

APPENDICES

APPENDIX A

THE VALUES OF INDEX

Table A-1 The spatial of the study area and values of index

Plot number	Coordinate		Age	Value of index					
	X	Y		AVI	BI	WI	NDVI	Greenness	SR
1	657460	2041574	3	3.72	99.74	0.35	0.54	-0.64	0.17
2	657559	2041793	3	3.24	110.07	0.31	0.46	-0.67	0.12
3	657265	2041775	3	3.35	108.73	0.33	0.47	-0.67	0.13
4	657083	2041702	3	3.17	107.49	0.38	0.41	-0.68	0.11
5	654402	2035652	3	3.45	111.47	0.28	0.51	-0.66	0.14
6	656038	2036091	3	3.30	111.33	0.32	0.44	-0.67	0.12
7	655937	2036318	3	3.40	111.61	0.32	0.45	-0.67	0.13
8	654712	2035350	4	2.92	120.47	0.32	0.32	-0.70	0.09
9	654305	2035857	4	3.31	115.26	0.30	0.40	-0.67	0.12
10	656595	2037331	4	3.24	114.95	0.33	0.40	-0.68	0.11
11	656667	2037601	4	3.43	103.39	0.36	0.49	-0.66	0.14
12	656196	2037291	5	3.35	105.42	0.35	0.46	-0.66	0.13
13	656387	2037879	5	3.46	106.30	0.34	0.50	-0.65	0.14
14	656761	2039059	5	3.26	110.53	0.32	0.47	-0.67	0.12
15	656317	2037493	5	3.32	110.57	0.36	0.43	-0.67	0.12
16	656540	2038179	5	3.31	110.89	0.32	0.43	-0.67	0.12
17	655608	2036342	5	3.33	115.26	0.29	0.45	-0.67	0.12
18	655378	2037547	5	3.30	117.49	0.31	0.34	-0.68	0.12
19	655936	2035443	6	2.89	116.65	0.35	0.34	-0.70	0.08
20	655453	2035935	6	3.25	113.79	0.33	0.41	-0.67	0.12
21	654929	2036880	6	3.27	113.11	0.33	0.40	-0.68	0.12
22	654572	2037180	6	3.23	109.88	0.34	0.43	-0.67	0.11
23	656330	2037856	7	3.11	109.52	0.39	0.39	-0.68	0.10
24	656702	2039409	7	3.57	106.55	0.33	0.49	-0.65	0.15
25	650491	2041360	25	2.92	120.79	0.30	0.32	-0.70	0.09
26	650766	2041444	25	2.97	120.98	0.32	0.33	-0.70	0.09
27	651011	2041329	25	2.93	123.63	0.31	0.29	-0.70	0.09
28	651234	2041201	25	2.71	127.64	0.30	0.24	-0.72	0.07
29	651842	2039114	26	2.91	122.80	0.30	0.33	-0.70	0.09

Table A-1 The spatial of the study area and values of index (cont.)

