

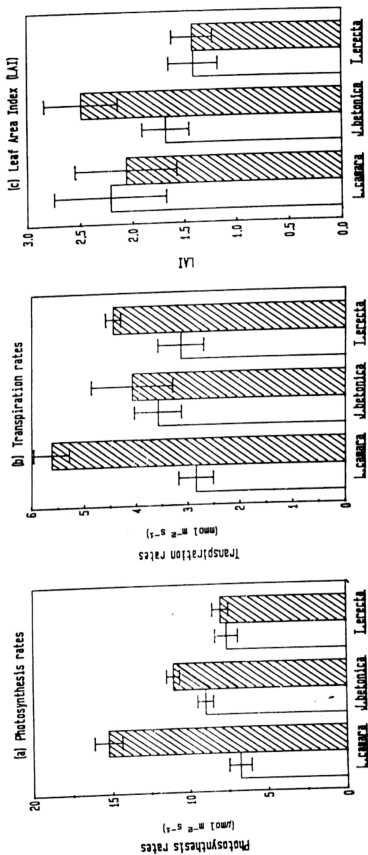
Appendices

Appendix 1 : Field capacity (%) at different soil depth at the slopes along NSE.

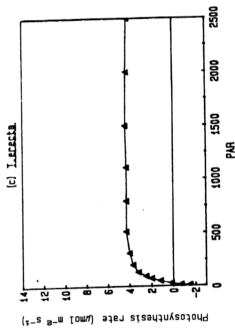
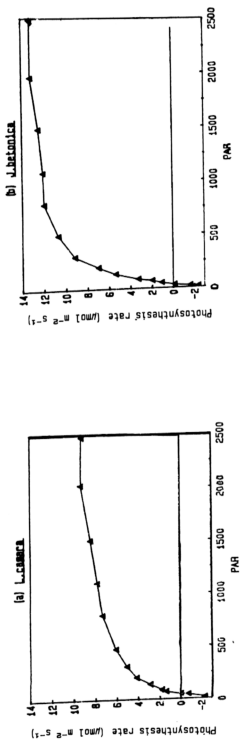
Soil depth (cm)	Type A	Type B	Type C	Type D	Type E
20	34.3	31.1	35.4	30.9	49.4
40	35.3	29.7	33.6	27.6	48.2
60	34.5	31.0	36.8	25.1	44.7
80	27.7	31.4	36.6	28.1	46.6
100	28.0	29.2	34.6	26.2	44.0

Appendix 2 : Performance of the shrubs studied in (☐) monoculture and (☒) mix-culture plot in December 1997.

Appendix 2: Performance of the shrubs in December 1997

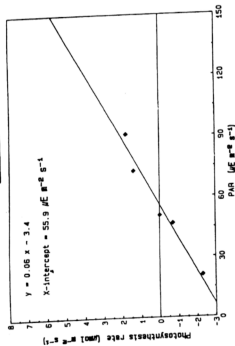


Appendix 3: Light response curve of the species studied

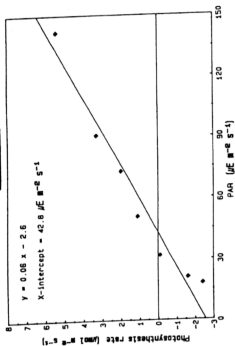


Appendix 4: Quantum efficiency and light compensation point of the species studied

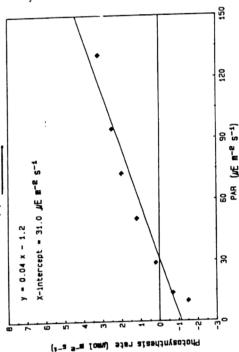
(a) L.camara



(b) J.betonica

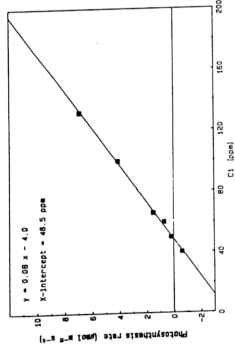


(c) T.erecta

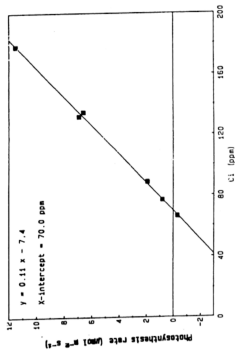


Appendix 5 : Mesophyll conductance and carbon compensation point of the species studied

