APPENDIX

CONTENTS

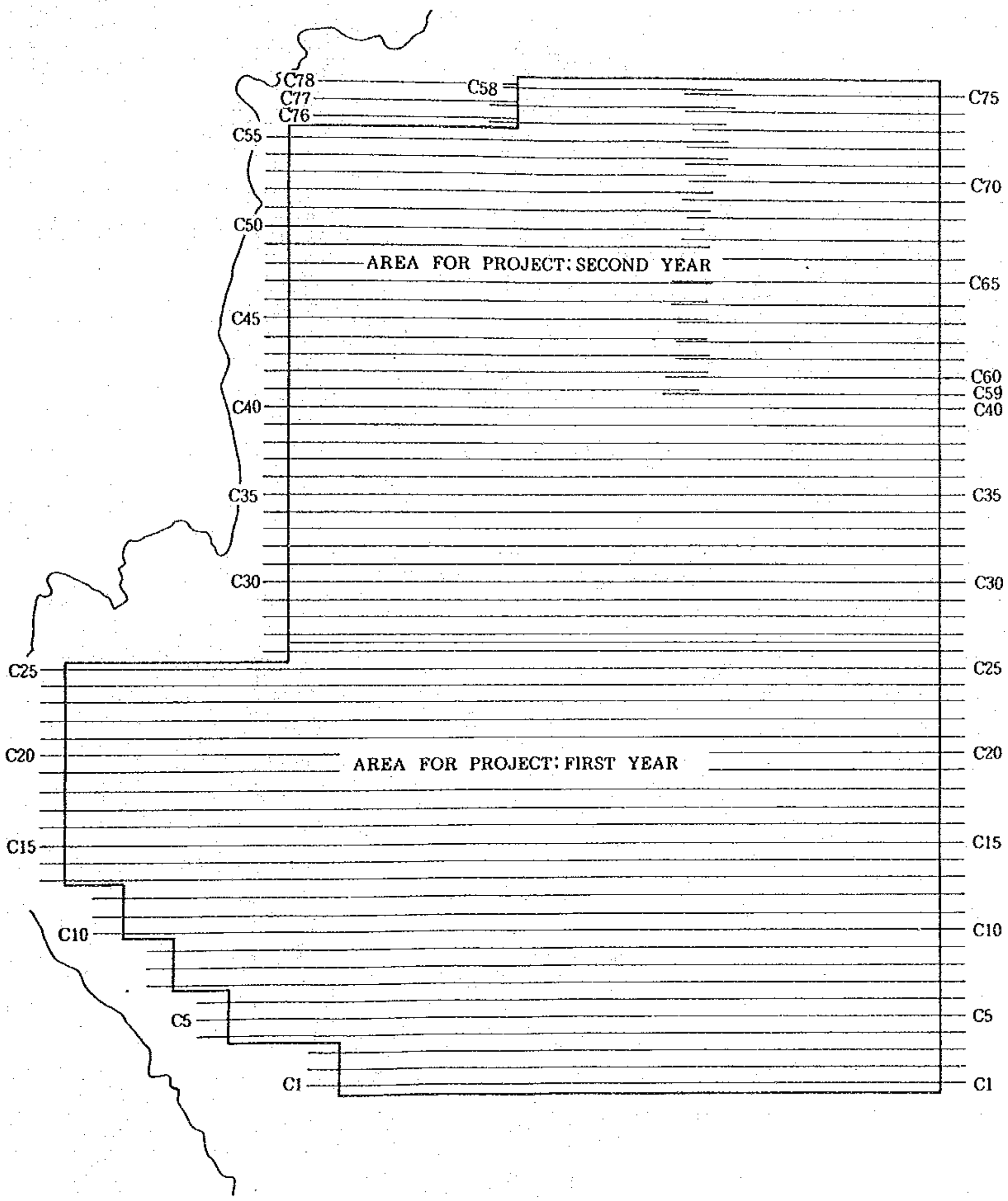

Fig. – 1 Area for Aerial Photography

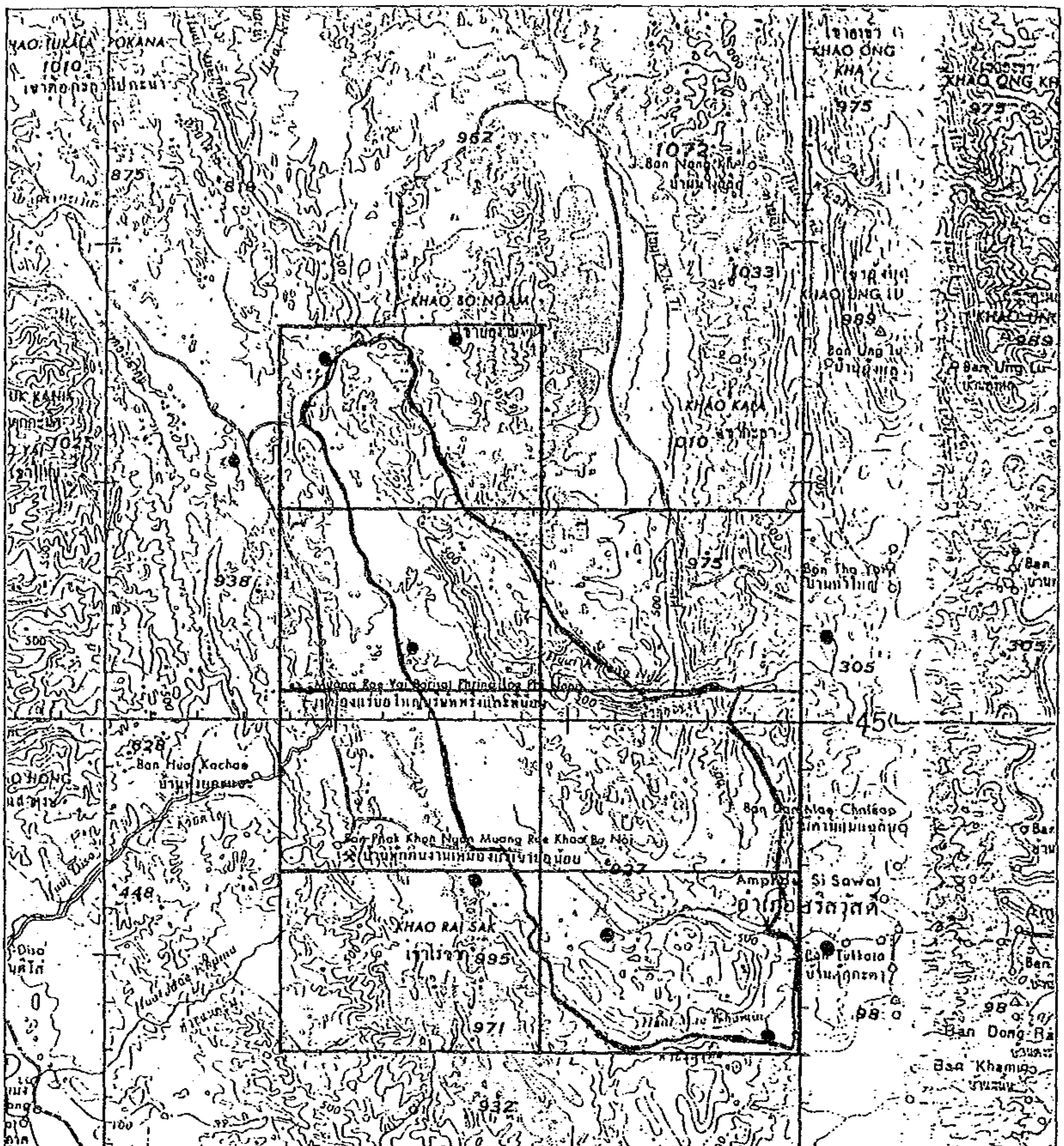

Fig. – 2 Information on Topographic Mapping
Mapping Area
Index to Adjoining Sheet
Air-photo Signal
1 : 250,000

