



Universiteit
Leiden

The Netherlands

Can traditional forest management protect and conserve ironwood (ulin) stands? An option and approach in East Kalimantan

Wahyuni, T.

Citation

Wahyuni, T. (2011, November 10). *Can traditional forest management protect and conserve ironwood (ulin) stands? An option and approach in East Kalimantan*. Retrieved from <https://hdl.handle.net/1887/18056>

Version: Not Applicable (or Unknown)

License: [Licence agreement concerning inclusion of doctoral thesis in the Institutional Repository of the University of Leiden](#)

Downloaded from: <https://hdl.handle.net/1887/18056>

Note: To cite this publication please use the final published version (if applicable).

Appendix

Appendix 1

List of vernacular names of Borneo ironwood (*Eusideroxylon zwageri* Teijsm. and Binn)

Vernacular name and variability	Ethnic or cultural identity; (region) and country
<i>Tagas</i> (<i>litis, magangai, agintanga</i>)	Dayak Agabag, Sembakung river, Nunukan District, Northeast Kalimantan*
<i>Telien</i> or <i>teliyon</i> (<i>baning, sirap</i> or <i>jambu, jupe</i>)	Paser, Paser District (Muluy and Rantau Layung village), East Kalimantan*
<i>Belian</i> (<i>tando, lilin, tembaga, kapur</i>)	West Kalimantan
Terah	Berawan, Kelabit
Tabalien	Ngaju Dayak, Central Kalimantan
<i>Belian</i>	Sarawak, Sabah, Brunei
<i>Bulian</i>	Bangka island
<i>Bulian</i> (<i>gundjing</i> or <i>regis, rambai, ketimun, terkujung</i>)	Jambi, Sumatra
<i>Bulian</i> (<i>daging, kapur, sirap, tanduk</i>)	Senami forest, Jambi
<i>Tambulian</i>	Sabah, Philippines
<i>Tulian, tebelian</i> and <i>teluyatn</i>	Kalimantan
<i>Onglen</i> (<i>regis, arang, koenjit</i>)	Palembang, Sumatra
<i>Sakian</i> or <i>biliran</i>	Philippines
<i>Im muk</i> or <i>yam muk</i>	Cantonese, Hakka in Sabah

<i>Bilian</i> or <i>bois de fer de Borneo</i>	French
<i>Bilian</i> , Borneo ironwood, <i>tambulian</i> , <i>belian</i> and <i>ulin</i>	English
<i>Legno ferro del Borneo</i>	Italian
<i>Borneojarnttra</i>	Swedish
Borneo's <i>ijzerhout</i> or <i>onglen</i> , <i>Palembang</i> <i>Iyzerhout</i> or <i>oelin</i>	Dutch
<i>Borneo Eisenholz</i>	German
<i>Ulin</i>	Modern Indonesian

Source: After Martawijaya et al 1989 and * this research

Appendix 2

Lists of tree species protected under the Decree No. 54/Kpts/Um/2/1972 (the species are allowed to be cut only after reaching the minimum size determined)

No.	Scientific name	Local name	Minimum cutting diameter (cm)
I	Resin producing tree species		
1.	<i>Palaquium gutta</i>	Balam merah, Sumban	50
2.	<i>Agathis labillardieri</i>	Damar, Kopal	50
3.	<i>Dyera</i> sp.	Jelutung	60
4.	<i>Palaquium Ieiocarpum</i>	Hangkang	30
5.	<i>Dryobalanops camphora</i>	Kapur banis	60
6.	<i>Styrax</i> sp.	Kemenyan	30
7.	<i>Dipterocarpus</i> sp.	Keruing (minyak)	50
8.	<i>Ganua motleyana</i>	Ketiau	30
9.	<i>Shorea</i> sp.	Mata kucing (damar)	60
II	Fruit tree species		
1.	<i>Palaquium walsurifolium</i>	Balam suntai	40
2.	<i>P. burckii</i>	Jambu monyet	30
3.	<i>Durio zibethinus</i>	Durian	60
4.	<i>Aleurites moluccanus</i>	Kemiri	50
5.	<i>Arenga pinnata</i>	Enau	40
III	Tree species with its useful bark and/or natural colour substance.		
1.	<i>Excoecaria agallocha</i>	Mata buta	25
2.	<i>Myristica argentea</i>	Honggi, Saya	30
3.	<i>Cudrania</i> sp.	Kayu kuning	10
4.	<i>Cinnamomum burmannii</i>	Kayu manis	25
5.	<i>Caesalpinia sappan</i>	Kayu sepang	10
6.	<i>Cinnamomum cullilawan</i>	Kulit lawang	25
7.	<i>Cryptocarya massoy</i>	Massoi	25
IV	Tree species with one or more specific values, such as bark, wood, or essential oil		
1.	<i>Pterospermum</i> sp.	Bayur	30
2.	<i>Eusideroxylon zwageri</i>	Bulian, Ulin	60
3.	<i>Eucalyptus</i> sp.	Leda, eucalyptus	40
4.	<i>Azadirachta indica</i>	Imba	50
5.	<i>Intsia amboinensis</i>	Ipil	60

6.	<i>Diospyros</i> sp.	Kayu hitam	60
7.	<i>Timonius sericeus</i>	Ketimunan	40
8.	<i>Scorodocarpus borneensis</i>	Kulin, Kayu bawang	50
9.	<i>Cordia subcordata</i>	Pumasamada	40
10.	<i>Manilkara kauki</i>	Sawo kecil	45
11.	<i>Dalbergia latifolia</i>	Sono keling	50
12.	<i>Toona sinensis</i>	Suren	60
13.	<i>Duabanga moluccana</i>	Taker, benuang	60
14.	<i>Fagraea fragrans</i>	Tembasu	50
15.	<i>Santalum album</i>	Cendana	50
16.	<i>Protium javanicum</i>	Trenggulun	50

Through the Minister of Forestry Decree No. 261/Kpts-IV/1990, the following 12 species of the genus *Shorea* were added to the list. These species were known to produce 'tengkawang fruits' which can be used for various purposes including cosmetics. These are: *Shorea stenopten* and *S. stenoptera*, *S. gysber*, *S. pinanga*, *S. compressa*, *S. seminis*, *S. martiniana*, *S. mexistropyx*, *S. beccariana*, *S. micrantha*, *S. palembanica*, *S. lepidota* and *S. singkawang*.

Appendix 3

List of fancy wood group based on information from Indonesian Forestry Department

No.	Trade name	Local name	Scientific name
1.	Bongin	Pauh kijang, Sepah, Kayu Batu	<i>Irvingia malayana</i> Oliv
2.	Bungur	Wungu, Tekuyung, Benger, Ketangi	<i>Lagerstroemia speciosa</i> Pers
3.	Cempaka	Minjaran, Wasian, Manglid, Site-kwok	<i>Michelia</i> spp, <i>Elmerrillia</i> spp
4.	Cendana	Kayu kuning, Lemo Daru	<i>Santalum album</i> L.
5.	Dahu	Dao, Sengkuang, Basuong, Koili	<i>Dracontomelon</i> spp
6.	Johar	Juar, Trengguli, Sebusuk, Bobon-delan	<i>Cassia</i> spp
7.	Kuku	Kayu laut, Papus, Nani laut	<i>Pericopsis mooniana</i> Thw
8.	Kupang	Kayu ruan, Saga	<i>Ormosia</i> spp
9.	Lasi	Adina, Kilaki	<i>Adinauclea fagifolia</i> Ridsd
10.	Mahoni	Mahoni	<i>Swietenia</i> spp
11.	Melur	Sampinur tali, Jamuju, Ki Merah, Cematan, Alau, Kayu embun, Kayu Cina, Sandu, Sampinur bunga	<i>Dacrydium junghuhnii</i> Miq; <i>Podocarpus</i> spp; <i>Dacrydium</i> spp
12.	Membacang	Limus piit, Ambacang, Wani mem-pelam, Asam mangga	<i>Mangifera</i> spp
13.	Mindi	Bawang kungut	<i>Melia</i> spp
14.	Nyirih	Nyireh, Niri	<i>Xylocarpus granatum</i> Koning
15.	Pasang	Mempening, Baturua, Kasunu, Triti	<i>Quercus</i> spp
16.	Perepat Darat	Marapat, Teruntum batu	<i>Combretocarpus rotundatus</i> Dans
17.	Raja Bunga	Segawe, Klenderi, Saga	<i>Adenanthera</i> spp
18.	Rengas	Ingas, Suloh, Rangas, Rengas burung	<i>Gluta</i> spp; <i>Melanorrhoea</i> spp
19.	Ramin	Gaharu buaya, Medang keladi, Keladi, Miang	<i>Gonystylus bancanus</i> Kurz
20.	Sawo Kecil	Subo, Ki sawo	<i>Manilkara</i> spp
21.	Salimuli	Kendal, Kalimasada, Purnamasada	<i>Cordia</i> spp
22.	Sindur	Sepetir, Sasumdur, Mobingo	<i>Sindora</i> spp
23.	Sonokembang	Angsana, Linggua, Nala, Candana	<i>Pterocarpus indicus</i> Willd
24.	Sonokeling	Linggota, Sono sungu, Sonobrits	<i>Dalbergia latifolia</i> Roxb
25.	Sungkai	Jati seberang, Jati londo	<i>Peronema canescens</i> Jack

No.	Trade name	Local name	Scientific name
26.	Tanjung	Sawo manuk, Karikis	Mimusops elengi L.
27.	Tapos	Kelampai, Setan, Kedui, Wayang	Elateriospermum tapos BI
28.	Tinjau Belukar	Lontar kuning	Pteleocarpus lampongus Bakh
29.	Torem	Sawai, Torem	Manikara kanosensis H.L.et.B.M.
30.	Trembesi	Ki hujan	Samanea saman Merr
31.	Ulin	Kayu besi, Bulian, Kokon	Eusideroxylon zwageri T.et.b
32.	Weru	Beru, Ki Hiyang, Bengkal	Albizia procera Benth

Source: Appendix of ministerial decree of the Ministry of Forestry Nr.163/Kpts-II/2003 (26 May 2003)

Appendix 4

Table 1. Species importance value of trees in 2 ha plot at Muluy sites

No.	Species	N	B.A	RF	RDens	RDom	SIV
1	<i>Actinodaphne glabra</i> Blume	2	0.671	1.6	0.2	0.2	2.0
2.	<i>Adenanthera</i> sp	1	0.432	2.1	0.3	0.7	3.1
3.	<i>Aglaia</i> sp	4	0.221	8.7	1.4	1.6	11.7
4.	<i>Aglaia tomentosa</i> Teijsm. and Binn	2	0.262	3.5	0.5	0.3	4.3
5.	<i>Alseodaphne</i> sp	25	1.259	37.4	7.9	6.6	51.9
6.	<i>Alstonia angustiloba</i>	1	0.671	1.6	0.2	0.3	2.1
7.	<i>Anthocephalus chinensis</i>	1	0.432	1.6	0.2	1.6	3.4
8	<i>Aporosa grandistipulata</i> Merr	2	0.221	2.1	0.3	0.2	2.6
9.	<i>Archidendron pauciflorum</i>	1	0.262	2.1	0.3	0.1	2.5
10.	<i>Artocarpus anisophyllus</i> Miq	11	1.084	18.4	3.2	3.8	25.4
11.	<i>Artocarpus elasticus</i> Blume	3	0.490	6.4	1.1	1.0	8.5
12.	<i>Artocarpus odoratissimus</i> Miq	5	0.861	10.6	1.6	0.9	13.2
13.	<i>Baccaurea</i> sp	1	0.562	2.1	0.3	0.4	2.8
14.	<i>Bruinsmia stiracoides</i> Boerl.& Koord.	3	0.458	5.6	0.8	0.9	7.2
15.	<i>Calophyllum</i> sp	2	0.389	1.9	0.3	0.1	2.3
16.	<i>Canarium</i> sp	1	0.132	1.9	0.3	0.1	2.3
17.	<i>Carrallia braehiata</i> Merr	1	0.262	1.9	0.3	0.1	2.3
18.	<i>Cratoxylum formosum</i> (Jack) Dyer	2	0.084	2.1	0.3	0.3	2.7
19.	<i>Cyathocalyx</i> sp	2	0.490	1.6	0.2	0.1	1.9
20.	<i>Dacryodes indum</i> L	1	0.487	2.1	0.3	0.2	2.6
21.	<i>Dacryodes rostrata</i> (Blume) H.J.Lam	8	0.962	14.3	2.1	1.8	18.1
22.	<i>Dialium indum</i> L.	4	0.084	6.1	0.9	0.6	7.6
23.	<i>Dillenia reticulata</i> King	3	0.490	6.3	0.9	1.5	8.7
24.	<i>Diospyros borneensis</i> Hiern	3	0.191	5.2	0.8	0.5	6.5
25.	<i>Dipterocarpus</i> sp	3	0.517	5.4	0.7	0.5	6.7
26.	<i>Disoxylum</i> sp	2	0.254	2.1	0.3	0.1	2.5
27.	<i>Drypetes polyneura</i> Airy Show	3	0.060	5.9	0.8	0.3	7.1
28.	<i>Durio caucius</i>	2	0.042	1.6	0.2	0.2	2.0
29.	<i>Durio dulcis</i> Becc	1	0.494	1.6	0.2	0.1	1.9
30.	<i>Durio zibethinus</i> Murray	3	0.289	5.6	0.8	0.5	6.9
31.	<i>Eusideroxylon zwageri</i> T. et. B	33	3.652	46.6	14.1	22.2	82.8

