

to be added beside existing apparatus for chemical analysis.

X-ray diffracton instrument	1
DTA Equipment	1
Tention meter for soil moisture	10
Pressure membrane apparatus	1
Centrifuge moisture equivalent apparatus	1

(3) Training Soil Surveyer Personels in the Advanced Countries

To achieve new method of soil survey and modern analysis of soils, it is necessary to learn the modern international soil classification and operation of new instruments. At least 6 personels on soil survey, soil classification and land use planning should be trained in the advanced country for 6-12 months.

(4) Approximate Cost

The Approximate Cost is shown as following Table B-9-2.

TABLE B-9-2 APPROXIMATE COST

(Unit: Thousand Kyat)

<u>Description</u>	<u>F.C.</u>	<u>L.C.</u>	<u>Total</u>
A. Field Use Materials and Apparatus			
Soil auger (20 sets)	14	-	14
Soil core sampler (2 sets)	7	-	7
Soil colour standard (10 sets)	6	-	6
Soil survey kit (4 sets)	60	-	60
Land cruiser car (2 cars)	270	-	270
B. Laboratory Equipments			
X-ray diffracton instrument XD-3A with cooling coil (1 set)	500	-	500
Differential thermo equipment For DTA & TG, 30 series up to 1,000°C (1 set)	235	-	235
Tention meter (Type 200) (10 sets)	5	-	5
Pressure menbrance apparatus (1 set)	40	-	40
Soil moisture equivalent apparatus Type 50-b with cooling coil (1 set)	150	-	150
C. Chemicals for soil analysis	50		50
D. Surveyers and Labors	-	495	495
<u>Total (1)</u>	<u>1,337</u>	<u>495</u>	<u>1,832</u>
Contingency (2) (15% of 1)	201	74	275
Price Escalation ^{1/}	769	170	939
<u>Grand Total</u>	<u>2,307</u>	<u>739</u>	<u>3,046</u>

Note: ^{1/} F.C. 50%, L.C. 30% of (1+2)

A P P E N D I C E S

APPENDIX B-1
CLASSIFICATION OF SOILS BY USSR.

INSIDE ID USSR.

1. Tundra-gley soils.
2. Podosolic soils (of Taiga Forest).
3. Podosol-swampy soils.
4. Swampy soils.
5. Jorn soils.
6. Brown forest soils and Glay Forest soils.
7. Cinnamon soils and Glay cinnamon soils.
8. Chozem (of steppe) and Swampy chozem.
9. Chesnut soils (of Dry steppe) and Swampy chesnut soils.
10. Brown soils (of desert steppe) and Glay brown soils (of desert).
11. Solonchak soils.
Solonetz soils.
Soloth soils.
12. Takil soils, Takilic soils (Desert).
13. Glay soils.
Swampy gray soils.
14. Red soils
Yellow soils.
15. Mountain soils.

OUT OF USSR.

1. Chozemic soils (of Prairie).
2. Red soils (of wet semitropical forest).
Yellow soils (of wet semi-tropical forest).
3. Reddish-black soils (of semi-tropical prairie).
4. Cinnamon soils (of semi-tropical and tropical regions).
5. Gray cinnamon soils (of semitropical steppe).
6. Poorly developed soils (of semitropical and tropical)
7. Podozolized lateritic soils (of equatorial rain forest)
8. Reddish cinnamon soils (of tropical dry forest and shrubs).
9. Red-brown soils (of dry tropics and desert savanna).
10. Black soils (of semi-tropic and tropic region)

Source: I.P. Gerasimov and M.A.Granovskaya, Fundamentals of Soil Geology.

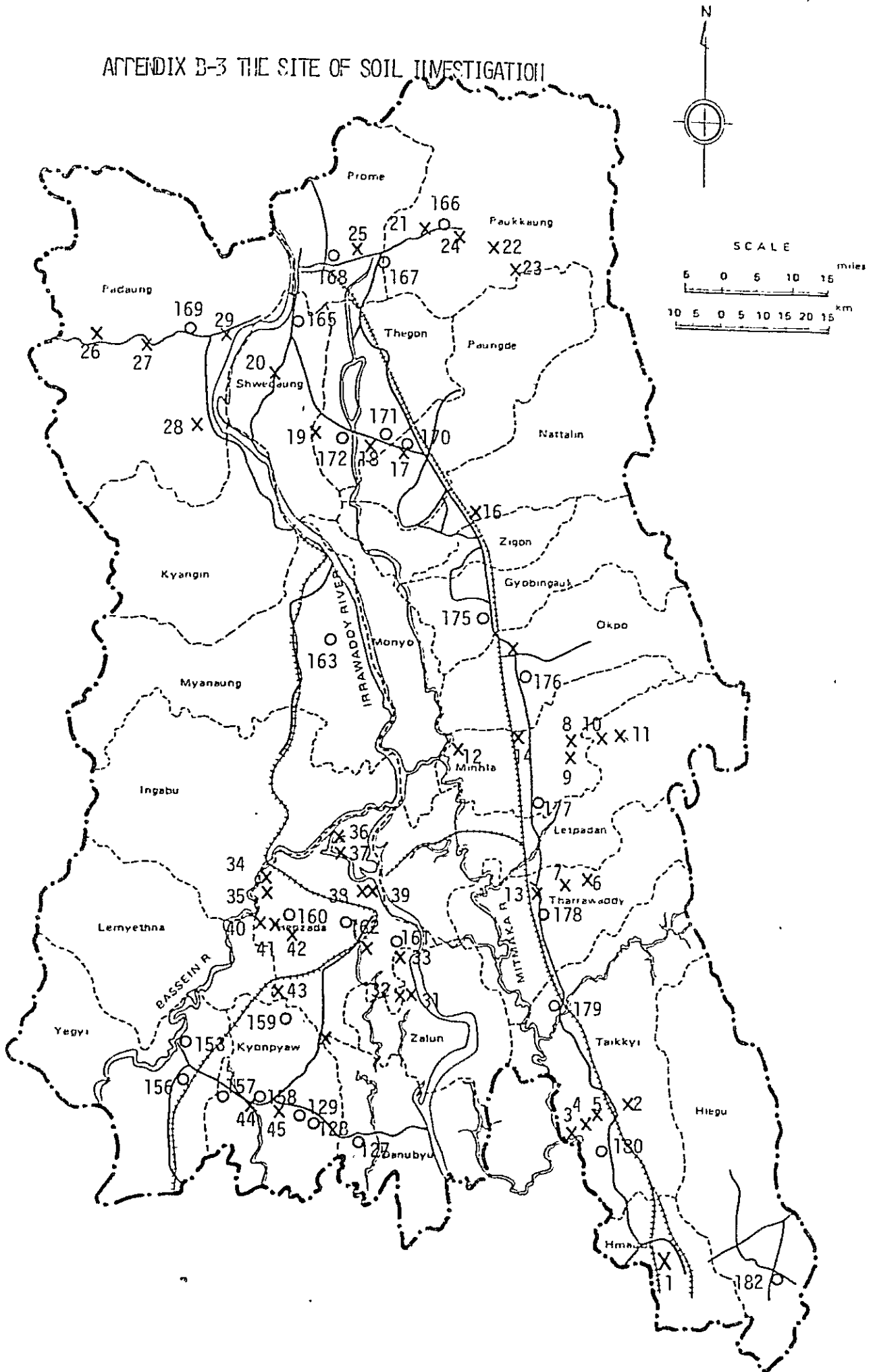
APPENDIX B-2

LEGEND FOR SOIL MAP OF BURMA BY I.I.Karmannov.

