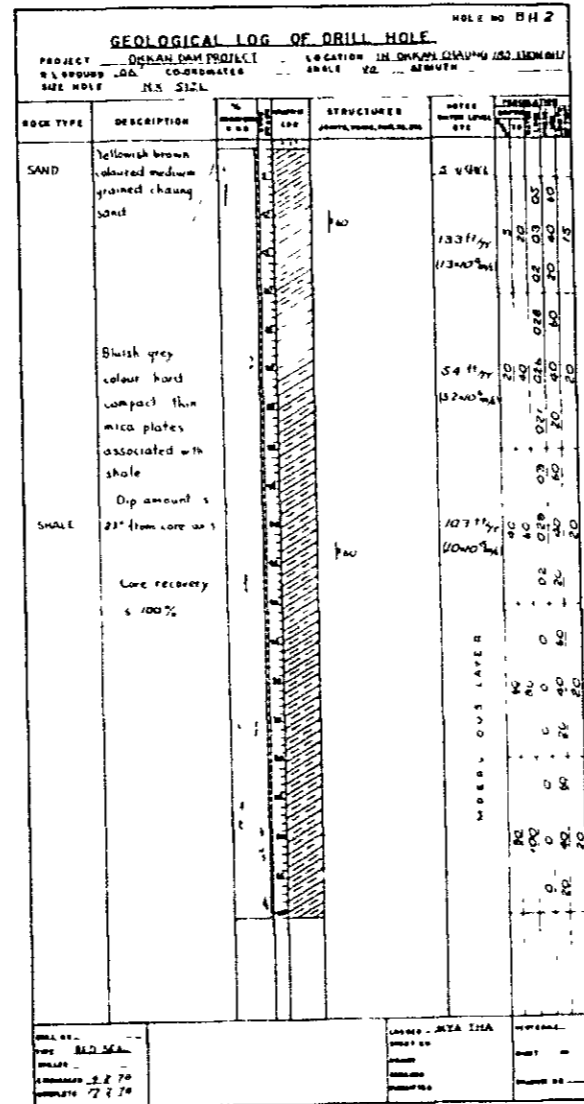
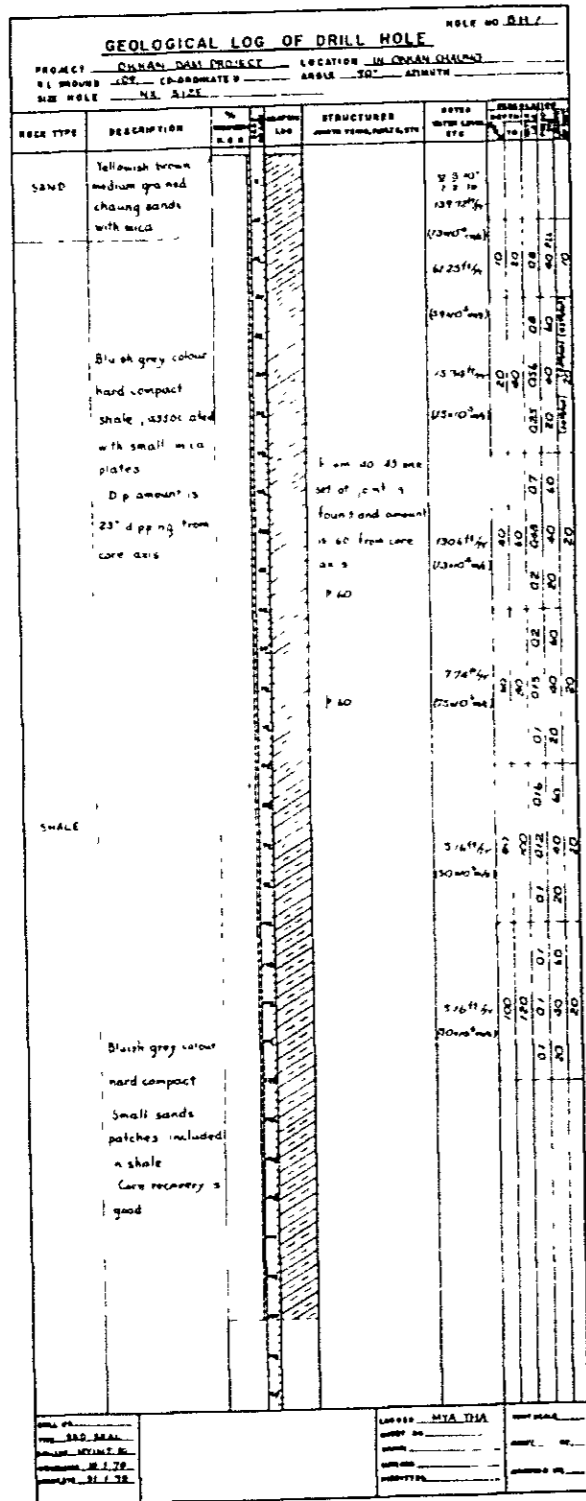


FIGURE 3B-8(2) GEOLOGICAL LOGS OF THE UPPERSTREAM DAMSITE

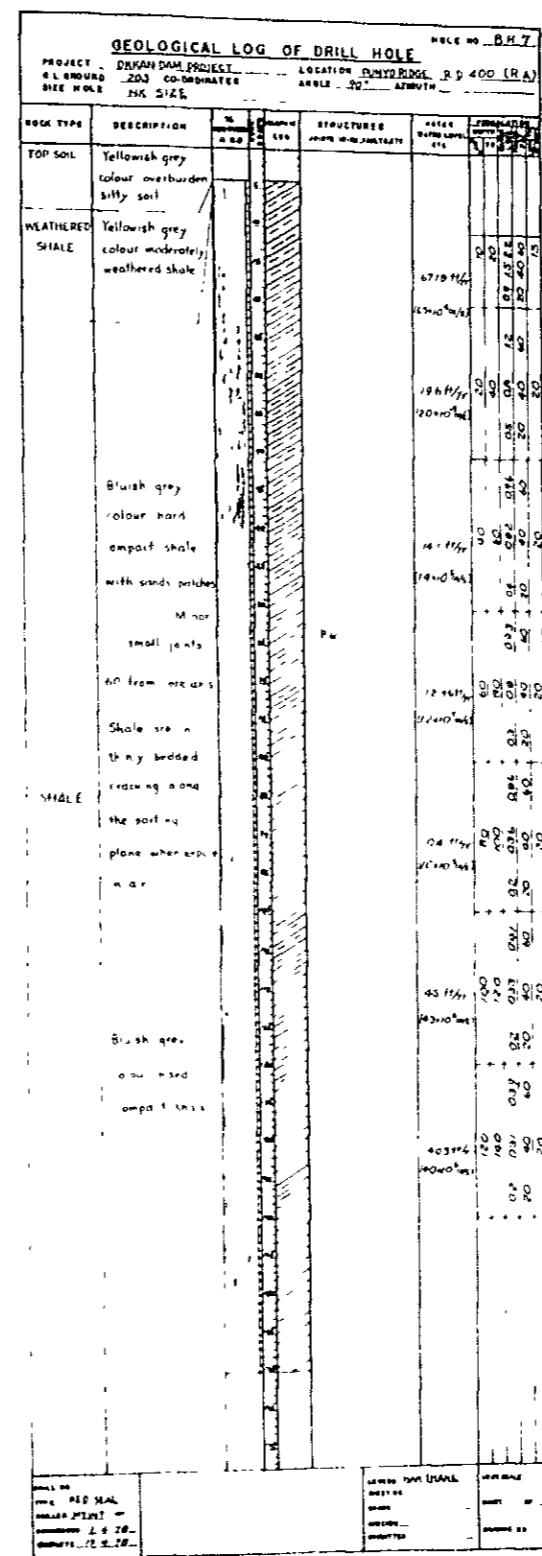
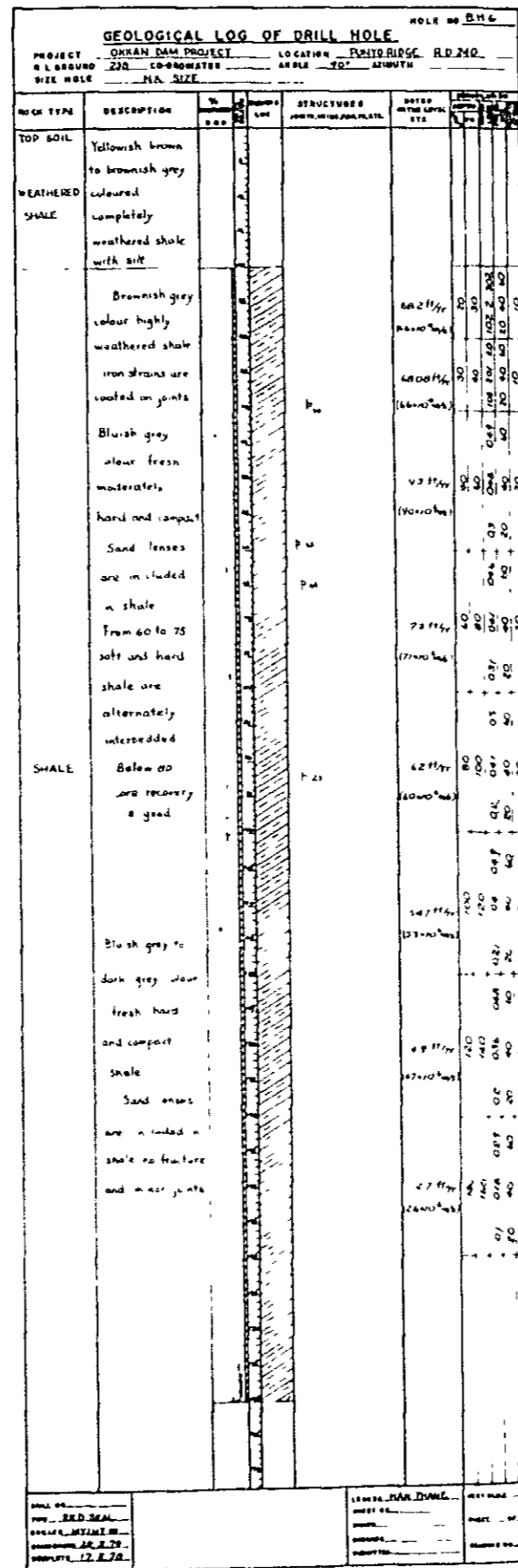
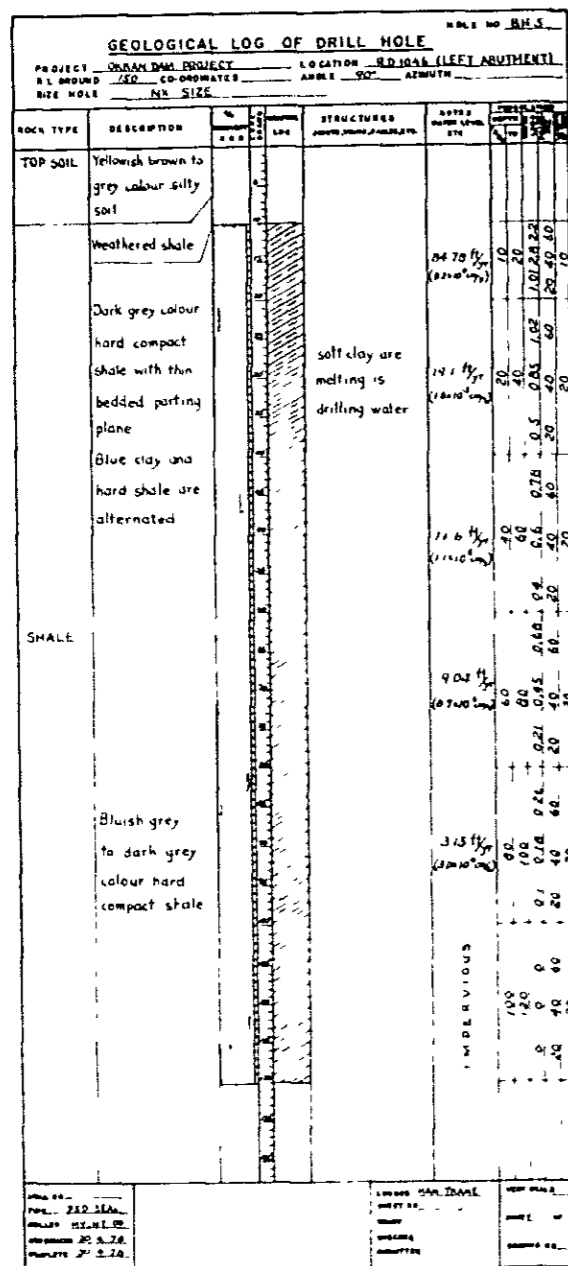
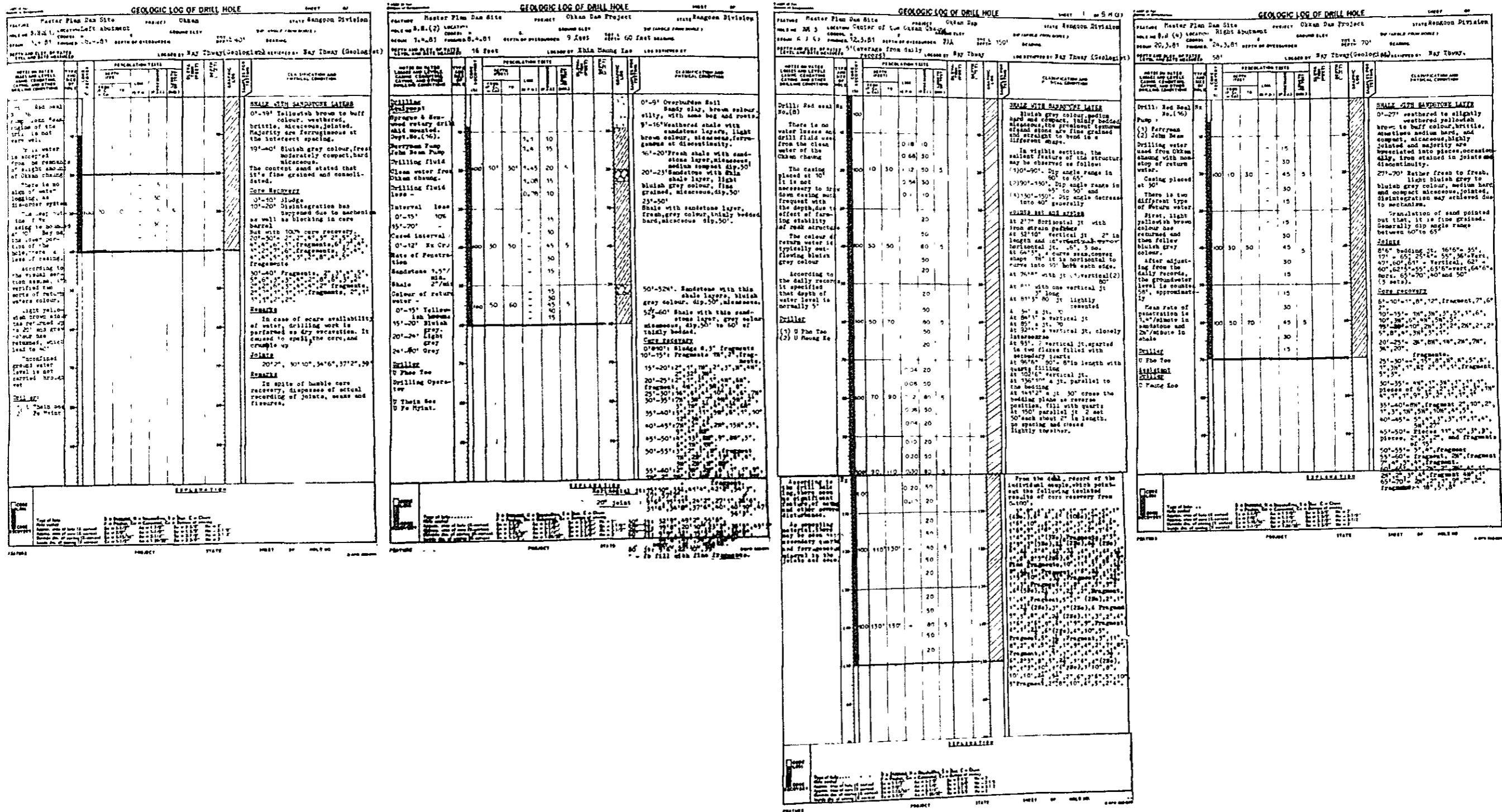


FIGURE 3B-8(3) GEOLOGICAL LOGS OF THE DOWNSTREAM DAMSTE



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Table 3B-15 (1) Results of Soil Mechanical Tests of Okkan Dam Irrigation Project

No	Area	Field Moisture Content (%)	Specific Gravity Gs	Gradation				Consistency			Compaction		Direct Shear		Permeability k (cm/sec)	Organic Content (%)
				Clay (%)	Silt (%)	Sand (%)	Gravel (%)	WL (%)	WP (%)	IP (%)	OMC (%)	MDD (g/ccm)	Cohesion (kg/scm)	Friction Angle (degree)		
1	C	—	2.66	20.00	32.00	48.00	—	29.60	19.32	10.28	14.40	1.730	0.30	23° 14'	6.39 × 10 ⁻⁸	4.2
	(B.A.4)												0.40	21° 48'※		
2	D	—	2.67	28.00	32.00	40.00	—	34.40	20.44	13.96	16.00	1.725	0.40	21° 48'	4.33 × 10 ⁻⁸	4.3
	(B.A.8)												0.45	23° 33'※		
3	H	—	2.66	20.00	28.00	52.00	—	28.00	18.75	9.25	15.00	1.736	0.30	27° 51'	4.97 × 10 ⁻⁸	3.1
	(B.A.8)															
4	I	—	2.66	18.00	34.00	48.00	—	26.80	16.29	10.51	16.60	1.691	0.40	26° 34'	7.68 × 10 ⁻⁸	6.1
	(B.A.9)															
5	J	—	2.65	16.00	36.00	52.00	—	29.50	20.52	8.98	16.00	1.696	0.30	26° 34'	1.06 × 10 ⁻⁷	4.1
	(B.A.10)															

※ unsaturated data (by quick test), the rest is saturated data

※ Test Date ; March 1978

Table 3B-15 (2) Results of Soil Mechanical Tests for Okkan Dam Irrigation Project

No	AH No.	Depth	Field		Gradation			Consistency			Compaction		Direct Shear		Permeability k
			Moisture Content (%)	Specific Gravity G _s	Clay (%)	Silt (%)	Sand (%)	WL (%)	WP (%)	IP (%)	OMC	MDD	Cohesion	Friction Angle (degree)	
1	AH 1~12	0' ~ 5'	—	2.66	25.92	46.76	27.32	38.60	17.70	15.90					
2	"	5' ~ 10'	—	2.68	29.86	58.90	16.24	42.31	20.36	21.95					
3	"	10' ~ 15'	—	2.67	31.92	49.96	18.12	38.01	21.33	16.68					
4	"	Mixed SP.	—	2.66	33.64	39.36	27.00	33.53	19.47	14.06	16.00	1.736	0.35	20° 06'	2.59 × 10 ⁻⁸
5	AH 13~24	0' ~ 5'	—	2.67	33.04	43.90	23.06	38.25	19.47	18.78					
6	"	5' ~ 10'	—	2.67	36.32	46.28	17.40	36.20	17.96	18.24					
7	"	10' ~ 15'	—	2.64	24.36	42.04	38.60	22.40	18.06	4.34					
8	"	Mixed SP.	—	2.65	32.62	47.48	19.90	29.10	17.73	11.37	17.60	1.725	0.40	16° 41'	2.13 × 10 ⁻⁸
9	AH 25~36	0' ~ 5'	—	2.67	24.56	37.38	38.06	38.31	19.60	18.71					
10	"	5' ~ 10'	—	2.68	30.28	38.24	31.48	48.14	24.15	23.99					
11	"	10' ~ 15'	—	2.66	25.44	39.68	34.85	31.99	17.02	14.97					
12	"	Mixed SP.	—	2.67	31.60	32.68	35.72	38.48	19.76	18.72	18.20	1.667	0.475	15° 45'	2.13 × 10 ⁻⁸
13	AH 37~48	0' ~ 5'	—	2.68	30.48	41.76	27.76	46.00	21.16	24.84					
14	"	5' ~ 10'	—	2.66	31.12	49.38	19.50	33.65	16.58	17.07					
15	"	10' ~ 15'	—	2.67	37.00	49.16	13.84	36.39	18.47	17.92					
16	"	Mixed SP.	—	2.68	36.40	35.88	27.72	40.00	19.73	20.27	20.80	1.618	0.475	18° 22'	8.08 × 10 ⁻⁹

* Test Date : March 1980

Table 3B-15 (3) Results of Soil Mechanical Tests for Okkan Dam Irrigation Project

No	AH No	Depth	Field Moisture Content (%)	Specific Gravity G _s	Gradation			Consistency			Compaction			Direct Shear Friction Angle (degree)	Permeability k (cm/sec)
					Clay (%)	Silt (%)	Sand (%)	WL (%)	WP (%)	IP	OMC (%)	MDD (g/ccm)	Cohe-sion (kg/scm)		
17	AH-49~60	0'~8'	—	2.68	47.36	39.84	12.80	42.60	18.86	23.74					
18	"	8'~15'	—	2.70	43.40	43.60	13.00	53.00	25.14	27.86					
19	"	Mixed Sp.	—	2.70	36.52	37.20	26.28	48.72	22.73	26.39	20.60	1.643	0.475	18° 22'	1.70×10 ⁻⁸
20	AH-61~72	0'~5'	—	2.68	28.12	31.82	40.04	40.09	20.73	19.86					
21	"	5'~10'	—	2.68	35.12	47.26	17.62	43.67	22.37	21.30					
22	"	10'~15'	—	2.66	24.88	39.84	35.28	35.80	18.64	17.16					
23	"	Mixed Sp.	—	2.67	39.58	43.42	17.00	40.00	19.94	20.06	20.00	1.685	0.475	15° 45'	3.05×10 ⁻⁸
24	AH-73~81	0'~5'	—	2.66	35.20	41.42	23.38	36.53	18.22	18.31					
25	"	5'~10'	—	2.68	46.20	39.48	14.32	44.52	22.31	22.31					
26	"	10'~15'	—	2.67	34.44	35.24	65.56	38.05	18.29	19.76					
27	"	Mixed Sp.	—	2.68	34.32	37.92	27.76	39.00	18.74	20.26	16.80	1.747	0.35	20° 06'	3.51×10 ⁻⁸
28	AH-82~99	0'~5'	—	2.69	44.70	45.78	9.52	43.50	22.16	21.34					
29	"	5'~15'	—	2.69	36.02	30.90	33.08	47.07	23.45	23.62					
30	"	Mixed Sp.	—	2.70	38.48	43.86	17.66	47.25	24.50	22.75	19.80	1.648	0.475	18° 22'	1.25×10 ⁻⁸

* Test Date : March 1980

Table 3B-15 (1) Results of Soil Mechanical Tests for Okkan Dam Irrigation Project

No	Area /ft	Depth	Field		Specific Gravity		Gradation			Consistency		
			Moisture Content (%)	Gs	Clay (%)	Silt (%)	Sand (%)	WL (%)	WP (%)	I P		
1	BORROW 1	10'	22.87	2.69	24.06	27.16	48.78	32.76	20.36	12.40		
2	"	15'	25.53	2.69	23.14	29.52	47.34	32.20	19.93	12.27		
3	BORROW 4	10'	23.74	2.69	28.08	38.78	33.12	36.80	21.59	15.21		
4	"	15'	26.73	2.70	27.76	39.32	32.92	32.63	19.76	12.87		
5	BORROW 7	10'	19.70	2.69	23.20	29.18	47.62	34.70	20.57	14.13		
6	"	15'	14.88	2.69	20.42	31.52	48.06	32.63	19.76	12.87		
7	BORROW 8	10'	19.06	2.69	14.68	36.68	48.64	35.01	20.66	14.35		
8	"	15'	19.20	2.69	18.84	46.56	34.60	32.70	19.12	13.58		
9	BORROW 10	10'	23.66	2.70	27.36	47.90	24.74	39.89	21.39	18.50		
10	"	15'	14.26	2.68	12.84	21.46	65.70		N P			