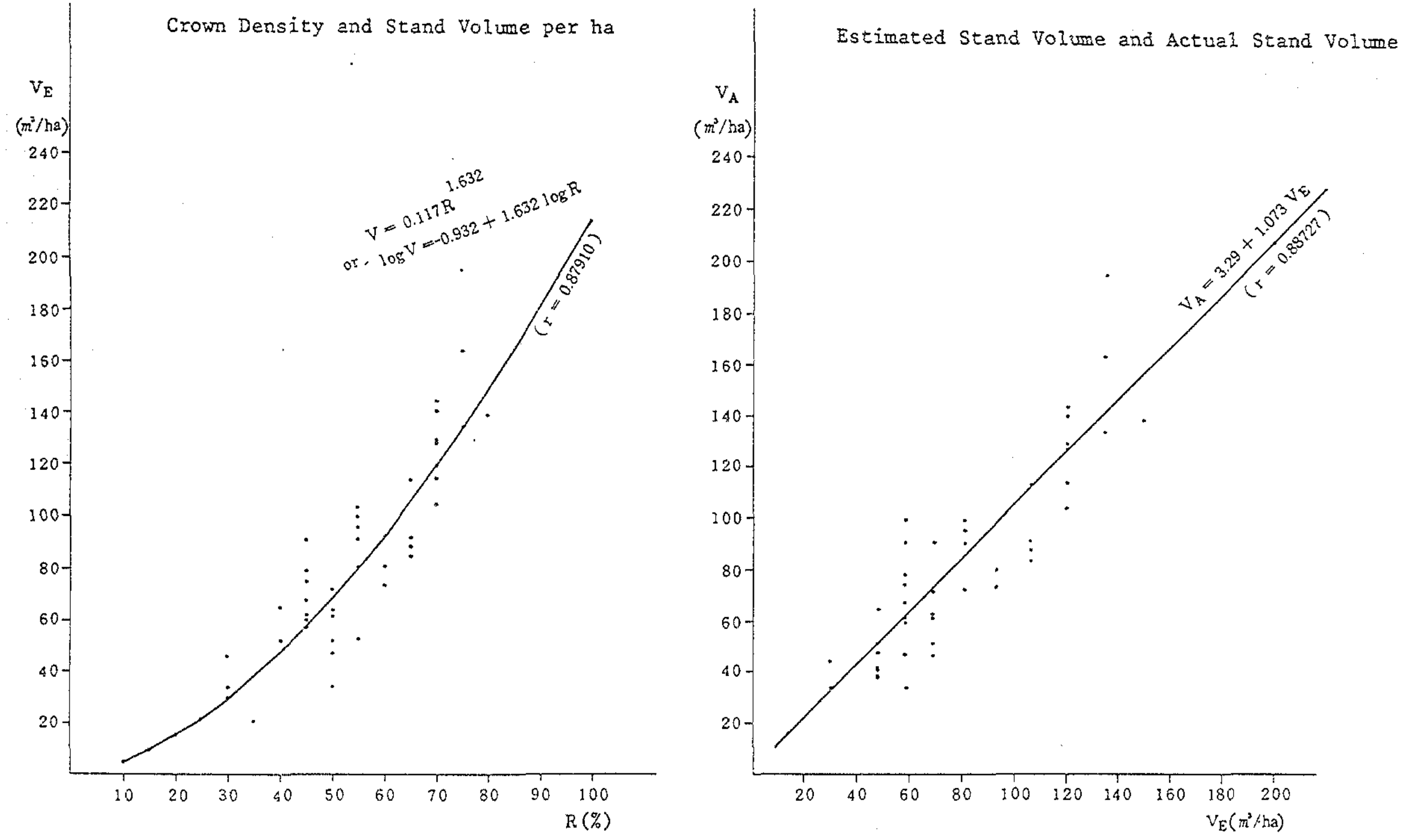

Fig. -- 3 Data used in preparing the Aerial Photo Stand Volume Table

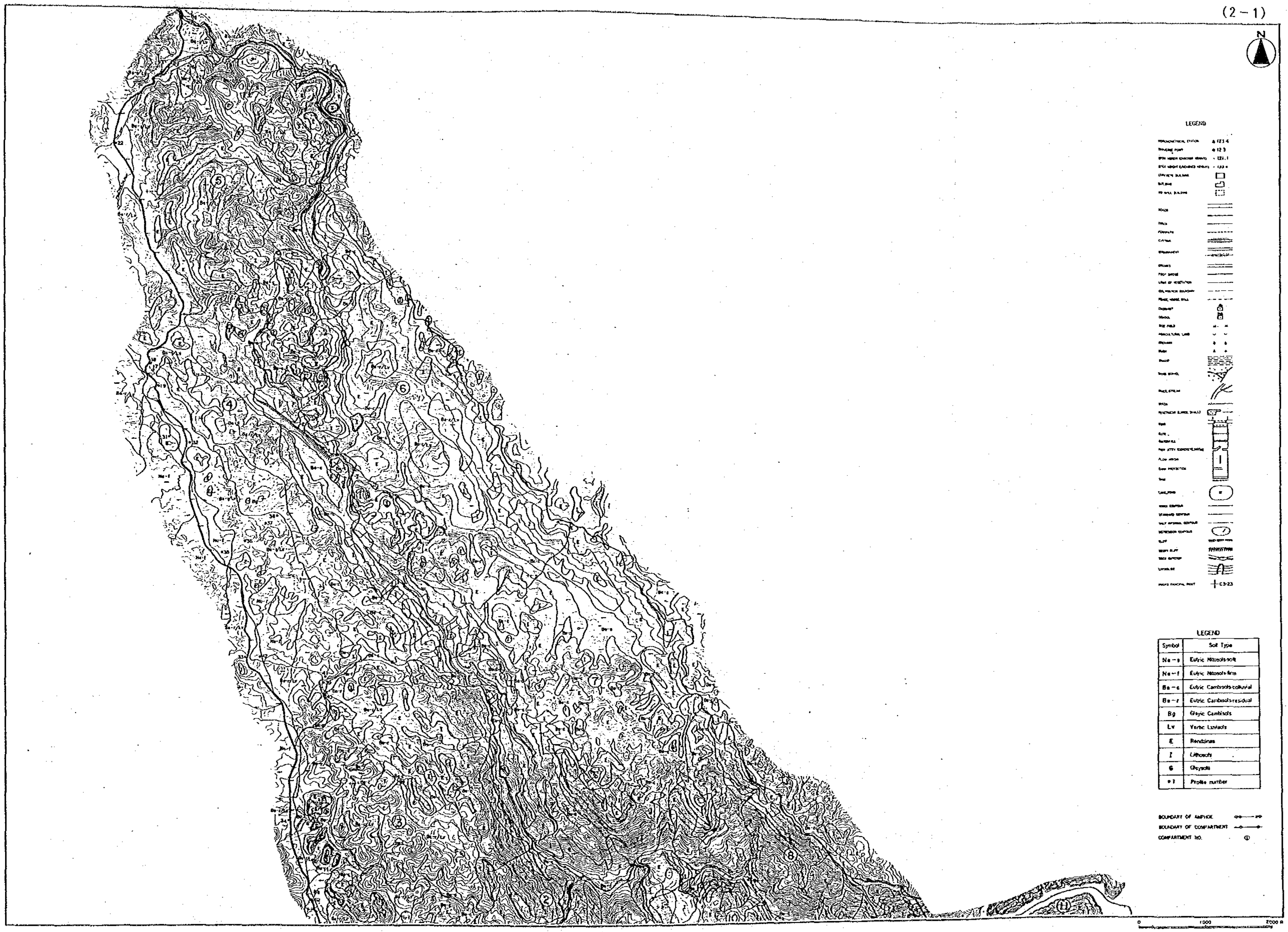

Fig. − 4 Soil Map

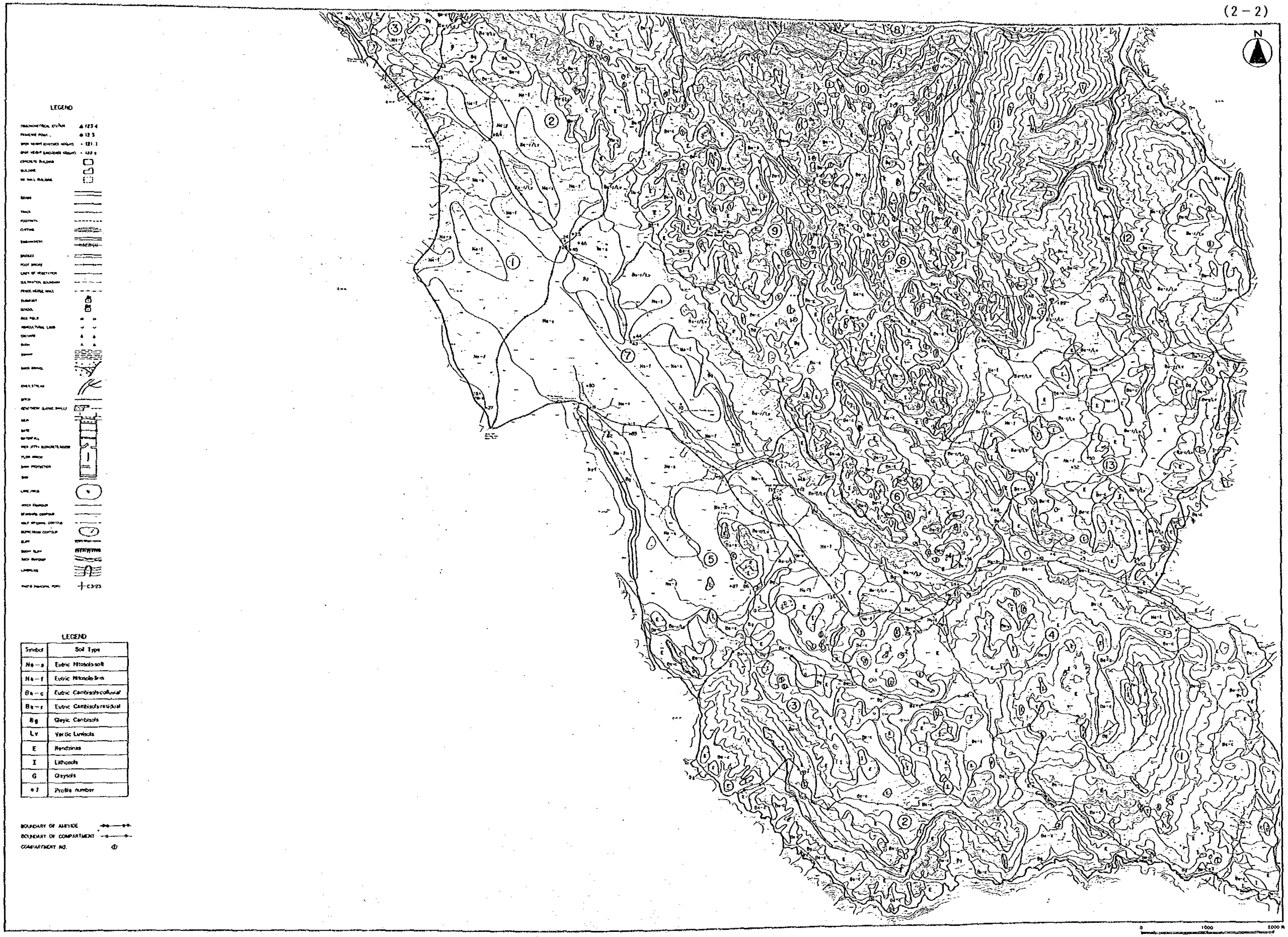
LEGEND
LEGEND
Symbol
Soil Type
Ne − s
Eutric Nitosols-soft
Ne − f
Eutric Nitosols-firm
Be − c
Eutric Cambisols-colluvial
Be − r
Eutric Cambisols-residual
Bg
Gleyic Cambisols
Lv
Vertic Luvisols
E
Rendzinas
I
Lithosols
G
Gleysols
• 7
Profile number
BOUNDARY OF AREA
BOUNDARY OF COMPARTMENT
COMPARTMENT NO.
N
0
1000
2000 m