1. Light-Meadow soils (Predominantly gley).
2. Light-Meadow soils Combined with Bog-Meadow soils
Alluvial-Meadow soils.
3. Light-Meadow soils(and Bog-Meadow soils), Salinized soils.
4. Dark-Meadow soils.
5. Dark compact soils, of dry savanna.
6. Reddish-yellow soils, of monsoon tropical forest.
7. Reddish Cinnamon-brown soils, of dry tropical forest and shrub lands.
8. Red-Brown soils, of dry savanna.
9. Poorly developed stony Red-Brown soils,
of dry savanna.
10. Mountain Red-Yellow soils, of mountainous tropical forest.
11. Red Soils, of mountainous tropical forest.
12. Slightly studied soils, of high-mountain regions.
13. Soils of mangrove forest.

Source: I.I.Karmanov; Soviet Soil Science 1. p.31-42. 1966.

APPENDIX B-3 THE SITE OF SOIL INVESTIGATION



APPENDIX B-3 CHEMICAL CHARACTERISTICS OF SOILS

No. Soil Name	Depth cm	pH	T - N %	Humus %	C/N	Available substances			Exchangeable bases		Texture		
						N mg/100g	P ₂ O ₅ mg/100g	K ₂ O mg/100g	Ca me/100g	Mg me/100g	Sand %	Silt %	Clay %
Meadow soil	0-13	5.4	0.12	1.6	7.9	0.1	4.2	8.7	7.6	5.8	41.4	38.3	16.8
	38-51	5.6	-	0.7	-	-	3.5	7.1	12.2	4.8	57.0	28.6	18.7
	84-97	5.7	-	0.7	-	-	-	-	15.0	10.6	17.0	2.3	81.5
Meadow soil	0-13	5.3	0.07	1.2	10.2	0.3	-	12.0	4.4	3.0	33.9	35.5	17.6
	28-38	5.7	-	0.4	-	0.2	-	10.3	5.8	3.0	80.8	8.2	8.8
	64-76	5.8	-	0.7	-	-	-	-	8.2	4.8	40.0	32.6	24.5
Meadow gley soil	0-13	5.2	0.12	1.6	7.6	0.2	4.0	18.8	7.6	10.2	13.2	48.0	22.5
	28-41	5.6	-	0.9	-	0.2	4.4	15.8	7.4	10.4	9.9	47.8	26.9
	74-86	5.8	-	-	-	-	-	-	9.0	15.0	11.6	49.2	33.0
Meadow gley soil	0-10	5.5	0.03	0.5	9.6	-	1.5	6.5	1.8	4.8	-	-	-
	38-48	5.4	0.04	0.4	6.0	-	1.5	4.8	2.2	12.6	-	-	-
	61-71	6.2	0.04	0.4	6.6	-	-	-	2.4	16.2	-	-	-
Meadow gley soil	0-13	5.1	0.35	1.1	18.2	-	2.8	5.1	5.4	5.6	25.0	42.8	21.9
	18-30	6.6	0.05	0.8	10.8	-	3.1	8.6	10.0	12.0	15.9	42.1	35.2
	43-56	6.2	-	-	-	-	-	-	-	-	16.1	40.9	37.1

Source: Soil and Land Use Survey Report

(cont'd)

No. Soil Name	Depth cm	pH	T - N %	Humus %	C/N	Available substances			Exchangeable bases			Texture		
						N mg/100g	P ₂ O ₅ mg/100g	K ₂ O mg/100g	Ca me/100g	Mg me/100g	Sand %	Silt %	Clay %	
Meadow Alluvial Soil	0- 13	6.2	0.12	1.8	8.0	4.6	-	21.3	-	-	9.4	53.9	18.1	
	30- 38	5.9	0.09	1.4	8.9	4.0	-	18.7	-	-	27.2	45.3	24.2	
	56- 64	5.9	-	0.8	-	-	-	-	-	-	47.0	34.2	16.2	
	86- 99	5.9	-	-	-	-	-	-	-	-	39.5	26.4	23.4	
Meadow Alluvial Soil	0- 13	5.8	0.13	1.9	8.5	-	7.0	20.2	7.8	6.8	28.6	40.3	25.1	
	13- 38	6.3	0.13	0.7	4.3	-	4.2	12.2	-	-	18.3	49.5	37.3	
	38- 74	6.4	0.07	0.6	6.2	-	-	-	9.4	8.8	-	-	-	
	74- 99	6.4	-	-	-	-	-	-	8.8	7.6	-	-	-	
Meadow Swampy Soil	0- 13	5.7	0.17	2.3	8.1	3.0	3.6	12.2	20.2	16.6	3.1	31.5	61.0	
	30- 43	6.1	0.14	1.7	7.1	1.2	4.8	10.4	20.0	20.0	2.5	30.7	65.8	
	64- 76	6.2	-	1.6	-	0.5	4.2	-	20.0	17.7	1.7	27.5	69.7	
Meadow Swampy Soil	0- 33	5.5	0.20	3.5	10.0	-	0.8	11.0	15.6	12.8	1.7	15.6	82.9	
	33- 84	6.3	0.04	0.6	7.6	-	2.3	2.4	9.3	9.6	18.3	14.3	66.1	
	84-100	6.6	-	-	-	-	0.7	17.7	-	-	1.9	28.4	69.5	
	0- 13	6.6	0.06	0.8	8.2	-	12.1	28.1	7.2	9.0	67.0	18.6	10.5	
Alluvial Soil	13- 30	6.5	0.07	1.0	10.4	-	16.9	17.8	17.6	1.4	56.8	12.8	17.1	
	30- 61	6.4	-	1.2	-	-	-	-	-	-	65.7	16.4	11.0	
	61-100	6.7	-	0.6	-	-	-	-	-	-	93.4	5.8	2.5	

(cont'd)

No. Soil Name	Depth cm	pH	T - N %	Humus %	C/N	Available substances			Exchangeable bases			Texture	
						N mg/100g	P ₂ O ₅ mg/100g	K ₂ O mg/100g	Ca me/100g	Mg me/100g	Sand %	Silt %	Clay %
Yellow Brown Forest Soil	0- 13	5.6	0.13	2.6	11.4	3.5	5.7	8.6	5.4	5.8	51.6	20.5	27.2
	36- 51	5.5	0.09	0.5	2.3	1.6	2.4	29.3	6.2	3.6	40.6	20.7	40.1
	94-100	5.4	0.02	-	-	0.8	1.7	3.6	3.4	7.6	42.3	25.1	29.7
Yellow Brown Forest Soil	5- 15	5.9	-	1.6	-	2.2	2.9	11.6	3.8	0.4	71.7	10.2	16.2
	28- 41	5.2	-	0.7	-	2.7	2.8	18.5	2.6	0.2	54.8	13.7	32.0
	79- 89	4.9	-	0.5	-	2.2	2.0	16.8	2.8	0.4	53.2	14.5	30.5
Yellow Brown Forest Carbonate Soil	0- 15	6.9	0.12	2.1	11.2	2.3	0.4	17.2	-	-	48.1	14.8	23.2
	15- 38	7.1	0.06	1.2	11.8	1.3	0.2	14.7	-	-	45.5	15.8	23.7
	38- 76	7.2	-	0.8	-	0.8	-	14.7	-	-	46.4	15.3	21.3
76-100	7.2	-	0.3	-	0.5	-	-	-	-	49.5	8.9	15.5	
Yellow Brown Forest Carbonate Soil	0- 13	7.1	0.13	2.3	10.1	-	-	-	14.6	15.8	54.0	20.5	18.5
	41- 53	7.5	0.07	0.6	5.0	0.1	16.8	-	20.4	8.6	40.0	29.3	25.4
	69- 81	7.7	0.06	0.4	4.0	0.1	19.2	-	18.8	10.2	39.8	29.9	26.1

(cont'd)