※ Test Date : February 1981

Table 3B-16 Results of Consolidation Test for Okkan Dam Irrigation Project

No	Area	P kg/cm ²	e	U %	Cv cm ² /sec	Mv cm ² /g	k cm/sec
1	C (B.A.4)	0.5	0.517	1.71	7.85×10^{-3}	3.60×10^{-5}	2.83×10^{-7}
		1.0	0.504	2.54	1.04×10^{-2}	1.70×10^{-5}	1.77×10^{-7}
		2.0	0.486	3.70	6.67×10^{-3}	1.20×10^{-5}	8.00×10^{-8}
		4.0	0.463	5.21	7.20×10^{-3}	8.00×10^{-6}	5.76×10^{-8}
		8.0	0.434	7.05	7.85×10^{-3}	5.00×10^{-6}	3.93×10^{-8}
2	D (B.A.3)	0.5	0.529	1.35	1.04×10^{-2}	2.85×10^{-5}	2.96×10^{-7}
		1.0	0.517	2.09	1.42×10^{-2}	1.60×10^{-5}	2.27×10^{-7}
		2.0	0.499	3.23	6.67×10^{-3}	1.20×10^{-5}	8.00×10^{-8}
		4.0	0.479	4.90	7.32×10^{-3}	9.00×10^{-6}	6.59×10^{-8}
		8.0	0.433	7.19	8.93×10^{-3}	6.00×10^{-6}	5.36×10^{-8}
3	H (B.A.8)	0.5	0.508	1.61	7.74×10^{-3}	3.42×10^{-5}	2.65×10^{-7}
		1.0	0.489	2.63	1.11×10^{-2}	2.55×10^{-5}	2.83×10^{-7}
		2.0	0.467	4.34	7.32×10^{-3}	1.54×10^{-5}	1.13×10^{-7}
		4.0	0.441	6.03	7.74×10^{-3}	8.90×10^{-6}	6.89×10^{-8}
		8.0	0.413	7.86	8.82×10^{-3}	4.90×10^{-6}	4.32×10^{-8}
4	I (B.A.9)	0.5	0.550	1.74	7.53×10^{-3}	3.67×10^{-5}	2.76×10^{-7}
		1.0	0.532	2.89	1.31×10^{-2}	2.35×10^{-5}	3.08×10^{-7}
		2.0	0.519	3.74	5.38×10^{-3}	8.80×10^{-6}	4.73×10^{-8}
		4.0	0.496	5.20	6.45×10^{-3}	7.60×10^{-6}	4.90×10^{-8}
		8.0	0.457	7.69	7.53×10^{-3}	6.60×10^{-6}	4.97×10^{-8}
5	J (B.A.10)	0.5	0.511	3.22	8.40×10^{-3}	6.81×10^{-5}	5.72×10^{-7}
		1.0	0.497	4.11	1.94×10^{-2}	1.80×10^{-5}	2.10×10^{-7}
		2.0	0.481	5.16	8.17×10^{-3}	1.05×10^{-5}	8.58×10^{-8}
		4.0	0.461	6.46	9.68×10^{-3}	6.50×10^{-6}	6.29×10^{-8}
		8.0	0.430	8.47	1.26×10^{-2}	5.30×10^{-6}	6.68×10^{-8}

* P : Pressure e : Void ratio U : Consolidation Cv : Coefficient of consolidation
Mv : Coefficient of volume compressibility
k : Permeability

* Test Date : March 1978

Table 3B-17 Results of Soil Mechanical Tests for Okkan Dam Irrigation Project

Sample Name	No	Specific Gravity	Gradation							Remarks
			Clay (%)	Silt (%)	Fine Sand (%)	Medium Sand (%)	Coarse Sand (%)	Fine Gravel (%)		
									Gs	
River Deposit (Okkan Chaung)	No 1	2.66	1.05	89.95	10.00	—	—	—		
	No 2	2.65	2.14	37.60	41.00	14.00	8.00			
	No 3	2.66	6.08	83.82	10.00	—	—			
Filter Material (Irrawaddy Formation)	No 1	2.67	1.38	12.62	85.50	0.50	—		Sand layer	
	No 2	2.66	6.21	5.42	38.98	49.39			Sand & Gravel layer	
	No 3	2.66	7.53	2.00	37.52	52.95			"	
	No 4	2.68	17.00	33.00	43.00	7.00			Another Point (White Sand)	

* Test Date : February 1981

Table 3B-18 Results of Rock Compression Test for Okkan Dam Irrigation Project

<i>No</i>	<u>Specific Gravity</u> Gs	<u>Area</u> <i>cm</i> ²	<u>Applied Load</u> <i>kg</i>	<u>Compressive Strength</u> <i>kg/cm</i> ²	<u>Absorption</u> %	<u>Slaking</u> %
1	2.37	23.51	5568.18	236.84		
2	2.35	22.66	5795.45	255.76		
3	2.38	22.83	6181.81	270.78	8.55	first time destruction
4	2.40	21.66	5090.91	235.04		
5	2.37	—	—	—		
6	2.38	23.25	5000.00	215.05		
7	2.38	23.42	4659.09	198.94		
8	2.39	23.34	5227.27	223.96	8.82	first time destruction
9	2.37	23.34	3409.09	146.06		
10	2.35	22.91	4090.91	178.56		

※ Test Date : February 1981

※ Sampling Depth is not clear

Table 3B-19 CLASSIFICATION OF SOIL SERIES BY TEXTURE AND DRAINAGE

SOIL SERIES NOTATION	text.												Drainage	Note				
	Upper Layer						Lower Layer											
	S	LS	SL	L	SiCL	CL	C	S	LS	SL	L	SiCL			CL	C		
2 L	S	LS	-	-	-	-	S	LS	SL	-	-	-	-	moderate	Sloped are			
3 L	S	LS	-	-	-	-	S	LS	-	-	-	-	-	slow	-			
2 L m	S	LS	-	-	-	-	-	-	SL	-	L	-	-	moderate	Sloped area			
3 L m	S	LS	-	-	-	-	-	-	-	SiL	L	-	-	slow	-			
2 L h	-	LS	-	-	-	-	-	-	-	-	-	CL	-	slow	Sloped area			
3 L h	S	LS	-	-	-	-	-	-	-	-	-	SiCL	CL	C	slow	-		
2 M	-	-	SL	SiL	L	-	-	-	-	SL	SiL	L	-	-	moderate	Sloped area		
3 M	-	-	SL	SiL	L	-	-	-	-	SL	SiL	L	-	-	slow	-		
2 M 1	-	-	-	SiL	L	-	-	S	LS	SL	-	-	-	-	slow	Sloped area		
3 M 1	-	-	-	SL	SiL	L	-	-	S	LS	-	-	-	-	slow	-		
2 M h	-	-	-	SL	SiL	L	-	-	-	-	-	-	-	CL	-	moderate	Sloped area	
3 M h	-	-	-	SL	SiL	L	-	-	-	-	-	-	-	SiCL	CL	-	slow	-
4 M h	-	-	-	-	SiL	-	-	-	-	-	-	-	-	-	CL	-	poor	Depressed area
3 H m	-	-	-	-	-	CL	-	-	-	-	-	SiL	-	-	-	-	slow	-
3 H	-	-	-	-	-	SiCL	CL	C	-	-	-	-	-	SiCL	CL	C	slow	-
4 H	-	-	-	-	-	-	CL	C	-	-	-	-	-	-	CL	C	poor	Depressed area
3 V H	-	-	-	-	-	-	-	C	-	-	-	-	-	-	-	C	poor	Compact Clay, Depressed
3 D M	S	-	-	-	L	-	CL	-	S	-	-	-	L	-	CL	-	poor	Diversified Thin layers

Note: 1) Texture of soils: S = Sand, LS = Loamy Sand, SL = Silty Loam, SiL = Silty Loam, L = Loam, SiCL = Silty Clay Loam, CL = Clay Loam, C = Clay.

2) 5 classes of drainage: Rapid, Moderate, Slow, Very slow, Extremely slow, which are determined by height of water table, colour and mottles in the soil profile.

3) Topography: to = 0-0.3%, t₁ = 0-0.3% undulating or 0.5-1%, t₂ = 0.5 - 1 undulating or 1-3%, t₃ = 1-3% undulating slopes.

Table 3B-20 Criteria For Topographic Class in the Series Classification

Topographic Class	Slope †	Micro-relief Within 30meter of Radius		Limitations for Irrigation		
		Relief	Undulation	Degree	Leveling	Drainage
t0	0 - 0.5	Flat	Less than 30cm	Slight		Surface D.
t1	0 - 0.5	Gently undulating	30 - 60cm	Slight	Some cost	Surface D.
	0.5 - 1.0	Undulating	Less than 30cm	Slight	Contered field	-
t2	0.5 - 1.0	Gentry undulating	30 - 60cm	Moderate	Contered field	-
	1.0 - 3.0		Less than 30cm	Moderate	Contered field	-
t3	1.0 - 3.0	Undulating	30 - 100cm	Severe	Contered small field and erosion control	-
t4	5 - 8	Undulations	(gullies)	Very severe	Unsuitable	-
t5	8 - 30	Undulations	(gullies)	Very severe	Unsuitable	-

1981 Dr. S. NISHIGAKI, Source: Soil Section, Irrigation Department.

Table 3B-21 (1) Diagrammatic Representative Soil Profiles

I (a) Profile No.	OKS	Meadow Soils	(d) Date	(a) Author	(f) Province	(f) Country												
70	313				BURMA													
UN3Lh t1																		
(i) Photograph																		
Latitude	N 17°15'	Longitude	E 95°59'	Location East of Kan Con														
Elevation (g) 7.3m		(h) Land Form		(i) Land Form of surrounding country		Piedmont plain												
Slope (j) 0.2%		Vegetation		Climate		Annual rainfall (k)												
Land use		One crop of paddy a year		Annual rain fall (k)		Old stream alluvium												
Drainage Moderate																		
(a) External condition		(a) Moisture condition		(a) Surface stones		(a) Salt alkali												
(b) (f) external and internal condition		(f) friability		(f) rock outcrops		(f) Erosion												
(c) (e) (g) (i) (k) (m) (n) (o) (p) (q) (r) (s) (t) (u) (v) (w) (x) (y) (z) (aa) (ab) (ac) (ad) (ae) (af) (ag) (ah) (ai) (aj) (ak) (al) (am) (an) (ao) (ap) (aq) (ar) (as) (at) (au) (av) (aw) (ax) (ay) (az) (ba) (bb) (bc) (bd) (be) (bf) (bg) (bh) (bi) (bj) (bk) (bl) (bm) (bn) (bo) (bp) (bq) (br) (bs) (bt) (bu) (bv) (bw) (bx) (by) (bz) (ca) (cb) (cc) (cd) (ce) (cf) (cg) (ch) (ci) (cj) (ck) (cl) (cm) (cn) (co) (cp) (cq) (cr) (cs) (ct) (cu) (cv) (cw) (cx) (cy) (cz) (da) (db) (dc) (dd) (de) (df) (dg) (dh) (di) (dj) (dk) (dl) (dm) (dn) (do) (dp) (dq) (dr) (ds) (dt) (du) (dv) (dw) (dx) (dy) (dz) (ea) (eb) (ec) (ed) (ee) (ef) (eg) (eh) (ei) (ej) (ek) (el) (em) (en) (eo) (ep) (eq) (er) (es) (et) (eu) (ev) (ew) (ex) (ey) (ez) (fa) (fb) (fc) (fd) (fe) (ff) (fg) (fh) (fi) (fj) (fk) (fl) (fm) (fn) (fo) (fp) (fq) (fr) (fs) (ft) (fu) (fv) (fw) (fx) (fy) (fz) (ga) (gb) (gc) (gd) (ge) (gf) (gg) (gh) (gi) (gj) (gk) (gl) (gm) (gn) (go) (gp) (gq) (gr) (gs) (gt) (gu) (gv) (gw) (gx) (gy) (gz) (ha) (hb) (hc) (hd) (he) (hf) (hg) (hh) (hi) (hj) (hk) (hl) (hm) (hn) (ho) (hp) (hq) (hr) (hs) (ht) (hu) (hv) (hw) (hx) (hy) (hz) (ia) (ib) (ic) (id) (ie) (if) (ig) (ih) (ii) (ij) (ik) (il) (im) (in) (io) (ip) (iq) (ir) (is) (it) (iu) (iv) (iw) (ix) (iy) (iz) (ja) (jb) (jc) (jd) (je) (jf) (jg) (jh) (ji) (jj) (jk) (jl) (jm) (jn) (jo) (jp) (jq) (jr) (js) (jt) (ju) (jv) (jw) (jx) (jy) (jz) (ka) (kb) (kc) (kd) (ke) (kf) (kg) (kh) (ki) (kj) (kl) (km) (kn) (ko) (kp) (kq) (kr) (ks) (kt) (ku) (kv) (kw) (kx) (ky) (kz) (la) (lb) (lc) (ld) (le) (lf) (lg) (lh) (li) (lj) (lk) (ll) (lm) (ln) (lo) (lp) (lq) (lr) (ls) (lt) (lu) (lv) (lw) (lx) (ly) (lz) (ma) (mb) (mc) (md) (me) (mf) (mg) (mh) (mi) (mj) (mk) (ml) (mn) (mo) (mp) (mq) (mr) (ms) (mt) (mu) (mv) (mw) (mx) (my) (mz) (na) (nb) (nc) (nd) (ne) (nf) (ng) (nh) (ni) (nj) (nk) (nl) (nm) (no) (np) (nq) (nr) (ns) (nt) (nu) (nv) (nw) (nx) (ny) (nz) (oa) (ob) (oc) (od) (oe) (of) (og) (oh) (oi) (oj) (ok) (ol) (om) (on) (oo) (op) (oq) (or) (os) (ot) (ou) (ov) (ow) (ox) (oy) (oz) (pa) (pb) (pc) (pd) (pe) (pf) (pg) (ph) (pi) (pj) (pk) (pl) (pm) (pn) (po) (pp) (pq) (pr) (ps) (pt) (pu) (pv) (pw) (px) (py) (pz) (qa) (qb) (qc) (qd) (qe) (qf) (qg) (qh) (qi) (qj) (qk) (ql) (qm) (qn) (qo) (qp) (qq) (qr) (qs) (qt) (qu) (qv) (qw) (qx) (qy) (qz) (ra) (rb) (rc) (rd) (re) (rf) (rg) (rh) (ri) (rj) (rk) (rl) (rm) (rn) (ro) (rp) (rq) (rr) (rs) (rt) (ru) (rv) (rw) (rx) (ry) (rz) (sa) (sb) (sc) (sd) (se) (sf) (sg) (sh) (si) (sj) (sk) (sl) (sm) (sn) (so) (sp) (sq) (sr) (ss) (st) (su) (sv) (sw) (sx) (sy) (sz) (ta) (tb) (tc) (td) (te) (tf) (tg) (th) (ti) (tj) (tk) (tl) (tm) (tn) (to) (tp) (tq) (tr) (ts) (tt) (tu) (tv) (tw) (tx) (ty) (tz) (ua) (ub) (uc) (ud) (ue) (uf) (ug) (uh) (ui) (uj) (uk) (ul) (um) (un) (uo) (up) (uq) (ur) (us) (ut) (uu) (uv) (uw) (ux) (uy) (uz) (va) (vb) (vc) (vd) (ve) (vf) (vg) (vh) (vi) (vj) (vk) (vl) (vm) (vn) (vo) (vp) (vq) (vr) (vs) (vt) (vu) (vv) (vw) (vx) (vy) (vz) (wa) (wb) (wc) (wd) (we) (wf) (wg) (wh) (wi) (wj) (wk) (wl) (wm) (wn) (wo) (wp) (wq) (wr) (ws) (wt) (wu) (wv) (ww) (wx) (wy) (wz) (xa) (xb) (xc) (xd) (xe) (xf) (xg) (xh) (xi) (xj) (xk) (xl) (xm) (xn) (xo) (xp) (xq) (xr) (xs) (xt) (xu) (xv) (xw) (xx) (xy) (xz) (ya) (yb) (yc) (yd) (ye) (yf) (yg) (yh) (yi) (yj) (yk) (yl) (ym) (yn) (yo) (yp) (yq) (yr) (ys) (yt) (yu) (yv) (yw) (yx) (yy) (yz) (za) (zb) (zc) (zd) (ze) (zf) (zg) (zh) (zi) (zj) (zk) (zl) (zm) (zn) (zo) (zp) (zq) (zr) (zs) (zt) (zu) (zv) (zw) (zx) (zy) (zz)																		
0	10	20	30	40	50	60												
70	80	90	100	110	120	130												
140	150	160	170	180	190	200												
(a) Colour moist (i) / dry	(b) Colour Abetting	(c) Texture	(d) Structure	(e) Consistence 1) wet 2) moist 3) dry	(f) Cutsms Pressure 1) wet 2) moist 3) dry	(g) Pores (h) Mineral fragments	(i) Content of Hmineral nodules (m) Pans	(j) Erosion	(k) Non	(l) Content of biological origin (p) OC 3, OH 3	(m) C=0 N=0.05	(n) C=0 N=0.05	(o) C=1.9 H=0.04	(p) Fe-Mn concretion	(q) Fe-Mn concretion	(r) Stickiness	(s) Stickiness	(t) (u) (v) (w) (x) (y) (z) (aa) (ab) (ac) (ad) (ae) (af) (ag) (ah) (ai) (aj) (ak) (al) (am) (an) (ao) (ap) (aq) (ar) (as) (at) (au) (av) (aw) (ax) (ay) (az) (ba) (bb) (bc) (bd) (be) (bf) (bg) (bh) (bi) (bj) (bk) (bl) (bm) (bn) (bo) (bp) (bq) (br) (bs) (bt) (bu) (bv) (bw) (bx) (by) (bz) (ca) (cb) (cc) (cd) (ce) (cf) (cg) (ch) (ci) (cj) (ck) (cl) (cm) (cn) (co) (cp) (cq) (cr) (cs) (ct) (cu) (cv) (cw) (cx) (cy) (cz) (da) (db) (dc) (dd) (de) (df) (dg) (dh) (di) (dj) (dk) (dl) (dm) (dn) (do) (dp) (dq) (dr) (ds) (dt) (du) (dv) (dw) (dx) (dy) (dz) (ea) (eb) (ec) (ed) (ee) (ef) (eg) (eh) (ei) (ej) (ek) (el) (em) (en) (eo) (ep) (eq) (er) (es) (et) (eu) (ev) (ew) (ex) (ey) (ez) (fa) (fb) (fc) (fd) (fe) (ff) (fg) (fh) (fi) (fj) (fk) (fl) (fm) (fn) (fo) (fp) (fq) (fr) (fs) (ft) (fu) (fv) (fw) (fx) (fy) (fz) (ga) (gb) (gc) (gd) (ge) (gf) (gg) (gh) (gi) (gj) (gk) (gl) (gm) (gn) (go) (gp) (gq) (gr) (gs) (gt) (gu) (gv) (gw) (gx) (gy) (gz) (ha) (hb) (hc) (hd) (he) (hf) (hg) (hh) (hi) (hj) (hk) (hl) (hm) (hn) (ho) (hp) (hq) (hr) (hs) (ht) (hu) (hv) (hw) (hx) (hy) (hz) (ia) (ib) (ic) (id) (ie) (if) (ig) (ih) (ii) (ij) (ik) (il) (im) (in) (io) (ip) (iq) (ir) (is) (it) (iu) (iv) (iw) (ix) (iy) (iz) (ja) (jb) (jc) (jd) (je) (jf) (jg) (jh) (ji) (jj) (jk) (jl) (jm) (jn) (jo) (jp) (jq) (jr) (js) (jt) (ju) (jv) (jw) (jx) (jy) (jz) (ka) (kb) (kc) (kd) (ke) (kf) (kg) (kh) (ki) (kj) (kl) (km) (kn) (ko) (kp) (kq) (kr) (ks) (kt) (ku) (kv) (kw) (kx) (ky) (kz) (la) (lb) (lc) (ld) (le) (lf) (lg) (lh) (li) (lj) (lk) (ll) (lm) (ln) (lo) (lp) (lq) (lr) (ls) (lt) (lu) (lv) (lw) (lx) (ly) (lz) (ma) (mb) (mc) (md) (me) (mf) (mg) (mh) (mi) (mj) (mk) (ml) (mn) (mo) (mp) (mq) (mr) (ms) (mt) (mu) (mv) (mw) (mx) (my) (mz) (na) (nb) (nc) (nd) (ne) (nf) (ng) (nh) (ni) (nj) (nk) (nl) (nm) (no) (np) (nq) (nr) (ns) (nt) (nu) (nv) (nw) (nx) (ny) (nz) (oa) (ob) (oc) (od) (oe) (of) (og) (oh) (oi) (oj) (ok) (ol) (om) (on) (oo) (op) (oq) (or) (os) (ot) (ou) (ov) (ow) (ox) (oy) (oz) (pa) (pb) (pc) (pd) (pe) (pf) (pg) (ph) (pi) (pj) (pk) (pl) (pm) (pn) (po) (pp) (pq) (pr) (ps) (pt) (pu) (pv) (pw) (px) (py) (pz) (qa) (qb) (qc) (qd) (qe) (qf) (qg) (qh) (qi) (qj) (qk) (ql) (qm) (qn) (qo) (qp) (qq) (qr) (qs) (qt) (qu) (qv) (qw) (qx) (qy) (qz) (ra) (rb) (rc) (rd) (re) (rf) (rg) (rh) (ri) (rj) (rk) (rl) (rm) (rn) (ro) (rp) (rq) (rr) (rs) (rt) (ru) (rv) (rw) (rx) (ry) (rz) (sa) (sb) (sc) (sd) (se) (sf) (sg) (sh) (si) (sj) (sk) (sl) (sm) (sn) (so) (sp) (sq) (sr) (ss) (st) (su) (sv) (sw) (sx) (sy) (sz) (ta) (tb) (tc) (td) (te) (tf) (tg) (th) (ti) (tj) (tk) (tl) (tm) (tn) (to) (tp) (tq) (tr) (ts) (tt) (tu) (tv) (tw) (tx) (ty) (tz) (ua) (ub) (uc) (ud) (ue) (uf) (ug) (uh) (ui) (uj) (uk) (ul) (um) (un) (uo) (up) (uq) (ur) (us) (ut) (uu) (uv) (uw) (ux) (uy) (uz) (va) (vb) (vc) (vd) (ve) (vf) (vg) (vh) (vi) (vj) (vk) (vl) (vm) (vn) (vo) (vp) (vq) (vr) (vs) (vt) (vu) (vv) (vw) (vx) (vy) (vz) (wa) (wb) (wc) (wd) (we) (wf) (wg) (wh) (wi) (wj) (wk) (wl) (wm) (wn) (wo) (wp) (wq) (wr) (ws) (wt) (wu) (wv) (ww) (wx) (wy) (wz) (xa) (xb) (xc) (xd) (xe) (xf) (xg) (xh) (xi) (xj) (xk) (xl) (xm) (xn) (xo) (xp) (xq) (xr) (xs) (xt) (xu) (xv) (xw) (xx) (xy) (xz) (ya) (yb) (yc) (yd) (ye) (yf) (yg) (yh) (yi) (yj) (yk) (yl) (ym) (yn) (yo) (yp) (yq) (yr) (ys) (yt) (yu) (yv) (yw) (yx) (yy) (yz) (za) (zb) (zc) (zd) (ze) (zf) (zg) (zh) (zi) (zj) (zk) (zl) (zm) (zn) (zo) (zp) (zq) (zr) (zs) (zt) (zu) (zv) (zw) (zx) (zy) (zz)

Table 3B-21 (2) PHYSICAL AND CHEMICAL PROPERTIES OF SOIL

BURMO

Profile NOOKS 313 Place: East of Kan Gon Class. Meadow soil UM3Lh t1 Land use: Paddy

No.	Hori- zon	Depth cm	PERTICLE SIZE DISTRIBUTION %						MOISTURE % (atmosphere)			PH		CaCO ₃ %	Gyp- sum %	ORGANIC			
			[USA-FAO]			[USA-FAO]			Sat.	1/10	1/3	15	Airdry 1:2			5	C	N	C/N
			Gravel	Sand	Silt	Clay	Texture	F.S.											
1		0-13	-	56.6	32.3	11.2	SL	-	-	-	-	7.14	5.8	4.1	-	-	-	0.05	
2		13-25	-	48.4	27.5	24.1	SCL	-	-	-	-	2.05	5.9	4.1	-	-	-	0.05	
3		25-63	-	74.7	7.4	17.9	SL	-	-	-	-	4.64	5.6	4.1	-	-	-	1.9	
4		63-100	-	28.3	27.1	44.6	C	-	-	-	-	2.80	5.8	3.9	-	-	-	1.0	
5		100-150	-	30.6	20.9	48.5	C	-	-	-	-	4.10	5.8	3.9	-	-	-	0.7	
6																			
7																			
8																			

No.	E.C. mmho /cm	Free Fe ₂ O ₃ %	BASE EXCHANGE						PHOSPHORUS		NITROGEN		Hydroli- tic Acidity (me/100G)	Av.N ppm	E.C. mmhos /cm	Ex.Na meq/ 100g		Cation (meq/100g)	
			Ex. capa.	Cations (meq/100g)					T.P.	P	0.2N HCl-P	NH ₄ Incubated NH ₄				NH ₄	H	Al	+
				Ca	Mg	Na	K	Sum											
1	275	-	3.6	0.92	0.03	0.65	0.14	1.88	53	-	21	-	-	107	-	-	26	28	54
2	98	-	3.6	0.80	0.04	0.43	0.06	1.33	37	-	17	-	-	122	-	-	16	20	36
3	120	-	5.7	1.00	0.08	0.60	0.16	1.84	32	-	31	-	-	91	-	-	16	20	36
4	90	-	5.3	1.18	1.12	0.78	0.19	3.27	62	-	21	-	-	115	-	-	26	20	46
5	98	-	3.7	1.02	0.02	0.93	0.12	2.11	59	-	33	-	-	93	-	-	16	4	20
6																			
7																			
8										kg/ha									

Truog

Table 3B-21 (4) PHYSICAL AND CHEMICAL PROPERTIES OF SOIL

BURMO

Profile NOOXS 352 Place: West of Thanatchaung		Class, Meadow soils UM3Mt1										Land use: Paddy							
No.	Horizon	Depth cm	PERTICLE SIZE DISTRIBUTION % [USA-FAO]				MOISTURE % (atmosphere)			PH		CaCO ₃ %	Gyp- sum %	ORGANIC					
			Gravel	Sand	Silt	Clay	Texture	F.S.	C.S.	Sat.	1/10			1/3	15	AirDry	H ₂ O 1:2	KCl 1:5	C %
1		0-10	-	54.3	20.6	25.1	SCL	-	-	-	-	4.5	5.8	3.8	-	-	1.0	0.11	-
2		10-35	-	51.5	20.2	28.4	SCL	-	-	-	-	1.1	6.5	4.5	-	-	1.0	0.10	-
3		35-45	-	49.8	22.0	28.2	SCL	-	-	-	-	1.6	6.5	4.2	-	-	1.0	0.08	-
4		45-90	-	55.7	12.8	31.5	SCL	-	-	-	-	6.1	6.5	4.0	-	-	1.0	0.05	-
5		90-120	-	67.2	11.9	20.9	SCL	-	-	-	-	4.8	6.3	3.8	-	-	1.0	0.03	-
6																			
7																			
8																			