Fig.− 4

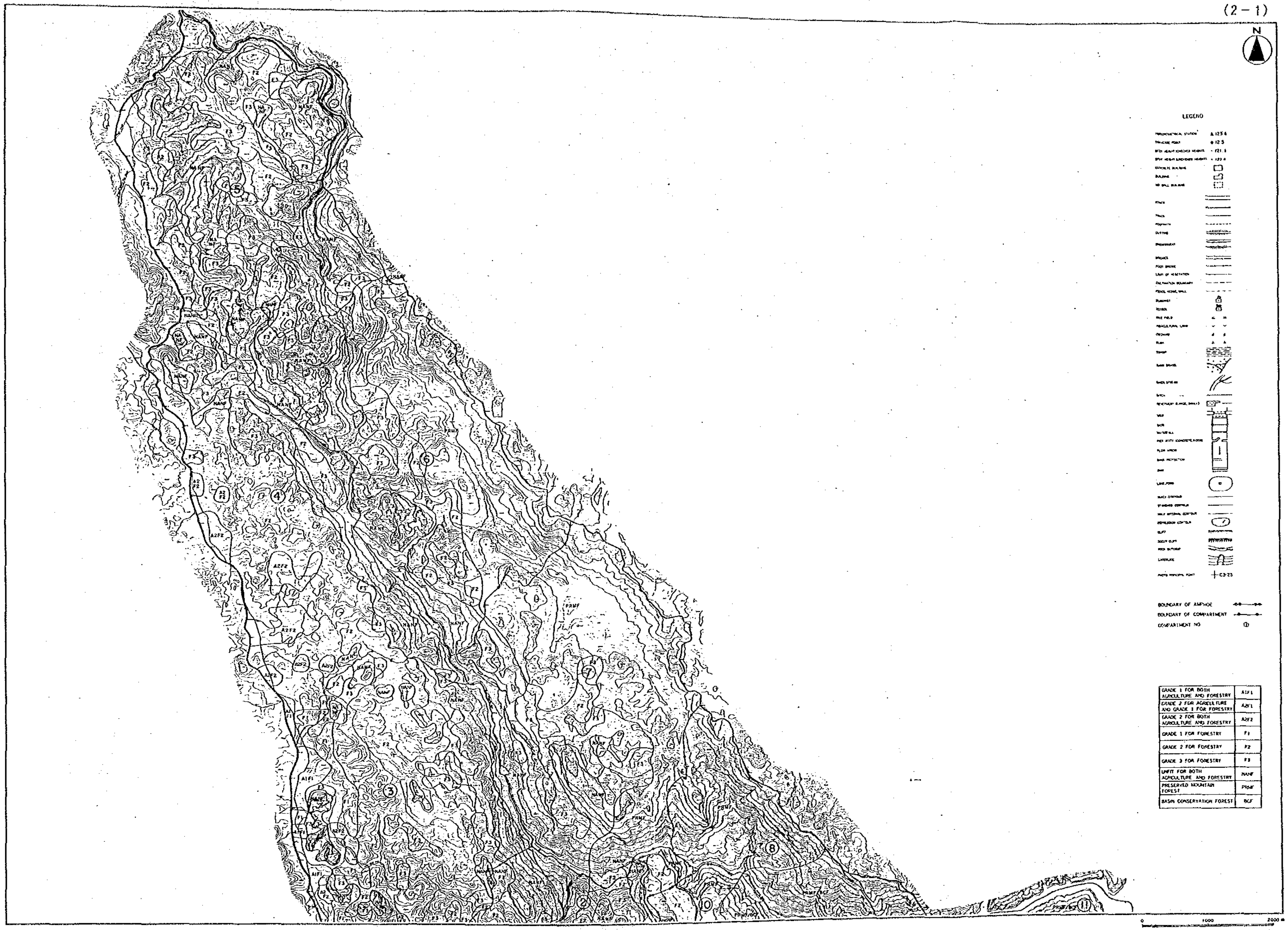

Fig.－5 Land Classification Map

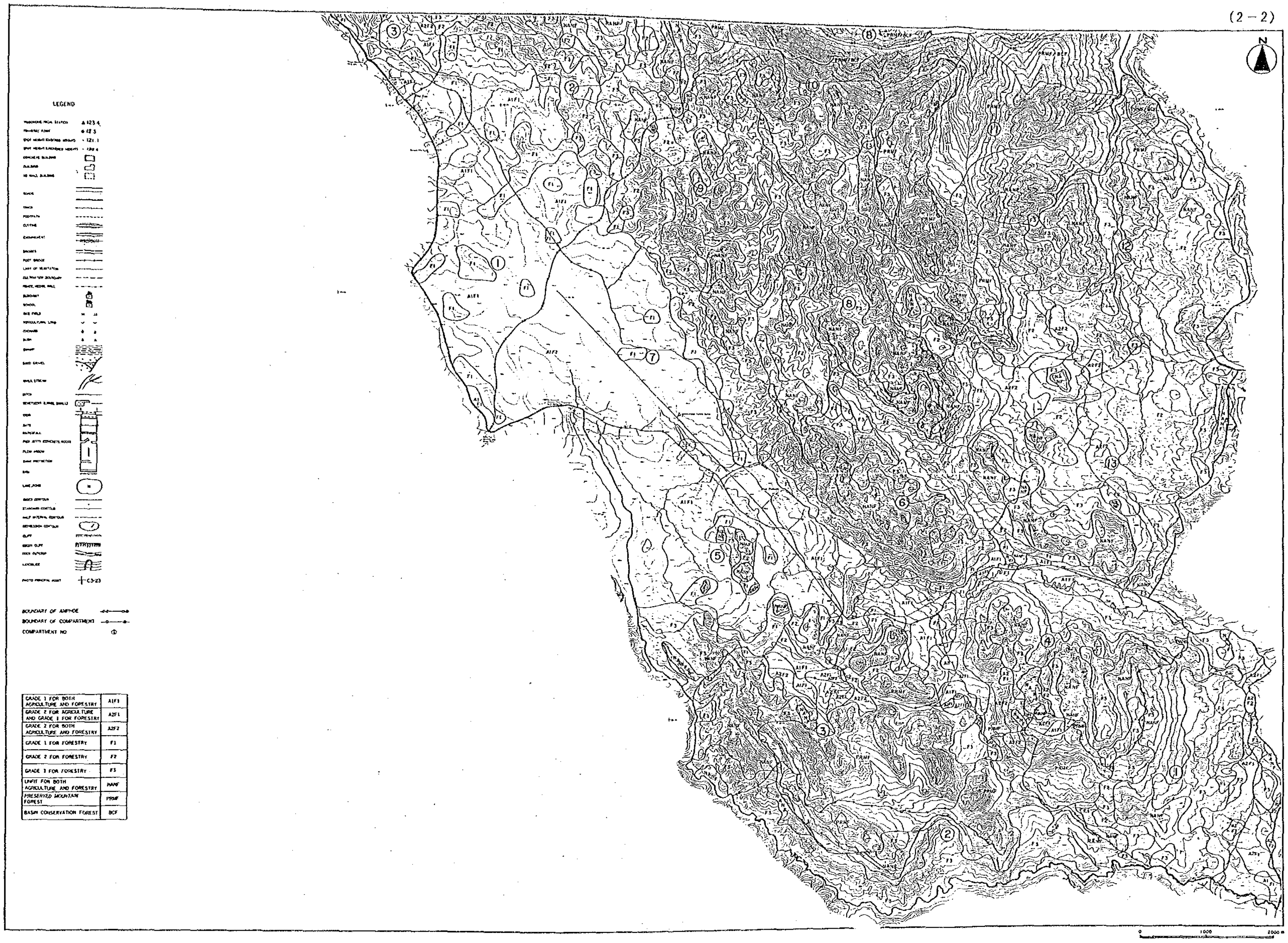
(2 − 2)
N
LEGEND
BOUNDARY OF AMPHOE
BOUNDARY OF COMPARTMENT
COMPARTMENT NO
GRADE 1 FOR BOTH AGRICULTURE AND FORESTRY — A1F1
GRADE 2 FOR AGRICULTURE AND GRADE 1 FOR FORESTRY — A2F1
GRADE 2 FOR BOTH AGRICULTURE AND FORESTRY — A2F2
GRADE 1 FOR FORESTRY — F1
GRADE 2 FOR FORESTRY — F2
GRADE 3 FOR FORESTRY — F3
UNFIT FOR BOTH AGRICULTURE AND FORESTRY — NANF
PRESERVED MOUNTAIN FOREST — PRMF
BASIN CONSERVATION FOREST — BCF

Fig. — 5

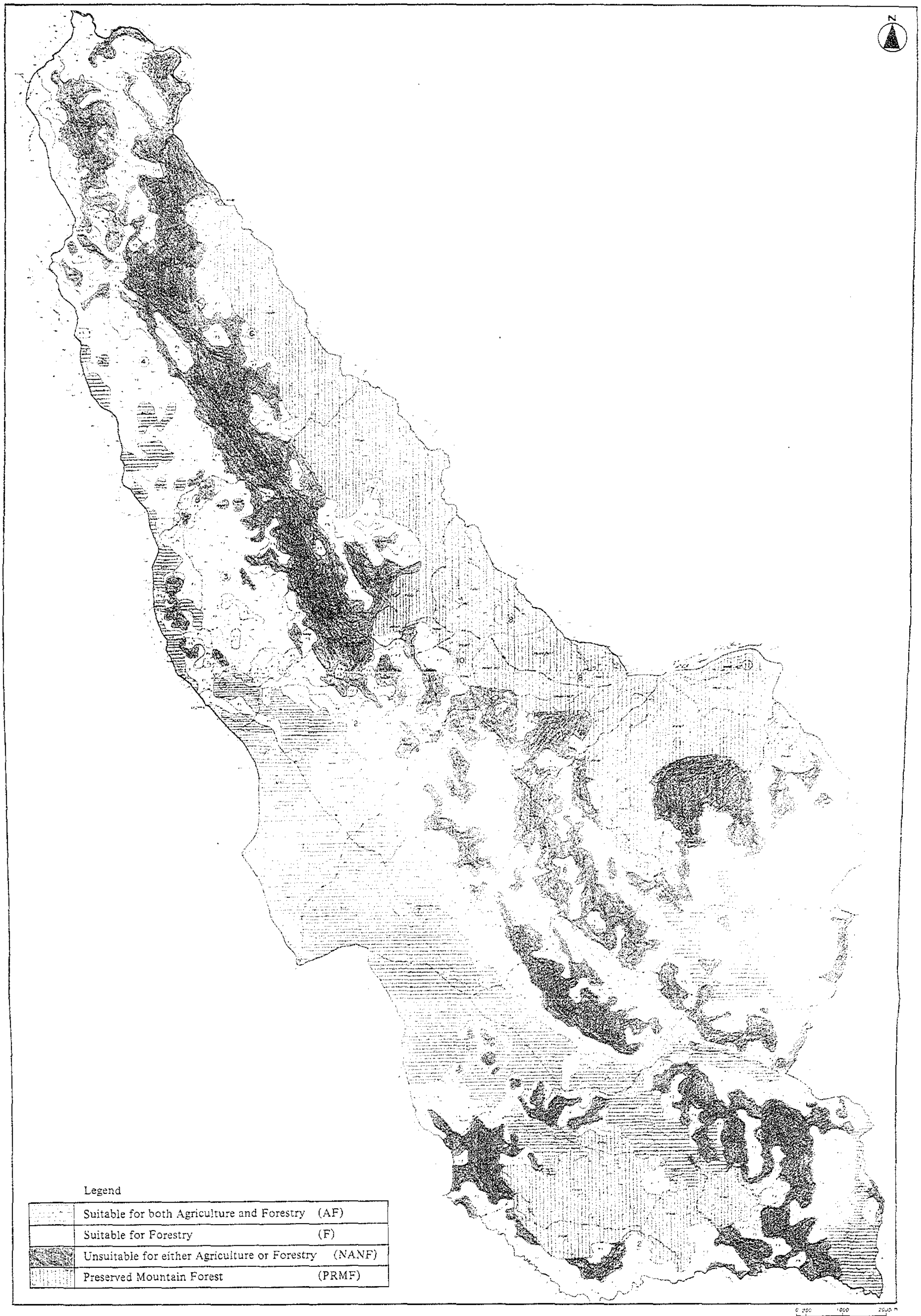

Fig. – 6 Land Use Classification Map

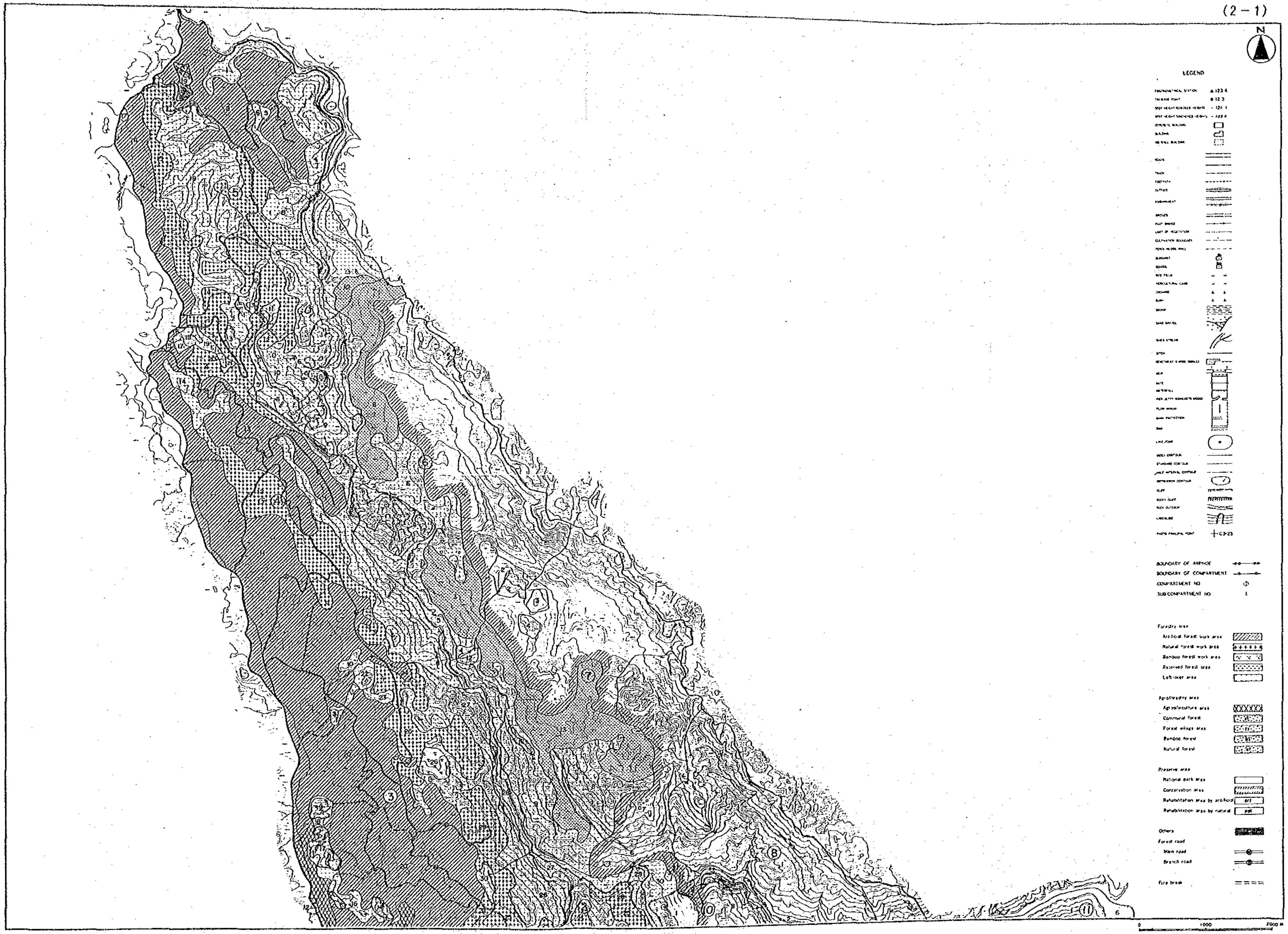

Fig. − 7 Map of Forest Management Plan

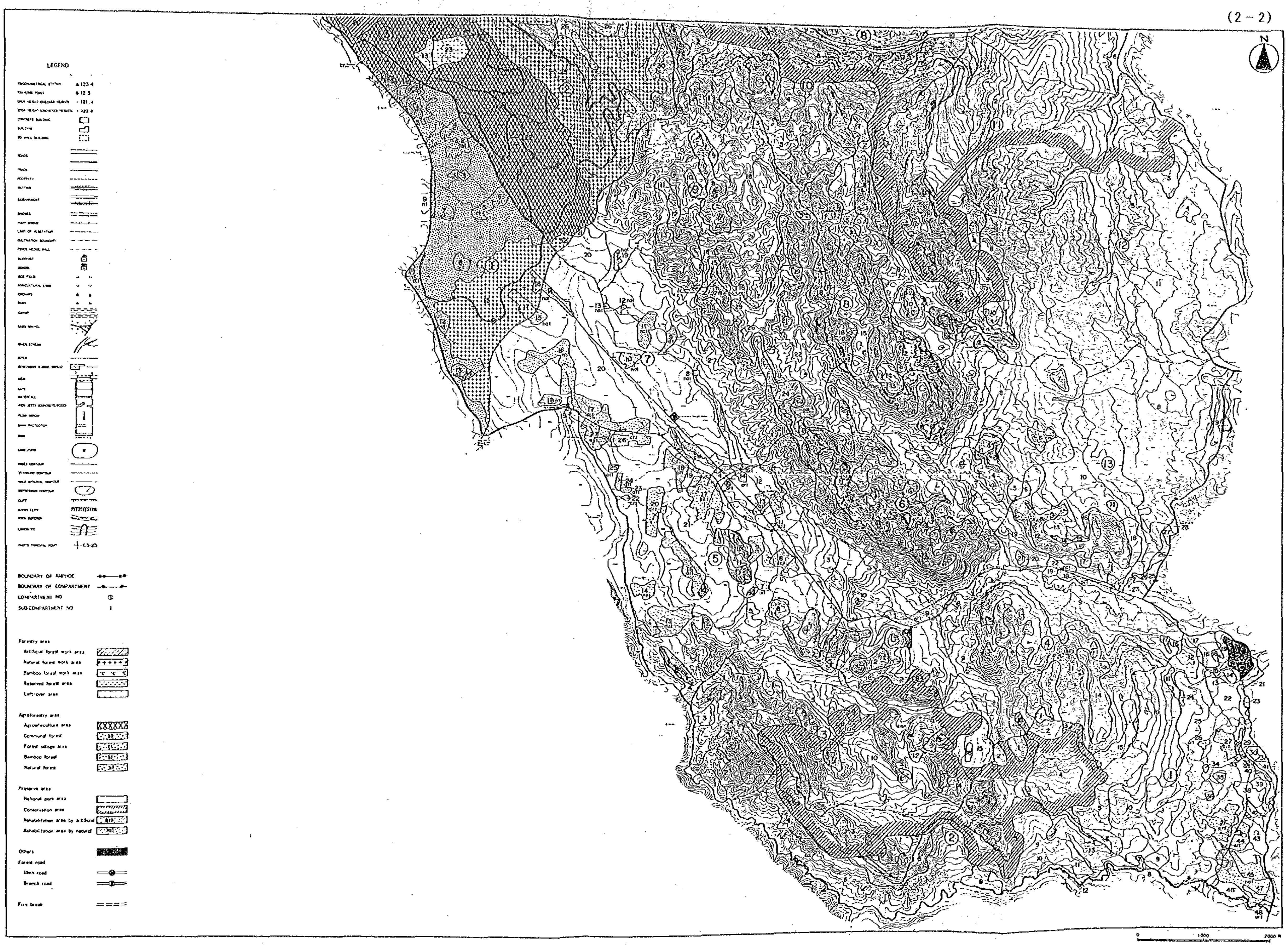
(2－2)
N
LEGEND
BOUNDARY OF AMPHOE
BOUNDARY OF COMPARTMENT
COMPARTMENT NO
SUB-COMPARTMENT NO
Forestry area
Artificial forest work area
Natural forest work area
Bamboo forest work area
Reserved forest area
Left-over area
Agroforestry area
Agrosilviculture area
Communal forest
Forest village area
Bamboo forest
Natural forest
Preserve area
National park area
Conservation area
Rehabilitation area by artificial
Rehabilitation area by natural
Others
Forest road
Main road
Branch road
Fire break
0
1000
2000 m