No. Soil Name	Depth cm	pH	T - N %	Humus %	C/N	Available substances			Exchangeable bases			Texture		
						N mg/100g	P ₂ O ₅ mg/100g	K ₂ O mg/100g	Ca me/100g	Mg me/100g	Sand %	Silt %	Clay %	
Alluvial Soil	0- 20	5.1	0.13	2.5	10.9	-	2.0	7.8	10.2	11.4	-	-	-	
	20- 61	6.1	0.04	0.7	8.7	-	3.5	4.1	10.6	9.4	-	-	-	
	61-100	6.0	-	0.3	-	-	-	-	5.9	6.8	-	-	-	
Indaing Forest Soil	0- 13	4.5	0.04	1.4	20.8	0.2	0.9	31.7	1.4	0.6	80.8	6.0	5.5	
	25- 38	5.2	0.02	0.4	14.8	0.2	0.8	21.2	2.4	1.0	83.7	5.6	7.8	
	58- 71	5.3	-	0.5	-	-	0.4	18.8	2.6	5.0	55.8	20.4	17.2	
Indaing Forest Soil	0- 13	5.9	0.06	1.7	18.1	3.9	3.6	17.3	3.0	3.8	92.7	4.1	1.6	
	30- 41	5.6	0.10	1.3	7.1	-	1.5	13.9	5.7	1.5	76.5	8.4	9.8	
	89-100	6.0	-	-	-	-	0.6	-	2.6	2.8	64.3	6.2	23.5	
Lateritic Soil	0- 10	5.4	0.14	2.0	8.8	-	3.0	21.9	2.6	1.8	60.2	13.2	18.0	
	41- 51	4.5	0.07	0.6	4.6	-	tr.	13.4	2.6	1.4	67.3	13.1	24.2	
	76- 86	4.3	-	0.7	-	-	-	-	2.0	2.6	54.9	20.0	28.3	
Lateritic Soil	0- 13	4.9	0.07	1.3	10.3	6.4	0.2	20.2	4.8	2.0	-	-	-	
	28- 41	5.1	0.09	0.7	4.6	3.7	tr.	13.4	3.4	2.0	-	-	-	
	79- 91	4.7	-	0.6	-	-	-	-	2.0	7.0	-	-	-	

(cont'd)

CHEMICAL CHARACTERISTICS OF SOILS BY QUICK TEST

<u>No. Soil name</u>	<u>Site No.</u>	<u>Depth</u> <u>cm</u>	<u>pH</u>	<u>NO₃-N</u> <u>mg/100g</u>	<u>NH₄-N</u> <u>mg/100g</u>	<u>Available P₂O₅</u> <u>mg/100g</u>	<u>Available K₂O</u> <u>mg/100g</u>	<u>Exchangeable CaO</u> <u>mg/100g</u>	<u>Exchangeable MgO</u> <u>mg/100g</u>
Meadow Soils	6	0-12	5.5	4-10	1-2.5	0.1-1	8-15	30-70	20-35
	6	30-40	5.8	1-4	1-2.5	0.1-1	3-8	100-150	20-35
	17	0-16	5.5	4-10	0-1	0.1-1	0-3	100-150	20-35
	17	16-25	6.5	1-4	1-2.5	0.1-1	0-3	150-200	20-35
Meadow Gley Soils	14	0-12	5.7	10-25	1-2.5	0.1-1	3-8	70-100	30-50
	14	30-40	6.8	1-4	1-2.5	0.1-1	0-3	150-200	10-20
	28	0-12	5.7	1-4	1-2.5	0.1-1	8-15	70-100	35-50
	28	12-35	6.5	1-4	0-1	0.1-1	8-15	150-200	20-35
	32	0-12	5.5	4-10	0-1	0.1-1	3-8	70-100	35-50
	32	12-40	6.2	1-4	1-2.5	0.1-1	3-8	100-150	20-35
	37	0-15	5.5	1-4	1-2.5	0.1-1	0-3	70-100	35-50
	37	15-40	7.0	1-4	0-1	1-2.5	0-3	150-200	35-50
	37	40-60	7.0	1-4	0-1	1-2.5	0-3	150-200	20-35
	46	0-15	5.5	1-4	0-1	0.1-1	0-3	100-150	20-35
	46	15-45	6.0	1-4	1-2.5	0.1-1	0-3	150-200	20-35
	47	0-12	5.7	10-25	1-2.5	0.1-1	3-5	70-100	35-50
	47	35-50	6.2	1-4	1-2.5	0.1-1	3-5	150-200	10-20
	47	60-95	6.3	4-10	0-1	0.1-1	0-3	100-150	35-50

(cont'd)

No. Soil name	Site No.	Depth cm	pH	No ₃ -N mg/100g	NH ₄ -N mg/100g	Available P ₂ O ₅ mg/100g	Available K ₂ O mg/100g	Exchangeable CaO mg/100g	Exchangeable MgO mg/100g
Meadow Alluvial Soils	39	0-25	6.3	4-10	1-2.5	1-2.5	0-3	150-200	20-35
	39	25-50	6.2	1-4	1-2.5	1-2.5	3-8	70-100	35-50
	41	0-15	5.5	1-4	0-1	0.1-1	8-15	150-200	20-35
	41	15-40	6.5	1-4	0-1	0.1-1	3-8	100-150	20-35
	43	0-25	6.2	1-4	0-1	0.1-1	3-8	150-200	35-50
	43	25-50	5.8	1-4	0-1	1-2.5	3-8	150-200	35-50
	44	0-15	5.7	4-10	0-1	0.1-1	8-15	100-150	35-50
	44	15-45	5.8	1-4	0-1	1-2.5	3-8	150-200	20-35
Meadow Swamy Soils	4	0-20	5.7	1-4	0-1	0.1-1	0-3	30-70	20-35
	4	20-45	6.2	4-10	0-1	0.1-1	3-8	100-150	20-35
	5	0-20	5.5	1-4	0-1	0.1-1	3-8	30-70	35-50
	5	20-50	6.5	1-4	0-1	0.1-1	8-15	70-100	20-35
	12	0-10	6.0	1-4	1-2.5	0.1-1	0-3	150-200	20-35
	12	30-40	6.2	4-10	0-1	0.1-1	3-8	100-150	20-35
	12	50-60	5.8	1-4	1-2.5	0.1-1	8-15	70-100	20-35
	42	0-25	5.2	4-10	1-2.5	0.1-1	3-8	70-100	20-35
42	25-50	5.2	10-25	0-1	0.1-1	3-8	70-100	35-35	

(cont'd)

No. Soil Name	Site No.	Depth cm	pH	NO ₃ -N mg/100g	NH ₄ -N mg/100g	Available P ₂ O ₅ mg/100g	Available K ₂ O mg/100g	Exchangeable	
								CaO mg/100g	MgO mg/100g
Alluvial Soils	3	0-15	5.8	4-10	0-1	0.1-1	3-8	150-200	20-35
	31	0-15	7.0	10-25	0-1	0.1-1	8-15	100-150	35-50
	31	15-40	7.0	1-4	0-1	0.1-1	8-15	150-200	20-35
	35	0-12	6.0	10-25	0-1	1 -2.5	3-8	150-200	35-50
	35	12-35	6.5	4-10	0-1	1 -2.5	3-8	70-150	35-50
Indaing Forest Soils	18	0-30	5.5	1-4	0-1	0.1-1	3-8	30-70	10-20
	18	30-50	5.5	1-4	0-1	0.1-1	0-3	30-70	10-20
	19	0-20	5.8	4-10	0-1	0.1-1	0-3	30-70	20-35
	19	20-45	5.0	1-4	0-1	0.1-1	3-8	30-70	20-35
Lateritic Soils	1	0-18	5.5	1-4	1-2.5	0.1-1	3-8	70-100	20-35
	1	18-40	5.7	1-4	1-2.5	0.1-1	3-8	30-70	10-20
Yellow Brown Forest Soils	9	0-20	5.7	1-4	1-2.5	0.0-0.1	8-15	70-100	20-35
	9	40-60	5.5	1-4	1-2.5	0.0-0.1	8-15	30-70	35-50
	22	0-15	6.7	1-4	0-1	0.1-1	3-8	150-200	35-50
	22	15-40	6.8	1-4	0-1	1 -2.5	3-8	150-200	20-35
Arakan Mountains Soils	27	0-18	5.2	4-10	1-2.5	0.0-0.1	3-8	30-70	20-35
	27	18-40	5.2	1-4	1-2.5	0.0-0.1	3-8	30-70	35-50