No.	E.C. mmho/cm	Free Fe ₂ O ₃ %	BASE EXCHANGE						Base snt. %	PHOSPHORUS (mg/100g)		NITROGEN (mg/100g) NH ₄ Incubated	Hydroli-tic Acidity (me/100g)	Av.N ppm	E.C. mmhos/cm	Ex.Na meq/100g		Cation (meq/100g)	
			Ex. capa	Ca	Mg	Na	K	Sum		T.P.	P					0.2N HCl-P	H	Al	+
1	120	-	10.5	0.58	2.02	0.65	0.07	3.32	31	-	22	-	4.4	83	-	-	4	4	8
2	140	-	13.1	0.53	2.00	1.56	0.08	4.17	32	-	33	-	2.3	71	-	-	2	8	10
3	150	-	13.1	0.87	0.72	2.56	0.15	4.30	33	-	2	-	2.9	76	-	-	2	12	14
4	130	-	17.1	1.03	1.00	3.6	0.16	5.79	34	-	4	-	2.9	64	-	-	2	8	10
5	170	-	11.6	1.03	1.05	3.56	0.15	5.79	50	-	21	-	2.9	57	-	-	4	12	16
6																			
7																			
8																			

kg/ha
Truog

Table 3B-21 (a)

1 Soil profile No. OKS 414		Meadow soils		1(d) Date		1(e) Author		1(f) Province		1(g) Country	
2 Soil Series UM 3 M		3 Soil Class		4 Land System		5 Location		6 East of Thayetkon		7 BURMA	
8 Latitude N 17° 52'		9 Longitude E 95° 54'		10 Elevation 21.0m		11 Land Physiographic form		12 Land form of surrounding country		13 Microtopography	
14 Slope 0.3%		15 Vegetation Land use		16 Climate		17 Annual rain/fall		18 Moisture Old stream alluvium			
19 Drainage Moderate external condition		20 Moisture Dry friable		21 Surface stones rock outcrop		22 Erosion		23 Safe alkali			
24 (a) 10YR 5/2		25 (b) 10YR 5/2		26 (c) 10YR 5/2		27 (d) 10YR 5/2		28 (e) 10YR 5/2		29 (f) 10YR 5/2	
30 (a) Colour moist (1/2) dry		31 (b) Colour moist (1/2) dry		32 (c) Colour moist (1/2) dry		33 (d) Colour moist (1/2) dry		34 (e) Colour moist (1/2) dry		35 (f) Colour moist (1/2) dry	
36 (a) Mottling		37 (b) Mottling		38 (c) Mottling		39 (d) Mottling		40 (e) Mottling		41 (f) Mottling	
42 (a) Texture		43 (b) Texture		44 (c) Texture		45 (d) Texture		46 (e) Texture		47 (f) Texture	
48 (a) Structure		49 (b) Structure		50 (c) Structure		51 (d) Structure		52 (e) Structure		53 (f) Structure	
54 (a) Consistence 1) wet 2) moist 3) dry		55 (b) Consistence 1) wet 2) moist 3) dry		56 (c) Consistence 1) wet 2) moist 3) dry		57 (d) Consistence 1) wet 2) moist 3) dry		58 (e) Consistence 1) wet 2) moist 3) dry		59 (f) Consistence 1) wet 2) moist 3) dry	
60 (a) (H) Cutans Pressure		61 (b) (H) Cutans Pressure		62 (c) (H) Cutans Pressure		63 (d) (H) Cutans Pressure		64 (e) (H) Cutans Pressure		65 (f) (H) Cutans Pressure	
66 (a) Stickiness		67 (b) Stickiness		68 (c) Stickiness		69 (d) Stickiness		70 (e) Stickiness		71 (f) Stickiness	
72 (a) (I) Pores		73 (b) (I) Pores		74 (c) (I) Pores		75 (d) (I) Pores		76 (e) (I) Pores		77 (f) (I) Pores	
78 (a) (J) Cementation		79 (b) (J) Cementation		80 (c) (J) Cementation		81 (d) (J) Cementation		82 (e) (J) Cementation		83 (f) (J) Cementation	
84 (a) Mineral nodules		85 (b) Mineral nodules		86 (c) Mineral nodules		87 (d) Mineral nodules		88 (e) Mineral nodules		89 (f) Mineral nodules	
90 (a) (K) Pores		91 (b) Pores		92 (c) Pores		93 (d) Pores		94 (e) Pores		95 (f) Pores	
96 (a) (L) Pores		97 (b) Pores		98 (c) Pores		99 (d) Pores		100 (e) Pores		101 (f) Pores	
102 (a) (M) Pores		103 (b) Pores		104 (c) Pores		105 (d) Pores		106 (e) Pores		107 (f) Pores	
108 (a) (N) Pores		109 (b) Pores		110 (c) Pores		111 (d) Pores		112 (e) Pores		113 (f) Pores	
114 (a) (O) Pores		115 (b) Pores		116 (c) Pores		117 (d) Pores		118 (e) Pores		119 (f) Pores	
120 (a) (P) Pores		121 (b) Pores		122 (c) Pores		123 (d) Pores		124 (e) Pores		125 (f) Pores	
126 (a) (Q) Pores		127 (b) Pores		128 (c) Pores		129 (d) Pores		130 (e) Pores		131 (f) Pores	
132 (a) (R) Pores		133 (b) Pores		134 (c) Pores		135 (d) Pores		136 (e) Pores		137 (f) Pores	
138 (a) (S) Pores		139 (b) Pores		140 (c) Pores		141 (d) Pores		142 (e) Pores		143 (f) Pores	
144 (a) (T) Pores		145 (b) Pores		146 (c) Pores		147 (d) Pores		148 (e) Pores		149 (f) Pores	
150 (a) (U) Pores		151 (b) Pores		152 (c) Pores		153 (d) Pores		154 (e) Pores		155 (f) Pores	
156 (a) (V) Pores		157 (b) Pores		158 (c) Pores		159 (d) Pores		160 (e) Pores		161 (f) Pores	
162 (a) (W) Pores		163 (b) Pores		164 (c) Pores		165 (d) Pores		166 (e) Pores		167 (f) Pores	
168 (a) (X) Pores		169 (b) Pores		170 (c) Pores		171 (d) Pores		172 (e) Pores		173 (f) Pores	
174 (a) (Y) Pores		175 (b) Pores		176 (c) Pores		177 (d) Pores		178 (e) Pores		179 (f) Pores	
180 (a) (Z) Pores		181 (b) Pores		182 (c) Pores		183 (d) Pores		184 (e) Pores		185 (f) Pores	
0											
10											
20											
30											
40											
50											
60											
70											
80											
90											
100											
110											
120											
130											
140											
150											
160											

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Table 3B-21 (7) PHYSICAL AND CHEMICAL PROPERTIES OF SOIL

Burma

Profile No.	No. Hori- zon	Depth cm	PERTICLE SIZE DISTRIBUTION % [USA-FAO]						MOISTURE % (atmosphere)			pH		CaCO ₃ %	Gyp- sum %	ORGANIC		Land use:	
			Gravel	Sand	Silt	Clay	Texture	F.S.	C.S.	Sat.	1/10	1/3	15			Airdry	H ₂ O 1:2		KCl 5
1		0-13	-	64.5	22.4	13.1	SL	-	-	-	-	1.6	5.7	5.2	-	-	0.5	0.09	-
2		13-40	-	48.6	23.5	28.0	SCL	-	-	-	-	1.9	6.4	5.1	-	-	0.6	0.07	-
3		40-80	-	26.1	38.8	35.1	SCL	-	-	-	-	4.7	6.2	4.8	-	-	-	0.07	-
4		90-125	-	6.2	41.0	52.8	SiC	-	-	-	-	(10.4)	6.3	4.7	-	-	0.8	0.04	-
5		125-150	-	33.4	31.3	35.3	CL	-	-	-	-	(14.3)	6.4	4.5	-	-	0.8	0.02	-
6																			
7																			
8																			

Profile NO. OKS 414 place: East of thayetkon

Class, Meadow soils UMSMh

Land use: Paddy

No.	E.C. mmho /cm	Free Fe ₂ O ₃ %	BASE EXCHANGE (meq/100g)						PHOSPHORUS (mg/100g)		NITROGEN (mg/100g)		Hydroli- tic Acidity (me/100g)	Av.N ppm	E.C. mmhos /cm	Ex.Na meq/ 100g		Cation (meq/100g)		
			Ex. capa.	Ca	Mg	Na	K	Sum	Base sat. %	T.P.	P	0.2N HCl-P				Nil ₄	Incubated NH ₄		H	Al
1	125	-	6.6	0.91	0.75	0.95	0.23	2.84	43	-	33	-	-	7.2	73	-	-	17	10	27
2	95	-	4.6	0.84	0.55	0.78	0.20	2.37	51	-	31	-	-	3.0	64	-	-	12	20	32
3	150	-	7.5	1.2	1.35	1.86	0.22	4.63	61	-	17	-	-	3.3	62	-	-	15	12	27
4	90	-	5.5	1.45	1.18	1.04	0.22	3.89	70	-	15	-	-	3.7	56	-	-	15	24	39
5	80	-	5.8	1.6	1.08	1.52	0.23	4.43	76	-	14	-	-	3.8	65	-	-	11	24	35
6																				
7																				
8																				

kg/ha

Truog

Reference		Site		Location		Country	
1	Ad. OKS 425	Midway soils					BURUNDI
2	Soil 104	Midway	Region of Kirumbi				
3	Soil 105	Midway	Region of Kirumbi				
4	Soil 106	Midway	Region of Kirumbi				
5	Soil 107	Midway	Region of Kirumbi				
6	Soil 108	Midway	Region of Kirumbi				
7	Soil 109	Midway	Region of Kirumbi				
8	Soil 110	Midway	Region of Kirumbi				
9	Soil 111	Midway	Region of Kirumbi				
10	Soil 112	Midway	Region of Kirumbi				
11	Soil 113	Midway	Region of Kirumbi				
12	Soil 114	Midway	Region of Kirumbi				
13	Soil 115	Midway	Region of Kirumbi				
14	Soil 116	Midway	Region of Kirumbi				
15	Soil 117	Midway	Region of Kirumbi				
16	Soil 118	Midway	Region of Kirumbi				
17	Soil 119	Midway	Region of Kirumbi				
18	Soil 120	Midway	Region of Kirumbi				
1	0.5%	Land use	One rice crop a year	Climate (M)		Climate (M)	One rice crop a year
2	external	internal	condition	dry	friable	friable	condition
3	(a)	(b)	(c)	(d)	(e)	(f)	(g)
4	Colour	Colour	Texture	Structure	Consistence	Sticky	Plastic
5	Moisture	Moisture	Moisture	Moisture	Moisture	Moisture	Moisture
6	Moisture	Moisture	Moisture	Moisture	Moisture	Moisture	Moisture
7	Moisture	Moisture	Moisture	Moisture	Moisture	Moisture	Moisture
8	Moisture	Moisture	Moisture	Moisture	Moisture	Moisture	Moisture
9	Moisture	Moisture	Moisture	Moisture	Moisture	Moisture	Moisture
10	Moisture	Moisture	Moisture	Moisture	Moisture	Moisture	Moisture
11	Moisture	Moisture	Moisture	Moisture	Moisture	Moisture	Moisture
12	Moisture	Moisture	Moisture	Moisture	Moisture	Moisture	Moisture
13	Moisture	Moisture	Moisture	Moisture	Moisture	Moisture	Moisture
14	Moisture	Moisture	Moisture	Moisture	Moisture	Moisture	Moisture
15	Moisture	Moisture	Moisture	Moisture	Moisture	Moisture	Moisture
16	Moisture	Moisture	Moisture	Moisture	Moisture	Moisture	Moisture
17	Moisture	Moisture	Moisture	Moisture	Moisture	Moisture	Moisture
18	Moisture	Moisture	Moisture	Moisture	Moisture	Moisture	Moisture

Table 3B-3 (8)

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BURMO

Table 3B-21 (9) PHYSICAL AND CHEMICAL PROPERTIES OF SOIL

Profile No.	Horizon	Depth cm	Class. Meadow soils UM3Mt1										Land use:Paddy									
			PERTICLE SIZE DISTRIBUTION % [USA-FAO]					MOISTURE % (atmosphere)						CaCO ₃ %	Gyp- sum %	ORGANIC						
			Gravel	Sand	Silt	Clay	Texture	F.S.	C.S.	Sat.	1/10	1/3				15	Aldry	H ₂ O 1:2.5	pH	KCl	C %	N %
1		0-20	-	84.0	9.6	6.4	LS	-	-	-	-	0.6	5.6	4.5	-	-	-	0.7	0.10	-		
2		20-48	-	69.8	17.5	12.8	SL	-	-	-	-	0.2	5.8	4.0	-	-	-	0.2	0.10	-		
3		48-80	-	65.8	3.3	31.0	SCL	-	-	-	-	3.7	6.4	4.3	-	-	-	0.7	0.05	-		
4		80-113	-	57.7	22.8	19.5	SL	-	-	-	-	2.3	6.9	4.3	-	-	-	0.2	0.07	-		
5		113-150	-	60.6	18.6	20.8	SCL	-	-	-	-	(14.0)	6.7	4.1	-	-	-	0.9	0.04	-		
6																						
7																						
8																						

No.	E.C. mmho/cm	Free Fe ₂ O ₃ %	BASE EXCHANGE										Hydroli- tic Acidity (me/100g)	E.C. mmhos/cm	Ex.Na meq/100g	Cation (meq/100g)							
			Cations (meq/100g)					Base sat. %	PHOSPHORUS (mg/100g)		NITROGEN (mg/100g)	Av.N ppm				H	Al	+					
			Ex. capa	Ca	Mg	Na	K		Sum	T.P.									P	0.2N HCl-P	Nil ₄	Incubated Nil ₄	
1	220	-	6.3	1.07	0.99	0.34	0.12	2.50	40	-	11	-	-	4.5	81	-	-	2	4	6			
2	110	-	5.5	0.79	0.23	0.91	0.09	2.93	41	-	4	-	-	1.7	41	-	-	10	10	20			
3	100	-	5.5	0.93	0.58	1.12	0.22	2.94	54	-	4	-	-	2.5	43	-	-	12	16	28			
4	90	-	5.2	0.58	0.44	1.52	0.22	2.76	53	-	6	-	-	2.7	39	-	-	16	12	28			
5	80	-	7.4	0.94	0.95	2.08	0.17	4.14	56	-	8	-	-	3.1	-	-	-	12	20	32			
6																							
7																							
8																							

Truog

Table 3B-21 (11)

I (a) Profile No.		Meadow soils		(d) Date		(e) Author		(f) Province		(g) Country	
II (b) Soil Series		(a) Soil Class		(a) Land System		(a) Location		Bangkok Division		Burma	
III (c) Latitude		(b) Longitude		(b) Land Physiography		(b) Location		ff) 64 miles 4E post. Oklan, Taiikyi Township			
IV (d) Slope		(c) Vegetation		(c) Climate		(c) Elevation		(c) Surrounding country		(c) Physiography	
(d) Slope		Land use date followed by I P rice		Climate		(c) Elevation		(c) Surrounding country		(c) Physiography	
V (e) Drainage		(d) Soil texture condition		(d) Ground water table		(d) Surface stones rock outcrops		(d) Erosion		(h) Human influence	
VI (f) Horizon Depth cm		(a) Colour moist (1)/(2) dry		(g) Consistence 1) wet 2) moist 3) dry		(k) Content of Rools Mineral fragments		(l) Content of Mineral nodules (ml pans)		(m) Nature of boundary	
0		SY 5/1									
10		7 SYR 4/6 fine tubular "									
20		7 SYR 4/4 and few									
30		7 SYR 4/6 Cloudy H									
40											
50		Mottled 2.5YS/10YR4/6									
60											
70-70											
80											
90											
100											
120											
140											
0	8			CL							
10	13										
20				CL							
30											
40											
50											
60											
70-70											
80											
90											
100											
120											
140											

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Table 3B-21 (12) PHYSICAL AND CHEMICAL PROPERTIES OF SOIL

Profile NO. B 79 Place: 64 miles 4f. post, Okkan, Taikkyi Township Class. Meadow soils Land use: Jute-Paddy

No.	Hori- zon	Depth cm	PERTICLE SIZE DISTRIBUTION %				MOISTURE %			PH		CaCO ₃ %	Gyp- sum %	ORGANIC	
			[USDA Gravel Sand]	[ISSS][USSR] Silt Clay	F.S. C.S.	Sat. 1/3 15	Airdry	H ₂ O 1:	KCl CaCl ₂	C %	N %			C/N	
1		0-13	36.8	42.4	20.9	36.6	0.3		5.2				0.88	0.08	11
2															
3				7 A	32%										
4				10A	22%										
5				14A	46%										
6															
7															
8															

No.	E.C. mmho /cm	Free Fe ₂ O ₃ %	BASE EXCHANGE					PHOSPHORUS (mg/100g)	NITROGEN (mg/100g)	Avai- lable SiO ₂ (mg/100g)	SATURATION EXTRACT						
			Ex. capa.	Ca	Mg	Na	K				Sum	Base sat. %	pH	E.C. mmhos /cm	Ex.Na meq/ 100g	Cation (meq/L)	
1	100		15.8	5.3	5.1	0.08	0.24	10.72	68	157	5.8	44	5.3	11.1			
2													40	2weeks)			
3													6.7%	of (N)			
4																	
5																	
6																	
7																	
8																	

BURMA

Table 3B-21 (13) PHYSICAL AND CHEMICAL PROPERTIES OF SOIL

Profile NO. B 80 Place: Tagwa, Taikkyi Township, Rangoon Division Class: Meadow soils Land use: paddy

No.	Hori- zon	Depth cm	PERTICLE SIZE DISTRIBUTION %			NOISTURE % (atmosphere)			pH		CaCO ₃ %	ORGANIC		
			[USDA Gravel Sand Silt Clay	[ISSS] F.S. C.S. Sat.	[USSR] I/3 I/3 IS	Airdry 1:	H ₂ O KCl CaCl ₂	Gyp- sum %	C %	N %		C/N		
1		0- 12	67.0	23.1	9.9	62.8	4.3		4.8			0.55	0.04	13.8
2														
3														
4														
5														
6														
7														
8														

No.	E.C. mmho /cm	Free Fe ₂ O ₃ %	BASE EXCHANGE					PHOSPHORUS (mg/100g)	NITROGEN (mg/100g)	Avai- lable SiO ₂ (mg/100g)	SATURATION EXTRACT										
			Cations (meq/100g)								T.P. Bray P	NH ₄ Incubated NH ₄	pH	E.C. mmhos /cm	Cation (meq/L)						
Ex. capa.	Ca	Mg	Na	K	Sum	0.2N HCl-P	40° 2 weeks	4.2% of TN	Na	Ca					Mg						
1			5.2	0.7	0.4	0.04	0.05	1.19	23	18	0.6	1.1	1.7	4.1							
2																					
3																					
4																					
5																					
6																					
7																					
8																					

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I (a) Profile No.		II (b) Meadow soils		(d) Date	(e) Author	(f) Rangeon	(g) Division	(h) Country	BURNA										
I (a) Profile No.	II (b) Meadow soils	(a) Soil Series	(a) Soil Class	(b) Elevation	(c) Physiographic form	(d) Physicographic form	(e) Position	(f) Land System	(g) Location	(h) Parent material	(i) Parent material derived from	(j) Parent material	(k) Soil				(l) Soil		
													(1) pH	(2) CaCO ₃ %	(3) Fe %	(4) Zn ppm			
I (a) Profile No.	II (b) Meadow soils	(a) Colour moist / (b) / (c) dry	(d) Colour Moistening	(e) Moisture	(f) Structure	(g) Consistence 1) wet 2) moist 3) dry	(h) Surface water 1) none 2) stream 3) pond	(i) Outcrop 1) none 2) small 3) large	(j) Pores (k) Cementation	(l) Content of Rock & Mineral fragments	(m) Content of Mineral nuclei	(n) Biological origin (P) DC 3, DM 3	(o) Constant of soils	(p) Boundry	(q) pH	(r) Fe ₂ O ₃ % Fe % Zn ppm	(s) Al ₂ O ₃ % Acidity Equivalent ppm	(t) Soil micromom 1:1 / pass 2:5 (n) Soil & content	
																			0
10	12																		23%
20		2.5YR 5.5/1	Common 7.5YR 5/6 cloudy H.	SL															
30																			
40	Cig																		
50																			
60																			
70		2.5YR 5/1	Common 7.5YR 5/6 cloudy H.	SL															
80																			
90																			
100																			
120																			
140																			
160																			

Table 3B-21 (1A)

Table 3B-21 (15)

1973 Dr. S. Mishra et al.

Site			Soil		Location		Date		Author		Country													
(a) Profile No.	(b) ONS	(c) JDB	Meadow gley soils		Meadow gley soils		Date		Author		Country													
(1) Slope	(2) Vegetation	(3) Land use	(4) Moisture condition	(5) Friability	(6) Ground water	(7) Surface stones	(8) Erosion	(9) Salt	(10) Influence															
(11) Drainage	(12) External	(13) Internal	(14) Texture	(15) Structure	(16) Consistency	(17) Stickiness	(18) Cementation	(19) Pores	(20) Content of	(21) Mineral nodules	(22) Content of	(23) Biological origin												
(24) Colour	(25) Mottling	(26) Colour	(27) Structure	(28) Consistency	(29) Stickiness	(30) Cementation	(31) Pores	(32) Content of	(33) Mineral nodules	(34) Content of	(35) Biological origin	(36) Chemical analysis												
(37) Horizon depth	(38) Colour	(39) Mottling	(40) Texture	(41) Structure	(42) Consistency	(43) Stickiness	(44) Cementation	(45) Pores	(46) Content of	(47) Mineral nodules	(48) Content of	(49) Biological origin												
(50) Horizon depth	(51) Colour	(52) Mottling	(53) Texture	(54) Structure	(55) Consistency	(56) Stickiness	(57) Cementation	(58) Pores	(59) Content of	(60) Mineral nodules	(61) Content of	(62) Biological origin												
(63) Horizon depth	(64) Colour	(65) Mottling	(66) Texture	(67) Structure	(68) Consistency	(69) Stickiness	(70) Cementation	(71) Pores	(72) Content of	(73) Mineral nodules	(74) Content of	(75) Biological origin												
(76) Horizon depth	(77) Colour	(78) Mottling	(79) Texture	(80) Structure	(81) Consistency	(82) Stickiness	(83) Cementation	(84) Pores	(85) Content of	(86) Mineral nodules	(87) Content of	(88) Biological origin												
(89) Horizon depth	(90) Colour	(91) Mottling	(92) Texture	(93) Structure	(94) Consistency	(95) Stickiness	(96) Cementation	(97) Pores	(98) Content of	(99) Mineral nodules	(100) Content of	(101) Biological origin												
10YR 5/2			L (SL)	Weak fine subangular blocky	Slightly sticky non plastic friable		Common fine pores	Common fine pores	Content of Roake & Mineral fragments	Content of Mineral nodules (n) Pans	Biological origin (Pen) OC 1.0H 1	(p) pH 5.8 (6.0)	(q) CaCl2 Extract 8.5 (m) Sal 1	(r) Nature of roots boundary	(s) pH 6.1 (6.2)	(t) Fe ²⁺ ppm	(u) Exchangeable CEC 8.5	(v) Extract 8.5	(w) Sal 1	(x) CEC	(y) CEC	(z) Sal 1	Content	200
10YR 4/2			CL (SL)	Moderate medium subangular blocky	Slightly sticky slightly plastic friable		Common fine pores	Common fine pores	Content of Roake & Mineral fragments	Content of Mineral nodules (n) Pans	Biological origin (Pen) OC 1.0H 1	(p) pH 6.4 (6.5)	(q) CaCl2 Extract 8.5 (m) Sal 1	(r) Nature of roots boundary	(s) pH 6.1 (6.2)	(t) Fe ²⁺ ppm	(u) Exchangeable CEC 8.5	(v) Extract 8.5	(w) Sal 1	(x) CEC	(y) CEC	(z) Sal 1	Content	200
10YR 4/2			C (SL)	Moderate medium subangular blocky	Slightly sticky slightly plastic		Common fine pores	Common fine pores	Content of Roake & Mineral fragments	Content of Mineral nodules (n) Pans	Biological origin (Pen) OC 1.0H 1	(p) pH 6.4 (6.5)	(q) CaCl2 Extract 8.5 (m) Sal 1	(r) Nature of roots boundary	(s) pH 6.4 (6.5)	(t) Fe ²⁺ ppm	(u) Exchangeable CEC 8.5	(v) Extract 8.5	(w) Sal 1	(x) CEC	(y) CEC	(z) Sal 1	Content	270
10YR 4/2			CL (SL)	Moderate medium subangular blocky	Slightly sticky slightly plastic		Common fine pores	Common fine pores	Content of Roake & Mineral fragments	Content of Mineral nodules (n) Pans	Biological origin (Pen) OC 1.0H 1	(p) pH 6.6 (6.8)	(q) CaCl2 Extract 8.5 (m) Sal 1	(r) Nature of roots boundary	(s) pH 6.6 (6.8)	(t) Fe ²⁺ ppm	(u) Exchangeable CEC 8.5	(v) Extract 8.5	(w) Sal 1	(x) CEC	(y) CEC	(z) Sal 1	Content	220
10YR 5/2			SICL (L)	Weak fine subangular blocky	Slightly sticky slightly plastic		Common fine pores	Common fine pores	Content of Roake & Mineral fragments	Content of Mineral nodules (n) Pans	Biological origin (Pen) OC 1.0H 1	(p) pH 7.3 (7.5)	(q) CaCl2 Extract 8.5 (m) Sal 1	(r) Nature of roots boundary	(s) pH 7.3 (7.5)	(t) Fe ²⁺ ppm	(u) Exchangeable CEC 8.5	(v) Extract 8.5	(w) Sal 1	(x) CEC	(y) CEC	(z) Sal 1	Content	225