No.	Species	N	B.A	RF	RDens	RDom	SIV
32.	Ficusvaarpus grandiflorus Blanco	1	0.418	1.6	0.2	0.1	1.9
33.	Garcinia sp	2	0.075	1.6	0.2	0.1	1.9
34.	Gardenia sp	1	0.114	1.6	0.2	0.2	2.0
35.	Gironniera nervosa Planch	12	1.877	27.3	4.6	1.9	33.8
36.	Gironniera sp	2	0.209	3.8	0.5	0.4	4.7
37.	Gonocaryum sp	10	1.236	14.1	2.9	6.1	23.1
38.	Homania javensis	1	0.254	2.8	0.5	0.2	3.5
39.	Ixonanthes reticulata Jack	3	0.060	6.1	0.9	1.9	8.9
40.	Kibara coriacea (Blume) Tulasme	2	0.042	1.6	0.2	0.1	1.9
41.	Knema latericia Elmer	3	0.494	4.3	1.0	0.6	5.9
42.	Koompassia excelsa Taub	2	0.289	4.0	0.6	1.3	5.9
43.	Lepisanthes sp	1	0.671	1.6	0.2	0.2	1.9
44.	Lithocarpus cf.gracilis (Korth.) Soepadmo	6	0.732	12.4	1.9	1.2	15.5
45.	Lithocarpus sp	13	1.221	20.2	3.4	2.3	25.9
46.	Litsea sp	2	0.262	3.1	0.5	0.2	3.7
47.	Macaranga gigantea	2	0.042	3.6	0.5	0.3	4.5
48.	Macaranga hypoleuca	1	0.494	1.9	0.3	0.2	2.4
49.	Magnolia lasia Noot.	3	0.289	7.5	1.3	0.5	9.3
50.	Microcos sp	1	0.671	1.6	0.2	0.2	2.0
51.	Mischocarpus pentapetalus (Roxb.) Radlk	10	1.232	11.0	2.5	2.2	15.7
52.	Nephelium lappaceum L.	2	0.060	2.8	0.5	0.2	3.5
53.	Nephelium sp	1	0.042	2.1	0.3	0.1	2.5
54.	Ochanostachys amentaceae Mast	29	1.236	46.4	9.1	7.8	63.3
55.	Payena acuminata Pierre	6	0.228	11.8	1.8	1.3	14.9
56.	Polyalthia rumphii (Blume) Merr	12	1.235	13.7	2.9	1.4	18.1
57.	Polyalthia sp	2	0.270	4.0	0.6	0.3	4.9
58.	Prainea sp	1	0.054	1.9	0.3	0.1	2.3
59.	Prunus sp	2	0.170	1.6	0.2	0.1	1.9
60.	Pternandra rostrata (Cogn.)M.P. Nayar	1	0.127	2.1	0.3	0.3	2.7
61.	Santiria tomentosa Blume	2	0.352	4.2	0.6	0.3	5.1
62.	Scorodocarpus bornensis	1	0.289	1.6	0.2	0.1	1.9
63.	Shorea leprosula Miq	28	1.867	41.4	7.9	10.9	60.2
64.	Shorea parvifolia Dyer	1	0.261	1.9	0.3	0.1	2.3
65.	Sterculia sp	1	0.562	1.6	0.2	0.2	2.0

No.	Species	N	B.A	RF	RDens	RDom	SIV
66.	<i>Sterculia stipulata</i> Korth.	2	0.458	1.9	0.3	0.8	3.0
67.	<i>Swintonia</i> sp	1	0.389	1.9	0.3	0.2	2.3
68.	<i>Symplocos fasciculata</i> Zoll	1	0.132	1.6	0.2	0.1	1.9
69.	<i>Syzygium</i> sp	10	1.142	18.1	2.6	1.7	22.4
70.	<i>Trigonostemon hypoleucum</i> Miq	2	0.418	21.0	0.8	0.3	22.1
71.	<i>Triomma malaccensis</i> Hook.f.	2	0.075	1.9	0.5	1.3	3.8
72.	UN1	1	0.114	2.1	0.3	0.4	2.8
73.	UN2	2	0.877	4.3	0.8	0.7	5.8
74.	UN3	3	0.209	7.6	1.4	0.9	9.9
75.	UN4	1	0.236	2.8	0.5	0.2	3.5
76.	UN5	1	0.254	2.1	0.3	0.2	2.6
77.	UN6	1	0.060	1.6	0.2	0.1	1.9
78.	UN7	2	0.042	3.5	0.5	0.4	4.4
79.	<i>Xanthophyllum affine</i> Korth.Ex Miq	3	0.494	5.7	0.9	0.3	6.9
80.	<i>Xylocarpus elliptica</i> Maingay ex Hook.f.	1	0.289	2.1	0.3	0.8	3.2
	T o t a l	336	41.975				

UN: unidentified

Table 2. Family composition and family importance value of trees in 2 ha plot at Muluy sites

No.	Family	N	B.A	R diversity	R density	R dom	FIV
1.	Anacardiaceae	1	0.080	3,0	1,0	0,6	4,7
2.	Annonaceae	15	1.130	12,4	17,6	11,4	41,4
3.	Apocynaceae	1	1.730	2,2	0,9	1,1	4,2
4.	Bombacaceae	5	0.680	16,6	5,0	3,4	25,0
5.	Burseraceae	13	1.140	16,2	13,7	14,0	43,9
6.	Dilleniaceae	3	0.234	2,4	3,7	5,8	11,9
7.	Dipterocarpaceae	32	1.867	21,5	35,3	45,9	102,8
8.	Ebenaceae	2	0.671	4,7	3,0	1,9	9,6
9.	Euphorbiaceae	9	0.432	20,6	11,0	6,4	38,0
10.	Fagaceae	19	1.221	15,7	21,1	14,0	50,7
11.	Guttiferae	2	0.262	5,3	1,9	0,9	8,1
12.	Hypericaceae	1	0.084	2,4	1,2	1,2	4,9
13.	Icacinaceae	10	0.790	13,2	11,5	24,3	49,1
14.	Lauraceae	71	3.652	30,9	90,0	116,7	237,7
15.	Leguminosae	8	1.130	13,2	9,1	9,4	31,7
16.	Linaceae	3	0.730	5,5	3,5	7,5	16,5
17.	Magnoliaceae	3	0.680	8,6	5,3	2,0	15,9
18.	Melastomataceae	1	0.440	2,4	1,2	1,1	4,7
19.	Meliaceae	8	1.490	20,9	9,5	8,2	38,7
20.	Monimiaceae	1	0.620	2,2	0,9	0,3	3,4
21.	Moraceae	21	1.110	23,4	26,3	24,6	74,3
22.	Myristicaceae	7	0.130	7,8	3,9	2,3	14,0
23.	Myrtaceae	6	1.730	10,1	10,2	6,9	27,2
24.	Olacaceae	30	1.680	15,5	37,0	31,6	84,0
25.	Polygalaceae	3	0.440	4,7	3,3	1,4	9,4
26.	Rhizophoraceae	1	0.171	3,0	1,0	0,6	4,6
27.	Rosaceae	1	0.432	2,2	0,9	0,5	3,6
28.	Rubiaceae	2	0.221	4,4	1,8	7,1	13,4
29.	Sapindaceae	14	0.562	20,6	15,5	13,1	49,2
30.	Sapotaceae	6	0.284	13,2	7,2	5,1	25,5
31.	Sterculiaceae	2	0.190	5,3	1,9	4,3	11,5
32.	Styracaceae	3	0.261	7,7	3,2	3,5	14,3
33.	Symplocaceae	1	0.562	2,2	0,9	0,6	3,7
34.	Tiliaceae	1	0.458	2,2	0,9	0,7	3,8
35.	Trigoniaceae	2	0.389	7,8	3,0	1,3	12,1
36.	Ulmaceae	11	0.832	16,3	20,4	9,0	45,8
37.	UN	11	0.789	33,7	15,9	11,3	60,9
	Total	336	41.975				

Appendix 5

Table 1. Species importance value of trees in plots at Rantau Layung sites

No.	Species	N	BA	R Dom	RF	RD	SIV
1.	<i>Aglaia</i> sp	14	1.732	6.48	30.56	5.45	42.49
2.	<i>Alseodaphne</i> sp	4	.671	1.85	11.11	2.11	15.08
3.	<i>Antidesma neurocarpa</i> Miq	6	.432	2.78	13.89	1.36	18.03
4.	<i>Antidesma</i> sp	3	.221	1.39	8.33	0.69	10.42
5.	<i>Artocarpus</i> sp	2	.262	0.93	2.78	0.82	4.53
6.	<i>Croton argyratus</i> Blume	2	.084	0.93	5.56	0.26	6.74
7.	<i>Dillenia grandifolia</i>	1	.490	0.46	2.78	1.54	4.78
8.	<i>Diospyros</i> sp.	1	.261	0.46	2.78	0.82	4.06
9.	<i>Diospyros sumatrana</i> Miq	7	.562	3.24	16.67	1.77	21.68
10.	<i>Dryobalanops lanceolata</i> Kurz	7	.458	3.24	11.11	1.44	15.79
11.	<i>Ellipanthus tomentosus</i> Kurz	6	.389	2.78	13.89	1.22	17.89
12.	<i>Elmerrillia tsiampacca</i> (L) Dandy	1	.132	0.46	2.78	0.42	3.66
13.	<i>Endertia spectabilis</i> Steenis & de wid	25	4.830	11.57	36.11	15.20	62.88
14.	<i>Eusideroxylon zwageri</i> T. et. B	18	3.198	8.33	41.67	10.06	60.06
15.	<i>Ficus</i> sp	1	.418	0.46	2.78	1.32	4.56
16.	<i>Garcinia parvifolia</i> (Miq.) Miq	1	.075	0.46	2.78	0.24	3.48
17.	<i>Gironniera nervosa</i> Planch	10	1.114	4.63	19.44	3.51	27.58
18.	<i>Hopea dryobalanoides</i> Miq	5	.877	2.31	13.89	2.76	18.96
19.	<i>Knema lutiola</i> W.J.J.O. de Wilde	2	.209	0.93	5.56	0.66	7.14
20.	<i>Knema palens</i> W.J.J.O. de Wilde	2	.236	0.93	5.56	0.74	7.22
21.	<i>Koompassia malaccensis</i>	2	1.254	0.93	5.56	3.95	10.43
22.	<i>Lithocarpus</i> sp	1	.060	0.46	2.78	0.19	3.43
23.	<i>Macaranga pruinosa</i>	1	.042	0.46	2.78	0.13	3.37
24.	<i>Ochanostachys amentacea</i> Mast	20	1.494	9.26	44.44	4.70	58.40
25.	<i>Polalthia lateriflora</i> Blume	17	1.289	7.87	33.33	4.06	45.26
26.	<i>Polalthia</i> sp	1	.035	0.46	2.78	0.11	3.35
27.	<i>Pterospermum javanicum</i> Jungh.	1	.270	0.46	2.78	0.85	4.09
28.	<i>Saurauia</i> sp	1	.054	0.46	2.78	0.17	3.41
29.	<i>Shorea parvistipulata</i> Heim	1	.070	0.46	2.78	0.22	3.46
30.	<i>Shorea</i> spp.	29	6.527	13.43	30.56	20.54	64.52
31.	<i>Sterculia stipulata</i> Korth	1	.352	0.46	2.78	1.11	4.35
32.	Unidentified	1	.154	0.46	2.78	0.48	3.72
33.	Unidentified	22	3.528	10.19	38.89	11.10	60.17
	Total	216	31.779				

Table 2. Family composition and family importance value of trees in 2 ha plot at Rantau Layung sites

No.	FAMILY	N	BA	R dominance	R diversity	R density	FIV
1.	Actinidiaceae	1	0.050	0.46	2.78	0.16	3.40
2.	Annonaceae	19	1.480	8.80	38.89	4.66	52.34
3.	Connaraceae	6	0.390	2.78	13.89	1.23	17.89
4.	Dilleniaceae	1	0.490	0.46	2.78	1.54	4.78
5.	Dipterocarpaceae	42	7.930	19.44	58.33	24.95	102.73
6.	Ebenaceae	8	0.820	3.70	19.44	2.58	25.73
7.	Euphorbiaceae	12	0.780	5.56	30.56	2.45	38.57
8.	Fagaceae	1	0.060	0.46	2.78	0.19	3.43
9.	Guttiferae	1	0.070	0.46	2.78	0.22	3.46
10.	Lauraceae	22	3.870	10.19	52.78	12.18	75.14
11.	Leguminosae	27	6.080	12.50	41.67	19.13	73.30
12.	Magnoliaceae	1	0.130	0.46	2.78	0.41	3.65
13.	Meliaceae	14	1.730	6.48	30.56	5.44	42.48
14.	Moraceae	3	0.680	1.39	5.56	2.14	9.08
15.	Myristicaceae	4	0.440	1.85	11.11	1.38	14.35
16.	Olacaceae	20	1.490	9.26	44.44	4.69	58.39
17.	Sterculiaceae	2	0.620	0.93	5.56	1.95	8.43
18.	Ulmaceae	10	1.110	4.63	19.44	3.49	27.57
19.	Unidentified	22	3.528	10.19	38.89	11.11	60.18
	T o t a l	216	31.779				