APPENDIX B-4

Guideline for grouping soils in capability classes for upland crops

Limiting factor	U - I	U - II	U - III	U - IV	U - V	U - VI	U - VII	U - VIII
Depth to limiting layer-lenticels, bed rock, etc.	> 100 cm	> 75 cm	> 50 cm	> 25 cm	-	> 25 cm	> 25 cm	-
Texture of surface 30 cm	loam, silt loam, clay loam, silty clay loam	sandy loam to clay	loamy sand to clay	-	-	-	-	-
Permeability of subsoil	moderate	mod. slow to mod. rapid	slow to rapid	-	-	-	-	-
Slope-limits depend on soil erodibility	upper limit 1 to 2%	upper limit 3 to 6%	upper limit 8 to 12%	upper limit 15 to 20%	-	upper limit 25 to 35%	-	-
Susceptibility to erosion-effect of past erosion	no significant erosion	none to slight	none to moderate	none to severe	none	none to severe	none to very severe	-
Gravel, stones, rocks that hinder cultivation by values	very little; < 5% gravel; < 10% stones	slightly gravelly or stony; < 15% gravel and stones	not more than gravelly or mod. stony; < 30% gravel and stones	not more than gravelly, mod. stony, mod. rocky; < 50% gravel and stones	-	not more than very gravelly, stony, rocky; < 50% gravel and stones	not more than very gravelly, very stony, very rocky; < 50% gravel and stones	-
Fertility or nutrient status	High to mod.	High to mod.	High to mod., low	High to low	-	-	-	-
Risk of damage by drought	low	Low to mod.	-	-	-	-	-	-
Excessively wet climate	Wet period does not restrict production or choice of crops	Long wet period affects production or choice of crops	-	-	-	-	-	-
Available water holding capacity to 1 meter or restricting layer. 2/	High; > 15cm	High to medium; > 10cm	High to low; > 5 cm	-	-	-	-	-
Soil drainage class	well to mod. well drained	well to mod. well drained	somewhat sec. to mod. well drained	somewhat sec. to poorly drained	v. poorly drained	sec. to mod. well drained	sec. to mod. well drained	-
Flooding	not subject to damaging floods	severe damage not more than 1 year in 3	severe damage not more than 2 years in 5	severe damage not more than 1 year in 2. May have occasional total loss	-	-	-	-
Salinity: EC _s x 10 ⁶	< 1000	< 2000	< 2000	< 3000	-	-	-	-
Reaction within 30 cm. (pH H ₂ O)	pH 5.5 - 8.0	pH 4.5 - 8.3	4.5 - 8.3	4.0 - 8.3	-	-	-	-

1/ Dash indicates that limitation is not class determining.

2/ See discussion of available water holding capacity in Chapter III.

Source: FAO-Thailand

Guidelines for grouping soils in suitability groups for paddy

Limiting factor	P - I	P - II	P - III	P - IV	P - V
Effective soil depth to limiting layer	> 50 cm	> 50 cm	> 25 cm	> 25 cm	-
Texture of surface soil	clay; silty clay; clay loam; silty clay loam; sandy clay loam; clay loam	clay; silty clay; sandy clay; silty clay loam; sandy clay loam; clay loam	sandy loam to clay	loamy sand to clay	-
Permeability of subsoil	< 0.5 cm/hr, slow	slow to moderately slow, < 1.5 cm/hr	slow to moderate < 5 cm/hr	slow to moderately rapid; < 15 cm/hr, (slow to moderate if well drained)	-
Fertility; relative nutrient status	high to moderate	high to moderately low	high to low	high to low	-
Reaction of surface soil layer (dry soil, pH 1:1 H ₂ O)	5.0 - 7.5	4.5 - 8.0	4.0 - 8.0	3.5 - 8.5	-
Salinity ECS x 10 ⁶	< 1500	< 2500	< 2500	< 4000	-
Slope	< 1%	< 2%	< 3%	< 5%	-
Micro-relief	> 80% of land is smooth; little leveling required	> 80% of land is smooth; little leveling required	> 50% of land is smooth; moderate leveling may be required	> 40% of land is smooth. Much leveling may be required	-
Gravel and stones that hinder cultivation	none	none to slightly gravelly	none to slightly gravelly and slightly stony	none to gravelly and slightly stony	-
Risk of damage by water shortage	no damage by water shortage during growing season	occasional slight damage	moderate damage in < 4 years in 10; occasional severe damage	moderate to severe damage < 6 year in 10; occasional complete loss	-
Soil drainage class	somewhat poorly to poorly drained	somewhat poorly to poorly drained	somewhat poorly to very poorly drained	well to very poorly drained	-
Risk of damage by flash floods, quickly rising water, or saline water	seeldom, < 1 in 10 year	occasional moderate damage; < 3 in ten years	moderate damage may be frequent, < 4 in 10 years occasional severe damage	severe damage may be very frequent; < 6 in 10 years	-

Source: FAO-Thailand

Feasibility grade land classification
(Lam Nam Oon project, Thailand)

Land use criteria	For diversified crop production		For wetland rice production	
	Class 5 - Marginal	Class 6 - Unusable	Class 7 - Marginal	Class 8 - Unusable
Soils				
Texture	Fine sandy loam to clay loam	Loamy fine sand to permeable clay	Fine sandy loam to clay loam	Loamy sand to clay
Subsurface	Sandy loam to permeable clay	Loamy fine sand to permeable clay	Loamy sand to clay	Sand to clay
Depth (after land development)				
To direct sand or gravel	> 90 cm	> 60 cm	> 60 cm	> 30 cm
To plastic in permeable surface	> 90 cm	> 60 cm	> 60 cm	> 30 cm
To permeable crust	> 130 cm	> 90 cm	> 60 cm	> 45 cm
To relatively impermeable zone (water)	> 210 cm	> 110 cm	> 110 cm	> 110 cm
Available water capacity	15 cm or more in 110-cm depth with 2.5 cm to 0-30 cm	8 cm or more in 110-cm depth with 2.5 cm to 30 cm	Not applicable	Not applicable
Reaction pH in 0.01 M CaCl ₂ pH in H ₂ O (1:1) pH (saturated)	> 5.0 < 7.7 > 4.3 < 8.2	> 4.0 < 8.0 > 4.5 < 8.5	> 5.5	> 5.0, may be less provided aluminum and active iron are satisfactory
Acidity*				
Neutral salt exchange acidity	None	May be moderate		
Buffered salt exchange acidity	May be moderate	May be moderate		
Anion exchange acidity	May be moderate	May be moderate		
Inorganic (acid sulfate soil)	None	None	None	None
Sodium (at equilibrium)**				
Exchangeable sodium percentage	< 20	< 20		
Sodium adsorption ratio (soil solution)			< 20	< 15
Cation exchange capacity (at soil pH) of surface soil, 0-30 cm	> 10 meq/100g	> 5 meq/100g	> 10 meq/100g	> 5 meq/100g
Base status				
Calcium	> 4 meq/100g	> 2.5 meq/100g		
Magnesium	1 to 2 or 4 of Ca	> 1.0 meq/100g		
Potassium	1 to 10 of Ca	> 0.4 meq/100g		
Sodium	> 0.2 meq/100g	> 0.2 meq/100g		
Reduction products				
Active iron			Low	May be moderate
Dithionite-S2O ₄ ²⁻ test				
Soil solution (after prolonged flooding)			< 200 ppm	< 500 ppm
Salinity (at equilibrium under irrigation)				
Electrical conductivity-Saturated extract	< 4.0 mhos/cm	< 10.0 mhos/cm		
Soil solution			< 4.0 mhos/cm	< 8.0 mhos/cm
Topography				
Slope	< 2% > 0.25%	< 5% > 0.25%	< 1%	< 5%
Drainage				
Flooding				
Internal***	None	None	Very slow	Slow

CLASS 5 - TENTATIVELY MARGINAL

Includes lands which will require additional economic and engineering studies to determine their irrigability. This designation (5) is particularly suited to areas above proposed canal lines pending an determination of feasibility of service. Also applies to unreported high or isolated lands within the known service area and lands subject to seasonal inundations requiring project flood protection works.