Plot number	Coordinate		Age	Value of index					
	X	Y		AVI	BI	WI	NDVI	Greenness	SR
30	651628	2039439	26	2.79	119.49	0.33	0.30	-0.71	0.08
31	651650	2039645	26	2.66	123.14	0.35	0.25	-0.71	0.06
32	651852	2039956	26	2.87	122.74	0.30	0.29	-0.70	0.08
33	652130	2040195	26	2.68	126.40	0.30	0.24	-0.72	0.07
34	650874	2038458	27	2.99	118.29	0.33	0.32	-0.70	0.09
35	650789	2038802	27	2.99	116.76	0.37	0.28	-0.70	0.09
36	650445	2038619	27	2.92	122.68	0.32	0.24	-0.71	0.08
37	650557	2038751	27	2.82	118.84	0.34	0.29	-0.70	0.08
38	650791	2038278	27	3.00	115.93	0.35	0.31	-0.69	0.09
39	650947	2038381	27	3.06	124.98	0.28	0.27	-0.70	0.10
40	651042	2037088	28	2.97	122.83	0.29	0.30	-0.70	0.09
41	650850	2037077	28	2.77	127.45	0.27	0.26	-0.71	0.07
42	650862	2036954	28	2.76	126.95	0.28	0.26	-0.71	0.07
43	650753	2036650	28	3.01	119.68	0.29	0.36	-0.69	0.09
44	651041	2035083	29	2.88	125.85	0.30	0.22	-0.71	0.08
45	651129	2034893	29	2.99	119.17	0.32	0.32	-0.70	0.09
46	650731	2033293	29	3.14	113.42	0.33	0.37	-0.68	0.10
47	650692	2035377	29	2.68	128.43	0.28	0.22	-0.72	0.07
48	650906	2034091	29	2.94	120.85	0.33	0.29	-0.70	0.09
49	650018	2033618	29	2.70	120.72	0.35	0.24	-0.72	0.07
50	650432	2033569	29	2.89	120.41	0.32	0.29	-0.70	0.08
51	651867	2034085	30	3.20	114.65	0.31	0.39	-0.68	0.11
52	651187	2033856	30	3.03	120.20	0.32	0.33	-0.70	0.09
53	652285	2034316	30	2.61	124.30	0.32	0.24	-0.72	0.06
54	651759	2037455	31	2.99	117.91	0.31	0.34	-0.69	0.09
55	651836	2037480	31	3.06	115.07	0.32	0.39	-0.69	0.10
56	652000	2036976	31	2.86	120.87	0.32	0.30	-0.71	0.08
57	654119	2035531	32	2.84	118.74	0.33	0.33	-0.70	0.08
58	653048	2035467	32	2.79	121.11	0.31	0.30	-0.70	0.08
59	655476	2041930	33	2.90	113.16	0.39	0.31	-0.69	0.08
60	655130	2042369	33	3.02	104.71	0.44	0.39	-0.69	0.09
61	654746	2042828	33	3.21	114.53	0.33	0.36	-0.68	0.11
62	655099	2042227	33	3.19	108.84	0.36	0.39	-0.68	0.11
63	654470	2043444	33	3.34	111.65	0.36	0.39	-0.67	0.12

Table A-1 The spatial of the study area and values of index (cont.)

Plot number	Coordinate		Age	Value of index					
	X	Y		AVI	BI	WI	NDVI	Greenness	SR
64	655826	2040987	34	2.88	117.44	0.36	0.31	-0.70	0.08
65	655826	2041221	34	2.76	121.90	0.34	0.29	-0.71	0.07
66	655855	2040873	34	2.97	114.51	0.34	0.35	-0.69	0.09
67	655666	2041080	34	3.10	114.62	0.33	0.37	-0.68	0.10
68	657821	2041699	35	3.13	110.41	0.38	0.38	-0.68	0.10
69	652936	2035592	37	3.02	120.48	0.32	0.31	-0.69	0.09
70	653922	2036635	37	2.85	118.74	0.35	0.33	-0.70	0.08
71	653497	2035852	37	2.97	121.45	0.32	0.30	-0.70	0.09
72	653347	2035895	37	2.74	123.11	0.32	0.27	-0.71	0.07
73	653595	2035531	37	2.77	122.19	0.33	0.26	-0.71	0.07
74	655119	2036409	38	2.93	121.01	0.30	0.32	-0.70	0.09
75	654751	2036004	38	3.05	115.35	0.32	0.40	-0.69	0.10

Note:

AVI; $NIR - RED < 0$ $AVI = 0$
 $NIR - RED > 0$ $AVI = [(NIR + 1) \times (256 - RED) \times (NIR - RED)]^{1/3}$

BI; $BI = \frac{(MidIR+RED)-(NIR+BLUE)}{(MidIR+RED)+(NIR+BLUE)} \times 100 + 100$

WI; $WI = \frac{GREEN}{MidIR}$

NDVI; $NDVI = \frac{NIR-RED}{NIR+RED}$

Greenness; $Greenness = - 0.2848 (TM1) - 0.2435 (TM2) - 0.5436 (TM3) + 0.7243 (TM4) + 0.0840 (TM5) - 0.1800 (TM7)$

SR; $SR = \frac{NIR}{RED}$

Where; BLUE = Visible Blue reflectance value
 GREEN = Visible Green reflectance value
 RED = Visible Red reflectance value
 NIR = Near Infrared reflectance value
 MidIR = Middle Infrared reflectance value
 TM 1-5, 7 = TM band 1-5, 7 reflectance value

APPENDIX B

AGE STAGE OF TEAK PLANTATION



Figure B-1 The primary stage (age 3-7 years)



Figure B-2 The rotation stage (age 25-38 years)