Fig.－7

Table − 1　Results of Aerial Photography

〔1985/86〕　(3−1)

Course No.	Photo No.	No. of Photographs	Roll No.	Date of Aerial Photography
C 1	1 − 52	52	4	Mar. 3 1986
C 2 A	1 − 42	42	4	Mar. 3 1986
C 2 B	1 − 15	15	4	Mar. 3 1986
C 3	1 − 52	52	4	Mar. 3 1986
C 4	1 − 64	64	4	Mar. 3 1986
C 5	1 − 62	62	3	Feb. 14 1986
C 6 A	1 − 37	37	9	Mar. 13 1986
C 6 B	1 − 34	34	5	Mar. 3 1986
C 7 A	1 − 49	49	9	Mar. 13 1986
C 7 B	1 − 21	21	2	Feb. 12 1986
C 8	1 − 69	69	2	Feb. 12 1986
C 9	1 − 72	72	2	Feb. 12 1986
C 10 A	1 − 22	22	1	Feb. 9 1986
C 10 B	1 − 22	22	11	Mar. 18 1986
C 10 C	1 − 35	35	11	Mar. 19 1986
C 11	1 − 73	73	1	Feb. 9 1986
C 12 A	1 − 48	48	1	Feb. 9 1986
C 12 B	1 − 16	16	11	Mar. 19 1986
C 12 C	1 − 20	20	1	Feb. 9 1986
C 13	1 − 76	76	1	Feb. 9 1986
C 14 A	1 − 69	69	5	Mar. 4 1986
C 14 B	1 − 13	13	6	Mar. 4 1986
C 15 A	1 − 44	44	10	Mar. 14 1986
C 15 B	1 − 36	36	5	Mar. 4 1986
C 16 A	1 − 45	45	10	Mar. 14 1986
C 16 B	1 − 36	36	5	Mar. 4 1986
C 17	1 − 78	78	6	Mar. 4 1986
C 18	1 − 81	81	6	Mar. 5 1986
C 19	1 − 80	80	6	Mar. 5 1986
C 20 A	1 − 22	22	7	Mar. 6 1986
C 20 B	1 − 50	50	10	Mar. 14 1986
C 20 C	1 − 16	16	7	Mar. 6 1986
C 21 A	1 − 21	21	7	Mar. 6 1986
C 21 B	1 − 57	57	10	Mar. 14 1986
C 21 C	1 − 13	13	9	Mar. 13 1986
C 22 A	1 − 21	21	8	Mar. 7 1986
C 22 B	1 − 63	63	9	Mar. 13 1986
C 23 A	1 − 20	20	8	Mar. 7 1986
C 23 B	1 − 45	45	11	Mar. 15 1986
C 23 C	1 − 14	14	7	Mar. 6 1986
C 23 D	1 − 12	12	9	Mar. 13 1986
Sub-total		1,717	11	

Table — 1

[1986/87]　　　　(3−2)

Course No.	Photo No.	No. of Photographs	Roll No.	Date of Aerial Photography
C 24	1 − 81	81	11	Jan. 20 1987
C 25	1 − 81	81	11	Jan. 20 1987
C 26 A	1 − 24	24	11	Jan. 20 1987
C 26 B	1 − 40	40	1	Dec. 13 1986
C 27 A	1 − 30	30	11	Jan. 20 1987
C 27 B	1 − 34	34	1	Dec. 13 1986
C 28 A	1 − 50	50	11	Jan. 20 1987
C 28 B	1 − 15	15	1	Dec. 15 1986
C 29 A	1 − 8	8	13	Jan. 31 1987
C 29 B	1 − 57	57	9	Jan. 18 1987
C 30	1 − 63	63	9	Jan. 18 1987
C 31	1 − 63	63	9	Jan. 18 1987
C 32 A	1 − 19	19	8	Jan. 15 1987
C 32 B	1 − 33	33	14	Feb. 5 1987
C 32 C	1 − 18	18	8	Jan. 15 1987
C 33 A	1 − 40	40	8	Jan. 15 1987
C 33 B	1 − 13	13	14	Feb. 5 1987
C 33 C	1 − 16	16	8	Jan. 15 1987
C 34 A	1 − 40	40	8	Jan. 15 1987
C 34 B	1 − 17	17	14	Feb. 6 1987
C 34 C	1 − 12	29	8	Jan. 15 1987
C 35 A	1 − 16	16	7	Jan. 10 1987
C 35 B	1 − 11	11	13	Jan. 31 1987
C 35 C	1 − 23	23	7	Jan. 10 1987
C 35 D	1 − 10	10	9	Jan. 18 1987
C 35 E	1 − 13	13	8	Jan. 15 1987
C 36 A	1 − 47	47	7	Jan. 10 1987
C 36 B	1 − 17	17	1	Dec. 15 1986
C 37 A	1 − 46	46	7	Jan. 10 1987
C 37 B	1 − 17	17	1	Dec. 15 1986
C 38 A	1 − 37	37	7	Jan. 10 1987
C 38 B	1 − 25	26	1	Dec. 15 1986
C 39 A	1 − 46	46	7	Jan. 10 1987
C 39 B	1 − 16	16	1	Dec. 15 1986
C 40 A	1 − 42	42	6	Jan. 9 1987
C 40 B	1 − 20	20	8	Jan. 14 1987
C 41 A	1 − 19	19	6	Jan. 9 1987
C 41 B	1 − 11	11	15	Feb. 12 1987
C 41 C	1 − 17	17	6	Jan. 9 1987
C 42	1 − 41	41	6	Jan. 9 1987
C 43	1 − 41	41	6	Jan. 9 1987
C 44	1 − 41	41	6	Jan. 9 1987
C 45	1 − 44	44	6	Jan. 9 1987
C 46 A	1 − 15	15	12	Jan. 22 1987
C 46 B	1 − 14	14	3	Dec. 29 1986

Table － 1

[1986/87] (3－3)

Course No.	Photo No.	No. of Photographs	Roll No.	Date of Aerial Photography
C 46 C	1 － 16	16	12	Jan. 24 1987
C 47 A	1 － 14	14	12	Jan. 22 1987
C 47 B	1 － 12	12	3	Dec. 29 1986
C 47 C	1 － 18	18	13	Feb. 2 1987
C 48 A	1 － 27	27	5	Jan. 9 1987
C 48 B	1 － 10	10	13	Jan. 31 1987
C 49 A	1 － 25	25	5	Jan. 9 1987
C 49 B	1 － 13	13	13	Jan. 31 1987
C 50 A	1 － 17	17	4	Dec. 30 1986
C 50 B	1 － 20	20	13	Feb. 2 1987
C 51 A	1 － 29	29	4	Dec. 30 1986
C 51 B	1 － 9	9	12	Jan. 24 1987
C 52 A	1 － 11	11	12	Jan. 24 1987
C 52 B	1 － 31	31	4	Dec. 30 1986
C 53	1 － 37	37	4	Dec. 30 1986
C 54 A	1 － 16	16	2	Dec. 18 1986
C 54 B	1 － 25	25	13	Feb. 2 1987
C 55 A	1 － 17	17	7	Jan. 10 1987
C 55 B	1 － 9	9	2	Dec. 18 1986
C 55 C	1 － 15	15	7	Jan. 10 1987
C 56	1 － 18	18	2	Dec. 17 1986
C 57	1 － 19	19	2	Dec. 17 1986
C 58	1 － 17	17	2	Dec. 17 1986
C 59	1 － 24	24	3	Dec. 26 1986
C 60	1 － 25	25	3	Dec. 26 1986
C 61	1 － 23	23	3	Dec. 26 1986
C 62	1 － 22	22	3	Dec. 26 1986
C 63	1 － 22	22	3	Dec. 26 1986
C 64 A	1 － 9	9	12	Jan. 22 1987
C 64 B	1 － 19	19	3	Dec. 26 1986
C 65	1 － 26	26	10	Jan. 19 1987
C 66	1 － 27	27	10	Jan. 19 1987
C 67	1 － 27	27	10	Jan. 19 1987
C 68	1 － 27	27	10	Jan. 19 1987
C 69	1 － 27	27	10	Jan. 19 1987
C 70 A	1 － 27	27	3	Dec. 29 1986
C 71	1 － 28	28	2	Dec. 16 1986
C 72	1 － 27	27	5	Jan. 4 1987
C 73 A	1 － 8	8	13	Feb. 2 1987
C 73 B	1 － 22	22	2	Dec. 16 1986
C 74	1 － 27	27	2	Dec. 16 1986
C 75	1 － 26	26	2	Dec. 16 1986
C 76	1 － 21	21	12	Jan. 22 1987
C 77	1 － 21	21	12	Jan. 22 1987
C 78	1 － 19	19	12	Jan. 25 1987
Sub-total		2,312	15	
Total 101 Courses		4,029	26	

Table − 2 Block Adjustment for Aerial Triangulation

(2−1)

NAME	X-coordinate X	Residual VX	Y-coordinate Y	Residual VY	Residual of distance VS	Elevation H	Residual VH
510100	1645581.63	0.47	48706.88	0.34	0.58	782.00	−0.33
973800						738.00	4.00
510200	1644755.72	−0.35	482037.73	−0.23	0.42	621.87	1.05
965400						654.00	0.76
972100						721.00	−2.30
971400						714.00	2.28
976900						769.00	−1.28
981900						819.00	1.78
972200						722.00	−2.13
967300						673.00	1.81
610301	1640555.36	−0.02	477656.26	0.20	0.20	895.91	2.67
988300						883.00	2.85
972100						721.00	0.19
976400						764.00	−4.46
989800						898.00	0.70
981900						819.00	2.36
989400						894.00	−0.31
985200						852.00	−2.31
989800						898.00	−4.47
981800						818.00	−1.65
991800						918.00	2.08
981600						816.00	−1.81
989600						896.00	−0.83
977800						778.00	−1.34
974200						742.00	−0.94
992400						924.00	−4.75
510400	1632974.05	0.48	484357.71	−0.10	0.49	723.61	−2.61
510700	1635038.81	0.43	501004.12	−0.15	0.46	279.87	−1.55
981500						815.00	4.58
978600						786.00	−1.21
981600						816.00	−1.46
974200						742.00	−1.17
985000						850.00	4.42
986700						867.00	−1.55
987300						873.00	3.22

Table – 2

(2 – 2)

NAME	X-coordinate X	Residual VX	Y-coordinate Y	Residual VY	Residual of distance VS	Elevation H	Residual VH
985600						856.00	3.28
974500						745.00	0.19
995200						952.00	−2.24
935400						354.00	−3.21
947800						478.00	1.00
900001						180.00	−4.89
900002						180.00	1.10
900003						180.00	1.07
900004						180.00	1.20
870468						704.68	−2.39
871656						716.56	−1.14
875526						755.26	1.17
874960						749.60	2.76
879246						792.46	0.73
875783						757.83	2.86
900005						180.00	1.57
900006						180.00	1.18
510500	1624532.02	−0.69	487172.81	0.25	0.73	872.80	−0.02
510600	1622281.30	−0.71	492411.18	−0.13	0.72	825.39	0.93
876011						760.11	0.61
875927						759.27	1.49
874704						747.04	2.85
861893						618.93	0.55
837581						375.81	−0.19
963300						633.00	0.34
510800	1621775.67	−0.31	502062.44	0.54	0.62	192.42	−1.15
866695						666.95	0.84
857159						571.59	0.65
844475						444.75	−0.42
824454						244.54	3.05
823501						235.01	−0.85
510900	1618114.97	0.71	498867.48	−0.71	1.00	260.24	0.52
981500						815.00	−3.90
992700						927.00	4.83
975800						758.00	−4.78
900008						180.00	3.81
900009						180.00	−1.00