Where:

- N : Number of trees
 BA : Basal Area
 RDom : Relative dominance
 RF : Relative frequency
 RDens : Relative density
 RDiv : Relative diversity
 SIV : Species importance value
 FIV : Family importance value

Appendix 6

Table 1. Tree species found inside the *simpungk*, which produce food, medicine, firewood, wood and non-timber forest products at Muluy plots

No.	Local name	Scientific name	Products			
			Fruit	Vegetable	Medicine	Others
1.	Telien baning	<i>Eusideroxylon zwageri</i>			v	
2.	Akos	<i>Friesodielsa argentia</i>			v	V
3.	Aragandang	<i>Ficusvaarpus grandiflorus</i>	v			
4.	Bajur	<i>Pterospermum sp</i>			v	Boat, bullock cart
5.	Biang	<i>Artocarpus tamaran</i>	v			
6.	Belimbing sipot	<i>Microcos sp</i>	v			
7.	Bensiang	<i>Ziziphus angustifolia</i>	v		v	
8.	Benturung	<i>Artocarpus odoratissimus</i>	v		v	
9.	Benuang	<i>Lepisanthes sp</i>			v	
10.	Biasong	<i>Canarium sp</i>	v			
11.	Derari	<i>Ficus obscura</i>	v			
12.	Dora wani	Unidentified species	v			
13.	Dungket	<i>Nephelium sp</i>	v			
14.	Duyan	<i>Durio zibethinus</i>	v			
15.	Gasing	<i>Ficus sp</i>	v			
16.	Jan	<i>Dialium cf.indum L.</i>	v			
17.	Jering	<i>Archidendron pauciflorum</i>	v			
18.	Jupe	Unidentified species	v		v	
19.	Kendis	<i>Garcinia parvifolia</i>	v		v	
20.	Kelupo	Unidentified species	v			
21.	Kepuan	<i>Artocarpus anisophyllus</i>	v			
22.	Keputu	<i>Artocarpus anisophyllus</i>	v			
23.	Keramu	<i>Dacryodes rostrata</i>	v			
24.	Karopitit	<i>Trigoniastrium hypoleucum</i>	v			
25.	Kayu Petulu	<i>Memcylon amplexicaule</i>			v	V
26.	Lami	<i>Bridelia glauca</i>	v			
27.	Layung	<i>Durio dulcis</i>	v			

No.	Local name	Scientific name	Products			
			Fruit	Vegetable	Medicine	Others
28.	Lendamun	<i>Aglaia sp</i>	v			
29.	Lesat	<i>Lansium domesticum</i>	v		v	
30.	Liombot	<i>Disoxylum sp</i>	v			
31.	Luing	<i>Triomma malaccensis</i>	v			
32.	Mangkolato	Unidentified species	v			
33.	Marompetak	<i>Dillenia excelsa</i>			v	V
34.	Meliwe puti	<i>Polyalthia sp</i>				V
35.	Marontien	Unidentified species	v			
36.	Natu	<i>Payena acuminate</i>	v			V
37.	Nsori	<i>Artocarpus anisophyllus</i>	v			
38.	Nsango	<i>Artocarpus anisophyllus</i>	V			
39.	Onsom	<i>Swintonia sp</i>	v			
40.	Paken	<i>Durio kutejensis</i>	v			
41.	Pekalung	<i>Artocarpus elasticus</i>	v			Resin, traditional shirt
42.	Penani	<i>Goniothalamus sp</i>			v	
43.	Puak empulu	<i>Baccaurea tetrandra</i>	v			
44.	Puak pliwon	<i>Neoscortechinia sp</i>	v			
45.	Rumbun	<i>Glochidion sp</i>	v			Firewood
46.	Selo gunti	<i>Diospyros sp</i>	v			
47.	Semayap	<i>Nephelium lappacerum</i>	v			
48.	Sembilek	<i>Lepisanthes amoena</i>	v			
49.	Sentolu	<i>Luvunga sp</i>			v	
50.	Simo	<i>Canarium sp</i>				Resin
51.	Siopot	<i>Aquilaria beccariana</i>				Resin
52.	Tutu dada	<i>Gonithalamus sp.</i>			v	V
53.	Siwo	<i>Nephelium sp</i>	v			
54.	Tempuro	<i>Dillenia cf. grandifolia</i>	v			
55.	Took	<i>Anthocephalus chinensis</i>	v			
56.	Toyop	<i>Artocarpus elasticus</i>	v			Traditional shirt
57.	Tuola	Unidentified species	v			
58.	Tulang ban	<i>Timonius lasianthoides</i>			v	
59.	Umar	<i>Prairiea sp</i>	v			
60.	Wayan	<i>Homania javensis</i>	v			

Table 2. Tree species found inside the *simpungk*, which produce food, medicine, firewood, wood and non timber forest products at Rantau Layung plots

No.	Local name	Scientific name	Products			
			Fruit	Vegetable	Medicine	Others
1.	Telien baning	<i>Eusideroxylon zwageri</i>			v	
2.	Bajur	<i>Pterospermum javanicum</i> <i>Jungh</i>			v	Boat, bullock cart
3.	Biang	<i>Artocarpus tamaran</i>	v			
4.	Derari	<i>Ficus obscura</i>	v			
5.	Kondis biwang	<i>Garcinia parvifolia</i>	v		v	
6.	Keramu	<i>Artocarpus sp</i>	v			
7.	Karopitit	<i>Diospyros sumatrana</i> Miq	v			
8.	Lami	<i>Cleistanthus paxii</i> Jabl	v			
9.	Miwe	<i>Polyalthia sp</i>				V
10.	Marontien	Unidentified species	v			
11.	Puak pliwon	<i>Baccaurea bracteata</i> Mu- ell.Arg	v			
12.	Tempuro	<i>Dillenia cf. Grandifolia</i>	v			
13.	Umar	<i>Prainea sp</i>	v			

Appendix 7. Log Production Based on Tree Species, Period 2001-2004

No	Species	Year												Total	%			
		2001			2002			2003			2004					2005		
		TPTI	IPK	TPTI	TPTI	IPK	TPTI	IPK	TPTI	IPK	TPTI	IPK	TPTI			IPK	TPTI	IPK
1	Meranti	881,782.84	1,071,324.05	888,538.72	858,274.86	320,237.81	143,987.07	773,001.80	447,734.85	835,677.51	411,808.72					8,160,178.03	47.58	
2	Kapur	94,820.46	225,917.31	74,009.90	120,158.57	32,173.15	25,133.85	92,390.48	177,825.75	118,722.83	130,660.54					1,091,842.84	8.43	
3	Bengkiri	61,382.18	225,258.07	55,351.18	52,248.89	18,233.47	13,243.01	33,081.24	55,729.92	84,060.00	83,624.29					862,172.33	5.11	
4	Nyato	15,698.38	22,575.12	19,006.41	13,245.87	8,450.01	9,752.40	19,801.17	21,708.70	19,880.14	25,894.05					176,083.25	1.36	
6	Agathis	21,038.79	4,247.34	14,854.27	2,689.82	5,380.81	587.88	2,004.87	833.14	4,942.54	1,270.10					57,617.37	0.45	
7	Kayu Rawa	-	-	-	-	-	-	-	-	-	-					-	-	
8	Anggi	2,801.01	1,685.47	817.39	21.82	473.46	254.88	522.29	74.84	1,024.61	308.58					8,094.45	0.06	
9	Mersawa	6,991.85	12,003.24	2,540.45	3,215.96	1,593.89	3,831.27	8,714.79	4,430.71	271.69	5,426.04					49,008.89	0.38	
10	Irenwood	15.29	21,342.26	48.99	4,408.33	50.30	-	270.25	-	92.72	-					26,227.11	0.20	
11	Kendug	205,473.97	373,909.80	146,289.73	201,032.30	49,143.27	96,988.96	75,631.97	133,756.20	99,590.35	149,062.40					1,530,838.96	11.82	
12	Other commercial	96,898.11	1,214,583.41	74,916.41	432,177.13	35,238.41	287,013.41	98,538.23	731,945.98	144,614.00	59,491.79					3,195,507.88	24.60	
	Total	1,337,072.88	3,172,856.07	1,056,354.43	1,486,451.42	470,974.58	590,802.84	1,103,936.69	1,573,840.09	1,288,816.39	867,476.51					12,947,582.10	100.00	

Source: Provincial Forest Service, 2006

Appendix 8. Datasheets used for community-based data collection

Data sheet 1. Settlement History			
<i>*Key informants – Village head/traditional Leader</i>			
Respondent		Date	
Village		Enumerator	
Name		Gender	
Age		Ethnic group	

Question: Please tell us about the history of this village. If the village was moved from (an) earlier location(s), when and how was the village established? Where did the original residents migrate from? What was the reason to move and what was done with the old/abandoned settlement?

No.	Name of place	Location	Year of abandoning	Reason for abandoning	Present utilisation

Can traditional forest management protect and conserve ironwood (*ulin*) stands?

Data sheet 2. Demography			
<i>*Household survey- minimum 30 Hb/villages</i>			
Respondent		Date	
Village		Enumerator	

Household name		Ethnic		Age of informant	
----------------	--	--------	--	------------------	--

Name	Family relationship	Age / Gender	Religion	Ethnic Group	Education	Occupation/Job	
						Primary	Secondary

Valuable goods/owned facilities				Remarks
Kind of goods	Number (unit)	Year of buying	Price	
1. House (own or rent)				
2. Television/parabola				
3. Tape/radio				
4. Chainsaw				
5. Bicycle/motorbike				
6. Canoe engine				
7. Canoe				
8. Sewing machine				
9. Electricity/generator				
10. VCD				
11. Gold				
12. Others				

Questionnaire 1. Village Description			
<i>*Key Informant interview/Village Head</i>			
Respondent		Date	
Village		Enumerator	

No.	Questions	Answers
I. Village description		
1.	Since when has this village existed and when was it formally acknowledged by government?	
2.	What is the area of the village? What does it border on?	a. Area b. Borders - North - East - South - West
3.	What is the area of forest land, garden, <i>ladang</i> (swidden), swamp, settlement, and others?	a. Forest Area:..... b. Swidden Area:..... c. Garden:..... d. Settlement:..... e. Others:.....
4.	What is the population of the village?	 people households
5.	What ethnic groups are living in the village? List from the most to the least numerous.	
II. Sources of income		
1.	Where does your income come from, besides from forest and <i>ladang</i> ?	
2.	How big is your income? (Note: according to local unit/value, which will be converted later into Rp/month)	
3.	Are there any other household members, who work and earn money? If 'yes', who, what job, how much do they earn?	

Questionnaire 2. Cultural Background			
<i>*Key Informant interview/Traditional Head</i>			
Respondent		Date	
Village		Enumerator	

I. General description of traditional community	
1.	Describe briefly the history of the traditional community of this village?
2.	Are the traditional rules and institutions still functioning significantly here?
	No; reasons
	Yes; examples
3.	How long will the traditional rules be valid and what are the reasons?
4.	To whom do the traditional rules apply and how are they maintained?
	a. Insiders:
	b. Outsiders:
	c. Measures:
II. Traditional rules and regulations	
1.	Are there any places traditionally protected from disturbance (e.g. sacred places or traditional land/forest)? If yes, please name them!
2.	Why are those places protected?
3.	Are there any traditional rules used for protecting the forest?
4.	What traditional sanctions are imposed on people who damage the forests?
5.	Are there any changes in the area of the forest being utilized?
	a. Increase (What for?)
	b. Decrease (What for?)
	c. No change (What for?)
6.	Are there any changes in the traditional rules concerning forest land-uses?
	a. No change (What for?)
	b. Becomes stricter (What for?)
	c. Becomes more flexible (What for?)
7.	Is it difficult to use/find new forest area?
	a. More difficult (Why?)
	b. Easier (Why?)
	c. No change (Why?)

Questionnaire 3. Forest management related ironwood**HH Survey-minimum 30 Households/village*

Respondent					
Village					
HH no./name		Ethnic group		Age	

No.	Questions	Answers
A. Dangers/threats of human activities to ironwood		
1.	Are there any places traditionally protected of ironwood from disturbance (e.g. sacred places or traditional land/forest)? If yes, please name them!	
2.	According to <i>Bapak/Ibu</i> which human activities can disturb the sustainability of ironwood resources and benefits to local communities? Why?	
3.	Could you please list them based on their degree of danger?	
4.	Beside dangers and threats are there also some advantages/benefits from those human activities? Please explain.	
B. Aspiration of local community		
1.	Is your (<i>Bapak/ibu</i>) life better than five/ten years ago? Why?	
2.	What future do you hope for your children/ young generation?	
3.	What do you expect/predict will happen in your village in the next few months/years?	
4.	In case the forest is degraded or disappears, what are you going to do?	
5.	Do you think that forest has made an important contribution to your family?	
6.	Do you think that forest will still be important for your grandchildren?	
7.	Do you think that the changes that have happened in your lifetime have made life better for your people?	
8.	What would you like to change in the village?	
9.	Do you think commercial logging is a good way of using forests for future?	