Table 5B-21 (16) PHYSICAL AND CHEMICAL PROPERTIES OF SOIL

BURMO

Profile NO. OXS 308 Place: West of Myaukchawgon		Class. Meadow gley soils LG3Mt1										Land use: Paddy							
No.	Hori-Depth zon cm	PERTICLE SIZE DISTRIBUTION % [USA-FAO]					MOISTURE % (atmosphere)			pH		CaCO ₃ %	Gyp- sum %	ORGANIC					
		Gravel	Sand	Silt	Clay	Texture	F.S.	C.S.	Sat.	1/10	1/3			15	Airdry	1:2	5	C	N
1	0 - 12	-	43.8	43.0	13.2	L	-	-	-	-	-	1.4	5.8	4.1	-	-	0.2	0.06	-
2	12 - 40	-	44.3	19.6	36.1	CL	-	-	-	-	-	2.4	6.1	4.3	-	-	1.2	0.07	-
3	40 - 70	-	34.4	21.9	43.8	C	-	-	-	-	-	4.4	6.4	4.5	-	-	0.9	0.06	-
4	70 - 100	-	34.6	29.1	36.3	CL	-	-	-	-	-	2.3	6.6	5.6	-	-	0.3	0.05	-
5	100 - 152	-	1.9	65.6	33.4	SiCL	-	-	-	-	-	5.8	7.3	5.8	-	-	0.0	0.05	-
6																			
7																			
8																			

No.	E.C. mmho /cm	Free Fe ₂ O ₃ %	BASE EXCHANGE						PHOSPHORUS		NITROGEN		Hydroli- tic Acidity (me/100g)	E.C. mmhos /cm	Ex.Na meq/ 100g	Cation (meq/100g)		
			Ex. capa.	Ca	Mg	Na	K	Sum	Base sat. %	T.P.	P	0.2N HCl-P				NH ₄	Incubated NH ₄	Av.N ppm
1	200	-	4.1	0.60	0.3	0.65	0.09	1.64	39	-	41	--	-	-	-	12	20	32
2	200	-	6.8	0.78	0.24	1.6	0.11	2.73	40	-	41	-	-	-	8	29	37	
3	270	-	9.4	1.78	0.43	2.78	0.15	6.17	55	-	19	-	-	-	16	4	26	
4	220	-	14.7	2.16	0.74	3.12	0.15	6.17	42	-	19	-	-	-	16	20	36	
5	225	-	24.9	1.62	0.58	3.73	0.19	6.12	24	-	27	-	-	-	12	14	26	
6																		
7																		
8																		

kg/ha
Truog

Table 3B-21 (17)

1273 Dr. S. MISHRA

Profile No. QRS 320		Memb.		(non calcareous)		(d) Date		(e) Author		(f) Province		(g) Country	
Soil Series IG 3 H 11		Elevation 6.7m		Physiographic position		Location (f)		West of Myaung gon		(j) Macrotopography		BURMA	
Longitude N 17° 17'		Latitude E 95° 57'		Soil form (i) position		Annual rainfall (k)		Annual mean temp. (l)		Recent stream alluvium			
Slope 0.5%		Land use One paddy crop a year		Climate (k)		Surface stones (m)		Erosion (n)		Human influence			
Drainage External		Internal condition		Dry friable		Table		(p) Features of biological origin (r) Content of roots		(s) pH		(t) Soil content	
(a) Colour Mottling		(b) Texture		(c) Structure		(d) Consistence		(e) Pressure		(f) Cements		(g) Pores	
(h) (L)		(i) (L)		(j) (Moderate fine)		(k) (Slightly sticky)		(l) (Slightly sticky)		(m) (Slightly sticky)		(n) (Slightly sticky)	
0	10YR 5/3			Weak fine subangular blocky.	Slightly sticky plastic Friable.	Common fine pores.	Common fine pores.	Common fine pores.	Common fine pores.	Common fine roots	Smooth clear	(pH) 6.5	(q) 175
10	13			Moderate fine subangular blocky.	Slightly sticky plastic Friable.	Common fine pores.	Common fine pores.	Common fine pores.	Common fine pores.	Very few fine roots	Smooth gradual	(pH) 5.8	(q) 175
20	7.5YR 6/2			Moderate medium subangular blocky.	Slightly sticky plastic Friable.	Common fine pores.	Common fine pores.	Common fine pores.	Common fine pores.	Very few fine roots	Smooth gradual	(pH) 6.0	(q) 265
35	7.5YR 6/2	Many medium faint reddish brown N.	(L) SCL	Moderate medium subangular blocky.	Slightly sticky plastic.	Common fine pores.	Common fine pores.	Common fine pores.	Common fine pores.	Very few fine roots	Smooth gradual	(pH) 6.2	(q) 200
60	63			Moderate medium subangular blocky.	Slightly sticky plastic.	Common fine pores.	Common fine pores.	Common fine pores.	Common fine pores.	Smooth clear	Smooth clear	(pH) 7.0	(q) 175
70	70YR 5/3	Many medium faint dark reddish gray N.	(L)	Moderate medium subangular blocky.	Sticky plastic.	Common fine pores.	Common fine pores.	Common fine pores.	Common fine pores.	Few fine pores.		(pH) 6.4	(q) 175
90	95			Moderate medium subangular blocky.	Sticky plastic.	Common fine pores.	Common fine pores.	Common fine pores.	Common fine pores.	Few fine pores.		(pH) 7.0	(q) 110
100	100YR 4/3	Few medium distinct dark reddish brown N.	(CL)	Moderate medium subangular blocky.	Sticky plastic.	Common fine pores.	Common fine pores.	Common fine pores.	Common fine pores.	Few fine pores.		(pH) 6.4	(q) 110
110	110			Moderate medium subangular blocky.	Sticky plastic.	Common fine pores.	Common fine pores.	Common fine pores.	Common fine pores.	Few fine pores.		(pH) 6.4	(q) 110
140	140			Moderate medium subangular blocky.	Sticky plastic.	Common fine pores.	Common fine pores.	Common fine pores.	Common fine pores.	Few fine pores.		(pH) 6.4	(q) 110
150	150			Moderate medium subangular blocky.	Sticky plastic.	Common fine pores.	Common fine pores.	Common fine pores.	Common fine pores.	Few fine pores.		(pH) 6.4	(q) 110

Table 3B-21 (18) PHYSICAL AND CHEMICAL PROPERTIES OF SOIL

Burma

No.	Horizon	Depth cm	PERTICLE SIZE DISTRIBUTION % [USA-FAO]				MOISTURE % (atmosphere)			PH		CaCO ₃ %	Gyp- sum %	ORGANIC		Land use:Paddy						
			Gravel	Sand	Silt	Clay	Texture	F.S.	C.S.	Sat.	l/10			l/3	l/5		Airdry	H ₂ O 1:2.5	KCl	C %	N %	C/N
1		0-13	-	29.7	43.8	26.5	L	-	-	-	2.3	5.8	4.0	-	-	1.0	0.09	-				
2		13-35	-	45.1	33.0	21.9	L	-	-	-	3.5	6.0	4.4	-	-	1.0	0.10	-				
3		35-63	-	49.1	19.9	31.0	SCL	-	-	-	5.0	6.2	4.5	-	-	1.0	0.06	-				
4		63-95	-	43.1	19.1	37.8	L	-	-	-	4.5	6.4	4.2	-	-	1.0	0.06	-				
5		95-150	-	41.1	24.9	34.0	CL	-	-	-	5.1	6.4	4.0	-	-	1.0	0.06	-				
6																						
7																						
8																						

No.	E.C. mmho /cm	Free Fe ₂ O ₃ %	BASE EXCHANGE						Base sat. %	PHOSPHORUS (mg/100g)		NITROGEN (mg/100g) Incubated NH ₄	Hydroli- tic Acidity (me/100g)	Av.N ppm	E.C. mmhos /cm	Ex.Na meq/ 100g		Cation (meq/100g)		
			Cations (meq/100g)							T.P.	P					0.2N HCl-P	NH ₄	H	Al	+
			Ex. capa.	Ca	Mg	Na	K	Sum												
1	175	-	4.5	1.32	0.06	0.65	0.14	2.17	48	-	43	-	8.0	195	-	-	26	20	46	
2	265	-	10.3	0.78	0.84	2.78	0.21	4.61	45	-	83	-	4.1	89	-	-	16	12	28	
3	200	-	10.3	1.7	0.22	2.65	0.17	4.74	46	-	50	-	3.9	91	-	-	9	16	25	
4	175	-	9.3	0.82	0.46	2.91	0.19	4.38	47	-	31	-	4.0	72	-	-	16	12	28	
5	110	-	8.5	1.76	0.12	2.26	0.17	4.31	51	-	41	-	5.3	54	-	-	16	16	32	
6																				
7																				
8																				

Truog

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Table 3B-21 (19)

I (a) Profile		(non ca)		(d) Data		(f) Province		(g) Country								
No. OKS 327		Meadow Eley soils				BURJIA		BURJIA								
(b) Soil Series		(c) Soil Class		(e) Land System		(h) Location		(i) Microtopography								
LG 3 M t1				North of Yindalkwan		Flat plain										
Latitude N 17°21'		Longitude E 95°55'		(h) Land Physiography		(j) Parent material										
Slope (f) 0.2%		(g) Vegetation		(k) Climate		(l) Recent alluvium										
Land use		One paddy crop a year		(m) Surface stones		(n) Human influence										
(f) Moderately slow external		(g) Moisture condition		(h) Soil texture		(i) Soil type										
Dry friable																
IV (a)	(b) Colour moist (1), (2) dry	(c) Colour moist (1), (2) dry	(d) Colour moist (1), (2) dry	(e) Structure	(f) Consistence 1) wet 2) moist 3) dry	(g) Outside Pressure face slicken side	(h) Content of nodules (m) flint	(i) Content of biological origin (peat) OC 3, OM 3	(j) Content of roots. boundary	(k) (r) nature of boundary	(l) (s) pH	(m) (n) Fe ₂ O ₃ % Fe ⁺⁺ ppm Zn ⁺⁺ ppm	(o) (p) w/Ech Actvity extract v) ppb	(q) (r) CEC 7.5/peat 8.5 (r) Salt content	(s) (t) (u) (v) (w) (x) (y) (z)	
10	10YR 5/2	10YR 5/2	10YR 5/2	Moderate fine subangular blocky	Slightly sticky slightly plastic Firm	Common fine pores.	C=1.0 N=0.09	Smooth clear (5.5)	5.9	4.0	k=67	100				
20	10YR 4/2	10YR 4/2	10YR 4/2	Moderate medium subangular blocky.	Sticky plastic. Firm.	Common fine pores.	C=0.7 N=0.05	Very heavy clear (6.0)	6.2	4.3	k=150	110				
30	10YR 4/2	10YR 4/2	10YR 4/2	Moderate fine subangular blocky	Slightly sticky slightly plastic.	Common fine pores.	C=0.6 N=0.05	Very smooth clear (6.0)	6.6	4.5	k=67	180				
60																
85																
100																
120																
135	10YR 4/2	10YR 4/2	10YR 4/2	Weak fine subangular blocky	Slightly sticky slightly plastic.	Common fine pores.	C=1.7 N=0.06	Smooth clear (6.0)	6.6	4.6	k=67	400				
140																
150																

1973 Dr. S. Wishigaki

Table 5B-21 (20) PHYSICAL AND CHEMICAL PROPERTIES OF SOIL

BURMO

Profile NO. OKS327 Place: North of Yindaikkwin Class. Meadow gley soils LG3Mtl Land use: Paddy

No.	Horizon	Depth cm	PARTICLE SIZE DISTRIBUTION % [USA-FAO]				MOISTURE % (atmosphere)			PH		CaCO ₃ %	Gyp- sum %	ORGANIC					
			Gravel	Sand	Silt	Clay	Texture	F.S.	C.S.	Sat.	1/10			1/3	15	Airdry	H ₂ O 1:2.5	KCl	C %
1		0-13	-	42.4	34.1	23.5	L	-	-	-	-	6.6	5.9	4.0	-	-	1.0	0.09	-
2		13-48	-	48.8	18.3	32.9	SCL	-	-	-	-	4.5	6.2	4.5	-	-	0.7	0.05	-
3		48-85	-	46.7	17.3	36.0	SC	-	-	-	-	4.5	6.6	4.5	-	-	0.6	0.05	-
4		85-135	-	48.0	20.5	31.5	SCL	-	-	-	-	4.0	6.6	4.6	-	-	1.7	0.06	-
5		135-150	-	1.7	39.7	58.6	SiC	-	-	-	-	3.1	6.5	4.6	-	-	1.0	0.03	-
6																			
7																			
8																			

No.	E.C. mmho /cm	Free Fe ₂ O ₃ %	BASE EXCHANGE						Base sat. %	PHOSPHORUS (mg/100g)		NITROGEN (mg/100g) NH ₄ Incubated	Hydroli- tic Acidity (me/100g)	Av. N ppm	E.C. Ex. Na meq/ 100g	Cation (meq/100g)		
			Ex. capa.	Ca	Mg	Na	K	Sum		T.P.	P					0.2N HCl-P	H	Al
1	100	-	7.0	0.72	0.68	2.17	0.17	3.74	54	-	43	-	8.8	90	-	26	12	38
2	110	-	13.6	1.06	1.28	2.99	0.38	5.71	42	-	68	-	2.8	85	-	26	16	42
3	180	-	13.1	1.7	0.50	3.73	0.17	6.10	47	-	35	-	3.1	79	-	16	18	34
4	400	-	12.8	0.92	1.00	4.17	0.17	6.26	49	-	17	-	2.6	66	-	16	16	32
5	300	-	4.7	0.84	0.06	0.69	0.15	1.74	37	-	19	-	1.2	52	-	16	20	36
6																		
7																		
8																		

Truog

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Table 3B-21 (21)

1973 Dr S. Wainjigal		Country		Province		Author		Date		Location		Country		Topography	
(a) Profile No.	(b) Soil Series	(c) Soil Class	(d) Elevation	(e) Longitude	(f) Latitude	(g) Position	(h) Land Form	(i) Land Use	(j) Surrounding	(k) Mean Temp	(l) Annual Rain	(m) Soil	(n) Material	(o) Recent	(p) Alluvium
10YR 5/2	10YR 5/4	10YR 5/2	10YR 4/1	10YR 5/2	10YR 5/2	10YR 5/2	10YR 5/2	10YR 5/2	10YR 5/2	10YR 5/2	10YR 5/2	10YR 5/2	10YR 5/2	10YR 5/2	10YR 5/2
10YR 5/2	10YR 5/4	10YR 5/2	10YR 4/1	10YR 5/2	10YR 5/2	10YR 5/2	10YR 5/2	10YR 5/2	10YR 5/2	10YR 5/2	10YR 5/2	10YR 5/2	10YR 5/2	10YR 5/2	10YR 5/2
10YR 5/2	10YR 5/4	10YR 5/2	10YR 4/1	10YR 5/2	10YR 5/2	10YR 5/2	10YR 5/2	10YR 5/2	10YR 5/2	10YR 5/2	10YR 5/2	10YR 5/2	10YR 5/2	10YR 5/2	10YR 5/2
10YR 5/2	10YR 5/4	10YR 5/2	10YR 4/1	10YR 5/2	10YR 5/2	10YR 5/2	10YR 5/2	10YR 5/2	10YR 5/2	10YR 5/2	10YR 5/2	10YR 5/2	10YR 5/2	10YR 5/2	10YR 5/2

110

Table SB-21 (22) PHYSICAL AND CHEMICAL PROPERTIES OF SOIL

BURMA

Profile NOQKS 338 Place: East of Kungyangon

Class: Meadow gley soils LG3Mht1 Land use: Paddy

No.	Horizon	Depth cm	PARTICLE SIZE DISTRIBUTION % [USA-FAO]				MOISTURE % (atmosphere)			pH		CaCO ₃ %	Gyp- sum %	ORGANIC							
			Gravel	Sand	Silt	Clay	Texture	F.S.	C.S.	Sat.	1/10			1/3	15	Airdry 1:2.5	11 ₂ O KCl	C %	N %	C/N	
1		0-13	-	62.5	21.0	16.5	SL	-	-	-	-	-	-	2.2	5.8	3.9	-	-	1.0	0.10	-
2		13-35	-	68.2	16.2	15.6	SL	-	-	-	-	-	-	2.4	5.9	4.2	-	-	0.7	0.01	-
3		35-65	-	75.2	10.3	14.4	SL	-	-	-	-	-	-	7.2	6.0	4.4	-	-	1.0	0.05	-
4		65-118	-	12.4	32.4	55.2	C	-	-	-	-	-	-	1.5	6.1	3.8	-	-	1.4	0.05	-
5		118-152	-	38.9	15.0	46.1	C	-	-	-	-	-	-	5.7			-	-			
6																					
7																					
8																					

No.	E.C. mmhos/cm	Free Fe ₂ O ₃ %	BASE EXCHANGE						Base sat. %	PHOSPHORUS (mg/100g)			NITROGEN (mg/100g)		Hydrolytic Acidity (me/100g)	Av.N ppm	E.C. mmhos/cm		Cation (meq/100g)		
			Ex. capa	Ca	Mg	Na	K	Sum		T.P.	P	0.2N HCl-P	NH ₄	Incubated NH ₄			E.C.	Ex.Na meq/100g	H	Al	+
1	100	-	6.6	0.70	0.50	1.69	0.09	2.98	45	-	39	-	-	-	5.7	100	-	-	26	4	30
2	100	-	6.7	1.0	0.32	1.69	0.12	3.13	47	-	27	-	-	3.7	89	-	-	16	20	36	
3	110	-	10.7	1.24	1.56	1.39	0.12	4.31	41	-	35	-	-	3.5	60	-	-	26	10	36	
4	110	-	13.3	2.80	2.00	1.69	0.16	6.65	50	-	25	-	-	7.2	98	-	-	7	0	7	
5	110	-	7.7	1.14	1.12	1.34	0.18	3.78	49	-	48	-	-	5.4	80	-	-	17	20		
6																					
7																					
8																					

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1 (a) Profile No. DAS 377		(a) Soil Class Meadow clay soil GI1		(d) Data		(e) Author		(f) Province		(g) Country	
(b) Series LG 3 M 1		(c) Location North of Swe-dawgan		(f) Land System		(h) Land Physiography		(i) Province		(j) Country	
Latitude N 17° 19'		Longitude E 95° 57'		(h) Land Physiography		(i) Land Form		(j) Province		(k) Country	
Slope 0.2		(i) Vegetation		(j) Position		(k) Form		(l) Province		(m) Country	
Drainage Moderate		Land use One paddy crop a year		(l) Climate		(m) Soil		(n) Province		(o) Country	
(a) Moisture condition		(b) Structure		(c) Consistence		(d) Permeability		(e) Temperature		(f) Humidity	
external		Dry friable		1) wet		2) moist		(g) Annual rain/fall		(h) Recent stream alluvium	
internal		Friable		3) dry		Sticky side		(i) Frostion		(j) Influence	
Horizon		Structure		Slightly sticky		Common fine pores		(k) Content of Mineral nodules		(l) Nature of roots	
Depth cm		Friable		slightly plastic.		Cermentation		(m) Features of biological origin		(n) pH	
0-12		Moderate		Friable.		Common fine pores		(o) Salinity		(p) Organic acids	
10-30		Medium angular blocky		Slightly sticky		Common fine pores		(q) Content of roots		(r) Exchangeable cations	
30-60		Coarse medium angular blocky Prismatic		Sticky plastic		Common fine pores		(s) Boundary		(t) Nutrients	
60-70		Coarse medium angular blocky Prismatic		Sticky plastic		Common fine pores.		(u) Salinity		(v) Other	
70-80		Coarse medium angular blocky Prismatic		Sticky plastic		Few fine pores.		(w) Salinity		(x) Other	
80-100		Moderate medium angular blocky		Slightly sticky non plastic		Few fine pores.		(y) Salinity		(z) Other	
100-120		Moderate medium angular blocky		Slightly sticky non plastic		Few fine pores.		(aa) Salinity		(ab) Other	
120-140		Moderate medium angular blocky		Slightly sticky non plastic		Few fine pores.		(ac) Salinity		(ad) Other	
140-160		Moderate medium angular blocky		Slightly sticky non plastic		Few fine pores.		(ae) Salinity		(af) Other	
0	10YR 6/3	(FSL)	Weak fine angular blocky	Slightly sticky slightly plastic. Friable.	Common fine pores	Content of Mineral nodules (r) Fine	Common heavy fine roots	Common heavy fine roots	(r) Nature of roots: boundary	(s) Salinity	(t) Nutrients: Fe, Mn, Zn, ppm
10	10YR 6/3	(FSL)	Moderate medium angular blocky	Slightly sticky non plastic. Friable.	Common fine pores	Common fine roots	Few fine roots	Few fine roots	(u) Salinity	(v) Other	(w) Exchangeable cations: Ca, Mg, K, Na, ppm
30	10YR 6/3	(SL)	Coarse medium angular blocky Prismatic	Sticky plastic	Common fine pores	Coarse medium angular blocky Prismatic	Few coarse Fe Mn concretions	Few fine roots	(x) Organic acids	(y) Salinity	(z) Other
60	10YR 6/4	(SCL)	Coarse medium angular blocky Prismatic	Sticky plastic	Few fine pores.	Coarse medium angular blocky Prismatic	Few coarse Fe Mn concretions	Few fine roots	(aa) Salinity	(ab) Other	(ac) Exchangeable cations: Ca, Mg, K, Na, ppm
70	10YR 5/3	(SL)	Moderate medium angular blocky	Slightly sticky non plastic	Few fine pores.	Moderate medium angular blocky	Few coarse Fe Mn concretions	Few fine roots	(ad) Salinity	(ae) Other	(af) Exchangeable cations: Ca, Mg, K, Na, ppm
80	10YR 5/3	(SL)	Moderate medium angular blocky	Slightly sticky non plastic	Few fine pores.	Moderate medium angular blocky	Few coarse Fe Mn concretions	Few fine roots	(ag) Salinity	(ah) Other	(ai) Exchangeable cations: Ca, Mg, K, Na, ppm

Table 3B-21 (25)

I (a) Profile No. 312			(C, D)			(d) Date		(e) Author		(f) Province		(g) Country		
II (a) Soil Series 153H		Meadow grey soils		Location (f)		West of Siweanyangang						BURMA		
III (a) Longitude N 17° 14'		Elevation (g) 50m		(h) Land Physiography (i) Slightly undulating		(j) Land form (k) position undulation		(l) Land form (m) position undulation		(n) Parent material		(o) Recent stream alluvium		
IV (a) Slope (v) 0.2%		(w) Vegetation		(x) Climate		(y) Surface stone rock outcrops		(z) Frost, snow		(aa) Salinity		(ab) Human influence		
V (a) Moisture condition		Dry hard		(ac) Soil texture		(ad) Soil structure		(ae) Soil consistency		(af) Soil color		(ag) Soil reaction		
VI (a) Soil color		Mottling		(ah) Soil texture		(ai) Soil structure		(aj) Soil consistency		(ak) Soil color		(al) Soil reaction		
VII (a) Soil color		(am) Soil texture		(an) Soil structure		(ao) Soil consistency		(ap) Soil color		(aq) Soil reaction		(ar) Soil reaction		
VIII (a) Soil color		(as) Soil texture		(at) Soil structure		(au) Soil consistency		(av) Soil color		(aw) Soil reaction		(ax) Soil reaction		
IX (a) Soil color		(ay) Soil texture		(az) Soil structure		(ba) Soil consistency		(bb) Soil color		(bc) Soil reaction		(bd) Soil reaction		
X (a) Soil color		(be) Soil texture		(bf) Soil structure		(bg) Soil consistency		(bh) Soil color		(bi) Soil reaction		(bj) Soil reaction		
XI (a) Soil color		(bk) Soil texture		(bl) Soil structure		(bm) Soil consistency		(bn) Soil color		(bo) Soil reaction		(bp) Soil reaction		
0	10YR 4/3			Coarse prismatic angular blocky.	SCL (C)	Very sticky plastic	Few fine pores							
10													λ=290	
20	10YR 4/2			Coarse prismatic angular blocky.	(C)	Very sticky plastic Very firm. Very hard.	Few fine pores							
30													λ=130	
40	7.5YR 3/2			Moderate medium angular blocky.	(C)	Sticky plastic	Few fine pores							
50													K=76	
60														1050
70	7.5YR 3/2	Common fine distinct dull reddish brown M.		Moderate medium angular blocky.	(C)	Sticky plastic.	Few fine pores.							
80														1490
90														
100	7.5YR 3/2	Few fine faint dull reddish brown M.		Moderate medium angular blocky.	(C)	Sticky plastic.	Few fine pores.							
110														1500

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Table 3B-21 (26) PHYSICAL AND CHEMICAL PROPERTIES OF SOIL

BURMO

Profile NO. OKS 312 Place: West of Shwemyayagong Class: Meadow gley soil IS3H Land use: Late Paddy