MAX. ERROR RS 1.00 RH −4.89

MEAN. ERROR RS 0.58 RH 1.94

Table − 3 Data used in preparing the Aerial Photo Stand Volume Table

No.	Plot No.	R (%) Crown density	V_A (m³/ha) Actual volume	V_E (m³/ha) Estimated volume	$V_A - V_E$
1	1	40	41	48	−7
2	2−1	50	64	69	−5
3	2−2	40	52	48	4
4	3	30	44	30	14
5	4	55	103	81	22
6	5	20	16	16	0
7	6	35	1	39	−18
8	7	40	65	48	17
9	8	65	92	106	−14
10	9	65	85	106	−21
11	10	50	47	69	−22
12	11	50	62	69	−7
13	12	45	68	58	10
14	13	50	34	69	−35
15	14	30	34	30	4
16	15	70	141	120	21
17	16	65	114	106	8
18	17−2	75	135	134	1
19	18−1	70	130	120	10
20	19	55	96	81	15
21	20−1	50	72	69	3
22	20−2	70	105	120	−15
23	21	70	115	120	−5
24	22	40	42	48	−6
25	23	55	53	81	−28
26	24	45	47	58	−11
27	25	40	39	48	−9
28	26	40	48	48	0
29	27	45	60	58	2
30	28	40	65	48	17
31	29	65	89	106	−17
32	30	70	129	120	9
33	31	60	74	93	−19
34	32	80	140	149	−9
35	33	50	52	69	−17
36	34	55	91	81	10
37	35	55	100	81	19
38	36	45	75	58	17
39	37	60	81	93	−12
40	38	45	62	58	4
41	add-3	45	79	58	21
42	〃 -4	50	91	69	22
43	〃 -6	40	38	48	−10
44	〃 -8	45	91	58	33
45	〃 -1	75	196	134	62
46	〃 -2	75	165	134	31
47	〃 -7	70	145	120	25

$$\begin{cases} \log V = -0.932 + 1.632 \log R \quad (r = 0.87910) \\ V = 0.117 R^{1.632} \end{cases}$$

Table – 4 Meteorological Data of the Srinagarind Dam Met. Office

(2–1)

1. Mean monthly air temperature

(Unit : ℃)

Month / Year	1	2	3	4	5	6	7	8	9	10	11	12	Annual mean
1981	23.0	26.5	28.3	29.0	28.0	26.5	27.0	26.3	26.6	26.2	24.4	21.6	26.1
1982	22.5	26.0	28.8	28.2	28.9	26.9	27.0	25.7	26.2	26.7	26.3	21.8	26.3
1983	23.0	25.5	28.9	31.6	30.3	28.4	28.6	27.4	27.0	26.5	23.4	22.6	26.9
1984	23.2	26.6	27.6	29.6	29.0	26.9	27.1	26.9	27.0	26.2	24.9	23.8	26.6
1985	24.6	27.0	27.9	29.9	28.6	26.5	26.4	26.9	26.6	26.1	25.4	23.0	26.6
Monthly mean	23.3	26.3	28.3	29.7	29.0	27.0	27.2	26.6	26.7	26.3	24.9	22.6	26.5

2. Minimum monthly air temperature

(Unit : ℃)

Month / Year	1	2	3	4	5	6	7	8	9	10	11	12	Annual mean
1981	16.9	21.0	22.1	23.3	24.0	23.4	23.5	23.4	22.9	22.7	21.3	17.2	21.8
1982	17.2	20.4	22.8	23.2	24.5	23.5	23.4	22.4	22.5	21.9	21.9	16.1	21.7
1983	17.6	19.4	22.5	25.7	25.1	24.5	24.8	23.8	23.0	22.8	19.3	17.9	22.2
1984	18.1	21.6	21.8	24.6	24.3	23.4	23.2	23.8	23.0	22.2	20.5	18.7	22.1
1985	19.4	21.6	21.1	24.8	24.0	23.4	23.0	24.0	23.1	22.6	21.4	17.5	22.2
Monthly mean	17.8	20.8	22.1	24.3	24.4	23.6	23.6	23.5	22.9	22.4	20.9	17.5	22.0

3. Maximum monthly air temperature

(Unit : ℃)

Month / Year	1	2	3	4	5	6	7	8	9	10	11	12	Annual mean
1981	29.1	32.0	34.5	34.6	32.0	29.6	30.4	29.1	30.3	29.6	27.4	26.0	30.4
1982	27.8	31.5	34.8	33.1	33.2	30.2	30.5	28.9	29.8	31.4	30.6	27.5	30.8
1983	28.3	31.6	35.3	37.5	35.4	32.2	32.3	31.0	30.9	30.1	27.4	27.3	31.6
1984	28.3	31.5	33.4	34.6	33.6	30.4	30.9	29.9	31.0	30.1	29.2	28.9	31.0
1985	29.8	32.4	34.6	34.9	33.1	29.6	29.8	29.7	30.1	29.6	29.3	28.5	31.0
Monthly mean	28.7	31.8	34.5	34.9	33.5	30.4	30.8	29.7	30.4	30.2	28.8	27.6	31.0

Table – 4

(2–2)

4. Monthly rainfall and rainy days

[Unit : mm, ( ): days]

Year \ Month	1	2	3	4	5	6	7	8	9	10	11	12	Total
1981	0 (0)	40.7 (7)	55.6 (4)	120.8 (7)	212.4 (20)	161.1 (22)	91.3 (19)	104.4 (23)	293.9 (21)	83.7 (12)	234.4 (15)	40.3 (1)	1,438.6 (151)
1982	0 (0)	0.6 (1)	23.0 (3)	141.1 (9)	81.6 (14)	117.4 (21)	114.1 (19)	137.1 (23)	109.3 (17)	119.6 (15)	10.3 (2)	22.4 (1)	876.5 (125)
1983	1.5 (2)	0 (0)	0 (0)	15.5 (1)	70.5 (9)	37.8 (11)	41.0 (13)	98.7 (23)	176.1 (23)	286.0 (28)	42.8 (7)	2.3 (3)	772.2 (120)
1984	0.3 (1)	21.7 (5)	70.4 (6)	85.6 (12)	33.2 (10)	117.8 (21)	72.5 (15)	21.0 (11)	179.1 (20)	221.5 (17)	24.0 (5)	0 (0)	847.1 (123)
1985	17.5 (1)	0 (0)	68.7 (3)	69.1 (11)	90.5 (15)	105.6 (23)	94.6 (23)	55.3 (20)	247.6 (21)	225.1 (21)	82.3 (8)	0 (0)	1,056.3 (146)
Mean	3.9 (1)	12.6 (3)	43.5 (3)	86.4 (8)	97.6 (14)	107.9 (20)	82.7 (18)	83.3 (20)	201.2 (20)	187.2 (19)	78.8 (7)	13.0 (1)	998.1 (133)

5. Maximum daily rainfall of each month

[Unit : mm, ( ): date]

Year \ Month	1	2	3	4	5	6	7	8	9	10	11	12	Annual maximum
1981	0 (0)	3.8 (27)	36.4 (11)	53.0 (1)	78.7 (26)	27.4 (18)	26.1 (23)	12.6 (6)	64.5 (20)	20.8 (17)	73.2 (7)	0.3 (10)	78.7
1982	0 (0)	0.6 (17)	14.6 (30)	55.4 (14)	14.2 (30)	45.7 (3)	22.3 (8)	20.2 (18)	29.8 (17)	28.5 (4)	9.5 (30)	22.4 (2)	55.4
1983	1.1 (2)	0 (0)	0 (0)	15.5 (29)	12.4 (7)	10.0 (28)	13.1 (10)	21.4 (21)	37.4 (28)	134.9 (18)	18.3 (4)	2.0 (31)	134.9
1984	0.3 (23)	8.2 (26)	34.9 (23)	45.5 (22)	12.7 (9)	26.6 (27)	19.7 (12)	7.0 (2)	51.6 (22)	58.2 (3)	11.1 (10)	0 (0)	58.2
1985	17.5 (25)	0 (0)	47.6 (31)	21.7 (29)	16.3 (25)	14.3 (10)	20.3 (25)	8.6 (27)	47.5 (14)	43.4 (12)	44.2 (13)	0 (0)	47.6
Monthly maximum	17.5	8.2	47.6	55.4	78.7	45.7	26.1	21.4	64.5	134.9	73.2	22.4	134.9

6. Mean monthly humidity

(Unit : %)

Year \ Month	1	2	3	4	5	6	7	8	9	10	11	12	Annual mean
1981	–	–	–	–	–	–	90	–	93	94	94	87	–
1982	94	86	87	87	88	90	89	88	90	96	93	91	90
1983	88	87	85	82	90	91	88	91	96	96	95	93	90
1984	92	88	91	86	87	91	90	84	94	94	94	91	90
1985	91	94	93	92	95	95	96	95	95	96	96	97	95
Monthly mean	91	89	89	87	90	92	91	90	94	96	95	93	91

Table – 5 Population of the Kanchanaburi Province and Survey Area

(2–1)

1. Population and number of households of the province of Kanchanaburi in Dec., 1984

Name of place	Household No.	Sex			Age							Birth	Death	Increase
		Male	Female	Total	0 ~ 1	1 ~ 4	5 ~ 9	10~14	15~44	45~59	60~85			
Kanchanaburi (urban area)	4,077	16,002 49.2	16,537 50.8	32,539 100%	550	3,036	4,279	4,350	14,210	4,420	1,649	2,776 8.5	482 1.5	2,294 7.1%
Kanchanaburi (city)	15,660	55,027 52.3	50,234 47.7	105,261 100%	1,779	9,821	13,842	14,073	45,968	14,295	5,483	1,113 1.1	185 0.2	948 0.9%
Tha Muang	13,909	47,778 50.3	47,288 49.7	95,067 100%	1,606	8,870	12,501	12,710	41,516	12,910	4,954	1,233 1.3	258 0.3	975 1.0%
Tha Maka	16,820	66,553 50.7	64,783 49.3	131,316 100%	2,219	12,252	17,268	17,557	56,746	17,843	6,841	1,585 1.2	326 0.3	1,259 1.0%
Phanom Thuan	12,508	35,278 47.9	38,407 52.1	73,685 100%	1,245	6,875	9,690	9,852	32,178	10,006	3,839	1,172 1.6	296 0.4	876 1.2%
Bo Phloi	11,267	31,580 51.6	29,670 48.4	61,250 100%	1,035	5,715	8,054	8,189	26,748	8,718	3,192	1,070 1.7	154 0.3	916 1.5%
Sai Yok	6,041	15,198 53.9	12,981 46.1	28,179 100%	477	2,629	3,706	3,767	12,306	3,827	1,467	693 2.5	186 0.7	507 1.8%
Si Sawat	2,255	6,530 50.8	6,327 49.2	12,857 100%	217	1,199	1,691	1,719	5,615	1,746	670	276 2.2	38 0.3	238 1.9%
Thong Pha Phum	2,963	7,282 45.1	6,171 45.9	13,453 100%	227	1,255	1,769	1,799	4,949	1,827	701	251 1.9	51 0.4	200 1.5%
Sangkhla Buri	1,399	3,991 50.3	3,929 49.7	7,900 100%	134	737	1,039	1,056	3,450	1,073	411	86 1.1	22 0.3	64 0.8%
Lao Khwan	8,550	22,449 51.4	22,215 48.6	45,664 100%	771	4,260	6,005	6,105	19,942	6,201	2,380	941 2.1	120 0.3	821 1.8%
Total	95,449	308,628 50.8	298,543 49.2	607,171 100%	10,260	56,649	79,844	81,178	265,152	82,446	31,632	11,216 1.8	2,118 0.4	9,099 1.5%

(Source) Annual Report 1984 of Kanchanaburi Province

Table − 5

(2−2)

2. Movement of population in the province of Kanchanaburi

Item	Year 1981		Year 1982		Year 1983		Year 1984	
	Person	%	Person	%	Person	%	Person	%
Birth	12,928	2.4	13,575	2.4	12,382	2.1	11,216	1.8
Death	2,345	0.4	2,367	0.4	2,358	0.4	2,118	0.4
Increase	10,583	2.0	11,206	2.0	10,024	1.7	9,099	1.5

(Source) Annual Report 1984 of Kanchanaburi Province

3. Population of the rural districts of the survey area

Districts	Year 1983				Year 1984				
	Male	Female	Total	Increase	Household number	Male	Female	Total	Increase
Thong Pha Phum	6,346	6,012	12,358	279	2,963	7,282	6,171	13,453	200
	51.4%	48.6%	100%	2.3%		45.1%	45.9%	100%	1.5%
Si Sawat	6,881	5,820	12,701	395	2,255	6,530	6,327	12,857	238
	54.2%	45.8%	100%	3.1%		50.8%	49.2%	100%	1.9%
Total	13,227	11,832	25,059	674	5,218	13,812	12,498	26,310	438
	52.8%	47.2%	100%	2.7%		52%	48%	100%	1.7%

(Source) Annual Report 1984 of Kanchanaburi Province

4. Villages and population of the zone in which the model area is to be selected

No.	Villages	Household number	Person	Remarks
1	Ban Phu Toei	80	300	Thong Pha Phum district Chalae town
2	Ban Dong Yai	30	200	Si Sawat district Dan Mae Chalaep town
3	Ban Dong Lek	30	100	〃
4	Ban Danmae Chalaep	3	30	〃
5	Ban Phu Ta Ma	9	40	〃
	Total	152	670	

(Source) Field Survey Data in Jan., 1986.