Questionnaire 4.			
Traditional knowledge on ironwood management and cultivation			
<i>*Key Informants(3-5 persons)</i>			
Respondent		Date	
Village		Enumerator	

No.	Questions	Answers
1	If someone wants to know something about ironwood, who among the villagers is able to explain it? (note: at least five persons)	
2.	According to you (<i>Bapak/ibu</i>), what is the most suitable land for ironwood sites?	
3.	According to you, is the management of the land for ironwood easy or difficult, how do you overcome the problems?	
4.	According to you, is the germination of ironwood easy or difficult? If difficult, how do you overcome the problems?	a. Cracking
		b. Boiling
		c. Baking
		d. Others.....
5.	Do you also take seedlings from the forest? If yes, how far is it? How many seedlings can you take in one time?	
6.	Do you plant these seedlings near the village?	
7.	Do you protect the seed trees?	

References

- Achard, F., H.D. Eva, H.J. Stibig, P. Mayaux, J. Gallego, T. Richards. and J.P. Malingreau. 2002. Determination of deforestation rates of the world's humid tropical forests. *Science* 297, pp. 999-1002.
- Adhiati, M.A.S. and A. Bobsien (eds). 2001. Indonesia's transmigration programme – An update. A report prepared for Down to Earth. London: International Campaign for Ecological Justice in Indonesia. www.dte.gn.apc.org.
- Ajizah, A, Thihana. dan Mirhanuddin. 2007. Potensi Ekstrak Kayu Ulin (Eusideroxylon zwageri T et B) Dalam Menghambat Pertumbuhan Bakteri *Staphylococcus aureus* Secara In Vitro, pp.1-6. BIOSCIENTIAE Volume 4, No 1, Januari 2007, www.unlam.ac.id
- Alcorn, J.B. 1990. Indigenous agroforestry strategies meeting farmers' needs. Pp. 141-151 in A.B. Anderson (eds). *Alternatives to Deforestation*. Columbia University Press, New York, NY.
- Alcorn, J.B. and A. Molnar. 1996. "Deforestation and human-forest relationships: What can we learn from India?". Pp. 99-121 in L.E. Sponsel, T.N. Headland and R.C. Bailey (eds.), *Tropical deforestation: The human dimension*. New York: Columbia University Press.
- Alcorn, J.B. and G.R. Antoinette. (eds). 2000. *Indigenous Social Movements and Ecological Resilience. Lessons from the Dayak of Indonesia*. Pp.1-111. Peoples, Forest and Reefs (PeFoR) Program. Discussion Paper Series Biodiversity Support Program. Washington, D.C

- Andaya, B.W. and L.Y. Andaya. 1981. A History of Malaysia. London: The Macmillan Press Ltd.
- Anonymous. 1978. Endangered species of trees. Conservation Indonesia 2. pp. 4.
- Anonymous. 1999. Cultivation Experience of Ironwood (*Eusideroxylon zwageri*). PT. Kiani Hutani Lestari, Jakarta.
- Anonymous. 2000b. Rencana definitif pengelolaan kawasan lindung (aspek sosial ekonomi dan budaya masyarakat sekitar kawasan lindung dan daerah penyangga) Kabupaten Paser. Definitif planning protection zone management (social economic and culture aspects on community around protection and buffer zone) Paser District. Cooperation between PPLH Unmul and Dinas Perhutanan dan Konservasi Tanah, Distric Government Paser.
- Anonymous. 2002. Profil Desa Swan Selutung, Kecamatan Muara Komam, Kabupaten Pasir, Kalimantan Timur. Departemen Dalam Negeri, Tanah Grogot.
- Anonymous. 2004b. Status Litbang Ulin (*Eusideroxylon zwageri* T et B). Balai Penelitian dan Pengembangan Kehutanan Kalimantan. Samarinda. Kalimantan Forestry Research and Development Institute, Samarinda.
- Anonymous. 2005. Buku Tahunan Statistik Perhubungan. Laporan Dinas Perhubungan Kalimantan Timur.
- Anonymous. 2005. Sejarah Masyarakat Paser. Laporan Akhir Penelitian. Lambung Mangkurat University.
- Anonymous. 2006. Flora of Indonesia. Indonesian Departement of Forestry.
- Appanah, S. 1998. Management of natural forest. A review of dipterocarps, taxonomy, ecology and silviculture. CIFOR, Bogor, Indonesia.
- Asia Regional Workshop. 1997. *Eusideroxylon zwageri* Conservation and Sustainable Management of Trees project workshop held in Hanoi, Vietnam, August 1997. In S. Oldfield, C. Lusty, and A. MacKiven. The World List of Threatened Trees World Conservation Press, Cambridge, U.K. pp.650.
- Bachriadi, D. and M.A. Sardjono. 2005. Conversion or occupation? : The possibility of returning local communities' control over forest lands in Indonesia.
- Baillie, J.E.M., C. H. Taylor. and S.N. Stuart. (eds). 2004. 2004 IUCN Red List of Threatened Species. A Global Species Assessment. IUCN, Gland, Switzerland and Cambridge, UK. See www.data.iucn.org

- BAPPENAS. 2003. Indonesian Biodiversity Strategy and Action Plan 2003–2020 [in Bahasa Indonesia]. Board of National Development Planning. pp. 1-50.
- BAPPEDA. 2005. Rencana Pembangunan Jangka Menengah Daerah (RPJMD) Kabupaten Kutai Kartanegara 2005-2010. Development Planning of Kutai Kartanegara District. www.bappeda.kutaikartanegarakab.go.id
- Bakker, L. 2006. Land and authority: the state and the village in Pasir, East Kalimantan. Institute of Folk Law. Radboud University Nijmegen. IIAS Newsletter #40. Spring 2006.
- Bakker, L. 2006. Diversity in Nunukan: The Politics and Implications of Governmentally Affirmed Autonomy in an East Kalimantan District. Paper presented at the XVth International Congress on Legal Pluralism, Universitas Indonesia, Depok, 28 June-2 July.
- Barber, C. 1998. Forest Resource Scarcity and Social Conflict in Indonesia. *Environment* 40 (4): pp. 4-9.
- Barber, C. V. and J. Schweithelm 2000. Trial by fire. Forest fires and forestry policy in Indonesia's era of crisis and reform. World Resources Institute (WRI), Forest Frontiers Initiative. In collaboration with WWF-Indonesia and Telapak Indonesia Foundation, Washington D.C, USA.
- Barr, C., D. Brown, A. Casson. and D. Kaimowitz. 1999. Corporate debt and the Indonesian forestry sector. Fortcoming in Colfer, C. and I.A. P. Resudarmo. 2002. Which way forward? Forests, policy and people in Indonesia. Resources for the Future, Washington DC.
- Barr, C., E. Wollenberg, G. Limberg, N. Anau, R. Iwan, I.M. Sudana, M. Moeliono, and T. Djogo. 2001. The Impacts of Decentralization on Forests and Forest-Dependent Communities in Kabupaten Malinau, East Kalimantan. CIFOR, Bogor, Indonesia.
- Barr, C. 2001. Chapter 9. Timber Concession Reform: Questioning the "Sustainable Logging" Paradigm. Extracted from *The Political Economy of Fiber and Finance in Indonesia's Pulp and paper industries*. Published by The Center for International Forestry Research (CIFOR) and World Wide Fund for Nature Macroeconomics for Sustainable Development Program Office, Washington, D.C. pp. 1-30.
- Barrett, S. 1996. *Anthropology, A Student Guide to Theory and Method*. University of Toronto Press. Toronto, Buffalo, London.

- Beekman, H.A.J.M. 1949. Houtteelt in Indonesie (Silviculture in Indonesia). Publicate van de Stichting 'Fonds Landbouw Exportbureau' 1916-1918. Wageningen. Holland (translation to Indonesian by A. Azis Lahiya 1996).
- Beer, J.H. and M.J. McDermott. 1989. Economic Value of Non-Timber Forest Products in Southeast Asia. The Netherlands Council for IUCN.
- Berenschot, L.M., B.M. Filius. and S. Hardjosoediro. 1988. Factors determining the occurrence of agroforestry systems with *Acacia mearnsii* in Central Java. Agroforestry System 6: pp. 119-135.
- Bird, P. 1997. Funder or founder: the role of development agencies in shared forest management. Commonwealth Forestry Review 76: 179-181.
- Bratamihardja. 1990. Agroforestry on Forest Land in Java. In: Agroforestry and Technologies. BIOTROP Special Publication (Bogor) No. 39: pp. 141-146.
- Bratawinata, A.A. 1995. Keberhasilan pertumbuhan Ulin (*Eusideroxylon zwageri* T et B) di Bukit Soeharto, Fakultas Kehutanan, Universitas Mulawarman, Samarinda, East Kalimantan.
- BRIK – A Flawed Approach', *Down to Earth*, No. 60, accessed on February 2004.
- Brookfield, H., L. Potter. and Y. Byron. 1995. In Place of the Forest: Environmental and Socio-economic Transformation in Borneo and the Eastern Malay Peninsula. Tokyo: United Nation University Press.
- Browne, F.G. 1955. Forest trees of Sarawak and Brunei and their products. Government Printing Office, Kuching.
- Bunna, A.T. 2004. Petunjuk praktis rehabilitasi hutan dan lahan untuk masyarakat. Cooperation among Formacs-Care International Indonesia, Land and Forest Rehabilitation Working Group, Kaltim-Hijau Foundation and CIDA Canada.
- Burkill, I.H. 1935. A dictionary of the economic products of the Malay Peninsula. Crown Agents for the Colonies, London, England.
- Caniago, I. and S.F. Siebert. 1998. Medicinal Plant Ecology, Knowledge and Conservation in Kalimantan, Indonesia. Economic Botany Vol.52 No.3, pp. 229-250. Springer on behalf of New York Botanical Garden Press.
- Callister, D. 1992. Illegal tropical timber trade: Asia-Pacific. A traffic network report. Sydney: Traffic & WWF.

- Casson, A. and K. Obidzinski. 2002. From New Order to Regional Autonomy: Shifting Dynamics of "Illegal" Logging in Kalimantan, Indonesia. *World Development* Vol.30, No.12, 2002
- CBD. 1997. Forest and Biological Diversity. Working documents prepared for the meeting of the liaison group on forest biological diversity. UNEP, UN & CBD. Third meeting, Montreal, Canada 1 to 5 September 1997, pp.26.
- Centeno, J.C. 1996. Traders of illusions and Teak sting. Internet documents. www.ciens.ula.ve
- Chambers, R. 1992. Participatory rural appraisal: past, present and future. *Forests, Trees and People Newsletter* (15/16):pp.4-8.
- Chan, A. 2010. Illegal Logging in Indonesia: The Environmental, Economic and Social Costs. Blue-Green Alliance, April. www.illegal-logging.info.
- CIFOR 2001. Adaptive Collaborative Management Research in Lumut Mountain Forest (Rantau Layung and Rantau Buta), Pasir District. Historical Trends Report. Bogor, CIFOR.
- Cobbinah, J.R. and D.A. Ofori. 1997. Enhancement of rooting ability of *Milicia excelsa* Welw. cuttings by banding and auxin treatment. *Ghana Journal of Forestry* 5, pp. 28-31.
- Colchester, M. 2004. Strengthening the Social Component of a Definition of Legal Wood Origin and Production for Indonesia. Prepared for the Nature Conservancy Indonesia Program.
- Colfer, C. 1997. Beyond Slash and Burn: Building on Indigenous Management of Borneo's Tropical Rainforests. New York Botanical Garden, New York.
- Colfer, C.J.P., with R.G. Dudley, in cooperation with H. Hadikusumah, Rusyidi, N. Sakuntaladewi, and Amblani, 1997. *Peladang Berpindah di Indonesia: Perusak atau Pengelola Hutan?* (Shifting cultivators of Indonesia: Marauders or Managers of the Forest?) FAO Community Forestry Case Study, No. 6. Food and Agriculture Organization, Rome
- Colfer, C. and I.A. P. Resudarmo. 2002. Which way forward? Forests, policy and people in Indonesia. Resources for the Future, Center for International Forestry Research (CIFOR) and Institute of Southeast Asian Studies (ISEAS), Washington, DC.
- Cooper, R.J. 1991. High-value markets for tropical sawnwood, plywood and veneer in the European Community (English). Rome (Italy), FAO, pp. 82.