CLASS 6 - UNUSABLE

Includes lands which do not meet the minimum requirements for the other land classes, and are not suitable for irrigation. They include lands with soils that are very shallow over crust, sandstone, or other formation impervious to roots or water; lands with salt affected soils that are reclaimable with difficulty because of texture, position, substratum conditions, etc.; lands with extremely coarse-textured surface soils, soils having low available-water capacity; rough hummocky and severely channel-dissected lands; high areas such as hillsides and flood levees, overflow and runoff channels, permanent waste and pump areas; lands having excessively steep or complex topography, and all other obviously unusable areas.

* Appraisal is dependent on charge characteristics and ion populations as related to cropping patterns.

** Appraisal for diversified crop production is dependent on type of clay and cropping pattern.

*** In irrigability studies, field spacing and economic fertilization will determine whether the land should be utilized for diversified crop or wetland rice production.

APPENDIX B - 5 Land Use (1971/72)

(Unit: acre)

No.	Township	Net Sown Area					Total Occupied Area					Shift- ing	Total		
		Paddy	Ya	Kaing	Garden	Dani	Total	Fallow	Paddy	Ya	Kaing			Garden	Dani
1.	Faukkaung	43,955	2,066	1,102	1,234	-	55,516	2,018	45,936	2,069	1,102	1,268	-	7,159	57,534
2.	Prome	77,808	3,300	1,431	4,859	-	87,398	3,591	80,960	3,538	1,445	5,100	-	-	90,989
3.	Fadaung	44,784	5,817	7,109	2,652	-	60,777	492	45,034	6,038	7,109	26,73	-	415	61,269
4.	Faungde	70,769	1,583	33	4,062	-	78,394	426	71,185	1,589	33	4,066	-	1,947	78,820
5.	Thegon	93,854	1,392	195	5,333	-	100,744	2,261	95,972	1,405	165	5,463	-	-	103,005
6.	Shwedaung	58,878	5,380	10,942	2,839	-	78,039	1,749	60,594	5,385	10,966	2,843	-	-	79,788
7.	Mattalin	106,062	806	-	4,552	-	111,420	7,200	113,242	811	-	4,567	-	-	118,620
8.	Zigon	43,604	223	23	1,504	-	45,608	1,309	44,906	277	23	1,507	-	254	46,917
9.	Gyobingauk	81,685	156	1,146	2,650	-	85,637	4,136	84,575	174	2,360	2,664	-	-	89,773
10.	Monyo	44,518	-	29,209	3,364	-	77,091	7,813	45,394	-	36,146	3,364	-	-	84,904
11.	Okpo	83,239	503	402	1,240	-	85,384	4,552	87,241	542	904	1,241	-	-	89,936
12.	Minhia	71,610	214	3,396	1,447	-	76,667	10,676	77,837	240	7,785	1,481	-	-	87,343
13.	Letpadan	102,488	249	10,059	2,399	-	115,355	6,056	107,739	265	10,784	2,463	-	160	121,411
14.	Tharrawaddy	90,472	870	4,634	1,688	-	97,664	10,302	99,481	1,080	5,687	1,718	-	-	107,966
	Sub-total	1,013,726	22,559	69,651	39,823	-	1,155,694	62,581	1,060,050	23,363	89,509	40,418	-	9,935	1,218,275
15.	Taikkyi	130,981	-	649	8,368	-	139,998	32,551	161,884	-	784	9,881	-	-	172,549
16.	Hlegu	152,603	-	-	6,204	3,129	161,936	26,340	177,822	-	-	7,035	3,419	-	188,276
17.	Hmawbi	66,155	-	51	9,055	103	75,364	14,089	75,617	-	51	13,681	104	-	89,453
	Sub-total	349,739	-	700	23,627	3,232	377,298	72,980	415,323	-	835	30,597	3,523	-	450,278
18.	Kyangin	41,824	812	3,522	6,164	-	52,322	1,450	42,674	812	3,540	6,746	-	-	53,772
19.	Myanaung	126,539	1,223	11,353	12,949	-	152,064	8,743	129,532	1,223	11,473	18,579	-	-	160,807
20.	Ingabu	131,576	888	21,665	5,262	-	159,391	8,344	136,592	888	21,962	8,293	-	-	167,735
21.	Lemyethna	58,067	167	10,491	6,524	-	75,249	5,550	61,251	167	12,200	7,181	-	-	80,799
22.	Yegyi	109,812	-	17,063	8,110	-	134,985	18,345	125,278	-	19,772	8,280	-	-	153,330
23.	Henzada	141,986	-	26,246	18,805	-	187,037	5,492	144,141	-	26,817	21,571	-	-	192,529
24.	Zalun	86,038	-	22,529	8,376	-	116,943	7,528	92,546	-	23,013	8,912	-	-	124,471
25.	Kyonpyaw	133,580	-	2	24,211	-	157,793	8,833	142,373	-	2	24,251	-	-	166,626
26.	Danubyu	104,388	-	5,323	3,026	-	112,737	26,555	128,058	-	8,207	3,027	-	-	139,292
	Sub-total	933,810	3,090	118,194	93,427	-	1,148,521	90,849	1,002,645	3,090	126,986	106,840	-	-	1,239,361
	Total	2,297,275	25,649	188,545	156,677	3,232	2,681,513	226,401	2,477,818	26,453	212,330	177,855	3,523	9,935	2,907,914

Source: Settlement and Land Record Dept.

Land Use (1971/72)

(Unit: acre)