Table – 6 Results of Sample Plot Survey by Logging Block and Forest Type (3–1)

(per ha)

Logging	Plot		Forest Type	Number of Tree (G. B. H. 46cm & up)				Mean Value			Number of Tree (G. B. H. 101cm & up)				Volume (m³)				
Block No.	No.	Size (ha)		DIPTERO-CARPACEAE	5 main species	Others	Total	G. B. H. (cm)	T. H. (m)	C. L. (m)	DIPTERO-CARPACEAE	5 main species	Others	Total	DIPTERO-CARPACEAE	5 main species	Others	Total (per ha)	per tree
1 (inside the model area)	42	1.0	T_E F M_l H_3 D_2	1	0	272	273	80.5	19.7	11.2	1	0	40	41	1.8	0	89.0	90.8	2.21
	43	1.0	T_E F M_l H_3 D_3	41	0	265	306	106.6	24.4	16.0	11	0	100	111	23.0	0	224.8	247.8	2.23
	4	1.0	M_D F M_l H_3 D_3	0	15	136	151	101.9	17.5	10.4	0	11	50	61	0	17.8	85.4	103.2	1.69
	19	1.0	M_D F S_m H_2 D_3	25	15	116	156	107.2	16.9	9.5	18	10	42	70	40.4	14.0	42.0	96.4	1.38
	20^{-1}	0.4	M_D F S_m H_2 D_2	3	16	96	115	127.0	17.6	9.4	0	13	37	50	0	14.3	58.0	72.3	1.45
	41	1.0	M_D F M_l H_3 D_2	5	17	126	148	100.5	20.6	10.4	1	2	53	56	10.2	3.0	65.4	78.6	1.40
	2^{-1}	0.1	M_D H M_l H_2 D_2	115	5	125	245	87.9	15.7	8.0	35	3	35	73	30.8	5.0	28.2	64.0	0.88
	3	1.0	M_D H S_m H_3 D_1	0	15	82	97	97.0	18.5	11.6	0	7	32	39	0	7.5	36.5	44.0	1.13
	20^{-2}	0.4	M_D H S_m H_2 D_4	28	15	120	163	105.2	18.2	10.4	18	0	60	78	25.8	0	79.0	104.8	1.34
	5	0.8	D_D F S_m H_1 D_1	179	24	123	326	71.0	12.5	9.8	23	3	9	35	9.0	0.5	6.6	16.1	0.46
	6	1.0	D_D F S_m H_1 D_1	160	14	109	283	71.0	13.1	8.4	11	2	12	25	7.5	0.8	12.2	20.5	0.82
	2^{-2}	0.4	D_D H S_m H_2 D_1	113	21	171	305	83.7	14.9	7.2	18	10	42	70	14.8	9.6	27.9	52.3	0.75
	44	1.0	D_D H S_m H_2 D_1	121	21	124	266	79.7	16.6	7.9	39	2	9	50	32.4	0.8	5.2	38.4	0.77
2 (inside the model area)	9	1.0	T_E F S_m H_3 D_4	8	0	249	257	89.0	18.6	10.0	3	0	65	68	3.5	0	81.0	84.5	1.24
	10	1.0	T_E F S_m H_3 D_2	30	0	224	254	74.9	17.3	9.1	13	0	30	43	22.5	0	24.9	47.4	1.10
	15	1.0	T_E F M_l H_3 D_4	22	3	172	197	102.4	20.2	12.1	18	2	63	83	37.4	4.4	99.6	141.4	1.70
	16	1.0	T_E F M_l H_3 D_4	69	1	239	309	86.0	19.2	11.2	41	0	43	84	67.1	0	46.8	113.9	1.36
	17^{-2}	0.8	T_E F M_l H_3 D_4	6	4	153	163	106.3	19.3	11.7	5	3	60	68	30.9	3.1	101.0	135.0	1.99
	18^{-1}	0.8	T_E F M_l H_3 D_4	11	0	195	206	99.4	19.2	11.5	10	0	61	71	29.6	0	100.0	129.6	1.83
	30	1.0	T_E F M_l H_3 D_4	8	1	215	224	92.2	17.7	9.6	5	1	47	53	48.0	2.8	78.4	129.2	2.44
	31	1.0	T_E F M_l H_3 D_3	9	0	81	90	106.7	20.7	13.3	8	0	33	41	21.7	0	50.5	72.2	1.81
	32	1.0	T_E F M_l H_3 D_4	74	2	230	306	91.3	20.6	12.4	30	0	56	86	70.0	0	70.0	140.0	1.63
	39	1.0	T_E F L_a H_3 D_4	11	0	184	195	114.1	20.9	12.4	5	0	75	80	12.6	0	183.5	196.1	2.45
	40	1.0	T_E F M_l H_3 D_3	12	0	250	262	90.7	19.8	11.3	4	0	72	76	7.1	0	158.3	165.4	2.17

5 main species ········ *Afzelia xylocarpa, Pterocarpus macrocarpus, Dalbergia dongnaiensis, Xylia kerrii, Sindora siamensis*

Table − 6

(3−2)

(per ha)

Logging	Plot		Forest Type	Number of Tree (G. B. H. 46cm & up)				Mean Value			Number of Tree (G. B. H. 101cm & up)				Volume (㎥)				
Block No.	No.	Size (ha)		DIPTERO-CARPACEAE	5 main species	Others	Total	G. B. H. (cm)	T. H. (m)	C. L. (m)	DIPTERO-CARPACEAE	5 main species	Others	Total	DIPTERO-CARPACEAE	5 main species	Others	Total (per ha)	per tree
2 (inside the model area)	17^{-1}	0.2	M_D F S_m H_2 D_2	0	0	155	155	89.5	15.2	8.6	0	0	55	55	0	0	41.5	41.5	0.75
	18^{-2}	0.2	M_D F M_i H_2 D_4	0	0	120	120	82.5	16.8	9.6	0	0	35	35	0	0	37.0	37.0	1.06
	7	0.8	M_D H M_i H_2 D_1	10	6	122	138	107.5	15.9	9.0	3	1	46	50	4.3	1.9	58.6	64.8	1.30
	8	1.0	M_D H M_i H_2 D_4	2	5	147	154	104.0	18.6	11.5	0	2	64	66	0	1.6	90.5	92.1	1.40
	37	1.0	M_D H S_m H_2 D_3	0	17	179	196	94.5	18.7	11.5	0	9	58	67	0	16.6	64.0	80.6	1.20
	38	0.8	M_D H S_m H_3 D_2	0	23	115	138	99.8	20.6	12.9	0	13	42	55	0	14.9	46.7	61.6	1.12
	45	1.0	M_D H L_a H_3 D_1	1	31	162	194	101.9	22.1	13.2	1	19	52	72	5.1	29.3	115.2	149.6	2.08
	1	0.8	D_D H S_m H_1 D_1	158	18	40	216	87.9	15.7	8.0	41	3	11	55	33.3	1.8	6.0	41.1	0.75
3 (inside the model area)	33	1.0	M_D F M_i H_2 D_2	4	17	71	92	104.0	17.0	9.6	3	8	22	33	11.8	8.0	32.2	52.0	1.58
	34	1.0	M_D F M_i H_3 D_3	0	20	104	124	108.9	18.0	11.6	0	11	47	58	0	13.3	77.8	91.1	1.57
	35	1.0	D_D F S_m H_2 D_3	49	21	106	176	107.7	17.3	9.4	35	8	40	83	53.4	4.7	42.1	100.2	1.21
	36	1.0	D_D F S_m H_2 D_2	63	9	90	162	95.7	16.9	11.7	24	2	34	60	36.3	1.6	37.0	74.9	1.25
	46	1.0	D_D F S_m H_2 D_2	80	9	111	200	95.6	16.1	8.6	39	5	28	72	59.5	3.9	27.1	90.5	1.26
4 (inside the model area)	11	1.0	M_D F M_i H_2 D_2	15	3	95	113	107.0	16.5	8.7	14	2	40	56	16.9	1.7	43.6	62.2	1.11
	12	1.0	M_D F M_i H_3 D_2	1	0	107	108	105.6	19.3	11.3	0	0	52	52	0	0	67.7	67.7	1.30
	21	1.0	M_D F M_i H_2 D_4	8	1	144	153	110.9	18.0	10.9	6	1	63	70	30.2	1.3	83.0	114.5	1.64
	22	1.0	M_D F M_i H_2 D_1	40	4	142	186	91.6	14.7	7.5	13	0	40	53	13.9	0	27.9	41.8	0.79
	13	1.0	M_D H S_m H_2 D_2	48	10	83	141	86.4	16.4	8.3	25	2	13	40	24.8	1.2	8.0	34.0	0.85
	14	1.0	M_D H S_m H_2 D_1	25	7	135	167	82.7	16.3	9.2	12	1	21	34	12.1	1.3	20.1	33.5	0.96
5 (inside the model area)	23	1.0	M_D F M_i H_2 D_3	43	5	125	173	84.1	18.4	9.8	17	1	31	49	16.8	2.2	33.6	52.6	1.07
	24	1.0	M_D F M_i H_2 D_2	1	4	99	104	111.6	17.2	7.0	1	1	47	49	3.7	3.1	39.9	46.7	0.95
	25	1.0	M_D F M_i H_2 D_1	1	11	110	112	100.4	16.4	6.5	1	7	33	41	0.8	10.0	27.9	38.7	0.94
	26	1.0	M_D F M_i H_2 D_1	0	10	86	96	108.6	16.2	8.2	0	7	38	45	0	8.8	39.0	47.8	1.06

5 main species ········ *Afzelia xylocarpa, Pterocarpus macrocarpus, Dalbergia dongnaiensis, Xylia kerrii, Sindora siamensis*

Table − 6

(3−3)

(per ha)

Logging	Plot		Forest Type	Number of Tree (G. B. H. 46cm & up)				Mean Value			Number of Tree (G. B. H. 101cm & up)				Volume (m³)				
Block No.	No.	Size (ha)		DIPTERO-CARPACEAE	5 main species	Others	Total	G. B. H. (cm)	T. H. (m)	C. L. (m)	DIPTERO-CARPACEAE	5 main species	Others	Total	DIPTERO-CARPACEAE	5 main species	Others	Total (per ha)	per tree
5 (inside the model area)	27	1.0	M_D F M_i H_2 D_2	69	4	95	168	98.1	16.2	8.1	34	1	38	73	30.3	1.2	28.4	59.9	0.82
	28	1.0	M_D F M_i H_2 D_1	80	3	142	225	86.8	16.1	8.5	42	0	23	65	48.8	0	16.2	65.0	1.00
	29	1.0	M_D F M_i H_2 D_4	14	3	90	107	120.8	18.4	9.1	14	3	42	59	33.6	4.0	51.1	88.7	1.50
7 (outside the model area)	5	1.0	M_D F S_m H_1 D_1	0	0	120	120	103.8	11.6	7.0	0	0	54	54	0	0	42.2	42.2	0.78
	6	0.8	M_D F S_m H_1 D_1	1	0	117	118	108.4	11.6	7.1	1	0	53	54	2.0	0	59.5	61.5	1.14
8 (outside the model area)	8	1.0	T_F F M_i H_3 D_2	19	1	201	221	89.7	19.0	13.0	9	1	47	57	29.0	0.8	102.6	132.4	2.32
	11	1.0	T_E F M_i H_3 D_2	35	0	240	275	87.0	20.0	13.5	27	0	70	97	118.2	0	153.2	271.4	2.80
	9	1.0	T_E H M_i H_3 D_3	9	0	243	252	103.9	18.3	12.2	6	0	78	84	17.7	0	217.2	234.9	2.80
	7	1.0	M_D F S_m H_2 D_1	6	1	157	164	98.4	14.0	9.2	3	0	56	59	3.2	0	76.0	79.2	1.34
	12	1.0	M_D F S_m H_2 D_1	0	1	154	155	89.6	13.1	6.8	0	0	48	48	0	0	46.2	46.2	0.96
	10	1.0	M_D H S_m H_2 D_1	0	4	138	142	117.8	14.8	8.1	0	1	67	68	0	2.1	93.1	95.2	1.40
9 (outside the model area)	1	1.0	T_E F M_i H_3 D_2	6	1	228	235	107.1	23.7	16.9	5	0	82	87	17.8	0	276.9	294.7	3.39
	2	1.0	T_E F M_i H_3 D_3	4	0	295	299	91.8	22.2	14.9	4	0	86	90	6.2	0	178.2	184.4	2.05
	3	1.0	T_E F M_i H_3 D_2	0	0	260	260	99.7	21.0	14.4	0	0	71	71	0	0	280.3	280.3	3.95
	4	1.0	T_E F M_i H_3 D_3	3	0	219	222	123.1	20.6	19.5	1	0	94	95	1.6	0	340.4	342.0	3.60