- Crevello, S. 2003. Local Land Use on Borneo: Application of Indigenous Knowledge Systems and Natural Resource Utilisation Among The Benuaq Dayak of Kalimantan, Indonesia. Dissertation. School of Renewable Natural Resources, pp. 1-256.
- Curtis, J.T. and R.P. McIntosh. 1950. The interrelations of certain analytic and synthetic phytosociological characters. *Ecology* 31: pp. 435 – 455.
- Curtis, J.T. and R.P. McIntosh. 1951. An upland forest continuum in the prairie-forest border region of Wisconsin. *Ecology* 32: pp. 476 – 496.
- Dauvergne, P. 1997. Weak States and the Environment in Indonesia and the Solomon Island. Paper presented at a workshop of Weak and Strong States in Southeast Asia and Melanesia – August 1997. The Australian National University.
- Department of Forestry. 1990. Forestry Statistics of Indonesia 1990/1991. Bureau of Planning. Jakarta.
- Department of Forestry and Timber Estate Crops. 1998. Forestry Statistics of Indonesia 1996/1997. Bureau of Planning. Jakarta.
- De Guzman, E.D. 1975. Conservation of vanishing timber species in the Philippines. In: Williams, J., C.H. Lamourak, and N. Wulijarni-Soetjipto, N. (eds), South-East Asian plant genetic resources. Symposium Proceedings Bogor, Indonesia, March 1975. IBPGR, Bogor.
- Delmy, A. 2001. Fire Resistance of Tree Species in Bukit Soeharto Education Forest, East Kalimantan, Indonesia. www.cifor.cgiar/publication.
- Demmer, J. and H. Overman. 2001. Indigenous people conserving the rain forest? The effect of wealth and markets on the economic behavior of Tawahka Amerindians in Honduras. (PhD thesis University of Amsterdam). Tropenbos Series 19. Wageningen: Tropenbos International.
- De Wit, H.C.D. 1949. *Spicilegium Malaianum*. Bulletin of the Botanical Gardens Buitenzorg. III Vol. 18: pp. 181–212.
- Dinas Perhutanan dan Konservasi Tanah in cooperation with PPLH University of Mulawarman, 1999. Identifikasi Potensi dan Data Keanekaragaman Hayati pada Kawasan Lindung dan Daerah Penyangga: Kawasan Lindung Gunung Lumut Desa Rantau Layung. Pemerintah Kabupaten Pasir. (Potential Identification of Biodiversity on Lumut Protection Forest and its Buffer Zone at Rantau Layung Village, Pasir District). Tanah Grogot.

- Donovan, D.G. and R.K. Puri. 2004. Learning from Traditional Knowledge of Non-timber Forest Products: Penan Benalui and the Autecology of *Aquilaria* in Indonesian Borneo. *Ecology and Society* 9(3): pp. 3. [online accessed] URL: www.ecologyandsociety.org
- Dove, M.R. 1988. Sistem Perladangan di Indonesia. Suatu studi-kasus dari Kalimantan Barat. Gadjah Mada University Press. Yogyakarta.
- Down to Earth No.48, February 2001. "Indigenous small-scale mining under threat". Jidan Muluy Community [online accessed: 10 November 2007] URL: <http://dte.gn.apc.org>
- Duerr, W.A., Teeguarden, N.B. Christiansen, and S. Guttentberg (eds). 1979. Forest resource management, decision-making principles and cases. W.B. saunders, Philadelphia.
- Duke, J.A. 1991. Medicinal Plants of the World. USDA computer listing of folk medicines of the world, online at <http://www.ars-grin.gov/duke/>.
- Effendi, R and A. Rahman. 2006. Pengembangan Teknik Propagasi dan Uji Silvikultur Jenis Ulin (*Eusderoxylon zwageri* T et B). Laporan Tahunan 2006. Balai Litbang Kehutanan Kalimantan. Samarinda, Januari 2007. (Development Technique on Propagation and Silviculture Test of Ulin (*Eusderoxylon zwageri* T et B). Annual Report 2006. Kalimantan Forestry Research and Development Institute, Samarinda.
- Eghenter, C. and B. Sellato. (eds.) 1999. Kebudayaan dan Pelestarian Alam. Penelitian Interdisipliner di Pedalaman Kalimantan. World Wide Fund for Nature Indonesia, Jakarta.
- Eghenter, C. 2000a. 'Histories of Conservation or Exploitation? Case Studies from the Interior of Indonesian Borneo.' Paper presented at the conference on 'Environmental Change in Native and Colonial Histories of Borneo: Lessons from the Past, Prospects for the Future', Leiden, 10–11 August.
- Eghenter, C. 2000b. What is *Tana Ulen* good for? Considerations on indigenous forest management, conservation and research in the interior of Indonesian Borneo. *Human Ecology* 28(3): pp. 331.
- Eghenter, C., 2003. 'What Kind of Anthropology for Successful Conservation Management and Development?' Paper presented at the meeting of the American Anthropological Association meeting, Chicago, 17-23 November.

- Environmental Investigation Agency's (EIA). 1996. Corporate Power, Corruption and the Destruction of the World's Forests. EIA, London, UK.
- Elevitch, C.R. and Wilkinson, K.M. 2000. Agroforestry Guides for Pacific Islands. Permanent Agriculture Resources.
- Ellen, R., P. Parks, and A. Bicker (eds). 2000. Indigenous Environmental Knowledge and its Transformation. Hardwood Academic Publishers, Australia, Japan, Germany, Malaysia.
- Eltz, T., C.A. Brühl, Z. Imiyabir, and K.E. Linsenmair. 2003. Nesting and nest trees of stingless bees (*Apidae: Meliponini*) in lowland dipterocarp forests in Sabah, Malaysia, with implications for forest management. Forest Ecology and Management. Science Direct. Volume 172, Issues 2-3, 20 January 2003.
- Ernayati and D. Leppe. 1992. The effect IBA and three fertilizers to the seedling growth of *ulin* (*Eusideroxylon zwageri* T.et Binn.). Wanatrop Vol.6 No.1, 1992. Balai Penelitian Kehutanan, Samarinda. Kalimantan Timur.
- Ernayati, Giono, KUSDADI, D, Prasetyawan, and Rachman. 2005. Penelitian dan Pengembangan Jenis Ulin. Pengembangan Teknik Propagasi Jenis Ulin. Laporan Tahunan. Balai Penelitian dan Pengembangan Kehutanan Kalimantan Samarinda. (Research and Development on Ulin (*Eusideroxylon zwageri* T et B). Development Technique on Propagation of Ulin (*Eusideroxylon zwageri* T et B). Annual Report 2005. Kalimantan Forestry Research and Development Institute, Samarinda, 2005.
- Food and Agriculture Organization of the United Nations. 2001. Promotion of valuable hardwood plantations in the tropics. A global overview. Report based on the work of F.K. Odoom. Forest Plantations Thematic Papers. Working Paper 4. Forest Resource Development, Forest Resource Division, pp.1-21. FAO, Rome.
- Food and Agriculture Organization of the United Nations. 2007. State of the World's Forests, 2007. Rome: FAO, 2007, p.15.
- Food and Agriculture Organization of the United Nations. 2010. "World deforestation decreases, but remains alarming in many countries." News Release, 25 March 2010. <http://www.fao.org/news/story/en/item/40893/icode/>
- Farjon, A, and Page, C.N. IUCN; Gland, Switzerland and Cambridge, UK. 1999. Conifers status survey and conservation action plan.

- Febrianto, F., and Y. S. Hadi. 1999. Forest Resources and Supply of Timber from Man-Made Forest in Indonesia. Paper. Presented at the 34th Nagoya International Machinery Fair. Nagoya. Japan, October 29 - November 2, 1999.
- Feldstein, H. and J. Jiggins. 1994. Tools for the Field: Methodologies Handbook for Gender Analysis in Agriculture. Kumarian Press, West Hartford.
- Ford-Robertson, F.C and R. K. Winters. 1983. Terminology of Forest Science, technology, Practice and Products. Society of American Foresters, January 1983.
- Fox, J. 1993. The tragedy of the open access. In Brookfield, H. & Y. Byron. (1993). South-East Asia's Environmental Future: the Search for sustainability (eds). The United Nations University Press. Tokyo-New York-Paris.
- Furze, B., T. De Lacy, and L. Birckhead. 1996. Culture, Conservation, Biodiversity. The Social Dimension of Linking Local Level Development and Conservation through Protected Areas. John Wiley and Sons. Chichester, New York, Brisbane, Toronto, Singapore.
- FWI/GFW. 2002. The State of the Forest: Indonesia. Bogor, Indonesia: Forest Watch Indonesia, and Washington DC: Global Forest Watch.
- Gaharu. 2000. "Bila orang Muluy menambang emas" by Jidan, Muluy Community; Gaharu no.06-07/1/2000.
- Garibaldi, A. 2003. Bridging ethnobotany, autecology and restoration: the study of sapato (*Sagittaria latifolia* Willd.; *Alismataceae*) in interior British Columbia. Thesis. University of Victoria, Victoria, British Columbia, Canada.
- Garibaldi, A. and N. Turner. 2004. Cultural keystone species: implications for ecological conservation and restoration. Ecology and Society 9(3): <http://www.ecologyandsociety.org/vol9/iss3/art1/>
- Gartlan, J. S., D. B. McKey, P. G. Waterman, C. N. Mbi. and T. T. Struhsaker. 1980. A comparative study of the phytochemistry of two African rain forests. Biochemical Systematics and Ecology 8: pp. 401-422.
- Gautam, M., U. Lele, H. Kartodihardjo, A. Khan, Erwinsyah and R.Rana. 2000. Indonesia: The challenges of world bank involvement in forest. Evaluation country case study series. Pp. 28-50. The World Bank, Washington, USA.
- Geegeo, D. 1998. Indigenous knowledge and empowerment: rural development examined from within. *The Contemporary Pacific*, 10(2): pp. 289-316.

- GOI (Government of Indonesia) and IIED (International Institute for Environment and Development). 1985. Forest Policies in Indonesia: The Sustainable Development of Forest Lands. Jakarta.
- Gonner, C. 2002. A Forest Tribe of Borneo (Benuaq). New Delhi: D.K. Printworld (P) Ltd.
- Guevara, S.S. 1986. Plant species availability and regeneration in Mexican tropical rain forest. Acta Universitatis Upsaliensis, Comprehensive Summaries of Uppsala Dissertations for the Faculty of Science, 48.
- Handadhari, T. 2001. "Episode Pengelolaan Hutan yang Makin Suram (in Indonesia language)," in Kompas, pp. 28. Jakarta.
- Harbagung, and A. Suharlan. 1984. Tree volume table of *Eusideroxylon zwageri* T. et Binn. Laporan Pusat Penelitian dan Pengembangan Kehutanan. Bogor. Indonesia.
- Hartono, B.T. 2002. Can forest plantations alleviate pressure on natural forest?: An efficiency analysis in Indonesia. Pp. 1-55. Published by Economy and Environment Program for Southeast Asia (EEPSEA).
- Haryati, J.R., I.N. Azizah., and E. Arisoelaningsih. 2010. *Eusideroxylon zwageri* (Ulin) as key species in two zones of Sangkima Rain Forest, Kutai National Park, East Kalimantan. Journal of Tropical Life Science Vol.1 No.1, November 2010. Agrivita, Journal of Agriculture Science. Brawijaya University.
- Hietz-Seifert, U., P. Hietz, and S. Guevara. 1996. Epiphyte vegetation and diversity on remnant trees after forest clearance in southern Veracruz, Mexico. Biol. Cons. 75: pp. 103-111.
- Hillegers, P.J.M. and H.H. de Jongh. 2001. Workshop proceedings: The balance between biodiversity conservation and sustainable use of tropical rain forests. 6-8 December 1999. Tropenbos International. The Tropenbos Foundation, Wageningen, the Netherlands.
- Hoffmann, A.A., Hinrichs, A, and F. Siegert. 1999. Fire Damage in East Kalimantan in 1997/98 related to land use and vegetation classes: Satellite Radar Inventory Results and Proposal for Further Actions.
- Holden, S. and H. Hvoslef. 1995. Transmigration settlements in Seberida: causes and consequences of the deterioration of farming systems of settlers in a rain forest environment. In O. Sandbukt (eds.), Management of Tropical Forests: Towards an Integrated Perspective. Centre for Development and the Environment, University of Oslo. pp. 107-125.

- Inoue, M. 1999. Participatory forest management. In Rainforest ecosystems of East Kalimantan: El Niño, drought, fire and human impacts, edited by E. Guhardja, M. Fatawi, M. Sutisna, T. Mori and S. Ohta, pp. 299-307. Tokyo: Springer-Verlag.
- Irawan, B. and F. Gruber. 2003. A study on Tree Diversity in Association with Variability of Ironwood (*Eusideroxylon zwageri*) in Jambi, Indonesia. Georg-August-Universität Göttingen, Institute of Forest Botany, Germany.
- Irawan, B. 2005. Ironwood (*Eusideroxylon zwageri* T.et Binn.) and its varieties in Jambi, Indonesia. Georg-August-Universität Göttingen, Institute of Forest Botany, Germany.
- ITTO. 2001. Strengthening sustainable forest management in Indonesia. Report submitted to the International tropical Timber Council by the mission established pursuant to decision 12. Thirty-first session, October 29 – November 3, Yokohama, Japan.
- IUCN. 2007. The 2007 IUCN Red List of threatened Species. www.iucnredlist.org
- IUCN. 2010. The 2010 IUCN list of threatened species. www.iucnredlist.org
- IUCN. 2010. Trade Measures in Multilateral Environmental Agreements. IUCN Report. Trade Measures in CITES, pp.110.
- Jacobs, M. 1988. The tropical rainforest. A first encounter. Springer-Verlag, Berlin Heidelberg.
- Jaenicke H, M. Munjuga, J. Were, Z. Tchoundjeu, and I. Dawson. 2000. *Prunus africana* - propagation techniques for the conservation of an endangered medicinal tree in Africa. Kew manual, in press.
- Janzen, D. H. 1979. New horizons in the biology of plant defenses. pp 331-350 in G. A. Rosenthal, and D. H. Janzen, editors. Herbivores: Their interaction with secondary plant metabolites. Academic Press, London, UK.
- Jentoft, S., B.J. McCay, and D.C. Wilson 1998. Social Theory and Fisheries Co-management. Marine Policy Vol. 22 (4-5): pp. 423-436.
- Jentoft, S. 2003. Co-management – the Way Forward. In: Wilson, D.C., J. Raakjaer Nielsen, and P. Degnbol. (eds). The Fisheries Co-management Experience: Accomplishments, Challenges, and Prospects. Kluwer Academic Publishers, Dordrecht, pp.1-14.