<u>No.</u>	<u>Township</u>	<u>Cultivat- ed land</u>	<u>Reserved Forest</u>	<u>Unreserv- ed Forest</u>	<u>Culti- vable Waste</u>	<u>Unculti- vable Land</u>	<u>Township Area</u>
1.	Paukkaung	57,534	181,283	45,010	134,575	52,968	471,370
2.	Prome	90,989	18,765	7,633	55,217	22,216	194,820
3.	Padaung	61,269	341,738	20,201	1,912	194,389	619,509
4.	Paungde	78,820	79,049	7,766	47,335	16,569	229,539
5.	Thegon	103,005	37,600	9,043	4,869	37,400	191,917
6.	Shwedaung	79,788	10,508	10,705	35,842	44,878	181,721
7.	Nattalin	118,620	169,598	24,104	8,332	17,229	337,883
8.	Zigon	46,917	8,505	184	654	4,324	60,584
9.	Gyobingauk	89,773	83,084	2,318	4,404	10,500	190,079
10.	Monyo	84,904	-	-	8,767	64,405	158,076
11.	Okpo	89,936	136,088	5,618	14,235	13,629	259,506
12.	Minhla	87,343	28,121	15,204	1,859	32,793	165,320
13.	Letpadan	121,411	174,554	19,559	11,573	40,316	367,413
14.	Tharrawaddy	107,966	80,762	23,149	20,942	22,471	255,290
	Sub-total	<u>1,218,275</u>	<u>1,349,655</u>	<u>190,494</u>	<u>350,516</u>	<u>574,087</u>	<u>3,683,027</u>
15.	Taikkyi	172,549	168,077	-	51,421	34,714	426,761
16.	Hlegu	188,276	120,918	12,325	73,838	46,492	441,849
17.	Hmawbi	89,453	1,760	-	7,810	25,344	124,367
	Sub-total	<u>450,278</u>	<u>290,755</u>	<u>12,325</u>	<u>133,069</u>	<u>106,550</u>	<u>992,977</u>
18.	Kyangin	53,772	164,224	555	1,700	64,286	284,537
19.	Myanaung	160,807	157,273	3,235	10,033	52,213	383,561
20.	Ingabu	167,735	129,726	12,008	37,011	55,567	402,047
21.	Lemyethna	80,799	112,550	23,830	21,180	17,029	255,388
22.	Yegyi	153,330	52,704	37,757	23,495	49,476	316,762
23.	Henzada	192,529	-	-	3,583	46,253	242,365
24.	Zalun	124,471	-	-	15,976	43,972	184,419
25.	Kyonpyaw	166,626	-	-	5,873	32,149	204,648
26.	Danubyu	139,292	-	-	12,413	33,479	185,184
	Sub-total	<u>1,239,361</u>	<u>616,477</u>	<u>77,385</u>	<u>131,264</u>	<u>394,424</u>	<u>2,458,911</u>
	Total	<u>2,907,914</u>	<u>2,256,887</u>	<u>280,204</u>	<u>614,849</u>	<u>1,075,061</u>	<u>7,134,915</u>

Source: Settlement and Land Record Dept.

Land Use (1974/75)

(Unit: acre)

No.	Township	Net Sown Area						Total Occupied Area						Shift- ing	Total
		Paddy	Ya	Kaling	Garden	Dani	Shift- ing	Paddy	Ya	Kaling	Garden	Dani	Shift- ing		
1.	Paukkaung	43,211	2,360	1,112	1,255	-	7,795	45,470	2,361	1,112	1,260	-	7,795	57,998	
2.	Prone	77,851	3,159	1,516	4,856	-	-	81,171	3,432	1,533	5,118	-	-	91,254	
3.	Padaung	42,184	6,702	5,403	2,656	-	372	43,972	6,795	5,406	2,673	-	372	59,218	
4.	Paungde	70,743	1,339	36	3,603	-	2,895	71,240	1,392	36	4,242	-	2,895	79,805	
5.	Thegon	90,727	1,435	165	5,343	-	-	95,234	1,443	165	5,462	-	-	102,304	
6.	Shwedaung	57,792	6,749	12,321	2,657	-	-	59,195	6,762	12,321	2,659	-	-	80,937	
7.	Nattaling	107,282	823	-	4,536	-	-	114,288	823	-	4,536	-	-	119,627	
8.	Zigon	43,679	301	23	1,503	-	-	45,131	305	23	1,505	-	-	46,965	
9.	Gyobingauk	82,572	149	1,048	2,925	-	-	84,724	180	2,177	2,930	-	-	90,011	
10.	Konyo	41,961	-	31,248	3,201	-	-	45,323	-	37,256	3,201	-	-	85,780	
11.	Okpo	82,653	624	243	1,240	-	-	87,466	663	989	1,241	-	-	90,359	
12.	Minhla	71,859	389	2,107	1,509	-	-	78,032	410	6,745	1,526	-	-	86,713	
13.	Letpandan	102,767	183	11,008	2,334	-	994	108,296	228	11,094	2,395	-	994	123,007	
14.	Tharrawaddy	89,175	1,163	4,444	1,713	-	-	99,495	1,342	5,600	1,729	-	-	108,418	
	Sub-total	1,094,456	25,376	70,674	39,391	-	12,056	1,059,269	26,136	84,457	40,478	-	12,056	1,222,396	
15.	Taikkyi	131,268	-	811	6,930	-	-	141,009	-	933	10,490	-	-	173,462	
16.	Hlegu	152,360	-	-	7,029	2,926	-	162,315	-	-	7,533	3,263	-	185,060	
17.	Hnawbi	66,683	-	63	10,104	103	-	76,953	-	63	11,321	103	-	88,388	
	Sub-total	350,311	-	874	26,063	3,029	-	380,277	-	996	29,344	3,366	-	443,910	
18.	Kyangin	41,095	897	2,611	6,129	-	-	42,489	897	2,642	6,636	-	-	52,664	
19.	Myanaung	125,657	1,502	13,360	13,452	-	-	128,931	1,502	13,480	18,593	-	-	162,506	
20.	Ingabu	132,606	812	21,159	5,615	-	-	137,759	824	21,542	8,573	-	-	168,698	
21.	Lemyethna	58,014	60	10,841	6,868	-	-	61,013	60	12,475	7,812	-	-	81,360	
22.	Yegyí	109,895	-	16,708	8,084	-	-	120,294	-	19,503	8,247	-	-	154,981	
23.	Henzada	144,140	-	26,042	19,342	-	-	144,867	-	26,785	19,389	-	-	191,041	
24.	Zalun	86,915	-	23,809	8,340	-	-	92,194	-	24,399	8,891	-	-	125,484	
25.	Kyonpyaw	134,930	-	-	25,143	-	-	142,407	-	-	25,195	-	-	168,602	
26.	Danubyu	100,412	-	4,778	2,770	-	-	128,446	-	7,604	2,772	-	-	138,822	
	Sub-total	933,664	3,271	119,308	96,743	-	-	1,005,337	3,283	128,430	107,108	-	-	1,244,158	
	Total	2,288,431	28,647	190,856	162,197	3,029	12,056	2,474,810	29,419	213,883	176,930	3,366	12,056	2,910,444	

Source: Settlement and Land Record Dept.

Land Use (1974/75)

(Unit: acre)

No.	Township	Cultivat- ed land	Reserved Forest	Unreserv- ed Forest	Culti- vable Waste	Unculti- vable Land	Township Area
1.	Paukkaung	57,998	180,709	45,010	134,682	52,971	471,370
2.	Prome	91,254	18,765	7,633	54,895	22,273	194,820
3.	Padaung	59,218	341,738	20,231	1,655	196,667	619,509
4.	Paungde	79,805	79,023	7,766	46,318	16,627	229,539
5.	Thegon	102,304	37,600	9,043	5,845	37,125	191,917
6.	Shwedaung	80,937	11,719	10,705	34,154	44,206	181,721
7.	Nattalin	119,627	169,544	23,481	8,025	17,206	337,883
8.	Zigon	46,965	8,427	184	697	4,311	60,584
9.	Gyobingauk	90,011	83,084	2,174	4,412	10,398	190,079
10.	Monyo	85,780	-	-	8,383	63,913	158,076
11.	Okpo	90,359	136,073	5,618	14,124	13,332	259,506
12.	Minhla	86,713	28,097	26,450	2,575	21,485	165,320
13.	Letpadan	123,007	174,219	19,559	10,750	39,878	367,413
14.	Tharrawaddy	108,418	80,830	23,149	20,323	22,570	255,290
	Sub-total	<u>1,222,396</u>	<u>1,349,828</u>	<u>201,003</u>	<u>346,838</u>	<u>562,962</u>	<u>3,683,027</u>
15.	Taikkyi	173,462	168,316	5,210	45,314	34,459	426,761
16.	Hlegu	185,060	120,918	12,325	72,415	51,131	441,849
17.	Hmawbi	85,388	1,760	-	7,724	29,495	124,367
	Sub-total	<u>443,910</u>	<u>290,994</u>	<u>17,535</u>	<u>125,453</u>	<u>115,085</u>	<u>992,977</u>
18.	Kyangin	52,664	164,349	555	1,718	65,251	284,537
19.	Myanaung	162,506	157,828	3,235	9,485	50,507	383,561
20.	Ingabu	168,698	129,726	12,008	36,170	55,445	402,047
21.	Lemyethna	81,360	112,550	23,830	20,138	17,510	255,388
22.	Yegyi	154,981	71,648	18,813	24,013	47,307	316,762
23.	Henzada	191,041	-	-	2,018	49,306	242,365
24.	Zalun	125,484	-	-	15,730	43,205	184,419
25.	Kyonpyaw	168,602	-	-	5,787	30,259	204,648
26.	Danubyu	138,822	-	-	11,949	34,413	185,184
	Sub-total	<u>1,244,158</u>	<u>636,101</u>	<u>58,441</u>	<u>127,008</u>	<u>393,203</u>	<u>2,458,911</u>
	Total	<u>2,910,464</u>	<u>2,276,923</u>	<u>276,979</u>	<u>599,299</u>	<u>1,071,250</u>	<u>7,134,915</u>

Source: Settlement and Land Record Dept.