5 main species ········ *Afzelia xylocarpa, Pterocarpus macrocarpus, Dalbergia dongnaiensis, Xylia kerrii, Sindora siamensis*

Table–7 Results of the Soil Profile Examination (5–1)

* No.	Location & topography	Incli-nation (°C)	Type of soil	Thickness (m)	Color	Humus	Texture	Structure	Gravel: Form & size	Gravel: Weathering	Gravel: Content	Hardness	Mois-ture	Leach-ing & accumu-lation	Mycor-rhiza & mycel-ium	Root	Remarks
①	Secondly ridge top	8	Be	0.45	7.5YR 3/3~4/3	Abundant	Clay	Blocky	Angler, Fine~Small	Weathered	Common	24~30	Dry to moist	–	–	Abundant	pH5.5~6.2 (A_1 ~C horizon)
2	Spur upper site	13	E	0.50	7.5YR 2/1~2/2	Very abundant	Clay	Blocky	Subangler Angler, Fine	Weathered	Abundant	27~37	Dry	–	–	Abundant	pH5.8 (A_1 ~C horizon)
3	Supur upper site	3	E	0.35	5YR 2/2~2/3	Very aboundant	Sandy clay~Clay	Blocky	Rounded, Small	Weathered	Very abundant	17~20	Dry	–	–	Abundant	pH6.7 (A_1 horizon)
4	Spur deposit site	3	Be - c	0.60	5YR 2/1~3/4	Aboundant	Clay	Blocky	–	–	–	28~32	Dry~ Dry to moist	–	–	Common	pH5.3 (A_1, B_2 horizon)
5	Hillside middle site (flat)	40	E	0.15	7.5YR 2/1-2~10R 2/3-4	Very abundant	Clay	Nutty, Blocky	Rounded~ Subangler, Fine~Small	Weathered	Very abundant	15~19	Dry	–	–	Abundant	pH6.4 (A_1 horizon)
6	Flat	0	Ne - f	more than 10	5-7.5YR 2/2~5YR 3/6	Aboundant	Clay	Blocky	–	–	–	28~31	Dry to moist~ Moist	–	–	Common	pH5.1, 6.2 (A_1 ~B_2 horizon)
7	Spur deposit site	17	Be - c	more than 10	5YR 2-3/1~3/2	Very abundant	Clay	Blocky	–	–	–	21~31	Dry to moist~ Moist	–	–	Abundant	pH6.0, 6.2 (A_2, A_1 horizon)
8	Hillside lower site (flat)	12	E	0.6	5YR 3/2~2.5YR 4/6	Aboundant	Clay	Blocky	Angler~ Subangler, Fine~Small	Strong Weathered	Very abundant	21~36	Dry	–	–	Common	Gravel
9	Flat	1	E	0.30	5YR 2/1~7.5YR 4-5/3-4	Abundant	Clay	Blocky	Subangler~ Angler, Small	Weathered	Abundant	24~28	Dry	–	–	Common	
10	Flat	0	Be - c	more than 10	7.5YR 3/2~5YR 3/1	Abundant	Clay	Blocky	Subangler, Fine	Strong Weathered	Scanty	29~32	Dry	–	–	Abundant	pH5.4 (A_1, A_2, B horizon)
11	Flat	0	Ne - s	more than 10	2.5YR 2/3~7.5YR 3/4	Abundant ~Common	Clay	Blocky	–	–	–	24~31	Dry~ Dry to moist	–	–	Common	pH5.8, 5.3 (A_2, B_2 horizon)
12	Hillside lower site	22	Be - r	more than 1.0	7.5YR 3/2~4/4	Abundant	Clay loam	Blocky	Rounded, Small	Strong Weathered	Scanty	30~31	Dry	–	–	Common	pH5.4, 5.7 (A_1, B horizon)
13	Spur deposit site	10	E	0.20	5YR 3/2	Abundant	Clay loam	Blocky	Rounded, Fine Subangler, Small	Fresh~ Weathere	Abundant	23	Dry	–	–	Abundant	
14	Hillside middle site	20	Be - r	more than 1.0	5YR 3/4~7.5YR 5/4	Common	Clay	Nutty Blocky	Angler, Small	Weathered	Scanty	26~32	Dry	–	–	Few	pH5.0, 4.9 (A_1, B_2 horizon)
15	Upland upper site (flat)	0	Ne - f	more than 1.0	5YR 2/2~10R-2.5YR 3/6	Common	Clay	Blocky	–	–	–	22~32	Dry~ Moist	–	–	Common	pH5.2, 6.1 (A_1, B_2 horizon)
16	Small ridge top	8	Lv	more than 10	10YR 5/2~2.5YR 4/8	Common	Clay	Blocky	(Subangler, Medium)	(Strong Weathered)	(Scanty)	23~31	Dry	(Fe mottle)	– –	Common	pH5.7, 6.1 (A_1, B_2 horizon)
17	Hillside middle site	11	Be - r	more than 1.0	7.5YR 3/3~2.5-5YR 4/8	Common	Clay loam~ Clay	Blocky	–	–	–	26~33	Dry	–	–	Many	

* No mark : inside the model area, ○ : outside the model area

Table—7

* No.	Location & topography	Incli-nation (°C)	Type of soil	Thickness (m)	Color	Humus	Texture	Structure	Gravel: Form & size	Gravel: Weathering	Gravel: Content	Hardness	Mois-ture	Leach-ing & accumu-lation	Mycor-rhiza & mycel-ium	Root	Remarks
18	Hillside lower site	13	Bo - r	more than 1.0	7.5YR 2-3/1~5YR 4/8	Abundant	Clay loam loam	Blocky	Subangler~ Rounded, Fine	Fresh	Scanty	28~31	Dry~ Dry to moist	–	–	Common	
19	Hill slope middle site	10	Be - r	more than 1.0	7.5YR 4-5/3~5YR 4/8	Common	Clay	Blocky	–	–	–	28~30	Dry	–	–	Many	pH6.2, 6.0 (A_2, B_2 horizon)
20	Hillside lower site	18	Lv	more than 1.0	7.5YR 3/2~2.5YR 3/5	Abundant	Clay	Blocky	–	–	–	23~32	Dry to moist	–	–	Many	pH5.6, 5.9 (A_1, B_2 horizon)
21	Hillside middle site (flat)	21	Be - r	more than 1.0	5YR 2/2~2.5YR 3-4/4	Common	Clay	Blocky	–	–	–	30~33	Dry	–	–	Common	
22	Flat (hill side)	0	Be - r	more than 10	7.5YR 2-3/1~10YR 4/4	Abundant	Clay, Clay loam	Blocky Clumb	–	–	–	18~33	Dry	–	–	Common	
23	Flat	0	Ne - f	more than 10	5YR 3/2~2.5YR 3/6	Common	Clay	Blocky	(Rounded, Fine)	Weathered	Scanty	30~32	Dry~ Dry to moist	–	–	Common	
24	Flat	8	Ne - f	more than	7.5YR 4/4~2.5YR 3/5	Common	Clay loam loam~ Clay	Blocky	Angler Subangler, Fine	Weathered	Common	24~30	Dry~ Dry to moist	–	–	Few	pH6.3, 6.5 (A_2, B_1 horizon)
25	Flat	6	Ne - s	more than 1.0	2.5YR 2/3~10YR 2-3/3	Abundant	Clay	Blocky	–	–	–	21~29	Dry to moist	–	–	Many	pH6.0, 6.7 (A_2, B_2 horizon)
26	Flat	5	Ne - f	more than 1.0	5YR 4/2~4/4-6	Common	Clay loam	Blocky	Rounded Subangler, Fine	Weathered	Scanty	24~30	Dry to~ Dry to moist	–	–	Common	
27	Upland upper site (flat)	6	Ne - f	more than 1.0	5YR 2/3~2.5YR 3/6	Common	Clay	Blocky	–	–	–	25~30	Dry to moist	–	–	Common	
28	Upland upper site (flat)	0	Ne - s	more than 1.0	2.5YR 2/4~10R-2.5YR 3/3/6	Common	Clay	Blocky	–	–	–	21~24	Dry to moist	–	–	Many	pH6.7, 7.0 (A_1, B_1 horizon)
29	Hillside middle site	28	E	0.10	7.5YR 4/2~8/3	Abundant	Sandy loam	Blocky	Rounded Angler, Fine Medium	Weathered	Very abundant	12~16	Dry	–	–	Abundant	Gravel
30	Flat	0	E	0.25	5YR 2/4~2.5YR 3/4	Abundant	Clay loam loam~ Clay	Blocky	Subangler, Angler, Fine	Weathered	Scanty	20~31	Dry	–	–	Many	
31	Spur upper site	13	E	0.50	2.5YR 3/2~3/3	Very abundant	Clay	Blocky	–	–	–	21~31	Dry	–	–	Common ~Many	pH6.3 (A_2 horizon)
32	Hill slope lower site	11	Ne - f	more than 1.0	5YR 2/2~2.5YR 3/5	Abundant	Clay	Blocky	–	–	–	26~30	Dry to moist	–	–	Common	
33	Hillside upper site	12	Lg	more than 1.0	5YR 5/2~2.5YR 4/8	Scanty	Clay	Blocky	–	–	–	29~33	Dry	–	–	Few	
34	Hillside lower site	16	Be - r	more than 1.0	7.5YR 4/3~5YR 5/6	Scanty	Clay	Blocky	Subangler, Fine~Small	Weathered	Common	23~31	Dry	–	–	Few	

* No mark : inside the model area, ○ : outside the model area

Table–7

(5–3)

* No.	Location & topography	Incli-nation (°C)	Type of soil	Thickness (m)	Color	Humus	Texture	Structure	Gravel Form & size	Gravel Weathering	Gravel Content	Hardness	Mois-ture	Leach-ing & accumu-lation	Mycor-rhiza & mycel-ium	Root	Remarks
35	Uplant upper site (flat)	8	Ne - f	more than 1.0	2.5YR 3/2~2.5YR-10R 3/6	Scanty	Clay	Blocky	–	–	–	27~31	Dry to moist	–	–	Common	
36	Upland upper site (flat	13	Be - r	more than 1.0	2.5YR 2/2~3/6	Abundant	Clay	Blocky	–	–	–	23~31	Dry~ Dry to moist	–	–	Common	
37	Hill top	16	Be - r	0.35	5YR 5/1-2~7.5YR 4-5/6	Scanty	Sandy	Blocky	Rounded, Fine~Small	Strong	Common	31~34	Dry	–	–	Common	
38	Hillside lower site (rill head)	18	Be - r	more than 1.0	7.5YR 3/2~5YR 3/4	Abundant ~common	Clay	Blocky	(Rounded, Fine)	(Strong Weathered)	(Scanty)	29~32	Dry to moist	(Fe con-cretion)	–	Common	pH5.8 (A_1 horizon)
39	Hill slope middle site	8	Ne - f	more than 1.0	5 YR 4/2~4/8	Scanty	Clay	Blocky	Rounded, Small	Weathered	Scanty	26~30	Dry to moist	–	–	Common	
40	Upland upper site (shallow rill)	10	Be - r	more than 1.0	5YR 4/2~4/3-4	Abundant	Clay	Blocky	–	–	–	27~34	Dry	–	–	Many	
41	Hillside middle site	22	Lv	more than 1.0	7.5YR 4/2~5YR 4/6	Common	Clay	Blocky	–	–	–	29~33	Dry~ Dry to moist	–	–	Common	
42	Hill slope upper site	10	Ne - f	more than 1.0	5YR 4/2~4/8	Scanty	Clay~ Clay loam	Blocky	–	–	–	25~32	Dry~ Dry to moist	–	–	Common	pH6.5 (B_1 horizon)
43	Upland upper site (flat)	0	Ne - f	more than 1.0	5YR 3/2~2/4	Abundant	Clay	Blocky	–	–	–	25~31	Dry to moist	–	–	Common	
44	Upland upper site (flat)	0	Lv	more than 1.0	5YR 2/3~4/8	Common	Clay	Blocky	–	–	–	25~29	Dry to moist	–	–	Many	
45	Upland upper site (flat)	1	Ne - s	more than 1.0	2.5YR 3/3~10R 3/3	Abundant ~Common	Clay loam ~Clay	Clumb, Blocky	–	–	–	18~27	Dry to moist	–	–	Common	
46	Upland upper site (flat)	0	Ne - s	more than 1.0	10R-2.5YR 3/3~10R 3/3-4	Common	Clay	Blocky	–	–	–	17~26	Moist	–	–	Common	
47	Spur deposit site	7	Be - c	more than 1.0	7.5YR 2/1~3/3	Very abundant	Clay	Blocky	(Rounded, Fine)	(Weathered)	(Scanty)	33~34	Dry	–	–	Common	pH6.3 (A_1 horizon)
48	Spur deposit site	18	Be - c	more than 1.0	7.5YR 2/1~5YR 3/3	Abundant	Clay	Blocky	(Rounded, Fine)	(Weathered)	(Scanty)	29~33	Dry	–	–	Many	
49	Hill slope middle site	14	Lv	more than 1.0	7.5YR 1.7-2/1~5YR 3/4	Abundant	Clay~ Sandy clay	Blocky									
50	Upland upper site (flat)	0	Lv	more than 1.0	7.5.YR 2/1~%YR 4/6	Abundant	Clay	Blocky	(Rounded~ Subangler, Fine)	(Weathered)	(Scanty)	29~32	Dry~ Dry to moist	–	–	Common	pH5.6 (B_1 horizon)
51	Upland upper sit (flat)	8	Lv	more than 1.0	5YR 2/1-2~2.5-5YR 3/6	Common	Clay	Blocky	–	–	–	31~32	Dry~ Dry to moist	–	–	Many	

