



# APPENDIX



**Table 1:** Mean soil pH values ( $n=3$ ) of three types of land cover at different depths  
( $\pm$  SE)

Depth (cm)	Teak	Bamboo	Mixed
0-2	6.58 $\pm$ 0.02	6.46 $\pm$ 0.04	6.51 $\pm$ 0.05
4-6	6.61 $\pm$ 0.01	6.54 $\pm$ 0.02	6.59 $\pm$ 0.01
8-10	6.65 $\pm$ 0.01	6.65 $\pm$ 0.03	6.64 $\pm$ 0.02
15-20	6.66 $\pm$ 0.01	6.64 $\pm$ 0.02	6.65 $\pm$ 0.01
20-25	6.67 $\pm$ 0.01	6.65 $\pm$ 0.01	6.70 $\pm$ 0.01
45-60	6.70 $\pm$ 0.02	6.76 $\pm$ 0.02	6.80 $\pm$ 0.05
60-75	6.71 $\pm$ 0.01	6.82 $\pm$ 0.01	6.82 $\pm$ 0.01
75-90	6.77 $\pm$ 0.01	6.81 $\pm$ 0.01	6.82 $\pm$ 0.01
90-100	6.82 $\pm$ 0.02	6.79 $\pm$ 0.01	6.84 $\pm$ 0.02
100-125	6.91 $\pm$ 0.01	6.89 $\pm$ 0.01	6.97 $\pm$ 0.01

**Table 2:** SOC content ( $\text{g kg}^{-1}$ ) from three different vegetal covers at different depths (Mean  $\pm$  SE).

Depth (cm)	Teak	Bamboo	Mixed cover
0-2	33.7 $\pm$ 0.15	30.8 $\pm$ 0.13	30.8 $\pm$ 0.23
2-4	31.4 $\pm$ 1.13	30.8 $\pm$ 0.11	30.4 $\pm$ 0.39
4-6	28.1 $\pm$ 0.14	29.8 $\pm$ 0.09	28.3 $\pm$ 0.16
6-8	26.2 $\pm$ 0.13	28.5 $\pm$ 0.12	28.3 $\pm$ 0.13
8-10	25.4 $\pm$ 0.12	27.1 $\pm$ 0.11	26.7 $\pm$ 0.12
10-12	25.3 $\pm$ 0.12	24.6 $\pm$ 0.10	22.9 $\pm$ 0.12
12-14	23.5 $\pm$ 0.11	24.4 $\pm$ 0.09	19.8 $\pm$ 0.11
15-20	22.2 $\pm$ 0.13	24.5 $\pm$ 0.08	18.8 $\pm$ 0.08
20-25	21.6 $\pm$ 0.13	23.8 $\pm$ 0.07	18.4 $\pm$ 0.10
25-30	18.9 $\pm$ 0.14	23.3 $\pm$ 0.06	14.0 $\pm$ 0.09
30-45	16.0 $\pm$ 0.12	21.2 $\pm$ 0.11	13.8 $\pm$ 0.08
45-60	15.1 $\pm$ 0.08	15.4 $\pm$ 0.13	9.7 $\pm$ 0.08
60-75	12.2 $\pm$ 0.08	8.0 $\pm$ 0.14	8.9 $\pm$ 0.06
75-90	10.1 $\pm$ 0.09	7.1 $\pm$ 0.08	7.9 $\pm$ 0.06
90-100	9.3 $\pm$ 0.07	6.8 $\pm$ 0.07	6.5 $\pm$ 0.04
100-125	8.1 $\pm$ 0.08	6.6 $\pm$ 0.11	6.5 $\pm$ 0.05

**Table 3:** SOC content ( $\text{g kg}^{-1}$ ) in Pools 1 ( $>250\text{-}2000\mu\text{m}$ ) and Pool 2 ( $< 250\mu\text{m}$ ) of three different types of land covers soil with different depths (Mean $\pm$  SE)

