AFRICAN RATTAN RESEARCH PROGRAMME'S DEVELOPMENT OF AFRICAN RATTANS PROJECT

A SOCIALLY DIFFERENTIATED VIEW OF THE SIGNIFICANCE OF RATTAN FOR RURAL LIVELIHOODS IN CAMEROON, GHANA AND NIGERIA

FINAL SOCIO-ECONOMIC REPORT

R. Malleson, S. Asaha, M. Egot, K. Obeng-Okrah and I. Ukpe

February 2005

Table of Contents

A	CRONYMS	12
L	NGUISTIC CONVENTIONS	12
E	XECUTIVE SUMMARY	13
	INTRODUCTION	13
	SOCIO-ECONOMIC CHARACTERISTICS OF STUDY SETTLEMENTS AND HOUSEHOLDS	13
1	INTRODUCTION	21
	BACKGROUND	22
2	METHODOLOGY	24
	2.1 SAMPLING	24
	2.1 SAMI LING	24 27
	2.2 Sorver instrometris	28
	2.2.1 Functipation y mapping	
	2.2.2 Household Census	29
	2.2.5 Noworow Consustantian 2.2.4 Multi-round Survey	31
	2.2.7 Short Rattan Consumption and Income Survey	32
	2.2.6 Long Rattan Survey	32
	2.3 Data Analysis	32
	2.4 STUDY SITES	34
	2.4.1 Southwest Province. Cameroon	
	2.4.2 Cross River State. Nigeria	
	2.4.3 Western Region. Ghana	
	2.5 RESEARCH ACTIVITIES	
	2.6 PROBLEMS AND LIMITATIONS	
	2.6.1 Wealth-ranking	
	2.6.2 Multi-round Survey and the Estimation of Income Data	38
3	RURAL SETTLEMENTS AND HOUSEHOLDS STUDIED IN SOUTHWEST PR	OVINCE,
С	AMEROON	40
	3.1 THE REGION	40
	3.2 GENERAL DESCRIPTION OF STUDY SETTLEMENTS	44
	3.2.1 On-road Study Settlements in the Southern Bakundu Forest Reserve Area	44
	3.2.2 Border Study Settlements in the Mokoko Area	46
	3.2.3 Remote Study Settlements in the Takamanda Area	47
	3.3 SETTLEMENT TYPES	48
	3.3.1 Access to Forest Resources and Markets	
	3.3.2 Forest conditions	50
	3.3.3 Demographic Changes	51
	3.3.4 Settlement Infrastructure	59
	3.3.5 Household Wealth and Assets	60
	3.3.6 Defining Wealth and Poverty	
	3.4 HOUSEHOLD AND INDIVIDUAL DIFFERENTIATION	67
	3.4.1 Male and Female Headed Households	67
	3.4.2 Households Headed by "Indigenes" and "Strangers"	75
	3.5 HOUSEHOLD ASSETS AND WEALTH	80
	3.5.1 Access to Land	80

3.5.2	2 Access to Labour	86
3.6	INCOME SOURCES IN CAMEROON'S STUDY SETTLEMENTS	88
3.6.	Introduction	88
3.6.2	2 Importance of Different Income Sources by Settlement Type	89
3.6.	3 Livelihood Differences between Households and Individuals	94
3.6.4	Involvement in Rattan-related Activities	106
3.6.5	5 Livelihood Patterns	106
4 PAT SETTLE	TERNS OF RATTAN CONSUMPTION AND INCOME IN CAMEROON STUDY	109
41	HOUSEHOLD CONSUMPTION PATTERNS OF FOURPMENT AND UTENSILS MADE WITH RATT	AN 109
41	Extent and Frequency of Use	109
4.1.2	2 Rattan Usage - Differentiation by Household Type	111
4.1.	8 Mode of Acauisition	116
4.1.4	Seasonal Variations in Subsistence Use	118
4.1.5	The Use of Rattan in Other Sectors	
4.1.0	6 Characteristics of Rural Crafts People who Make Rattan Items for Subsistence Use	119
4.2	CHARACTERISTICS OF RURAL RATTAN SPECIALISTS AND THEIR ENTERPRISES	
4.2.	Types of Activities	119
4.2.2	2 Socio-economic Characteristics of Rural Rattan Specialists	121
4.2.	8 Seasonality of Entrepreneurial Activities	124
4.2.4	Labour	
4.2.5	Capital and Skills.	127
4.2.0	6 Raw Material Sunnlies	
4.2.2	7 Markets and Marketing	
4.2.8	8 Enterprise Problems	
43	RATTAN AS A SOURCE OF INCOME	133
4 3	Importance of Income from Rattan-related Activities	133
4.4	CHANGES IN RATTAN-RELATED CONSUMPTION AND INCOME PATTERNS	136
4.4.	Changes in the Patterns of Consumption	
4.4.2	Dvnamics of Rattan-related Enterprises.	139
- DI		
5 RUI 145	KAL SETTLEMENTS AND HOUSEHOLDS STUDIED IN WESTERN REGION, G	HANA
5.1	BACKGROUND	145
5.2	GENERAL DESCRIPTION OF STUDY SETTLEMENTS	145
5.2.	On-road Study Settlements in Wassa East District	147
5.2.2	8 Border Study Settlements in the Tano River area. Jomoro District	
5.2.5	<i>Remote Study Settlements in Wassa West District</i>	
5.2.4	t Ethnicity	
5.2	5 Social Organisation	155
5.2.0	5 Social Capital	157
5.2	7 Financial Capital	158
5.2.8	I and Tenure	159
5.2) Rural Livelihoods	161
5.2	10 Changes in the Availability of Natural Resources	162
5.2	Demographic Changes	163
5.2	 Household Wealth and Assets 	171
53	HOUSEHOLD AND INDIVIDUAL DIFFERENTIATION	175
53	Male and Female-Headed Households	175
5 3 1	Households Headed by Non-Migrants and Migrants	181
5 4	HOUSEHOLD ASSETS AND WEALTH	183
5.4	Household Differences in Land Ownership	183
5.4.1	Access to labour	181
55	INCOME SOURCES IN GHANA'S STUDY SETTI EMENTS	185
5.5	Rackoround	185
, , ,		

	5.5.2 Importance of Different Income Sources by Settlement Type	
	5.5.3 Seasonal Variations in Income Sources	
	5.5.4 Livelihood Differences between Households and Individuals	
6	PATTERNS OF RATTAN HOUSEHOLD CONSUMPTION AND INCOME I	N GHANAIAN
STI	IDV SETTLEMENTS	199
51		
6	1.1 HOUSEHOLD EQUIPMENT AND UTENSILS MADE WITH RATTAN	
	6.1.1 Extent and Frequency of Use	
	6.1.2 Rattan Usage - Differentiation by Household Type	
	6.1.3 Mode of Acquisition	
	6.1.4 Seasonal Variations in Subsistence Use	
	6.1.5 Characteristics of Rural Crafts People Involved in Rattan-Related Activitie	es for Subsistence
é	207 CHARACTERISTICS OF RURAL RATTAN SPECIALISTS AND THEIR ENTERPRISES	206
,	6.2.1 Types of Activities	206
	6.2.2 Socio-Economic Characteristics of Specialists	207
	6.2.3 Seasonality	209
	624 Labour	212
	6.2.5 Capital and Skills	212
	626 Raw Material Sunnlies	213
	6.2.7 Markets and Marketing	216
	6.2.8 Enternrise Problems	217
í	3 RATTAN AS A SOURCE OF INCOME	218
,	631 Importance of Income from Rattan-related Activities	218
í	A CHANGES IN RATTAN-RELATED CONSUMPTION AND INCOME PATTERNS	220
,	6.4.1 Changes in the Patterns of Consumption	220
	6.4.1 Changes in the 1 diterns of Consumption	223
	0.4.2 Dynamics of Rahan related Emerprises	
7	DUDAT SETTI EMENTS AND HOUSEHOLDS STUDIED IN COOSS DIVEL	
'	KUKAL SETTLEMENTS AND HOUSEHOLDS STUDIED IN CROSS RIVE	K STATE,
, NIC	GERIA	R STATE, 226
, NIC	SERIA	226
NIC	SERIA 1 BACKGROUND 2 THE REGION	X STATE, 226
NIC	Image: Analytic content is and households studied in cross river Image: Analytic content is and households studied in cross river Image: Analytic content is and households studied in cross river Image: Analytic content is and households studied in cross river Image: Analytic content is and households studied in cross river Image: Analytic content is and households studied in cross river Image: Analytic content is and household in cross river Image: Analytic content is an analytic content in cross river Image: Analytic content in content in cross river	226 227 227
NIC	AND HOUSEHOLDS STUDIED IN CROSS RIVER SERIA 1 BACKGROUND	226 227 227 227 227
NIC	Image: Analytic and the second structure of the	226 227 227 227 227 234 234
NIC	Image: Analytic context	226 227 227 227 234 234 234
NIC	ALL SETTLEMENTS AND HOUSEHOLDS STUDIED IN CROSS RIVER SERIA .1 BACKGROUND	226 227 227 234 234 234 236 237
NIC	XINAL SETTLEMENTS AND HOUSEHOLDS STUDIED IN CROSS RIVER SERIA 2 THE REGION 7.2.1 Socio-economic Context 3 GENERAL DESCRIPTION OF STUDY SETTLEMENTS 7.3.1 On-road Study Settlement: Abontakon 7.3.2 Border Study Settlements: Danare I and Danare II 7.3.3 Remote Study Settlements: Old Ekuri and New Ekuri 7.3.4 Demographic Changes	226 227 227 234 234 234 236 237 238
NIC	KURAL SETTLEMENTS AND HOUSEHOLDS STUDIED IN CROSS RIVER SERIA .1 BACKGROUND	226 227 227 234 234 234 234 236 237 238 244
NIC	KURAL SETTLEMENTS AND HOUSEHOLDS STUDIED IN CROSS RIVER SERIA .1 BACKGROUND	226 227 227 234 234 234 234 236 237 238 244 247
NIC	SERIA 1 BACKGROUND 2 THE REGION 7.2.1 Socio-economic Context .3 GENERAL DESCRIPTION OF STUDY SETTLEMENTS 7.3.1 On-road Study Settlement: Abontakon 7.3.2 Border Study Settlements: Danare I and Danare II 7.3.3 Remote Study Settlements: Old Ekuri and New Ekuri 7.3.4 Demographic Changes 7.3.5 Household Wealth and Assets. 4 HOUSEHOLD AND INDIVIDUAL DIFFERENTIATION	226 227 227 227 234 234 234 234 236 237 238 244 247 247
NIC	SERIA .1 BACKGROUND .2 THE REGION .7.2.1 Socio-economic Context .3 GENERAL DESCRIPTION OF STUDY SETTLEMENTS .3.1 On-road Study Settlement: Abontakon .7.3.2 Border Study Settlements: Danare I and Danare II .7.3.3 Remote Study Settlements: Old Ekuri and New Ekuri .7.3.4 Demographic Changes .7.3.5 Household Wealth and Assets .4 HOUSEHOLD AND INDIVIDUAL DIFFERENTIATION .7.4.1 Defining Wealth and Poverty .7.4.2 Mala and Exmale Haaded Households	226 227 227 227 234 234 234 234 236 237 238 244 247 247 247
NIC	SERIA 1 BACKGROUND 2 THE REGION 7.2.1 Socio-economic Context .3 GENERAL DESCRIPTION OF STUDY SETTLEMENTS 7.3.1 On-road Study Settlement: Abontakon 7.3.2 Border Study Settlements: Danare I and Danare II 7.3.3 Remote Study Settlements: Old Ekuri and New Ekuri 7.3.4 Demographic Changes 7.3.5 Household Wealth and Assets 7.4 HOUSEHOLD AND INDIVIDUAL DIFFERENTIATION 7.4.1 Defining Wealth and Poverty 7.4.2 Male and Female Headed Households	R STATE, 226 227 227 234 234 234 236 237 238 244 247 247 247 247 247 247
NIC	SERIA 1 BACKGROUND 2 THE REGION	R STATE, 226 227 227 234 234 234 236 237 238 244 247 247 247 247 247 256
NIC	XURAL SETTLEMENTS AND HOUSEHOLDS STUDIED IN CROSS RIVER SERIA .1 BACKGROUND	R STATE, 226 227 227 234 234 234 236 237 238 244 247 247 247 247 247 247 256 258
NIO	XURAL SETTLEMENTS AND HOUSEHOLDS STUDIED IN CROSS RIVER GERIA 2 THE REGION 7.2.1 Socio-economic Context 3 GENERAL DESCRIPTION OF STUDY SETTLEMENTS 7.3.1 On-road Study Settlement: Abontakon 7.3.2 Border Study Settlements: Danare I and Danare II 7.3.3 Remote Study Settlements: Old Ekuri and New Ekuri 7.3.4 Demographic Changes 7.3.5 Household Wealth and Assets 7.4 HOUSEHOLD AND INDIVIDUAL DIFFERENTIATION 7.4.1 Defining Wealth and Poverty 7.4.2 Male and Female Headed Households 7.4.3 Household Steaded by Indigenes and Strangers 5 HOUSEHOLD ASSETS AND WEALTH 7.5.1 Household Differences in Land Ownership	R STATE, 226 227 227 234 234 234 236 237 238 244 247 247 247 247 247 247 256 258 258 258
NIC	XURAL SETTLEMENTS AND HOUSEHOLDS STUDIED IN CROSS RIVER SERIA 2 THE REGION 7.2.1 Socio-economic Context .3 GENERAL DESCRIPTION OF STUDY SETTLEMENTS 7.3.1 On-road Study Settlement: Abontakon 7.3.2 Border Study Settlements: Danare I and Danare II 7.3.3 Remote Study Settlements: Old Ekuri and New Ekuri 7.3.4 Demographic Changes 7.3.5 Household Wealth and Assets .4 HOUSEHOLD AND INDIVIDUAL DIFFERENTIATION 7.4.1 Defining Wealth and Poverty 7.4.2 Male and Female Headed Households 7.4.3 Households Headed by Indigenes and Strangers .5 HOUSEHOLD ASSETS AND WEALTH 7.5.1 Household Differences in Land Ownership 7.5.2 Access to labour.	R STATE, 226 227 227 234 234 234 236 237 238 244 247 247 247 247 247 247 256 258 258 258 262
NIC	SERIA .1 BACKGROUND. .2 THE REGION	R STATE, 226 227 227 234 234 234 234 236 237 238 244 247 247 247 247 247 247 247
NIC	SERIA 1 BACKGROUND 2 THE REGION 7.2.1 Socio-economic Context .3 GENERAL DESCRIPTION OF STUDY SETTLEMENTS 7.3.1 On-road Study Settlement: Abontakon 7.3.2 Border Study Settlements: Danare I and Danare II 7.3.3 Remote Study Settlements: Old Ekuri and New Ekuri 7.3.4 Demographic Changes 7.3.5 Household Wealth and Assets 7.4.1 Defining Wealth and Poverty 7.4.2 Male and Female Headed Households 7.4.3 Household Setts AND WEALTH 7.5.1 Household Differences in Land Ownership 7.5.2 Access to labour .6 INCOME SOURCES IN NIGERIA'S STUDY SETTLEMENTS 7.6.1 Importance of Different Income Sources by Settlement Type	R STATE, 226 227 227 234 234 234 236 237 238 244 247 247 247 247 247 247 247
NIC	SERIA 1 BACKGROUND 2 THE REGION 7.2.1 Socio-economic Context .3 GENERAL DESCRIPTION OF STUDY SETTLEMENTS 7.3.1 On-road Study Settlement: Abontakon 7.3.2 Border Study Settlements: Danare I and Danare II 7.3.3 Remote Study Settlements: Old Ekuri and New Ekuri 7.3.4 Demographic Changes 7.3.5 Household Wealth and Assets. .4 HOUSEHOLD AND INDIVIDUAL DIFFERENTIATION 7.4.1 Defining Wealth and Poverty. 7.4.2 Male and Female Headed Households 7.4.3 Households Headed by Indigenes and Strangers .5 HOUSEHOLD ASSETS AND WEALTH 7.5.1 Household Differences in Land Ownership 7.5.2 Access to labour. .6 INCOME SOURCES IN NIGERIA'S STUDY SETTLEMENTS. 7.6.1 Importance of Different Income Sources by Settlement Type 7.6.2 Seasonal Variations in Income Sources.	R STATE, 226 227 227 234 234 234 236 237 238 244 247 247 247 247 247 256 258 258 258 262 262 263 266 263
NIC	SERIA 1 BACKGROUND 2 THE REGION 7.2.1 Socio-economic Context .3 GENERAL DESCRIPTION OF STUDY SETTLEMENTS 7.3.1 On-road Study Settlement: Abontakon 7.3.2 Border Study Settlements: Danare I and Danare II 7.3.3 Remote Study Settlements: Old Ekuri and New Ekuri 7.3.4 Demographic Changes 7.3.5 Household Wealth and Assets .4 HOUSEHOLD AND INDIVIDUAL DIFFERENTIATION 7.4.1 Defining Wealth and Poverty 7.4.2 Male and Female Headed Households 7.4.3 Households Headed by Indigenes and Strangers .5 HOUSEHOLD ASSETS AND WEALTH 7.5.1 Household Differences in Land Ownership 7.5.2 Access to labour .6 INCOME SOURCES IN NIGERIA'S STUDY SETTLEMENTS 7.6.1 Importance of Different Income Sources by Settlement Type 7.6.2 Seasonal Variations in Income Sources 7.6.3 Livelihood Differences between Households and Individuals	R STATE, 226 227 227 234 234 234 234 236 237 238 244 247 247 247 247 247 256 258 258 262 262 262 263 266 269 269
NIC	KUKAL SETTLEMENTS AND HOUSEHOLDS STUDIED IN CROSS KIVER GERIA 2 THE REGION 7.2.1 Socio-economic Context 3 GENERAL DESCRIPTION OF STUDY SETTLEMENTS 7.3.1 On-road Study Settlement: Abontakon 7.3.2 Border Study Settlements: Danare I and Danare II 7.3.3 Remote Study Settlements: Old Ekuri and New Ekuri 7.3.4 Demographic Changes 7.3.5 Household Wealth and Assets 7.4 HOUSEHOLD AND INDIVIDUAL DIFFERENTIATION 7.4.1 Defining Wealth and Poverty 7.4.2 Male and Female Headed Households 7.4.3 Households Headed by Indigenes and Strangers .5 HOUSEHOLD ASSETS AND WEALTH 7.5.2 Access to labour .6 INCOME SOURCES IN NIGERIA'S STUDY SETTLEMENTS 7.6.1 Importance of Different Income Sources by Settlement Type 7.6.2 Seasonal Variations in Income Sources 7.6.3 Livelihood Differences between Households and Individuals 7.6.4 Involvement in Rattan-related Activities	R STATE, 226 227 227 234 234 234 234 236 237 238 244 247 247 247 247 256 258 258 258 262 262 262 263 262 263 266 269 280
NIC	KOKAL SETTLEMENTS AND HOOSEHOLDS STUDIED IN CROSS KIVER GERIA .1 BACKGROUND	R STATE, 226 227 227 234 234 234 234 234 234 247 247 247 247 247 247 256 258 258 258 262 262 262 262 263 266 269 280
NIC	KORAL SETTLEMENTS AND HOUSEHOLDS STUDIED INCROSS KIVER GERIA 1 BACKGROUND	R STATE, 226 227 227 234 234 234 236 237 238 244 247 247 247 247 247 247 247
NIC 8 STI	Gental 1 BACKGROUND 2 THE REGION 7.2.1 Socio-economic Context 3 GENERAL DESCRIPTION OF STUDY SETTLEMENTS 7.3.1 On-road Study Settlement: Abontakon 7.3.2 Border Study Settlements: Danare I and Danare II 7.3.3 Remote Study Settlements: Old Ekuri and New Ekuri 7.3.4 Demographic Changes 7.3.5 Household Wealth and Assets 7.3.6 Household Wealth and Poverty 7.4.1 Defining Wealth and Poverty 7.4.2 Male and Female Headed Households 7.4.3 Household Sheaded by Indigenes and Strangers 5 HOUSEHOLD ASSETS AND WEALTH 7.5.1 Household Differences in Land Ownership 7.5.2 Access to labour .6 INCOME SOURCES IN NIGERIA'S STUDY SETTLEMENTS 7.6.1 Importance of Different Income Sources by Settlement Type 7.6.2 Seasonal Variations in Income Sources 7.6.3 Livelihood Differences between Households and Individuals 7.6.4 Involvement in Rattan-related Activities 7.6.5 Livelihood Patterns	X STATE, 226 227 227 234 234 234 234 236 237 238 244 247 247 247 247 247 247 247
NIC 8 STI	ROUGLES STUDIED IN CROSS RIVER GERIA 1 BACKGROUND. 2 THE REGION 7.2.1 Socio-economic Context 3 GENERAL DESCRIPTION OF STUDY SETTLEMENTS 7.3.1 On-road Study Settlements: Danare I and Danare II 7.3.2 Border Study Settlements: Danare I and Danare II 7.3.3 Remote Study Settlements: Old Ekuri and New Ekuri 7.3.4 Demographic Changes 7.3.5 Household Wealth and Assets 7.3.5 Household Wealth and Assets 7.4.1 Defining Wealth and Poverty. 7.4.2 Male and Female Headed Households 7.4.3 Households Headed by Indigenes and Strangers 5 HOUSEHOLD ASSETS AND WEALTH 7.5.1 Household Differences in Land Ownership 7.5.2 Access to labour. 6 INCOME SOURCES IN NIGERIA'S STUDY SETTLEMENTS. 7.6.1 Importance of Different Income Sources by Settlement Type 7.6.2 Seasonal Variations in Income Sources by Settlement Type 7.6.3 Livelihood Differences between Households and Individuals 7.6.4 Involvement in Rattan-related Activities 7.6.5 Livelihood Patterns	R STATE, 226 227 227 234 234 234 234 236 237 238 244 247 247 247 247 247 247 256 258 258 262 262 263 262 263 266 269 280 N NIGERIAN 282 282

8.1.1	Extent and Frequency of Use	282
8.1.2	Rattan Usage - Differentiation by Household Type	286
8.1.3	Mode of Acquisition	288
8.1.4	Seasonal Variations in Subsistence Use	290
8.1.5	Characteristics of Rural Crafts People Involved in Rattan-Related Activities for Subsis	tence
Use	291	
8.1.6	Rattan-Related Activities for Subsistence and Home Consumption in Other Sectors	291
8.2	CHARACTERISTICS OF RURAL RATTAN SPECIALISTS AND THEIR ENTERPRISES	293 <u>3</u>
8.2.1	Types of Activities	2933
8.2.2	Seasonality	2933
8.2.3	Labour	2944
8.2.4	Capital and Skills	2944
8.2.5	Raw Material Supplies	2955
8.2.6	Markets and Marketing	2955
8.2.7	Enterprise Problems	2955
8.3	RATTAN AS A SOURCE OF INCOME	2966
8.3.1	Importance of Income from Rattan-related Activities	2966
8.4	CHANGES IN RATTAN-RELATED CONSUMPTION AND INCOME PATTERNS	300
8.4.1	Changes in the Patterns of Consumption	300
8.4.2	Dynamics of Rattan-related Enterprises	302
) CON	CLUSIONS AND POLICY IMPLICATIONS	305
9.1	INTRODUCTION	305
9.2	SOCIO-ECONOMIC CHARACTERISTIC OF HOUSEHOLDS	305
9.3	IMPORTANCE OF RATTAN FOR INCOME	308
9.3.1	Rattan Harvesting	308
9.3.2	Basket Weaving	308
9.3.3	Rattan Furniture Enterprises	309
9.3.4	Summary Points	310
9.3.5	The Significance of External Factors in Relation to Rattan-related Income Generation	310
9.4	CHANGING CONSUMPTION PATTERNS	310
9.5	POLICY AND DEVELOPMENT IMPLICATIONS	311
9.5.1	Rattan Resource Management Issues	311
9.5.2	Other Ways To Develop a Sustainable Rattan Trade and Add Value to Rattan-Related	
Activ	ities	314
9.5.3	Rattan: A Path Out of Rural Poverty?	315
REFEREN	VCES	317
DDDDD		
APPENDE	X A CLONNARV	325

List of Tables

TABLE 2-1 SCORES ALLOCATED TO DIFFERENT HOUSEHOLD ASSETS FOR GROUPING	
HOUSEHOLDS BY WEALTH	26
TABLE 2-2 SETTLEMENTS AND NUMBER OF HOUSEHOLDS INCLUDED IN THE HOUSEHOI	D
CENSUS, BY ZONE AND COUNTRY	30
TABLE 2-3 NUMBER OF HOUSEHOLDS PARTICIPATING IN THE MULTI-ROUND SURVEY	32
TABLE 2-4 WEIGHTING FACTORS FOR SETTLEMENT WEALTH INDEX	33
TABLE 3-1 SOCIO-DEMOGRAPHIC CHARACTERISTICS OF HOUSEHOLDS BY SETTLEMENT	Γ
AND SETTLEMENT TYPE	52
TABLE 3-2 GEOGRAPHICAL ORIGINS OF ADULTS FROM SAMPLE HOUSEHOLDS, BY ZONE	E.54
TABLE 3-3 MIGRATION STATUS OF ADULTS SAMPLED BY ZONE	57
TABLE 3-4 LENGTH OF RESIDENCE OF ADULTS SAMPLED BY ZONE	58
TABLE 3-5 HOUSEHOLD CHARACTERISTICS BY SETTLEMENT TYPE	61
TABLE 3-6 WEALTH INDEX BY SETTLEMENT TYPE	61
TABLE 3-7 YEARS OF EDUCATION, ALL ADULTS SAMPLED BY ZONE	62
TABLE 3-8 WEALTH RANKING FOR CAMEROON'S ON-ROAD STUDY SETTLEMENTS, SOUT	ΓН
BAKUNDU AREA	63
TABLE 3-9 WEALTH RANKING FOR CAMEROON'S REMOTE ZONE: TAKAMANDA AREA	64
TABLE 3-10 WEALTH RANKING FOR CAMEROON'S BORDER ZONE SETTLEMENTS:	
MOKOKO AREA	65
TABLE 3-11 MAIN CHARACTERISTICS OF THE THREE STUDY ZONES IN CAMEROON	66
TABLE 3-12 HOUSEHOLD CHARACTERISTICS BY GENDER OF HOUSEHOLD HEAD	68
TABLE 3-13 HOUSEHOLD SIZE BY ZONE AND GENDER OF HOUSEHOLD HEAD,	68
TABLE 3-14 GEOGRAPHICAL ORIGIN OF HOUSEHOLD HEAD	70
TABLE 3-15 WEALTH CATEGORIES BY GENDER OF HOUSEHOLD HEAD AND SETTLEMEN	Т
ТҮРЕ	71
TABLE 3-16 YEARS OF FORMAL EDUCATION BY ZONE AND GENDER OF HOUSEHOLD HE	AD
	72
TABLE 3-17 EDUCATION BY GENDER, AGE AND SETTLEMENT TYPE	73
TABLE 3-18 HOUSEHOLD CHARACTERISTICS BY GEOGRAPHICAL ORIGIN OF HOUSEHOL	D
HEAD AND SETTLEMENT TYPE	77
TABLE 3-19 YEARS OF EDUCATION BY GEOGRAPHICAL ORIGIN OF HOUSEHOLD HEAD	78
TABLE 3-20 WEALTH CATEGORIES BY GEOGRAPHICAL ORIGIN OF HOUSEHOLD HEAD	79
TABLE 3-21 LAND TENURE PRACTICES BY ZONE AND SOCIO-ECONOMIC CATEGORY OF	
FARMER	82
TABLE 3-22 LAND TENURE BY GEOGRAPHICAL ORIGIN OF HOUSEHOLD HEAD	84
TABLE 3-23 LAND TENURE BY SETTLEMENT TYPE, GENDER AND WEALTH	85
TABLE 3-24 HIRING OF FARM LABOUR BY GENDER AND WEALTH CATEGORY OF	
HOUSEHOLD HEAD	87
TABLE 3-25 RANKS FOR INCOME SOURCES, REMOTE ZONE HOUSEHOLDS	90
TABLE 3-26 NUMBER OF RESPONSES TO MULTI-ROUND SURVEY, BY ZONE AND SEASON	.92
TABLE 3-27 RANKS FOR INCOME SOURCES, BORDER ZONE HOUSEHOLDS	93
TABLE 3-28 RANKS FOR INCOME SOURCES, ON-ROAD ZONE HOUSEHOLDS	94
TABLE 3-29 MAIN OCCUPATIONAL CATEGORIES OF ADULTS SAMPLED BY GENDER AND)
SETTLEMENT TYPE	95
TABLE 3-30 NUMBER OF RESPONSES FOR FIGURE 3-8	96
TABLE 3-31 INCOME SOURCES FOR BORDER HOUSEHOLDS BY SEASON AND WEALTH	
GROUP	102
TABLE 3-32 INCOME SOURCES FOR ON-ROAD HOUSEHOLDS BY SEASON AND WEALTH	
GROUP	102
TABLE 3-33 INCOME SOURCES FOR REMOTE HOUSEHOLDS BY SEASON AND WEALTH	
GROUP	103
TABLE 3-34 MEAN INCOME FOR TOP FIVE INCOME SOURCES, BY WEALTH	107

TABLE 3-35 GROUPS OF HOUSEHOLDS WITH SIMILAR ASSET-BASES FOUND IN DIFFEREN	NT
SETTLEMENT TYPES, IN DESCENDING ORDER OF WEALTH STATUS	.108
TABLE 4-1 HOUSEHOLDS PARTICIPATING IN SHORT RATTAN SURVEY	.109
TABLE 4-2 EQUIPMENT MADE WITH RATTAN CITED MORE THAN TEN TIMES BY SAMPLE	Ξ
HOUSEHOLDS	.109
TABLE 4-3 FREQUENCY OF USE OF RATTAN ITEMS BY SETTLEMENT TYPE	.110
TABLE 4-4 FREQUENCY OF USE OF MOST COMMONLY USED HOUSEHOLD ITEMS MADE	
WITH RATTAN, BY SETTLEMENT TYPE	.111
TABLE 4-5 FREQUENCY OF USE OF RATTAN HOUSEHOLD ITEMS BY AGE COHORT OF	
HOUSEHOLD HEAD	.111
TABLE 4-6 FREQUENCY OF USE OF RATTAN HOUSEHOLD ITEMS BY GEOGRAPHICAL	
ORIGIN OF HOUSEHOLD HEAD	.112
TABLE 4-7 FREQUENCY OF USE OF RATTAN HOUSEHOLD ITEMS BY GENDER OF	
HOUSEHOLD HEAD	.113
TABLE 4-8 FREQUENCY OF USE OF HOUSEHOLD ITEMS MADE WITH RATTAN BY WEALT	Ή
GROUP AND SETTLEMENT TYPE	.114
TABLE 4-9 MODE OF ACQUISITION OF MOST COMMONLY USED HOUSEHOLD ITEMS MAI	DE
WITH RATTAN	.116
TABLE 4-10 SEASONAL VARIATIONS IN THE USE OF EQUIPMENT MADE WITH RATTAN	
CITED FIVE OR MORE TIMES	.118
TABLE 4-11 ACTIVITIES OF RATTAN SPECIALISTS	.121
TABLE 4-12 NUMBERS OF RATTAN SPECIALISTS BY AGE COHORT	.121
TABLE 4-13 RATTAN SPECIALISTS, YEARS OF FORMAL EDUCATION BY SETTLEMENT TY	ΈE
	.122
TABLE 4-14 GEOGRAPHICAL ORIGIN OF RATTAN SPECIALISTS BY SETTLEMENT TYPE	.122
TABLE 4-15 DEPENDENCY RATIOS OF RATTAN SPECIALIST HOUSEHOLDS	.123
TABLE 4-16 WEALTH GROUPINGS OF RATTAN SPECIALISTS BY SETTLEMENT TYPE	.123
TABLE 4-17 PERIODICITY OF RATTAN ACTIVITIES	.124
TABLE 4-18 HOW RATTAN SPECIALISTS BECAME INVOLVED	.128
TABLE 4-19 MAIN EXPENSES FOR RURAL RATTAN SPECIALISTS	.128
TABLE 4-20 MOST IMPORTANT SOURCE OF RATTAN FOR SPECIALISTS	.131
TABLE 4-21 AVAILABILITY OF RATTAN BY SETTLEMENT TYPE	.131
TABLE 4-22 MAJOR PROBLEMS ENCOUNTERED BY RURAL RATTAN SPECIALISTS	.132
TABLE 4-23 NO. OF RATTAN SPECIALISTS CONSIDERING RATTAN AS A MAIN INCOME	
SOURCE, BY SETTLEMENT TYPE	.135
TABLE 4-24 ESTIMATED MEAN ANNUAL INCOME FOR RATTAN SPECIALISTS, BY ZONE	.135
TABLE 4-25 HOUSEHOLDS REPLACING RATTAN ITEMS, BY SETTLEMENT TYPE	.136
TABLE 4-26 RATTAN ITEMS COMMONLY CITED AS BEING REPLACED, BY SETTLEMENT	
TYPE (ITEMS CITED BY 10 OR MORE HOUSEHOLDS)	.137
TABLE 4-27 NON-KATTAN TIEMS REPLACE BY KATTAN TIEMS, BY SETTLEMENT TYPE	.138
TABLE 4-28 A SUMMARY OF RESEARCH FINDINGS RELATING TO RURAL RATIAN	120
CONSUMPTION PATTERNS	.139
TABLE 4-29 FUTURE BUSINESS CHOICES FOR RUKAL ARTISANS BY SETTLEMENT TYPE	.141
TABLE 4-30 AGE OF INDIVIDUALS NO LONGEK INVOLVED IN KATTAN-KELATED	1 4 1
ENTERPRISES BY SETTLEMENT TYPE	.141
TABLE 4-31 KEASONS FOR NOT CONTINUING KATTAN ACTIVITY BY SETTLEMENT TYPE	142
TABLE 4-32 CHARACTERISTICS OF RATTAN INCOME-GENERATING ACTIVITIES BY	1 4 4
SETTLEMENT TYPE	.144
TABLE 5-1 SOCIODEMOGRAPHIC CHARACTERISTICS OF HOUSEHOLDS BY SETTLEMENT	1(7
AND SETTLEMENT TYPE	.167
TABLE 5-2 MIGKATION STATUS OF ADULTS SAMPLED BY ZONE	.1/0
TADLE 3-3 LENGTH OF KESIDENCE OF ADULTS SAMPLED BY ZONE	172
TADLE 5-4 UKITEKIA FUK DIFFEKENT WEALTH UATEUUKIES, UHANA	172
TADLE 3-3 SUME HUUSEHULD UHAKAUTEKISTIUS, BY ZUNE	174
TADLE 5-0 WEALTH INDEA BY SETTLEMENT TYPE	174
TADLE 3-7 TEAKS OF EDUCATION, ALL ADULTS SAMPLED BY ZONE	.1/4