- Jepson, P. and R. Whittaker. 2002. Histories of protected areas: Internationalisation of conservationist value and their adoption in the Netherlands Indies (Indonesia). *Environment and History* 8 (2002): pp.129-172. The White Horse Press. Cambridge, UK.
- Jessup, T.C. and N.L. Peluso. 1986. "Minor Forest Products as Common Property Resources in East Kalimantan, Indonesia," pp. 505-532 in *Common Property Resource Management*, edited by the Panel on Common Property Resource Management. Washington, D.C. National Academy of Sciences.
- John, D.W. 1974. 'The timber industry and forest administration in Sabah under Chartered Company Rule'. *Jurnal of Southeast Asian Studies* 5: pp. 55-81.
- Joshi L., K.Wijaya, M.Sirait and E. Mulyoutami. 2004. Indigenous systems and ecological knowledge among Dayak people in Kutai Barat, East Kalimantan – a preliminary report. ICRAF Southeast Asia Working paper, no.3-2004, pp.1-26.
- Joyal, E. 1996. The palm has its time: an ethnoecology of *Sabal uresana* in Sonora. *Mexico Economic Botany*, 50, pp. 446-462.
- Kaltim Post, Daily. (Column: Sorot Ulin). 21st November 2003. *Wawancara dengan Robian soal illegal logging. "Ijin Bupati itu Illegal..."*. (Interview with Robian on Illegal Logging. "The permit of the Regent is illegal....").
- Kartasubrata, J. 1990. Research support to community forestry projects on forestland in Java, Indonesia. In: M.E. Stevens, S.Bhumibhawon & H.Wood (eds), *Research policy for forestry community Asia-Pacific region*. Proceedings of a seminar. RECOFTC, Bangkok, Thailand, p. 227-236.
- Kartasubrata J, and K.F. Wiersum. 1992. Traditions and recent advances in tropical silvicultural research in Indonesia. A paper prepared for the Tropical Silviculture Workshop at the Centennial Conference of the International Union of Forestry Research Organizations (IUFRO). 1-3 September 1992, Berlin. Under the PROSEA project, Bogor, Indonesia and Wageningen Agricultural University, the Netherlands.
- Kartawinata, K. 1978. Biological changes after logging in lowland dipterocarp forest. In: Suparno, R.S. et al. (Eds), *Proceedings of a Symposium on the long-term effects of logging in Southeast Asia*. BIOTROP Special Publication No. 3, pp. 43-56.
- Kartawinata, K., R. Abdulhadi, and T. Partomihardjo. 1981. Composition and structure of a lowland Dipterocarp forest at Wanariset, East Kalimantan. *Malaysian Forester* 44 (2&3): 397-406.

- Kartodihardjo, H. and A. Supriono. 2000. The Impact of Sectoral Development on National Forest Conversion and Degradation. The Case of Timber and Tree Crop Plantations in Indonesia. CIFOR. Occasional Paper No. 26 (E). ISSN 0854-9818. Bogor.
- KEHATI, Sawit Watch, INRISE, Bogor Agriculture Institute, Media Indonesia Group. 2006. Indonesian Path Toward Sustainable Energy: A case study of developing palm oil as biomass in Indonesia. Report Research.
- Keogh, J.S. 1996. Evolution of the colubrid snake tribe Lampropeltini, a morphological perspective. *Herpetologica* 52: pp.406-416.
- Kerns, B.K. and A. Ager. 2007. Risk assessment for biodiversity conservation planning in Pacific Northwest Forest. USDA Forest Service, Pacific Northwest Research Station, Western Wildland Environmental Threat Assessment Center. *Forest Ecology and Management* 246 (2007), pp. 38-44. Science Direct. www.sciencedirect.com.
- Keßler, P.J.A. and K. Sidiyasa, K. 1994. Trees of the Balikpapan-Samarinda area, east Kalimantan, Indonesia: a manual to 280 selected species. (Tropenbos Series 7). The Tropenbos Foundation, Wageningen, The Netherlands.
- Keßler, P.J.A. (eds). 2000. Secondary forest trees of Kalimantan, Indonesia. A manual to 300 selected species. Tropenbos-Kalimantan Series 3. MOFEC-Tropenbos Kalimantan Project.
- Kiyono, Y and Hastaniah. 1997. Slash and burn agriculture and succeeding vegetation in East Kalimantan. PUSREHUT special publication 6, University of Mulawarman, Samarinda.
- Kiyono, Y and Hastaniah. 2000. Growth of *Eusideroxylon zwageri* seedlings and silvicultural changes in logged-over and burned forests of Bukit Soeharto, East Kalimantan, Indonesia. *Japan Agriculture Research Quarterly* 34.
- Kleine, M. and J. Heuveldop. 1993. A management planning concept for sustained yield of tropical forests in Sabah, Malaysia. *Forest Ecology and Management* 61: pp. 277-297.
- Kompas. 2000. Selamatkan Hutan Raja Kutai. 13 Oktober.
- Kompas. 2003. Kayu Ulin Ditebang Seizin Gubernur. Laskar Dayak Siap Turun ke Kota. 25 Mei.
- Kostermans, A.J.G.H. 1957. Lauraceae. Communication of the Forest Research Institute. Indonesia no. 57. Balai Besar Penyelidikan Kehutanan. Bogor. Indonesia.

- Kostermans, A.J.G.H., B. Sunarno, A. Martawijaya, and A. Sudo. 1994. *Eusideroxylon zwageri* Teijsm. and Binnend. In: Plant Resources of South-East Asia 5 (1). Timber trees: major commercial timbers (Soerianegara, I. and Lemmens, R.H.M.J. eds). PROSEA. Bogor Indonesia.
- Knapen, H. 2001. 'Forests of Fortune?' The Environmental History of Southeast Borneo, 1600-1880. Leiden: KITLV Press.(KITLV, Verhandeligen).
- Kuperan, K. Viswanathan, J. Raakjaer Nielsen, P. Degnbol, M. Ahmed, M. Hara, and N. Mustapha Raja Abdullah. 2003. Fisheries Co-management Policy Brief: Findings from a Worlwide Study. Policy Brief 2. Worldfish Center, Malaysia.
- Kumar, A, B.G. Marcot, and A. Saxena. 2006. Tree species diversity and distribution patterns in tropical forests of Garo Hills. Current Science, Vo;91, No.10, 25 November 2006.
- Kurokawa, H, T. Yoshida, T. Nakamura, J. Lai, and T. Nakashizuka. 2003 The age of tropical rain-forest canopy species, Borneo ironwood (*Eusideroxylon zwageri*), determined by ¹⁴C dating. Journal of Tropical Ecology, 19: pp. 1-7 Cambridge University Press.
- Lawrence, D. and J. Moge. 1996. A Preliminary Analysis of Tree Diversity in the Landscape Under Shifting Cultivation North of Gunung Palung National Park. Tropical Biology 3(3): pp. 297-319.
- Leighton, M. and N. Wirawan. 1986 Catastrophic drought and fire in Borneo tropical rain forest associated with the 1982–1983 El Nino southern oscillation event. In Tropical forests and the world atmosphere, AAAS Selected Symp. 101 (ed. G. T. Prance), pp. 75–102. Washington, DC: American Association for the Advancement of Science.
- Leighton, M. 1993. Modeling Dietary Selectivity by Bornean Orangutans: Evidence for Integration of Multiple Criteria in Fruit Selection. International Journal of Primatology, Vol. 14, No. 2, 1993
- Lindayati, R. 2002. Ideas and Institutions in Social Forestry Policy. In Colfer, C. and I.A. P. Resudarmo (eds). 2002. Which way forward? Forests, policy and people in Indonesia. Resources for the Future, Center for International Forestry Research (CIFOR) and Institute of Southeast Asian Studies (ISEAS), Washington, DC.
- Loehle, C. 1988. Tree life history strategies: the role of defences. Canadian Journal of Forest Research 18: pp.209-222.

- Lomborg, B. 2001. The skeptical environmentalist. Cambridge University Press, Cambridge.
- Lovera, M. (eds). 2008. Forest and the Biodiversity Convention: Independent Monitoring of the Implementation of the Expanded Programme of Work. Global Forest Coalition, Amsterdam. Pp. 1-43. www.globalforestwatch.org.
- Low, N. 2002. Global Ethics and Environment. Publish by Taylor and Francis (Routledge), pp.220-336.
- MacKinnon, J. and Budi M. Artha. 1981. National Conservation Plan for Indonesia, Vol. V. Kalimantan. Field Report 17 of FAO Project INS/78/061, Bogor.
- MacKinnon, J. and MacKinnon, K. 1986. Review of protected area system in the Indo-Malayan Realm. IUCN, Gland.
- MacKinnon, K., G. Hatta, H. Halim, and A. Mangalik. 1996. *The ecology of Kalimantan*. Singapore: Periplus. (The Ecology of Indonesia Series 3.)
- Magenda, B. 1991. East Kalimantan. The decline of a commercial aristocracy. Cornell Modern Indonesia Project.
- Magurran, A.E. 1998. Ecological diversity and its measurement. Croom Helm Limited . London.
- Masano and R.M. Omon. 1983. Observation on natural regeneration *Eusideroxylon zwageri* T. et B. in Senami Forest Complex, Jambi. Laporan Badan Penelitian dan Pengembangan Kehutanan. Pusat Penelitian dan Pengembangan Kehutanan. Balai Penelitian Hutan Bogor.
- Martawijaya A., I. Kartasujana, Y.I. Mandang, A.P. Soewanda, K. Kosasi. 1989. Atlas Kayu Indonesia Jilid II. Badan Penelitian dan Pengembangan Kehutanan.
- Masripatin, N. 2005. Sustainable management of the tropical rain forest in Kalimantan: silviculture development and genetic conservation of *Eusideroxylon zwageri*. Final report submitted to Tropenbos Kalimantan Programme, Balikpapan.
- May, R.M., J.H. Lawton and N.E. Stork. 1995. Assessing extinction rates. In: J.H. Lawton & R.M. May (eds). Extinction rates, pp.1-24. Oxford University Press, Oxford.
- McCay, B.J. and S. Jentoft. 1996. From the Bottom Up: Participatory Issues in Fisheries Management. Society and Natural Resources, Vol. 9: pp. 237-250.

- Ministry of Forestry. 2004. Forestry Statistics of Indonesia 2003/2004. Bureau of Planning. Jakarta.
- Ministry of Forestry. 2005. Strategic Plan 2005-2009.
- Moeliono, M., Wollenberg, E., and G. Limberg (eds). 2008. The Decentralization of Forest Governance: Politics, economic and the fight for control of forest in Indonesian Borneo. Earthscan Forestry Library. Earthscan Publications, London, UK.
- Mogea, J.P., D. Gandawidjaja, H. Wiriadinata, R.E. Nasution, dan Irawati. 2001. Tumbuhan Langka Indonesia. Bogor: Herbarium Bogoriense P3 Biologi-LIPI.
- Momberg, F., R. Puri and T. Jessup, 1997. 'Extractivism and Extractive Reserves in the Kayan Mentarang Nature Reserve: Is Gaharu a Sustainably Manageable Resource?' In K.W. Sorensen and B. Morris (eds), People and Plants of Kayan Mentarang. Jakarta: WWF Indonesia Program.
- Mori, S.A., Boom, B.M., de Carvalho, A.M., and dos Santos, T.S. 1983. Southern Bahian moist forests. Botanical review 49: pp. 155 – 232.
- Murniati, M. Padmanaba, I.Basuki, and J.van der Ploeg. 2006. How important forest and landscape resources for community living in and around Gunung Lumut Protection Forest? Gunung Lumut Biodiversity Assesment Socio-Economic study. Final report. MoF-Tropenbos Kalimantan Program.
- Murniati, M. Padmanaba, and I.Basuki. 2008. Forest resources utilization value of the communities living in and around Gunung Lumut Protection Forest, East Kalimantan. Journal of Forestry Research Vol.5 No.2, 2008, pp: 147-171. Indonesia Forest Research Agency.
- Myers, N., R. A. Mittermeier, C. G. Mittermeier, G. A. B. da Fonseca, and J. Kent. 2000. Biodiversity hotspots for conservation priorities. Nature 403, pp. 853-858.
- Nababan, A. 2002. Revitalising customary law in order to prevent the 'illegal' logging of forests in Indonesia. Paper presented at the Seminar and Workshop in respect of, 'Illegal Logging a Challenge in the Efforts to Save the Forests of Sumatra'. Hosted by the Hakiki Foundation (Yayasan Hakiki), the Department of Forestry and MFP-DFID on 7-9 October 2002.
- Nabhan, G. P., and J. L. Carr. (eds). 1994. Ironwood: an ecological and cultural keystone of the Sonoran Desert. Conservation International's Occasional Papers in Conservation Biology, Number 1. University of Chicago Press, Chicago, Illinois, USA.