No.	Horizon	Depth cm	PARTICLE SIZE DISTRIBUTION %					MOISTURE % (atmosphere)			pH		CaCO ₃ %	Gyp- sum %	ORGANIC				
			[USA-FAO]					Sat.	1/10	1/3	15	Air-dry			H ₂ O 1:2.5	KCl	C %	N %	C/N
			Gravel	Sand	Silt	Clay	Texture												
1		0-15	-	55.9	16.3	27.8	SCL	-	-	-	-	3.4	5.6	4.0	-	-	2.6	0.15	-
2		15-35	-	5.2	19.0	75.8	C	-	-	-	-	4.1	5.5	3.9	-	-	1.1	0.09	-
3		35-63	-	67.0	8.5	24.5	SCL	-	-	-	-	4.1	5.4	3.9	-	-	-	0.13	-
4		63-95	-	3.5	12.0	84.4	C	-	-	-	-	9.2	5.4	3.8	-	-	1.0	0.11	-
5		95-150	-	1.4	9.6	89.0	C	-	-	-	-	10.8	5.4	3.6	-	-	1.1	0.10	-
6																			
7																			
8																			

No.	E.C. mmho /cm	Free Fe ₂ O ₃ %	BASE EXCHANGE										Hydroli- tic Acidity (me/100g)	E.C. mmhos /cm	Ex. Na meq/ 100g	Cation (meq/100g)			
			Cations (meq/100g)					Base sat. %	PHOSPHORUS (mg/100g)		NITROGEN (mg/100g)	Av. N ppm				H	Al	+	
			Ex. capa.	Ca	Mg	Na	K		Sum	T.P.									P
1	200	-	5.2	1.69	0.02	1.17	0.74	3.89	75	-	52	-	-	8.4	160	-	26	20	47
2	1100	-	6.9	2.00	0.04	2.60	0.74	4.97	72	-	31	-	-	12.0	100	-	12	4	16
3	1050	-	9.1	3.02	0.04	3.43	0.19	6.68	32	-	31	-	-	12.4	100	-	26	5	31
4	1490	-	8.3	2.42	0.02	4.26	0.19	6.68	83	-	29	-	-	12.4	111	-	26	22	48
5	1500	-	8.3	2.64	0.32	0.99	0.19	4.14	50	-	25	-	-	12.4	112	-	26	16	42
6																			
7																			
8																			

Kg/ha
Truog

BURMO

Table 3B-21 (29) PHYSICAL AND CHEMICAL PROPERTIES OF SOIL

Profile NO. OKS 469 place: West of Alezu Class. Meadow alluvial soil FX3Mh Land use:

No.	Horizon	Depth cm	PERTICLE SIZE DISTRIBUTION %				MOISTURE % (atmosphere)	pH		CaCO ₃ %	Gyp- sum %	ORGANIC		
			Gravel	Sand	Silt	Clay		H ₂ O 1:2	KCl 1:5			C %	N %	C/N
1		0-15	-	60.6	28.9	10.5	SL	-	5.4	3.7	-	1.0	0.04	-
2		15-40	-	13.5	24.8	61.7	C	-	4.1	4.2	-	0.9	0.07	-
3		40-68	-	10.0	8.1	81.8	C	-	5.1	4.6	-	1.0	0.03	-
4		68-95	-	14.3	35.0	50.8	C	-	4.2	4.7	-	1.0	0.02	-
5		95-150	-	63.6	20.0	16.4	SL	-	(9.4)	4.9	-	-	0.07	-
6														
7														
8														

No.	E.C. mmho/cm	Free Fe ₂ O ₃ %	BASE EXCHANGE					PHOSPHORUS (mg/100g)		NITROGEN (mg/100g)	Hydrolytic Acidity (me/100g)	Cation (meq/100g)							
			Ex. capa	Ca	Mg	Na	K	Sum	Base sat. %			T.P.	P	0.2N HCl-P	NH ₄	Av.N ppm	E.C. mmhos/cm	Ex. Na meq/100g	H
1	400	-	14.2	0.95	0.80	0.82	0.12	2.64	19	-	17	-	-	72	-	-	13	8	21
2	420	-	45.0	2.37	2.10	3.65	0.22	8.34	18	-	14	-	-	59	-	-	10	7	17
3	100	-	7.2	1.12	0.71	2.47	0.14	4.44	62	-	10	-	-	58	-	-	27	7	34
4	140	-	6.1	1.02	0.38	2.69	0.19	4.28	70	-	0	-	-	59	-	-	13	12	25
5	150	-	6.9	1.07	1.10	3.39	0.23	5.79	84	-	0	-	-	63	-	-	16	5	21
6																			
7																			
8																			

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Soil Profile		Soil Class		Location		Date		Author		Province		Country	
(a) Profile No.	(b) Soil Series	(c) Lat/Long	(d) Elevation	(e) Slope	(f) Land Use	(g) Phytogeographic Position	(h) Climate	(i) Parent Material	(j) Soil Depth	(k) Soil Texture	(l) Soil Structure	(m) Soil Chemistry	(n) Soil Biology
OKS 247	Laferitic soils	Y1 2 Lm. 13	E 96°00'	18.3m	Bamboo open forest.	West of Fugyi	Annual rain/fall	illuvium	0-20	SL (S)	Structureless or single grain structure	CaCO ₃ 6.0 (6.5)	CEC 110
5/3	5/3								20	SL (LS)	Weak fine subangular blocky.	CaCO ₃ 5.8 (6.2)	CEC 70
5/6	5/6								50	C (LS)	Weak fine subangular blocky.	CaCO ₃ 5.8 (6.2)	CEC 50
5/8	5/8								75	SCL (SL)	Moderate fine subangular blocky.	CaCO ₃ 6.1 (6.5)	CEC 40
5/8	5/8								110	SC (FSL)	Weak fine subangular blocky.	CaCO ₃ 6.0 (7.0)	CEC 50
									150				

Burma

Table 3B-21 (31) PHYSICAL AND CHEMICAL PROPERTIES OF SOIL

Profile NO. OKS 447 Place: West of Pogyi Class: Lateritic soils YL2Lmt3 Land use: Upland

No.	Horizon	Depth cm	PARTICLE SIZE DISTRIBUTION % [USA FAO]					MOISTURE % (atmosphere)			pH		CaCO ₃ %	Gyp- sum %	ORGANIC				
			Gravel	Sand	Silt	Clay	Texture	F.S.	C.S.	Sal.	1/10	1/3			15	Air-dry	H ₂ O 1:2	KCl 5	C %
1		0-20	-	72.8	12.5	14.7	SL	-	-	-	-	1.6	6.0	4.0	-	-	1.0	0.09	-
2		20-50	-	62.1	31.5	6.4	SL	-	-	-	-	4.4	5.8	4.0	-	-	1.1	0.08	-
3		50-75	-	2.0	26.3	71.7	C	-	-	-	-	7.3	6.6	4.6	-	-	0.2	0.06	-
4		75-110	-	60.4	9.2	30.4	SCL	-	-	-	-	3.7	6.6	4.7	-	-	0.3	0.06	-
5		110-150	-	47.1	17.3	35.6	SC	-	-	-	-	3.8	6.4	4.9	-	-	-	0.07	-
6																			
7																			
8																			

No.	E.C. mmho /cm	Free Fe ₂ O ₃ %	BASE EXCHANGE						Base sat. %	PHOSPHORUS (mg/100g)		NITROGEN (mg/100g) NH ₄ Incubated NH ₄	Hydroli- tic Acidity (me/100g)	E.C. Ex. Na mmhos meq/ /cm 100g		Cation (meq/100g)			
			Ex. capa.	Ca	Mg	Na	K	Sum		T.P.	P			0.2N HCl-P	Av.N ppm	H	Al	+	
1	110	-	8.9	1.0	1.200	0.52	0.21	2.93	33	-	8	-	-	90	-	-	12	8	20
2	70	-	4.7	0.76	0.580	0.39	0.19	1.92	41	-	4	-	-	93	-	-	2	4	6
3	50	-	5.3	0.97	0.620	0.56	0.21	8.53	45	-	14	-	-	96	-	-	4	4	8
4	40	-	6.5	1.02	1.000	0.52	0.21	2.75	42	-	14	-	-	82	-	-	2	4	6
5	50	-	5.3	0.85	0.720	0.47	0.21	2.25	43	-	10	-	-	77	-	-	2	8	10
6																			
7																			
8											kg/ha								

Truog

Table 3D-1 Present Land Use by Village Tract

		(Unit: ac)				
<u>Village tracts</u>		<u>Paddy land</u>	<u>Fallow land</u>	<u>subtotal</u>	<u>Other land</u>	<u>Total land</u>
KYWE POAT	TK	49	5	54	0	54
GNNYINDON	TK	41	5	46	0	46
KANMYAUNG	TK	1,011	49	1,060	65	1,125
PANIBIN	TK	480	18	498	69	567
TABU YLTHO	TK	1,300	71	1,371	36	1,407
YEDWINGON	TK	1,204	50	1,254	64	1,318
INE. GYI	TK	592	25	617	66	683
YINDAIKLLBIN	TK	272	10	282	6	288
OKKAN KANGON	TK	1,234	16	1,250	95	1,345
OKKAN SHANSU	TK	150	20	170	7	177
OKKAN YLTHO	TK	980	39	1,039	33	1,092
KUN GANGON	TK	1,132	15	1,147	157	1,304
PHALON YWAMA	TK	1,114	16	1,130	84	1,214
KYLL. BINLAHA	TK	1,475	22	1,497	109	1,606
PYIN MAGON	TK	0	0	0	0	0
PHANUT CHAUNG	TK	2,130	102	2,232	217	2,449
HLAING	TK	0	0	0	0	0
SABA GAING	TK	2,353	333	2,686	154	2,840
OKPON	TK	2,621	147	2,768	261	3,029
PHALON KANGON	TK	934	18	952	121	1,073
PHALON STATION	TK	1,153	65	1,218	118	1,336
GOBYU	TK	2,443	89	2,532	258	2,790
KYAIK SAKAING	TK	2,072	80	2,152	123	2,275
KHUN HNA KYAI: EAST	TK	0	0	0	0	0
HANUT CHAUNG	TK	1,192	47	1,239	137	1,376
YINDAIK KWIN	TK	2,270	26	2,296	183	2,479
KYA INN	TK	0	0	0	0	0
TAIKKYI MYOMA	TK	1,857	48	1,885	541	2,426
POTTA	TK	3,786	178	3,964	254	4,218
THAYET CHAUNG	TK	1,882	140	2,022	187	2,209
TAUNGYAT ZHIGON	TK	0	0	0	0	0
HAGWA	TK	3,636	99	3,735	252	3,967
LAUKH CHAUNG	TK	4,171	178	4,649	289	4,938
MYITKYO	MB	1,731	1,239	2,978	100	3,070
NYAUNG GON	MB	1,596	185	2,081	137	2,218
MYAUNG TANGA	MB	505	102	607	26	653
SHWLMYAYA GON	MB	1,884	349	2,433	243	2,678
PHUGY: LI FBADANSU	MB	392	244	636	19	655
TOTAL		<u>49,622</u>	<u>4,850</u>	<u>54,472</u>	<u>4,413</u>	<u>58,885</u>

Note: TK: Taikkyi, MB: Hmawbi

Table 3D-2 Area of Single and Double Crop Land

(Unit: ac)

Village tracts	Total paddy land	Single paddy land	Paddy land with one other crop				Total
			Winter ground nuts	Late sesamum	Premon-soon jute	Other crops	
KYRL POVI TK	49	49	0	0	0	0	0
GNYIMON TK	41	11	0	0	0	0	0
KANSYUNG TK	1,011	623	23	58	146	161	388
PANIBIN TK	480	193	9	66	44	168	287
LABU YITHO TK	1,500	1,244	10	0	0	46	0
YI DWINGON TK	1,204	1,052	44	0	42	66	102
IM GYI TK	592	500	23	0	34	35	92
YINDAIKLUBIN TK	272	140	20	7	90	15	132
OKKAN KANGON TK	1,234	1,032	87	3	75	37	202
OKKAN SHANSU TK	150	121	7	0	14	8	29
OKKAN YITHO TK	980	885	38	0	44	15	0
KUN GANGON TK	1,132	843	85	0	190	14	289
PHALON YWAMA TK	1,114	930	48	3	109	24	164
KYI BENLAHA TK	1,475	1,439	20	0	0	16	0
PYIN MAGON TK	0	0	0	0	0	0	0
PHANU CHAUNG TK	2,150	1,590	450	2	45	43	340
HIANG TK	0	0	0	0	0	0	0
SABA GAING TK	2,553	1,882	100	3	350	18	471
OKPON TK	2,621	2,443	52	25	93	8	178
PHALON KANGON TK	934	813	34	2	80	5	111
PHALON STATION TK	1,153	644	27	107	341	34	309
GOPYU TK	2,443	1,794	344	71	13	221	649
KYAIK SAKAING TK	2,072	1,827	230	2	0	13	245
KHUN HVA KYAI: LAST TK	0	0	0	0	0	0	0
HANUT CHAUNG TK	1,192	973	69	60	55	35	219
YINDAIK KWIN TK	2,270	1,874	350	5	30	11	396
KYA INN TK	0	0	0	0	0	0	0
TAIKKYI MYOMA TK	1,837	1,773	20	31	11	2	64
POTTA TK	3,786	3,758	10	5	0	13	28
THAYET CHAUNG TK	1,382	1,758	54	0	10	60	124
FAUNGYAT ZIEGON TK	0	0	0	0	0	0	0
THAGWA TK	3,636	3,173	8	5	30	420	463
LAUKLE CHAUNG TK	4,171	3,929	98	2	90	52	242
MYITKYO MB	1,731	1,709	15	0	0	7	22
NYAUNG GON MB	1,596	1,570	0	22	3	1	26
MYAUNG TANGA MB	505	502	2	1	0	0	3
SHWEMYAYA GON MB	1,884	1,840	0	0	0	44	44
PHUGY: LETBADANSU MB	392	392	0	0	0	0	0
TOTAL	49,622	43,336	2,277	480	1,939	1,590	6,286

Note: TK: Taikkyi, MB: Hmawbi

Table 3b - 3 Nos. of Household and Population in Faikkyi Township

Year	Nos. of Household	Total Population	Under 12 Years		Total	Above 12 Years		Total
			Male	Female		Male	Female	
1970/71	29,875	130,806	19,486	18,947	58,433	45,034	47,339	92,373
1971/72	30,015	134,826	20,486	19,947	40,433	46,044	48,349	94,393
1972/73	30,108	136,506	20,906	20,367	41,273	46,464	48,769	95,233
1973/74	30,330	139,306	21,606	21,067	42,673	47,164	49,469	96,633
1974/75	30,330	139,412	21,631	21,092	42,723	47,192	49,497	96,689
1975/76	30,305	139,511	21,641	21,112	42,753	47,226	49,532	96,758
1976/77	30,403	145,807	22,972	22,510	45,482	48,693	51,602	100,295
1977/78	30,342	148,598	23,572	23,110	46,682	49,493	52,393	101,886
1978/79	30,530	151,630	24,372	23,810	48,182	50,219	53,199	103,418
1979/80	30,537	151,763	24,386	23,856	48,242	50,266	53,237	103,523
1980/81	30,397	152,099	24,487	23,913	48,400	50,307	53,360	103,667

Ave. increasing rate of population = 1.51% / year

Source: Immigration & Manpower Dept., Faikkyi Township

Table 5b - 1 Population and Nos. of Household in Hmawbi Township

Year	Nos. of Household	Total Population	Under 12 Years Old		Above 12 Years Old		
			Male	Female	Male	Female	
1970/71	15,008	66,997	16,040	16,050	17,401	17,506	54,907
1971/72	15,279	68,573	16,705	16,845	17,521	17,502	35,023
1972/73	17,558	81,920	17,811	17,412	23,446	23,251	46,697
1973/74	19,032	97,987	24,096	21,897	24,759	24,235	48,994
1974/75	18,945	92,309	21,096	20,042	25,997	25,174	51,171
1975/76	18,539	91,204	16,762	16,267	29,892	28,283	58,175
1976/77	18,881	96,526	18,091	17,597	31,222	29,613	60,835
1977/78	19,763	101,848	19,426	18,927	32,552	30,943	63,495
1978/79	23,607	106,270	18,075	18,080	35,879	34,236	70,115
1979/80	25,944	108,124	17,930	17,948	36,937	35,500	72,257

Ave. increasing rate of population = 5.76% / year

Source: Immigration & Manpower Dept., Hmawbi Township

Table 5D - 5 Nos. of Peasant Farmers and Occupied Area by Farm Size (1979/80)

Item	Farm Size (ac)						Total	Ave. Farm Size (ac)
	Under 2	2 - 5	5 - 10	10 - 15	15 - 20	Over 20		
All Farmers, Taikkyi Township	Nos. of farmers	2,678	2,351	4,831	5,296	732	15,888	
	(%)	(16.9)	(14.8)	(30.4)	(35.3)	(4.6)	(100.0)	
Occupied Area (ac)		5,059	7,341	58,016	74,662	19,833	142,911	9.0
	(%)	(2.1)	(5.1)	(26.6)	(52.2)	(14.0)	(100.0)	
All Farmers, Hmawbi Township	Nos. of Farmers	4,486	1,916	2,125	1,830	776	11,502	
	(%)	(39.0)	(16.7)	(18.5)	(15.9)	(6.7)	(100.0)	
Occupied Area (ac)		4,203	5,289	15,440	25,962	13,270	76,168	6.6
	(%)	(5.5)	(6.9)	(20.3)	(34.1)	(17.4)	(100.0)	
Paddy Cultivation Farmers, Taikkyi Township	Nos. of farmers	300	562	4,195	3,970	957	10,634	
	(%)	(2.8)	(5.3)	(39.4)	(57.3)	(9.0)	(100.0)	
Occupied Area (ac)		285	1,711	33,623	53,196	16,312	122,204	11.5
	(%)	(0.2)	(1.4)	(27.5)	(43.5)	(15.3)	(100.0)	
Paddy Cultivation Farmers, Hmawbi Township	Nos. of Farmers	751	751	1,923	1,825	732	6,331	
	(%)	(11.8)	(11.8)	(30.3)	(28.8)	(11.5)	(100.0)	
Occupied Area (ac)		1,022	2,659	14,376	25,901	12,784	65,617	10.4
	(%)	(1.6)	(4.1)	(21.9)	(39.5)	(19.4)	(100.0)	

Source: SLRD., Taikkyi and Hmawbi Township

Table 51 - 6 Cropped Area by Crop and Cropping Intensity in Taikkyi Township

(Unit: ac)

Item	1970/71	1971/72	1972/73	1973/74	1974/75	1975/76	1976/77	1977/78	1978/79	1979/80
1. Cropped Area (Total)	151,935	156,275	157,364	159,983	155,783	159,896	158,836	164,707	158,709	157,431
1. Paddy (Total)	127,555	127,842	126,002	127,939	128,663	133,369	131,118	131,266	128,804	126,436
- Wet Season	127,555	127,842	126,002	127,939	128,663	133,369	131,118	131,266	128,804	126,436
- Dry Season	-	-	-	-	-	-	-	-	-	-
2. Maize (Total)	110	302	196	134	195	144	212	249	192	193
- Wet Season	3	-	-	-	12	15	61	98	67	68
- Dry Season	105	302	196	134	183	131	151	151	125	125
3. Jute (Total)	2,637	3,407	7,337	7,698	3,151	869	2,316	4,200	4,336	5,004
- Pre-monsoon	2,346	4,927	6,583	6,983	2,436	726	1,862	3,377	3,673	4,722
- Monsoon	291	480	774	715	715	143	454	823	663	282
4. Groundnuts (Total)	5,233	5,594	5,611	6,145	6,059	6,053	5,401	6,946	6,090	5,446
- Rain	69	68	50	41	34	23	138	486	490	496
- Winter	5,164	5,526	5,561	6,104	6,025	6,030	5,263	6,460	5,600	4,950
5. Sesame (Total)	794	587	831	1,638	1,623	2,252	2,515	2,529	3,363	3,423
- Early	794	587	831	1,638	1,623	2,252	2,515	2,529	3,363	3,423
- Late	-	-	-	-	-	-	-	-	-	48
6. Sunflower	-	-	-	-	-	8	350	23	20	80
7. Beans (Total)	3,759	3,994	4,360	3,787	3,304	3,668	1,663	3,870	3,883	3,944
- Matpe	3,388	3,640	3,813	3,398	2,837	3,386	929	3,137	3,150	3,198
- Bocate	354	301	465	352	398	241	376	376	376	376
- Gram	4	4	9	4	2	12	1	-	-	13
- Others	33	49	73	33	67	29	357	357	357	357
8. Garden Crops (Total)	4,578	5,452	4,848	4,707	5,073	4,846	5,473	5,651	5,177	6,524
- Vegetables	1,185	2,090	1,610	1,459	1,787	1,690	2,149	2,342	1,868	3,215
- Tree Crops	3,393	3,362	3,238	3,248	3,286	3,156	3,324	3,309	3,309	3,309
- Other Crops (Total)	7,069	7,097	8,159	7,855	7,715	8,695	10,138	9,973	6,844	6,581
II. Net Cultivated Area	158,640	159,908	159,573	161,469	161,009	146,526	147,147	148,592	142,548	140,113
III. Cropping Intensity (Times)	1.00	1.11	1.13	1.13	1.10	1.09	1.07	1.10	1.11	1.12

Source: Bureau of Census, H

Table 3D - Cropped Area by Crop and Cropping Intensity in Ilmawbi Township

(Unit: ac)

Item	1970/71	1971/72	1972/73	1973/74	1974/75	1975/76	1976/77	1977/78	1978/79	1979/80
I. Cropped Area (Total)	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A	77,360	77,713
1. Paddy (Total)	63,960	65,149	63,808	64,166	66,597	67,212	66,801	66,674	65,842	64,348
- Wet Season	63,905	65,089	63,758	64,096	66,547	67,147	66,741	66,604	65,767	64,298
- Dry Season	55	60	50	70	50	65	60	70	75	50
2. Maize (Total)	3	26	16	15	64	-	-	4	-	4
- Wet Season	-	-	-	-	-	-	-	-	-	-
- Dry Season	3	26	16	15	64	-	-	4	-	4
3. Jute (Total)	-	-	227	177	178	17	60	25	27	4
- Pre-monsoon	-	-	194	151	155	17	6	25	27	4
- Monsoon	-	-	33	26	45	-	54	-	-	-
4. Beans (Total)	24	32	63	67	76	51	19	29	21	8
- Matpe	-	-	3	4	50	49	10	20	16	2
- Bocate	17	24	34	35	15	2	3	3	5	5
- Gram	7	8	-	-	-	-	-	5	-	-
- Others	-	-	26	28	11	-	6	1	-	1
5. Groundnuts (Total)	200	137	94	298	319	478	263	456	415	445
- Rain	72	18	6	9	-	-	-	-	-	-
- Winter	128	119	88	289	319	478	263	456	415	445
6. Sesame (Total)	272	276	318	350	348	415	407	494	450	450
- Early	-	-	-	-	-	-	-	-	-	2
- Late	272	276	318	350	348	415	407	494	450	448
7. Sunflower	-	-	-	-	-	-	49	14	21	15
8. Garden Crops (Total)	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A
- Vegetables	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A
- Tree Crops	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A	10,584	12,439
9. Other Crops (Total)	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A
II. Net Cultivated Area	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A	76,473	74,895
III. Cropping Intensity (I/IIx100)	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A	1.01	1.04

Source: SLRD, Ilmawbi Township

Table 3D - 8 Cropped Area under Irrigation in Taikkyi Township

Items	(Unit: ac)				
	<u>1975/76</u>	<u>1976/77</u>	<u>1977/78</u>	<u>1978/79</u>	<u>Average</u>
1. Cropped Area by Means of Irrigation					
(1) Canal	-	-	N.A.	-	-
(2) Pond	-	-	N.A.	-	-
(3) Well	-	-	N.A.	-	-
(4) Pumps	971	1,862	N.A.	4,722	2,518
(5) Others	-	-	N.A.	-	-
Total	<u>971</u>	<u>1,862</u>	<u>N.A.</u>	<u>4,722</u>	<u>2,518</u>
2. Irrigated Area by Crop					
(1) Paddy	244	-	N.A.	-	81
(2) Jute	726	-	N.A.	4,722	1,816
(5) Sesamum	-	-	N.A.	-	-
(4) Vegetables	-	-	N.A.	-	-
(5) Others	1	-	N.A.	-	-
Total	<u>971</u>	<u>1,862</u>		<u>4,722</u>	<u>1,897</u>

Source: SLRD., Taikkyi Township

Table 5D - 9 Cropped Area under Irrigation in Hmawbi Township

Items	(Unit: ac)				
	1975/76	1976/77	1977/78	1978/79	Average
1. Cropped Area by Means of Irrigation					
(1) Canal	-	-	-	-	-
(2) Pond	-	-	-	-	-
(3) Well	155	401	759	475	448
(4) Pumps	200	250	377	60	222
(5) Others	520	260	-	-	195
Total	<u>875</u>	<u>911</u>	<u>1,136</u>	<u>535</u>	<u>865</u>
2. Irrigated Area by Crop					
(1) Paddy	802	504	620	54	495
(2) Jute	170	6	27	4	52
(3) Sesamum	-	-	-	2	1
(4) Vegetables	-	-	489	475	241
(5) Others	465	40	-	-	216
Total	<u>1,437</u>	<u>971</u>	<u>1,136</u>	<u>535</u>	<u>1,005</u>

Source: S.R.D., Hmawbi Township

Table 3D - 10 Paddy Cropped Area by Way of Planting and Flooded Area

(Unit: ac)