TABLE 5-8 HOUSEHOLD CHARACTERISTICS BY GENDER OF HOUSEHOLD HEAD	176
TABLE 5-9 HOUSEHOLD SIZE BY ZONE AND GENDER OF HOUSEHOLD HEAD	177
TABLE 5-10 WEALTH CATEGORIES BY GENDER OF HOUSEHOLD HEAD AND SETTLEMEN	T۷
ТҮРЕ	178
TABLE 5-11 YEARS OF FORMAL EDUCATION BY ZONE AND GENDER OF HOUSEHOLD HI	EAD
	179
TABLE 5-12 YEARS OF EDUCATION BY MIGRATION STATUS OF HOUSEHOLD HEAD	181
TABLE 5-13 WEALTH CATEGORIES BY LENGTH OF RESIDENCE OF HOUSEHOLD HEAD	182
TABLE 5-14 TENURE ARRANGEMENTS BY MIGRATION STATUS	.183
TABLE 5-15 RANKS FOR INCOME SOURCES. REMOTE ZONE HOUSEHOLDS	187
TABLE 5-16 RANKS FOR INCOME SOURCES, BORDER ZONE HOUSEHOLDS	188
TABLE 5-17 RANKS FOR INCOME SOURCES, ON-ROAD ZONE HOUSEHOLDS	
TABLE 5-18 NUMBER OF RESPONSES TO MULTI-ROUND SURVEY. BY ZONE AND SEASON	N190
TABLE 5-19 MAIN OCCUPATIONAL CATEGORIES OF ADULTS SAMPLED BY GENDER ANI	D
SETTLEMENT TYPE	193
TABLE 6-1 HOUSEHOLDS PARTICIPATING IN SHORT RATTAN SURVEY	199
TABLE 6-2 EOUIPMENT MADE WITH RATTAN CITED MORE THAN TEN TIMES BY SAMPL	E
HOUSEHOLDS	201
TABLE 6-3 AVERAGE NO OF FREQUENTLY USED RATTAN ITEMS PER HOUSEHOLD BY	
ZONE	201
TABLE 6-4 FREQUENCY OF USE OF RATTAN ITEMS BY SETTLEMENT TYPE	202
TABLE 6-5 FREQUENCY OF USE OF MOST COMMONLY USED HOUSEHOLD ITEMS MADE	
WITH RATTAN BY SETTI FMENT TYPE	202
TABLE 6-6 MODE OF ACOULSITION OF MOST COMMONLY USED HOUSEHOLD ITEMS MA	DF
WITH RATTAN	203
TABLE 6-7 SEASONAL VARIATIONS IN THE USE OF FOULPMENT MADE WITH RATTAN	
CITED TEN OR MORE TIMES	204
TABLE 6.8 INVOLVEMENT IN RATTAN-RELATED ACTIVITIES FOR SUBSISTENCE AND	204
HOME CONSUMPTION BY ZONE	205
TABLE 6-9 ACTIVITY OF RATTAN SPECIALISTS BY ZONE	207
TABLE 0 7 ACTIVITY OF RATTAN SPECIALISTS DT ZOND	207
TABLE 0 10 GENDER OF RATTAN SPECIALISTS BY ZONE COMPARED TO	
SAMPLE POPULATION AS A WHOLE	209
TABLE 6-12 MOTIVATIONS FOR STARTING ACTIVITY BY 70NF	212
TABLE 0 12 MOST IMPORTANT SOURCE OF RAW MATERIALS	214
TABLE 0-13 MOST IMI ORTANT SOORCE OF RAW MATERIALS	214
TABLE 6-15 REASONS FOR REDUCED AVAILABILITY OF RATTAN BY 70NE	215
TABLE 0 19 KENDOND FOR REDUCED AVAILABILITY OF KATTAN, DT ZONE	217
TABLE 6-17 IMPORTANCE OF RATTAN-RELATED ACTIVITIES FOR INCOME GENERATION	217 N
BV SETTI EMENT TVPE	218
TABLE 6-18 HOUSEHOLDS REPLACING RATTAN ITEMS BY SETTI EMENT TYPE	2210
TABLE 6-10 RATTAN ITEMS COMMONI V CITED AS BEING REDI ACED BY SETTI EMENT	
TVPE (ITEMS CITED BV 5 OR MORE HOUSEHOLDS)	221
TABLE 6.20 REASONS FOR REPLACING RATTAN ITEMS BY ZONE	221
TABLE 0-20 REASONS FOR RELEACING RATTAN ITEMS, DT ZONE	
IADLE 0-21 CHARACTERISTICS OF RATTAN INCOME-GENERATING ACTIVITIES DT	225
TADLE 7.1 SOCIO DEMOCDADUIC CUADACTEDISTICS OF HOUSEHOLDS DV SETTI EMENI	223 T
AND ZONE	1
AND ZUNE	220
TADLE 7-2 FOFULATION OF SAWIPLE HOUSEHULDS, BY ZONE, SEA AND AUE	225.
TADLE 7-7 MIGRATION STATUS OF ADULTS SAMPLED BY ZONE	243
TADLE 7-4 LENGTH OF KESIDENCE, ALL ADULTS, SAMPLE HOUSEHULDS, NIGEKIA, BY	744
ΔΟΝΕ ΤΑ DI Ε 7 5 ΠΟΠΩΕΠΩΙ D ΩΠΑ DΑ ΩΤΕΡΙΩΤΙΩΩ DV ΩΕΤΤΙ ΕΜΕΝΤ ΤΥΡΕ	
TADLE 7-7 NUUSENULD UNAKAUTEKISTIUS BY SETTLEMENT TYPE NUCEDIA	
TADLE 7-0 WEALTH INDEA BY SETTLEMENT TYPE, NIGEKIA	
TADLE /-/ TEARS OF EDUCATION, ALL ADULTS SAMPLED BY ZONE	240

TABLE 7-8 WEALTH RANKING FOR NIGERIA'S ON-ROAD ZONE SETTLEMENT: ABONTAI	KON
TABLE 7-9 WEALTH RANKING FOR NIGERIA'S BORDER ZONE SETTLEMENTS: DANARE	248 I
AND II	249
TABLE 7-10 WEALTH RANKING FOR NIGERIA'S OFF-ROAD ZONE SETTLEMENTS: OLD A NEW EKURI	.ND 250
TABLE 7-11 HOUSEHOLD CHARACTERISTICS BY ZONE & GENDER OF HOUSEHOLD HEA	D
TABLE 7-12 HOUSEHOLD SIZE BY ZONE AND GENDER OF HOUSEHOLD HEAD	252
TABLE 7-12 HOUSEHOLD SIZE, BT ZONE AND GENDER OF HOUSEHOLD HEAD AND SETTI FMF	2 <i>32</i> NT
TYPE	254
TABLE 7-14 YEARS OF FORMAL EDUCATION BY ZONE AND GENDER OF HOUSEHOLD H	EAD
	255
TABLE 7-15 HOUSEHOLD CHARACTERISTICS BY MIGRATION STATUS OF HOUSEHOLD	
HEAD, ABONTAKON (ON-ROAD STUDY SETTLEMENT)	257
TABLE 7-16 WEALTH CATEGORIES BY MIGRATION STATUS OF HOUSEHOLD HEAD,	
ABONTAKON, ON-ROAD SETTLEMENT	258
TABLE 7-17 OWNERSHIP OF FARMLAND BY INDIGENES AND STRANGERS	259
TABLE 7-18 LAND UWNEKSHIP BY WEALTH GROUP	201
TABLE 7-19 KANKS FOR DIFFERENT INCOME CATEGORIES, REMOTE SETTLEMENTS	203
TABLE 7-20 KANKS FOR DIFFERENT INCOME CATEGORIES, BORDER SETTLEMENTS TABLE 7-21 DANKS FOR DIFFERENT INCOME CATEGORIES, ON DOAD SETTLEMENT	203
TABLE 7-22 MAIN OCCUPATIONAL CATEGORIES OF ADULTS SAMPLED BY GENDER AN	200 D
SETTI EMENT TYPE	270
TABLE 7-23 NO OF RESPONSES TO MULTI-ROUND SURVEY BY GENDER OF HOUSEHOL	270 D
HEAD AND ZONE	
TABLE 7-24 NO. OF RESPONSES TO MULTI-ROUND SURVEY BY MIGRATION STATUS OF	
HOUSEHOLD HEAD, ON-ROAD SETTLEMENT	274
TABLE 7-25 NO. OF RESPONSES TO MULTI-ROUND SURVEY BY ZONE AND WEALTH GRO	OUP
	277
TABLE 7-26 MAIN CHARACTERISTICS OF NIGERIAN STUDY ZONES	280
TABLE 7-27 GROUPS OF HOUSEHOLDS WITH SIMILAR ASSET-BASES FOUND IN DIFFERE	ENT
SETTLEMENT TYPES, IN DESCENDING ORDER OF WEALTH STATUS	281
TABLE 8-1 HOUSEHOLDS PARTICIPATING IN SHORT RATTAN SURVEY	282
TABLE 8-2 EQUIPMENT MADE WITH RATTAN CITED MORE THAN TEN TIMES BY SAMPI	
TADLE & 2 EDEOLIENCY OF LISE OF DATTAN ITEMS DV SETTLEMENT TYDE	284
TABLE 6-5 FREQUENCY OF USE OF RATIAN HEMS BI SETTLEMENT TIPE	204 2
WITH RATTAN RV SETTI EMENT TVPE	285
TABLE 8-5 FREQUENCY OF USE OF RATTAN HOUSEHOLD ITEMS BY AGE COHORT OF	205
HOUSEHOLD HEAD	
TABLE 8-6 FREQUENCY OF USE OF RATTAN HOUSEHOLD ITEMS IN ON-ROAD SAMPLE	
HOUSEHOLDS	288
TABLE 8-7 MODE OF ACQUISITION OF MOST COMMONLY USED HOUSEHOLD ITEMS MA	٩DE
WITH RATTAN	288
TABLE 8-8 SOURCE OF RATTAN CANE USED TO MAKE HOUSEHOLD ITEMS, BY ZONE	289
TABLE 8-9 SEASONAL VARIATIONS IN THE USE OF EQUIPMENT MADE WITH RATTAN	
CITED FIVE OR MORE TIMES	291
TABLE 8-10 INVOLVEMENT IN RATTAN-RELATED ACTIVITIES FOR SUBSISTENCE AND	• • •
HOME CONSUMPTION BY ZONE.	292
TABLE 8-11 MAJUK PRUBLEMS ENCUUNTERED BY KUKAL KATTAN SPECIALISTS	295
IADLE 0-12 INFORTANCE OF KATTAN-KELATED ACTIVITIES FOR INCOME, BY	204
TARI E 8-13 HOUSEHOI DS REPLACING RATTAN ITEMS RV SETTI EMENT TVDE	290 300
TABLE 5-14 RATTAN ITEMS COMMONLY CITED AS BEING REPLACED BY SETTI EMENT	
TYPE (ITEMS CITED BY 5 OR MORE HOUSEHOLDS)	300
· · · · · · · · · · · · · · · · · · ·	

TABLE 8-15 A SUMMARY OF RESEARCH FINDINGS RELATING TO RURAL RATTAN	
CONSUMPTION PATTERNS	302
TABLE 8-16 CHARACTERISTICS OF RATTAN INCOME-GENERATING ACTIVITIES BY	
SETTLEMENT TYPE	303

List of Figures

FIGURE 3-1MAP OF STUDY REGION, CAMEROON	41
FIGURE 3-2 MAP OF CAMEROON STUDY SETTLEMENTS	45
FIGURE 3-3 DEMOGRAPHIC PYRAMIDS OF SAMPLE HOUSEHOLDS, CAMEROON BY ZON	E53
FIGURE 3-4 GEOGRAPHICAL ORIGINS OF ADULTS IN CAMEROON'S REMOTE ZONE (N=3	22)
FIGURE 3-5 GEOGRAPHICAL ORIGIN OF ADULTS IN CAMEROON'S BORDER ZONE (N=277	7)55
FIGURE 3-6 GEOGRAPHICAL ORIGINS OF ADULTS IN CAMEROON'S ON-ROAD ZONE (N=3	365)
FIGURE 3-7 SEASONAL VARIATIONS IN INCOME SOURCES BY ZONE	
FIGURE 3-8 TOP INCOME SOURCES BY GENDER OF HOUSEHOLD HEAD AND ZONE	97
FIGURE 3-9 TOP INCOME SOURCES. BY GEOGRAPHICAL ORIGIN OF HOUSEHOLD HEAD	
AND ZONE	99
FIGURE 3-10 TOP INCOME SOURCES. BY WEALTH CATEGORY AND ZONE	
FIGURE 3-11 MEAN ANNUAL HOUSEHOLD INCOME SOURCES BY WEALTH GROUP	
BORDER SETTLEMENTS	105
FIGURE 3-12 MEAN ANNUAL HOUSEHOLD INCOME SOURCES BY WEALTH GROUP ON-	
ROAD SETTLEMENTS	105
FIGURE 3-13 MEAN ANNUAL HOUSEHOLD INCOME BY WEALTH GROUP REMOTE	
SETTLEMENTS	106
FIGURE 4-1 SEASONALITY OF RATTAN TRANSFORMATION ACTIVITIES	125
FIGURE 4-2 HIGH SEASON FOR RATTAN TRANSFORMATION ACTIVITIES	127
FIGURE 5-1 GHANA STUDY ZONES	146
FIGURE 5-2 ON-ROAD STUDY SETTLEMENTS GHANA	148
FIGURE 5-3 BORDER STUDY ZONES, GHANA	150
FIGURE 5-4 REMOTE STUDY ZONES, GHANA	153
FIGURE 5-5 POPULATION PYRAMIDS REMOTE ZONE GHANA	164
FIGURE 5-6 POPULATION PYRAMIDS, REPORT ZONE GHANA	165
FIGURE 5-7 POPULATION PYRAMIDS, DORDER ZONE, GHANA	166
FIGURE 5-8 GEOGRAPHICAL ORIGINS OF ADUILTS IN REMOTE SETTI EMENTS, GHANA	
(N=271)	168
FIGURE 5-9 GEOGRAPHICAL ORIGINS OF ADULTS IN BORDER SETTLEMENTS, GHANA	
(N=331)	169
FIGURE 5-10 GEOGRAPHICAL ORIGINS OF ADUILTS IN ON-ROAD SETTLEMENTS, GHANA	
= 295)	169
FIGURE 5.11 SEASONAL VARIATIONS IN INCOME SOURCES BY ZONE	101
FIGURE 5-12 TOP INCOME SOURCES, BV MIGRATION STATUS OF HOUSEHOLD HEAD AN) ID
TIOURE 5-12 TOT INCOME SOURCES, BT MIORATION STATUS OF HOUSEHOLD HEAD AN ZONE	10/
FIGURE 5.13 MAIN INCOME SOURCES BY AGE COHORT OF HOUSEHOLD HEAD ALL ZON	VES
TIOURE 5-15 MAIN INCOME SOURCES BT AGE CONORT OF HOUSEHOLD HEAD, ALL ZOT	106
EICHDE 5 14 TOD INCOME SOUDCES, BY WEAT TH CATEGODY AND TONE	107
FIGURE 6.1 HIGH SEASON/ACTIVITY DEDIOD FOD DATTAN HADVESTING (0/ OF	17/
HADVESTEDS CITING THEDE IS A HIGH SEASON/ACTIVITY DEDIOD N=15)	210
HAR VESTERS CITING THERE IS A TIGH SEASON/ACTIVITIT FERIOD N=13) FIGURE 6.2 HIGH SEASONS/ACTIVITY DEDIOD FOD DASVET WEAVING (0 / OF DASVET	
TIOURE 0-2 MOR SEASONS/ACTIVITY FERIOD FOR DASKET WEAVING (70 OF BASKET WEAVEDS CITING THERE IS A HIGH SEASON/ACTIVITY DEDIOD M-42)	211
WEAVERS CITING THERE IS A DIGH SEASON/ACTIVIT I PERIOD IN=03)	
FIGURE 0-3 FIGUR SEASON/ACTIVITY FERIOD FUR SELLING BASKETS (% OF BASKET SET FER CITING THERE IS A HIGH SEASON/ACTIVITY DEDIOD M-14)	211
SELLERS UTTING THERE IS A HIGH SEASON/ACTIVITY PERIOD N=14)	

FIGURE 7-1 STUDY SETTLEMENTS, ALL ZONES, NIGERIA	235
FIGURE 7-2 DEMOGRAPHIC PYRAMIDS FOR SAMPLE HOUSEHOLDS BY ZONE	241
FIGURE 7-3 GEOGRAPHICAL ORIGINS OF SAMPLE ADULTS BY ZONE	242
FIGURE 7-4 SEASONAL VARIATIONS IN TOP INCOME SOURCES BY ZONE	268
FIGURE 7-5 TOP TEN INCOME SOURCES BY ZONE AND GENDER OF HOUSEHOLD HEAD .	273
FIGURE 7-6 IMPORTANT INCOME SOURCES BY MIGRATION STATUS, ON-ROAD	
SETTLEMENT	276
FIGURE 7-7 TOP INCOME SOURCES BY ZONE AND HOUSEHOLD WEALTH CATEGORY	279
FIGURE 8-1 HIGH SEASONS FOR RATTAN RELATED ACTIVITIES	294

Acronyms

African Rattan Research Programme
UK Department for International Development
Cameroon Development Corporation
Central African Regional Programme for the Environment
Centre for Environmental and Rural Transformation
Centre for International Forestry Research
Communauté Financière Africaine
Cross River Gorilla Project Cameroon
Dalhoff Larsen and Horneman A/S of Denmark
Forest Management, Evaluation and Co-ordinating Unit, Federal
Department of Forestry, Nigeria.
Forest Reserve
Forest Services Division (Ghana)
Ghana Primewoods Products Ltd.
German Agency for Technical Cooperation
International Centre for Research in Agro-forestry
Intermediate Result 1
International Timber Trade Organisation
Junior Secondary School (Ghana)
Living Earth Nigeria Foundation
Local Government Area
Mount Cameroon Project
Ministry of Environment and Forests (Cameroon)
National Democratic Congress (Ghana)
Non-timber forest products
New Patriotic Party (Ghana)
Office Nationale pour le Developpement des Forêts (National
Forestry Development Agency) (Cameroon)
Pan-African Institute for Development/West Africa
Project for the Protection of Forests Around Akwaya
South West Development Authority
Social Research Officer
Takamanda Forest Survey Project
Wildlife Conservation Society
World Wide Fund for Nature

Linguistic Conventions

Translations for locally used words, which are written in italics, are given in the glossary (Appendix A).

Executive Summary

Introduction

This report summarises the findings of a socio-economic study of selected settlements in the humid forest zones of Southwest Province Cameroon, Western Region Ghana and Cross River State Nigeria. The study is an output of the African Rattan Research Programme's "Development and Promotion of African Rattans" Project, a three year project designed specifically to alleviate poverty in selected areas of Cameroon, Ghana and Nigeria through the improvement of rural and urban livelihoods based on: (i) improved production, internal marketing and transformation of rattan, a high-value non-timber forest product and (ii) increased production and sustainable management of rattan in the West and Central African region through the development of appropriate cultivation for low-income farmers. The study was conducted over a three-year period from 2000 to 2003. A total of over 1,000 households were surveyed.

The primary objectives of the study were to gain an idea of the present patterns of rattan usage and sales, their implications for livelihoods and a more comprehensive and socially differentiated view of the significance of rattan and other NTFPs for rural livelihoods within each of the three study zones in Cameroon, Ghana and Nigeria.

Three different types of "zone" can be identified in each of the three country's study regions on the basis of accessibility to local and cross-border markets and forest resources. These are: border zones, remote zones and on-road zones. These "zones" are not recognised administrative units but the socio-economic characteristics of rural settlements within these zones tend to be fairly similar. Within each zone, the household was our basic unit of research.

Socio-Economic Characteristics of Study Settlements and Households

The baseline socio-economic survey approach adopted for this study offers important insights into the socio-economic characteristics of rural households in different types of settlement found in Cameroon, Ghana and Nigeria. The focus on specific types of settlement and households has been useful for unravelling the diversity of people's lives. It helps to capture the different types of households, to find out what different households are doing and what income they are earning. The baseline socio-economic survey approach has also helped to highlight how certain socio-economic groups are excluded from access to key resources and economic opportunities and how this, in turn, affects, their livelihoods. The findings from this baseline socio-economic survey highlight the diversity of rural households and their livelihoods in contrasting rural settings. This report highlights some of the contrasting characteristics of households sampled in the study zones of Ghana, Nigeria and Cameroon. There are some striking differences in household composition, population trends and social characteristics between zones and countries. Differences between Ghana's off-road sample and Nigeria and Cameroon's off-road samples are particularly pronounced. Ghana's remote sample lies in an economically dynamic area which is experiencing relatively rapid population growth, due largely to the influx of migrants from other parts of Ghana. A high proportion of households in Ghana's remote sample tend to be relatively poor

Cameroon's border zone sample shows similar characteristics, with a relatively high proportion of relatively poor, recently settled strangers, mainly from Nigeria. In contrast, the populations of Cameroon and Nigeria's remote study settlements are relatively stable and socially homogenous but also relatively poor. Their relative remoteness and poor market accessibility mean that few strangers are currently attracted to these settlements.

Differences in ethnic composition between zones and countries are also pronounced. All Ghana's three study zones as well as Cameroon's and Nigeria's border and on-road zones have relatively high proportions of migrants, whilst Cameroon's and Nigeria's remote study zones are relatively socially homogenous.

Study results indicate that the main factors influencing livelihoods at the settlement level are access to markets and forest resources. Different external factors impinge on forest settlements rendering them dynamic, stable or declining

At the household level, gender of household head, migration status, wealth and age are the main factors. Gender and migration status strongly influence access to land and patterns of land tenure as well as wealth, which, in turn, strongly influence the types of livelihood activities households and individuals are involved in.

Marked differences are found between male and female-headed households in all three countries. Female-headed households generally tend to have limited access to land and less labour available to them and are generally poorer than male-headed households.

For the majority of households sampled in more accessible on-road and border settlements, farming is the primary source of income. But the majority of poor households sampled in on-road settlements in Cameroon, Ghana and Nigeria do not own farmland. These patterns of land ownership influence the types of livelihood activities households and individuals are involved in. In the on-road settlements studied, households headed by non-migrants tend to "own" land on which they plant perennial cash crops, mainly cocoa and oil palm as well as plantains and bananas. On the other hand, relatively poor migrants, tend to rent land on a short-term basis to cultivate food crops (especially Nigerian migrants in Cameroon's border zone and Nigerian migrants in Nigeria's on-road and border zones). Relatively wealthy migrants tend, where possible, to buy land from indigenes on which they establish perennial cash crop plantations of cocoa, oil palm and rubber (particularly in Cameroon's on-road zone) or enter into long term share cropping arrangements to farm cocoa (particularly in Ghana's remote zone). The short-term leasing of land provides an opportunity for relatively poor households to earn an income and provides an important source of income for natives. But leasing land in this way is not legal, and tenants have little incentive to implement environmentally sound farming practices or to cultivate valuable perennial NTFPs because of the short-term nature of the lease and because local practice prevents them from planting perennial crops, such as cocoa or other useful trees that produce NTFPs. Land tenure issues are linked to ethno-political status and are contentious; refer to our land tenure briefing note (ARRP 2002).

Our findings indicate that cassava is one the most important sources of income for relatively poor households in more accessible study settlements, particularly in Cameroon and Nigeria. Cassava is a light-demanding crop. This combined with the fact that many poor farmers rent land on a short-term basis, has led farmers, particularly in areas where population density is relatively high, to clear the majority of trees on their farmers, including, in some cases, those which yield useful forest products. The widespread cultivation of light demanding cassava by relatively poor households in relatively accessible settlements may, therefore have diminished access to forest resources, which in turn, has led to a decline in the importance of NTFPs as a source of income as well as a source of sustenance.

Patterns of Rattan Usage and Sales

The survey results indicate that 503 out of 965 (52%) households were involved in rattanrelated activities either for subsistence and/or for obtaining income generation. The highest concentration of rattan-related activities is found in the relatively inaccessible remote settlements in Ghana's Western Region where over 90% of the households surveyed are engaged in rattan-related activities, mainly for subsistence purposes. Remote and border settlements studied in Cross River State, Nigeria, remote and on-road settlements studied in Southwest Province Cameroon and on-road and border settlements studied in Ghana also display relatively high concentrations of rattan-related activities. In these settlements around half of households surveyed were involved in rattan-related activities, again mainly for subsistence. Border study settlements in Cameroon have concentrations of rattan-related activity lower than the above study settlements. Here about a third of the households surveyed said they were involved in rattan-related activities.

In relatively remote rural areas in Cameroon, Ghana and Nigeria, rattan is used relatively frequently in everyday life to make relatively low value items such as baskets, used to carry and store farm and other products, as well as for house construction. Patterns of rattan usage and sales are similar in the settlements studied in Cameroon and Nigeria. In more accessible study settlements in Cameroon and Nigeria, on the one hand, the use of low value rattan items seems to be on the decline. Whilst on the other hand, the use of relatively high value rattan items such as chairs seems to be on the increase. In general, in Cameroon and Nigeria study settlements, low value rattan items are increasingly being replaced by cheaper, more comfortable and more durable

manufactured alternatives (often made with old fertiliser sacks). However some relatively high value items, such as beds, chairs and shelves, that used to be made from wood, are now being made with rattan. These items are, however, generally produced by small, but expanding businesses employing more than a single person, located in urban areas, rather than by people operating alone from home in more rural areas. These variations may be partly due to differences in wealth as well as market and resource access. With less financial resources available, limited access to cheap manufactured alternatives and relatively easy access to raw rattan, remote households are more likely to use rattan for household items than households in the more accessible onroad and border settlements.

The situation appears to be different in Ghana. Here, the rural demand for rattan cane and rattan baskets is relatively strong. Rattan is used relatively frequently in everyday life for house construction and repairs and to produce relatively low value items such as baskets. There is a trend towards replacing some everyday items made with rattan with more durable, manufactured items. For example clothes lines that used to be made with rattan cane are being replace with lines made with nylon rope. But this study has not found that rattan baskets are being replaced to the same degree as is occurring in the Nigerian and Cameroonian study areas.

Rattan and Rural Livelihoods

Proximity to and ease of access to markets greatly influences the contribution that rattan makes to rural livelihoods, both in terms of everyday use and income. In summary, our findings indicate that household income is influenced by a number of factors. Access to markets, farm and forest resources, migration status, length of residence, gender and age of household head are important determinants of household income. These factors, in turn, influence access to land, labour and wealth. Households headed by in-migrants, youth and women generally tend to be relatively less wealthy than households headed by male non-migrants because the former tend to have fewer labour assets and limited access to productive farmland. As a result, households headed by in-migrants, youth and women are often engaged in self-employed activities, such as farm labouring, petty trading and NTFP-related activities (including rattan-related enterprises), which do not require large investments in human, physical or financial resources.

In general, rattan does not contribute significantly to overall income for the inhabitants of the settlements studied. Farming is ranked the most important source of income by the majority of respondents. However, for specific settlements and households, rattan-related activities, particularly harvesting rattan and basket weaving, may generate significant amounts of cash particularly at times in the year when other sources of income, such as farming, are not forthcoming. For some poor rural households, with lower human capital skills, limited labour assets and financial resources, harvesting rattan, basket weaving and other NTFP related activities may provide a significant proportion of overall income.

In Nigeria and Cameroon, for example, rattan contributes significantly to the livelihoods of a small proportion of relatively poor elderly, often infirm men in remote settlements in the form of income from basket weaving. However there is little potential to expand these enterprises as baskets and other low value items made with rattan cane are increasingly being replaced by cheaper and/or more comfortable alternatives.

In more accessible roadside settlements studied in Cameroon and Nigeria, rattan contributes significantly to the income of some relatively wealthy young and middle-aged men through furniture-making enterprises. Demand for relatively high value furniture made with rattan cane is increasing, so there does appear to be some potential to expand such enterprises. However these enterprises require relatively costly inputs, which may prevent relatively poor individuals from becoming involved.

Some relatively poor, young men in more accessible roadside and border settlements in Cameroon and Nigeria are involved in the occasional harvesting rattan cane to supply urban rattan artisans. However, their enterprises are being negatively affected as supplies of wild rattan cane are becoming scarcer.

In Ghana, weaving baskets and cocoa mats provides a significant contribution to men's income especially in Wassa Essaman. The demand for baskets remains strong, so there is some potential to expand such enterprises. A number of women are also involved in rattan-related activities in Wassa Essaman. Most of those women interviewed are involved in trading baskets. In the less accessible remote settlements rattan may provide small amounts of seasonal and/or intermittent income especially for recent in-migrants who have come to establish cocoa farms. Such income provides a useful stopgap before income from farming materialises.

Rattan-related activities, such as rattan harvesting and basket weaving, have both advantages and disadvantages. They tend to fit well into broader livelihoods strategies because they can be done at times when they do not conflict with intensive farming periods. In general, rural rattan enterprises do not require large human, physical or financial investments. They are characterised as small, mainly single-person enterprises, with "easy access and low barriers to entry" (Arnold and Townson 1998). Rattan-related enterprises may therefore be a viable option for relatively poor rural households with lower human capital skills, fewer labour and financial assets. But rattan-related activities also have disadvantages. Harvesting is risky and can lead to injury and in some areas is becoming increasingly arduous because of the decline in the availability of wild stocks of rattan. Returns from rattan harvesting and basket-weaving appear relatively small compared to most farming activities. Transport costs are increasing, partly due to increasing distance travelled from harvesting sites as well as poor road conditions and harassment and bribery by law and order officers at road checkpoints. For these reasons, most rural people, given other opportunities, would choose to avoid rattan harvesting and basket weaving.

National and international political and economic factors may drastically change the current situation and could have significant income-related implications for even the most remote settlements. The construction of roads into remote areas may open up opportunities to develop the trade in raw cane, for example. Political conflict between neighbouring countries or changes in the value of a currency may open up or close down

the cross-border trade of raw cane and other NTFPs. Alternatively, a drop in the price of cocoa may cause farmers to abandon their cocoa farms and dismiss their farm labourers. Rattan harvesting may then be one of the few viable economic activities available for such ex-farm labourers.

Policy Implications

Forest settlements in the regions studied are by no means uniform. A range of external factors impinge on forest settlements rendering them dynamic, stable or declining. Different households within these settlements have varying opportunities and assets which, in turn, affect their livelihood strategies. In terms of policy, this diversity needs to be taken into account when planning development programmes.

In the long term, land tenure legislation needs to be designed carefully so as to support leasing by the poor and encourage tenants and landlords to invest in long-term, environmentally sound farming practices which would include economically important perennial NTFP crops, but not to give greater power to relatively wealthy land owners.

Our findings indicate that the cultivation of cassava and other annual crops is a particularly important source of income for poor farming households in more accessible rural settlements. Efforts should be made to develop environmentally sound agricultural practices for cassava production that, if possible, promote the conservation of trees on farms. Our findings indicate that agricultural clearance, rather than forestry development is a major influence on raw material availability for rural NTFP-based enterprises, particularly in relation to the more accessible settlements studied.

In the remote settlements sampled, income generating opportunities are relatively limited compared to border and on-road settlements. Many households rely on forest resources for a significant proportion of their income. Forest-based activities are particularly important for poor households in remote settlements, they offer one of the few income earning opportunities for these households because they require little investment in terms of labour and capital and are characterised by ease of entry and open market access (Falconer 1988; Arnold and Townson 1998).

The importance of forest resources for rural poor in remote settlements must be a pivotal consideration in any policy that aims to achieve sustainable rural livelihoods and sustainable forest management. Possible solutions include the establishment of community forests and sustainable harvesting and cultivation guidelines for NTFPs that are currently being over-harvested. Another option could be the formation of associations for those involved in NTFPs to give political voice to their concerns and to develop self-regulatory mechanism for the problems of over-harvesting (see below).

In Ghana, Nigeria and Cameroon, rattans are harvested exclusively from wild populations, unlike some areas of Southeast Asia. At the moment, like most other NTFPs, rattan is considered an "open access resource" (Sunderland 2002). Anyone can harvest rattan and other NTFPs on off-reserve land, provided it is not cultivated.

Overall, the majority of rattan specialists interviewed for this study from Cameroon, Ghana and Nigeria, particularly those from more accessible settlements, perceive that rattan supplies are declining compared with five years ago.

Formal legislation to transfer the management of forest resources from the State to forest communities is in the process of being implemented in Cameroon, Nigeria and Ghana. As a result, there does appear to be some potential for communities to benefit more from rattan and other NTFP enterprises by developing and implementing community-based forest management plans for forest resources, such as rattan, in forested areas. It is in the more accessible rural settlements, where local people perceive shortages in wild supplies of rattan cane and other NTFPs, that community forest management initiatives would be most useful and effective.

The decline in rattan supplies is partly due to the way in which rattan is harvested. Providing guidance to harvesters on sustainable harvesting practices for rattan and other NTFPs should be part of community forest management plans, where rattan and other NTFPs are being harvested unsustainably. Guidelines advising harvesters not to cut the young and immature stems to allow regeneration could increase production, allow the harvester to harvest again on a shorter rotation and increase the survival chances of individual clusters (Sunderland 2001). The African Rattan Research Programme is producing guidelines on sustainable rattan harvesting.