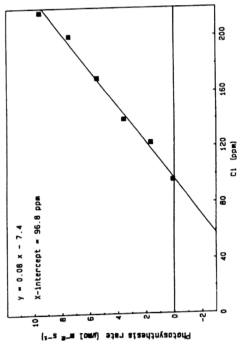
(a) L. camara



(b) J. betonica



(c) I. erecta



Appendix 6 : Diversity of the plots studied at FSKTM slopes in December 1996

PLOT	NO. SPECIES	SPECIES	AVERAGE OF COVERAGE (%)
RVL	6	<i>Pueraria phaseoloides</i> <i>Vetiveria zizanioides</i> Grass <i>Pogonatum</i> sp. <i>Melastoma malabathricum</i> <i>Lantana camara</i> Bare Soil	13.8 ± 1.3 15.0 ± 0.0 20.0 ± 0.0 2.5 ± 0.5 1.0 ± 0.0 8.5 ± 1.5 39.2 ± 4.6
RVJ	7	<i>Pueraria phaseoloides</i> <i>Vetiveria zizanioides</i> <i>Imperata cylindrica</i> Grass <i>Pogonatum</i> sp. <i>Melastoma malabathricum</i> <i>Justicia betonica</i> Bare Soil	12.0 ± 3.2 15.0 ± 0.8 5.5 ± 0.5 15.0 ± 9.2 4.7 ± 0.5 2.0 ± 0.0 13.3 ± 2.4 32.5 ± 7.2
RVT	7	<i>Pueraria phaseoloides</i> <i>Vetiveria zizanioides</i> Grass <i>Pogonatum</i> sp. <i>Mimosa pudica</i> Shrub C <i>Thunbergia Erecta</i> Bare Soil	13.5 ± 1.5 16.0 ± 3.2 37.5 ± 2.5 3.7 ± 0.5 2.5 ± 1.5 1.5 ± 0.5 4.0 ± 1.0 21.3 ± 3.4
RVLJT (mix)	9	<i>Pueraria phaseoloides</i> <i>Vetiveria zizanioides</i> Grass <i>Pogonatum</i> sp. Shrub C <i>Melastoma malabathricum</i> <i>Lantana camara</i> <i>Justicia betonica</i> <i>Thunbergia erecta</i>	15.0 ± 0.0 13.0 ± 2.5 10.0 ± 0.0 3.5 ± 1.5 3.5 ± 0.5 4.5 ± 0.5 5.0 ± 0.0 4.0 ± 1.0 3.0 ± 0.0

		Bare Soil	38.5 ± 6.3
RV	5	<i>Pueraria phaseoloides</i> <i>Vetiveria zizanioides</i> Grass <i>Pogonatum</i> sp. <i>Melastoma malabathricum</i> Bare soil	23.5 ± 3.5 12.5 ± 2.5 17.5 ± 2.5 3.3 ± 1.2 8.7 ± 0.9 34.5 ± 9.5
R (mono)	4	<i>Pueraria phaseoloides</i> <i>Vetiveria zizanioides</i> Grass <i>Pogonatum</i> sp. <i>Melastoma malabathricum</i> Bare soil	38.5 ± 1.5 0.0 14.0 ± 2.0 6.0 ± 1.0 9.0 ± 1.4 32.5 ± 8.2

Appendix 7 : Diversity of the plots studied at FSKTM slopes in December 1997

PLOT	NO. SPECIES	SPECIES	AVERAGE OF COVERAGE (%)
RVL	12	<i>Pueraria phaseoloides</i> (legume) <i>Vetiveria zizanioides</i> <i>Mimosa pudica</i> <i>Imperata cylindrica</i> <i>Axonopus compressus</i> (grass) <i>Ischaemum muticum</i> (grass) <i>Melastoma malabathricum</i> Fern A (<i>Pogonatum</i> sp.) Shrub A (<i>Borreria alata</i>) Shrub B (<i>Ageratum conyzoides</i>) Shrub C (<i>Asystasia intrusa</i>) <i>Lantana camara</i> Bare soil	15.3 ± 1.7 7.0 ± 0.0 2.0 ± 0.0 10.0 ± 0.0 10.0 ± 2.5 7.5 ± 1.0 16.2 ± 5.0 5.0 ± 0.0 2.0 ± 0.0 5.0 ± 0.0 2.0 ± 0.0 10.0 ± 0.0 0.0
RVJ	13	<i>Pueraria phaseoloides</i> (legume) <i>Vetiveria zizanioides</i> <i>Imperata cylindrica</i> <i>Cyperus flavidus</i> <i>Paspalum conjugatum</i> Grass Shrub A Shrub B Shrub C Fern A Fern B <i>Melastoma malabathricum</i> <i>Mimosa pudica</i> <i>Justicia betonica</i> Bare soil	11.5 ± 1.5 0.0 11.0 ± 1.4 7.3 ± 0.9 2.4 ± 0.3 4.0 ± 1.4 5.0 ± 0.0 4.0 ± 1.0 5.0 ± 0.0 5.0 ± 0.0 2.0 ± 0.0 17.5 ± 2.5 10.0 ± 0.0 15.3 ± 2.5 0.0
RVT	13	<i>Pueraria phaseoloides</i> (legume) <i>Vetiveria zizanioides</i> <i>Imperata cylindrica</i> <i>Cyperus flavidus</i> Grass Shrub A	13.0 ± 2.4 10.0 ± 0.0 10.0 ± 0.0 5.0 ± 0.0 10.0 ± 0.0 3.7 ± 0.5

