

CONTENTS

ACKNOWLEDGEMENTS	xiii
ABBREVIATIONS AND NOTES	xv
PREFACE	xvii
1. PAPUA NEW GUINEA—A BACKGROUND	1
Introduction	1
A brief geography	2
People of Papua New Guinea	6
The colonial administration	8
The World Bank report and economic development	
First pressures for self-government	
Social unrest	
Land	
Overseas investment	
Conclusion	17
2. THE FORESTS OF PAPUA NEW GUINEA	19
Introduction	19
Agents of disturbance	20
The forest resource	22
Traditional use of the forest	23
Commercial use of the forest	26
Silvicultural problems	31
Utilization problems	35
Lower timber yields	
Species diversity	
Wood quality	
Tree form	
Infrastructure	
Markets	
Solutions	37

3. THE GOGOL VALLEY-A BACKGROUND	41
Introduction	41
Climate	41
Geomorphology and geology	45
Forests	47
Disturbances	49
Timber resources	51
Soils	52
Wildlife	55
The human inhabitants	56
Populations and clans	
Social structures	
Cargo Cults	
Health	
Traditional resource use	62
Events in the Gogol Valley since the advent of the colonial era	63
The early years	
Economic changes	
Political changes	
Absenteeism	
In Summary	67
4. THE GOGOL TIMBER PROJECT	69
Introduction	69
The negotiations	69
The agreement	72
Woodchip prices	
Problems with the agreement	
Initial activities of Jant and Wewak Timbers following the completion of the negotiations	76
Early administration activities	80
Madang timber working group	
Land-use planning	
Logging operations	86
Milling operations	89
Reforestation and other land-uses	89
Reserves	
Cattle and large-scale agriculture	
Enrichment planting on selectively logged land	
Plantations	
Summary and Conclusion	95
5. ENVIRONMENTAL CONSEQUENCES	99
Introduction	99
Environmental controls on field operations	102

Pattern of disturbance	104
Initial effects on vegetation	108
Initial effects on wildlife	117
Small terrestrial mammals	
Bats	
Birds	
Initial effects on water	127
Water yield	
Water quality	
Nutrient losses	133
Initial effects on direct harvesting losses	
Nutrients exported from ecosystems in streamwater	
Nutrient losses in relation to ecosystem nutrient reserves	
Initial effects on soil physical properties	142
A summary of the initial effects of logging	142
Long-term consequences of logging	143
Logging and the regeneration process	
Dispersal of seed	
Effectiveness of wind and animals as dispersal agents in logged areas	
The regeneration process – conclusions	
The nutrient cycling process	
Time for recovery	
A summing up	158
6. SOCIAL CONSEQUENCES	163
Introduction	163
Royalties	164
Employment	167
New agricultural developments	169
Tree farms	
Business and other developments	173
Contract logging	
Salvage logging	
Other businesses	
Cargo Cults	
Information	177
Village life	179
Loss of natural and cultural resources	181
The Clay Pot Dispute	
Politics	184
Conclusion	185
7. AN ASSESSMENT	189
Introduction	189

The project – a government view	189
The project – the landowner's view	196
The project – Jant's view	197
Some alternatives	201
Alternative 1: To exclude logging and provide no major Government inputs	
Alternative 2: To exclude logging but provide modest Government inputs	
Alternative 3: To allow selective logging by commercial enterprises	
Alternative 4: To allow selective logging by village based sawmills	
Alternative 5: Delay any decision	
Consequences for forest policy in Papua New Guinea	205
Conclusions	208
8. A POSTSCRIPT	211
Introduction	211
Socio-economic matters	212
The forest resource	215
Environmental conditions	218
Some concluding comments	219
APPENDIX 1	
Summary of events	227
APPENDIX 2	
Establishment of woodchip price	231
APPENDIX 3	
Seed dispersal modes	235
APPENDIX 4	
Guidelines for investment in forestry after 1975	239
REFERENCES	243
INDEX	255