Year	Taikkyyi Township				Hmawbi Township					
	Cropped Area		Total	Flooded Area		Cropped Area		Total	Flooded Area	
	Trans- planted	Broad- casted		Damaged	Flooded	Trans- planted	Broad- casted		Flooded	Damaged
1970/71	127,355	-	127,355	-	-	1,807	62,153	63,960	2,115	350
1971/72	127,872	-	127,872	-	-	2,103	62,996	65,099	-	-
1972/73	126,002	-	126,002	-	-	1,941	61,867	63,808	-	-
1973/74	127,939	-	127,939	29,852	24,466	2,874	61,792	64,166	29,664	25,625
1974/75	128,663	-	128,663	54,212	47,859	1,856	64,741	66,597	2,122	841
1975/76	153,369	-	153,369	125	-	2,142	65,070	67,212	9,475	9,159
1976/77	151,118	-	151,118	58,997	32,692	1,973	64,828	66,801	4,879	1,676
1977/78	151,266	-	151,266	26,403	15,730	2,011	64,668	66,679	1,169	-
1978/79	128,804	-	128,804	4,536	-	2,259	63,583	65,842	643	-
1979/80	126,436	-	126,436	22,528	12,225	-	64,348	64,348	-	-

Source: SLRD., Taikkyyi and Hmawbi Township

Table 3D - 11 Crop Production of Water Crops in Taikkyi Township

Year	Paddy			Jute (Pre-monsoon)			Groundnut (Winter)					
	Sown Area (ac)	Matured Area (ac)	Yield (bkt/ac)	Production (bkt)	Sown Acreage (ac)	Matured Acreage (ac)	Yield (vis/acre)	Production (vis)	Sown Acreage (ac)	Matured Acreage (ac)	Yield (bkt/ac)	Production (bkt)
1970/71	127,355	124,242	(37.2)	38.2	4,741,350	2,346	(149.7)	352.2	351,184	5,564	(36.1)	200,690
1971/72	127,842	120,923	(36.7)	38.9	4,697,859	4,927	(147.8)	350.7	728,311	5,526	(33.7)	186,123
1972/73	126,002	124,994	(35.7)	36.0	4,501,034	6,582	(192.8)	194.4	1,269,058	5,561	(33.4)	185,909
1973/74	127,939	121,089	(34.8)	36.8	4,458,160	6,983	(161.1)	166.9	1,125,284	6,104	(29.3)	178,603
1974/75	128,663	117,728	(32.0)	35.0	4,119,389	2,436	(118.4)	195.3	288,440	6,055	(35.3)	213,811
1975/76	133,369	131,572	(36.4)	36.9	4,849,345	726	(146.4)	188.8	106,302	6,030	(32.4)	195,364
1976/77	131,118	129,794	(38.9)	39.3	5,103,500	1,862	(195.5)	209.4	363,954	5,263	(35.0)	184,363
1977/78	131,266	126,831	(52.4)	54.0	6,874,240	3,377	(169.4)	210.2	572,068	6,460	(37.5)	242,472
1978/79	128,804	120,825	(51.6)	55.0	6,645,375	3,673	(173.7)	219.5	637,925	5,600	(37.9)	212,026
1979/80	126,436	116,519	(52.5)	57.0	6,633,948	4,722	(188.4)	217.1	889,628	4,950	(38.0)	187,880
Mean	128,879	123,452	(40.8)	42.6	5,262,410	3,763	(168.3)	186.4	633,215	5,711	(34.8)	198,724

Year	Sesamum (Winter)			Maize			Bocote					
	Sown Acreage (ac)	Matured Acreage (ac)	Yield (bkt/ac)	Production (bkt)	Sown Acreage (ac)	Matured Acreage (ac)	Yield (bkt/ac)	Production (ac)	Sown Acreage (ac)	Matured Acreage (ac)	Yield (bkt/ac)	Production (bkt)
1970/71	794	794	(3.1)	3.1	2,436	3,388	(6.0)	6.0	20,427	334	(4.1)	1,383
1971/72	587	587	(3.0)	3.0	1,740	3,620	(5.1)	5.1	18,500	301	(3.9)	1,186
1972/73	831	828	(3.0)	3.0	2,493	3,222	(3.6)	4.3	13,854	465	(3.9)	1,823
1973/74	1,638	1,344	(2.4)	3.0	4,012	3,398	(4.1)	4.1	14,066	354	(4.2)	1,475
1974/75	1,623	1,622	(3.2)	3.2	5,121	2,837	(4.6)	4.9	12,989	398	(4.1)	1,638
1975/76	2,252	2,219	(3.0)	3.0	6,734	3,386	(4.3)	4.9	13,838	241	(4.0)	976
1976/77	2,515	2,506	(3.3)	3.3	8,266	929	(2.1)	4.1	1,989	26	(5.1)	132
1977/78	2,529	2,514	(3.6)	3.6	9,000	3,137	(6.3)	6.6	19,705	376	(4.5)	1,692
1978/79	3,363	2,793	(2.6)	3.9	8,591	3,150	(6.8)	6.6	21,504	380	(4.6)	1,729
1979/80	3,423	2,900	(3.0)	3.5	10,019	3,198	(6.8)	7.2	21,600	376	(4.6)	1,729
Mean	1,956	1,811	(3.0)	3.2	5,841	3,091	(5.2)	5.5	15,847	325	(4.2)	1,376

Note: The figures in the parenthesis show the unit yield based on the sown areas.

Source: SLRD, Taikkyi Township

Table 3D - 12 Crop Production of Major Crops in Hmabbi Township

Year	Paddy			Jute (Pre-monsoon)			Groundnut (winter)					
	Sown Acreage (ac)	Matured Acreage (ac)	Yield (bkt/ac)	Production (bkt)	Sown Acreage (ac)	Matured Acreage (ac)	Yield (viss/ac)	Production (viss)	Sown Acreage (ac)	Matured Acreage (ac)	Yield (bkt/ac)	Production (bkt)
1970/71	63,960	63,477	(31.1) 31.3	1,986,317	-	-	-	-	128	128	(28.5) 28.5	3,649
1971/72	95,099	64,857	(23.6) 34.5	2,240,711	25	25	(145.0) 115.0	3,625	119	106	(26.1) 29.3	3,104
1972/73	63,808	63,642	(29.8) 29.9	1,903,919	194	181	(134.2) 143.9	26,040	38	38	(30.2) 30.2	1,148
1973/74	64,166	63,066	(31.0) 31.6	1,991,476	151	87	(66.4) 115.2	10,025	289	284	(27.0) 27.0	7,666
1974/75	66,597	62,533	(30.0) 31.9	1,996,921	135	0	0	0	309	302	(28.3) 29.0	8,750
1975/76	67,212	65,931	(32.0) 32.6	2,150,669	170	0	0	0	478	410	(23.8) 27.7	11,372
1976/77	66,801	66,485	(34.7) 34.9	2,318,678	6	5	(70.8) 85.0	425	263	263	(29.1) 29.1	7,660
1977/78	66,679	63,476	(32.1) 33.8	2,143,540	25	7	(13.6) 70.0	490	456	440	(27.3) 28.3	12,454
1978/79	65,842	64,673	(45.2) 46.1	2,978,235	27	2	(5.9) 80.0	160	415	358	(21.1) 24.5	8,760
1979/80	64,348	63,726	(52.3) 52.8	3,366,407	4	4	(100.0) 100.0	400	445	427	(30.0) 31.5	13,360
Mean	68,451	64,187	(33.7) 36.0	2,307,687	82	35	(55.8) 130.7	4,574	294	276	(26.5) 28.2	7,792

Year	Sesamum (winter)			Matpe			Bocote					
	Sown Acreage (ac)	Matured Acreage (ac)	Yield (bkt/ac)	Production (bkt)	Sown Acreage (ac)	Matured Acreage (ac)	Yield (bkt/ac)	Production (bkt)	Sown Acreage (ac)	Matured Acreage (ac)	Yield (bkt/ac)	Production (bkt)
1970/71	272	252	(3.2) 3.5	879	-	-	-	-	17	17	(4.8) 4.8	82
1971/72	276	256	(3.6) 3.9	990	-	-	-	-	24	24	(5.0) 5.0	119
1972/73	318	307	(3.4) 3.5	1,075	3	3	(4.7) 4.7	14	34	34	(5.0) 5.0	170
1973/74	350	345	(3.6) 3.6	1,259	4	4	(5.0) 5.0	20	35	33	(4.7) 5.0	164
1974/75	348	348	(3.3) 3.3	1,131	50	0	0	0	15	15	(4.8) 4.8	72
1975/76	415	382	(3.0) 3.1	1,203	49	49	(5.0) 5.0	245	2	2	(4.0) 4.0	8
1976/77	407	402	(3.5) 3.5	1,420	10	10	(4.0) 4.0	40	376	373	(4.6) 4.6	1,716
1977/78	494	494	(3.5) 3.5	1,744	20	6	(2.0) 4.0	32	3	3	(4.0) 4.0	12
1978/79	450	435	(3.5) 3.6	1,557	40	40	(6.0) 6.0	240	10	10	(8.5) 8.5	85
1979/80	450	437	(3.8) 3.9	1,716	40	40	(9.0) 9.0	360	5	5	(10.0) 10.0	50
Mean	378	376	(3.4) 3.5	1,327	27	19	(4.1) 6.3	119	52	52	(4.8) 4.8	248

Note: The figures in the parenthesis in the above table are the yield per acre of the crop.

Table 3D - 13 Paddy Production by Variety in Taikkyi Township
(1977/78)

<u>Varieties</u>	<u>Sown Area (ac)</u>	<u>Matured Area (ac)</u>	<u>Unit Yield (bkt/ac)</u>	<u>Production (bkt)</u>
1. Special HYVs				
(1) Shwe-ta-soku	12,939	12,519	72.2	903,874
(2) Shwe-wa-tun	12,133	11,719	79.7	934,456
(3) Ma-Nauha-ri	568	562	73.1	41,054
(4) Yar-Kyaw (2)	8,149	7,938	79.5	631,243
(5) Sein-ta-lay	287	284	71.1	20,192
(6) Shwe-wa-lay	-	-	-	-
(7) C4-63	149	147	65.8	9,665
(8) Sin-shwe-wa	-	-	-	-
(9) Others	178	176	65.3	11,493
Sub-total	<u>34,403</u>	<u>33,345</u>	<u>76.5</u>	<u>2,551,977</u>
2. Ordinary HYVs				
(1) Shwe-ta-soku	-	-	-	-
(2) Shwe-wa-tun	-	-	-	-
(3) Ma-Nauha-ri	-	-	-	-
(4) Yar-Kyaw (2)	-	-	-	-
(5) Sein-ta-lay	-	-	-	-
(6) Shwe-wa-lay	-	-	-	-
(7) C4-63	-	-	-	-
(8) Sin-shwe-wa	-	-	-	-
(9) Others	10,662	10,457	69.9	730,856
Sub-total	<u>10,662</u>	<u>10,457</u>	<u>69.9</u>	<u>730,856</u>
3. LIVs	<u>48,556</u>	<u>46,614</u>	<u>49.2</u>	<u>2,295,390</u>
4. Local Varieties	<u>37,645</u>	<u>36,415</u>	<u>35.6</u>	<u>1,296,017</u>
Total	<u>151,266</u>	<u>126,831</u>	<u>54.0</u>	<u>6,874,240</u>

Source: AC., Taikkyi Township

Table 3D - 14 Paddy Production by Variety in Taikkyi Township
(1978/79)

Varieties	Sown Area (ac)	Matured Area (ac)	Unit Yield (bkt/ac)	Production (bkt)
1. Special HYVs				
(1) Shwe-ta-soku	32,693	32,256	67.2	2,168,610
(2) Shwe-wa-tun	8,201	8,146	70.2	571,441
(3) Ma-Nauha-ri	510	510	67.0	34,170
(4) Yar-Kyaw (2)	1,804	1,768	75.8	128,622
(5) Sein-ta-lay	309	303	66.4	20,119
(6) Shwe-wa-lay	-	-	-	-
(7) C4-63	26	26	63.5	1,653
(8) Sin-shwe-wa	-	-	-	-
(9) Others	-	-	-	-
Sub-total	<u>43,543</u>	<u>43,009</u>	<u>68.0</u>	<u>2,924,615</u>
2. Ordinary HYVs				
(1) Shwe-ta-soku	-	-	-	-
(2) Shwe-wa-tun	-	-	-	-
(3) Ma-Nauha-ri	-	-	-	-
(4) Yar-Kyaw (2)	-	-	-	-
(5) Sein-ta-lay	-	-	-	-
(6) Shwe-wa-lay	-	-	-	-
(7) C4-63	-	-	-	-
(8) Sin-shwe-wa	-	-	-	-
(9) Others	22,178	21,370	64.5	1,377,296
Sub-total	<u>22,178</u>	<u>21,370</u>	<u>64.5</u>	<u>1,377,296</u>
3. LIVs	<u>34,043</u>	<u>30,986</u>	<u>46.2</u>	<u>1,431,553</u>
4. Local Varieties	<u>29,040</u>	<u>25,460</u>	<u>35.8</u>	<u>911,911</u>
Total	<u>128,804</u>	<u>120,825</u>	<u>55.0</u>	<u>6,645,375</u>

Source: AC, Taikkyi Township

Table 3D - 15 Paddy Production by Variety in Taikkyi Township
(1979/80)

<u>Varieties</u>	<u>Sown Area (ac)</u>	<u>Matured Area (ac)</u>	<u>Unit/Yield (bkt/ac)</u>	<u>Production (bkt)</u>
1. Special HYVS				
(1) Shwe-ta-soku	43,648	42,993	68.8	2,957,918
(2) Shwe-wa-tun	3,232	3,232	80.5	260,176
(3) Ma-Nauha-ri	1,040	1,040	75.1	78,101
(4) Yar-Kyaw (2)	2,646	2,646	81.2	2,141,855
(5) Sein-ta-lay	274	274	74.2	20,330
(6) Shwe-wa-lay	-	-	-	-
(7) C4-63	41	41	74.4	3,050
(8) Sin-shwe-wa	145	155	75.0	10,875
(9) Others	-	-	-	-
Sub-total	<u>51,026</u>	<u>50,371</u>	<u>70.4</u>	<u>3,545,308</u>
2. Ordinary HYVs				
(1) Shwe-ta-soku	11,808	11,276	60.3	679,942
(2) Shwe-wa-tun	16,778	15,939	56.8	892,584
(3) Ma-Nauha-ri	-	-	-	-
(4) Yar-Kyaw (2)	-	-	-	-
(5) Sein-ta-lay	-	-	-	-
(6) Shwe-wa-lay	-	-	-	-
(7) C4-63	-	-	-	-
(8) Sin-shwe-wa	-	-	-	-
(9) Others	-	-	-	-
Sub-total	<u>28,586</u>	<u>27,215</u>	<u>57.8</u>	<u>1,572,526</u>
3. LIVs	<u>20,792</u>	<u>18,912</u>	<u>45.1</u>	<u>853,275</u>
4. Local Varieties	<u>26,032</u>	<u>20,021</u>	<u>11.1</u>	<u>662,839</u>
Total	<u><u>126,436</u></u>	<u><u>116,519</u></u>	<u><u>57.0</u></u>	<u><u>6,633,948</u></u>

Source: AC, Taikkyi Township

Table 3D - 16 Paddy Production By Variety in Taikkyi Township
(1980/81)

<u>Varieties</u>	<u>Sown Area (ac)</u>	<u>Matured Area (ac)</u>	<u>Unit Yield (bkt/ac)</u>	<u>Production (bkt)</u>
1. Special HYVs				
(1) Shwe-ta-soku	38,851	37,969	72.6	2,754,725
(2) Shwe-wa-tun	6,893	6,798	81.0	550,638
(3) Ma-Nauha-ri	5,046	4,982	81.0	403,542
(4) Yar-Kyaw (2)	3,306	3,264	82.0	267,648
(5) Sein-ta-lay	-	-	-	-
(6) Shwe-wa-lay	-	-	-	-
(7) C4-63	11	11	70.1	771
(8) Sin-shwe-wa	-	-	-	-
(9) Others	-	-	-	-
Sub-total	<u>54,118</u>	<u>53,035</u>	<u>75.0</u>	<u>3,978,17</u>
2. Ordinary HYVs				
(1) Shwe-ta-soku	24,462	23,712	60.6	1,437,57
(2) Shwe-wa-tun	5,525	5,401	66.0	1,437,57
(3) Ma-Nauha-ri	2,893	2,834	67.0	189,87
(4) Yar-kyaw (2)	3,814	3,725	68.0	253,5
(5) Sein-ta-lay	39	39	52.8	2,0
(6) Shwe-wa-lay	-	-	-	-
(7) C4-63	-	-	-	-
(8) Sin-shwe-wa	-	-	-	-
(9) Others	6,660	6,158	59.3	364,77
Sub-total	<u>43,393</u>	<u>41,869</u>	<u>62.2</u>	<u>2,604,27</u>
3. L1Vs ^{1/}	<u>23,639</u>	<u>14,571</u>	<u>30.2</u>	<u>459,51</u>
4. Local Varieties	-	-	-	-
Total	<u>121,150</u>	<u>109,475</u>	<u>64.1</u>	<u>7,021,77</u>

Note: ^{1/} Including Showe-ta-soku,

<u>Sown Area</u>	<u>Matured Area</u>	<u>Unit Yield</u>	<u>Production</u>
14,704	13,353	46.0	614,238

Source: AC., Taikkyi Township

Table 3D - 17 Multiple Cropping Area by Village Tract (1979/80)

(Unit: ac)

Village Tract	Gross Sown Area (1)	Net Sown Area (2)	Ratio (1)/(2)
A. Taikkyi Township			
1. Kywe Poat	1,032	976	1,057
2. Gonnyindan	446	406	1,099
3. Kan Maung	1,589	1,343	1,189
4. Panibin	N.A.	N.A.	N.A.
5. Tabu Yetho	1,401	1,374	1,020
6. Yedmindon	1,451	1,370	1,059
Sub-total (Region I)	5,919	5,469	1,082
7. Ling Gyi	909	854	1,030
8. Yindaik Lebin	N.A.	N.A.	N.A.
9. Okkan Kangon	1,516	1,352	1,121
10. Okkan Shansu	N.A.	N.A.	N.A.
11. Okkan Yetho	1,996	1,632	1,223
12. Kungyangon	1,416	1,132	1,251
13. Phalon Ywama	1,286	1,114	1,154
14. Kyee Bin Laha	1,498	1,475	1,016
15. Pyin Ma Gon	1,962	1,441	1,362
Sub-total (Region II)	10,583	8,980	1,176
16. Thanut Chaung Udo	2,890	2,350	1,230
17. Hlaing	1,261	1,105	1,141
18. Sabakaing	2,822	2,353	1,199
19. Okpon	2,794	2,621	1,066
20. Phalon kangon	1,053	954	1,127
21. Phalon Station	N.A.	N.A.	N.A.
22. Gyobyu	2,867	2,433	1,178
23. Kyaik Sagaing	3,104	2,615	1,187
24. Khun Hna Kaik (I.)	1,695	1,545	1,097
25. Thanut Chaung	N.A.	N.A.	N.A.
26. Yin Daik Kwin	2,724	2,339	1,165
27. Kya Inn	1,937	1,769	1,095
Sub-total (Region III)	23,147	20,064	1,154
28. Taikkyi Myoma	N.A.	N.A.	N.A.
29. Poatta	3,808	3,786	1,006
30. Tha Yet Chaung	2,412	2,266	1,064
31. Taung Yatzee Gon	4,997	4,720	1,059
32. Tagwa	3,935	3,895	1,010
33. Lauk Le Chaung	3,072	2,752	1,067
Sub-total (Region IV)	20,224	19,419	1,041

(Cont'd)

<u>Village Tract</u>	<u>Gross Sown Area (1)</u>	<u>Net Sown Area (2)</u>	<u>Ratio (1)/(2)</u>
B. Hmawbi Township			
34. Myityo	2,080	2,060	1,009
35. Nyaunggon	1,674	1,654	1,012
36. Myaung Tanga	2,774	2,743	1,011
37. Shwe Myayagon	2,208	2,196	1,005
38. Phugyi	2,210	2,182	1,012
Total	<u>10,946</u>	<u>10,835</u>	<u>1,010</u>
Grand Total	<u>70,819</u>	<u>64,767</u>	<u>1,093</u>

Note: (1) The data are not available for the Village Tracts where their jurisdiction areas are not fully included in the Project Area.

Source: SLRD., Taikkyi and Hmawbi Township

Table 3D - 1B Production of Major Crops by Village Tracts Related to the Project Area, Paddy

Village Tract	1977/78				1978/79				1979/80			
	Sown Area (ac)	Matured Area (ac)	Yield (bkt/ac)	Production (bkt)	Sown Area (ac)	Matured Area (ac)	Yield (bkt/ac)	Production (bkt)	Sown Area (ac)	Matured Area (ac)	Yield (bkt/ac)	Production (bkt)
A. Taikkyi Township												
1. Kan Haung	1,680	1,680	61.61	101,891	1,680	1,680	59.90	100,630	1,680	1,680	57.69	96,919
2. Panbin	1,023	1,023	62.02	63,443	1,015	1,015	57.46	58,318	997	997	56.69	56,716
3. Tabu Yetho	1,364	1,364	53.78	73,361	1,349	1,349	57.38	77,406	1,345	1,345	53.57	72,052
4. Yedmindon	1,285	1,285	60.22	77,383	1,315	1,315	42.20	55,493	1,299	1,299	58.21	75,615
5. Eing Gyi	798	798	65.58	52,354	790	790	59.56	47,055	786	786	65.73	51,667
6. Yindaik Lebin	441	441	63.78	28,567	441	441	63.00	27,781	441	441	68.53	30,085
7. Okkan Kanton	1,322	1,322	63.24	83,604	1,315	1,315	61.63	81,050	1,312	1,312	67.38	88,404
8. Okkan Shansu	988	956	63.29	61,435	950	950	60.37	57,348	936	809	66.05	53,422
9. Okkan Yetho	1,765	1,493	48.40	72,261	1,678	1,618	56.00	90,606	1,615	1,410	59.49	83,874
10. Kungyangan	1,157	1,157	62.35	72,139	1,132	1,132	66.48	75,258	1,127	1,127	68.95	77,712
11. Phalon Ywama	1,106	1,106	64.50	71,337	1,112	1,112	63.43	70,536	1,102	1,102	61.78	68,095
12. Kye Bin Leha	1,492	1,492	62.00	92,504	1,441	1,440	65.30	94,032	1,462	1,462	67.82	99,152
13. Thanut Chaung Udo	2,400	2,316	63.40	146,834	2,400	2,359	60.47	142,646	2,550	2,210	63.40	140,121
14. Sabakaing	2,647	2,417	57.00	139,701	2,301	2,301	56.68	130,427	2,351	2,301	58.03	133,546
15. Okpon	2,689	2,689	51.41	138,250	2,746	2,746	54.79	150,464	2,616	2,616	59.88	156,647
16. Phalon Kanton	1,032	1,032	69.32	71,539	1,032	1,032	57.66	59,505	1,013	1,013	62.94	63,768
17. Phalon Station	1,809	1,809	69.60	125,906	1,707	1,706	62.82	107,171	1,702	1,702	61.14	104,060
18. Gyobu	2,700	2,700	62.20	167,940	2,631	2,631	60.60	159,447	2,561	2,505	61.45	153,942
19. Kyaik Sagsaing	2,685	2,550	60.80	165,240	2,627	2,589	57.78	149,603	2,615	2,480	58.59	145,298
20. Thanut Chaung	1,414	1,401	52.50	73,552	1,348	1,348	52.14	70,285	1,090	1,072	52.36	56,130
21. Yin Daik Kwin	2,322	2,313	68.11	157,537	2,322	2,322	66.95	155,470	2,329	2,241	65.34	146,435
22. Taikkyi Hyoma	3,585	3,580	53.46	191,371	3,640	3,640	55.27	201,185	3,608	3,532	56.07	198,030
23. Poatta	3,798	3,791	56.34	213,585	3,800	3,790	67.62	256,279	3,780	3,750	60.93	228,487
24. Tha Yet Chaung	2,211	2,200	54.34	119,637	2,177	2,150	55.64	119,632	2,165	2,033	60.71	123,425
25. Tagwa	3,447	3,433	56.98	155,612	3,484	3,432	58.56	200,321	3,472	3,435	55.57	190,900
26. Lauk Le Chaung	4,844	4,831	57.69	273,826	4,910	4,836	53.07	256,692	4,752	4,495	62.32	280,150
Total	52,004	51,179	58.44	2,990,809	51,318	51,039	58.67	2,994,640	50,506	49,153	60.52	2,974,652
B. Hmawbi Township												
1. Myityo	2,204	1,630	40.89	66,645	2,131	1,957	49.28	96,304	2,080	2,060	51.10	105,560
2. Myaung Gon	1,773	1,673	35.45	59,311	1,681	1,646	47.81	78,690	1,674	1,654	49.98	82,674
3. Myaung Tanga	2,900	2,833	39.19	111,037	2,898	2,850	45.02	128,313	2,774	2,743	62.42	171,231
4. Shwe Myaygon	2,349	2,253	33.60	75,702	2,283	2,282	43.51	95,309	2,208	2,196	49.50	108,804
Total	9,226	8,389	36.93	312,695	8,993	8,735	45.46	398,616	8,736	8,653	53.77	468,269
Grand Total	61,230	59,568	55.46	3,303,504	60,311	59,774	56.77	3,393,256	59,242	57,806	59.56	3,442,921
Yield per Sown Area (bkt/ac)	(53.95)											
	(58.12)											

Table 3D - 19 Production of Major Crops by Village Tracts Related to the Project Area, Groundnut (Winter)