The majority of rattan specialists interviewed said they did not belong to rattan associations. The formation of associations for those involved in rattan-related activities may help to develop a more sustainable and fair rattan trade that will benefit relatively poor, rural forest-dwellers and contribute to forest conservation. Such associations could give political voice to the concerns of rattan users, to develop self-regulatory mechanisms for the problems of informal trade activities, provide information on sound rattan management, and provide information and shared facilities for improved processing and transformation and marketing.

The decline in rattan and other NTFP supplies is also partly due to the conversion of forest land to farm land. Policies that influence agricultural development may well influence the availability of raw materials for NTFP-based enterprises. Encouraging agroforestry could help to mitigate the decline in NTFP resources, whilst at the same time maintain the diversity of rural incomes.

Significant amounts of rattan cane are harvested by organised groups of men, who are often urban-based individuals, in forests around more accessible settlements studied in Cameroon, Nigeria and Ghana. It appears that this activity is quite lucrative for the gang leaders, but communities currently benefit little from such enterprises.

The current moves to transfer the management of forests resources from the State to forest communities may provide some potential for communities to gain more benefit from outsiders harvesting forest resources from within village forests. However, to be

effective, this type of system must be applied throughout the area, otherwise visiting gangs will simply choose to go to a neighbouring settlement where the tariff system is not operating.

1 Introduction

This report presents the results of a socio-economic study which aimed to gain an idea of the present patterns of rattan usage and sales, their implications for livelihoods and a more comprehensive and socially differentiated view of the significance of rattan for rural livelihoods within the humid forest zones of Cameroon, Ghana and Nigeria.

It is an output of the African Rattan Research Programme's "Development and Promotion of African Rattans" Project, a three year project designed specifically to alleviate poverty in selected areas of Cameroon, Ghana and Nigeria through the improvement of rural and urban livelihoods based on: (i) improved production, internal marketing and transformation of rattan, a high-value non-timber forest product and (ii) increased production and sustainable management of rattan in the West and Central African region through the development of appropriate cultivation for low-income farmers.

The survey was conducted jointly by the African Rattan Research Programme, the Forest Research Institute of Ghana (FORIG), Living Earth Nigeria Foundation (LENF), the Cross River State Forestry Commission, Nigeria, Limbe Botanic Gardens, Cameroon and the Department of Anthropology, University College London.

The data, upon which this report is largely based, was collected over a three year period from 2000-2003 by the project's Social Research Officers (SRO's) in each of the three study zones in Cameroon, Ghana and Nigeria. It was collected as part of the project's extensive socio-economic surveys.

Section Two provides a brief overview of the methods used for the socio-economic survey. Sections Three to Eight present the main findings of the survey for each country in turn. Sections Three, Five and Seven summarise the characteristics of the different settlements and households found in each the study zones in Cameroon, Ghana and Nigeria respectively. Sections Four, Six and Eight present the results on the patterns of rattan consumption and income in the study zones of Cameroon, Ghana and Nigeria respectively. Finally, Section Nine presents conclusions across all chapters and discusses the implications of the findings for development and policy.

Background

ARRP is funded by the UK government's Department for International Development's (DFID) Forest Research Programme. Its aims to:

- Evaluate the socio-economic acceptability of different approaches to sustainable rattan cultivation and enrichment planting for different categories of low-income farmers.
- Develop community-based rattan production systems and evaluate the likely contribution of rattan cultivation to improving the livelihoods of low-income farmers.
- Evaluate the likely impacts of improved rattan production and transformation methods on the incomes of small-scale urban craft producers.
- Provide the baseline ecological information needed for the establishment of a coherent management strategy to be developed and implemented.
- Provide an analysis of the anatomy and physical properties of African rattans allowing future direct comparison with the Asian taxa to be made.

The socio-economic studies to be undertaken in the three target countries fall into three main categories:

- 1. Comparative studies of the modes of livelihood and income levels of rural people, in relations to patterns of cultivation and usage;
- 2. Rattan marketing studies
- 3. Studies of artisanal rattan craft production technologies and marketing.

The socio-economic studies to be carried as part of the 'modes of livelihood and incomes of rural people' are of two types:

- a) Intensive studies of the factors likely to affect farmers' ability and willingness to adopt rattan cultivation, in relation to their socio-economic characteristics and the agro-technical demands of rattan cultivation. These intensive studies will be carried out in conjunction with on-farm and community-managed forest trials of rattan cultivation.
- b) Extensive surveys of present patterns of rattan usage and sales, and their implications for livelihoods, across a representative sample of rural inhabitants of the zones where the intensive studies will be carried out.

a) Intensive studies

The aim of the intensive studies is to evaluate the socio-economic acceptability of different approaches to sustainable rattan cultivation and enrichment planting, for different categories of low-income farmers.

b) Extensive studies

The aims of the extensive studies are to gain:

(i) Some idea of present patterns of rattan usage and sales and their implications for livelihoods, across a representative sample of rural inhabitants of zones where rattans grows.

(ii) A more comprehensive and socially differentiated view of the significance of rattan for rural livelihoods within the regional economies of zones where more intensive studies are being undertaken.

The methodology for the extensive studies is described in Malleson 2000 (for Cameroon and Nigeria) and Malleson 2001 (for Ghana). Detailed information on the characteristics of different zones in each of the three countries is given in the SRO's Rattan Socio-Economic Studies Reports (Asaha 2002; Ukpe 2002 and Obeng-Okrah, K. 2002).

2 Methodology

2.1 Sampling

The socio-economic studies for this Project are restricted to the major rattan supply areas which lie within the humid forest areas in each target country. Within the humid forest area of each target country, the following administrative regions were selected:

Southwest Province, Cameroon Western Region, Ghana Cross River State, Nigeria

Brief descriptions of the above regions context are given in Sections Three, Five and Seven respectively. These administrative regions were selected for the following reasons:

1) All regions include areas where rattans flourish. The areas where rattans flourish are rather patchy, even in forested areas, and do not correspond to administrative or other census units that could be used to define the population universe to be sampled. Rattan also flourishes in other southern provinces of Cameroon, however in Ghana and Nigeria forest degradation is much more widespread. Cross River State, Nigeria and Western Region, Ghana still contain forested area where rattans flourish, whilst in other regions rattan is far less common.

2) All contain people who are involved in rattan-related activities and/or use items made with rattan cane in every day life.

3) All contain areas that are referred to as "zones" with contrasting access to markets and forest resources.

In addition, collaborating institutions in Cameroon and Nigeria are based in southwest Cameroon and southeast Nigeria respectively and carry out research and development activities there, so logistically it was convenient to limit the research to these areas. In the case of Ghana the collaborating institution is not based in the Western Region but carries out rattan and other non-timber forest product-related research work in this region.

Three different types of zone can be identified in each of the three country's administrative regions on the basis of accessibility to local and cross-border markets and forest resources. These are: border zones, remote zones and on-road zones. These zones are not recognised administrative units but the socio-economic characteristics of rural settlements within these zones tend to be fairly similar. So although the non-random selection of study settlements may introduce some bias into sampling, the settlements chosen are fairly typical of other settlements within the same zone. The characteristics of the different zones and settlements within them are described briefly in Section 2.4 below and in more detail in Sections 3.3, 5.2 and 7.3 for the study zones in Cameroon, Ghana and Nigeria respectively.

Within each zone, the household was our basic unit of research, although the questionnaire was sensitive to the possibility that husbands and wives often have separate incomes and budgets and may only pool resources for certain defined purposes. In order to pick up rattan-related activities in socially quite different contexts, it is necessary to take a relatively large sample of individuals within each locale (since in some areas, only a small proportion of individuals may be very actively involved in large-scale rattan activity). We therefore decided to administer the household census to a total of 120 households in each zone (a total of about 360 households in each country). In order that the sample households are spread evenly through the sample frame we selected a quasi-random sample of households for interview, taking every 'nth' house after a randomly chosen starting unit of less than "n".

The multi-round income and short rattan surveys (see Section 2.2) were administered to a stratified random sub-sample of households in each zone, drawn from households identified in the household census. From an analysis of the household census data and the PRA wealth ranking exercise (see Section 2.2) it was possible to group households identified in the household census into strata according to two variables:

Whether people in the household are involved in rattan-related enterprises or not; wealthy vs. relatively poor households

Grouping households by the first variable was possible by the answer given to the question on the household census form: 'Is any person in this household engaged in rattan-related activities?'

Grouping households by economic status and well-being was less clear-cut. The participatory wealth ranking exercise (see Section 2.2.2) helped to identify the most relevant criteria to differentiate households by wealth. Criteria used to differentiate households into relatively poor households and relatively rich households included: roofing material: zinc vs. thatch;

house construction: mud vs. plank/cement block;

flooring: mud vs. cement floor

household assets: no or very little furniture (i.e. tables and chairs) vs. table, chairs, upholstered sofa;

land ownership: owns land vs. rents land/no land

Perennial cash crop farms (e.g. oil palm, cocoa and coffee: owns perennial cash crop farm vs. does not own perennial cash crop farm.

Employment of workers: hires labour occasionally/full-time vs. never hire labour.

A simple method for scoring households as an economic status proxy for each settlement was then adapted from Ghirotti (1992). Answers to different questions in the household census were weighted by the relative importance of the answers. The choice of weighting was arbitrary but was based on the assumption that each extra point means a relatively resource rich household.

Item	Scores	Item	Scores
Roof:		Number of rooms:	
Thatch	0	1-2	0
Zinc	1	More than 2	1
Walls:		Toilet:	
Mud	0	Open system	0
Wood	1	Enclosed	1
Cement/Mud blocks	1	Pit Latrine	1
Mud Plastered	1		
		Farmland	
Household Items:		Ownership:	
Radio	1	Owns farmland	1
Cassette recorder	1	Rents farmland	0
TV	1	Does not own	0
Wooden Chairs/ tables	1	farmland	
Upholstery chairs	1		
Cane chairs/tables	1		
Wooden cupboard	1		
Cane cupboard	1		
Wooden bed	1		
Metal bed	1		
House ownership:		Hiring farm labour	
Owns house	1	Hires labour	1
Rents house	0	Does not hire	
		labour	0
Trading			
Trades	1		
Does not trade	0		

 Table 2-1 Scores Allocated to Different Household Assets for Grouping Households by Wealth

For example, in housing, a corrugated iron roof gives 1 point, whilst a thatched roof gives no points; a mud wall gives no points, mud bricks gives or cement plaster give 1 point (see Table 2-1). The maximum possible score is 18. Obviously, the higher the score the wealthier the household. Households scoring eight or above were grouped as "rich" in all zones.

The households sampled in each zone were divided into the groups shown in the 2 x 2 box:

Involvement in rattan-				
	Related			
	Enterprises			
Economic status and well-being		House-holds involved in rattan- related enterprises	Households not involved in rattan-related enterprises	
	Relatively poor house- Holds	20	20	
	Relatively rich house- holds	20	20	

Where possible, equal numbers from each stratum were sampled. Approximately twenty households from each stratum were randomly selected from the three zones. The total sample size for the multi-round income and rattan consumption and income surveys in each country was approximately 240 households – about 80 households per zone and about 20 households in each stratum in each zone.

2.2 Survey Instruments

Extensive socio-economic studies at each study site in each of the three zones involved:

- a) Participatory mapping
- b) Wealth ranking to help determine the criteria chosen to differentiate wealthy vs. poorer households.
- c) The administration of the following interview schedules:
 - (i) Household census;
 - (ii) Multi-round income schedule;
 - (iii) Short rattan consumption schedule;
 - (iv) Long rattan schedule.

The purpose of each questionnaire is explicitly stated in the fieldwork and survey manuals for country studied (see Malleson 2000a and Malleson 2001).

We spent much time and thought translating each question on the interview schedules into Pidgin English in Cameroon and Nigeria and into Twi in Ghana so that the language is clear and unambiguous. This exercise really helped to clarify concepts and vocabulary and to ensure that the SROs fully understood the meaning of each question and what information was sought.

2.2.1 Participatory mapping

The purpose of the participatory mapping exercise was to draw a map to show the location of individual houses and the households within them as well as other types of public and private buildings, geographical features, communication networks and other development features and resources.

The maps provide a sampling frame for each study site, the basic information about households that is required to carry out the wealth ranking exercise and a useful reference map for the SROs and residents of the settlement (a copy of the map was left with them). The mapping exercise helped the SROs to familiarise themselves with each study site and gain insights about everyday life in each settlement studied. Mascarenhas and Kumar (1991) provided some useful hints on how to successfully carry out this exercise.

The SROs asked the leaders of the settlement to choose three key informants (at least one was a woman) who know the settlement well. They then walked around the settlement with these key informants mapping each individual house and locating the households within them. Each household was given a unique number and the key informants recorded the name of the household head against each number.

2.2.2 Wealth Ranking

A wealth ranking exercise was carried out to identify locally important criteria which key informants in that settlement use to differentiate households on the basis of wealth and well-being. The methodology used for the wealth ranking exercise is adapted from Mukerjee (1992). Key informants who mapped the settlement were asked to identify the 'poorest of the poor' households in the settlement, by either marking them on the map or going through the list of household heads. Key informants were then asked why they had grouped these households together and to describe what the characteristics of this group were. After this, the key informants were asked to identify the next group of 'slightly better off' households and to identify the characteristics of this group and so on. Tables 3-8-3-10, 5-4, and 7-8-7-10 summarise the criteria used by key informants in Cameroon, Ghana and Nigeria study settlements to group households by wealth.

This exercise was used to draw up a list of indicators. These indicators, together with the information collected from the household census, enabled the SROs to divide the households in a settlement into two groups: those that are relatively wealthy defined as "rich" and those that are relatively poor, defined as "poor".

The purpose of collecting information on social characteristics and wealth of sample households was to enable us to establish a statistical profile of the sample population's modes of usage of rattan, differentiated by socio-economic category. It also permitted us to examine the question of significance of rattan income for the livelihoods of different categories within the population, with special reference to the rural poor and women.

Patterns of household use of rattan items and contribution of rattan-related activities to household income were recorded through participant observation and through the administration of three questionnaire surveys:

- short rattan consumption questionnaire
- multi-round questionnaire
- long rattan questionnaire

The first two of these surveys were administered to a stratified random sub-sample of households included in the household census survey. Approximately 240 households (80 per zone) were surveyed in each country. The long rattan questionnaire survey was administered to those households within the sub-sample found to be engaged in rattan-related activities.

2.2.3 Household Census

The purpose of the household census was to:

- a) Prepare a listing of all households to be included in the sample;
- b) To gather information on the socio-economic characteristics of all household members so that we could group households into those that are wealthy and those that are resource poor;
- c) To find out whether or not one or more people in the household are engaged in, and get income from rattan-related enterprises;
- d) To record details (names and whereabouts) of specialists in rattan-related activities in study settlements.

A total of 988 households were included in the household census. Table 2-2 gives details of the settlements and the number of households sampled by zones and country.

Country	Zone	Settlement Name	Total Households
Cameroon	Border	Boa	33
		Dio (including Baba I and II)	29
		Mbo	61
	Border Total		123
	Remote	Obonyi 1	28
		Obonyi 3	41
		Takamanda	31
	Remote Total		100
	On-road	Bombe	46
		Воро	16
		Ediki	48
	On-road Total		110
Cameroon Total			333
Ghana	Border	Cocoa Town	29
		Domeabra	14
		Fawoman	11
		Ghana Nungua	55
		Sikabile	8
	Border Total		117
	Remote	Ampro	39
		Betanase	36
		Sikaman	45
	Remote Total		120
	On-road	Aboaboso	27
		Wassa Esaaman	93
	On-road Total		120
Ghana Total			357
Nigeria	Border	Danare 1	27
		Danare 2	74
	Border Total		101
	Remote	New Ekuri	63
		Old Ekuri	33
	Remote Total		96
	On-road	Abontakon	101
	On-road Total		101
Nigeria Total			298
Grand Total			988

Table 2-2 Settlements and Number of Households Included in the Household Census, by Zone and Country

Source: Fieldwork 2001-2002

The information collected during the household census was used to select households to be included in the multi-round income survey, the short rattan consumption and income survey and the long rattan questionnaire. The household census also provided the SROs with an opportunity to get to know the people in the area and become known to them.

2.2.4 Multi-round Survey

The purpose of this survey was to:

a) Assess the relative importance of rattan-related cash income compared with other cashearning activities for the livelihoods of different household categories.

b) Assess seasonal and other variations in the significance of different income sources for different categories of people.

c) Give some indication of the inter-annual variations in different income sources for different categories of people.

d) Assess seasonal variations and other changes in the household use of rattan cane products. For example, is the use of rattan cane declining/increasing?

The survey was repeated at roughly four monthly intervals over a maximum period of two years, so as to capture seasonal and inter-annual variation in household income and the use of rattan. For the purpose of analysis, survey rounds were grouped into those that covered the dry season recall period and those which covered the main rainy season recall period.

The topics covered in the multi-round income survey fall into three main categories: 1) changes in the socio-economic characteristics of the household over the last four months 2) household patterns of rattan cane consumption over the last four months; 3) enterprise data to rank and quantify the five most important sources of income and to record any income for rattan-related activities over the last four months for the household as a whole.

For each of the main income sources, respondents were asked, where relevant, to recall the amount of product sold and the actual profit received (i.e. minus any monetary costs such as transport costs). It is important to note that no attempt was made to derive a meaningful local value of labour as this, as Wollenberg and Nawir (1998) point out, would have required considerably more time and resources. Table 2-3 shows the number of households included in the multi-round survey in each zone for each country.

Country	Zone	No. Households Surveyed	Total No. of Visits Recorded
Cameroon	Border	75	245
	Remote	80	297
	On-road	79	269
	Total	234	811
Ghana	Border	79	400
	Remote	80	399
	On-road	82	400
	Total	241	1199
Nigeria	Border	80	225
	Remote	77	242
	On-road	79	266
	Total	236	733

Table 2-3 Number of Households Participating in the Multi-round Survey

Source: Multi-round survey 2001-2003

2.2.5 Short Rattan Consumption and Income Survey

This questionnaire was completed once for a sub-sample of households selected from the household census at the same time as the first round of the multi-round survey. The purpose of this survey was to identify who uses rattan cane products and for what purposes and to get an indication of the changes in the use of rattan cane products.

2.2.6 Long Rattan Survey

The purpose of this questionnaire is to collect in-depth information on the characteristics of the workforce, raw materials supplies, markets and finance and on constraints of rattan-related enterprises. The questionnaire was administered once only to those households who are involved in rattan-related enterprises. In addition, the questionnaire was administered to a few households in each zone containing specialists identified from the household census.

2.3 Data Analysis

Data was entered into Excel and was analysed using both Excel and Access. Ranked data, collected in the multi-round and NTFP surveys were converted into scores to facilitate analysis. Guidance on this was found in Abeyasekera *et al* (2000). In the multi-round survey, respondents were asked to rank the top five sources of income. Each

income source was given a score of 5,4,3,2, or 1 according to whether the respondent ranked the income source as being 1^{st} , 2^{nd} , 3^{rd} , 4^{th} or 5^{th} most important income source. These scores were then totalled to give an indication of the importance of different income sources.

In order to compare the relative wealth of households in the different settlement types, an overall index was developed based along the lines of that used by Koppert (2002). Answers to different questions were weighted by the relative importance of the answers (see Table 2-4). The choice of weighting was arbitrary but was based on the assumption that each extra point means a relatively resource rich household. For example, in housing, a corrugated roof gives 2 points, whilst a thatched roof gives no points; a mud wall gives no points, mud bricks gives or cement plaster gives 1 point. The index was obtained by multiplying the percentages of a category by the value of the index. For example, if 30% of the households in a sub-sample (i.e. remote settlements) had corrugated roofs 0.3 points would be allocated.

Category	Item	Туре	Weighting
			factor
Housing	Roof	Thatch	0
		Corrugated zinc	1
	Walls	Wattle and daub	0
		Mud bricks	1
		Cement plaster	1
		Wood plank	2
		Cement block	4
	Floor	Mud	0
		Cement	1
	Household items	See Table 2-1	
	Latrine	Communal	1
		Private pit latrine	2
	Electricity supply	Yes	1
House ownership	Own house	Yes	1
Education	Children's education	5-16 years in school	1
	Adult education	1-4 years' education	1
		5-8 years' education	2
		> 8 years' education	3

Table 2-4 Weighting Factors for Settlement Wealth Index

2.4 Study Sites

As explained earlier, three study zones: remote, border and on-road were purposively selected in each country. Brief descriptions of the zones and study sites within them follow, for more detailed information see the relevant Sections for each country.

2.4.1 Southwest Province, Cameroon

Remote Zone: Takamanda area, Manyu Division

Settlements: Takamanda, Obonyi I and Obonyi III. These settlements lie within Takamanda Forest Reserve. They are accessible only by footpath from the terminus of a logging road from Mamfe. Rattan cane grows abundantly in the area, however poor market access limits the amount of cane exploited for commercial purposes.

On-road Zone: South Bakundu area, Meme Division

Settlements: Bombe, Ediki and Bopo. Bombe and Ediki are situated along the major Buea – Kumbe road. Bopo is located about 12 km off the major road. It is still accessible by vehicle in both rainy and dry seasons, with smaller vehicles limited to the dry season. Rattan cane grows abundantly in South Bakundu Forest Reserve, which is easily accessible from these settlements via a number of logging and farm to market roads. Rattan cane from the reserve is harvested in large quantities to feed rattan basket and furniture enterprises in the sample settlements and in nearby Kumba and Muyuka.

Border zone: Mokoko area, Bamusso, Ndian Division

Settlements: Mbongo, Boa, Diongo and Baba I and II. Baba I and II, are settlements occupied by Nigerians, known locally as "camps", attached to and administered under Mbongo. Mount Cameroon lies to the East and Nigeria lies to the West. The selected villages are located on the Boa plain and all share boundaries with the Mokoko River Forest Reserve. Rattan grows abundantly in the nearby forest reserve and surrounding areas. The area is easily accessible by boat from the Calabar area in Nigeria and seasonally by a feeder road to the Ekondo Titi to Kumba road.

2.4.2 Cross River State, Nigeria

Remote zone: Old Ekuri and New Ekuri, Akamkpa Local Government Area (LGA)

These settlements are relatively remote compared with the other study sites in Nigeria. They are accessible by a laterite road built by the communities from the Calabar – Ikom highway. During the rainy season the road becomes impassable for most vehicles. The forests that surround these settlements are relatively intact. Rattan grows abundantly in them. The combined population of Old and New Ekuri in the mid-1990s was estimated to be about 1,500 (Dunn and Otu 1996).

The Ekuri villages lie within the 'support zone' of Cross River National Park (Dunn and Otu 1996). They have received assistance to manage the Ekuri forest on a sustainable basis, under the Ekuri Initiative from World Wide Fund for Nature, the DFID-funded Cross River State Forestry Project, the Cross River State Forestry Department (Dunn and Otu 1996) and the Ford Foundation.

On-road zone: Abontakon, Boki LGA

Abontakon is located along the tarred, but pot-holed, Ikom – Obudu road, about 29km from Ikom. According to LENF (1998) there is no 'virgin' forest left around these settlements, because of farming and timber exploitation. Afi Forest Reserve is located near Abontakon. LENF (1998) estimate the Abontakon's population to be about 6,000.

Border zone: Danare I and II Boki (LGA)

Danare I and II and farm settlements can be reached from Bashua, via a laterite road. This road is sometimes impassable during the rainy season. These settlements are located within about two kilometres west of the Nigerian – Cameroon border. Bodam, the nearest Cameroon village to Danare, lies about three kilometres east of Danare. Rattan cane grows abundantly in the area, however poor market access limits the amount of cane exploited for commercial purposes. LENF (1998) estimates the population of Danare I and II to be about 5,000. LENF is working with the people of Danare II to manage their community forest on a sustainable basis.

¹ This 'support zone' is not a legally classified area. It was planned to provide rural development assistance to the zone's inhabitants to compensate them for their restricted access to the Cross River National Park and to encourage them to support park protection (Dunn and Otu 1996).

2.4.3 Western Region, Ghana

Remote Zone: Wassa West District.

Settlements: Betenasi, Sikaman and Ampro. These settlements lie to the east of the Draw River Forest Reserve, between the Ankobra and Draw Rivers. They are accessible by footpath from the road terminus at Gwira Banso. Betenasi is also accessible by motorised canoe from Gwira Banso. Rattan cane grows abundantly in the area and gangs of visiting rattan cane harvesters have cut many footpaths into the forest from the logging roads.

Border zone: Tano River area, Jomoro District.

Settlements: Cocoa Town, Ghana Nangu, Sika Bile, Domeabra and Fawoman. These settlements are located on the banks of the Tano River, which forms the boundary between Ghana and Côte D'Ivoire. Cocoa Town is 7 km from the border town of Elubo where there is a road crossing to Côte D'Ivoire. Ghana Nangua is about 10km further north of Coco Town. A road from Cocoa Town to Ghana Nangua is under construction. The Tano River is navigable and people from Cocoa Town and Ghana Nangua use boats during the rainy season to reach Elubo market. A bridge over the Tano River, funded by DFID, has recently been constructed which now links Elubo with Enchi, a large town further north. Rattan cane grows in the nearby Ankasa Protected Area and we were told that it is transported by canoe across the border to Côte D'Ivoire.

On-road Zone: Wassa East District.

Settlements: Wassa Esaaman and Aboaboso, are located along the Esaaman to Daboase road. Wassa Esaaman is located near the eastern boundary of the Subri Forest Reserve. It is accessible by road from the district capital Daboase which is 30 km southwest of Esaaman. Rattan cane grows abundantly in the Subri Forest Reserve but there is little forested land outside the forest reserve itself (Falconer 1992).

2.5 Research Activities

Data collection was undertaken from 2000 – 2003 by the SRO's in Cameroon (Stella Asaha), Ghana (Kwaku Obeng-Okrah) and Nigeria (Imabong Ukpe and Martins Egot). Imabong Ukpe and Martins Egot received considerable help with their fieldwork and data entry from Stella Asaha.
2.6 Problems and Limitations

The non-random selection of study sites may introduce some bias into sampling. However study settlements were selected to represent a typical village from within the zone in question.

SROs found that the collection of household census data was hindered by the absence of household members for social visits and economic activities. Generally, in all the zones not all households in the sample were interviewed. This was due to the fact that they had either travelled, had been transferred, died, deliberately refused to respond due to one reason or the other, or were never seen throughout the period of stay in the village (Asaha 2002). The latter reason is especially true for unmarried men in the Takamanda area who spend most of their time in their 'bush houses' hunting and harvesting non-timber forest products (Asaha 2002).

In Cameroon's border settlements Nigerian households tend to move back to Nigeria at certain times of the year or may be away fishing. Some people in the border zone, especially Nigerians, were unwilling to be interviewed. They were wary of immigration rules and hence were very reluctant or refused outright to answer questions (Asaha 2002).

It was also observed that young people in all study zones are relatively mobile. They tend to move backwards and forwards from rural and urban areas in search of livelihood opportunities. This meant that the composition of households tended to change considerably throughout the research period.

All the study zones in Cameroon were, and some continue to be, the focus of a number of research and development projects (see Section 3.2). This means that the some of the inhabitants have been subjected to many interviews and there may be a danger of "interview fatigue".

Furthermore, some conservation initiatives have reportedly led to ill-feeling amongst inhabitants of the Takamanda Forest Reserve (Schmidt-Soltau *et al* 2001). In the past, the Cross River Gorilla Project Cameroon (CRGPC) had a good working relationship with the population. However, presently there is a lot of conflict between the Takamanda villages and CRGPC, which is affecting other projects (such as this one) working in the area. It is very difficult to make villagers understand the differences between projects. Some local people are not cooperating with projects working in the area. This is partly because some people, particularly hunters, feel these projects are now limiting their access to the natural resources (Asaha 2002). Conflicts between one of the Mokoko villages and the Mount Cameroon Project (MCP) also affected the work of this Project (Asaha 2002).

Although the SRO tried to make it clear that she was working independently of these projects, it may be that ill-feeling amongst inhabitants may not have helped in the process of establishing rapport with informants and respondents.

2.6.1 Wealth-ranking

The wealth ranking exercise was difficult and time-consuming to carry out in larger settlements, in Southern Bakundu and Mokoko areas, where key informants had to rank each household (Asaha 2002).

In some areas, particularly where there are resident strangers, the state of housing conditions can be an ambiguous proxy for wealth. For example, in Cameroon's border zone, Nigerian households make up a significant proportion of the households in many settlements. These households may reside for part of the year in the creeks in Cameroon and part of the year in their native villages in Nigeria. The housing conditions and household assets of their temporary homes in the creeks and their permanent homes in their native villages may be very different. They may live in poorly constructed, temporary houses in the creeks for part of the year and in more permanent houses for the other part of the year in Nigeria. Land ownership, in this case, will be irrelevant, as most Nigerians living in the creeks rent land there, but may own land in their native villages. Employment of workers may be the only clear criteria to differentiate households on the basis of economic status. A relatively wealthy migrant household may employ labour whereas relatively poor households will most likely not.

The wealth ranking exercises in Danare and Abontakon revealed that some very poor people do not live in separate households, but live in the relatively wealthy households of those who employ them. This highlights the important point that focusing on the household as your main unit of analysis may mean that differences that cut across households are masked. It is therefore important to look at differences that occur within households as well as between them.

2.6.2 Multi-round Survey and the Estimation of Income Data

Multi-round surveys were supposed to be administered three times a year, once every four months. However in some instances the period between surveys was longer, up to five or six months. This meant the recall period was also five or six months. This has led to increased inaccuracies and errors. The irregular administration of the multi-round survey also meant that seasonal variations in rattan usage and sales were blurred. Ideally four seasons could have been identified: early rainy, late rainy, early dry and late dry seasons, however given the irregular administration of the survey it was only possible to define two main seasons – rainy season and dry season.

The data for multi-round surveys is incomplete for a number of households because of demographic changes. In some cases, for example some border settlements, whole households consisting of Nigerian migrants moved back to Nigeria. In other instances

households, particularly those consisting of a single elderly person or elderly couple, no longer existed because household members had died or had expanded considerably because of births.

The collection of income data is notoriously problematic (see Wollenberg and Nawir 1998). SROs were asked to "grade" the accuracy of respondents' answers. Those that were deemed very inaccurate were not included in the data analysis.

3 Rural Settlements and Households Studied in Southwest Province, Cameroon

3.1 The Region

Cameroon's Southwest Province is bounded to the north by Northwest Province, to the east by Littoral and West Provinces and to the west by Nigeria. It is made up of five divisions: Fako, Meme, Manyu, Ndian and Lebialem. The provincial capital Buea, is situated at an altitude of 1,000m on the southern flank of Mount Cameroon. The natural vegetation of most of Southwest Province is dense humid evergreen forest characterised by Letouzey (1985) as "Atlantic Biafran forest" rich in Caesalpiniaceae, although extensive areas of this forest formation have been lost through agricultural expansion. Mangroves characterise the coastal region of the Province, although these are being increasingly denuded through felling for fuelwood and invasion by the exotic swamp palm *Nypa fruticans* (Sunderland and Morakinyo, 2002). An extensive mountain chain runs along the Cameroon-Nigeria border up to the Bamenda highlands, where vegetation and habitat range from high-altitude and sub-montane forest, to savannah and alpine grassland on the highest peak, Mount Cameroon (4,095m). Around Mount Cameroon, relatively fertile volcanic soils predominate, whilst the rest of the province is covered with relatively acidic and infertile ferralitic soils.

The Province is rich in biodiversity and comprises an important biological hot spot of global importance (Myers, *et al.* 2000) (see Figure 3-1). However, there are only two officially protected areas in the Province; the Korup National Park and the Banyang-Mbo Wildlife Sanctuary. Many other forest reserves, such as the Takamanda Forest Reserve (FR), set aside as "production forest" during the colonial era have remained relatively in tact and have recently been proposed to be upgraded as "protected forest" through Ministry of Environment and Forest's (MINEF) recent *Plan de Zonage* process.



Figure 20. Existing and proposed protected areas and other reserves in southwestern Cameroon and Bioko (information on proposed reserves from a MINEF zoning plan supplied to WCS Cameroon).

74

Figure 3-1Map of Study Region, Cameroon

Some of these protected area and forest reserves, such as Takamanda FR and Southern Bakundu FR have, in the past, or are currently receiving support from international conservation organisations.

Southwest Province experiences high rainfall, it varies from 1,500 to more than 10,000 mm per annum at Debundscha at the foot of Mount Cameroon; the wettest place in the world. The climate is characterised by clearly recognised wet and dry seasons. Most rain falls during the months of March to September, the rest of the year remains fairly dry. The temperature ranges from 22-30° C, with high humidity throughout the year. In the highlands, the mean annual temperature drops with increased altitude and especially at the summit of Mount Cameroon, the temperature drops significantly at night to such an extent that snow and ice have often been recorded from the summit.

Large scale plantations of oil palm, rubber, banana, tea, pepper, cocoa and coffee are dominant features of Southwest Province, particularly in and around the foothills of Mount Cameroon, which are characterised by highly fertile basaltic soils. Over a third of Cameroon's palm oil and over two thirds of its rubber is produced by the Province, mainly by large privately-owned companies or parastatals. The majority of the workers on these estates are from other parts of Cameroon and Nigeria. Smallholders in Southwest Province produce over a quarter of Cameroon's cocoa and coffee (Gartlan 1984). Arable farming is a major occupation of the Province's inhabitants, both for subsistence and cash. The principal food crops grown are *cocoyams*², cassava (*Manihot esculenta*), plantains and bananas (*Musa* spp.) as well as a range of green vegetables.

Timber exploitation was a major industry of the province, but it has now declined since most of the easily accessible timber has already been extracted. However, some timber is still being exploited by industrial timber companies, particularly in the more remote divisions of Manyu and Ndian, and two new concessions have recently been allocated in the Upper Banyang reigion. Small-scale, and often illegal and unregulated, timber exploitation using chainsaws to convert trees into planks is still an important economic activity throughout the Province. The trade in non-timber forest products (NTFPs) is also significant, particularly across the porous international border. Many products, although not captured in formal revenue statistics, contribute significantly to the livelihoods in the region and an estimated production value of ca. US\$8 million per annum (CERUT, 1999). Along the coast, the mangroves are important fishing grounds and the oil refinery near Limbe is one of the Province's few heavy industries and an important local employer.