		Shrub B	5.0 ± 0.0
		Shrub C	5.0 ± 0.0
		Fern A	5.0 ± 0.0
		Fern B	5.0 ± 0.0
		<i>Melastoma malabathricum</i>	13.3 ± 1.5
		<i>Mimosa pudica</i>	5.0 ± 0.5
		<i>Thunbergia erecta</i>	10.0 ± 0.0
		Bare soil	0.0
RVLJT (mix)	22	<i>Pueraria phaseoloides</i> (legume)	7.7 ± 1.1
		<i>Vetiveria zizanioides</i>	9.0 ± 1.0
		<i>Imperata cylindrica</i>	2.5 ± 0.5
		<i>Cyperus flavidus</i>	1.0 ± 0.0
		Grass (3 species)	4.5 ± 0.5
		Shrubs A	6.3 ± 1.7
		Shrubs B	4.3 ± 1.3
		Shrubs C	2.1 ± 0.2
		Shrubs D (<i>Euphorbia hirta</i>)	3.1 ± 0.5
		Shrubs E (<i>Emilia sonchifolia</i>)	3.0 ± 0.3
		Shrubs F	2.0 ± 0.0
		Shrubs G	1.5 ± 0.0
		Fern A	1.0 ± 0.0
		Fern B	2.0 ± 0.0
		Fern C	1.0 ± 0.0
		<i>Melastoma malabathricum</i>	8.0 ± 0.5
		<i>Mimosa pudica</i>	1.0 ± 0.3
		<i>Lantana camara</i>	10.3 ± 4.1
		<i>Justicia betonica</i>	7.5 ± 3.5
		<i>Thunbergia erecta</i>	9.2 ± 2.7
		Bare soil	0.0
RV	7	<i>Pueraria phaseoloides</i>	8.3 ± 2.4
		<i>Vetiveria zizanioides</i>	14.5 ± 2.4
		<i>Imperata cylindrica</i>	3.0 ± 1.4
		Grass	6.7 ± 2.3
		Fern A	7.0 ± 1.4
		Fern C	26.3 ± 2.5
		<i>Melastoma malabathricum</i>	27.7 ± 7.6
		Bare soil	6.5 ± 0.5

R (mono)	5	<i>Pueraria phaseoloides</i>	5.0 ± 0.0
		<i>Vetiveria zizanioides</i>	0.0
		Grass	8.3 ± 2.3
		Fern A	8.3 ± 2.4
		Fern C	30.3 ± 5.2
		<i>Melastoma malabathricum</i>	21.7 ± 4.7
		Bare soil	26.7 ± 6.2

Soil depth (cm)	RVL	
	to m ³	%
10	9629	58.9
20	1936	12.7
30	1775	11.6
40	1044	6.8
50	553	3.6
60	723	4.7
70	229	1.7
80		
90		
100		
Total	15363	

Appendix 8 : Root profile of the 6 plots studied

Soil depth (cm)	RVL		RVJ		RVT		RVLJT		RV		V	
	m m ⁻³	%	m m ⁻³	%	m m ⁻³	%	m m ⁻³	%	m m ⁻³	%	m m ⁻³	%
10	9059	58.9	7446	43.1	8837	58.2	17794	49.7	11784	79.2	7744	61.5
20	1956	12.7	4418	25.6	2685	17.7	7635	21.3	1380	9.3	2666	21.2
30	1775	11.6	2505	14.4	2152	14.2	7348	20.5	1245	8.3	797	6.3
40	1044	6.8	2387	13.8	907	6.0	553	1.6	472	3.2	214	1.7
50	553	3.6	322	1.9	251	1.6	440	1.2	-	-	365	2.9
60	723	4.7	209	1.2	184	1.2	642	1.8	-	-	368	2.9
70	259	1.7	-	-	102	0.7	593	1.7	-	-	338	2.7
80	-	-	-	-	37	0.2	366	1.0	-	-	97	0.8
90	-	-	-	-	29	0.2	232	0.7	-	-	-	-
100	-	-	-	-	-	-	186	0.5	-	-	-	-
Total	15369		17287		15184		35789		14881		12589	