Village Tract	1977/78			1978/79			1979/80					
	Sown Area (ac)	Matured Area (ac)	Yield (bkt/ac)	Production (bkt)	Sown Area (ac)	Matured Area (ac)	Yield (bkt/ac)	Production (bkt)	Sown Area (ac)	Matured Area (ac)	Yield (bkt/ac)	Production (bkt)
A. Taiakyi Township												
1. Kan Haung	22		28.00	616	32		25.75	824	32		25.75	824
2. Panbin	18		25.00	450	21		26.00	546	21		26.00	546
3. Tabu Yetho	10		25.00	250	10		24.00	240	10		24.00	240
4. Jedmindon	45		35.00	1,575	44		25.00	1,100	44		25.00	1,100
5. Eing Gyi	27		30.00	810	30		30.00	900	30		26.00	780
6. Yindaik Lebin	29		27.00	783	20		30.00	600	20		26.00	520
7. Okkan Langon	154		40.00	6,160	87		35.00	3,045	87		27.00	2,349
8. Okkan Shansu	216		40.00	8,640	200		36.00	7,200	130		46.15	6,000
9. Okkan Yetho	182		51.58	7,840	150		40.00	6,000	150		36.00	5,400
10. KunGyangon	110		35.00	3,850	115		39.82	4,580	85		47.35	4,025
11. Phalon Ywama	55		30.00	1,650	48		40.00	1,920	48		35.00	1,680
12. Kyece Bin Laha	30		30.00	900	20		30.00	600	20		25.00	500
13. Thanut Chaung Udo	500		40.00	20,000	487		40.00	18,280	450		40.43	15,362
14. Sabakang	200		45.00	9,000	100		38.00	3,800	100		38.00	3,800
15. Okpon	100		45.00	4,500	72		33.00	2,376	72		33.00	2,376
16. Phalon langon	1		4.00	4	2		2.50	5	34		35.00	1,190
17. Phalon Station	25		35.00	875	40		35.30	1,412	40		28.30	1,132
18. Gyobu	491		40.00	18,040	465		32.00	18,592	395		42.72	15,592
19. Kyauk Sagaing	475		50.00	23,750	444		40.00	17,760	460		41.45	14,972
20. Thanut Chaung	85		25.00	2,125	105		35.00	3,675	69		57.46	3,965
21. Yin Daik Kwin	450		37.37	14,946	350		35.00	12,250	350		31.00	10,850
22. Taiakyi Myoma	63		29.53	1,860	33		29.40	970	40		29.50	1,180
23. Poatra	35		29.00	928	10		24.00	240	10		24.00	240
24. Tha Yet Chaung	238		40.00	9,520	107		47.05	5,035	107		37.71	4,035
25. Tagva	8		30.00	240	8		25.00	200	8		25.00	200
26. Lauk Le Chaung	225		35.56	8,000	160		37.00	5,920	130		40.62	5,280
Total	3,894	3,674	39.55	145,312	3,176	3,130	37.72	118,070	2,942	2,742	37.98	104,138
B. Hmawbi Township												
1. Myatyo	87		30.15	2,623	93		30.10	2,799	99		27.18	2,691
2. Nyaung Gon												
3. Myaung Tanga	43		30.00	1,290	46		31.05	1,428	48		32.21	1,546
4. Shwe Myayagon												
Total	130	130	30.10	3,913	139	139	30.41	4,227	147	147	28.82	4,237
Grand Total	4,024	3,804	39.23	149,225	3,315	3,269	37.41	122,297	3,089	2,889	37.51	108,375
Yield per Sown Area (bkt/ac)			37.18				36.80				35.08	

Table 3D - 20 Production of Major Crops by Village Tract Related to the Project Area, Sesamum (late)

Village Tract	1977/78				1978/79				1979/80			
	Sown Area (ac)	Matured Area (ac)	Yield (bkt/ac)	Production (bkt)	Sown Area (ac)	Matured Area (ac)	Yield (bkt/ac)	Production (bkt)	Sown Area (ac)	Matured Area (ac)	Yield (bkt/ac)	Production (bkt)
A. Taikkyi Township												
1. Kan Maung	110	110	3.80	418	80	60	3.00	180	80	60	3.00	180
2. Panbin	22	22	3.50	77	158	138	3.00	414	158	138	4.00	552
3. Tabu Yetho	103	103	4.20	433	-	-	-	-	-	-	-	-
4. Yedmandon	83	83	4.00	332	-	-	-	-	-	-	-	-
5. Eing Gyi	2	2	3.00	6	2	2	3.00	6	2	2	3.00	6
6. Yindaik Lebin	5	5	3.00	15	7	7	2.43	17	7	7	2.43	17
7. Okkan Kangon	2	2	3.00	6	3	3	3.00	9	3	3	3.00	9
8. Okkan Shansu	1	1	4.00	4	-	-	-	-	2	2	3.00	6
9. Okkan Yetho	-	-	-	-	-	-	-	-	-	-	-	-
10. Kungyangon	-	-	-	-	-	-	-	-	-	-	-	-
11. Phalon Ywama	-	-	-	-	-	-	-	-	3	3	3.00	9
12. Kye Bin Laha	-	-	-	-	-	-	-	-	-	-	-	-
13. Thanut Chaung Udo	13	9	3.00	27	2	2	3.00	6	2	2	3.00	6
14. Sabakaing	-	-	-	-	-	-	-	-	3	3	2.66	8
15. Okpon	115	115	4.00	460	25	20	3.50	70	25	20	3.50	70
16. Phalon Kangon	1	1	4.00	4	2	2	2.50	5	2	2	2.50	5
17. Phalon Station	171	171	4.00	684	156	156	3.00	968	156	156	4.00	624
18. Gyobu	75	75	3.50	263	82	82	3.00	246	82	82	3.00	246
19. Kyaik Saging	5	5	3.00	15	4	4	3.00	12	4	4	3.00	12
20. Thanut Chaung	81	81	4.20	340	50	50	3.50	175	60	50	3.50	175
21. Yin Dark Kwin	-	-	-	-	-	-	-	-	5	3	3.33	10
22. Taikkyi Hyoma	203	203	3.00	609	198	198	3.00	594	200	200	3.00	600
23. Poatta	3	3	3.33	10	5	4	3.00	12	5	4	3.00	12
24. Tha Yet Chaung	-	-	-	-	1	1	4.00	4	1	1	4.00	4
25. Tagwa	4	4	3.25	13	4	4	3.00	12	5	4	3.00	12
26. Lauk Le Chaung	3	3	3.00	9	3	3	4.00	12	3	3	4.00	12
Total	1,002	998	3.73	3,725	782	736	3.73	2,742	808	749	3.43	2,575
B. Hmaabi Township												
1. Myitvo	32	32	3.90	125	29	29	3.80	110	29	29	4.00	116
2. Nyaung Gon	31	31	3.90	121	27	27	4.00	108	34	34	4.00	136
3. Nyaung Tanga	16	16	3.60	58	30	30	4.00	120	-	-	-	-
4. Shwe Hyayagon	-	-	-	-	86	86	3.93	338	63	63	4.00	252
Total	79	79	3.85	304	86	86	3.93	338	63	63	4.00	252
Grand Total	1,081	1,077	3.74	4,029	868	822	3.75	3,080	871	812	3.48	2,827
Yield per Sown Area (bkt/ac)			(3.73)				(3.55)				(3.25)	

Table 3D - 2) Production of Major Crops by Village Tracts Related to the Project Area, Natpe

Village Tract	1977/78			1978/79			1979/80			
	Sown Area (ac)	Matured Area (ac)	Yield (bkt/ac)	Sown Area (ac)	Matured Area (ac)	Yield (bkt/ac)	Sown Area (ac)	Matured Area (ac)	Yield (bkt/ac)	
A. Taikkyi Township										
1. Kan Maung	-	-	-	-	-	-	-	-	-	-
2. Panibin	-	-	-	-	-	-	-	-	-	-
3. Tabu Yetho	-	-	-	-	-	-	-	-	-	-
4. Yedimdon	-	-	-	-	-	-	-	-	-	-
5. Eing Gyi	-	-	-	-	-	-	-	-	-	-
6. Yindaik Lebin	-	-	-	-	-	-	-	-	-	-
7. Okkan Kangan	-	-	-	-	-	-	-	-	-	-
8. Okkan Shansu	-	-	-	-	-	-	-	-	-	-
9. Okkan Yetho	-	-	-	-	-	-	-	-	-	-
10. Kungyangon	-	-	-	-	-	-	-	-	-	-
11. Phalon Ywama	-	-	-	-	-	-	-	-	-	-
12. Kye Bin Laha	-	-	-	-	-	-	-	-	-	-
13. Thanut Chaung Udo	-	-	-	-	-	-	-	-	-	-
14. Sabksaing	-	-	-	-	-	-	-	-	-	-
15. Okpon	-	-	-	-	-	-	5	5	3.00	15
16. Phalon Kangan	-	-	-	-	-	-	-	-	-	-
17. Phalon Station	-	-	-	-	-	-	-	-	-	-
18. Gyobu	-	-	-	-	-	-	-	-	-	-
19. Kyeik Sagsaing	-	-	-	-	-	-	-	-	-	-
20. Thanut Chaung	-	-	-	-	-	-	-	-	-	-
21. Yan Daik Awin	-	-	-	-	-	-	-	-	-	-
22. Taikkyi Nyoma	-	-	-	-	-	-	-	-	-	-
23. Poatta	-	-	-	-	-	-	-	-	-	-
24. Tha Yet Chaung	-	-	-	-	-	-	-	-	-	-
25. Tagwa	-	-	-	-	-	-	-	-	-	-
26. Lauk Le Chaung	13	13	6.00	13	13	6.00	78	78	6.00	78
Total	13	13	6.00	13	13	6.00	78	78	6.00	78
B. Hmawbi Township										
1. Myityo	11	6	4.00	9	9	3.88	35	35	6.00	12
2. Nyaung Gon	-	-	-	-	-	-	-	-	-	-
3. Myaung Tanga	2	2	4.00	2	2	4.00	8	8	4.00	12
4. Shwe Myayagon	-	-	-	-	-	-	-	-	-	-
Total	13	8	4.00	11	11	3.91	43	43	4.80	24
Grand Total	26	21	5.24	24	24	5.04	121	121	5.90	99

Yield per Sown Area (bkt/ac)

Table 3D - 22 Production of Major Crops by Village Tracts Related to the Project Area, Jute (Pre-monsoon)

Village Tract	1977/78			1978/79			1979/80					
	Sown Area (ac)	Matured Area (ac)	Yield (bkt/ac)	Production (bkt)	Sown Area (ac)	Matured Area (ac)	Yield (bkt/ac)	Production (bkt)	Sown Area (ac)	Matured Area (ac)	Yield (bkt/ac)	Production (bkt)
A. Taikkyi Township												
1. Kan Haung	40	40	185.00	7,400	140	140	237.14	33,200	203	203	220.49	44,760
2. Panbin	159	141	220.00	31,020	85	85	221.76	18,850	105	105	220.00	23,100
3. Tabu Yetho	-	-	-	-	-	-	-	-	-	-	-	-
4. Yedmindon	83	83	170.00	14,010	50	43	210.00	9,030	42	42	215.00	9,030
5. Eing Gyi	74	74	180.00	13,320	59	50	305.00	15,250	45	45	217.00	9,765
6. Yindaik Lebin	64	64	180.00	11,520	55	55	286.35	15,750	90	90	217.00	19,530
7. Okkan Kangon	100	100	220.00	22,000	120	100	190.00	19,000	75	72	215.00	15,480
8. Okkan Shansu	113	108	220.00	25,760	120	120	238.33	28,600	249	249	226.00	56,274
9. Okkan Yetho	140	140	220.00	30,800	129	77	220.00	16,940	175	170	218.00	37,060
10. Kungyangon	68	68	230.00	15,640	145	133	250.00	30,590	190	190	225.00	42,750
11. Phalon Ywaa	30	30	230.00	6,900	85	72	230.00	16,560	109	109	220.00	23,980
12. Kyee Bin Laha	15	13	250.00	3,250	5	5	200.00	1,000	-	-	-	-
13. Thanut Chaung Udo	18	18	190.00	3,420	30	20	200.00	4,000	45	43	215.00	9,245
14. Sabakaing	249	149	231.09	34,432	250	235	244.26	57,400	350	342	225.00	76,950
15. Okpon	2	1	150.00	150	6	6	150.00	900	93	88	235.00	19,800
16. Phalon Kangon	-	-	-	-	41	41	210.00	8,610	80	66	210.00	13,860
17. Phalon Station	250	120	228.92	50,363	400	378	229.86	86,890	500	449	222.00	99,678
18. Gyobu	62	62	200.00	12,400	6	6	200.00	1,200	15	11	110.00	1,210
19. Kyaik Sagaing	7	6	210.00	1,260	5	5	210.00	1,050	-	-	-	-
20. Thanut Chaung	32	32	180.00	5,760	-	-	-	-	55	45	220.00	9,900
21. Yin Daik Kwin	40	40	200.10	8,004	11	11	220.00	2,420	30	15	215.00	3,225
22. Taikkyi Myoma	16	16	150.00	2,400	18	13	130.00	1,690	22	4	200.00	800
23. Postta	30	18	200.10	3,601	-	-	-	-	-	-	-	-
24. Tha Yet Chaung	60	47	200.05	9,402	34	18	180.00	3,240	20	7	210.00	1,470
25. Tagva	25	21	201.03	4,221	23	11	200.00	2,200	30	18	210.00	3,780
26. Lauk Le Chaung	80	80	201.50	16,120	79	67	214.92	14,400	120	108	220.00	23,760
Total	1,757	1,471	225.12	331,153	1,896	1,691	229.05	388,770	2,643	2,471	220.72	545,407
B. Hmawbi Township												
1. Myityo	25	7	70.00	490	27	2	80.00	160	4	4	150.00	600
2. Nyaung Gon	-	-	-	-	-	-	-	-	-	-	-	-
3. Nyaung Tanga	-	-	-	-	-	-	-	-	-	-	-	-
4. Shee Myayagon	-	-	-	-	-	-	-	-	-	-	-	-
Total	25	7	70.00	490	27	2	80.00	160	4	4	150.00	600
Grand Total	1,782	1,478	224.39	331,643	1,923	1,693	229.00	388,930	2,647	2,475	220.61	546,007
Yield per Sown Area (bkt/ac)			(186.11)				(202.75)				(206.27)	

Table 30 - 23 Sown Area by Crop and Village Tract in the Project Area (1979/80)

Village Tract	Net Sown Area 1/	Sown Area by Crop 2/										Total	Haitio 2/			
		Baddy	G'nut (Rain)	G'nut (winter)	Sesamum (early)	Sesamum (late)	Jute (Pre-monsoon)	Jute (Monsoon)	Maize	Bosate	Gram			Sim-flower	Others	
A. Taikkyi Township																
1. Awe Post	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2. Gon Nyin Dan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3. Kan Maung	1,343	1,209	8	23	58	146	8	145	1,597	1,189	145	145	1,597	1,189	145	1,189
4. Panbin	559	413	1	9	66	44	9	158	701	1,254	158	158	701	1,254	158	1,254
5. Tabu Yetho	1,374	1,345	29	10	-	-	17	-	-	-	-	-	-	-	-	-
6. Yedmindon	1,370	1,299	66	44	-	42	-	-	-	-	-	-	-	-	-	-
7. Eign Gyi	625	590	-	23	34	34	-	-	-	-	-	-	-	-	-	-
8. Yindaik Lebin	463	441	-	20	7	90	-	-	-	-	-	-	-	-	-	-
9. Okkan Kanson	1,352	1,312	-	87	3	75	-	-	-	-	-	-	-	-	-	-
10. Okkan Shansu	56	51	-	7	-	14	-	-	-	-	-	-	-	-	-	-
11. Okkan Yetho	408	403	-	38	1	44	-	-	-	-	-	-	-	-	-	-
12. Kungvongon	1,132	1,122	-	85	5	190	-	-	-	-	-	-	-	-	-	-
13. Phalon Leama	1,114	1,102	-	48	3	109	-	-	-	-	-	-	-	-	-	-
14. Awee Bin Laha	1,475	1,462	-	20	-	-	-	-	-	-	-	-	-	-	-	-
15. Thanut Chaung Udo	2,350	2,350	-	450	2	45	-	-	-	-	-	-	-	-	-	-
16. Sabalaing	2,353	2,351	-	100	3	350	-	-	-	-	-	-	-	-	-	-
17. Okpon	2,621	2,616	-	52	25	93	-	-	-	-	-	-	-	-	-	-
18. Phalon Kanson	934	932	-	34	2	80	-	-	-	-	-	-	-	-	-	-
19. Phalon Station	1,153	1,162	5	27	107	341	-	-	-	-	-	-	-	-	-	-
20. Gyobu	2,443	2,229	-	344	10	71	-	-	-	-	-	-	-	-	-	-
21. Kyaik Sagaing	1,307	1,308	-	230	2	2	-	-	-	-	-	-	-	-	-	-
22. Thanut Chaung	1,192	1,090	8	69	60	55	-	-	-	-	-	-	-	-	-	-
23. Yin Daik Awin	2,339	2,329	-	350	5	30	-	-	-	-	-	-	-	-	-	-
24. Taikkyi Myoma	1,837	1,834	1	20	31	11	-	-	-	-	-	-	-	-	-	-
25. Poatta	3,786	3,780	-	10	4	5	-	-	-	-	-	-	-	-	-	-
26. Thayet Chaung	1,133	1,083	-	54	3	10	-	-	-	-	-	-	-	-	-	-
27. Tagva	3,895	3,472	2	8	5	30	-	-	-	-	-	-	-	-	-	-
28. Laukle Chaung	3,572	3,564	-	98	2	2	-	-	-	-	-	-	-	-	-	-
Total	42,186	40,855	120	2,260	28	459	1,936	48	5	157	3	16	1,176	47,063	1,116	1,116
29. Myitvo	1,052	1,040	-	15	-	-	-	-	-	-	-	-	-	-	-	-
30. Myaunggon	1,263	1,256	-	22	3	3	-	-	-	-	-	-	-	-	-	-
31. Myaung Tanga	336	336	-	2	1	-	-	-	-	-	-	-	-	-	-	-
32. Shwe Myayagon	2,241	2,208	-	-	-	-	-	-	-	-	-	-	-	-	-	-
33. Phugyi	0	0	-	-	0	-	-	-	-	-	-	-	-	-	0	0
Total	4,892	4,840	-	17	-	23	3	-	1	-	-	6	45	4,935	1,009	1,009
Grand Total	47,078	45,695	120	2,277	28	482	1,939	48	6	157	3	22	1,221	51,998	1,104	1,104

Note 1/ Net sown area by village tract, excluding the areas outside of the Project Area
 2/ In case of that full areas of village tracts are not included in the Project Area the sown areas by crop are estimated in the basis of the area coverage of paddy area sown in the respective village tracts

Table 3D - 24 Stock and Distribution of Seeds, Taikkyi Township Agriculture Corp. (1977/78)

Crop	Unit	Stock			Distribution			Balance
		Carried Over	Purchase	Total	Taikkyi Township	Other Townships	Total	
1. Paddy								
(1) Shwe-wa-htun	basket	-	7,210	7,210	7,016	-	7,016	194
(2) Shwe-ta-soku	"	-	12,480	12,480	10,862	1,200	12,062	418
(3) Ma-nawha-ri	"	-	4,216	4,216	4,074	-	4,074	142
(4) C4-63	"	-	-	-	-	-	-	-
(5) Sein-ta-lay	"	-	-	-	-	-	-	-
(6) Ya-Kyaw (2)	"	-	3,148	3,148	3,062	-	3,062	122
(7) Zeyar	"	-	-	-	-	-	-	-
(8) Others	"	-	216	216	216	-	216	-
Total	"	-	27,306	27,306	25,230	1,200	26,430	876
2. Jute	"	422	1,518	1,940	540	-	540	1,400
3. Groundnut	"	-	-	-	-	-	-	-
4. Sesamum	"	-	-	-	-	-	-	-
5. Sunflower	"	12	60	72	13	-	13	59
6. Maize	"	-	-	-	-	-	-	-
7. Matpe	"	50	142	192	54	-	54	138
8. Gram	"	-	-	-	-	-	-	-

Source: AC, Taikkyi Township

Table 3D - 25 Stock and Distribution of Seed, Taikkyi Township Agriculture Corp. (1978/79)

Crop	Unit	Stock		Distribution			Balance	
		Carried Over	Purchase	Total	Taikkyi Township	Other Townships		Total
1. Paddy								
(1) Shwe-wa-htun	basket	194	1,259	1,723	1,640	-	1,640	83
(2) Shwe-ta-soku	"	418	15,450	15,868	12,310	2,562	14,872	996
(3) Ma-nawha-ri	"	142	468	610	610	-	610	-
(4) C4-63	"	-	120	120	120	-	120	-
(5) Sein-ta-lay	"	-	100	100	88	-	88	12
(6) Ya-kyaw (2)	"	122	1,820	1,942	1,868	-	1,868	74
(7) Zeyar	"	-	3,145	3,145	3,145	-	3,145	-
(8) Others	"	-	-	-	-	-	-	-
Total	"	876	22,652	23,508	19,781	2,562	22,343	1,165
2. Jute	"	1,400	-	1,400	560	-	560	840
3. Groundnut	"	-	-	-	-	-	-	-
4. Sesamum	"	-	-	-	-	-	-	-
5. Sunflower	"	59	-	59	20	-	20	39
6. Maize	"	-	-	-	-	-	-	-
7. Matpe	"	138	-	138	17	-	17	121
8. Gram	"	-	-	-	-	-	-	-

Source: AC, Taikkyi Township

Table 5D - 26. Stock and Distribution of Seeds, Taikkyi Township Agriculture Corp. (1979/80)

	Unit	Unit	Stock			Distribution			Balance
			Carried Over	Purchase	Total	Taikkyi Township	Other Townships	Total	
1. Paddy									
(1) Shwe-wa-htun	basket	83	1,340	1,425	1,408	-	1,408	15	
(2) Shwe-ta-soku	"	996	11,848	12,844	5,130	6,280	11,410	1,434	
(3) Ma-nawha-ri	"	-	1,210	1,210	1,164	-	1,164	46	
(4) C4-63	"	-	500	500	492	-	492	8	
(5) Sein-ta-lay	"	12	500	512	504	-	504	8	
(6) Ya-Kyaw (2)	"	74	360	434	434	-	434	-	
(7) Zeyar	"	-	1,082	1,082	1,082	-	1,082	-	
(8) Others	"	-	-	-	-	-	-	-	
Total	"	1,165	16,840	18,005	10,214	6,280	16,494	1,511	
2. Jute	"	840	888	888	672	-	672	216	
3. Groundnut	"	-	-	-	-	-	-	-	
4. Sesamum	"	-	34	34	30	-	30	4	
5. Sunflower	"	39	51	51	38	-	38	13	
6. Maize	"	-	-	-	-	-	-	-	
7. Matpe	"	121	121	121	118	-	118	3	
8. Gram	"	-	50	50	36	-	36	14	

Source: AC., Taikkyi Township

Table 3D - 27 Inputs Recommendation per Acre, Taikkyi Agriculture Corporation
(At Present)

Crop	Seed Rate (bkt)	Fertilizer			Organic Fer.		Chemicals			
		Urea (lbs)	T.S.P (lbs)	M.O.P (lbs)	FYM (ton)	Compost (ton)	Powder (lbs)	Liquid (gal)	Others (ounce)	Gypsum (viss)
1 Paddy										
- Special HYV.	1.5	84	56	14	0.5	0.5	0.5	0.7	-	-
- Ordinary HYV.	1.5	56	28	-	0.5	0.4	0.4	0.1	-	-
- LIV	1.0	28	-	-	0.1	0.2	0.3	0.1	-	-
2 Jute	1/16	112	-	28	0.5	0.3	0.3	0.6	-	-
3 Maize	1/4	56	-	-	0.1	0.2	0.2	0.3	-	-
4 Groundnut	6-8	56	28	-	0.3	0.3	0.3	0.5	-	-
5 Sesamum	1/4-1/8	56	28	-	0.3	0.3	0.3	0.4	-	-
6 Sunflower	1/4	56	28	-	0.3	0.3	0.2	0.4	-	-
7 Matpe	1/4	56	-	-	0.3	0.3	0.1	0.2	-	-
8 Gram	1/4	56	-	-	0.3	0.3	0.2	0.3	-	-

Source: AC, Taikkyi Township

Table 3D - 28 Inputs Recommendation per Acre, Imawbi Agriculture Corporation
(At Present)

Crop	Seed Rate (bkt)	Fertilizer			Organic Fer.		Chemicals			
		Urea (lbs)	T.S.P (lbs)	M.O.P (lbs)	FYM (ton)	Compost (ton)	Powder (lbs)	Liquid (gal)	Others (ounce)	Gypsum (viss)
1 Paddy										
- Special HYV.	1.5	84	56	14	0.5	-	40	1/4	-	-
- Ordinary HYV.	1.5	56	28	14	0.5	-	"	"	-	-
- LIV	1.5	28	14	-	-	-	"	"	-	-
2 Jute	1/16	112	-	-	-	-	"	"	-	-
3 Maize	1/2	-	-	-	-	-	"	"	-	-
4 Groundnut	8	56	56	-	-	-	"	"	-	-
5 Sesamum	1/8	56	56	28	-	-	"	"	-	-
6 Sunflower	1/4	56	56	14	-	-	"	"	-	-
7 Matpe	1/4	-	-	-	-	-	"	"	-	-
8 Gram	1/8	-	-	-	-	-	"	"	-	-

Source: AC, Imawbi Township

Table 3D - 29 Estimated Fertilizer Requirement at Present

Crop	Sown Area ('000 ac)	Fertilizer			Insecticides		
		Urea ('000 lbs)	T.S.P ('000 lbs)	M.O.P ('000 lbs)	Organic ('000 cart)	Liquid ('000 oz)	lbs ('000 lbs)
1 Paddy							
- Special HYV	19.8	(84) 1,663	(56) 1,109	(14) 277	(0.5) 10	(2) 40	(0.5) 10
- Ordinary HYV	12.4	(56) 694	(28) 347	(0) 0	(0.5) 13	(1) 12	(0.5) 1
- Others	17.4	(28) 487	(0) 0	(0) 0	(0) 0	(0) 0	(0.2) 4
Total	49.6	2,844	1,456	277	23	52	15
2 Groundnut (Winter)	2.2	(28) 62	(0) 0	(0) 0	(0) 0	(0) 0	(0.3) 1
3 Sesamum (Late)	0.5	(0) 0	(0) 0	(0) 0	(0) 0	(0) 0	(0.3) 0
4 Peas & Beans	0.3	(0) 0	(0) 0	(0) 0	(0) 0	(0) 0	(0.3) 0
5 Jute (Pre-monsoon)	2.0	(0) 0	(0) 0	(0) 0	(0) 0	(2) 4	(0.3) 1
Total	54.6	2,906	1,456	277	23	56	17

Note: The figures in the parenthesis show the fertilizer requirement per acre.