The 'economic crisis' began in the mid- 1980s. Cameroon's economy then declined. During 1993, civil servants' salaries and allowances were cut by an average of 20%, but some salaries were cut as much as 70%. The shortage of cash amongst wage-earners has had serious effects on the self-employed. Commercial farmers and traders have been badly hit by the economic crisis and many have gone out of business because wageearners cannot pay their debts. Unemployment, particularly amongst the youth increased,

² In this report we use cocoyams as a generic term to refer to exotic root vegetables belonging to the family Araceae. Two genera of this are family are widely cultivated in SWP: *Xanthosoma* spp. and *Colocasia* spp.

and many of these young people returned to their native villages because job opportunities in urban areas have declined.

A 50% devaluation of the Communauté Financière Africaine (CFA) franc took place in January 1994 which has had significant effects on the local and national economy. It has led to price increases of imported commodities and local foodstuffs. At the same time, devaluation caused the official buying prices for the principal perennial cash crops, cocoa and coffee to rise significantly. Cocoa buying prices rose from about 200 CFA per kilogramme to 300 CFA per kilogramme; as a result, many farmers are regenerating their cocoa and coffee farms.

One of the effects of the economic crisis was that some people, who no longer have job opportunities in urban areas, returned to their natal homes where they are farming. In more remote settlements, young people, who cannot afford to establish farms, concentrated on the harvesting of non-timber forest products, such as bushmeat and *bush mango*.

More recently there has been an upturn in Cameroon's economic fortunes. Cameroon's Gross Domestic Product (GDP) has increased in the past few years and significant investment is being made into the industrial sector. There is a new deep-sea port being built in Limbe, along with a mineral water bottling plant, a cement factory and a new thermal energy plant for the supply of electricity to the entire country. Taxation has been formalised, and relaxed in many sector, e.g. the import of computer equipment and peripherals, the logging industry has improved, meaning more (if not all) local transformation of wood and there is greater transparency in the revenue collection process (T. Sunderland pers. comm. 2004). Job opportunities in urban areas appear to be on the increase and this, in turn, appears to have led to a movement of young people from rural to urban areas.

The Cameroon - Nigeria border runs along the western side of the Province. The contrasting economic policies of the two countries have promoted trade. The Nigerian naira is weak and therefore not easily convertible, whilst up to 1994 the CFA was fixed to the French franc and is now linked to the Euro and is therefore easily convertible. The cross-border trade constitutes an important economic activity of Southwest Province. Nigerian imports include automobile fuel, processed foods, such as dried milk and vegetable oils, manufactured goods, such as textiles, shoes, clothes, kitchenware, household furniture, televisions and other electronic equipment and motor vehicle engines and spare parts.

The devaluation of the CFA franc in 1994 has led to a decline in the import of Nigerian goods. This decline has been exacerbated by the escalating border conflict between Nigeria and Cameroon over the Bakassi Peninsula, west of the Rio-Del Rey, where productive oilfields are present, which disrupted river transport through the creeks. As a result of the border conflict, the Cameroonian authorities have tightened up on the need for Nigerians to possess residence permits and this had led many Nigerian settlers to return to Nigeria.

3.2 General Description of Study Settlements

3.2.1 On-road Study Settlements in the Southern Bakundu Forest Reserve Area

The Southern Bakundu Forest Reserve is situated in Meme Division, South West Province Cameroon. Three settlements in this area were selected as our on-road study zone: Bombe, Ediki and Bopo (see Figure 3-2). Bombe and Ediki are located along the major road to Kumba. Bopo is located around 12km off the major road, on a laterite road which is still accessible to four wheel-drive vehicles in both rainy and dry seasons and to smaller vehicles during the dry season only.

This zone is characterized by large settlements with at least 1,000 inhabitants; however, relatively smaller settlements were selected for this research work. The main reason for this was to ensure that key informants for the Participatory Rural Appraisal (PRA) exercises should know the social strata of at least 80%-100% of the households.

The traditional administrative set-up is made up of a chief and the traditional council. Within the council there are representatives of the women, youth and also other natives settled in this area. The traditional council is directly answerable to the Mbonge subdivisional office and the Mbonge Rural Council.

The people of Bombe and Bopo belong to the Bakundu ethnic group, whilst those from Ediki are from the Ekombe ethnic group. However, about 70% of the population in this area are migrants, mainly Cameroonians from the Northwest Province and Nigerians. This ethnic diversity appears to have led to the decline of culture and tradition in the area in general (Asaha 2002).

The Southern Bakundu area is currently hosting Centre for Environmental and Rural Transformation (CERUT) and South West Development Authority (SOWEDA) tree nursery programmes (Asaha 2002). Settlements in this area are also frequently visited by students from the Pan-African Institute for Development, West Africa (based in Buea) for practical sessions (Asaha 2002). There is also the, now defunct, National Forestry Development Agency- International Timber Trade Organisation (ONADEF-ITTO) Southern Bakundu Forest Project which has carried out a NTFP survey in the villages within and around the forest reserve (Bureau des Etudes Forestiers/Environmental 1998).

Bombe, Ediki and Bopo are located close to the boundaries of Southern Bakundu Forest Reserve. This Reserve covers about 18,100 ha. and is bounded to the north by the Kumba - Ekondo Titi road, to the south by the Cameroon Development Corporation (CDC) oil palm and rubber plantations, to the east by the Kumba – Douala road and to the west by Lake Barombi.



Figure 3-2 Map of Cameroon Study Settlements

The Southern Bakundu Forest Reserve was gazetted in 1937. From around 1965 until 1997, the Reserve was neglected and during this time a considerable amount of encroachment occurred (Bureau des Etudes Forestiers/Environmental 1998). During the 32 years of abandonment, the Reserve was said to become "everybody's farm", with nearly a third of it being occupied by farms between 1960-1995 (Bureau des Etudes Forestiers/Environmental 1998). Considerable timber and NTFP exploitation took place during this period of neglect (Bureau des Etudes Forestiers/Environmental 1998). From 1983, the Cameroon government began to undertake some "recovery measures" which included boundary clearing and re-establishment of boundary pillars, forestry inventory work, and the prosecution of illegal occupants (Bureau des Etudes Forestiers/ Environmental 1998). Despite this, illegal logging, agricultural encroachment and excessive poaching has led to vast areas of the Reserve to be lost and many of its fauna decimated (Eno 2004).

3.2.2 Border Study Settlements in the Mokoko Area

This area is situated at the northwest foot of Mount Cameroon and bordered by Nigeria on the West (see Figure 3-2). The villages studied, Mbongo, Boa and Diongo, are located within the Boa plain and all have boundaries with the Mokoko River Forest Reserve. This Reserve covers an area of about 9,100 ha and was created in 1952 as a production forest (Sunderland and Tchouto 1999). The Mokoko area is included under the Bamusso Rural Council, Ndian Division. A large part of the Boa plain was converted to industrial plantations in the colonial period. These are now owned by Cameroon Development Corporation (CDC) which has about 3,700 ha. of oil palm and rubber plantations in the Boa Plain, Illoani and Mokoko area (Sunderland and Tchouto 1999).

The people of Mbongo, Boa and Diongo belong to the Balondo ethnic group. In addition, there are many Nigerians, mostly Ibibios from the Akwa Ibom State, and other Cameroonians who have settled in the area to farm, fish and also to work on the nearby commercial oil palm and rubber plantations run by CDC. Intermarriage between Nigerians and Cameroonians, as well as between Cameroonians, from different ethnic groups, and Balondo people is common.

The nearest government services in this area include a gendarmerie post and a subdivisional office located at Bamusso. This area is accessible by boat from Nigeria and also by road from other parts of Cameroon. The three villages all have 'camps', which are occupied by Nigerians but are still under the administration of the respective village councils. The Nigerian 'camps' of Baba I and II (24 households) are included in the Diongo household sample. Mbongo sample includes nine households from the (CDC) camp. This camp is inhabited by CDC plantation workers.

The Mokoko zone is one of the four geographical areas of the former DFID-funded Mount Cameroon Project, which ceased operations in 2002. Other research institutions such as CIFOR, CARPE, ICRAF as well as individual researchers have also been working in the area (Asaha 2002).

3.2.3 Remote Study Settlements in the Takamanda Area

Villages in and on the edge of Takamanda Forest Reserve area represent our remote study site. This area is situated in Southwest Province's Manyu Division, and adjoins the border with Nigeria in the north and northwest (see Figure 3-2). The Oyi River, a tributary of the Cross River, forms most of the western boundary of the Takamanda Forest Reserve.

For a brief history of the area and literature review see Schmidt-Soltau *et al* 2001. Very little historical ethnographic information on area exists apart from reports made by British Colonial Administrators (Schmidt-Soltau *et al* 2001). Takamanda Forest Reserve was created by decree in 1934 under the British Colonial Administration of Nigeria. Village enclaves were created within the reserve for Obonyi I and III as well as Kekpani. In the 1950s the reserve boundaries were modified as inhabitants complained they needed more farmland (MINEF 2003). Takamanda Forest Reserve is currently classified as a State Production Forest Reserve and is managed by MINEF through its Divisional Delegation in Mamfe, Manyu Division (MINEF 2003).

The Reserve was, and still is, the focus of a number of internationally funded projects. In 1997, large mammal studies were carried out by the Takamanda Forest Research Project (TFRP) funded by World Wildlife Fund (WWF) and the Wildlife Conservation Society (WCS). These studies focused mainly on the Cross River gorilla (Groves and Maisels, 1999; Comiskey *et al.*, 2003). An anthropological survey was carried out in 1998 by Caroline Ifeka (see Ifeka in Groves and Maisels 1999). Then, in 2000, the Smithsonian Institution started biological research in the Reserve which led to the establishment of research initiative which was aimed at cataloguing the biodiversity of the area and generating management proposals. Progress has been made and Takamanda is soon to be gazetted as a National Park, although with usufruct rights of the communities are to be maintained (Sunderland pers.comm. 2004).

From 2000 to 2003, the Project for the Protection of Forests around Akwaya (PROFA) operated in and around the Takamanda area. This was a joint technical cooperation effort between the Governments of Cameroon and Germany. The Project's overall goal was to maintain the biodiversity of the reserve as well as improving the living conditions of people living in and around the reserve (MINEF 2003). As part of the PROFA Project, a baseline socio-economic survey in and around Takamanda Forest Reserve was carried out (see Schmidt-Soltau *et al* 2001) and a management plan for the Reserve was drawn up in 2003 (MINEF 2003). However, this management plan was written for a "production forest" and as such, contradicted MINEF's own intention to upgrade the area to impart a greater level of protection. This management plan has now been rejected and a land use planning process aimed at creating a technical operations unit for the entire Takamanda-Mone-Mbulu forest complex is now under way (Sunderland pers. comm. 2004).

Across the international border lies another protected area - the Okwango Division of Nigeria's Cross River National Park. This National Park has also been the focus of a number of internationally funded conservation initiatives.

The three villages selected for our remote study sample are Takamanda, Obonyi I and Obonyi III. Takamanda lies on the southern boundary of Takamanda Forest Reserve, whilst the villages of Obonyi I and Obonyi III are located in an enclave, north of Takamanda (see Figure 3-2). Obonyi I and Obonyi III are around one hour's walking distance apart and from Obonyi III and Obonyi I to Takamanda village is around four hours walking distance (Asaha 2002). During the dry season the nearest road-point from Obonyi I and III is Bashu which is about six hours walk away. The nearest road-point during the dry season for Takamanda is Bakem, about three hours walk away (Schmidt-Soltau *et al* 2001).

The people of Obony I, Obonyi III and Takamanda villages belong to the Anyang ethnic group. Obonyi people claim they were of Boki origin and have changed to Anyang because their current settlement is considered to be located in Anyang land (Schmidt-Soltau *et al* 2001).

The inhabitants of all three villages speak the Denya dialect, though many still refer to it as the Anyang dialect. There is a high rate of intermarriage with neighbouring ethnic groups, particularly the Boki people who are found on the Nigerian side of the border. As a result, one finds people from other ethnic groups, particularly Boki-speaking people within Anyang villages (Asaha 2002).

It is customary for young couples to stay with both set of in-laws for as long as they wish, especially if they are not of the same village. Belief in traditional customs and practice is still relatively strong in this study area. For example, specific plants believed to have magic powers are placed at the entrance the villages. Traditional women's groups are still very active and they use their 'juju' to sanction any woman who misbehaves in the community (Asaha 2002).

3.3 Settlement Types

3.3.1 Access to Forest Resources and Markets ³

As already made clear, all three of the study zones in Cameroon are located near forest reserves. According to Cameroon law, access to forest resources in forest reserves is limited. People may harvest forest products for subsistence purposes only and also have rights to travel through reserves. In reality, and despite legal restrictions, people continue to harvest forest products from forest reserves and surrounding areas, in some cases, with limited interference from the State.

³ This section is drawn largely from Asaha 2002

3.3.1.1 Remote Zone Settlements

In the past, the remote study area was very inaccessible, requiring a day's walk to reach the reserve boundary, either from Mamfe or from Obudu Cattle Ranch in Nigeria. There are currently no roads to any of the settlements studied. But there is a road, currently under construction, which when completed, will link Mamfe with Akwaya. During the rainy season, this road, which passes to the east of the Takamanda Forest Reserve, ends at Nyang where there is an incomplete bridge. The construction of this road has improved access to the area (Sunderland-Groves *et al* 2003b). Better market access has, in turn, led to an increase in the marketing of farm and forest products.

Access from the Reserve to neighbouring Nigerian markets is relatively easy. This has resulted in significant cross border trade between the two countries. Household and electrical goods and other provisions are brought in by itinerant traders who, on their way back, buy other products, especially NTFPs such as *bush mango (Irvingia spp. and eru (Gnetum spp.)* to sell in Nigeria.

3.3.1.2 On-road Zone Settlements

Markets are relatively easily accessible to the villages studied in this zone as they are located on a major road. Traders from major towns such as Kumba, Limbe, Buea and Douala visit the markets of these villages to buy farm produce. Some farm products like plantains, *cocoyams*, yams, bananas and fruits are commonly seen being sold along the main roads in the area. These villages have days allocated for their markets, which are well known by buyers or traders from towns and neighbouring villages.

Ediki also has access to a railway line, which passes from Douala via Mbanga to Kumba. This probably explains the presence of many people from French-speaking Cameroon in Ediki. Business people from the Littoral province come to Ediki to buy both agricultural goods such as *gari* (ground and dried cassava) as well as NTFPs such as rattan cane and *eru*.

Bopo, which is situated off the major road, has no formal market. People either hire porters to carry farm produce or carry it themselves to the nearby Pete or Banga Bakundu markets. However, during the dry season vehicles from Banga Bakundu may visit from time to time.

3.3.1.3 Border Zone Settlements

Settlements in this zone lie close to the border with Nigeria, within the creeks of the Bakassi Peninsular (see Figure 3-2). The area is accessible by road from Kumba via Mbonge, as well as by boat from other Cameroonian creek settlements and also from Nigeria. It is a busy trade route between Cameroon and Nigeria.

The nearest market to the three villages is about one hour's walk away in the direction of the creeks. Apart from the Bekeri beach market, which is accessible by vehicle from Mbongo, the other two beach markets can only be reached by motor bikes or on foot.

Trade by barter is still common in these markets. Traders, both from Nigerian border towns and Cameroon fishing ports, bring in goods from Nigeria as well as smoked fish and crayfish and exchange these for foodstuffs such as plantains, bananas, *gari*, *cocoyams* and yams. Large quantities of large rattan cane fishing baskets can also be seen in these markets, many are sent to the creek villages or to Nigeria. The Nigerian Naira is mostly used in markets in this area, rather than the FCFA. Farm products are also taken to the nearby Mbonge and Ekondo Titi markets.

3.3.2 Forest conditions

3.3.2.1 Remote Zone Settlements

High forest covers most of the c. 676 km² Takamanda Forest Reserve area. The southern and central parts of the Reserve are covered by dense, lowland (100-700m) humid forest. The area is characterised by many streams and rivers, which all run down and join the Cross River.

Mature high forest is the predominant vegetation type in the remote study zone. However, quite large areas around the study settlements have been cleared for farming and agricultural encroachment into the surrounding Reserve is occurring. This is especially the case for lowland forest areas around the remote study settlements (Sunderland *et al* 2003b). Over a third of respondents from the study settlements included in a recent survey claimed they were farming inside the Reserve (Schmidt-Soltau *et al* 2001). This maybe because many people in this area cultivate food crops around permanent bush huts within the Reserve which are also used for the collection of NTFPs including bushmeat and *bush mango* (MINEF 2003)⁴.

Timber exploitation is already taking place along navigable waterways, particularly around Takamanda village. Illegal logging companies based in Nigeria are active in the southern part of the Takamanda Forest Reserve (MINEF 2003). Hunting and the harvesting of some NTFPs (particularly *Carpolobia* spp. and *Massularia acuminata*) is reportedly having an increasingly deleterious effect on forest ecology (Sunderland *et al* 2003b). However, Sunderland *et al* (2003b) also point out that both the main commercial species of rattan (*L. secundiflorum* and *E. macrocarpa*) are abundant in the Reserve and that rattan is currently not at risk from over-harvesting.

3.3.2.2 On-road Zone Settlements

Bopo, Bombe and Ediki are located close to the boundaries of Southern Bakundu Forest Reserve. As earlier mentioned (see Section 3.2.1), parts of the Reserve have been considerably degraded because of encroachment. Scarcity of farmland in areas surrounding the Reserve has led farmers to encroach. In the past, the Reserve was an important source of NTFPs but a recent report claims that large parts of the Reserve are now devoid of commonly exploited NTFPs (Bureau des Etudes Forestiers/Environmental 1998). Forested land outside the Reserve is being converted to plantations of oil palm,

⁴ MINEF (2003) suggests these bush huts should be eliminated to stop further degradation of the forest.

rubber, plantains and cocoa and also for high income-generating foods such as yams, cassava and *egusi* (*Cucumeropsis manii*).

3.3.2.3 Border Zone Settlements

Land surrounding the villages in this zone is presently a mixture of natural forest, secondary forest, old fallow, small oil palm plantations and farmland. As earlier pointed out, the settlements in this zone border on the Mokoko River Forest Reserve which is said to be one of the most intact and extensive forests on the foothills of Cameroon (Sunderland and Tchouto 1999).

The Reserve is regarded highly for its biodiversity value (Cable and Cheek 1998). There was some commercial timber exploitation within the Reserve between 1980 and 1990 during which time a network of logging roads throughout the Reserve was established (Sunderland and Tchouto 1999). However this commercial logging is thought to have little effect on the forest (Thomas 1994 and ERM 1998, quoted in Sunderland and Tchouto 1999). Local timber exploitation is occurring, but again is reportedly having minimal impact on the forest as a whole (Sunderland and Tchouto 1999).

Agricultural encroachment into the Reserve is not currently regarded as significant, but land use in the area is thought to be changing because of population increase and agricultural expansion (Sunderland and Tchouto 1999). CDC holds the leasehold to about 13,000 ha.of secondary forest, farmland (c.4,000 ha.) and undisturbed forest (c.9,000 ha.). Expansion of plantations into this land may cause shortages of farmland (Tchouto *et al* 1998) and this, in turn may lead to encroachment into the Mokoko River Forest Reserve (Sunderland and Tchouto 1999).

3.3.3 Demographic Changes

A break-down of the populations of sample households in the study zones of Cameroon by age and gender are given in Figure 3-3 and Table 3-1. Both remote and border zone settlements have relatively balanced sex ratios, whilst the on-road study settlements have an excess of adult females over males, where significant numbers of young men are absent, in search of work. All settlements appear to have a high proportion of children below 15 years. Many will soon enter the labour market. As a recent report points out for the Takamanda area (MINEF 2003), in the absence of other job opportunities, there will be increased pressure on forest resources.

Settlement Type	Settlement name	Total # H'Holds	Total No. People]	No. of 1	People i	in Hous		Mean H'Hold	Total No.	Est. Total	
1,100	nunic	Sampled	Sampled							Size	H'holds	Pop'n	
				1	2	3	4	5	6	>6			
On-road	Bombe	46	295	7	2	3	3	8	5	18	6.4	335	2148
	Bombe	100%		15%	4%	7%	7%	17%	11%	39%			
	Воро	16	83	4	1	2	1		2	6	5.2	107	555
	Воро	100%		25%	6%	13%	6%	0%	13%	38%			
	Ediki	48	280	6	4	8	1	5	7	17	5.8	338	1972
	Ediki	100%		13%	8%	17%	2%	10%	15%	35%			
	Total	110	658	17	7	13	5	13	14	41	6.0	780	4666
	On-road	100%		15%	6%	12%	5%	12%	13%	37%			
Border	Boa	35	144	5	7	5	5	2	5	6	4.1	93	383
	Boa	100%		14%	20%	14%	14%	6%	14%	17%			
	Dio	29	120	4	4	3	6	4	4	4	4.1	99	410
	Dio	100%		14%	14%	10%	21%	14%	14%	14%			
	Mbongo	62	279	18	5	3	7	6	8	15	4.5	157	707
	Mbongo	100%		29%	8%	5%	11%	10%	13%	24%			
	Total	126	543	27	16	11	18	12	17	25	4.3	349	1504
	Border	100%		21%	13%	9%	14%	10%	13%	20%			
Remote	Obonyi 1	28	159	6	4	1	3	2	2	10	5.7	64	363
	Obonyi 1	100%		21%	14%	4%	11%	7%	7%	36%			
	Obonyi 3	41	211	4	6	6	5	5	4	11	5.1	95	489
	Obonyi 3	100%		10%	15%	15%	12%	12%	10%	27%			
	Takamanda	31	195	6	2	2	4	4		13	6.3	64	403
	Takamanda	100%		19%	6%	6%	13%	13%	0%	42%			
	Total	100	565	16	12	9	12	11	6	34	5.7	223	1260
	Remote	100%		16%	12%	9%	12%	11%	6%	34%			
Total All		336	1766	60	35	33	35	36	37	100	5.3	1352	7106
		100%		18%	10%	10%	10%	11%	11%	30%			

Table 3-1 Socio-demographic Characteristics of Households by Settlement and Settlement Type



Figure 3-3 Demographic Pyramids of Sample Households, Cameroon By Zone

Remote Sample Households Demographic Pyramid





53

Marked differences exist in the ethnic make-up of different zones. Table 3-2 and Figures 3-4-3-6 summarise these contrasts. Whilst the remote settlements are relatively socially homogeneous, the border and on-road settlements have a high proportion of strangers from neighbouring Cross River State, Nigeria and Northwest Province, Cameroon respectively.

Zone	No. of adults sampled	Central Province	Littoral Province	Northern Province	North west Prov- ince	Southw est Prov- ince	Western Province	Nigeria	Non- respo nses
Border	277	3	0	0	17	139	0	116	2
	100%	1%	0%	0%	6%	50%	0%	42%	1%
Off-road	322	0	0	0	0	315	0	4	3
	100%	0%	0%	0%	0%	98%	0%	1%	1%
On-road	365	1	2	1	160	145	19	34	3
	100%	0%	1%	0%	44%	40%	5%	9%	1%
Totals	964	4	2	1	177	599	19	154	8
Totals %	100%	0%	0%	0%	18%	62%	2%	16%	1%

Table 3-2	Geographical	Origins of	of Adults from	Sample Hou	seholds, By Zone
	0 I			1	

Source: Household Census 2000

Under a quarter of the adults in households sampled in these two zones were "indigenes"⁵. These zones also have significant numbers of "strangers"⁶ who originate from neighbouring divisions of Southwest Province. A third and just over a quarter of all adults are from other parts of Southwest Province in Cameroon's border and on-road zones respectively.

⁵ Locally used term for the autochthonous people of the area.

⁶ Locally used term for short and long-term settlers.





Figure 3-5 Geographical Origin of Adults in Cameroon's Border Zone (N=277)





Figure 3-6 Geographical Origins of Adults in Cameroon's On-road Zone (N=365)

These contrasts in ethnic composition are largely due to differences in livelihood opportunities. The border zone settlements are economically dynamic areas that have attracted migrants who have come to take up farming opportunities. In contrast, the remote zone is currently far too remote and inaccessible to attract strangers.

Table 3-3 provides some information about the movement of adults (people over the age of 14 years) from sample households. Household census questions elicited information about where people spent their childhood and place of previous residence⁷.

Source: Household Census 2000

⁷ Respondents who were born at their current place of residence, or in one of the other settlements sampled within that zone who have never stayed away for a year or more are grouped as **non-migrants**. People who were born at their current place of residence, or in one of the other settlements sampled within that zone but who moved out and lived outside their localities for a year or more are classified as **return-migrants**. Respondents who were not born in their current place of residence or in one of the other settlements sampled within that zone are grouped as **in-migrants**.

Zone	Total No. of Respondents	Non- migrants	Return migrants	In- migrants	Temporary residents
		8	8	8	
Border	276	62	20	194	0
%	100%	22%	7%	70%	0%
Off-road	319	163	56	100	0
%	100%	51%	18%	31%	0%
On-road	364	62	2	286	14
%	100%	17%	1%	79%	4%
Totals	959	287	78	580	14
%	100%	30%	8%	60%	1%

Table 3-3 Migration Status of Adults Sampled by Zone

Source: Houshold Census 2000

As Table 3-3 makes clear, a high proportion (70% and over) of the adults sampled in border and on-road settlements are in-migrants, largely from Nigeria and Northwest Province respectively. This contrasts sharply with the situation in the remote settlements sampled. Here migration is relatively low.

Table 3-4 reflects the contrasts in population movement and stability highlighted above. It provides information on the length of time adults in sample households have stayed in the settlements they currently live in. It is clear that a high proportion of the adults in onroad and border settlements have moved to these settlements relatively recently.

Zone	Sample Size	Temporary resident	2 months to 1 year	2 to 4 years	5 to 9 years	10 to 14 years	15 years & over	Arrived before 15 yrs old	Lived here since birth	Non- respondents
Border	277	4	31	55	57	19	32	7	62	10
	100%	1%	11%	20%	21%	7%	12%	3%	22%	4%
Off- road	321	9	15	30	29	10	46	11	160	11
	100%	3%	5%	9%	9%	3%	14%	3%	50%	3%
On- road	365	19	49	43	70	51	49	16	62	6
	100%	5%	13%	12%	19%	14%	13%	4%	17%	2%
Totals	963	32	95	128	156	80	127	34	284	27
Totals	100%	3%	10%	13%	16%	8%	13%	4%	29%	3%

 Table 3-4 Length of Residence of Adults Sampled by Zone

Source: Household Census 2000

Nearly a third (32%) of adults in the border settlements studied moved there less than five years ago. The majority of these people are in-migrants from Nigeria. Some of whom reside only temporarily in these settlements and return to their main home in Nigeria annually. The situation in the remote sample is in sharp contrast with the above, 70% of all adults in this sample said they have stayed in the settlement they now live in for ten years or more. Most inhabitants of the remote settlements studied are either born in the settlement they now live in or were born in a neighbouring settlement. These findings are consistent with the PROFA socio-economic survey of villages in and around Takamanda Forest Reserve which found that more than 75% of the people were born in the same village they are actually living in (Schmidt-Soltau *et al* 2001).

3.3.4 Settlement Infrastructure *

3.3.4.1 Remote settlements

There are only government or Parent Teacher Association schools in this area, no mission or private schools. The newly opened government secondary school, located at Bachie⁹, serves as the only secondary school within the area, apart from those at Mamfe and Akwaya. A primary school serves the village of Obonyi I and Obonyi III, with a feeder school at Obonyi I. The latter has only four year classes, Year 5-7 pupils walk to Obonyi III. There is a shortage of trained teaching staff at these schools. About three out of the five teachers are employed by Parent Teacher Associations and possess no formal teacher training. They are paid relatively little compared to teachers paid by the government, so are often unmotivated and spend long periods out of the village pursuing other activities.

Formal medical facilities are non-existent and people depend on itinerant 'drug dealers' from Nigeria or on primary health care based on locally harvested plant medicines. The routine vaccination of children is practically absent, except during special campaigns like that against poliomyelitis. However, Schmidt-Soltau *et al* (2001) report that inhabitants had to pay FCFA 2,000 per child for these when they should be free of charge. Local traditional midwives, who are usually women with many years of experience, assist during childbirth and pregnancies.

With the forest still intact, people enjoy the privilege of naturally cool stream water, which they use for bathing, washing, cooking and drinking. Most of these streams do not normally dry up during the dry season. Generators are used to supply electricity occasionally to the village, especially during festive periods like Christmas or when an important personality in the village dies. Small village shops are present, in addition to itinerant traders. Shops and traders sell basic provisions such as soap, matches, tooth brushes, toothpaste, body creams, sugar as well as some household utensils.

Since people travel frequently to and from the remote study zone to other parts of Cameroon and Nigeria, the main form of communication with the outside world is through word of mouth. Information also comes via traders who either travel to Nigeria or to Mamfe (the closest town) to buy goods. The radio is an important means of obtaining outside information. About a third of all households in the Takamanda Forest Reserve area have radios (Schmidt-Soltau *et al* 2001). The local radio station, the Voice of Manyu¹⁰, as well as Nigerian radio stations, are popular (Schmidt-Soltau 2001 *et al*). PROFA (which has now closed) was sponsoring a radio programme "news from the

⁸ This section is largely drawn from Asaha 2002.

⁹ Bachie is the last road-access village around the Takamanda Forest Reserve. It is about two hour's walk from Takamanda village and about five hour's walk from the Obonyi villages

¹⁰ Before the creation of this local radio station in the year 2001, it was difficult for people to obtain information from any of the Cameroonian radio stations

forest" on the Voice of Manyu, but despite this, people are generally unaware of government policies and legislation relating to the forest that surrounds them.

3.3.4.2 On-road Settlements

The recently opened government secondary school, located at Bombe, is the only secondary school in the area. There are government primary schools in all the villages. These act as feeder schools to the secondary school.

The nearest health facility is the Apostolic Hospital at Mbanga Bakundu and the Kumba General Hospital. The majority of people are Christians, but of different denominations, with at least two different churches in one village.

Out of the three villages, only Bombe is supplied with electricity. None of the villages has a good source of water. Water is collected from nearby streams, which normally dry off or become stagnant during the dry season and hence can be easily contaminated.

3.3.4.3 Border Settlements

Mbongo has a government secondary school and both Boa and Mbongo have government primary schools. There are problems with amenities like water and electricity. With the coming of a secondary school and a proposed high school, there is an influx of people into the area (i.e. teachers and students) who particularly need these facilities. Presently there is no electricity supply and no tapped water. Wells and small streams are used for drinking and washing. Formally there used to be a water tank, which supplied water to Mbongo village, but this is currently broken, leaving the area with no good source of drinking water, especially during the dry season. Boa has a pro-pharmacy at Boa, which is sponsored by the government in collaboration with the German Agency for Technical Cooperation (GTZ). Mbonge has a government hospital.

3.3.5 Household Wealth and Assets

A comparison of asset indicators in Table 3-5 highlights the relative poverty of remote settlements, compared to on-road and border settlements. For example, less than 10% of households in remote settlements are made from wooden planks or bricks and a relatively low proportion of households in these settlements have metal sheet roofs. Results as captured in Table 3-5 show that access to modern toilet facilities seems to be limited for most households sampled, apart from Cameroon's border sample where pit latrines are common.

A look at the home ownership figures in Table 3-5 reveal that a relatively high proportion of households do not own their own homes in on-road and border settlements studied. These figures reflect the fact that a large proportion of the inhabitants of this area are migrants who have few other options than to rent houses rather than build or buy homes. It is also due to difficulties of buying land to build due to lack of capital.

Table 3-5 also shows that a much lower proportion of households sampled in Cameroon's border and on-road samples, "own" farmland (either formally or informally) compared to households sampled Cameroon's remote zone (see African Rattan Research Programme (ARRP) Briefing Note No.1). These figures reflect differences in land tenure arrangements, which in turn reflect the contrasting socio-economic characteristics of the three zones (see Section 3.5.).

Household Characteristic/ Country/Zone	Sample Size (House- holds)	Brick/Plank Houses (%)	Metal sheet roofs (%)	Private Pit latrines* (%)	Own homes (%)	Own farmland (%)
Remote	100	7	62	22	80	94
Border	123	98	65	100	53	50
On-road	110	75	89	88	59	60

Tab	le 3	3-5	Household	Characteristics	by	Settlement	Туре
					•		

Source: Household Census 2000

In order to compare the relative wealth of households in the different settlement types, an overall index was developed based along the lines of that used by Koppert (2002). See Section 2-3 for the weighting system and the calculation used to obtain the index.

Table 3-6 gives the wealth index for the Cameroon study sites. As would be expected, the Takamanda settlements have the lowest index – they appear to be less wealthy, whilst the on-road and border settlement households appear to be better off.

Table 3-6	Wealth	Index	by	Settlement	Type
-----------	--------	-------	----	------------	------

Zone	Wall	Roof	Floor	Hhitem ¹¹	Toilet	Electricity	Own house	Adult ed	Child. Ed	Index	No. of observations
Border	2.06	0.63	0.25	1.99	1.94	0	0.52	1.8	0.92	10.11	126
Remote	0.5	0.62	0.08	2.05	0.44	0	0.8	1.62	0.89	7.00	100
Road	1.9	0.89	0.41	3.08	1.74	0.32	0.59	1.84	0.86	11.63	110

Source Household Census 2000

Table 3-7 highlights educational attainment of people in sample households over the age of 14 years. Differences between zones are quite marked. Nearly a quarter (24%) of adult included in the remote settlement sample have received no formal education,

¹¹ "Hhitem" stands for household items. In the household census, respondents were asked whether they owned specific household items, such as a radio, upholstered sofa etc. Households were then allocated a score depending on the items they owned.

compared to 20% and 16% of adults sampled in border and on-road settlements respectively. These findings reflect the fact that access to education facilities in remote settlements is generally more limited compared to more accessible road and border settlements.