Land Use (1975/76)

(Unit: acre)

No.	Township	Net Sown Area					Total Occupied Area					Shift- ing	Total	
		Paddy	Ya	Kaing	Garden	Dani	Fallow	Paddy	Ya	Kaing	Garden			Dani
1.	Paukkaung	43,287	2,363	1,110	1,255	-	2,199	45,480	2,364	1,110	1,260	-	8,010	58,224
2.	Prome	77,574	3,118	1,458	4,808	-	4,258	81,120	3,432	1,533	5,131	-	-	91,216
3.	Padaung	42,174	6,702	5,575	2,656	-	1,300	43,342	6,814	5,578	2,673	-	458	58,865
4.	Paungde	70,717	1,309	36	3,812	-	685	71,337	1,318	36	3,868	-	2,976	79,535
5.	Thegone	93,725	1,435	165	5,369	-	100,694	96,741	1,443	165	5,462	-	-	103,811
6.	Shwedaung	57,309	6,796	12,176	2,653	-	1,453	58,750	6,806	12,176	2,655	-	-	80,387
7.	Nattalin	105,131	829	-	4,536	-	110,496	114,371	829	-	4,536	-	-	119,736
8.	Zigon	43,791	228	23	1,503	-	45,545	45,045	232	23	1,506	-	-	46,806
9.	Gyobingauk	82,686	149	996	2,925	-	86,764	84,716	171	2,200	2,935	-	8	90,030
10.	Honyo	41,405	-	30,120	3,218	-	74,743	10,889	-	37,396	3,218	-	-	85,632
11.	Okpo	82,690	489	306	1,309	-	84,794	87,658	541	922	1,310	-	-	90,431
12.	Minhla	71,699	383	1,678	1,515	-	75,275	11,102	410	6,311	1,539	-	-	86,377
13.	Letpandan	102,763	183	11,008	2,334	-	117,282	108,271	228	11,094	2,395	-	994	122,982
14.	Tharrawaddy	90,893	740	4,727	1,688	-	98,048	99,884	1,008	5,909	1,728	-	-	108,529
	Sub-total	1,005,844	24,724	69,378	39,581	-	1,151,973	1,059,850	25,596	84,453	40,216	-	12,446	1,222,561
15.	Taikkyi	136,258	-	810	9,458	-	146,526	162,876	-	947	11,077	-	-	174,900
16.	Hlegu	152,676	-	-	6,984	2,920	162,580	174,345	-	-	7,489	3,263	-	185,097
17.	Hmawbi	67,522	-	63	9,712	103	77,400	8,034	-	63	11,129	103	-	85,434
	Sub-total	356,456	-	873	26,154	3,023	386,506	58,925	-	1,010	28,095	3,366	-	405,431
18.	Kyangin	41,171	886	2,720	6,125	-	50,902	42,389	886	2,744	6,623	-	-	52,642
19.	Hyanauang	125,760	1,549	13,562	13,484	-	154,355	8,308	128,955	1,549	13,682	-	-	162,663
20.	Ingabu	131,951	853	21,375	5,758	-	159,937	8,502	137,221	853	21,637	-	-	168,439
21.	Lemyethna	59,447	60	10,841	6,866	-	77,214	4,496	61,363	60	12,475	-	-	81,710
22.	Yegyí	111,719	-	16,421	8,083	-	136,223	18,595	127,342	-	19,224	-	-	154,818
23.	Henzada	143,840	-	26,267	19,342	-	189,449	1,805	145,005	-	26,860	-	-	191,254
24.	Zalun	84,932	-	24,371	8,465	-	117,768	7,944	91,805	-	24,982	-	-	125,712
25.	Kyonpyaw	135,565	-	-	24,909	-	160,474	144,091	-	-	24,949	-	-	168,950
26.	Danubyu	99,265	-	4,995	3,109	-	107,369	31,994	128,701	-	7,552	-	-	139,363
	Sub-total	933,650	3,348	120,552	96,141	-	1,153,691	1,006,782	3,348	129,156	104,265	-	-	1,245,551
	Total	2,295,950	28,072	190,803	161,876	3,074	2,692,170	2,477,992	28,944	214,619	176,176	3,366	12,446	2,913,543

Source: Settlement and Land Record Dept.

Land Use (1975/76)

(Unit: acre)

No.	Township	Cultivat- ed land	Reserved Forest	Unreserv- ed Forest	Culti- vable Waste	Unculti- vable Land	Township Area
1.	Paukkaung	58,224	180,489	45,010	134,676	52,971	471,370
2.	Prome	91,216	18,765	7,633	54,911	22,295	194,820
3.	Padaung	58,865	341,738	20,145	1,636	197,125	619,509
4.	Paungde	79,535	78,681	7,766	46,759	16,798	229,539
5.	Thegon	103,811	37,600	9,043	4,338	37,125	191,917
6.	Shwedaung	80,387	11,737	10,705	34,410	44,482	181,721
7.	Nattalin	119,736	169,447	23,481	8,471	16,748	337,883
8.	Zigon	46,806	8,586	184	697	4,311	60,584
9.	Gyobingauk	90,030	83,076	2,174	4,412	10,387	190,079
10.	Monyo	85,632	-	-	6,873	65,571	158,076
11.	Okpo	90,431	136,030	5,618	14,311	13,116	259,506
12.	Minhla	86,377	28,024	26,450	3,009	21,460	165,320
13.	Letpadan	122,982	174,219	19,559	10,719	39,934	367,413
14.	Tharrawaddy	108,529	80,735	23,149	20,584	22,293	255,290
	Sub-total	<u>1,222,561</u>	<u>1,349,127</u>	<u>200,917</u>	<u>345,806</u>	<u>564,616</u>	<u>3,683,027</u>
15.	Taikkyi	174,900	167,626	5,210	44,659	34,366	426,761
16.	Hlegu	185,097	120,918	12,325	72,378	51,131	441,849
17.	Hmawbi	85,434	1,780	-	7,678	29,475	124,367
	Sub-total	<u>445,431</u>	<u>290,324</u>	<u>17,535</u>	<u>124,715</u>	<u>114,972</u>	<u>992,977</u>
18.	Kyangin	52,642	164,323	555	1,687	65,330	284,537
19.	Myanaung	162,663	157,792	3,235	9,487	50,384	383,561
20.	Ingabu	168,439	129,726	12,008	36,042	55,832	402,047
21.	Lemyethna	81,710	112,550	23,830	19,788	17,510	255,388
22.	Yegyi	154,818	71,648	18,813	23,542	47,941	316,762
23.	Henzada	191,254	-	-	1,371	49,740	242,365
24.	Zalun	125,712	-	-	15,558	43,149	184,419
25.	Kyonpyaw	168,950	-	-	5,279	30,419	204,648
26.	Danubyu	139,363	-	-	11,977	33,844	185,184
	Sub-total	<u>1,245,551</u>	<u>636,039</u>	<u>58,441</u>	<u>124,731</u>	<u>394,149</u>	<u>2,458,911</u>
	Total	<u>2,913,543</u>	<u>2,275,490</u>	<u>276,893</u>	<u>595,252</u>	<u>1,073,737</u>	<u>7,134,915</u>

Source: Settlement and Land Record Dept.