* No mark : inside the model area, ○ : outside the model area

Table–7

(5–4)

* No.	Locating & topography	Incli-nation (°C)	Type of soil	Thickness (m)	Color	Humus	Texture	Structure	Gravel: Form & size	Gravel: Weathering	Gravel: Content	Hardness	Mois-ture	Leach-ing & accumu-lation	Mycor-rhiza & mycel-ium	Root	Remarks
52	Upland upper site (flat)	1	Ne - f	more than 1.0	5YR 2/2~2.5YR 3/6	Common	Caly	Blocky	–	–	–	24~32	Dry~ Dry to moist	–	–	Common	
53	Spur deposit site	18	E	0.50	7.5YR 2/1~5YR 3/1	Very abundant	Clay	Blocky	Rounded, Fine	Strong Weathered	Common	25~32	Dry	–	–	Many	pH5.6 (A_1 horizon)
54	Hillside middle site (flat)	32	E	0.50	7.5YR 2/1~5YR 2/3	Very abundant	Clay	CBlocky	Subangler, Fine~Small	Weathered	Scanty	23~30	Dry	–	–	Many	Exist Boulder
55	Spur deposit site	7	Ne - f	more than 1.0	5YR 2/2~2.5YR 3/3-4	Abundant	Caly loam~ Clay	Blocky	–	–	–	26~33	Dry	–	–	Common	pH6.4 (A_1 horizon)
56	Hillside middle site (flat)	31	E	0.70	5YR 2/2~2/3-4	Abundant	Clay	Blocky	–	–	–	20~32	Dry	–	–	Many	
57	Hillside upper site (flat)	13	Be - c	more than 1.0	5YR 2/3~2.5YR 3/3	Abundant ~Common	Clay	Blocky	–	–	–	27~32	Dry	–	–	Many	pH5.8 (A_1 horizon)
58	Ridge upper upper site (flat)	0	Be - c	0.6 – 1.0	5YR 2/1~2-3/4	Abundant	Clay	Blocky	–	–	–	25~33	Dry	–	–	Common	pH5.8
59	Flat	0	Ne - s	more than 1.0	5YR 2/2~10R 3/3	Common	Clay	Blocky	–	–	–	25~29	Dry to moist	–	–	Few	pH5.4, 6.3 (A_1 B_1 horizo horizon)
(60)	Flat	0	Ne - s	more than 1.0	5YR 2/3~2.5YR 3/6	Common	Clay loam~ Clay	Blocky	–	–	–	18~30	Dry~ Moist	–	–	Common	pH5.5, 6.3 (A_1 B_1 (horizon)

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Table–7

No.*	Location & topography	Inclination (°C)	Type of soil	Thickness (m)	Color	Humus	Texture	Structure	Gravel				Hardness	Moisture	Leaching & accumulation	Mycorrhiza & mycelium	Root	Remarks
									Form	Size	Weathering	Content						
61	Flat	2	Bg	more than 1.0	7.5YR3/2 - 5YR4/4	Abundant ~Common	Clay	Biocky			–		29 - 32	Moist	(Mn · Fe mottle)	–	Common	pH5.5(A_1) 6.6(B_2)
62	Flat	0	G	more than 1.0	7.5YR2/2 - 7.5YR4/2	Abundant	Clay	Biocky			–		24 - 30	Moist	(Mn · Fe concretion)	–	Common	pH5.3(A)
63	Flat	1	Ne - f	more than 1.0	7.5YR2-3/1 - 5YR3/6	Abundant	Clay - Clay loam	Biocky	Angler	Fine	Fresh	Common	23 - 30	Moist	(Clay)	–	Many	pH6.6(A_1) 5.6(B_2)
64	Gentle slope	5	Ne - s	more than 1.0	5YR3/4 - 2.5YR3/6	Common	Clay loam	Biocky			–		25 - 30	Dry to moist	–	–	Common	pH6.5(A_1) 6.7(B_2)
○65	Hill middle slope	13	Bv	more than 10	7.5YR3/2 - 5-7.5YR4/4	Abundant	Clay - Clay loam	Nutty,			–		26 - 30	Dry	–	–	Many	pH6.6(A_1)
○66	Hill gentle slope	6	Be	more than 0.5	5YR3/1 - 5YR3/3	Abundant	Clay loam	Nutty	Rounded	Fine	Strongly weathered	Scanty	32 - 34	Dry	–	–	Common	pH5.8(A_1)
○67	Flat	0	Bg	more than 0.5	7.5YR3/1 - 5YR4/6	Common	Clay loam	Biocky			–		27 - 32	Dry	(Mn concretion)	–	Common	pH5.8(A_1)
○68	Hill gentle slope	6	Be	more than 0.5	7.5YR3/2 - 5YR3/6	Common	Clay loam	Nutty			–		25 - 32	Dry	–	–	Common	
○69	Hill gentle slope	10	Be	0.5 - 0.6	5YR2/1 - 5YR3/4	Abundant	Clay loam - Clay	Nutty, Biocky	Angler	Small	Fresh	Abundant	27 - 31	Dry	–	–	Many	pH6.4(A_1)
○70	Flat	0	Bg	more than 0.5	7.5YR2-3/2 - 7.5YR4/4	Abundant	Loam - Light Clay loam	Biocky			–		28 - 30	Moist	(Mn · Te mottle)	–	Common	
○71	Hill gentle slope	3	Be	more than 0.6	7.5YR2/1 - 7.5YR4/4	Common	Loam	Nutty			–		20 - 32	Dry to moist	–	–	Common	pH6.4(A_1)
○72	Hill gentle slope	6	Be	more than 0.5	7.5YR2/1 - 7.5YR5/6	Common	Loam - Clay loam	Biocky			–		19 - 31	Dry to moist	–	–	Common	
○73	Hill gentle slope	6	Lc	more than 0.6	5YR3/2 - 2.5-5YR5/8	Common	Loam - Clay	Nutty, Biocky			–		22 - 32	Dry to moist	Clay	–	Common	pH6.4(A_1) 6.3(B_1)
○74	Hill gentle slope	4	Lc	more than 0.6		Scanty	Loam - Clay							Dry	Clay		Common	pH6.4(B_1)
○75	Flat	0	Be	more than 1.0	7.5YR2/1	Very abundant	Loam - Clay	Nutty, Biocky			–		32 - 33	Dry to moist	–	–	Many	
○76	Flat	0	Be	more than 0.5	7.5YR2-3/1 - 7.5YR3/4	Abundant	Loam	Nutty, Biocky			–		27 - 31	Dry	–	–	Common	
○77	Flat	4	Lg	more than 0.5	7.5YR3/2 - 5YR4/4-6	Common	Loam - Sanjy clay	Biocky			–		31 - 32	Dry	Clay	–	Few	
○78	Flat	0	Gp	more than 0.5	7.5YR3/1 - 75YR5/4	Common	Clay loam	Biocky			–		26 - 29	Dry	(Fe · Mn concretion)	–	Few	
○79	Flat	0	Cp	more than 0.5	7.5YR2/2 - 7.5YR4/4-6	Abundant	Sandy loam - Clay	Nutty	Rounded	Fine	Fresh	Scanty	28 - 32	Dry	(Fe · Mn concretion)	–	Few	
80	Flat	0	Ne - s	more than 1.0	2.5YR2/4 - 10R3/4	Common	Loam - Clay Clay loam	Biocky			–		9 - 25	Dry to moist	(Clay)	–	Common	
81	Flat	0	Ne - s	more than 1.0	2.5YR2/3 - 10R-2.5YR3/4	Abundant	Loam - Clay loam	Biocky			–		12 - 26	Dry to moist	(Clay)	–	Common	pH6.7(A_1)
82	Flat	0	Ne - f	more than 1.0	5YR3/3 - 10R3/4	Common	Loam - Clay loam	Biocky			–		22 - 32	Dry to moist	(Clay)	–	Few	pH6.4(A_1)
83	Flat	0	Ne - s	more than 1.0	5YR2/4 - 10R3/4	Common	Loam - Clay loam	Biocky			–		10 -23	Dry to moist	(Clay)	–	Common	pH6.6(A_1) 6.1(B_2)
84	Flat	0	Ne - f	more than 1.0	5YR2/2-3 - 10R3/6	Abundant	Clay loam	Biocky			–		24 - 32	Dry to moist	(Clay)	–	Common	pH6.2(A_1)
85	Flat	1	Ne - f	more than 1.0	5-7.5YR2/2 - 2.5YR4/8	Common	Loam	Biocky			–		25 - 31	Dry to moist	(Clay)	–	Common	pH6.8(A_1)
86	Flat	2	Lv	more than 0.8	2.5YR2/2-3 - 10R3/3	Abundant	Clay	Nutty, Biocky			–		24 - 32	Moist	Clay	–	Common	pH6.2(A_1)
87	Hill gentle slope	3	Ne - f	more than 1.0	2.5YR2/2 - 10R3/4	Abundant	Clay loam - Clay	Biocky			–		22 - 28	Moist	(Clay)	–	Many	pH6.4
88	Hill gentle slope	6	Be - c	0.7	5YR2/1 - 5YR3/4	Abundant	Loam - Clay	Biocky	Rounded	Fine - Small	Weathered	Scanty	29 - 32	Dry to moist	–	–	Common	pH6.3
89	Hill gentle slope	8	Lv	more than 0.6	5YR2/1 - 2.5YR4/6	Abundant	Clay loam - Clay	Biocky			–		31 - 33	Dry	Clay	–	Common	

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Table – 8 Analysis of the Texture and Chemical Property of Typical Soil Type

Soil profile No.	Sample No.	pH		Total C %	Avail.P ppm	Exch. Cation me/100g				Ca Satura-tion %	CEC me/100g	% Soil Composition			Soil Texture	Remarks	
		$1:2H_2O$	1:2KCl			K	Ca	Mg	Na			Sand	Silt	Clay			
11	1	7.41	5.30	5.14	–	–	23.02	–	–	57.55	39.85	28.22	19.00	52.18	Clay	No. 1- 10 cm A horizon	Eutric Nitosols
	2	5.55	4.50	2.48	–	–	3.85	–	–	19.24	20.01	18.91	15.16	65.93	Clay	30 cm B_1 horizon	
	3	6.04	4.42	1.70	–	–	2.81	–	–	16.33	17.21	17.82	10.25	71.93	Clay	50 cm B_2 horizon	
3	4	6.50	5.54	10.48	–	–	59.05	–	–	68.04	86.79	24.32	31.09	44.68	Clay	No. 2-10 cm A horizon	— Rendzinas
10	5	7.12	5.71	3.33	–	–	21.61	–	–	60.04	35.99	26.41	31.41	42.18	Clay	No. 3- 10 cm A_1 horizon	Eutric Cambisols
	6	6.37	5.65	2.41	–	–	22.51	–	–	62.46	36.04	18.66	30.25	51.09	Clay	25 cm A_2 horizon	
	7	6.78	5.58	1.68	–	–	17.81	–	–	58.72	30.33	21.91	28.50	49.59	Clay	40 cm B_1 horizon	
17	8	6.26	5.49	4.02	–	–	15.26	–	–	52.80	28.90	28.41	34.84	36.75	Clay loam	No. 4- 10 cm A_1 horizon	Eutric Cambisols
	9	6.02	4.12	0.91	–	–	1.72	–	–	10.08	17.07	20.07	23.75	56.18	Clay	20 cm A_2-B_1 horizon	
	10	5.41	3.89	0.64	–	–	0.77	–	–	5.13	15.02	14.32	21.43	64.25	Clay	50 cm B_2 horizon	
34	11	6.29	5.42	6.32	–	–	16.76	–	–	47.87	35.01	23.91	31.66	44.43	Clay	No. 5- 10 cm A_1 horizon	Luvisols
	12	5.66	3.96	1.45	–	–	4.31	–	–	21.15	20.38	1.48	13.18	85.34	Clay	25 cm B_1 horizon	
	13	5.71	3.89	0.69	–	–	2.79	–	–	15.40	18.13	2.66	16.50	80.84	Clay	50 cm B_2 horizon	

(Note) Analyzed by the Central Forest Res. Lab. and Training Center (RFD).