Zone	No	1-5 yrs	6-10 yrs	<10 yrs	NR	Grand
	Formal					Total
	Education					
Border	52	32	124	54	7	269
	19%	12%	46%	20%	3%	100%
Remote	75	39	166	29	4	313
	24%	12%	53%	9%	1%	100%
On-road	58	45	199	45	8	355
	16%	13%	56%	13%	2%	100%
Totals	185	116	489	128	19	937
	20%	12%	52%	14%	2%	100%

Table 3-7 Years of Education, All Adults Sampled by Zone

Source: Household Census 2000

3.3.6 Defining Wealth and Poverty

Tables 3-8 - 3-10 summarise the criteria used by participants in the wealth ranking exercises (see Section 2.2.2), to group people into different wealth categories. There appeared to be little or no difference in the way key informants from different zones characterised wealth group (Asaha 2002). In identifying the different indicators used to rank the households, the key informants took into consideration not only physical cash allocation, but also living conditions, assets, family sizes, physical capability to work and other responsibilities like the number of children in school (Asaha 2002).

Ri	ch	Fa	irly Rich	Poor			Poorest		
•	Own perennial cash crops (rubber,	•	Relatively smaller	•	Live in rented houses and	•	Live in family		
	palms and cocoa).		perennial cash crop farms.		also rent land for cultivation.		houses		
•	Own land and have large food crop	•	Produce and sell food	•	Produce very little food	•	Old, handicapped		
	farms (cassava, plantains).		crops.		crops for sale (egusi,	•	Farm labourers		
•	Wage earners (government	•	Operate little shops,		cocoyams and vegetables)	•	Those who		
	teachers).		restaurants and cafeterias.	•	Not able to sponsor children		squander money in		
•	Able to sponsor children in both	•	Able to sponsor children		through secondary school.		a very irresponsible		
	primary and secondary schools.		in schools.	•	Farm labourers		manner		
•	Hire permanent labourers	•	Pensioners						
•	Owns large businesses (e.g. off	•	Own fairly large wooden						
	license)		houses, with cemented						
•	Big concrete house		floors.						
•	Those involved in the buying and								
	selling of cocoa.								

Table 3-8 Wealth Ranking for Cameroon's On-road Study Settlements, South Bakundu Area

Source: Fieldwork 2000 (Asaha 2002)

Rich		Μ	edium	Poorest		
•	Pensioners	•	Sponsor children in schools	•	No real source of	
•	Own large farms, big houses with cemented	•	Own smaller farms		income.	
	floor and zinc roofs	•	Possess some household	•	Poor feeding	
•	Wage earners (government teachers)		assets.	•	Thatch and mud	
•	Business men	•	Own and operate chainsaw.		houses	
•	"Heavy" responsibilities (children in both	•	Involved in petty trading	•	Widows, older	
	primary and secondary schools, large family	•	Some young hunters.		single men,	
	to feed).	•	Own thatch and mud houses.		handicapped.	
•	Own perennial cash crops (cocoa and coffee).	•	Moderate general livelihood.			
•	Possess household assets					
•	Have grown-up children who work out of the					
	area.					

Source: Fieldwork 2000 (Asaha 2002)

Rich		Medium			Poorest		
•	Own perennial cash crop farms (cocoa	•	Petty traders	•	Widows, single women with		
	and oil palm).	•	Own large food crop farms		children.		
•	Large zinc-roofed houses		(cassava, plantains and banana)	•	Disabled		
•	Wage earners (teachers and council	•	Chainsaw owners	•	Small-scale farmers		
	workers)	•	Pensioners and PTA employed	•	Farm labourers		
•	Own livestock (sheep, goats and pigs).		teachers.	•	Unemployed young people.		
•	Sponsor children in schools.	•	Own smaller houses.				
•	Car owners, contractors, shop owners.	•	Rent out land				
•	Rent out land						

Table 3-10 Wealth Ranking for Cameroon's Border Zone Settlements: Mokoko Area

Source: Fieldwork 2000 (Asaha 2002)

Table 3-11 summarises the main characteristics of the three study zones in Cameroon.Table 3-11 Main Characteristics of the Three Study Zones in Cameroon

Zone	"Remote"	"Cross-border"	"Roadside"
Location of settlements	Within/in vicinity of Takamanda Forest Reserve, Manyu division	In coastal area of Ndian division, close to border with Cross River State, Nigeria	Near South Bakundu Forest Reserve, on Buea – Kumba road, Meme division
Market access	Very limited, no roads	Good by boat to both Cameroonian and Nigerian markets. Access to Cameroonian markets via seasonal roads	Good access to markets by road
Forest access	Mature high forest	Mosaic of relatively undisturbed forest (within the forest reserve), swamps, secondary forest, fallow, and farmland	Farm/fallow patchwork, encroachment in forest reserve common
Population density	Low	Moderate	High, large settlements of over 1,000 people
Ethnic make-up	Mainly indigenes, socially homogenous	Many short-term migrants, mainly from Nigeria	Many permanent migrants mainly from Northwest Province, some from Nigeria
Livelihood opportunities	Subsistence food crop farming, some oil palm and sale of NTFPs	Agro-industrial and smallholder oil palm and rubber plantations. Smallholder cocoa plantations, commercial food crop farming, NTFPs, and fishing.	Commercial food crop farming, smallholder cocoa and oil palm, NTFPs, trading and jobs with civil service

3.4 Household and Individual Differentiation

Table 3-1 provides a summary of population and household characteristics by settlement and settlement type. As would be expected, remote and border settlements tend to be smaller than roadside settlements. Households in border settlements tend to be smaller on average than households in the other two settlement types sampled. Over a third of households in the border sample consist of one or two persons (34% compared to 21% and 28% of on-road and remote settlements respectively). These figures reflect the fact that a high proportion of households in Cameroon's border sample consist of single men and women many of whom are migrant farm labourers, some of whom are Nigerians who have left their families in Nigeria (see Section 3.4.2.).

Table 3-1 also indicates that a high proportion of households in the remote settlements sampled (28%) consist of one or two persons. Many (42%) of these households are headed by people aged 60 and above.

3.4.1 Male and Female Headed Households

A large proportion of households are headed by women in the Cameroon sample. As such, female-headed households tend to have different demographic characteristics than male-headed households. These differences affect households' total available labour resources and, in turn, the type of livelihoods they are involved in.

Table 3-12 provides a breakdown of household characteristics by gender of household head. It shows nearly a third of all households in each of the settlement types studied are female-headed. In general, male-headed households tend to be, on average, larger than female-headed households. There is a tendency for female heads to be younger than male heads. However, both male and female-headed households in the border settlements tend to be younger than male-headed households in the two other settlement types. Over half of all male-headed households in Cameroon's border sample (54%) are headed by men under the age of 40.

Table 3-12 also reveals that, the dependency $ratio^{12}$ for male-headed households tends to be lower than female-headed households in all settlement types. These figures indicate that female-headed households tend to have relatively less household labour available to them compared to male-headed households. Figures in Table 3-12 show that a high proportion (30%) of male-headed households in border settlements studied have no dependents.

¹² Defined as the number of people of 0-14 years and 60 and above divided by the population 15-59 years.

Settlement Type	Sex of HH Head	Total No. of HH sampled	% HH	Av. Age of HH Head	Dep. Ratio	% HH with no deps	Mean HH Size
Border	Female	32	26	43	1.7	22%	4.4
Border	Male	91	74	40	1.0	30%	4.6
Border Total		123	100		1.2	28%	4.5
Remote	Female	31	31	51	1.8	8%	5.8
Remote	Male	69	69	47	1.0	26%	6.2
Remote Total		100	100		1.2	21%	6.1
On-road	Female	32	29	44	1.5	13%	5.1
On-road	Male	78	71	45	1.0	20%	6.6
On-road Total		110	100		0.0	18%	6.2
Total		333			1.2	23%	5.5

Table 3-12 Household Characteristics by Gender of Household Head

Source: Household Census 2000

Table 3-13 provides information on how household size varies with gender. It reinforces the results of Table 3-12 and shows that in border settlements a relatively large proportion of both male-headed and female-headed households consist of one- and two-person households (31% and 29% respectively).

These findings reflect the fact that a high proportion of households in border settlements consist of young single migrants with few or no dependents who have come to this area to farm or to work as farm labourers.

			No People in Household						
Zone	Sex	Number	1	2	3	4	5	6	7 or
No									more
Border	Female	27	6	2	3	6	3	1	6
	%	100%	22%	7%	11%	22%	11%	4%	22%
	Male	88	15	12	6	11	9	16	19
	%	100%	17%	14%	7%	13%	10%	18%	22%
Tota	al Border	115	21	14	9	17	12	17	25
		100%	18%	12%	8%	15%	10%	15%	22%
Remote	Female	26	1	3	2	5	3	4	8
	%	100%	4%	12%	8%	19%	12%	15%	31%
	Male	65	10	5	7	7	8	2	26

Table 3-13 Household Size by Zone and Gender of Household Head,

	%	100%	15%	8%	11%	11%	12%	3%	40%
Total Remote		91	11	8	9	12	11	6	34
	%	100%	12%	9%	10%	13%	12%	7%	37%
On- road	Female	30	4	2	3	3	5	5	8
	%	100%	13%	7%	10%	10%	17%	17%	27%
	Male	75	10	3	10	2	8	9	33
	%	100%	13%	4%	13%	3%	11%	12%	44%
Total	On-road	105	14	5	13	5	13	14	41
	%	100%	13%	5%	12%	5%	12%	13%	39%
Total	Both	311	46	27	31	34	36	37	100
	%	100%	15%	9%	10%	11%	12%	12%	32%

Table 3-14 provides information on the geographical origin of household heads by gender. It shows that the proportion of households headed by Nigerians is greater for male-headed households, constituting over 50% of all male-headed households sampled compared to 15% of female headed households.

Zone	Gender of Head	Number and % of Hholds	Central Province	Nigeria	Northwest Province	South- west Province	Western Province
Border	Female	27	0	4	2	21	0
	%	100%	0%	15%	7%	78%	0%
	Male	85	1	44	6	34	0
	%	100%	1%	52%	7%	40%	0%
To	otal Border	112	1	48	8	55	0
	%	100%	1%	43%	7%	49%	0%
Remote	Female	26	0	0	0	26	0
	%	100%	0%	0%	0%	100%	0%
	Male	65	0	0	0	65	0
	%	100%	0%	0%	0%	100%	0%
То	tal Remote	91	0	0	0	91	0
	%	100%	0%	0%	0%	100%	0%
On-road	Female	29	0	2	15	11	1
	%	100%	0%	7%	52%	38%	3%
	Male	75	0	10	32	29	4
	%	100%	0%	13%	43%	39%	5%
Tot	al On-road	104	0	12	47	40	5
	%	100%	0%	12%	45%	38%	5%
Total		307	1	60	55	186	5
	Total %	100%	0%	20%	18%	61%	2%

Table 3-14 Geographical Origin of Household Head

Turning to differences in wealth with gender of household head, data collected for the household census survey and wealth ranking exercises were used to group households into "rich" and "poor" (see Section 2.1). On the whole, a higher proportion of female-headed households tend to be grouped in the poor category than male-headed households, as Table 3-15 shows. Differences are greatest in the remote settlements sampled where 70% of female-headed households are ranked as poor compared to 40% of male-headed households. A relatively higher proportion of male-headed households in on-road settlements appear to be relatively rich compared to female-headed households in on-road settlements sampled (69% compared to 47% of female-headed households).

Zone Gender		No.	Poor	Rich	
	of				
	H'Hold				
	Head				
Border	Female	27	13	14	
	%	100%	48%	52%	
	Male	85	50	35	
	%	100%	59%	41%	
Total Bor	der	112	63	49	
	%	100%	56%	44%	
Remote	Female	26	18	8	
	%	100%	69%	31%	
	Male	65	26	39	
	%	100%	40%	60%	
Total Off-	road	91	44	47	
	%	100%	48%	52%	
On-road	Female	30	16	14	
	%	100%	53%	47%	
	Male	75	23	52	
	%	100%	31%	69%	
Total On-road		105	39	66	
	%	100%	37%	63%	
Grand To	tals	308	146	162	
	%	100%	47%	53%	

Table 3-15 Wealth Categories by Gender of Household Head and Settlement Type

Table 3-16 shows that household head education levels tend to be higher for male-headed households compared to female-headed. A significantly higher proportion of female heads have no formal education, or have only limited primary school education, compared to male household heads. These differences are particularly prominent in the remote settlements sampled, where 79% of female heads have no formal education compared to 26% of male heads with no education. Schmidt-Soltau *et al* (2001) also found considerable differences between the education levels of males and females in settlements in and around Takamanda Forest Reserve. They found that a much higher proportion of females receive no formal education compared to males. Nearly 50% of the female population of this area received no formal education compared to just over 20% of the male population.

Zone	Gender	Number of	0	1-4years	5-8	9 years or
	of	Households			years	more
	H'Hold	Sampled				
	Head					
Border	Female	25	6	3	12	4
		100%	24%	12%	48%	16%
	Male	76	10	9	33	24
		100%	13%	12%	43%	32%
T	otal Border	101	16	12	45	28
		100%	16%	12%	45%	28%
Remote	Female	24	19		4	1
		100%	79%	0%	17%	4%
	Male	57	15	3	26	13
		100%	26%	5%	46%	23%
То	tal Remote	81	34	3	30	14
		100%	42%	4%	37%	17%
On-road	Female	24	11	4	8	1
		100%	46%	17%	33%	4%
	Male	65	14	6	34	11
		100%	22%	9%	52%	17%
Tot	al On-road	89	25	10	42	12
		100%	28%	11%	47%	13%
Total		271	75	25	117	54
Г	Total Count	100%	28%	9%	43%	20%

Table 3-16 Years of Formal Education by Zone and Gender of Household Head
Table 3-17 provides information on how educational attainment varies with gender and age. As would be expected, elderly people, particularly women, have generally spent fewer years in formal education compared to younger people.

Settlement	Sex			Years of Education				
Туре		Age Grp	Ν	0	1-4 years	5-8 years	>8 years	
Border	Female	15 to 19	28		5	12	11	
			100%	0%	18%	43%	39%	
		20 to 29	43	7	2	16	18	
			1	16%	5%	37%	42%	
		30 to 39	24	5	2	13	4	
			100%	21%	8%	54%	17%	
		40 to 49	18	6	2	10		
			100%	33%	11%	56%	0%	
		50 to 59	7	6		1		
			100%	86%	0%	14%	0%	
		60 & over	11	10	1			
			100%	91%	9%	0%	0%	
	Males	15 to 19	27	3	1	10	13	
			100%	11%	4%	37%	48%	
		20 to 29	30	2	1	17	10	
			100%	7%	3%	57%	33%	
		30 to 39	28	2	2	12	12	
			100%	7%	7%	43%	43%	
		40 to 49	16		2	7	7	
			100%	0%	13%	44%	44%	
		50 to 59	11	4	3	4		
			100%	36%	27%	36%	0%	
		60 & over	12	7	1	3	1	
			100%	58%	8%	25%	8%	

 Table 3-17 Education by Gender, Age and Settlement Type

Settlement Type	Sex			Years of Education			
		Age Grp	Ν	0	1-4 years	5-8 years	>8 years
Remote	Female	15 to 19	22		1	19	2
			100%	0%	5%	86%	9%
		20 to 29	63	1	5	44	13
			100%	2%	8%	70%	21%
		30 to 39	17	6	1	8	2
			100%	35%	6%	47%	12%
		40 to 49	13	8	1	4	
			100%	62%	8%	31%	0%
		50 to 59	13	12		1	
			100%	92%	0%	8%	0%
		60 & over	25	25			
			100%	100%	0%	0%	0%
	Males	15 to 19	28		2	23	3
			100%	0%	7%	82%	11%
		20 to 29	49		3	34	12
			100%	0%	6%	69%	24%
		30 to 39	36		2	22	12
			100%	0%	6%	61%	33%
		40 to 49	9			3	6
			100%	0%	0%	33%	67%
		50 to 59	8	3	1	3	1
			100%	38%	13%	38%	13%
		60 & over	25	20	2	3	
			100%	80%	8%	12%	0%

Settlement Type	Sex			Years of Education			
		Age Grp	Ν	0	1-4 years	5-8 years	>8 years
On-road	Female	15 to 19	38			25	13
			100%	0%	0%	66%	34%
		20 to 29	63	3	5	39	16
			100%	5%	8%	62%	25%
		30 to 39	44	5	8	21	10
			100%	11%	18%	48%	23%
		40 to 49	25	10	5	9	1
			100%	40%	20%	36%	4%
		50 to 59	9	7	1	1	
			100%	78%	11%	11%	0%
		60 & over	16	15		1	
			100%	94%	0%	6%	0%
	Males	15 to 19	25			16	9
			100%	0%	0%	64%	36%
		20 to 29	44		1	28	15
			100%	0%	2%	64%	34%
		30 to 39	29		1	16	12
			100%	0%	3%	55%	41%
		40 to 49	20	2	1	12	5
			100%	10%	5%	60%	25%
		50 to 59	16	6	1	7	2
			100%	38%	6%	44%	13%
		60 & over	18	10	2	5	1
	Ī		100%	56%	11%	28%	6%

Source: Household Census 2000

To summarise, in general, female-headed households tend to be less wealthy, less welleducated and have relatively less household labour available to them compared to maleheaded households. As will become clear in Section 3.6 below, these characteristics strongly influence the types of livelihoods male and female-headed households are involved in.

3.4.2 Households Headed by "Indigenes" and "Strangers"

As already pointed out in Section 3.3.3, a significant proportion of households in border and on-road settlements samples are headed by migrants or as they are locally known "strangers" from Nigeria and Northwest Province. Stranger-headed households tend to have different demographic characteristics than households headed by "indigenes".

Table 3-18 provides a breakdown of some of the differences between households headed by indigenes and strangers. Stranger-headed households have a tendency to constitute a large proportion of small households consisting of one or two people in border and on-

road settlements. Nearly a quarter (24%) of households headed by Nigerians and people from Northwest Province consist of one or two people in border and roadside settlements.

In general, households headed by strangers tend to be younger than households headed by indigenes, this is particularly the case in border settlements sampled. Over a third (37%) of households headed by Nigerians in the border sample are under the age of 30 compared to 18% of households headed by indigenes.

Stranger-headed households in border and on-road settlements tend to have lower dependency ratios than households headed by indigenes. For Nigerian headed households in border settlements, the dependency ratio is 1.0 while for households headed by indigenes, the ratio is 1.5. A high proportion of stranger-headed households particularly in border settlements have no dependents compared to households headed by indigenes (33% of households headed by Nigerians compared to 22% of households headed by people from Southwest Province). These figures reflect the fact that the majority of households headed by migrants in border settlements are young men and women who have come to the area to find work. Some of these households are temporarily based in the Mokoko area, they may have left their dependence (e.g. wives and children) at home in Nigeria.

Levels of education tend to be higher in households headed by people who originate from Southwest Province (see Table 3-19). A significantly higher proportion of Nigerian heads have no education or only primary-to-middle level education.

Zone	Origin of Head	Number	Av. Age of Head		No People in HH				Mean HH size	Dep. Ratio	Hholds with no deps.		
				1	2	3	4	5	6	>6			
Border	Central Province	1	35	0	0	0	1	0	0	0	4.0	0.3	0
	Nigeria	48	34	7	9	6	8	4	3	11	3.1	1.0	16
		100%		15%	19%	13%	17%	8%	6%	23%			33%
	Northwest Province	8	30	4	0	0	1	2	0	1	2.6	0.6	4
		100%		50%	0%	0%	13%	25%	0%	13%			50%
	Southwest Province	55	43	10	5	3	7	5	13	12	3.7	1.4	12
		100%		18%	9%	5%	13%	9%	24%	22%			22%
Border Tot	tals	112	38	21	14	9	17	11	16	24	3.4	1.1	32
		100%		19%	13%	8%	15%	10%	14%	21%			28%
Remote	Southwest Province	91	46	11	8	9	12	11	6	34	3.4	1.2	19
		100%		12%	9%	10%	13%	12%	7%	37%			21%
Remote To	otals	91	46	11	8	9	12	11	6	34	3.4	1.2	19
		100%		12%	9%	10%	13%	12%	7%	37%			21%
On-road	Nigeria	12	44	2	0	1	0	2	1	6	3.5	1.1	2
		100%		17%	0%	8%	0%	17%	8%	50%			17%
	Northwest Province	47	41	7	4	8	2	4	5	17	3.2	1.1	11
		100%		15%	9%	17%	4%	9%	11%	36%			23%
	Southwest Province	40	45	5	1	4	3	5	7	15	3.9	1.3	6
		100%		13%	3%	10%	8%	13%	18%	38%			15%
	Western Province	5	43	0	0	0	0	1	1	3	5.5	1.2	0
		100%		0%	0%	0%	0%	20%	20%	60%			0
On-road To	otals	104	43	14	5	13	5	12	14	41	3.6	1.2	19
		100%		13%	5%	13%	5%	12%	13%	39%			18%
Total for a	ll Settlements	307	42	46	27	31	34	34	36	99	3.4	1.2	70
		100%		15%	9%	10%	11%	11%	12%	32%			23%

 Table 3-18 Household Characteristics by Geographical Origin of Household Head and Settlement Type

Zone	Province or Country of Origin of Head	Total Heads		Years	of Education	
			0	1-4years	5-8 years	10 years or more
Border	Central Province	1				1
		100%	0%	0%	0%	100%
	Nigeria	41	7	9	19	6
		100%	17%	22%	46%	15%
	Northwest Province	7			5	2
		100%	0%	0%	71%	29%
	Southwest Province	52	9	3	21	19
		100%	17%	6%	40%	37%
Border T	Border Totals		16	12	45	28
		100%	16%	12%	45%	28%
Remote	Southwest Province	81	34	3	30	14
		100%	42%	4%	37%	17%
Off-road	Totals	81	34	3	30	14
		100%	42%	4%	37%	17%
On-road	Nigeria	12	4	1	5	2
		100%	33%	8%	42%	17%
	Northwest Province	41	14	2	22	3
		100%	34%	5%	54%	7%
	Southwest Province	31	6	7	13	5
		100%	19%	23%	42%	16%
	Western Province	5	1		2	2
		100%	20%	0%	40%	40%
On-road '	Totals	89	25	10	42	12
		100%	28%	11%	47%	13%
Total for	all Settlements	271	75	25	117	54
		100%	28%	9%	43%	20%

Table 3-19 Years of Education by Geographical Origin of Household Head

Source: Household Census 2000

In terms of wealth, Table 3-20 shows there are marked differences between households with heads from different geographical origins. In both border and roadside settlements sampled a higher proportion of households headed by Nigerians tend to be grouped as poor compared to household whose heads originate from within Southwest Province. In the roadside settlements sampled, a higher proportion of households headed by strangers from Northwest Province are grouped as rich rather than poor.

Zone	Province or Country of Origin of Head	No. of Heads			
			Poor	Rich	
Border	Central Province	1	0	1	
		100%	0%	100%	
	Nigeria	48	40	8	
		100%	83%	17%	
	Northwest Province	8	4	4	
		100%	50%	50%	
	Southwest Province	55	19	36	
		100%	35%	65%	
Border Totals 112			63	49	
		100%	55%	43%	
Remote	Southwest Province	91	44	47	
		100%	48%	52%	
Remote Tot	als	91	44 47		
		100%	48%	52%	
On-road	Nigeria	12	7	5	
		100%	58%	42%	
	Northwest Province	47	19	28	
		100%	40%	60%	
	Southwest Province	40	11	29	
		100%	28%	73%	
	Western Province	5	1	4	
		100%	20%	80%	
On-road Tot	tals	105	39	66	
		100%	37%	63%	
Total for all	Settlements	308	146	162	
		100%	47%	52%	

Table 3-20 Wealth Categories by Geographical Origin of Household Head

Source: Household Census 2000

To summarise, Nigerian household heads in border and on-road settlements tend to be younger, less well-educated, less wealthy and have fewer labour assets compared to non-migrant households. Furthermore, as we shall see in Section 3.5.1 below, Nigerian households also tend to have limited access to farmland. As a result of these characteristics, households headed by Nigerians tend to be involved in self-employed activities that do not require large investments in human, physical or financial resources.

In contrast to Nigerian migrants in border settlements, some long-established migrants from the Northwest Province found in on-road settlements tend to be relatively wealthy, well-educated and, as Section 3.5.1 will show, have relatively good access to farm land. With relatively high capital skills, financial resources and access to land, these households are able to be engaged in activities that require relatively large investments in financial and human resources e.g. business and perennial cash crop farming. Section 3.6

will look more specifically at the types of activities different household types are involved in.

3.5 Household Assets and Wealth

3.5.1 Access to Land¹³

In Southwest Cameroon, customary law is practised alongside modern state law. According to customary law, vacant land and forest resources within a village territory are considered to belong to the community under the custodianship of the village council. Customary rights of ownership to farmland are claimed by indigenes either by clearing new areas of forested village land or through inheritance. Men and/or women may inherit land through matrilineages and/or patrilineages, depending on the zone in question. Local land tenure practices give indigenous farmers exclusive informal rights to land and use of standing trees on their farms and permit them to plant perennial crops such as cocoa on their land.

Current Cameroon government legislation considers all land without permanent improvements to be part of the national domain or 'state land' under central government control. According to Cameroon law, all forest resources belong to the state except those planted by local councils or private individuals. However, in practice, in most cases local people do not recognise that forested land within the village territory is state land. Farmland continues to be informally allocated by village councils according to customary principles.

Current legislation also states that any Cameroonian may acquire land anywhere within the national territory even if s/he is not an indigene of the area, provided it is state-owned land, outside protected areas. As stated above, this legislation is not generally applied in practice, particularly with regard to so-called 'native land' (that is unoccupied land within a village territory, which is considered to belong to the community under the custodianship of the village council). To secure legal ownership of occupied land a person must apply for a state land certificate. This is a lengthy and costly procedure that may involve bribery and corruption. As a result, it is generally the "elites" - richer, better educated and politically influential people - who are in a position to secure legal title to land.

In practice, migrants residing in a locality generally find it very difficult, if not impossible, to acquire official title to land, but do so informally through the village council or through individual indigenes of an area. The means by which strangers acquire access to land depends on the area in question, and its customary rules. While some ethnic groups and villages have a policy of not selling land to strangers, others have adopted a more *laissez-faire* approach to this issue and informally 'sell' their land quite readily.

¹³ The first part of this section is drawn from African Rattan Research Programme Briefing Note No.1, December 2002.

The extent to which customary law applies compared to modern law depends on the demand for land, which in turn depends on the accessibility of the area. Current land tenure practices in the different study zones for different socio-economic categories of farmer are outlined in Table 3-21 below.

Zone(s)	Socio-economic Group or individual	Mode of Acquisition	Land Acquired From	Outcome	Comments
All	Indigene	Inheritance	Usually through patrilineage, sometimes through matrilineage	Permanent customary ownership	
Remote	Stranger	Clearing forest	Village council	Temporary customary ownership	Land returned to council on departure
Remote and cross-border	Indigene	Clearing forest		Permanent customary ownership	
Cross-border	Indigenes and strangers from other parts of Cameroon, mainly Northwest province	Informal purchase	Village council/individual land owners	Informal permanent acquisition	Increasing numbers of strangers have established more formally documented land titles to plots. This reflects the increasing scarcity and economic value of land in the Mokoko area.
Cross-border and on-road	Nigerian strangers	Annual rent	Individuals	Temporary rights to cultivate food crops.	Not allowed to plant perennial crops, such as cocoa or oil palm.
Cross-border and on-road	All strangers	Through marriage or cohabitation with indigene	Village council/ partner's family	Temporary rights to plant non- perennial crops.	Rights lapse when strangers move. Land may be inherited by offspring through indigenous parent.
On-road	Indigenes and strangers from other parts of Cameroon and Nigeria	Informal purchase	Village council/individuals	Land owned in perpetuity	Permanent rights to plant perennial crops. Strangers' children inherit land. Some land owners sign 'deed of conveyance' to establish a customary land sale.
On-road	All strangers	Lease of perennial tree- crop plantations or uncultivated land	Individuals	Temporary rights to tend crops and sell produce	Relatively high rents for already cultivated land compared to uncultivated land
On-road	All strangers	Pledging of perennial tree- crop plantations	Individual	Temporary rights to tend, harvest and sell produce.	Land returned to owner once loan is repaid. Owner sometimes fails to repay loan then land is informally sold to pledgee.

Table 3-21 Land	d Tenure Pract	ices by Zone and	l Socio-economic	Category of Farmer
		•		8 .

Source: Fieldwork 2000 – 2003.

3.5.1.1 Household Differences in Land Ownership

In the remote settlements sampled, where land is still plentiful, the majority of households "own" land. In general, obtaining land for farming or building does not involve any formal procedures. People are allowed to enter the forest, select as large an area as they can clear to farm. According to Chief Etchu of Takamanda village, no one owns the land, but rather it is regarded as community property. It was observed that, younger people still maintain or work the farms of their dead or elderly parents, but recently more young people are opening up their own cocoa plantations. Indigenes have the right to use the forest as long as they do not cross village boundaries (Asaha 2002).

Trespassing into the territory of a neighbouring village to extract forest resources often leads to conflict between villages (Schmidt-Soltau *et al* 2001). Many village boundaries are demarcated so forest users, especially hunters, are expected to avoid hunting in areas beyond them. Strangers who wish to exploit NTFPs from the forest are obliged to give a small gift to the village council.

In the border and on-road settlements studied the proportion of households owning farmland varies with age, gender, ethnic origin and wealth. A higher proportion of households headed by men and women over the age of 29 own land compared to households headed by people younger than 30 years. Slightly fewer female-headed households own farmland compared to male-headed households in all settlement types.

Table 3-22 reflects the contrasts in land ownership with geographical origin of household heads. In the border settlements sampled, most migrants from Nigeria and Northwest Province do not own the land they farm. Generally migrants do not have the right to own land in this area, so most of them rent it on an annual basis for cultivating food crops. Perennial cash crops or trees are not allowed to be planted by migrants on leased land (Sunderland and Tchouto 1999). Land rental, is common practice and is an important source of income for indigenes (Sunderland and Tchouto 1999). Migrants do however acquire land either through marriage or by co-habiting with the indigenes (Ekwoge *et al*, 1999).

Settlement Type	Geographical Origin of Household head	Ν	Don't Own Land	Own Land
Border	Central Province	1		1
		100%	0%	100%
	Nigeria	51	48	3
		100%	94%	6%
	Northwest Province	8	7	1
		100%	88%	13%
	Southwest Province	63	20	43
		100%	32%	68%
Border total		123	75	48
% totals		100%	60%	40%
Remote	Southwest Province	100	6	94
		100%	6%	94%
Remote total		100	6	94
% totals		100%	6%	94%
On-road	Nigeria	12	12	0
		100%	100%	0%
	Northwest Province	50	20	30
		100%	40%	60%
	Southwest Province	42	11	31
		100%	26%	74%
	Western Province	5		5
		100%	0%	100%
On-road totals		109	43	66
% totals		100%	40%	60%
Grand totals		336	125	211
% Grand totals		100%	37%	63%

Table 3-22 Land Tenure by Geographical Origin of Household Head

Source: Household Census 2000

The situation in the on-road settlements differs from the border sample, in that a much higher proportion of migrants from Northwest Province own the land they farm as opposed to renting it. In this area, both indigenes and non-indigenes have the right to own land. Indigenes normally inherit land from their parents and non-indigenes either buy or inherit from their own parents. Land can be bought from individual landowners or directly from the village council. Leasing land is common practice. People rent out their land for a specified period of time. This is done when the land is already planted with cash crops like rubber, cocoa or oil palm. In addition, land rental is also a common practice mainly undertaken by Nigerian farmers, who concentrate on high incomegenerating food crops such as yams, *egusi* and cassava.

Zone	Rich/poor	Sex	Number	Does not own farmland	Owns	Non-
					farmland	responses
Border	Poor	f	19	6	3	10
			100%	31%	16%	53%
		m	54	34	11	9
			100%	63%	20%	17%
	Poor Total		70	40	14	16
	Poor %		100%	57%	20%	23%
	Rich	f	16	5	10	1
			100%	31%	63%	6%
		m	37	9	24	4
			100%	24%	65%	11%
	Rich Total		53	14	34	5
	Rich %		100%	26%	64%	9%
Border Total			126	54	51	21
Border Total %			100%	43%	40%	17%
Remote	Poor	f	23		23	
			100%	0%	100%	0%
		m	29	2	25	2
			100%	7%	86%	7%
	Poor Total		52	2	48	2
	Poor %		100%	4%	92%	4%
	Rich	f	8	1	7	
			100%	13%	88%	0%
		m	40	1	39	
			100%	3%	98%	0%
	Rich Total		48	2	46	
	Rich %		100%	4%	96%	0%
Remote Total			100	4	94	2
Remote %			100%	4%	94%	2%
On-road	Poor	f	17	9	5	3
			100%	53%	29%	18%
		m	26	17	6	3
			100%	65%	23%	12%
	Poor Total		43	26	11	6
	Poor %		100%	60%	26%	14%
	Rich	f	15	3	12	
			100%	20%	80%	0%
		m	52	9	43	
			100%	17%	83%	0%
	Rich Total		67	12	55	
	Rich %		100%	18%	82%	0%
On-road Total			110	38	66	6
On-road Total %			100%	35%	60%	5%

Table 3-23 Land Tenure by Settlement Type, Gender and Wealth

Source: Household Census 2000

Table 3-23 shows how ownership of farmland varies with wealth. The majority of both poor and rich households own farmland in remote settlement sampled, whilst relatively more wealthy households tend to own farmland compared to poor households in border and on-road settlement types. Over half of all poor households sampled in border and on-road settlements do not own farmland whilst 26% and 18% of rich households do not own farmland in border and on-road settlements respectively. There are gender differences. In general, relatively few poor households headed by females tend to own farmland compared to poor households headed by males. Differences are greatest in on-road settlement types sampled, where just over a third of the poor households headed by females.

These patterns of land ownership influence the types of livelihood activities households and individuals are involved in. In the border and on-road settlements studied, households headed by indigenes tend to "own" land on which they plant perennial cash crops, mainly cocoa and oil palm as well as plantains and bananas. Whilst migrants, either tend to rent land on a short-term basis to cultivate food crops (especially Nigerian migrants in Cameroon's border zone), or buy land from indigenes on which they establish perennial cash crop plantations of cocoa, oil palm and rubber (particularly in Cameroon's on-road zone). The contrasting livelihood strategies of different household types are discussed in more detail in Section 3.6 below.