Table 3D - 30 Distributed Fertilizer by Agriculture Corporation

<u>Fertilizer</u>	<u>Unit</u>	<u>1977/78</u>	<u>1978/79</u>	<u>1979/80</u>	<u>1980/81</u>
1 Urea	tons	2,590	2,653	2,945	2,901
2 T.S.P	"	760	848	1,136	1,460
3 Rock Phosphate	"	120	-	-	-
4 M.O.P	"	256	338	338	232
5 Others	"	-	-	-	-

Source: AC, Taikkyi Township

Table 3D - 31 Distributed Farm Inputs by Agriculture Corp.
(Hmawbi Township)

<u>Items</u>	<u>Unit</u>	<u>1977/78</u>	<u>1978/79</u>	<u>1979/80</u>
1. Fertilizers				
(1) Urea	ton	602	1,609	1,517
(2) T.S.P.	"	55	697	704
(3) Rock Phosphate	"	-	-	-
(4) Potash	"	-	18	40
(5) Others	"	-	-	-
2. Chemicals (Major ones)				
(1) Endrin 19%, EC	gallon	64	-	625
(2) EPN 45%, EC	"	3	40	42
(3) Diazinon 40%, EC	"	-	1	3
(4) Dimecron 50%, EC	"	1	-	63
(5) Aldrin 5%, P	pound	-	-	1,772
(6) Lindane 0.65%, P	"	3,577	-	752
(7) Zinc Phosphate	"	22	-	13
(8) DDT 75%	"	112	-	-

Source: AC., Hmawbi Township

Table 3D - 32 Farm Labor Requirement in the Project Area (At Present)

Crop	Area (^{'000} ac)	(Unit: ^{'000} man-day)												Total
		Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	
1. Paddy HYV	32.2	-	-	-	-	48.30	222.18	344.54	183.54	55.42	74.06	215.74	164.22	1,288.00
2. Paddy Others	17.4	20.88	-	-	-	20.88	85.26	158.34	109.62	8.70	-	93.96	93.96	591.60
3. Groundnut ^{1/}	2.5	10.00	5.00	27.50	22.50	-	-	-	-	-	-	15.50	17.00	95.50
4. Sesamum	0.5	0.55	3.60	3.00	2.00	4.35	1.00	-	-	-	-	-	-	14.50
5. Jute	2.0	-	21.20	23.80	8.00	2.00	40.40	29.60	-	-	-	-	-	129.00
<u>Total</u>	<u>54.6</u>	<u>31.43</u>	<u>29.80</u>	<u>54.30</u>	<u>32.50</u>	<u>75.53</u>	<u>348.84</u>	<u>552.48</u>	<u>293.16</u>	<u>44.12</u>	<u>74.06</u>	<u>323.20</u>	<u>275.18</u>	<u>2,118.60</u>

Table 3D - 33 Animal Power Requirement in the Project Area (At Present)

Crop	Area (^{'000} ac)	(Unit: ^{'000} animal-day)												Total
		Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	
1. Paddy HYV	32.2	-	-	-	-	25.76	67.62	67.72	32.20	-	12.88	45.08	58.64	289.80
2. Paddy Others	17.4	10.44	-	-	-	12.18	34.80	34.80	22.62	-	-	20.88	20.88	156.60
3. Groundnut ^{1/}	2.5	-	-	-	-	-	-	-	-	-	-	15.75	12.50	26.25
4. Sesamum	0.5	0.40	2.35	2.00	0.05	0.15	0.05	-	-	-	-	-	-	5.00
5. Jute	2.0	-	8.00	9.00	-	-	2.60	1.40	-	-	-	-	-	21.00
<u>Total</u>	<u>54.6</u>	<u>10.80</u>	<u>10.35</u>	<u>11.00</u>	<u>0.05</u>	<u>38.09</u>	<u>105.07</u>	<u>103.82</u>	<u>54.82</u>	<u>-</u>	<u>12.88</u>	<u>79.71</u>	<u>72.02</u>	<u>498.65</u>

Note: ^{1/} Including the cropping areas of peas and beans (= 0.3 thousand acres)

Table 30 - 34 Numbers of Livestock and Poultry (All Ages)

<u>Township</u>	<u>Year</u>	<u>Cattle</u> ^{1/}	<u>Buffaloes</u>	<u>Goat</u>	<u>Pigs</u>	<u>Fowls</u>	<u>Ducks</u>
Taikkyi	1977/78	45,442	6,287	844	16,068	232,173	19,821
	1978/79	44,711	6,445	689	15,203	197,263	19,906
	1979/80	48,354	6,969	534	15,670	206,189	22,490
Hmawbi	1977/78	20,961	8,333	364	16,212	211,390	69,321
	1978/79	23,626	9,957	1,199	17,572	295,027	58,735
	1979/80	28,981	11,394	1,626	18,808	304,904	61,499

Note: ^{1/} Including dairy cattle

Source: Dept. of Veterinary, Taikkyi and Hmawbi Township

Table 3D - 55 Numbers of Cattle by Sex and Age
(Only Draft Cattle)

Township	Year	Over 3 Years				Under 3 Years				Total
		Bull	Castered Oxen	Female	Sub-total	Male	Female	Sub-total	Total	
Taikkyi	1977/78	3,120	21,002	5,347	29,469	5,120	3,996	9,116	38,585	
	1978/79	3,772	21,475	5,473	30,720	5,098	3,971	9,069	39,789	
	1979/80	3,657	21,801	5,590	31,045	5,236	4,515	9,751	40,796	
Hmawbi	1977/78	1,654	6,440	3,756	12,170	2,902	2,122	5,024	7,008	
	1978/79	1,607	7,439	3,678	12,724	3,962	2,923	6,885	9,008	
	1979/80	1,870	8,552	4,098	14,520	4,681	3,714	8,440	12,194	

Source: Dept. of Veterinary, Taikkyi and Hmawbi

Table 3D -36 Number of Tractors and Attachments Owned by AMD Tractor Station

Year	Nos. of Tractor		Nos. of Major Attachments of Tractors					
	50HP	Over 50HP	Total	Disc Plow	Rotary Cultivator	Disc Harrow	Tooth Harrow	Trailer
1977/78	42	-	42	4	-	42	-	4
1978/79	45	-	45	4	-	45	-	4
1979/80	45	-	45	14	-	45	-	4

Source: AMD, Taikkvi Tractor Station

Table 3D - 37 Utilization of Tractors Owned by AMD Tractor Station

Year	Nos. of Tractor	Operation Hours			Total (hr)	Ave. Field Hours per Tractor (hr)	Total Tillage Acre-turn			Ave. Acre -turn per Tractor (acre-turn)
		Field Hours (hr)	Road Hours (hr)	Total (hr)			Paddy (acre-turn)	Other Crops (acre-turn)	Total (acre-turn)	
1977/78	42	10,220.50	4,823.50	15,044.00	243.35	2,100.00	7,139.97	9,239.97	220.00	
1978/79	45	12,986.50	2,815.50	75,802.00	258.59	2,444.50	9,711.50	12,156.00	270.13	
1979.80	45	18,136.50	3,323.00	21,459.50	403.03	3,855.50	14,245.00	18,080.50	401.79	

Source: AMD, Taikkvi Tractor Station

Table 5D - 58 Numbers of Farm Mechanization Owned by Cooperatives and Individuals

Village Tract	Cooperatives						Individuals		
	Tractor (50 HP)	Disc Plow	Disc Harrow	Trailer	Power Tiller	Water Pump (High Lift)	Water Pump (Low Lift)	Power Tiller	Water Pump (Low Lift)
1. Kywe Poat	1	1	1	-	-	-	1	-	11
2. Gonnyin Dan	-	-	-	-	-	-	-	-	2
3. Kan Maung	-	-	-	-	-	-	-	-	10
4. Panibin	-	-	-	-	-	-	1	-	20
5. Tabuyetho	-	-	-	-	-	-	-	-	1
6. Yedwindon	-	-	-	-	-	-	-	-	14
7. Eing Gyi	-	-	-	-	-	-	-	-	15
8. Yindaik Lebin	-	-	-	-	-	-	1	-	5
9. Okkan Kagon	-	-	-	-	-	-	3	-	11
10. Okkan Shanzu	2	1	2	-	-	-	1	-	29
11. Okkan Yetho	-	-	-	-	-	-	1	-	8
12. Kungyangon	1	1	1	-	-	-	1	-	19
13. Phalon Ywama	1	1	1	-	-	-	1	-	4
14. Kye Bin Laha	-	-	-	-	-	-	1	-	5
15. Pyin Ma Gon	2	2	2	-	-	-	2	1	36
16. Thanut Chaung Udo	2	2	2	-	-	-	1	-	10
17. Hlaing	-	-	-	-	-	-	3	-	18
18. Sabakaing	1	1	1	-	-	-	1	-	15
19. Okpon	2	2	2	-	-	-	1	-	14
20. Phalon Kagon	-	-	-	-	-	-	1	-	10
21. Phalon Station	2	1	2	-	1	-	3	-	19
22. Gyobyu	-	-	-	-	-	-	1	-	11
23. Kyaik Sagaing	-	-	-	-	-	-	-	-	1
24. Khun Hna Kyaik (E)	-	-	-	-	-	-	-	-	16
25. Thanut Chaung	2	1	2	1	-	-	1	2	10
26. Yin Daik Kwin	2	2	2	-	-	-	1	-	13
27. Kya Inn	-	-	-	-	-	-	1	-	4
28. Taikkyi Myoma	3	3	3	1	2	1	105	-	17
29. Poatta	1	-	1	-	-	-	-	1	9
30. Tha Yet Chaung	2	2	2	-	-	-	1	1	13
31. Thaug Yatzee Gon	-	-	-	-	-	-	2	-	46
32. Tagwa	2	2	2	-	-	-	1	-	10
33. Lauk Le Chaung	2	2	2	-	-	-	2	1	18
Total	28	24	28	2	3	1	138	6	444

Figure 3E-1 FLEETRIC POWER CORPORATION
Organization Chart

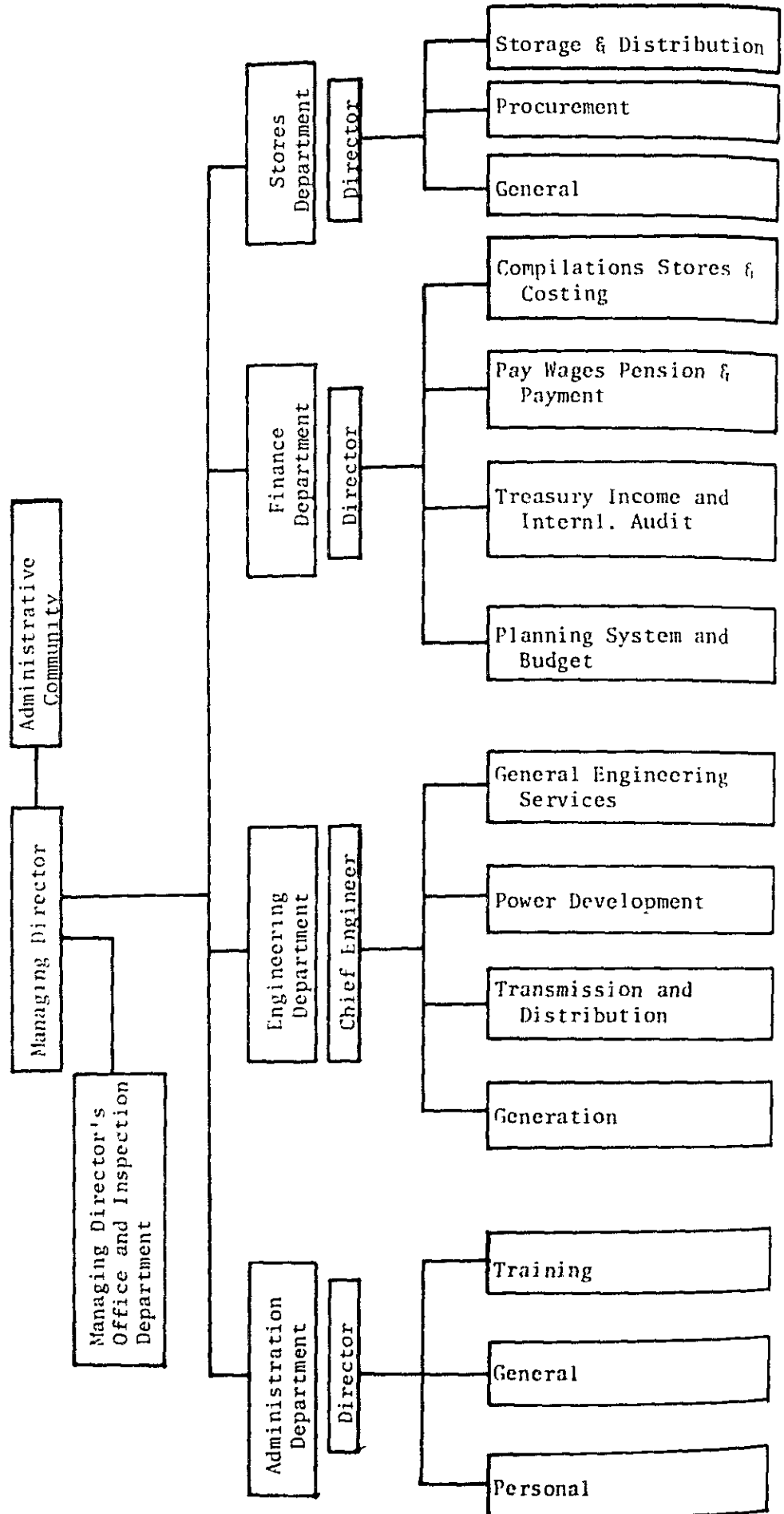


Table 3E-1 Power Development Program of EPC

<u>Sr. No.</u>	<u>Project</u>	<u>Installed Capacity (MW)</u>	<u>Firm Capacity (MW)</u>	<u>Scheduled Commission Date</u>
<u>HYDRO</u>				
1.	Sedawgyi Hydro Electric Power Station	25.00	25.00	1983-84
2.	Zaung-Tu Hydro Electric Power Station	24.00	16.00	1984-85
3.	Lawpita No. (1) Hydro Electric Power Station	24.00	24.00	1984-85
4.	Nyaung gyat Hydro Electric Power Station	56.00	56.00	1985-86
5.	Paung Laung Hydro Electric Power Station	136.00	94.00	1987-88
6.	Kyain-Ta-Le Hydro Electric Power Station	36.00	36.00	1987-88
7.	Billin Hydro Electric Power Station	250.00	92.00	1989-90
<u>THERMAL</u>				
1.	Thaton	18.00		1983-84
<u>GAS TURBINE</u>				
1.	Prome	36.20		1981-82
2.	Chauk	15.26		1982-83
3.	Kyait Lat	15.26		1982-83

Table 3E-2 Total Length of Electric Power Lines

(Unit: mile)

Serial No.	Particulars	1961/62	1975/76	1976/77	1977/78	1978/79 (Provi- sional Actual	1979/80 (Provi- sional
1	2	3	4	5	6	7	8
1	Over-head cable						
1	230 KV line	250	250	250	250	250	250
2	132 KV line	224	314	314	314	314	314
3	66 KV line	10	149	189	189	349	522
4	33 KV line	472	653	673	729	730	752
5	11 KV line	1,492	2,213	2,269	2,294	2,334	2,384
6	6.6 KV line	196	140	142	415	420	435
7	3.3 KV line	33	18	18	9	9	9
8	0.4 KV line	3,125	3,956	4,009	4,121	4,136	4,156
	Under-ground cable						
1	33 KV line	30	59	59	59	79	86
2	11 KV line		1	1	1	2	4
3	6.6 KV line	103	249	249	249	252	257
4	0.4 KV line	53	87	87	104	107	112

Table 3E-3 Power Installed Capacity

(Unit: 1,000 KW)

<u>Serial No.</u>	<u>Year</u>	<u>Hydro</u>	<u>Thermal</u>	<u>Gas-Turbine</u>	<u>Diesel</u>	<u>Other Government Organization</u>	<u>Total</u>
1	2	3	4	5	6	7	8
1	1961/62	84.45	55.00		49.95	51.82	241.22
2	1967/68	84.45	57.75		50.85	56.85	249.90
3	1968/69	84.45	57.75		53.86	56.85	258.91
4	1969/70	84.45	57.75		53.88	56.85	252.93
5	1970/71	84.45	57.75		53.82	56.85	252.87
6	1971/72	84.45	57.75		54.12	56.85	253.17
7	1972/73	84.45	57.75		54.12	56.85	253.17
8	1973/74	168.45	57.75	54.30	53.93	56.85	391.28
9	1974/75	168.45	52.75	54.30	53.93	56.85	386.28
10	1975/76	168.50	52.75	103.50	55.24	56.85	436.84
11	1976/77	168.59	52.75	103.50	56.34	56.85	437.94
12	1977/78	168.50	62.75	103.50	55.08	113.96	503.79
13	1978/79 (Provisional Actual)	168.50	62.75	103.50	59.21	134.60	528.56
14	1979/80 (Provisional)	168.50	68.75	158.85	64.15	182.08	642.33

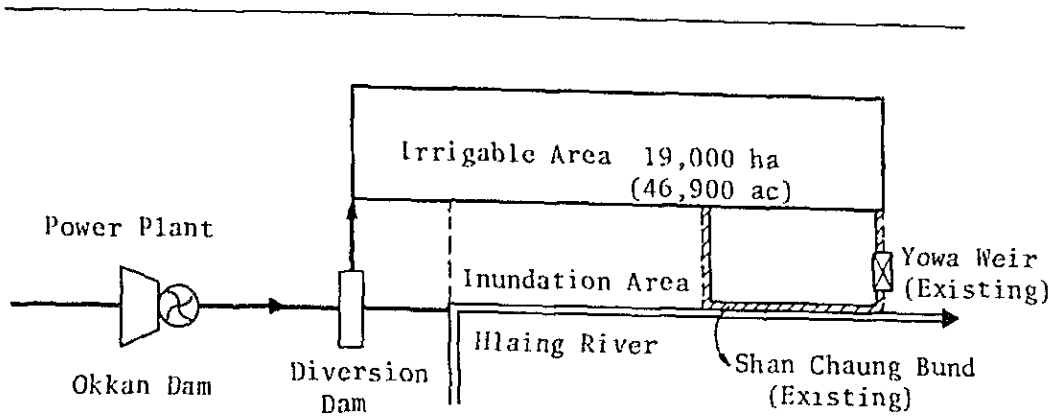
Table 3E-4 Units Generated, Consumed and Cost per Unit of Electricity
(Electric Power Corporation)

Serial No.	Particulars	1978/79 (Provisional Actual)													1979/80 (Provisional Actual)
		1961/62	1968/69	1969/70	1970/71	1971/72	1972/73	1973/74	1974/75	1975/76	1976/77	1977/78	1978/79		
1	Installed Capacity (000) K _h	189.40	196.06	196.08	196.02	196.32	196.32	334.43	329.43	379.99	381.09	389.83	393.96	460.25	
2	Installed Capacity (Within the principal grid area)	144.45	144.45	144.45	144.45	144.45	144.45	277.75	277.75	277.80	277.80	287.80	287.80	378.90	
3	Available firm power (Within the principal grid area)	89.00	89.00	89.00	91.00	88.00	88.00	88.00	172.00	208.20	208.20	208.20	206.50	259.45	
4	Units generated (000) K _h H	323,870	436,570	476,239	545,106	618,858	650,694	658,839	682,160	759,947	839,969	931,215	976,813	1,034,255	
5	Less losses in Generation, Transmission, Distribution and Departmental uses	92,710	125,130	136,609	150,048	155,066	157,634	155,104	174,268	204,002	211,749	253,560	283,874	258,564	
6	Units consumed (4-5)	231,160	311,440	339,630	395,058	463,792	493,060	503,735	507,892	555,945	628,220	677,715	632,939	775,691	
1	Industrial	96,700	139,350	155,390	197,855	247,734	261,131	262,467	266,382	293,372	346,411	378,999	377,725	440,101	
2	Domestic	79,750	103,700	108,990	115,475	124,829	130,892	141,337	145,039	157,400	174,204	188,446	195,510	214,195	
3	Hospitals, Offices, Schools, etc.	38,300	45,790	52,100	57,618	65,533	74,212	73,673	70,134	78,980	81,237	82,661	91,391	91,847	
4	Miscellaneous	16,410	22,600	23,150	24,110	25,696	26,825	26,258	26,337	26,193	26,348	27,609	28,313	29,548	
7	Total Earnings (Kyat in Thousand)	65,711	87,275	93,838	102,009	100,591	111,349	115,554	113,773	126,100	144,801	166,107	178,110	196,645	
8	Cost per unit	29.33	22.87	21.77	19.43	17.48	17.73	18.07	20.71	20.92	21.37	20.05	21.22	21.39	
9	Per Unit Savings Value	28.43	28.02	27.63	25.82	21.68	22.58	22.94	22.40	22.68	22.79	24.25	25.42	25.19	

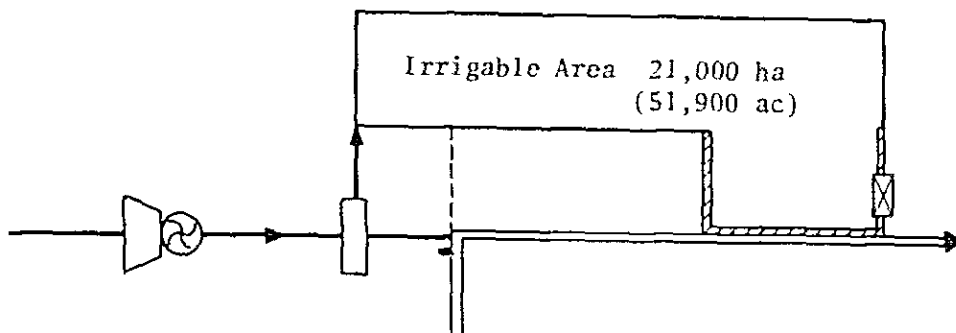
CHAPTER IV. THE PROJECT

FIGURE 4B-1 ALTERNATIVES ON OPTIMUM SCALE OF DEVELOPMENT

Case 1 Irrigation + hydroelectric power excluding the area surrounded by the Shan chaung bund and inundation



Case 2 Irrigation + hydroelectric power including the said area in case 1 except inundation area



Case 3 Irrigation + hydroelectric power including improvement of inundation area by provisions of bunds

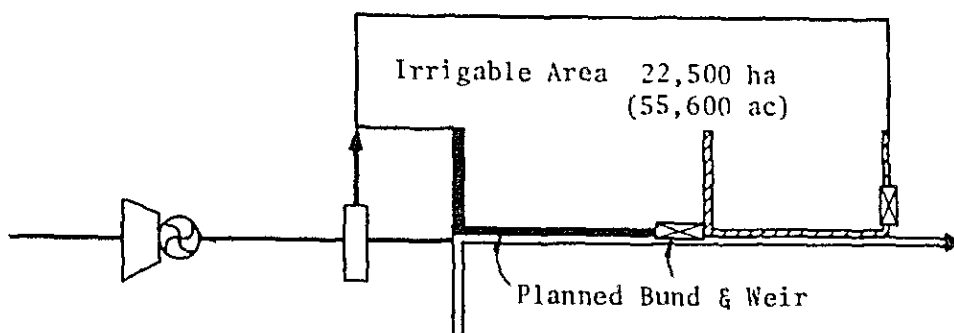


Table 4B-1. Construction Cost of Civil Works in Each Case
(Unit: 1,000 Kyats)

Item	<u>Case 1</u>	<u>Case 2</u>	<u>Case 3</u>
I. Construction Cost of Civil Works ^{1/}			
1.1. Preparation	8,084	8,290	8,290
1.2. Main Dam	28,697	28,697	28,697
1.3. Diversion Dam	9,649	9,649	9,649
1.4. Irrigation & Drainage Canal	92,602	102,350	130,481
1.5. On-farm	3,358	3,711	3,976
1.6. Road	2,383	2,383	2,383
1.7. Hydropower Plant	31,416	31,416	31,416
1.8. Pre-Engineering	376	376	376
1.9. Physical Contingency ^{2/}	26,485	28,031	32,290
Total	<u>205,050</u>	<u>214,903</u>	<u>247,558</u>
2. Cropping Area (ha)	<u>38,000</u>	<u>41,200</u>	<u>42,700</u>
3. Unit Cost per Cropping Area (Kyats/ha)	<u>5,340</u>	<u>5,210</u>	<u>5,800</u>

Note: ^{1/} Including depreciation cost of construction equipments
^{2/} 15 percent of 1.1 to 1.8