No.	Township	Net Sown Area					Total Occupied Area					Shifting	Total	
		Paddy	Ya	Kaling	Garden	Dani	Fallow	Paddy	Ya	Kaling	Garden			Dani
1.	Paukkaung	43,301	2,864	1,355	1,258	-	2,359	45,610	2,909	1,358	1,260	-	6,939	58,076
2.	Prome	76,571	3,103	1,445	4,973	-	5,129	81,122	3,440	1,498	5,161	-	-	91,221
3.	Padaung	41,859	7,033	6,010	2,656	-	1,320	43,040	7,153	6,010	2,675	-	398	59,276
4.	Paungde	70,691	1,316	36	3,827	-	915	71,563	1,318	36	3,868	-	2,960	79,745
5.	Thegon	92,703	1,592	149	5,464	-	3,215	95,729	1,615	149	5,630	-	-	103,123
6.	Shwedaung	57,185	6,714	11,975	2,638	-	1,528	58,628	6,727	12,045	2,640	-	-	80,040
7.	Nattalin	102,608	802	-	4,533	-	9,375	111,983	802	-	4,533	-	-	117,318
8.	Zigon	43,823	195	23	1,518	-	1,487	45,303	199	23	1,521	-	-	47,046
9.	Gyobingauk	82,299	156	1,146	2,925	-	3,594	84,807	178	2,200	2,935	-	61	90,181
10.	Honyo	41,205	-	30,249	2,849	-	10,457	45,023	-	36,888	2,849	-	-	84,760
11.	Okpo	82,341	489	376	1,309	-	5,374	87,116	541	922	1,310	-	-	89,889
12.	Mihila	71,027	355	1,750	1,441	-	10,887	77,379	380	6,241	1,460	-	-	85,460
13.	Letpadan	102,925	183	11,503	2,334	-	5,172	107,906	228	11,569	2,395	-	1,119	123,237
14.	Tharravaddy	83,424	780	4,942	1,688	-	10,243	98,343	1,052	5,917	1,765	-	-	107,077
	Sub-total	997,363	25,582	70,959	39,413	-	71,055	1,053,552	28,542	84,876	40,002	-	11,477	1,216,449
15.	Talkkyi	134,489	-	974	11,684	-	29,683	162,714	-	1,001	13,115	-	-	176,830
16.	Hlegu	155,703	-	-	7,155	2,920	19,739	174,594	-	-	7,660	3,263	-	185,517
17.	Hmawbi	67,480	-	63	9,267	103	8,557	74,473	-	63	10,831	103	-	85,470
	Sub-total	357,672	-	1,037	20,106	3,023	57,979	411,781	-	1,064	31,606	3,366	-	447,817
18.	Kyangin	41,204	777	2,192	6,139	-	1,323	42,074	777	2,222	6,562	-	-	51,635
19.	Myanaung	125,638	1,528	13,250	13,447	-	8,272	128,805	1,528	13,370	18,432	-	-	162,135
20.	Ingabu	129,584	1,289	21,747	5,830	-	9,982	136,269	1,289	22,077	8,797	-	-	168,432
21.	Lemyethna	59,607	60	10,941	6,866	-	4,376	61,403	60	12,575	7,812	-	-	81,850
22.	Yegyí	111,441	-	16,861	8,131	-	18,566	127,247	-	19,450	8,302	-	-	154,999
23.	Henzada	143,960	-	26,241	19,346	-	1,723	145,090	-	26,791	19,389	-	-	191,270
24.	Zalun	85,143	-	24,533	8,431	-	8,750	92,687	-	25,231	8,939	-	-	126,857
25.	Kyonyaw	135,012	-	-	24,197	-	9,139	144,114	-	-	24,234	-	-	168,348
26.	Dambyu	98,718	-	5,564	3,240	-	32,100	128,116	-	8,265	3,241	-	-	139,622
	Sub-total	930,307	3,654	121,329	95,627	-	94,231	1,005,805	3,654	129,981	105,708	-	-	1,245,148
	Total	2,285,942	29,236	193,275	163,146	3,023	223,265	2,471,134	30,196	215,921	171,116	3,366	11,477	2,909,414

Source: Settlement and Land Record Dept.

Land Use (1976/77)

(Unit: acre)

<u>No.</u>	<u>Township</u>	<u>Cultivat- ed land</u>	<u>Reserved Forest</u>	<u>Unreserv- ed Forest</u>	<u>Culti- vable Waste</u>	<u>Unculti- vable Land</u>	<u>Township Area</u>
1.	Paukkaung	58,076	181,016	45,010	134,294	52,974	471,370
2.	Prome	91,221	18,765	7,633	54,879	22,322	194,820
3.	Padaung	59,276	341,738	20,106	1,696	196,693	619,509
4.	Paungde	79,745	78,736	7,766	46,499	16,793	229,539
5.	Thegon	103,123	37,600	9,043	5,026	37,125	191,917
6.	Shwedaung	80,040	11,694	10,705	35,445	43,837	181,721
7.	Nattalin	117,318	169,374	23,481	9,647	18,063	337,883
8.	Zigon	47,046	8,396	184	689	4,269	60,584
9.	Gyobingauk	90,181	83,023	2,174	4,322	10,379	190,079
10.	Monyo	84,760	-	-	7,644	65,672	158,076
11.	Okpo	89,889	135,867	5,618	14,149	13,983	259,506
12.	Minhla	85,460	27,965	26,450	2,960	22,485	165,320
13.	Letpadan	123,237	174,219	19,559	10,433	39,965	367,413
14.	Tharrawaddy	107,077	80,867	23,149	21,854	22,343	255,290
	Sub-total	<u>1,216,449</u>	<u>1,349,260</u>	<u>200,878</u>	<u>349,537</u>	<u>566,903</u>	<u>3,683,027</u>
15.	Taikkyi	176,830	166,010	5,210	44,454	34,257	426,761
16.	Hlegu	185,517	120,891	12,325	72,107	51,009	441,849
17.	Hmawbi	85,470	1,763	-	7,645	29,489	124,367
	Sub-total	<u>447,817</u>	<u>288,664</u>	<u>17,535</u>	<u>124,206</u>	<u>114,755</u>	<u>992,977</u>
18.	Kyangin	51,635	164,323	555	1,789	66,235	284,537
19.	Myanaung	162,135	157,792	3,235	9,572	50,827	383,561
20.	Ingabu	168,432	129,726	12,008	36,134	55,747	402,047
21.	Lemyethna	81,850	112,550	23,830	19,648	17,510	255,388
22.	Yegyi	154,999	71,648	18,813	23,475	47,827	316,762
23.	Henzada	191,270	-	-	1,371	49,724	242,365
24.	Zalun	126,857	-	-	15,558	42,004	184,419
25.	Kyonpyaw	168,348	-	-	5,413	30,887	204,648
26.	Danubyu	139,622	-	-	12,291	33,271	185,184
	Sub-total	<u>1,245,148</u>	<u>636,039</u>	<u>58,441</u>	<u>125,251</u>	<u>394,032</u>	<u>2,458,911</u>
	Total	<u>2,909,414</u>	<u>2,273,963</u>	<u>276,854</u>	<u>598,994</u>	<u>1,075,690</u>	<u>7,134,915</u>

Source: Settlement and Land Record Dept.

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