3.5.2 Access to Labour

In the remote zone settlements, farm labourers are usually only hired when people want to open up new farms in the forest, because this is a very labour intensive task. Farm labourers are mostly young men and single older men with no children of their own. Generally payment is made according to size of the farm, rather than on a daily basis (Asaha 2002). During the peak farming season (January to March), household members are usually involved in farm work. Children who are staying in towns often come back to the villages to assist their parents at this time (Asaha 2002).

Table 3-24 provides information on labour inputs by gender and wealth group. It shows that, in general, a higher proportion of female-headed households hire labour¹⁴ than male headed households. This is as would be expected. As explained earlier, female-headed households tend to have higher dependency ratios compared to male-headed households which in turn means they have relatively limited household labour and are more likely to have to pay people to carry out the arduous task of clearing farm land. Male-headed households are more likely to rely on men from within the household to carry out this task. Table 3-24 also indicates that a higher proportion of relatively wealthy male and female-headed households hire farm labour compared to poorer households. This is again as would be expected, relatively wealthy households are more likely to be able to afford to pay for farm labour than poorer households.

¹⁴ Data on farm labour was collecting through the household census. Interviewees were asked whether anyone in the house pays someone to carry out farm work and if so how frequently they employed them.

				Hires	s Farm labour?
Zone	Sex	Rich/poor	Ν	No	Yes
Border	Female	Poor	16	5	11
			100%	31%	69%
		Rich	16	1	15
			100%	6%	94%
	Female Count	i	32	6	26
	Female %		100%	19%	81%
	Male	Poor	54	29	25
			100%	54%	46%
	Male	Rich	35	9	26
			100%	26%	74%
	Male count		89	38	51
	Male %		100%	41%	59%
Border Total			124	44	80
Border Total	%		100%	35%	65%
Remote	Female	Poor	22	13	9
			100%	59%	41%
		Rich	8	1	7
			100%	13%	88%
	Female Count	i	30	14	16
	Female %		100%	47%	53%
	Male	Poor	26	14	12
			100%	54%	46%
		Rich	40	5	35
			100%	13%	88%
	Male Count		66	19	47
	Male %		100%	29%	71%
Remote Tota	1		96	33	63
Remote Tota	ıl %		100%	34%	66%
On-road	Female	Poor	14	6	8
			100%	43%	57%
		Rich	14	3	11
			100%	21%	79%
	Female Count	t	28	9	19
	Female %		100%	32%	68%
	Male	Poor	24	12	12
			100%	50%	50%
		Rich	52	6	46
			100%	12%	88%
	Male Count		76	18	58
	Male Count %	<u></u>	100%	24%	76%
On-road Tota	al		104	27	77
On-road Tota	al %		100%	26%	74%
Grand Total			321	104	217
Grand Total	%		100%	32%	68%

Table 3-24 Hiring of Farm Labour by Gender and Wealth Category of Household Head

3.6 Income Sources in Cameroon's Study Settlements

3.6.1 Introduction

Farming is the main occupation for the majority of adults in all three zones studied: remote settlements, on-road settlements and border settlements. Over two thirds of respondents in all Cameroon's zones said that farming was their main occupation. Other occupations include trading, teaching and studying.

Farming in general focuses on crop production for both consumption-in-kind and for cash income obtained from the sale of crops. The main food crops include cassava, *cocoyams*, maize and *egusi* whilst the main perennial cash crops include cocoa and oil palm. Cocoa and other perennial cash crops, such as oil palm are the principal commercial crops grown in Cameroon's on-road zone. However food crops, especially cassava, are an increasingly important source of income for both men and women in Cameroon's border and on-road sample.

Forest-related enterprises (including timber exploitation and the harvesting of non-timber forest products (NTFPs)) provide very limited income for a few people in the on-road and border zones. However NTFPs are a particularly important source of income in the remote villages studied. Forest-related enterprises will be considered in more detail the NTFP report.

Quantitative data on income sources was largely collected through the multi-round survey. This survey aimed to capture the relative importance of and seasonal variations in different income sources (See Section 2.2.4. for details). Multi-round survey respondents were asked to rank the top five sources of income. In some of the tables and figures below, ranks were converted into scores. Each income source was given a score of 5,4,3,2, or 1 according to whether the respondent ranked the income source as being 1^{st} , 2^{nd} , 3^{rd} , 4^{th} or 5^{th} most important income source respectively. In Figures 3-7-3-10, the scores for each income sources. It is important to note that the multi-round survey focussed on assessing the relative importance of different activities in terms of income. It made no attempt to capture the importance of different activities for subsistence purposes.

3.6.2 Importance of Different Income Sources by Settlement Type

3.6.2.1 Remote Settlements

Income generated from NTFPs is most frequently cited as the most important source of income for households included in the multi-round survey. NTFPs were ranked first in 57% of multi-round responses (see Table 3-25). These findings are consistent with other studies in the area. A study carried out by the African Research Association (n.d.) estimates that 79% of household income in the Obonyi settlements was forest-related, whilst 21% was farm-related. Ayeni and Mdaihli (2001) estimate that 70% of the population of Takamanda Forest Reserve collects forest products.

NTFPs such as *bushmango* (*Irvingia* spp.), *eru* (*Gnetum* spp), *njangsang* (*Ricinodendron heudelotii*), *bush onion* (*Afrostyrax lepidophyllus*) and bushmeat make significant contributions to household income in the Takamanda area. Some households also collect *njabe* seeds (*Baillonella toxisperma*) for oil extraction (see Sunderland *et al* 2003b).

Farming tends to be less important as a source of income in remote settlements compared to other zones studied in Cameroon because of limited market access. However, with the advent of the new Mamfe to Akwaya road, access is improving and there is some evidence which may indicate that forest clearance and agricultural activity, particularly around Takamanda village is increasing (Slayback 2003). Plantations of oil palms, and more recently, cocoa and coffee are being established in anticipation of improved market access (Sunderland-Groves *et al* 2003) and also because of the rising market demands for these products from Nigeria (Asaha 2002). People also cultivate perennial fruit trees such as mango, avocado, *plum (Dacryodes edulis)*, oranges and *dry season mango (Irvingia wombolu)* on farms (Asaha 2002). Income generated from own-account farming was ranked first in 23% of multi-round survey records (Table 3-25).

Fishing is an important economic activity for some inhabitants in the villages studied (Asaha 2002). But in other parts of the Takamanda area it is far more important. Mdaihli *et al* (2003) reported that there are over 2,400 part-time and full-time fisherfolk in the southern border zone of Takamanda Forest Reserve, catching an annual fish yield of 1,056 tons of fish worth about 400 million FCFA.

Trading (referred to as "business" in Figure 3-7 below) and other sources of non-farm rural self-employment, including chainsaw operating, were ranked as major sources of income in the multi-round survey (Table 3-25). A good number of the younger people (between the ages of 19 and 30 years) are fully involved in itinerant trading between Nigeria and Cameroon. Traders spend several days in the village, giving the villagers enough time to gather products they want to sell, such as bunches of *eru*. Products like palm oil and those NTFPs, which are not so much in demand in Nigeria, are carried to

Mamfe, the divisional headquarters of Manyu Division. Generally, people prefer to take their items to Nigeria via Obonyi I and Obonyi III, because of the shorter distance, than travelling to Mamfe. There is also some local trade between villages for items such as palm oil, the locally brewed spirit made from palm wine (known as *afofo* or local gin) and rattan farm baskets for women (*kenja*) (Asaha 2003).

Rank	N*	Farm Income	Fishing	Non-farm rural self- employment	Non-farm wage employment	Non-timber forest products	Off-farm Income
1	183	43	0	26	9	105	0
	100%	23%	0%	14%	5%	57%	0%
2	179	72	2	12	1	90	2
	100%	40%	1%	7%	1%	50%	1%
3	125	70	1	6	1	46	1
	100%	56%	1%	5%	1%	37%	1%
4	63	34	1	3	1	24	0
	100%	54%	2%	5%	2%	38%	0%
5	32	16		2	1	12	1
	100%	50%	0%	6%	3%	38%	3%

Table 3-25 Ranks for Income Sources, Remote Zone Households

*N = Number of responses

Total No. of Households = 80

Source: Multi-round survey 2000 - 2003

For remote settlement households, there is considerable seasonal variation in the importance of income from different sources. This is particularly so for NTFPs, such as *bush mango* but also for farm products, such as palm oil. For certain products, such as agricultural crops variability is largely determined by the seasonal availability of the product. In other cases variations are also influenced by the demands of other activities. For example, income from fruits such as *bush mango* is important during the rainy season when trees are fruiting and when processing can be carried out during the slack farming period.

In other cases, the importance of activities, such as trade of manufactured goods, are determined by seasonal variations in the accessibility of markets and people's purchasing power. During the rainy season market access is hindered by heavy rains, flooding rivers and muddy roads. These findings are reflected in Figure 3-7¹⁵ which shows the most important income sources for households included in the multi-round survey. The sample sizes (i.e. no. of responses) for the different zones for Figure 3-7 are given in Table 3-26.

¹⁵ See Section 3.6.1 for an explanation of how ranks were converted into scores.





Zone No	Season	No. of
		Responses
Border	Rainy	103
	Dry	142
Border To	tal	245
Remote	Rainy	106
	Dry	191
Remote Te	otal	297
On-road	Rainy	87
	Dry	182
On-road T	otal	269
Grand Tot	al	811

Table 3-26 Number of Responses to Multi-round Survey, by Zone and Season

3.6.2.2 Border Settlements

Farming is the most important cash-earning activity for most households in border settlements and the Mokoko area as a whole. Important crops include cassava, *egusi*, cocoa, oil palm, bananas and plantains (Sunderland and Tchouto 1999; Mbani 1996). Income generated from own-account farming was ranked first in 74% of multi-round survey visits (Table 3-27). Figure 3-7 provides a breakdown of the importance of different income sources by border zone households included in the multi-round survey. It is clear that, in general, the production of cassava, which is then processed to make *gari*, is the main source of income both in the dry and rainy seasons. *Egusi* is an important rainy season crop, whilst bananas and palm oil are important income sources all year round.

Business, including the cross-border trade of items from Nigeria to Cameroon and *vice versa* is also an important source of income for some households in the border settlements, particularly during the dry season.

The border zone has a relatively high proportion of adults in employment (38 out of 278 or 13% of adult respondents) compared to other zones. Most of these adults (45%) were employed as farm labourers on the nearby CDC plantations, the remainder were teachers. Income from non-farm wage employment was ranked the most important source of income for 9% of the multi-round survey records (Table 3-27).

As Table 3-27 shows, NTFPs are not a significant source of income for border zone households.

Rank	N*	Farm Income	Fishing	Non-farm rural self- employment	Non-farm wage employment	Non-timber forest products	Off- farm Income
1	148	110	3	18	13	1	3
	100%	74%	2%	12%	9%	1%	2%
2	147	124		14	3	3	3
	100%	84%	0%	10%	2%	2%	2%
3	103	88		10	1	4	
	100%	85%	0%	10%	1%	4%	0%
4	55	49		3	1	2	
	100%	89%	0%	5%	2%	4%	0%
5	27	22		4		1	
	100%	81%	0%	15%	0%	4%	0%

Table 3-27 Ranks for Income Sources, Border Zone Households

*N = Number of responses

Total Number of Households in Sample = 75.

Source: Multi-round survey 2000 - 2003

3.6.2.3 On-road Settlements

The majority of people residing in this area are farmers. Income generated from ownaccount farming was ranked first in 83% of multi-round responses (Table 3-28). Farming is carried out both for cash and for subsistence. Whilst income from cassava is important year-round, many other farm-based income sources are seasonal. *Egusi* is an important rainy season crop, whilst income from yams, *cocoyams*, palm wine is relatively more important during the dry season. Farm labour is also an important source of income for some households, particularly during the dry season when demand for agricultural labour is high. Off-farm income (wage or exchange labour in other people's farms) was ranked first by 7% of the multi-round survey responses (Table 3-28). Figure 3-7 reflects the seasonal variations in the importance of the major income sources.

NTFPs, fishing and hunting are very much of secondary importance to farming as a source of income in this area. A few people, particularly those from Bopo village, which is located very close to the Southern Bakundu Forest Reserve boundary, are involved in the collection of NTFPs such as *bush mango (Irvingia spp.), njangsang (Ricinodendron heudelotii), bitter cola (Garcinia kola), casu nuts (Tetracarpidium conophorum),* wrapping leaves (*Megaphrynium macrostachyum*) and bushmeat.

Rank	Ν	Farm Income	Non-farm rural self- employment	Non-farm wage employment	Non-timber forest products	Off- farm Income	Rental income
1	166	138	13		2	12	1
	100%	83%	8%	0%	1%	7%	1%
2	161	151	3	1	5	1	
	100%	94%	2%	1%	3%	1%	0%
3	112	107	5				
	100%	96%	4%	0%	0%	0%	0%
4	69	58	5	2	3		1
	100%	84%	7%	3%	4%	0%	1%
5	26	22	2	1			1
	100%	85%	8%	4%	0%	0%	4%

Table 3-28 Ranks for Income Sources, On-Road Zone Households

*N = Number of responses

Total Number of Households = 79

Source: Multi-round survey 2000 - 2003

3.6.3 Livelihood Differences between Households and Individuals

Respondents were asked to describe their main occupation as part of the household census survey (see Section 2.2.3). Table 3-29 provides a breakdown of the responses given to this question grouped by different occupational categories for all adults by gender and settlement type. In general, the main occupation type for women in all settlement types is "farm income" – income generated from own-account farming on owner-occupied land, or on land accessed through tenancy.

A lower proportion of men, compared to women, are generally involved in farming in all settlement types. In border settlements, 15% of adult men surveyed were involved in "non-farm income" activities including preaching, teaching and driving and 10% of adult men are employed as farm labourers (many of whom are strangers) and 10% are students.

In remote settlements, the main occupation group of 10% of male adults sampled was grouped as "non-farm rural self-employed" (traders, palm wine distillers, businessmen and carpenters). In on-road settlements, the main occupation group of 12% of the male adults sampled was "on-farm income", mainly wage labourers on other people's farms.

The less well-educated, namely women and the elderly, do not have the skills, opportunities or access to training necessary to obtain higher wage earning jobs or better paid professional positions elsewhere. With lower human capital skills and fewer labour assets these individuals are often engaged in self-employed activities that do not require large investments in human, physical or financial resources e.g. own-account farming and petty trading.

				Occupational Category											
Zone	Sex	Number	Number Disabled Elderly Farm None		Non-farm	Non-	Off-	Sick	Student	Unemployed					
					income		rural self-	farm	farm						
							employment	rural	income						
Dandan	Esmala	124		6	100	2	2	wage	1	1	0	1			
Border	Female	124	00/	0	100	2	3	1	1 10/	10/	9	l			
	161	100%	0%	5%	81%	2%	2%	1%	1%	1%	/%	1%			
	Male	120		1	70		4	18	14		13				
		100%	0%	1%	58%	0%	3%	15%	12%	0%	11%	0%			
Total Bord	ler	244		7	170	2	7	19	15	1	22	1			
		100%	0%	3%	70%	1%	3%	8%	6%	0%	9%	0%			
Remote	Female	150	1	3	131		1		1		12	1			
		100%	1%	2%	87%	0%	1%	0%	1%	0%	8%	1%			
	Male	142	2	5	88		17	8	7		11	4			
		100%	1%	4%	62%	0%	12%	6%	5%	0%	8%	3%			
Total Rem	ote	292	3	8	219		18	8	8		23	5			
		100%	1%	3%	75%	0%	6%	3%	3%	0%	8%	2%			
On-road	Female	187		2	161	1	5	4		1	13				
		100%	0%	1%	86%	1%	3%	2%	0%	1%	7%	0%			
	Male	146		1	94		8	3	22		15	3			
		100%	0%	1%	64%	0%	5%	2%	15%	0%	10%	2%			
Total On-r	oad	333		3	255	1	13	7	22	1	28	3			
		100%	0%	1%	77%	0%	4%	2%	7%	0%	8%	1%			
Total		869	3	18	644	3	38	34	45	2	73	9			
Total Count		100%	0%	2%	74%	0%	4%	4%	5%	0%	8%	1%			

 Table 3-29 Main Occupational Categories of Adults Sampled by Gender and Settlement Type

Figure 3-8 gives some indication of the relative importance of different income sources for male (MHH) and female-headed (FHH) households by zone. The number of responses (N) for Figure 3-8 are shown in Table 3-30. As Figure 3-8 shows, the contrasts between male and female-headed households are greatest in on-road settlements, where perennial cash crops such as cocoa and plantains are much more important to male-headed households. These findings may reflect patterns of land tenure and post-marital residence (see Section 3.5.1.1).

Zone	Gender	No. of	
	of HH	Responses	
Border	Female		72
	Male		173
Border To	tal		245
Remote	Female		104
	Male		193
Remote To	otal		297
On-road	Female		79
	Male		190
On-road T	otal		269
Grand Tot	al		811

Table 3-30 Number of Responses for Figure 3-8

Petty-trading and the sale of cooked food, which fall under "business" are particularly important sources of income for female-headed households in on-road and border settlements. *Eru* is relatively more important for female-headed households compared to male-headed households in remote settlements. It is mainly harvested by women and children but, according to one study, the trade in *eru* is controlled by young men who are, in turn, paid by male traders (mainly Nigerians) to buy picked *eru* from harvesters (African Research Association n.d.) These differences are again thought largely to be due to land tenure patterns and contrasts in labour supplies. As explained earlier in Section 3.5.2, female-headed household tend to have relatively less labour available to them than most male-headed households and more limited access to farm land.

Figure 3-8 Top Income Sources by Gender of Household Head and Zone



Source: Multi-round survey 2000 – 2003 FHH = Female-headed households MHH = Male-headed households

As earlier mentioned in Section 3.5.1.1, ethnicity is one of the main factors influencing land tenure patterns and land tenure, in turn, influences the types of activities that households are involved in. Figure 3-9 gives an indication of the relative importance of different income sources by geographical origin of household head. It shows that fast-growing food crops such as cassava and *egusi* are important sources of income for Nigerian-headed households, particularly in border settlements. Nigerians in the border settlements studied rent land from indigenes, often on an annual basis. Strangers, in general, are not allowed to plant perennial cash crops on rented land (see Section 3.5.1.1). As a result, Nigerians tend to cultivate relatively fast-growing, annual food crops, such as cassava and *egusi*. Figure 3-9 shows that these crops are particularly important income sources for households headed by Nigerians who cannot afford to buy land for perennial cash crops (Asaha 2002). On the other hand, as Figure 3-9 shows, palm oil production is an important source of income for people from Southwest Province.

The situation is different for stranger-headed households, who are mainly people origination from Northwest Province, living in on-road settlements studied. Here, as explained earlier, a higher proportion of people from Northwest Province own the land they farm. People from Northwest Province who own the land they farm tend to cultivate both perennial cash crops, such as cocoa, as well as food crops for sale and home-consumption, Figure 3-9 reflects these trends. Cocoa and plantains (which are commonly grown in cocoa plantations for shade) are among the most important income sources for households headed by people from Northwest Province.

Figure 3-9 also shows that farm labour is an important source of income for strangers in more accessible border and on-road settlements. Again, these results reflect land tenure issues. Strangers have relatively limited access to farm land and therefore tend to rely relatively more on wage labour on other people's farm as an income source than natives.





N= No. of Responses Source: Multi-round survey 2000 – 2003 The multi-round income surveys were administered to a stratified random sub-sample of households in each zone, drawn from households identified in the household census. From an analysis of the household census data and the PRA wealth ranking exercise (see Section 2.2.4 for details) it was possible to group households identified in the household census into strata according to two variables: whether people in the household are involved in rattan-related enterprises or not and wealthy vs. relatively poor households.

Figure 3-10 give an indication of the relative importance of income sources for households of different wealth categories in border, remote and on-road settlements studied. It is clear from this figure that cassava is the biggest single income source for both rich and poor people in more accessible settlements. Perennial crops such as oil palm and cocoa, and "business" are important income sources for relatively wealthy households in on-road and remote settlements, whilst relatively fast-growing food crops such as cassava, *egusi* and okra are more important for households grouped as poor in these zones.

NTFPs such as bush mango and bushmeat are the most important income sources for poor households in remote settlements, whilst palm oil and *eru* are relatively more important income sources for wealthy households.

Tables 3-31 - 3-33 provide information about the proportion of households grouped as "rich" and "poor" involved in different income generating activities by settlement type.



Figure 3-10 Top Income Sources, by Wealth Category and Zone

Source: Multi-round survey 2000 – 2003 N= No. of Responses

		Poor												Rich								
Round/	N	ba	%	cas	%	egusi	%	okro	%	plant	%	Ν	ba	%	cass	%	egusi	%	okro	%	plan	%
Season		na		sav						ains			na		ava						tain	
		na		a									na								S	
1 Dry	21	3	14%	13	62%		0%	1	5%	2	10%	25	7	28%	29	100%	1	4%	1	4%	8	32%
2 Rainy	22	2	9%	11	50%	11	50%	1	5%	2	9%	33	9	27%	30	91%	20	61%	2	6%	10	30%
3 Dry	20	5	25%	14	70%	1	5%	2	10%	3	15%	31	10	32%	28	90%	1	3%	1	3%	4	13%
4 Rainy	18	1	6%	10	56%	7	39%	1	6%		0%	30	5	17%	27	90%	12	40%		0%	3	10%
5 Dry	20	4	20%	17	85%		0%	3	15%	6	30%	25	8	32%	24	96%		0%	2	8%	7	28%
Totals	101	15	15%	65	64%	19	19%	8	8%	13	13%	144	39	27%	138	96%	34	24%	6	4%	32	22%

Table 3-31 Income Sources for Border Households by Season and Wealth Group

Source: Multi-round survey 2001-2003

Table 3-32 Income Sources for On-Road Households by Season and Wealth Group

		Poor										Rich														
Round/	Ν	cass	%	c	%	coco	%	е	%	pla	%	у	%	Ν	cass	%	c	%	c	%	е	%	pl	%	у	%
Season		ava		0		yam		g		nta		a			ava		0		0		g		a		a	
				c		s		и		ins		m					c		c		u		nt		m	
				0				\$;				s					0		0 V		sı		al n		s	
				а				i									а		y a				п s			
																			m				5			
																			s							
1 Dry	32	14	44%	6	19%	2	6%		0%	9	28%	7	22%	38	21	55%	1	39%	9	24%	2	5%	2	63%	1	26%
																	5						4		0	
2 Dry	27	12	44%	3	11%		0%	1	4%	4	15%		0%	36	24	67%	8	22%	5	14%		0%	8	22%	2	6%
3 Rainy	22	15	68%	6	27%		0%	9	41%	6	27%	3	14%	31	25	81%	2	77%	3	10%	1	48%	1	35%	7	23%
																	4				5		1			
4 Rainy	14	2	14%	4	29%		0%	6	43%	4	29%		0%	20	12	60%	1	50%	3	15%	1	55%	9	45%		0%
																	0				1					
5 Dry	20	6	30%	7	35%	5	25%	2	10%	9	45%	4	20%	29	15	52%	2	72%	1	34%	2	7%	2	79%	1	41%
																	1		0				3		2	
Totals	115	49	43%	2	23%	7	6%	1	16%	32	28%	1	12%	154	97	63%	7	51%	3	19%	3	19%	7	49%	3	20%
				6				8				4					8		0		0		5		1	

Source: Multi-round survey 2001-2003

						Poor						Rich										
Round	N	bush mango	%	bush meat	%	eru	%	local gin	%	palm oil	%	N	bush mango	%	bush meat	%	eru	%	local gin	%	palm oil	%
1 Dry	54	8	15%	7	13%	4	7%	7	13%	10	19%	20	4	20%	4	20%	1	5%	4	20%	8	40%
2 Dry	43	3	7%	4	9%	15	35%	4	9%	6	14%	21	1	5%	1	5%	6	29%	2	10%	8	38%
3 Rainy	41	30	73%	7	17%	19	46%	3	7%	9	22%	20	18	90%	3	15%	13	65%	1	5%	12	60%
4 Dry	34	0	0%	9	26%	24	71%	4	12%	4	12%	19		0%	5	26%	10	53%	2	11%	5	26%
5 Rainy	28	23	82%	5	18%	14	50%	2	7%	4	14%	17	14	82%	1	6%	6	35%	3	18%	3	18%
	200	64	32%	32	16%	76	38%	20	10%	33	17%	97	37	38%	14	14%	36	37%	12	12%	36	37%

 Table 3-33 Income Sources for Remote Households by Season and Wealth Group

Source: Multi-round survey 2001-2003

Tables 3-31 –3-33 reflect the sharp contrasts in livelihood strategies between different settlement types and wealth categories. Farming is the most important income source in more accessible settlement types. Table 3-31 shows a high proportion of both rich and poor households in the border zone are involved in the production and sale of cassava, mainly in the form of *gari*. Nearly all "rich" households in border settlements gain income from cassava farming, whilst about two thirds of "poor" households generate income from this activity.

Cassava is particularly suited to the livelihoods of many relatively poor rural households in the humid forest zone. It requires very little in terms of capital investment because it is vegetatively propagated. It also offers flexibility in the timing of labour inputs since it can be planted throughout the rainy season and harvested over a period of up to 18-24 months. As Nweke *et al* (2004) point out, this flexibility makes cassava particularly attractive to households with limited labour.

Cocoa and plantains are important incomes source for most "rich" households in on-road settlements studied. About 50% of all households in the on-road sample gain income from cocoa and plantain production (see Table 3-32). Cassava farming is also an important income source in for poor and rich households in on-road settlements. Table 3-32 shows that nearly a half of all "poor" households and nearly two-thirds of "rich" households sampled in on-road study settlements gain income from cassava farming.

The picture in the remote study settlements is very different. Here, as Table 3-33 shows, non-timber forest products are the main income source for the majority of both "rich" and "poor" households. Table 3-33 also reflects seasonal variations in the importance of different income sources. *Bush mango* is an important source of income, particularly in the rainy season, for both rich and poor households. Table 3-33 indicates that over 80% of rich and poor households included in the multi-round survey are involved in harvesting and processing *bush mango* during the rainy season period. *Eru* is an important income source for over a third of all rich and poor households throughout the year. A higher proportion of rich households in remote settlements studied are involved in palm oil production. Table 3-33 shows that over a third of households grouped as "rich" are involved in and gained income from this activity, both during the dry and rainy season periods, whilst a much lower proportion of poor households are involved.

Table 3-34 and Figures 3-11 - 3-13 give some indication of mean monthly and annual income figures¹⁶ for the top five income sources by zone and wealth group for those households involved in specified activities.

In summary, these findings reflect the fact that household income is influenced by a number of factors. Access to markets and forest resources, as well as ethnicity and gender are important determinants of household income. These factors, in turn, influence

¹⁶ Mean monthly figures were calculated by dividing the mean income for the total survey period by the total number of months covered by the survey, which varied slightly for different settlements. Mean annual figures were then calculated by multiplying mean monthly figures by 12.

access to land, labour and wealth. Female-headed and stranger-headed households generally tend to be relatively less wealthy than native, male-headed households because the former tend to have lower human capital skills, fewer labour assets, and limited access to permanently owned farmland. As a result, these households are often engaged in self-employed activities, such as cassava farming and farm labouring in more accessible settlements and NTFPs in remote settlements, which do not require large investments in human, physical or financial resources.

Figure 3-11 Mean Annual Household Income Sources, by Wealth Group, Border Settlements



Figure 3-12 Mean Annual Household Income Sources, by Wealth Group, On-road Settlements





Figure 3-13 Mean Annual Household Income, by Wealth Group, Remote Settlements

3.6.4 Involvement in Rattan-related Activities

It is clear from the preceding sections that, in general, rattan is not a major source of income for either rich or poor households in any of the three study zones. None of the multi-round survey respondents cited income from rattan as one of the top five income sources during the five survey rounds. Farming and, to a lesser extent, trade are the prominent sources of income overall. However, as will become clear in Section 4, rattan plays a precise role in the livelihoods of certain household types.

3.6.5 Livelihood Patterns

In summary, the key variables affecting income-generation patterns in the settlements studied are access to markets and forest resources, gender, ethnicity, land-holding, and wealth status. Table 3-35 summarises the wealth/livelihood categories for the main households types found in different settlement types.

			POOR HO	USEHOLI	DS		RICH HOUSEHOLDS							
Zone	Source of	No. of	Mean	S.D.	Mean	Mean	No. of	Mean	S.D.	Mean	Mean			
	income	Responses	income*		Monthly	Annual	Responses	income for		Monthly	Annual			
			for total		Income	Income		total		Income	Income			
			survey					survey						
			period					period						
Border	cassava	50	115,804	121,620	4,289	51,468	122	109,821	165,730	4,067	48,809			
	banana	4	27,475	18,550	1,018	12,211	16	57,950	61,545	2,146	25,756			
	egusi	15	35,867	23,421	1,328	15,941	33	50,476	57,917	1,869	22,434			
	palm oil	4	41,000	23,636	1,519	18,222	33	132,764	93,937	4,917	59,006			
	plantains	6	29,983	27,688	1,110	13,326	16	55,803	50,563	2,067	24,801			
Border T	otals				9,264	111,168				15,067	180,806			
On-	cassava	41	125,870	10,489	4,340	52,084	82	102,548	9,830	3,536	42,434			
Road	cocoa	23	247,925	13,107	8,549	102,590	65	322,573	24,986	11,123	133,479			
	egusi	18	67,417	8,061	2,325	27,897	23	47,087	14,204	1,624	19,484			
	plantains	16	33,925	2,746	1,170	14,038	48	40,310	21,422	1,390	16,680			
	Yams	9	64,222	177	2,215	26,575	24	70,313	3,044	2,425	29,095			
On-road '	Total		123,339		4,253	51,037		140,833		4,856	58,276			
Remote	Bush mango	62	130,714	162,315	5,027	60,329	36	213,826	249,374	8,224	98,689			
	bush meat	28	89,214	100,076	3,431	41,176	14	36,714	50,016	1,412	16,945			
	Eru	70	64,924	130,463	2,497	29,965	35	85,776	81,260	3,299	39,589			
	palm oil	33	18,324	13,435	705	8,457	35	29,186	20,564	1,123	13,470			
Remote Total			81,246		3,125	37,498		101,962		3,922	47,059			

Table 3-34 Mean Income for Top Five Income Sources, by Wealth

Source: Multi-round Survey 2000 - 2003

NB Business income not included as no quantitative data available.

*Mean income was calculated by totalling income from all responses over the total number of households citing income sources

Table 3-35 Groups of Households with similar Asset-bases found in Different Settlement Types, in Descending Order of Wealth Status

Settlement	Livelihood category	Characteristics
type	of wealth status)	
Remote	1) Wealthy households	Households headed by relatively wealthy, and well-
	,	educated male indigenes some in full-time salaried
		employment (eg teachers), own land, hires seasonal
		labour and gains some income from agriculture (food
		crops, cocoa, oil palms, coffee) and supplements income
		from petty trading, or other skills (eg carpentry).
	2)Middle income	Little or no education, owns land, some hire labour
	farmers	seasonally, most don't trade, main income from
		agriculture (food crops, cocoa, oil palm, coffee).
	3)Single, male marginal	Primary income from NTFPs, mainly relies on food
	farmers	crops for subsistence, do not hire labour, do not trade.
		many are young or elderly men with no dependents.
	4) Female-headed	Primary income from NTFPs, mainly relies on food
	households	crops for subsistence, do not hire labour and do not
		trade. Many have young dependents.
On-road	1) Wealthy, migrant	Own land, hire labour seasonally or full-time. Main
	farmers from NWP	income from farming cocoa, rubber, palms, food crops,
		usually relatively well-educated.
	2) Wealthy	Main income salary or cocoa, food crops, owns land,
	indigenes/salaried	hire labour seasonally.
	workers	
	3) Middle income	Indigenes, main income from cocoa, food crops, do not
	farmers (indigenes)	trade, some hire occasional labour.
	4) Middle income	Rent land, grow mainly food crops, some cocoa, hire
	farmers (migrants from	labour seasonally, most don't trade.
	NW and Nigeria)	
	5) Landless farm	Mainly migrants from Northwest Province and Nigeria,
	labourers	rents home and farmland, grows mainly food crops, do
		not hire labour, do not trade.
	6)Poor single men and	Mainly indigenes, some youth others elderly, do not own
	women	land, do not hire labour, main income cassava farming.
		Some involved in wage labour and petty trading.
Border	1)Wealthy indigenes:	Relatively well-educated, own land, cultivate food crops,
	farmers/wage earners	some oil palms and cocoa, hires labour seasonally/full-
		time, supplements income with trading.
	2) Migrant wage-	Full-time teachers and CDC employees from Northwest
	earners/business people	Province. Some rent land to grow food crops, employ
		seasonal labour, some trade.
	3)Migrant farmers	Mainly from Nigeria, rent land, main income from
		cassava and egusi cultivation, hire labour seasonally, do
		not trade.
	4) Farm labourers	CDC employees or work on other people's farms, do not
		own land, do not trade.
	5) Single migrants	Nigerian males and females, with no dependents, males
		rent land to grow food crops, do not hire labour, do not
		trade. Women involved in petty trading.
4. Patterns of Rattan Consumption and Income in Cameroon Study Settlements

4.1 Household Consumption Patterns of Equipment and Utensils Made With Rattan

This section assesses the extent to which rattan is used to make household articles. It looks at how consumption patterns vary with settlement and household type. It then discusses how consumption patterns appear to be changing.

4.1.1. Extent and Frequency of Use

The short rattan consumption and income questionnaire was administered to a total of 190 people in different households to identify who uses rattan products and for what purpose and to find out how the use of rattan is changing (see Section 2.2.5). Table 4-1 shows the distribution of the numbers involved in the survey from each zone.

Zone	No. Households Surveyed	No. of Interviews	No. of Non- respondents
Border	61	45	16
Remote	81	75	6
On-road	80	70	10
Total	222	190	32

Table 0-1 Households Participating in Short Rattan Survey

Source: Short Rattan Consumption Survey 2001

As Table 4-2 shows, a wide range of baskets and *gari* sieves¹⁷, are the rattan items most commonly found in households surveyed. In general, a higher proportion of households surveyed in remote settlements possess items made with rattan compared to households surveyed in on-road and border settlements.