- Nanang, M., and M. Inoue. 2000. Local Forest Management in Indonesia: A Contradiction Between National Forest Policy and Reality. *International Review for Environmental Strategies* Vol.1, no.1, pp. 175-191. Institute for Global Environmental Strategies.
- Nellemann, C., L. Miles, B.P. Kaltenborn, M. Vitur, and H. Ahlenius. (eds). 2007. *The Last Stand of the Orangutan – State of Emergency: Illegal Logging, Fire and Palm Oil in Indonesia's National Parks*. GRASP, the Great Ape Survival Partnership lead by UNEP and UNESCO.
- Newton, T. Soehartono, and C. Adrian. 2000. Conservation and sustainable use of tropical trees in the genus *Aquilaria* L. Status and distribution in Indonesia. Elsevier Science Ltd. 2000.
- Noerdjito, M., and I. Maryanto. 2001. Jenis-jenis Hayati yang Dilindungi Perundang-Undangan Indonesia. Cibinong, Bogor: Bidang Zoologi, Puslit Biologi-LIPI, the Nature Conservancy, and USAID.
- Nicholl, R. 1989. 'An age vicissitude Brunei 1225-1425', Brunei Museum Journal.
- Oakerson, C. 1986. A Model for the Analysis of Common Property Problems. in: N.R.C. Proceedings of the Conference on Common Property Resource Management. Washington: National Academy Press.
- Obidzinski, K. 2003. Logging in East Kalimantan, Indonesia. The Historical Expedience of Illegality. PhD thesis Amsterdam University.
- Ogawa, H., K. Yoda, T. Kira and K. Ogino. 1965. Comparative Ecology Study on Three Main Types of Forest Vegetation in Structure and Floristic Composition Nature and Live in Southeast Asia iv: pp. 12-48. In Yusuf, R. and Purwaningsih. 1988. Struktur dan Komposisi Hutan di Seram Barat, Maluku. *Rimba Indonesia* xxii (3-4): pp. 8-15.
- Oldfield, S. 1988. Buffer zone management in tropical moist forests. IUCN, Cambridge.
- Oldfield, S., C. Lusty, and A. MacKinven. (eds). 1998. *The World List of Threatened Tress*, World Conservation Press, WCMC, Cambridge.
- Omta, O., J. Trienekens, and G. Beers. 2001. The knowledge domain of chain and network science, *Journal on Chain and Network Science*, Vol.1, Issue 2, Wageningen University and Research Centre, The Netherlands
- Ostrom, E., J. Burger, C.B. Field, R. Norgaard and D. Policansky. 1999. Revisiting the Commons: Local Lessons, Global Challenges. *Science*, Vol. 284.

- Padoch, C. and Peluso, N. 1996. *Borneo in Transition: People, Forests, Conservation, and Development*. Oxford University Press. Kuala Lumpur.
- Partomihardjo, T. 1987. The *ulin* wood which is threatened to extinction. *Duta Rimba* 87-88(13): pp. 10-15.
- Peluso, Nancy Lee. 1983. "Networking in the Commons: A Tragedy for Rattan?" *Indonesia* No. 35 (April): pp. 95-108. Washington, D.C.:National Academy of Sciences.
- Peluso, Nancy Lee. 1992. The ironwood Problem: (Mis) Management and Development of an Extractive Rainforest Product. *Conservation Biology* Vol. 6, no. 2: pp. 210-219.
- Perlack, R.D, L. L. Wright, and M. Huston. 1995. Biomass Fuel from Woody Crops for Electric Power Generation. *Tropical Forest Update*, 1999: Number 1999/4. A Newsletter of the ITTO. *WRM Bulletin* (13), July 1998.
- Persoon G. A., D. M. E. van Est, and P. E. Sajise. (eds). 2004. Co-management of natural resources in Asia: a comparative perspective. *Man and nature in Asia series 7*. Nordic Institute of Asian Studies (NIAS) Press, Copenhagen, Denmark, pp 1-24.
- Platten, S. and T. Henfrey. 2009. The Cultural Keystone Concept: Insights from Ecology Anthropology. *Human Ecology* Volume 37, number 4, pp. 491-500. Springer Science.
- Poffenberger, M. (eds). 1990. *Keepers of the Forest: land management alternatives in Southeast Asia*. Pp. 1-289. West Hartford, Kumarian Press, USA.
- Pomeroy, R.S., (eds). 1994. *Community Management and Common Property of Coastal Fisheries of Asia and the Pacific: Concepts, Methods and Experiences*. Conference Proceedings 45. ICLARM, Manila.
- Pomeroy, R.S. and F. Berkes. 1997. Two to Tango: the Role of Government in Fisheries Co-management. *Marine Policy*, Vol. 21 (5): pp. 465-480.
- Pomeroy, R.S. 2001. Devolution and Fisheries Co-management. In: R. Meinzen- Dick, A. Knox and M. Di Gregorio. (eds). *Collective Action, Property Rights and Devolution of of Natural Resource Management: Exchange of Knowledge and Implications for Policy*. Proceedings of the International Workshop held from 21-25 June 1999 in Puerto Azul, Phillippines

- Potter, L. 1988. Indigenes and colonisers; Dutch forest policy in South and East Borneo (Kalimantan), 1900 to 1950, in: J. Dargavel, K. Dixon and N. Semple (eds), *Changing tropical forests; Historical perspectives on today's challenges in Asia, Australasia and Oceania*, pp. 127-54. Canberra: Centre for Resource and Environmental Studies, Australian National University.
- Potter, L. and J. Lee. 1998. *Tree Planting in Indonesia: Trends, Impacts and Directions*, CIFOR occasional paper no.18, Bogor: CIFOR.
- Potter, L. 1996. Forest degradation, deforestation, and reforestation in Kalimantan: towards a sustainable land use? In C. Padoch and N.L. Peluso (eds), *Borneo in transition: People, Forest, Conservation, and Development*. Oxford University Press, Kuala Lumpur. Pp. 13-40.
- Potter, L. 2005. *Commodity and Environment in Colonial Borneo. Economic Value, Forest Conservations and Concern for Conservation, 1870-1940*. In *Histories of The Borneo Environment*. Leiden: KITLV Press.
- Power M. E., D. Tilman, J. A. Estes, B. A. Menge, W. J. Bond, L. S. Mills, G. Daily, J. C. Castilla, J. Lubchenco, and R. T. Paine. 1996. Challenges in the quest for keystones. *Bioscience* 46(8): pp. 609-620.
- Purnomo, H.; Y. Yasmi, R. Prabhu. and S. Hakim. 2002. Developing a collaborative model for the management of the areas surrounding Lumut mountain: a qualitative analysis approach. CIFOR. Bogor.
- Purnomo, H., G.A. Mendoza. and R. Prabhu. 2004. Model For Collaborative Planning of Community. Managed Resources Based on Qualitative Soft Systems Approach. *Journal of Tropical Forest Science* 16 (1): pp. 106-131.
- Raakjaer, N.J., P. Degenbol, K. K. Viswanathan, M. Ahmed, M. Hara, and N. Mustapha Raja Abdullah. 2004. Fisheries Co-management – An Institutional Innovation? Lessons from South East Asia and Southern Africa. *Marine Policy*, Vol. 28(2): pp. 151-160.
- Rahim, L.Z. 2001. Whose Imagined Community? The Nation–State, Ethnicity and Indigenous Minorities in Southeast Asia. Paper for the United Nations research Institute for Social Development (UNRISD), Switzerland. Conference on Racism and Public Policy, September 2001, Durban, South Africa
- Redford, K. and S. Sanderson. 2001. Extracting humans from nature. *Conservation Biology*, 14 (5): pp. 1362-1364.

- Rice, R.E, Gullison and J.W. Reid. 1997. Can sustainable management save tropical forest? *Scientific American* 276, pp. 44-49
- Rousseau, J. 1990. Central Borneo; Ethnic identity and social life in a stratified society. Oxford: Clarendon Press.
- Ryan, P. 2002. Threatened flora and fauna species and non-threatened vertebrate fauna in the Goulburn Broken Catchment: status, trends and management. Background paper to the Goulburn Broken Catchment Regional Catchment Strategy Review Process. Ecolones Environmental Services. Canberra. June 2002.pp.70.
- Salam, A. 2007. Boats and Ironwood in the Spermonde Archipelago. Faculty of Agriculture, Ehim University.
- Salasfky, N. 1993. The Forest Garden Project: an Ecological Study of Locally Developed Land-Use System in West Kalimantan. Indonesia. Dissertation. Duke University. Durham, North Carolina.
- Sardjono, M.A. 1990. Budidaya Lembo di Kalimantan Timur : Suatu Model untuk pengembangan pemanfaatan lahan Agroforestri di daerah tropis lembab. Terjemahan Disertasi Doktor. Publ. Mulawarman Forestry Reports no.7 Edisi Bahasa Indonesia.
- Schartzman, S., Meira A. and Nepstad, D. 2001. Rethinking tropical forest conservation: Perils in parks. *Conservation Biology*, 14 (5): pp. 1351-57.
- Schultze, A and Schone, D. 1996. Dipterocarp Forest Ecosystems: Towards Sustainable Management. World Scientific Publishing Co. Pte. Ltd. Singapore.
- Schweithelm, J. 1999. The Fire This Time: An Overview of Indonesia's Forest Fires in 1997/98, WWF Indonesia, May 1999, pp: 6
- Sellato, B. 2001. Forest, resources and people in Bulungan. Elements for a history of settlements, trade and social dynamics in Borneo, 1880-2000. Published by Center for International Forest Research. Bogor.
- Sheil, D. and M. van Heist. 2000. Ecology for tropical forest management. *International Forestry Review* 2: pp. 261-270.
- Sidiyasa, K. 1995. Struktur dan komposisi hutan Ulin (*Eusideroxylon zwageri* Teijsm. & Binn.) di Kalimantan Barat. *Wanotrop*, Vol. 8 (2): pp. 1-11. Balai Penelitian Kehutanan Samarinda.
- Sidiyasa, K., S.R. Gadas and N. Juliaty. 2001. Plantations in experimental forests for *ex situ* conservation, pp. 535-542 in *Proceedings of the International Conference*

- on *Ex Situ* and *In Situ* Conservation of Commercial Tropical Trees. B.A. Thielges, S. D. Sastrapradja and A. Rimbawanto (eds). Gadjah Mada University, Yogyakarta, Indonesia and ITTO, Yokohama, Japan.
- Sillitoe, P. 1998. The development of indigenous knowledge: A new applied anthropology. *Current Anthropology* 39(4): pp. 223- 252.
- Simon, J.L., S.L. Pimm, J.L. Gittleman, G.J. Russell, and T.M. Brooks. 1996. Extinction rates. *Science* pp. 273-293.
- Simons, A.J, I.K. Dawson, B. Duguma, and Z. Tchoundjeu. 1998. Passing problems: prostate and Prunus. *Herbalgram*, 43, pp. 49-53.
- Sist, P., D. P. Dykstra, and R. Fimbel. 1998a. Reduced impact logging guidelines for lowland and hill dipterocarp forest in Indonesia. CIFOR, Bogor, Indonesia.
- Sist, P., T. Nolan, J. G. Bertault, and D. Dykstra. 1998b. Harvesting intensity versus sustainability in Indonesia. *Forest Ecology and Management* 108: pp. 251-260.
- Sist, P., and A. Saridan. 1998. Description of the primary lowland forest of Berau. In J.G. Bertault, and Kadir K., (eds). *Silvicultural research in a lowland mixed dipterocarp forest of East Kalimantan, the contribution of STREK project*. Online library of Center for International Forestry Research (CIFOR) www.cifor.cgiar.org/nc/online-library/
- Sist, P., R. Fimbel, D. Sheil, R. Nasi, and M.H. Chevallier. 2003. Towards sustainable management of mixed dipterocarp forests of South East Asia: Moving beyond minimum diameter cutting limits. *Environmental Conservation* 30: pp. 364-374.
- Slik, F., P. Hovenkamp, M. Iqbal, and N. Raes. 2007. Structure, Plant Species Diversity and Plant Species Composition of the Gunung Lumut Protection Forest. In H.H. de Jongh, G.A. Persoon, and W. Kustiawan (eds), *Options for biodiversity conservation and sustainable use in lowland forests of Southeast Borneo* (pp. 71-85). Leiden: Tropenbos/CML/UNMUL.
- Slocum, R, L. Wichhart, D. Rocheleau., and B. Thomas-Slayter. 1995. *Power, Process and Participation: Tools for Change*. Intermediate Technology Publications, London.
- Smits, W.T.M. 1983. Dipterocarps and mycorrhizae, an ecological adaptation and a factor in forest regeneration. *Flora Malesiana Bulletin* 36: pp. 3925-3937.