Depth (cm)	Teak		Bamboo		Mixed cover	
	Pool 1	Pool 2	Pool 1	Pool 2	Pool 1	Pool 2
0-2	4.10 $\pm$ 0.14	29.43 $\pm$ 0.21	5.65 $\pm$ 0.09	24.52 $\pm$ 0.12	5.49 $\pm$ 0.16	17.56 $\pm$ 0.06
2-4	1.20 $\pm$ 0.17	27.51 $\pm$ 0.15	3.01 $\pm$ 0.06	26.88 $\pm$ 0.13	2.05 $\pm$ 0.12	25.09 $\pm$ 0.08
4-6	0.70 $\pm$ 0.05	25.80 $\pm$ 0.17	1.83 $\pm$ 0.07	26.84 $\pm$ 0.16	1.48 $\pm$ 0.08	21.20 $\pm$ 0.07
6-8	2.80 $\pm$ 0.04	20.88 $\pm$ 0.15	5.22 $\pm$ 0.06	21.32 $\pm$ 0.05	2.64 $\pm$ 0.14	21.06 $\pm$ 0.04
8-10	0.70 $\pm$ 0.09	22.67 $\pm$ 0.08	1.97 $\pm$ 0.06	27.99 $\pm$ 0.06	1.52 $\pm$ 0.05	19.29 $\pm$ 0.08
10-12	1.00 $\pm$ 0.06	22.38 $\pm$ 0.6	1.59 $\pm$ 0.07	21.33 $\pm$ 0.09	1.44 $\pm$ 0.05	20.65 $\pm$ 0.05
12-14	2.05 $\pm$ 0.02	21.30 $\pm$ 0.05	4.63 $\pm$ 0.5	18.76 $\pm$ 0.06	2.78 $\pm$ 0.14	16.75 $\pm$ 0.12
20-25	4.02 $\pm$ 0.01	16.96 $\pm$ 0.05	3.68 $\pm$ 0.06	16.16 $\pm$ 0.12	1.36 $\pm$ 0.05	14.94 $\pm$ 0.16
30-45	1.92 $\pm$ 0.15	11.26 $\pm$ 0.05	3.90 $\pm$ 0.04	13.59 $\pm$ 0.13	3.82 $\pm$ 0.14	7.10 $\pm$ 0.18
45-60	1.70 $\pm$ 0.22	12.40 $\pm$ 1.22	2.50 $\pm$ 0.03	10.00 $\pm$ 0.81	1.00 $\pm$ 0.24	7.50 $\pm$ 0.03
60-75	1.88 $\pm$ 0.19	8.05 $\pm$ 0.06	0.75 $\pm$ 0.16	5.09 $\pm$ 0.17	1.66 $\pm$ 0.14	5.13 $\pm$ 0.13
75-90	1.59 $\pm$ 0.02	8.45 $\pm$ 0.12	0.70 $\pm$ 0.07	6.15 $\pm$ 0.09	1.11 $\pm$ 0.05	5.72 $\pm$ 0.15
90-100	0.20 $\pm$ 0.06	7.10 $\pm$ 1.31	1.10 $\pm$ 0.13	5.10 $\pm$ 0.19	0.90 $\pm$ 0.20	4.90 $\pm$ 0.18
100-125	0.74 $\pm$ 0.06	7.73 $\pm$ 0.08	1.19 $\pm$ 0.05	3.42 $\pm$ 0.15	0.44 $\pm$ 0.14	3.69 $\pm$ 0.04

**Table 4:** Peak areas of the chemical shift regions, <sup>1</sup>H NMR spectra (expressed as % of total signal intensity) of soil extracts of teak, bamboo and teak pools at different depths.

Land cover and soil depth (cm)	Alkyl-C	O-alkyl-C	Aromatic-C
<b>Teak</b>			
0-2	89.45	5.60	4.95
12-14	83.45	8.74	7.72
<b>Bamboo</b>			
0-2	86.24	7.34	6.42
12-14	91.10	4.41	4.49
<b>Teak</b>			
Pool 1	86.04	7.47	6.49
Pool 2	85.45	7.68	6.87

**Table 5:** Radiocarbon age, pMC and calendar age (years BP) of SOC at three different depths under teak land cover (Mean ± SE)

Soil depth (cm)	Radiocarbon age (years BP)	pMC*	Calendar age (cal BP)	MRT (years)
0-2	-70 ± 80 (modern)	100.80 ± 0.95	Modern	230
45-60	1470 ± 80	83.72 ± 0.84	1293-1506	1311
90-100	2200 ± 80	76.70 ± 0.77	2123-2323	2015

pMC\*- percent modern carbon

BP- before present

**Table 6:** Carbon loss due to HF treatment (% of total SOC) at three different depths of soil under three types of land cover (Mean ± SE)

Depth (cm)	HF-soluble carbon		
	Teak	Bamboo	Mixed
0-2	15.3±0.7	7.9±1.0	7±0.1
8-10	16.6±0.5	10.4±0.9	11.3±0.4
20-25	19.3±0.4	20.3±0.8	22.5±1.2
45-60	27±0.7	24.6±1.5	25.1±0.7
75-90	45.9±0.1	63.5±0.5	60.2±0.8
90-100	47.6±2.8	66.5±2.8	64±1.4

**Table 7:** HF-soluble carbon (% of total SOC) in SOC Pools 1 and Pool 2 at three different depths of three types of land cover (Mean ± SE)

HF-soluble carbon (%)						
Depth (cm)	Teak		Bamboo		Mixed	
	Pool1	Pool 2	Pool1	Pool 2	Pool1	Pool 2
0-2	90±1.9	93.7±1.8	94.65±0.7	94.8±0.5	89.1±0.9	92.6 ±0.7
8-10	85±1.5	91.2±1.8	88.5±1.5	92.2±1.8	85.6±0.8	88.9±0.8
20-25	83±1.8	89.5±0.9	75.6±0.8	85.5±1.2	45.6±1.2	75.6±1.5
45-60	75.4±1.7	83.2±0.8	56.7±0.9	74.6±0.9	17.3±1.1	63.2±0.1
75-90	70.5±1.9	80.2±1.5	46.5±1.6	81.3±1.2	12.5±0.5	68.5±0.8
90-100	63.9±2.9	70.35±1.1	36.3±1.2	84.4±2.4	10.2±0.8	66.1±0.6

**Table 8:** MBC (g kg<sup>-1</sup>) at three different depths of soils coming from litter decomposition study of three types of land cover (Mean ± SE)

Depth (cm)	Teak		
	90 days	220 days	320 days
Top	390.4±0.4	238.5±3.30	243.8±6.2
25	108.24±2.6	127.66±0.94	115.4±4.6
50	53.21±5.6	104.44±6.44	80.6±1.4

Depth (cm)	Bamboo		
	90 days	220 days	320 days
Top	236.6±1.0	249.52±3.9	272.14±3.3
25	114.49±3.9	149.54±0.9	128.86±2.1
50	78.850.4±	77.4±1.8	123.41±3.3

Depth (cm)	Mixed		
	90 days	220 days	320 days
Top	187.64±2.4	231.6±6.0	261.24±7.6
25	124±0.5	156.25±1.9	128.41±1.7
50	89.35±2.8	80.6±1.4	118.46±8.3