Table 0-2 Equipment	Made with Rattan	Cited More Than	Ten Times by San	nple Households
				- P

Zone	N	Ν	one	Farm	Basket	Kitcher	n Basket	Gari	Sieve	Storage	e Basket	Ch	air	Cup	board
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Border	45	17	38%	24	53%	1	2%	12	27%	0	0%	0	0%	1	2%

¹⁷ Gari sieves are used to sift the chaff out of ground cassava before frying to make gari.

Remote	75	7	9%	70	93%	72	96%	25	33%	54	72%	1	1%	1	1%
On- road	70	25	36%	26	37%	4	6%	25	36%	0	0%	16	23%	16	23%
Total	190	49	26%	120	63%	77	41%	62	33%	54	28%	17	9%	18	9%

Source: Short Rattan Consumption Survey, 2001

Rattan baskets are a particularly common article used in remote settlements for carrying farm and forest produce to the house and to market, whilst chairs and cupboards made with rattan are more commonly found in on-road settlements. *Gari* sieves, are commonly found in about a third of all households in all zones surveyed. Other items made with rattan cited by households included ladders and fishing baskets.

Households sampled in remote settlements possess an average of 4.8 baskets per households, whilst households in the on-road and border samples possess an average of 0.9 and 0.7 baskets per household respectively.

The multi-round survey (see Section 2.2.4) also provides information on the frequency of use of household items. One of the first questions asked during the multi-round survey interviews was whether there were household items (such as baskets, fishing traps, ladders etc. but **not** furniture such as chairs and cupboards) made with rattan that had been used often during the recall period (usually about three to four months).

Table 4-3 below shows that, in general, rattan items are used most frequently in remote settlements compared to the other two settlement types. During the two year survey period, at least one household item made with rattan was recorded as being used in over 90% of the visits made to households in remote settlements compared to just over 60% of the visits made to households in border and on-road settlements.

Settlement	No. of	Frequently Used Item Made		
Туре	Records	with R	attan?	
		No	Yes	
Border	242	86	156	
	100%	36%	64%	
Remote	296	18	278	
	100%	6%	94%	
On-road	268	103	165	
	100%	38%	62%	
Total	806	207	599	
Total %	100%	26%	74%	

Table 0-3 Frequency of Use of Rattan Items by Settlement Type

Source: Multi-round survey 2001-2003

The most important items made with rattan in terms of frequency of use are baskets and gari sieves. As discussed in Section 3.6, a high proportion of households in all settlement types are involved in the production of cassava to make gari. So it is not surprising that gari sieves are one of the most frequently used household articles made with rattan. Table 4-4 indicates that households in remote settlements appear to use baskets and gari sieves far more frequently than the other two settlement types. Farm baskets are recorded as being used in 89% of the visits to households in remote settlements compared to about a third of visits made to border and on-road settlements. These findings support the argument, expanded later in Section 4.4, that items traditionally made with rattan are being replaced by cheaper, man-made alternatives.

Zone	Total No. of Records	Farm Basket	%	Kitchen Basket	%	<i>Gari</i> Sieve	%	Storage Basket	%	Shopping Basket	%
Border	245	96	39%	36	15%	99	40%	18	7%	3	1%
Remote	297	264	89%	421*	142%*	32	11%	16	5%	2	1%
On- road	269	86	32%	41	15%	101	38%	8	3%	36	13%
Total	811	446		498		232		42		41	

Table 0-4 Frequency of Use of Most Commonly Used Household Items Made with Rattan, by Settlement Type.

* These figures combine two types of basket which were grouped together. Source: Multi-round survey 2001-2003

4.1.2 Rattan Usage - Differentiation by Household Type

Turning to look at difference between types of households, the results of the multi-round survey indicate that, in general, households headed by older people tend to use baskets and gari sieves more frequently than households headed by younger people, as Table 4-5 shows. This may be because households headed by older people have had time to accumulate relatively more rattan items and because elderly people are more likely to make these items than younger people (see Section 4.2.2 below).

Table 0-5 Frequency of Use of Rattan Household Items by Age Cohort of Household Head

Age Cohort	No. of Records	Use any rattan it	ems frequently?
		No	Yes
10 to 19	7	5	2
	100%	71%	29%

20 to 29	101	49	52
	100%	49%	51%
30 to 39	197	47	150
	100%	24%	76%
40 to 49	160	40	120
	100%	25%	75%
50 to 59	129	12	117
	100%	9%	91%
60 to 69	96	21	75
	100%	22%	78%
70 & over	96	23	73
	100%	24%	76%
Totals	786	197	589
Total %	100%	25%	75%

Source: Multi-round survey 2001-2003

Table 4-6 indicates that households headed by people from Southwest Province appear to use rattan baskets and gari sieves more frequently compared to households headed by people from Northwest Province and Nigeria. This may be as a result of cultural preference as well as because migrants from Northwest Province and Nigeria tend largely to be found in more accessible settlements where cheaper, man-made alternatives to baskets and sieves are more easily available.

Table 0-6 Frequency of Use of Rattan Household Items by Geographical Origin of Household Head

Geographical Origin of Household Head	Total No. of Records	Used Any Rattan Items Frequently		
		No	Yes	
Nigeria	82	43	39	
%	100%	52%	48%	
Northwest Province	122	46	76	

%	100%	38%	62%
Southwest Province	568	104	464
%	100%	18%	82%
Western Province	21	7	14
%	100%	33%	67%
Total	793	200	593
Total %	100%	25%	75%

Source: Multi-round survey 2001-2003

Table 4-7 also shows that female headed households appear to use household items made with rattan cane slightly more frequently than male-headed households. This may be due more to the gender of the respondent than to actual differences in usage. Male respondents are less likely to use rattan baskets or sieves than female respondents, as the former do less carrying and processing.

Table 0-7 Frequency	of Use of R	tan Household	Items by Gende	r of Household Head
---------------------	-------------	---------------	----------------	---------------------

	Total No. of Records	Any rattan items used frequently?			
Sex	1	No	Yes		
Female	251	31	220		
	100%	12%	88%		
Male	555	176	379		
	100%	32%	68%		
Total	806	207	599		
Total %	100%	26%	74%		

Source: Multi-round survey 2001-2003

Table 4-8 illustrates that, in general, households grouped as "poor" (see Section 2.1) appear to use baskets and gari sieves made with rattan less frequently than relatively wealthy households. This may be because poor households tend to use cheaper alternatives to rattan items, for example using old fertilizer sacks in place of rattan

baskets (see Section 4.4 below). In addition, poor households, such as those composed of a single elderly or infirm person may not use baskets or gari sieves frequently because they are only occasionally involved in farm work. Households grouped as "poor" in roadside and border settlements in particular, appear to use rattan baskets less frequently than "rich" households in these settlements.

Table 0-8 Frequency of Use of Household Items Made with Rattan by Wealth Group and Settlement Type

Settlement Type	Wealth Group	Total No. of Records	No	Yes
Border	Poor	100	50	50
		100%	50%	50%
	Rich	142	36	106
		100%	25%	75%
Border Tot	al	242	86	156
Border Total %		100%	36%	64%
Remote	Poor	200	17	183
		100%	9%	92%
	Rich	96	1	95
		100%	1%	99%
Remote To	tal	296	18	278
Remote To	tal %	100%	6%	94%
On-road	Poor	114	59	55
		100%	52%	48%
	Rich	148	43	105
		100%	29%	71%
On-road Total		262	102	160
On-road To	otal %	100%	39%	61%

Used Any Rattan Items Frequently?

Total Poor	414	126 (30%)	288 (70%)
Total Rich	386	80 (21%)	306 (79%)
Total	800	206	594
Total %	100%	26%	74%

Source: Household Census 2000 & Multi-round survey 2001-2003

4.1.3 Mode of Acquisition

Turning to look at how rattan items are acquired by different households, in general a higher proportion of household items made with rattan, such as baskets and gari sieves are bought locally rather than made at home. Table 4-9 reflects these findings.

	Ν	Item	Μ	Mode of Acquisition			
Zone		Baskets	Bought	Gift	Home-made		
Border	45		18	3	5	26	
			69%	12%	19%	100%	
Remote	75		117	11	60	188	
			62%	6%	32%	100%	
On-road	70		34	0	2	36	
			94%	0%	6%	100%	
Total	190		169	14	67	250	
% Total			68%	6%	27%	100%	
Border	45	Gari Sieve	11	0	1	12	
			85%	0%	8%	92%	
Remote	75		18	1	6	25	
			67%	4%	22%	93%	
On-road	70		24	0	0%	24	
			43%	0%	0%	43%	
Total	190		53	1	7	61	
% Total			55%	1%	7%	64%	

Source: Short Rattan Consumption Survey 2001

Turning to look at differences between settlement types, a higher proportion of people in remote settlements tend to make rattan households items themselves compared to more accessible on-road and border settlements. Nearly a third (60 out of 188 citations) of all baskets were reportedly home-made in the remote settlement sampled compared to only two out of 36 and about a fifth (five out of 26) of all baskets cited in the on-road and border settlements sampled respectively (Table 4-9). These variations may be partly due to differences in wealth as well as market and resource access. With less financial resources available, limited access to cheap manufactured alternatives and relatively easy access to raw rattan, remote households are more likely to make their own rattan household items than households in the more accessible on-road and border settlements.

The majority (about 75%) of rattan household items listed by respondents in all settlements surveyed were purchased locally either within the village concerned or in a neighbouring village. In general, the main source of raw cane for home-made rattan items in remote settlements was forest18, rather than farm fallow or farmland.

4.1.4 Seasonal Variations in Subsistence Use

One of the aims of this study was to assess seasonal variations in the use of rattan. Table 4-10 presents some of the findings from the multi-round survey on the seasonal variations in the subsistence use of the most frequently used household items made with rattan. For the purpose of this study, the rainy season in Cameroon was defined as the period from March through to October, whilst the dry season was defined as the period from November through to February. In general, most equipment made with rattan is used more frequently during the dry season – a period of relatively intensive farming activity. As would also be expected, fishing baskets are used more frequently during the dry season rivers are prone to flooding and conditions are frequently unsuitable for fishing.

Season	Total No. of Records	Farm Basket	Kitchen Basket	Fishing Basket	Gari Sieve	Storage Basket	Drying Tray	Shopping Basket	Palm Oil Sieve
Rainy	433	154	163	2	69	24	2	17	2
	34%	35%	33%	25%	30%	57%	29%	41%	40%
Dry	846	292	335	6	163	18	5	24	3
	66%	65%	67%	75%	70%	43%	71%	59%	60%
Total	1279	446	498	8	232	42	7	41	5
Total %	100%	100%	100%	100%	100%	100%	100%	100%	100%

Table 0-10 Seasonal Variations in the Use of Equipment Made with Rattan Cited Five or More Times

Source: Multi-round survey 2001-2003

¹⁸ Respondents did not distinguish between "high" forest or "secondary" forest

4.1.5 The Use of Rattan in Other Sectors

As pointed out above, baskets are the most frequently used household item. Baskets are used to carry farm and forest products to the house and to market as well as for storage.

Fish is a very important source of protein in all study settlements. Rattan is used to weave fish baskets for carrying fish as well as fish traps. Rattan is also used in the Takamanda area (remote settlement sample) to construct hammock bridges which are used, particularly during the rainy season, to cross large rivers in the area. However this practice is now gradually disappearing. People now cross rivers with hand-paddled canoes. These bridges appear to be common to Southwest Province and neighbouring southeast Nigeria (see Sunderland, Balinga and Groves 2002 for details) and are also found as far south as Gabon.

Rattan cane plays an important traditional role in the remote Takamanda settlements studied. It is used in tying other plants together to a tree to build a 'juju', though no extra spiritual powers are attributed to the cane itself.

4.1.6. Characteristics of Rural Crafts People who Make Rattan Items for Subsistence Use

Findings from the short rattan consumption survey (see Section 2.2.5), indicate that the majority (82%) of crafts people making rattan items for subsistence use are male (34 out of a total of 41 makers) whose average age is 48 (ranging from 16 to 80 years), but most are elderly. The remaining seven crafts people cited (18%) were women who are basket weavers with an average age of 59 (ranging from 45 to 75). Both households grouped as rich and poor are involved in making rattan items for home use and the majority are households whose head originate from Southwest Province.

4.2. Characteristics of Rural Rattan Specialists and Their Enterprises

Detailed information on the characteristics of rural people specializing in rattan-related activities was collected through the administration of the long rattan survey (see Section 2.2.6). A total of 28 specialists were interviewed, but background socio-economic information was collected on only 19 of those interviewed through the administration of the household census. Seven of those interviewed are from the on-road sample and 12 are from the remote sample. Nobody from the border sample was interviewed, although rattan specialists are found there.

4.2 Types of Activities¹⁹

The majority of rural rattan specialists are involved in harvesting raw cane, cleaning and weaving it into baskets and other products and selling them (see Table 4-11). A small

¹⁹ For details on rattan harvesting and processing in Cameroon see Dione *et al* 2000; Sunderland, Defo, Ndam, Abwe and Tamnjong *et al* 2002

proportion of entrepreneurs (4 out of 28) are involved in harvesting and selling raw cane to those who weave. In addition organised gangs of harvesters, many of whom are Nigerian migrants, operate in the forests surrounding border settlements accessible to Nigerian markets by boat.

Table 0-11 Activities of Rattan Specialists

Activity

Zone*	Ν	harvester/weaver/trades	harvests and sells raw cane	Weaver
Remote	17	16		1
	100%	94%	0%	6%
On-road	11	6	4	1
	100%	55%	36%	9%
Totals	28	22	4	2
Totals	100%	79%	14%	7%

*No specialists in rattan were found in border settlement type. Source: Long Rattan Survey 2001

4.2.2 Socio-economic Characteristics of Rural Rattan Specialists

The majority of long rattan survey respondents are male (17 out of 19). The other two are women who are harvesters and basket weavers, both aged 50. The average age of all those surveyed was fifty, most are in the 50 to 59 age group. The findings of Dione *et al* (2000) also indicate that older men above the age of 40 are involved in harvesting and processing in rural areas.

Fable 0-12 Numbers of Ratt	in Specialists by Age Cohort
-----------------------------------	------------------------------

		Age Cohort					
	Ν	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 & over
	19	1	4	3	7	1	3
	100%	5%	21%	16%	37%	5%	16%
Source: L	ong Ratta	n Survey 2	2001				

In general, those specializing in harvesting and weaving rattan have had little formal education. Most of those interviewed (10 out of 19) had attended primary school, whilst only two had been educated beyond primary level. Seven out of the 19 interviewed had no formal education at all. Table 4-13 compares the mean years of education of rattan specialists to all males included in the household census sample for on-road and remote settlements. The rattan specialists interviewed have had fewer years of formal education compared with the average for all males sampled in the household census.

Zone	Ratta	in specialists	All males		
	Ν	Mean No. of Years of Education	Ν	Mean No. of Years of Education	
Remote	12	5.0	155	6.4	
On-road	7	5.8	152	7.2	
Totals	19	5.6	307	6.8	

Table 0-13 Rattan Specialists, Years of Formal Education by Settlement Type

Source: Household census (2000) and Long rattan survey (2001)

The majority of rattan specialists interviewed are permanent residents (18 out of 19 interviewed) of the settlements they live in. They are mainly from Southwest Province, however, as is clear from Table 4-14, that in the on-road sample both people from Southwest and Northwest Province are involved in rattan-related activities.

The majority of rattan cane weavers in the border zone are Nigerians who have settled along the creeks. In 2002, it was observed that an average of about 30 baskets of different sizes were produced and sold by one weaver in a week. Each creek settlement has about four to five rattan basket weavers who are mainly occupied with this activity for income (Asaha 2002).

Table 0-14 Geographical Origin of Rattan Specialists by Settlement Type

		Geographical Origin			
Zone No	Ν	Northwest Province	Southwest Province		
Remote	12		12		
	100%	0%	100%		
On-road	7	4	3		
	100%	57%	43%		
Totals	19	4	15		
Total %	100%	21%	79%		

Source: Long Rattan Survey 2001

As Table 4-15 shows, the dependency ratio²⁰ for rattan specialists tends to relatively low. Over a third of those interviewed had no dependents and the average household dependency ratio for those interviewed was 0.8, which is well below the average dependency ratio for both on-road and remote settlement types of 1.2 (see Section 3.4). These figures indicate that the households of rattan specialists tend to have relatively less household labour available to them compared to most households sampled. Most rattanrelated activities can be carried out by a man working alone, so such activities are a good livelihood option for households with limited labour resources.

Table 0-15 Dependency Ratios of Rattan Specialist Households

		Dependency Ratio Class			
N*	0-1	1.1-2	2.1-3	No dependents	
13	3	4	1	5	
100%	23%	31%	8%	38%	

* Data only available for 13 interviewees

Source: Long Rattan 2001 and Household Census Surveys 2000

Turning to look at wealth groupings (see Section 2.1 for how these are defined), 12 out of the 19 interviewees belonged to households that are grouped as "poor". Specialists from remote settlements belong to both households grouped as "rich" and "poor" whilst the seven specialists interviewed from on-road settlements all come from households grouped as "poor".

Table 0-16 Wealth Groupings of Rattan Specialists by Settlement Type

Zone No	Ν	Poor	Rich
Remote	12	5	7
	100%	42%	58%
On-road	7	7	
	100%	100%	0%
Total	19	12	7
Total %	100%	63%	37%

Source Long Rattan Survey 2001 and Household Census 2000

 $^{^{20}}$ Defined as the number of people of 0-14 years and 60 and above divided by the number of adults (15-59 years).

Wealth ranking data for these households indicate that the mean wealth rank (see Section 3.3.5) for rattan specialists from on-road households included in the long rattan survey is 3.6. This is well below the average wealth rank for all households (n=110) included in the on-road households census of 8.6. So rattan specialist households from on-road settlements appear to be some of the poorest households in these settlements. The mean wealth rank for rattan specialists from remote sample households is six, again this is lower than the average wealth rank for all remote households included in the household census (n=100) of 6.5.

In summary, rural rattan specialists tend to be relatively elderly, males, with belowaverage formal education levels. They tend to belong to relatively poor households (particularly in on-road settlements) and live with relatively few dependents. These findings contrast with rattan harvesters and artisans from more accessible settlements in the Yaoundé region of Cameroon. Here, research by Defo (1999) indicates that over 90% of harvesters are aged between 16 and 40. A survey of urban artisans from all over southern Cameroon found that urban artisans tend also to relatively poorly educated, but in contrast to rural artisans in the Southwest Province, they tend to be young to middleaged men (Sunderland *et al* 2002). Dione *et al*'s (2000) study also found that those involved commercially in harvesting and processing rattan were mainly between the ages of 20 and 40 whilst those who were "village-based" tended to be older.

4.2.3 Seasonality of Entrepreneurial Activities

As Table 4-17 and Figure 4-2 show, there is some periodicity of rattan-related activity. Almost half of the specialists interviewed are engaged in rattan activities year-round (more than six months of the year). The other half, are engaged seasonally (less than six months of the year but with a seasonal pattern). There are differences in periodicity of activities with settlement type. The majority of specialists interviewed from remote settlements are engaged seasonally, in contrast to those from on-road settlements, where the majority of specialists were engaged year-round. The average number of months that rattan specialists were actively involved in rattan work is 6.

		Period	licity	
Zone	Ν	Seasonal	Year- round	
Remote	12	10	2	
	100%	83%	17%	
On-road	11	1	10	
	100%	9%	91%	

Table 0-17 Periodicity of Rattan Activities

Total	23	11	12
Total %	100%	48%	52%

Source: Long Rattan Survey 2001

Defo (1999) points out that rattan stems can be harvested all year round and weaving can therefore take place as well, but as Figure 4-2 shows, there is marked seasonality in terms of involvement in rural rattan activities. Harvesting rattan is generally carried out more frequently during the dry season than the rainy season because heavy rains and flooding rivers makes the forest less accessible (Asaha 2003, Dione *et al* 2000) and drying the cane in preparation for cleaning and splitting can be done more conveniently during the dry season (Malleson 2000b). But the dry season is also the most labour intensive farming period so, as Asaha (2003) points out, many harvesters give priority to farm work during the dry season.

The pattern shown in Figure 4-2 most probably represents involvement in weaving rather than harvesting (although no distinction was made by respondents) and results from the seasonal availability of labour. The peak season for weaving occurs in June – August, the heart of the rainy season, when agricultural labour demands are at their lowest. Weaving can be conveniently carried out at times that do not conflict with farm work, although sun-drying rattan during the heart of the rainy season is lengthy and can delay work (Malleson 2000b).





Source: Long Rattan Survey 2001

Most (20 out of 23) rattan specialists interviewed say there is a high season for their involvement in rattan activities. There are a number of possible causes for seasonality

including availability of labour and fluctuations in demand for baskets for the transportation of farm and forest products. Harvesting rattan and weaving shows a high season in June to August in the rainy season, when agricultural labour demands are at their lowest. This peak also corresponds with the main harvesting season for bush mango (*Irvingia* spp.), one of the most economically important NTFPs of the region. Weavers are busy at this time making baskets for people to transport bush mango from the forest and farms to home. Some interviewees also say there is a high season in October and November, this peak corresponds with the time of the main cocoa harvesting season when there is a demand for baskets to carry cocoa beans from the farm to the village for drying. Furthermore, this high season and occurs just before Christmas. Some weavers in other rural areas of Southwest Province increase their production of rattan goods at this time of year so earnings from the sale of these items provides a useful source of cash to purchase luxury items for the Christmas season (Malleson 2000b).

Figure 0-2 High Season for Rattan Transformation Activities



Source: Long Rattan Survey 2001

4.2.4 Labour

The majority (25 out of 28) of the rural rattan specialists interviewed work alone. Three of those interviewed say they employ two to four male workers but only on an occasional basis for harvesting and cleaning the rattan cane. Urban rattan enterprises are also generally small one-man operations (Sunderland *et al* 2000).

4.2.5 Capital and Skills

Almost all (23 out of 28) of the rattan specialists interviewed stated that their motivation for starting their activity was because they needed money. Table 4-18 provides a breakdown of the how interviewees said they became involved. The majority of specialists from remote and on-road samples say they became involved through observing family and friends. This finding is consistent with Asaha's (2003) recent study. Training at school is also a way that some specialists became involved in on-road settlements. One rattan specialist received training in prison. As Sunderland *et al* (2002) point out, a number of urban artisans in Cameroon are ex-prisoners who have undertaken training in prison and they suggest that such training successfully provides prisoners with an income-earning opportunity when they are released.

Zone	Ν	Apprenticeship	Family and friends	Start from scratch	Trained at school	Trained in prison
Remote	17	1	14	1	0	1
	100%	6%	82%	6%	0%	6%
On-road	11	1	4	3	3	0
	100%	9%	36%	27%	27%	0%
Total	28	2	18	4	3	1
Total %	100%	7%	64%	15%	11%	4%

Table 0-18 How Rattan Specialists Became Involved

Source: Long Rattan Survey 2001

Rural rattan specialists require relatively little in the way of capital investment to establish their enterprises and most of them weave from home. The majority (20 out of 28) of rural specialists interviewed say they use no specialist equipment. Others mentioned they use relatively low cost items such as gloves, hand saws and tape measures. See Dione *et al* (2000) and Razak (2001) for details on tools, equipment and materials commonly used in processing rattan.

Table 4-19 lists the main expenses for rural rattan specialists interviewed. The majority of specialists from the remote sample say they have no expenses, since they carry out the work themselves. In contrast, specialists from the on-road sample listed the cost of raw rattan and transportation costs (including unofficial settlements at the roadside) as their main expenses. As Sunderland (pers. comm. 2004) points out, it is important to note that the opportunity costs of harvesting and weaving are not factored into people's own concept of expenses. If you are weaving or harvesting rattan, then you are not able to do something that might be more profitable.

Main expenses	Ν	Remote	On-road
None	17	13	4
Pay labour for cleaning	1	0	1
Raw materials	6	3	3
Knife	2	2	0

Table 0-19 Main Expenses for Rural Rattan Specialists

Transportation	3	0	3
Total	29	18	11
a. Lana Dattan Sumury 2001			

Source: Long Rattan Survey 2001

Defo (1999) also notes that rural artisans from the Yaoundé area require little capital investment to start and run their enterprises.

To summarise, rattan enterprises do not require large human, physical or financial investments. They are characterised as "easy access and low barriers to entry" (Arnold and Townson 1998). Rattan-related enterprises may therefore be a viable option for relatively poor rural households with lower human capital skills, fewer labour and financial assets. However, as will be discussed in Section 4.2, such enterprises generally provide at best marginal returns to those engaged in them.

4.2.6 Raw Material Supplies

The majority of rattan specialists (19 out of 28 interviewed) harvest all of the rattan they use themselves, while six out of 28 say they gather at least part of the rattan they use themselves. Six specialists say they buy rattan from fellow weavers or from those who specialise in harvesting rattan, whilst three say they hire people occasionally to harvest rattan for them.

Forest, as opposed to farm or fallow land, is cited as the main source of rattan by all but two of the specialists interviewed who say their main source of rattan is fallow land. Reserved forests are cited as the main source of rattan by 22 out of the 28 specialists interviewed.

As Table 4-20 shows, reserved forest is particularly important source of rattan for specialists from remote settlements. The majority of specialists interviewed are from the villages of Obonyi I and II which are villages that are located in enclaves in the Takamanda Forest Reserve. A recent report points out that both the main commercial species of rattan (*L. secundiflorum* and *E. macrocarpa*) are abundant in the Reserve and that rattan is currently not at risk from over-harvesting (Sunderland *et al* 2003 MAB).

Reserved forest is also an important source of rattan for specialists in the on-road sample. Here, rattan is commonly collected from within the nearby Southern Bakundu Forest Reserve. The importance of the Reserve as a source of rattan may possibly be an indication of the decline in abundance of rattan in the areas outside the Reserve. Much of the forest outside the Reserve (and indeed within it)²¹ in the Southern Bakundu area has been cleared to make way for farming.

A study looking at the Mokoko Forest Reserve also indicates that harvesting pressure on rattans is fairly low, but argues that the way in which rattan is harvested is having a detrimental impact on the rattan clumps being harvested and that this is reducing the ability of clumps to regenerate (Sunderland and Tchouto 1999).

²¹ Southern Bakundu Forest Reserve was neglected between about 1965 and 1997, during this period the reserve apparently became "everybody's farm" (ONADEF-ITTO 1998)

Table 0-20 Most Important Source of Rattan for Specialists

	Most Important Source of Rattan Cane?					
Zone	Ν	Don't know	Off- reserve forest	Reserved forest		
Remote	17	1	0	16		
On-road	10	0	4	6		
Grand Total	27	1	4	22		

Source: Long Rattan Survey 2001

Interestingly, just over half (15 out of 28) of those interviewed say that there had been no change in the availability of rattan cane over the last five years, whilst five say there is less available and six said there is now more available. Table 4-21 provides information about how specialists from different settlement types perceive the availability of rattan compared to five years ago. Nearly a third of those interviewed from remote settlements say that there is now more cane available compared to five years ago. All those who say there is more rattan available than five years ago, say this is due to better accessibility. This may be because clearing land for farming around remote settlements sampled is opening up areas and providing greater access to otherwise inaccessible stands of rattan. Five out of the six people who say there is less rattan than five years ago, say this is because more harvesting is being carried out, whilst one respondent said the reason was because more farming is being carried out.

Table 0-21 Availability of Rattan by Settlement Type

Zone	Ν	Less available	More available	No change	Don't know
Remote	17	3	5	9	0
On-road	11	2	1	6	2
Total	28	5	6	15	2

Source: Long Rattan Survey 2001

The situation regarding rattan availability is very different for urban artisans. Scarcity of rattan was stated as a major constraint by over a third of respondents in a survey of

artisans operating from urban centres in Cameroon (Sunderland *et al* 2002). Sunderland *et al* (2002) suggest the scarcity of supplies for urban markets is due to the fact that the intensity of harvesting in accessible areas is exceeding that of regeneration and growth. However rural rattan specialists interviewed for this study do not, in general, appear to perceive scarcity of rattan supplies as a problem. It should be noted that this is a very small sample of specialists and other studies indicate that scarcity of rattan is an issue around the on-road study settlements in the Southern Bakundu area (see Shiembo 1986 for example).

4.2.7 Markets and Marketing

Most (22 out of 25 respondents) specialists involved in weaving said they sold their products to individuals from the same or neighbouring communities. As earlier explained in Section 4.2, the remote settlements are relatively inaccessible and it would be impractical and uneconomic to transport bundles of rattan or baskets to market over long distances. There is however some trade in bundles of raw cane collected by harvesters located in on-road settlements to outside traders who supply urban artisans. Four of the specialists who harvest and sell raw rattan from the on-road settlements surveyed said they sell rattan to outside traders from the major towns of Kumba and Douala.

4.2.8 Enterprise Problems

As Table 4-22 indicates, half of rattan specialists interviewed say they have no major problems with their work. The most commonly cited problem is harvesting accidents. Harvesting methods vary with the type of rattan. For some varieties the harvester must climb up via a tree or liana in order to cut the rattan, others may be cut at breast height (Malleson 2000b). Harvesting is a difficult and risky process. Harvesters can easily get their clothes and skin caught and torn on the spines and thorns of rattan and harvesting may disturb ants, wasps and snakes (Malleson 2000b, Dione *et al* 2000, Sunderland *et al* 2002). Other problems cited by respondents from on-road settlements included government regulations (forestry officers preventing people from harvesting within forest reserves), and problems associated with marketing and supply of raw material.

Problem	Ν	Remote	On-road
Accidents	6	5	1
Government regulations	2	0	2
Marketing	2	0	2
Raw materials	2	0	2

Table 0-22 Major Problems Encountered by Rural Rattan Specialists

Too old	2	1	1
None	14	9	5
Total	28	15	13

Source: Long Rattan Survey 2001

From the survey results, rattan supplies do appear to be a constraint to the growth of enterprises. The majority (17 out of 26 respondents) of rural rattan specialists asked if there were more rattan available would they use it said they would. This, however, does not necessarily indicate that natural rattan stands are becoming scarce in the forests surrounding the study settlements. The majority of specialists interviewed did not perceive scarcity of supply as a problem (see Section 4.2.6). It may mean the actual harvesting of the rattan is the main constraint to enterprise expansion rather than scarcity of supplies of wild rattan in study settlements. As earlier pointed out, harvesting rattan is a risky, arduous and time-consuming process, this often makes alternative livelihood opportunities far more attractive (Sunderland *et al* 2002). The few respondents who said they would not use more rattan if it were available were asked why they would not use more. Most respondents said they would not use more rattan either because there is little demand for their products or because returns from rattan related enterprises are too small.

Shortage of rattan supplies in the border zone area may be part of the reason why some rattan artisans adopt a kind of "nomadic" system (Asaha 2002). They temporarily settle in a village to harvest rattan from surrounding forests from which they produce furniture. Once they have sold the furniture they either go back to their village or move to another. They generally spend at most two months in a village, and can only work after paying a required due (which varies amongst villages) to the village council (Asaha 2002).

Scarcity of rattan is regarded as a major constraint to the development of the commercial rattan sector as a whole in Cameroon (Sunderland *et al* 2002). Dione *et al*'s (2000) survey found that scarcity/expense of raw materials was the third most frequently cited problem by urban respondents (who included 195 commercial rattan harvesters, handicraft and furniture makers from rural and urban areas of Cameroon) after poor prices and inadequate storage facilities.

4.3 Rattan as a Source of Income

4.3.1 Importance of Income from Rattan-related Activities

In general, rattan-related activities are not a major contributor to rural incomes. As Section 3.6.4 reveals, none of the households included in the multi-round surveys ranked rattan related activities in the top five income sources in any round. However, rattan-related activities do provide important contributions to the income of a very small proportion of households with rattan specialists.

Rattan specialists interviewed as part of the long rattan questionnaire were asked whether they considered their rattan work as their main source of income. Table 4-23 shows that the majority of specialists from both settlement types consider that rattan was their main source of income.

In addition, urban-based gang leaders who control harvesting gangs, who are often migrants, in the forested areas around on-road and border settlements are likely to earn a significant amount from these activities. However, currently communities benefit little from such enterprises.

Table 0-23 No. of Rattan Specialists Considering Rattan as a Main Income Source, by SettlementType

		Zone	
Rattan Work Main Source of Income?(y/n)	Ν	Remote	On-road
No	8	6	2
Yes	18	9	9
Total	26	15	11

Source: Long Rattan Survey 2001

Table 4-24 provides some indication of the mean annual income of households involved in rattan-related activities by wealth and zone. When compared with mean annual income for the top five income sources, see Tables 3-34, Section 3.6, it does indicate that in general and in relation to the most important income sources, rattan does not contribute significantly to overall income. However, for specific households and individuals within households, rattan-related activities, such as basket weaving, may generate significant amounts of cash at times when other sources of income, such as farming, are not forthcoming.

Table 0-24 Estimated Mean Annual Income for Rattan Specialists, By Zone

Zone	Border		On-road		Remote	Remote	
	Poor N=36	Rich N=37	Poor N=37	Rich N=41	Poor N=56	Rich N=23	
No. of HH citing rattan as an income source and % of N	3 8%	4 11%	7 19%	2 4%	9 16%	3 13%	
Calc'd Mean Annual Income FCFA	770	2,271	3,062	3,206	2,752	1,176	

Source: Multi-round survey 2000-2003

As earlier pointed out in Section 4.2.2, rattan-related activities are often particularly important for elderly males living alone. One household included in the remote zone study sample consists of an elderly man in his 70s who lived alone, he is grouped as a "poor" household. He cited only three sources of income during the multi-round survey

- bushmeat, *bushmango* and rattan. His mean reported income for each round of the survey (about 4-6 month period) was about 18,000 FCFA. During two rounds of the survey, income from baskets accounted for over 40% of his total income for that period.

Rattan-related activities may also be significant for younger households with dependents. Take, for example, the case of a household, grouped as "poor" in the remote zone, which consists of a married couple with three young children. In the first round of the multi-round survey, they cited only two income sources over a four month period – 600 FCFA from farm labouring and 4,000 FCFA from basket-weaving. Basket-weaving accounted for 87% of his income over that period. In round five of the multi-round survey, the same households reported three income sources over a six month period: 21,000 FCFA from *bushmango*, 10,500 FCFA from cocoa and 3,900 FCFA from basket-weaving. In this case rattan-related income contributed about 11% of reported income for the period.