- Smith, E. A., and M. Wishnie. 2000. Conservation and subsistence in small-scale societies. *Annual Review of Anthropology*, 29: pp. 493-524.
- Soemarwoto, O., L. Christanty, Henky, Y.H. Herri, J. Iskandar, Hadyana., and Priyono. 1984. The talun-kebun: a man-made forest fitted to family needs. *Food and Nutrition Bulletin* 7(3): pp. 48-51.
- Soerianegara, I. 1973. Ecological researchers relevant to current silvicultural problems. *Rimba Indonesia* 17(3/4): pp. 133-142.
- Soerianegara, I. 1974. Forest tree improvement in Indonesia. In: R. Toda (ed), *Forest tree breeding in the world*. Government Forest Experiment Station, Tokyo, Japan, pp. 146-153.
- Soerianegara, I., and K. Kartawinata. 1985. Silvicultural management of the logged natural dipterocarp forest in Southeast Asia. In: J. Davidson, Tho Yow Pong & M. Bijleveld (eds), *Future of Tropical Rain Forests in Southeast Asia*. IUCN, Gland, Commission of Ecology Papers 10: pp. 81-84.
- Soerianegara, I., and R.H.M.J. Lemmens (eds.). 1993. *Plant Resources of South-East Asia. Timber trees: Major commercial timbers*. PROSEA Vol. 5 (1): pp. 1-610. Pudoc Scientific Publishers, Wageningen.
- Soerianegara, I., and R.H.M.J. Lemmens (eds.). 1994. *PROSEA, Plant Resources of South East Asia 5 (1) Timber Trees: Major commercial timbers*. PROSEA. Bogor.
- Sponsel, L. E., N. Thomas., and R.C. Bailey. 1996. *Tropic deforestation: The human dimension*. New York: Columbia University Press.
- Sørensen, T. 1948. A method of establishing groups of equal amplitude in plant sociology based on similarity of species content and its application to analyses of the vegetation on Danish commons. *Det Kongelige Danske Videnskabers Selskab. Biologiske Skrifter* 5 (4): pp. 1-34.
- Soulé, M. E., J. A. Estes, J. Berger., and C. M. del Rios. 2003. Ecological effectiveness: conservation goals for interactive species. *Conservation Biology* 17(5): pp. 1238-1250.
- Statistic of Provincial Forestry. *Provincial Forestry in Figures 2006*. Regional Forestry Agency of East Kalimantan.
- Statistical Yearbook of Indonesia. 2008. Central Board of Statistic (CBS), Jakarta.

- Statistic of Paser District. 2009. Paser District in Figures 2009. Central Board of Statistics and Regional Development Planning Board of Paser District. Tanah Grogot, East Kalimantan. www.paserkab.go.id.
- Statistic of Nunukan District. 2010. Nunukan District in Figures 2010. Central Board of Statistics and Regional Development Planning Board of Nunukan District. Nunukan, East Kalimantan.
- Statistic of Forest Area Establishment Centre Region IV Samarinda. 2009. Regional Forestry Agency of East Kalimantan.
- Statistic of East Kalimantan Province. 2010. East Kalimantan in Figures 2010. Central Board of Statistics and Regional Development Planning Board of East Kalimantan Province. Samarinda, East Kalimantan. www.kaltim.bps.go.id.
- Stock and Lambert. 2001. Strategic Logistic Management, 4th edition, McGraw-Hill
- Subiakto, A., Hendromono, and Sunaryo. 2001. Ex situ conservation of dipterocarp species in West Java and Banten. pp. 183–192 in *Proceedings of the International Conference on Ex Situ and In Situ Conservation of Commercial Tropical Trees* (B.A. Thielges, S. D. Sastrapradja and A. Rimbawanto, eds). Gadjah Mada University, Yogyakarta, Indonesia and ITTO, Yokohama, Japan.
- Sunderlin, W.D, and I.A.P. Resosudarmo. 1997. Laju dan penyebab deforestasi di Indonesia: penelaahan kerancuan dan penyelesaiannya. CIFOR Occasional Paper. No.9(I). CIFOR, Bogor, Indonesia. Also available in English
- Suselo, T.B. 1987. Autecology of *Eusideroxylon zwageri* T. & B. (Lauraceae) as applied to forest regeneration. In: *Proceedings Symposium Forest Regeneration in South East Asia*. Biotrop Special Publication No. 25 BIOTROP, Bogor.
- Susiarti, S. 2005 Indigenous knowledge on the use of medicinal plants by Dayak Benuaq society, West Kutai, East Kalimantan. *Journal of Tropical Ethnobiology* Vol. II, No. 1: pp. 52-64.
- Suyana, A. 2003. Dampak Penjarangan Terhadap Struktur dan Riap Tegakan di Hutan Produksi Alami PT. Inhutani I Berau, Kalimantan Timur. Tesis S2 Universitas Mulawarman Samarinda.
- Syafii, W., T. Yoshimoto, and M. Samejima. 1985. Neolignans from the Heartwood of Ulin (*Eusideroxylon zwageri*). *Proceeding of the Society*. Volume 31, Number 11. Mukuzai Gakkaishi. www.jwrs.org.

- Tacconi, L., M. Boscolo. and D. Brack. 2003. National and International Policies to Control Illegal Forest Activities, Bogor, Center for International Forestry Research.
- Tantra, I.G.M. 1977. Flora pohon Indonesia. Lembaga Penelitian Hutan. Bogor.
- Tantra, I.G.M. 1983. Erosi plasma nutfah nabati. Jurnal Penelitian dan Pengembangan Pertanian 2(1): pp. 1-5.
- Tagawa, H. and N. Wirawan (eds). 1988. A research on the process of earlier recovery of tropical rain forest after a large scale fire in Kalimantan Timur, Indonesia. University Kagoshima, Research Centre. South Pacific, Occasional Paper. 14, pp. 1-136 .
- Theilade, I. 2003. The role of ex-situ conservation of trees in living stands. Guidelines and technical notes no.64, pp. 1-11. Danida Forest Seed Centre, Humblebaek, Denmark.
- The Nature Conservancy 2006. East Kalimantan in www.nature.org (site last viewed on 21 August 2006).
- Triwibowo, D. and Haryanto. 2001. Disappering Diversity: An Overview on Indonesia's Degrading Forest and Its Biodiversity. Indonesia Case Study. Paper for an International Workshop on "Integration of Biodiversity in National Forestry Planning Programme". CIFOR, Bogor, Indonesia 13-16 August 2001.
- Trust, Magazine. 2011. Agar Si Ulin Tak Punah by Dikky Setiawan dan Wisnu Arto Subari in Majalahtrust.com, accessed on 11 March 2011.
- UNEP, WCMC and GTC. (United Nations Environment Programme, World Conservation Monitoring Centre, and Global Trees Campaign). 2003. *Eusideroxylon zwageri*. Tree Conservation Information Service. www.unep-wcmc.org (as seen on 30 March 2006)
- UNEP, 2006. Tree Species Threatened with Extinction. www.unep-wcmc.org.
- UNEP-WCMC. 2007. Strategies for the sustainable use and management of timber tree species subject to international trade. UNEP World Conservation Monitoring Centre, 2007.
- UNEP, WCMC and GTC. (United Nations Environment Programme, World Conservation Monitoring Centre, and Global Trees Campaign). 2006. Tree Conservation Information Service. www.unep-wcmc.org (as seen on 30 March 2006).

- Vancley, J.K. 2005. Deforestation: Correlations, Possible Causes and Some Implications. Southern Cross University, Australia. *International Forestry Review* 7(4): pp. 278-293.
- Vayda, A.P. 1999. Finding Causes of the 1997-98 Indonesian Forest Fires: Problems and Possibilities, WWF Indonesia Forest Fires Project, 1999, May 10-31.
- Wadley, R.L. (eds). 2005. Histories of the Borneo environment. Economic, political and social dimensions of change and continuity. Leiden, KITLV Press.
- Wahyuni, T. and R. Gunawan. 2000. Sifat dan penggunaan kayu Ulin di Kalimantan. *Duta Rimba* No. 237/XXIV.
- Wardojo, W. and N. Masripatin. 2002. Trends in Indonesian Forest Policy. Indonesian Ministry of Forestry. Policy Trend Report 2002: pp.77-87.
- Waterman, P.G. 1983. Distribution of secondary metabolites in rain forest plants; towards an understanding of cause and effect. In: Sutton, S.L., Whitmore, T.C. and Chadwick, A.C. (eds.). *Tropical rain forest ecology and management*. Special Publication Number 20 of the British Ecological Society. Blackwell Scientific Publications, Oxford, pp. 167-179.
- Waterman, P.G., Ross, J.A.M., Bennett, E.L. and Davies, E.G. 1988. A comparison of the floristic and leaf chemistry of the tree flora in two Malaysian rain forests and the influence of leaf chemistry on populations of colobine monkeys in the Old World. *Biological Journal of the Linnean Society* 34: pp. 4-32.
- Weidelt, H.J. 1993. Village forests in tropical Asia: Their economic and cultural significance. *Forstarchiv* 64(6): pp. 300-307.
- Weinstock, J.A. 1983. Kaharingan and the Luangan Dayaks; Religion and identity in Central-East Borneo. PhD thesis, Cornell University, Ithaca.
- Weinstock, J.A. and S. Sunito. 1989. Review of shifting cultivation in Indonesia. Directorate General of Forest Utilization, Ministry of Forestry. Government of Indonesia and Agriculture Organization of the United Nations, Jakarta.
- Westoby, J.C. 1987. *The purpose of forests: follies of development*. Blackwell. Oxford.
- Whitmore, T.C. 1984. *Tropical rain forest of the Far East*. (2nd ed.). Clarendon Press, Oxford, UK.
- Whitmore, T.C. 1990. *An introduction to tropical rain forests*. Clarendon Press, Oxford, UK.

- Whitten, A.J., S.J. Damanik, J. Anwar, and H. Nazaruddin. 1987. The Ecology of Sumatra. Second edition. Gadjah Mada University Press, Yogyakarta.
- Widyatmoko, A.Y.P.B.C and M. Susanto. 2004. *Eusideroxylon zwageri*. APFORGEN Priority Species Information Sheet, pp.1-2. APFORGEN Secretariat. APAFRI.
- Wiersum, K.F. 1982. Tree gardening and taungya on Java: examples of agroforestry techniques in the humid tropics. *Agroforestry System* 1: pp. 53-70.
- Wiersum, K.F. 1997. Indigenous exploitation and management of tropical forest resources: an evolutionary continuum in forest-people interactions. Department of Forestry, Wageningen Agricultural University, Wageningen, Netherlands.
- Wiersum, K.F. 1999. Social forestry: changing perspectives in forestry science or practice? PhD Thesis Wageningen Agricultural University, the Netherlands. pp. 1-211.
- Wijaya, K., N. Rosdiana, and B. Lusiana. 2005. Livelihood options and farming systems in the forest margins of Nunukan, East Kalimantan. Pp. 9-21 in B.Lusiana, M. van Noordwijk, and S. Rahayu (eds). Carbon stocks in Nunukan, East Kalimantan: a spatial monitoring and modeling approach. World Agroforestry Centre (ICRAF). Bogor.
- Wirawan, N. 1985 Kutai National Park management plan 1985-1990. Bogor: WWF/IUCN.
- World Bank. 1989. Indonesia Forest, Land and Water: Issues in Sustainable Development (Washington, DC: Asia Regional Office, 1998); Report No.7822-IND.
- World Bank. 2001. Indonesia: Environment and Natural Resource Management in a Time of Transition. World Bank technical report.
- WRM. (World Rainforest Movement). 2002. Community-based Forest Management. WRM's bulletin no. 63 October 2002.
- WRI. (WRI in collaboration with UNEP, UNDP and World Bank). 1998. World Resources 1998-99. Environmental Change and Human Health. Oxford Univ. Press (USA).
- WWF. 1985. Kutai National Park. Management Plan 1985-1990. www.tn-kutai.co.id
- WWF and IUCN. (1995). Centres of plant diversity. A guide and strategy for their conservation. Vol 2. IUCN publications unit, Cambridge, UK.

- WWF. 2001. Sumatran Lowland Forest. [online accessed: 22 April 2006] URL: www.worldwildlife.org
- WWF. 2005. Borneo: Treasure Island at Risk. Status of Forest, Wildlife and related Threats on the Island of Borneo. Pp. 1-80. Rainer Litty, WWF Germany, Frankfurt am Main.
- Yusliansyah, R. Effendi, Ngatiman, Sukanda, Ernayati and T. Wahyuni. 2004. The Status of Borneo ironwood (*Eusideroxylon zwageri*). Research and Development. Kalimantan Forest Research and Development Institute. Forest Research and Development Agency.