To summarise, rattan-related enterprises generally provide very limited income to rural households. But for some poor rural households, with lower human capital skills, limited labour assets and financial resources, rattan may provide a very significant proportion of overall income.

4.4 Changes in Rattan-related Consumption and Income Patterns

4.4.1 Changes in the Patterns of Consumption

Overall, there appears to be a greater tendency to replace items made with rattan cane with those made with other materials, than *vice versa*. Nearly half (83 out of 189, 44%) of all respondents in the short rattan survey report that they had replaced an item previously made with rattan cane with one made from another material. A relatively low proportion of respondents (43 respondents out of 197), 22% say they had replaced items previously made with material other than rattan with items made with rattan. A higher proportion of respondents from the remote settlements studied say they had replaced rattan items compared to on-road and border study settlements (Table 4-25)

Table 0-25 Households Replacing Rattan Items, by Settlement Type

Past items made with rattan replaced? Y/N

Zone No	Ν	No	Yes
Border	45	25	20
	100%	56%	44%
Remote	74	28	46
	100%	38%	62%

On-road	70	53	17
	100%	76%	24%
Total	189	106	83
Total %	100%	56%	44%

Source: Short Rattan Consumption Survey, 2001

As Table 4-25 shows, the most commonly cited replaced items made with rattan by short rattan survey respondents were relatively low value items such as farm baskets (accounting for 44% or 45 of the 99 items replaced), fish baskets (10 citations) as well as cane bridges (16 citations). The majority of respondents replacing farm baskets are from remote settlements (Table 4-26). In a recent survey of fisheries in the southern border zone of Takamanda Forest Reserve (Mdaihli *et al* 2003), near the remote study zone, fishing baskets or traps were not mentioned as being used by fisherfolk in this area, wire traps were reported as being used instead. However rattan baskets were said to be used to store smoked fish.

Table 0-26 Rattan Items Commonly Cited as Being Replaced, by Settlement Type (Items Cited by 10 or more Households)

Zone No	Farm Basket	Fishing Basket	Cane Bridges
Border	8	3	1
	18%	30%	6%
Remote	32	3	14
	71%	30%	88%
On-road	5	4	1
	11%	40%	6%
Total	45	10	16
Total %	100%	100%	100%

Source: Short Rattan Consumption Survey 2001

The most commonly offered reasons for replacing rattan items are that the alternative is more comfortable. Twenty-one out of 82 respondents (26%) cited this as the main reason for replacing their farm baskets. Rattan baskets are increasingly being replaced by bags made from old fertiliser sacks. The majority of these respondents are from the remote sample. The second and third most frequently cited reasons for replacing a rattan item

related to availability. Fourteen respondents say that the original article is no longer available. These respondents were all from on-road and border settlements and the items they are referring to included baskets (8), drying trays (3) and sieves (2). Asaha (2002) reports, that in border settlements, synthetic rope is currently replacing cane rope for building and construction.

It is not clear whether rattan items are no longer available in more accessible settlements because of scarcity of wild rattan or because the demand for cheaper, man-made alternatives to rattan outweighs the demand for more expensive rattan items. It does seem certain that economics and convenience play a part. One can easily find cheaper and more durable man-made substitutes to cane rope, baskets, drying trays and sieves in these more accessible settlement types. A further fourteen short rattan survey respondents said that the alternative is more readily available. What is clear is that, in general, low value rattan items are increasingly being replaced by cheaper, more comfortable and more durable manufactured alternatives.

It is important to note that the type of rattan items replacing non-rattan items are relatively high value items, such as beds, chairs and shelves, generally produced by small, but expanding businesses employing more than a single person, located in urban areas, rather than items such as baskets usually produced by people operating alone from home.

As Table 4-27 shows, non-rattan items being replaced by items made with rattan include chairs (20 citations), bed (8 citations) and shelving unit (9). Half of all respondents say the reason why they replaced the item was because rattan is cheaper (24 out of 48 respondents). A further 12 respondents say that they replaced the item for aesthetic reasons.

Settlement Type	Chairs	Shelving units	Beds	
Border	0	1	0	1
Remote	12	4	1	17
On-road	8	4	7	19
Total Count of Non rattan item code	20	9	8	37

Table 0-27 Non-rattan Items Replace by Rattan Items, by Settlement Type

Source: Short Rattan Consumption Survey 2001

This trend of replacing relatively expensive wooden beds and chairs with cheaper products made with rattan is thought to have been brought about partly because of increased rural and urban poverty in Cameroon since the late 1980s and also partly because the rising cost of wooden furniture. Rattan beds and shelf units are also becoming quite fashionable (Sunderland pers.comm. 2004). Table 4-28 summarises the main findings in terms of consumption.

Settlement Type	Resource	Rattan Usage	Patterns of Change in
	Changes		Consumption
Remote (rural)	Still ample supplies of wild rattan	Rattan is used relatively frequently in everyday life to make relatively low value items such as baskets, used to carry and store farm and other products and sieves used to process farm products, as well as for house construction.	There is a general trend towards replacing items made with rattan cane with cheaper, more comfortable alternatives made with synthetic materials.
Relatively accessible border and on-road settlements	Still little perceived scarcity of wild rattan in relatively accessible forests	On the one hand, the use of low value rattan items seems to be on the decline. Whilst on the other hand, the use of relatively high value rattan items such as chairs seems to be on the increase. Rattan is harvested from surrounding forests to supply urban markets	Relatively low-value rattan items are increasingly being replaced by cheaper, manufactured alternatives. Some items, such as chairs and beds that used to be made with wood are now being replaced with items made with rattan because the latter is cheaper than wood.

Table 0-28 A Summary of Research Findings Relating to Rural Rattan Consumption Patterns

4.4.2 Dynamics of Rattan-related Enterprises

There is little evidence from our research to show that rural rattan enterprises in Southwest Province are, in general, growing. The study by Sunderland *et al* (2002) also suggests that there is little evidence that the urban trade in rattan in Cameroon is growing.

Respondents included in the long rattan survey were asked whether the volume of their business changed over the last five years. The majority (18 out of 28) said they had seen no change, two said the volume had decreased and three said it had increased. All those who said their business had expanded were from remote settlements. However, as Townson (1995) points out responses to this type of question must be treated with caution as people may feel that this information might be used for tax assessment purposes.

Respondents included in the long rattan survey were asked whether, given the opportunity, they would choose to expand their rattan business or start another business. As Table 4-29 shows, a higher proportion of respondents from remote settlements say they would choose to expand their rattan business compared to the respondents from onroad settlements. The three respondents who say their business have grown also say they would expand their business.

Most respondents from on-road settlements say they would choose to start a new business, unrelated to rattan. The fact that over half of the respondents from on-road settlements say they would start a new business may indicate that profit margins are less attractive than other options available in roadside settlements. This is supported by the fact that "more profitable alternatives" was a commonly cited reason for business closure for urban rattan artisans (see below). Sunderland et al (2002) suggest that profit margins have been cut significantly in some urban markets because of the increased number of artisans starting up businesses as a result of the "la crise" in Cameroon in the late 1980s and 1990s. Increased competition has, in turn, led to reduced profit margins in urban areas. Such factors may also have affected rural artisans in the on-road settlement sample. However, it is more likely that respondents would choose to start a new business rather than expand a rattan-related activity because, in general, men in on-road settlements have a choice of relatively more lucrative enterprises compared to rattanrelated activities. Furthermore, as explained in Section 4.4.1, there appears to have been a fall in the demand for everyday household items made with rattan. Another influencing factor may be that scarcity of rattan supplies is making the harvesting of wild rattan more time consuming and therefore less profitable in roadside settlements.

			Expand or start new business?			
Zone	Ν	don't know	expand business	start new business		
Remote	14	7	6	1		
On-road	11	4	1	6		
Total	25	11	7	7		

Table 0-29 Future Business Choices for Rural Artisans by Settlement Type

Source: Long Rattan Survey 2001

Information on people ceasing to participate in rattan-related activities was collected through the short rattan survey. Forty-two out of 190 interviewees (22%) said that a household member had been involved in rattan work in the past but was no longer involved. Most of the individuals (40 out of 42) had been weavers.

A relatively high proportion of households reporting closures were from remote settlements (25) compared to 10 respondents from border settlements and seven respondents from roadside settlements (Table 4-30). Respondents reporting closures were spread more or less equally between relatively poor rattan-using households (13 respondents) and rich rattan using households (15 respondents)

Table 0-30 Age of Individuals No Longer Involved in Rattan-Related Enterprises by Settlement Type

		Age group					
Zone	N	Less than 20	20 to 29	30 to 39	40 to 49	50 to 59	60 & over
Border	10	1	3	1	3	1	1
Remote	25	2	6	6	0	2	9
On-road	7	0	0	1	1	4	1
Total	42	3	9	8	4	7	11

Source: Short Rattan Survey 2001

Individuals who had given up weaving tended to be young to middle-aged artisans in remote settlements (Table 4-30), mainly for better market opportunities.

As Table 4-31 shows, in the majority of cases (21) the reason for giving up their rattan activity was that there are better alternatives. Specific information on what "better alternatives" are was not collected, but are likely to include farm-related activities. Over half of those citing this reason are from remote settlements and the majority of those citing it are relatively young people. Surprisingly few respondents (8) say they have given up rattan work because of supply problems. The majority of these are from border settlements and four out of these eight respondents are women, all of whom are elderly (over 60). It may be that they may no longer have male kin who provide them with cane to work with and they cannot afford to buy cane from harvesters.

Supply problems cited include shortage of raw materials (7); distance too far to harvest rattan, and a Nigerian in the border sample who said he had given up because the village council had asked him to pay a fee for harvesting.

			Zone	
Reason	Ν	Border	Remote	On-road
Better Option	21	6	12	3
	44%	46%	44%	38%
Harvesting Accidents	1	0	1	0
	2%	0%	4%	0%
Insufficient Skill	1	0	1	0
	2%	0%	4%	0%
Moved	3	1	1	1
	6%	8%	4%	13%
No Demand	3	1	1	1
	6%	8%	4%	13%
No Time	2	0	2	0
	4%	0%	7%	0%
Not profitable	2	0	2	0
	4%	0%	7%	0%

Table 0-31 Reasons for Not Continuing Rattan Activity by Settlement Type

Supply Problems	8	5	1	2
	17%	38%	4%	25%
Too Old	7	0	6	1
	15%	0%	22%	13%
Total	48	13	27	8
Total %	100%	100%	100%	100%

Source: Short Rattan Survey 2001

Table 4-32 summarises the main study findings in relation to rattan sales.

Settlement	Enterprise	Type of	Size of	Ease of	Significance of	Potential for
Туре	Туре	Individual	Enterprise	Entry	Income	Expansion
Remote	Basket weaving	Usually male, often elderly, unskilled, little formal education and from a poor household	Usually one-person enterprise, part-time or full-time	Easy, requires little inputs and skill	May provide significant intermittent contribution, particularly for elderly and infirm who may have very limited livelihood choices. But relatively small amount of income compared to other rattan related enterprises	Currently low, as declining demand for baskets
Remote/ on- road/border	Harvesting by individuals	Young men, unskilled, little formal education	One person, part-time, seasonal	Easy, requires little inputs	May provide small amounts of seasonal/intermittent income used to fill gaps in income flows	High, as wild supplies of rattan nearer to main urban centres are dwindling, will change as remote areas are opened up through road construction
On- road/Border	Harvesting gangs supply to urban markets	Usually young males overseen by dealer, often "strangers" from outside settlement	More than five in organised group, provides seasonal employment	High, requires capital to pay workers and means of transport	Large income for dealers, relatively small amounts of seasonal income for harvesters	Low, as wild supplies of rattan are dwindling but may change as remote areas are opened up through road construction
On-road	Furniture making	Usually male, may be young, skilled with some formal education	May be more than one person, full- time may occasionally employ part- time workers	Relatively difficult, requires some costly inputs eg blow torch	Relatively large, regular source of income for permanent workforce. Relatively low, intermittent income for occasional workers	Possibly high, as demand for high value rattan furniture appears to be increasing. But unsure as some evidence suggests market is in decline.

Table 0-32 Characteristics of Rattan Income-generating Activities by Settlement Type
5. Rural Settlements and Households Studied in Western Region, Ghana

5.1. Background²²

Over the last decade Ghana has seen a relatively stable political climate under constitutional rule. The National Democratic Congress (NDC) handed over the political administration of the country to the New Patriotic Party (NPP) in January 2001, after eight years in power.

Unstable cocoa prices on the world market have directly affected farmers nationwide. The falling price of cocoa in the international market and rising demand for other goods (e.g. palm oil and cashew nuts) has affected cocoa production. The increasing demand for palm oil for direct household consumption and from multinational companies (e.g. Unilever Ghana Limited) has shifted farmers' attentions to oil palm cultivation. The Eastern and Western Regions, in particular, are noted for oil palm cultivation.

The trend away from cultivating cocoa to cultivating oil palm is not found in the zones studied, apart from the on-road zone, where a few farmers are gradually beginning to plant oil palm, in addition to cocoa. The government has systematically increased the price of cocoa to sustain farmers' interest in this crop. The comparatively higher price of cocoa in neighbouring Côte d'Ivoire has served as an incentive and attraction to farmers in the border zone settlements and has led to increased smuggling of cocoa to that country.

5.2 General Description of Study Settlements

The villages studied all fall within Ghana's Western Region, which lies within the forest zone of southern Ghana. The Western Region was selected because it includes areas where rattans still flourish, it contains people who are involved in rattan-related activities and/or use items made with rattan cane in every day life. In addition, FORIG, the collaborating institution, carries out rattan and other non-timber forest product-related research work in this region.

Three study zones: remote, border and on-road within the Western Region were purposively selected on the basis of differences in accessibility to local and cross-border markets, communication networks and forest resources (see Figure 5-1). These "zones" are not recognised administrative units but the socio-economic characteristics of rural settlements within these zones tend to be fairly similar. The characteristics of the different zones and settlements within them are described in Sections 5.2.1.- 5.2.3 below.

²² This section and the one that follows it is largely drawn from the Social Research Officer, Ghana report (Obeng-Okrah 2002).



Figure 0-1 Ghana Study Zones

The western part of the Region, where the remote and border settlements studied are found, is classified as an area of moist evergreen forest, whilst the eastern part of the region, where the on-road settlements studied are located, is classified as slightly drier moist evergreen forest. The wet evergreen zone experiences the highest rainfall in Ghana. There are rains throughout the year with the heaviest in May and June and minor rains in August and September. The moist evergreen zone experiences a short period of rainfall in March. Humidity is very high in these areas.

5.2.1 On-road Study Settlements in Wassa East District

Wassa Esaaman and Aboaboso, the two settlements studied in this zone, are located along the Esaaman to Daboase road (see Figure 5-2). This road leads to the district capital, Daboase, some 30 kms southwest of Esaaman and the Central Region. In spite of its social and economic importance, the road is in a deplorable state. It is dusty and pot-holed. Road maintenance is poor and irregular, and the road becomes impassable during heavy rains. Currently, there is only one vehicle which is stationed at Wassa Esaaman; no vehicles are stationed at Aboaboso. The inhabitants of these settlements sometimes depend on passing timber trucks. The few vehicles that pass through the villages to other places are usually full by the time they reach these villages.

There are plans to improve the road linking Wassa Esaaman, Aboaboso and other villages within the Mpohor-Wassa East District in the Western Region, to other cocoa and food growing and marketing centres in the Twifo-Heman-Lower Denkyira District in the Central Region.

The weekly market at Daboase on Fridays serves the people of Wassa Esaaman and Aboaboso. In addition, some households in Wassa Esaaman patronise the Jerusalem market on Saturdays. This market is about 10 kilometres from Wassa Esaaman.

The native people of this settlement are Wassa but there are people from a variety of other ethnic groups including Asante, Fanti, Akwapim, Krobo and Nzema. Most of the migrants are relatively long term resident cocoa farmers who purchased land from the native Wassa.

Settlement patterns in this zone are nucleated. Wattle and daub houses with corrugated roofing, cement and mud floors are common. There are a few houses with cement and sandcrete blocks and also *atakpame* (mud walls without wooden frame, superior to wattle and daub) houses.

Wassa Esaaman has both a primary school and a junior secondary school (JSS). The primary school block is in poor condition but the JSS block is in good condition. Aboaboso has a fairly good primary school but no JSS. The District Assembly has built a bungalow for the teachers at Aboaboso.

Figure 0-2 On-Road Study Settlements, Ghana



Wassa Esaaman has a health post provided by the Salvation Army Church. It is only able to offer people first aid. Referral cases are sent to the Ahmadiya Muslim Hospital at Daboase. Aboaboso has no form of medical centre and depends directly on the hospital at Daboase.

Electricity and pipe-borne water are absent from the settlements studied. Wassa Esaaman people depend on one borehole and streams for water. The borehole is not fully utilized for drinking purposes as most of the people claim the water tastes salty. The borehole also has very dirty surroundings. Community pit latrines are available in the settlements in this zone, but they are in a poor state.

Wassa Esaaman is located near the eastern boundary of the Subri Forest Reserve (c.587 kms²). Unlike the other zones studied, there is little forest left outside the Reserve. Logging is being carried out in the remaining forested areas surrounding these settlements. Many people believe that timber here is already over-exploited and would not be surprised if logging were finally stopped in the near future.

Rattan cane grows abundantly in the Reserve. Relations between the Forest Services Division (FSD) and local people are poor and have been for sometime (see Falconer 1992). There are problems with encroachment into the Reserve because of shortages of farmland. Local people want the FSD to release a portion of the Subri River Forest Reserve to them for farming. They successfully negotiated the release of an area of land within the Reserve some 25 years ago. The land in the Reserve was released to them for

farming under the taungya system. They now hope for another opportunity to enable them to increase their food production and household income.

Attempts by the FSD and local communities to supervise the collection of NTFPs from the Reserve at Wassa Esaaman have not succeeded. The community argued that they did not benefit directly from the payment of permit and tax collected from basket traders.

Oil palm is gradually becoming a major cash crop in the on-road study settlements. Many men are also involved in the collection and weaving of rattan cane baskets in these settlements. Baskets are sold in markets outside the district in Takoradi, in Western Region and Mankessim in Central Region. Other NTFPs such as sponges (made with species such as *Parkia bicolor*) provide income for women.

Wassa Esaaman has eight retail stores and many drinking spots, which sell locally brewed products. Aboaboso has two stores.

5.2.2 Border Study Settlements in the Tano River area, Jomoro District

Cocoa Town, Ghana Nangua, Sika Bile, Domeabra and Fawoman are located on the banks of the Tano River, which forms the boundary between Ghana and Côte D'Ivoire (see Figure 5-3). They are accessible by road. Ghana Nungua and Cocoa Town are served by a road from Elubo, a major boarder town on the Ghana – Côte d'Ivoire border. Cocoa Town is four kilometres from Elubo, whilst Ghana Nungua is 10 kilometres further north of Cocoa Town.

A road from Cocoa Town to Ghana Nangua is under construction. The people of Ghana Nungua constructed six kilometres of the road from Cocoa Town through self-help. A tax known as "kilo-kilo" was placed on every bag of cocoa sold by all the people in the village. The government later assisted them with road construction.

A bridge over the Tano River, funded by DFID, was constructed in 1997 and now links Elubo with Enchi, a large town further north. Sika Bile, Domeabra and Fawoman are also served by the Elubo – Enchi road.

The Tano River is navigable and people from Cocoa Town and Ghana Nangua use boats during the rainy season to reach Elubo market. Before the construction of the Ghana Nungua and Elubo-Enchi roads, people relied heavily on paddle canoes for the transportation of their farm produce down the Tano River to Elubo market. River transport was the only means of transporting cocoa. People of Ghana Nungua, Cocoa Town and Sika Bile still use canoes to transport cocoa from their farms to the village.

Flooding in this zone is a problem during the rainy season. Ghana Nungua and Cocoa Town, in particular, are sometimes flooded by the river Tano. Parts of Sika Bile and Fawoman also experience annual flooding from the River Tano.





The roads serving the border settlements studied are in poor state, dusty in the dry season and often impassable in the rainy season. The Elubo – Cocoa Town – Ghana Nungua road is annually flooded by River Tano, cutting off the villages from the rest of the district. Few vehicles use this road, except on market days (every Wednesday). It is very difficult to get a taxi to the villages, especially to Ghana Nungua, apart from on market days. Taxi drivers tend to charge exorbitant fares. Vehicles that ply the routes are very old and unreliable.

The native inhabitants of these settlements are Anyi people, originally from Côte D'Ivoire. There are also settlers mainly from Eastern and Central Ghana. The main language spoken is Aowin. Pidgin French is also spoken on market days in Ghana Nungua and Cocoa Town, as a result of their location on the Ghana – Côte d'Ivoire border.

Considerable differences in settlement patterns exist between the villages studied in this zone. Ghana Nungua, Cocoa Town and Fawoman have nucleated settlement patterns. Domeabra has three main groups of settlements, whilst Sika Bile has scattered houses. Ghana Nungua and Cocoa Town have better housing conditions than Sika Bile, Domeabra and Fawoman. In the latter three settlements, fewer cement blockhouses are found and wattle and daub houses predominate. Raffia houses are also noted in Sika Bile and Fawoman.

One unique thing about Ghana Nungua and Cocoa Town is the separation of the kitchen from the main houses. Kitchens are grouped in linear form behind the main houses. The reason given by respondents is that it is a preventive measure against the loss of life and property in case of a fire outbreak and also to avoid nuisance of smoke.

There is no electricity or piped drinking water available in this zone. Ghana Nungua, Cocoa Town, Fawoman and part of Sika Bile villages collect drinking water from River Tano. Domeabra residents depend on streams. Three poorly kept wells, without covers, were identified at Ghana Nungua. Cocoa Town has a borehole. Community pit latrines are available in the settlements in this zone, but they are in a poor state.

Like the other settlements studied in Ghana, kerosene is used for lighting the home at night. The price of kerosene is more expensive in this zone compared to on-road and remote settlements. This is caused by a ban on the sale of petroleum products at Elubo due to the increase in smuggling of such products to Côte d'Ivoire.

Communities in this zone depend on the poorly equipped (in terms of staff and personnel) Elubo Hospital for their medical needs. Ghana Nungua has three pharmacies operated by unqualified people. A community clinic block is near completion. Community nurses sometimes visit Ghana Nungua and Cocoa Town to offer antenatal and postnatal services. Referral cases are attended to at the Eikwe Government Hospital, which is far away.

Ghana Nungua and Cocoa Town have both a primary school and a JSS. The primary school block, in Ghana Nungua, built by the Catholic Church is in a very good condition. The JSS block is, however, in a poor state. The opposite is true in Cocoa Town, where the JSS block is in very good condition but the primary school block is in a poor state. Domeabra has a very poor primary school which has walls made with palm fronds. The school is also poorly staffed with only two teachers for six classes. Like Domeabra,

Fawoman only has a primary school, but it is in a somewhat better state than the one at Domeabra. There is no school at Sika Bile.

Most people living in these settlements are involved in, amongst other things, food and cocoa farming. There are a number of small retail shops in this zone where one can buy basic items, such as matches, sugar, milk, soap and batteries. Ghana Nungua has five, Cocoa Town has three, Domeabra and Fawoman have one and Sika Bile has none. In addition to these retail shops, there are a number shops selling *akpeteshie* and other locally brewed gins, brandies and schnapps.

The study area falls within the wet-evergreen vegetation zone of Ghana. Parts of the forests in the border zone area are said to have been logged. However logging has now ceased. Logging activities in Domeabra, Fawoman and Sika Bile reached a peak soon after the construction of the Elubo to Enchi road. This road passes through Domeabra and Fawoman, and it facilitated the transportation of both farm produce and timber. Rattan cane grows in the nearby Ankasa Protected Area (518 kms²). Rattan from this area is harvested and transported by canoe across the border to Côte D'Ivoire.

5.2.3. Remote Study Settlements in Wassa West District

Betenase, Sikaman and Ampro lie to the east of the Draw River Forest Reserve (an area of c. 235 kms²), between the Ankobra and Draw Rivers (see Figure 5-4). They are relatively remote, being accessible by footpath from the road terminus at Gwira Banso. The approximate trekking times to Gwira Banso are one and a half hours from Betanase, two hours from Sikaman and five hours from Ampro. Betenase is also accessible by motorised canoe from Gwira Banso (two hours distance), via the Draw River.

People depend heavily on the Ankobra River to transport their farm produce (mainly cocoa) to Gwira Banso. There is one big canoe with an outboard motor which serves Betenase and Sikaman; this is mainly used to transport cocoa. Some people are frightened of travelling by canoe and prefer to walk with their loads. Only three people were said to have their own small canoes with paddles. Head portage is, therefore, an important means of transporting farm produce.

The population of these settlements is ethnically diverse and has grown rapidly over the last ten years. The natives of Betenase and Sikaman are Gwira. There are also settler farmers, mainly from Eastern Ghana including Krobos (in Sikaman) and Fantis (in Ampro). There are now more outsiders in this zone than natives. The main languages spoken are Gwira and Nzema in Betanase, the Krobo language dominates in Sikaman, whilst Fanti (Twi) is widely spoken in Ampro.

Many farmers are involved in cocoa farming. Farmers are now beginning to grow more food crops. Some farmers in Ampro and Sikaman grow vegetables (chilli peppers, garden eggs, tomatoes), black pepper and ginger for sale. This is on a relatively small scale but it is a positive step towards crops diversification.

Figure 0-4 Remote Study Zones, Ghana



The inhabitants of this zone depend on weekly markets outside their area for buying and selling things. People in Sikaman and Betenase go to the Asaasetrɛ market (26 kms away) on Wednesdays. Aboaboso people use the Bibiani market, a distance of about 15 kms, which also takes place on Wednesdays.

The government has recently identified an abandoned logging road for reconstruction to serve as a feeder road. This will shorten the distance covered on foot to reach Gwira

Banso to take a bus/truck to the marketing centre. The feeder road from Gwira Banso to the major marketing centre of Asasetre is also under rehabilitation. The villagers are happy that this will make access to service centres easier and less expensive as more vehicles will ply the road. Currently, drivers generally refuse to use the road even on market days, due to its poor state. One or two drivers have taken advantage of this situation and charge exorbitant fares.

Flooding is common in this zone. The River Ankobra and its tributaries overflow their banks often flooding Sikaman and Betenase villages around June. The people are completely cut off from the rest of the district, sometimes for a period of one to three weeks. Ampro is also flooded by the River Ampro but to a far lesser extent.

People in Sikaman, Betenase and Ampro have poor access to information because of their relatively remote location. They learn of 'new developments' through contact with other people during market days. Community leaders serve as the main source of information, as and when they are called to attend meetings, however contact is said to be irregular.

Settlement patterns in the three villages in this zone differ. In Betenase, the smallest of the three villages, there are three groups of settlements, which are nucleated. The area where Sikaman village located is very hilly, and consists of scattered houses. Each farmer lives in the middle of his cocoa farm. This is usually the first place where farming started. Ampro also consists of five main groups of settlements, which are nucleated. Thatch and bamboo roofs over wattle and daub walled houses predominate in this zone. About three households (in Betenase) have raffia houses, whilst three houses with corrugated roofing are found in Ampro, along with the only cement block house found in the settlements studied in this zone.

With the absence of pipe-borne water, households in this zone depend on rainwater and water from rivers and streams for domestic use. Betenase depends on the River Ankobra for water and Sikaman depends on streams and rivers such as the Draw and Anwiasu. A few households also collect water from the River Ankobra whilst two households use spring water for drinking. Ampro village is dependent mainly on the river Ampro. River Aboabo provides water to a few households. Sikaman's settlement pattern is such that each household has its own private pit latrine. The two other villages have community (group) pit latrines.

None of the three communities in this zone has a school. Children from Sikaman and Betenase walk two and one-and-a-half hours (one way) respectively to attend school at Gwira Banso. The children at Ampro walk for an hour to attend school at Gyempre.

The forest surrounding Sikaman and Betenase villages is relatively intact. Timber exploitation is currently at a very low level due to difficult terrain. There are many rivers/streams and the terrain is hilly. Institutional bottlenecks have also greatly hampered plans for timber exploitation. The traditional authorities and the people have demanded the construction of feeder roads to link the villages, in exchange for logging concessions. According to the elders of Betenase, who are the custodians of the land,

these demands have finally been accepted and a logging concession has been given to Ghana Primewood Limited, a timber firm based in Takoradi. A chieftaincy dispute is, however, delaying the commencement of logging. Logging was carried out in Ampro but was stopped many years ago due to the difficult terrain. Rattan cane grows abundantly in the area and gangs of visiting rattan cane harvesters have cut many footpaths into the forest from the logging roads.

Gwira Banso is home of the Gwria Banso Project which is a forest management and marketing project of Ghana Primewoods Products Ltd (GAP), Dalhoff Larsen and Horneman A/S (DLH) of Denmark and the people of Gwira Banso (Amanor 1997, quoted in Kotey *et al* 1998) in collaboration with Care. The project is trying to encourage farmers to grow tropical timber trees on farmland within the 16,000 ha off-reserve concession (Kotey *et al* 1998). Care has established a tree nursery producing native and exotic tropical timber trees that are distributed free to interested farmers. The project is also encouraging farmers to cultivate commercially valuable NTFPs, such as the chewstick species *Garcinia* spp. and cola nut (*Cola* spp.). These and other NTFP species are being cultivated in the tree nursery.

5.2.4 Ethnicity

The population of the Western Region is ethnically diverse. Indigenous populations include Wassas and Nzemas. Migrant ethnic groups within the region are mainly from the eastern, northern and central parts of Ghana as well as from neighbouring Côte d'Ivoire and include people from Ningo, Akuapem, Fanti, Krobo and Ashanti ethnic groups. Akan-speaking people are found in all the zones and are the largest ethnic group of all. Those constituting the Akans are Asantes, Nzemas, Aowins, Gwiras, Akuapems, Fantis and Wassas.

Discussions with people in the on-road settlements studied revealed that migration into villages reached its peak during the cocoa boom and, more importantly, after the 1983 bushfire that destroyed the cocoa industry in most parts of Ghana. Some of these migrants came to settle and farm. Cocoa farming, in particular, served as a pull factor, which offered good employment opportunities to migrants. Whilst some migrants negotiate for land and go straight into cocoa farming, others begin as "caretakers" of already established cocoa farms. This enables the latter group to gain access to land to produce food crops for household consumption. Some young migrants also take up employment as farm labourers.

5.2.5 Social Organisation

The District Assembly is the highest deliberative, legislative and administrative body at the local level. Under the government's decentralization policy, District Assemblies are responsible for the development of their respective local areas. Thus, the main function of a District Assembly is to see to the overall development of the district especially in agriculture, trade, education, security, transport, and health among others, which contribute to the improvement in the livelihood of the people. Each District Assembly is composed of District Chief Executive, Coordination Director, Presiding Officer (elected by Assembly members) and assemblymen who are elected representatives of zoned areas under a District Assembly. The assemblymen of the respective zones (each zone has a representative at their respective District Assemblies) are the main link between the villages and officialdom.

The three study zones fall under three different political administrations. The remote study settlements are under the political jurisdiction of Nzema West District Administration, the border study settlements are under Jomoro District Assembly and the on-road study settlements are under the Mpohor-Wassa East District Assembly.

Traditionally, all the villages are under the control of chieftaincy. It comprises of the subchief, (*odikro*), *queen mother* and elders. The remote study settlements are under one subchief. The border settlements of Ghana Nungua, Sika Bile, Fawoman and Domeabra have one chief, whilst Cocoa Town has its own chief. The on-road settlements of Wassa Esaaman and Aboaboso each have different chiefs.

As traditional rulers, the main concern of chiefs is to ensure the existence of peace among all the people in their respective villages as well as development. The chiefs traditionally hold the land in trust for their respective peoples.

The Unit Committee (formerly Town Development Committee) is particularly concerned with the social development of the village. Members of the committee include indigenes and representatives of all the ethnic groups in the village. The Unit Committee initiates and implements development projects as its main function. In doing this, it always seeks the approval and support of the chief and his elders. The Unit Committee also organises the people to undertake communal labour and sanctions those who fail to attend. Its minor functions are settling of conflicts between individuals and between groups and this helps to reduce cases taken to the courts.

Some people are of the opinion that the Unit Committees, with the support of the chieftaincy, are best at mobilising people. The Unit Committee of Ghana Nungua (one of the border study settlements,) for instance, organised and placed a levy on each bag of cocoa, which was used to construct a road from the village to link the Cocoa Town to Elubo (major commercial centre) road. Of course the *odikro* is always informed first of any impending project. Indeed no activity or project is initiated or implemented by the Unit Committee without the knowledge, approval and support of the *odikro*.

5.2.6 Social Capital

There is very good co-operation among inhabitants within a community and between communities in respective zones. Different ethnic groups inter-marry. Good landlord – tenant farmer relationships also exist. Of course, minor conflicts naturally occur between individuals but these are mostly settled amicably. A conflict of interest was reported between Ghana Nungua and Cocoa Town villages in the border zone. The people of Ghana Nungua are said to have aligned themselves to the past NDC Government (that ruled from 1992-2000) whilst Cocoa Town people identified themselves with the ruling NPP government. As a result, there is not much co-operation between these neighbouring communities, even though they are only six kilometres apart and access to Ghana Nungua, the bigger of the two villages, is through Cocoa Town. It must be pointed out that there is no threat to peace and inter-marriage between people of these two communities is common.

Many reciprocal gestures within and between communities were observed during fieldwork in the villages studied. Reciprocity between old and new settlers in remote and border zones (particularly Sika Bile, Fawoman and Domeabra) is particularly strong. Established settlers offer assistance, particularly in the form of food, to new settlers and this is reciprocated months or years later when those who offered them are in need and/or during festive occasions.

Mutual trust and respect is generally strong between individuals. People have confidence in each other and this has reduced unnecessary suspicion among people. For instance, reported cases of farm theft are said to be very low in all zones.

Some households ask their children to accompany different household heads or their wives to market on market days. Sometimes householders will collect and sell a neighbour's wares on their behalf. This is common with baskets in Wassa Esaaman, where a person will sell the baskets of his or her neighbours at the market when the latter cannot go to the market himself/herself. There have been cases where a farmer harvests a neighbour's farm produce (food crops) and sells it for him/her when he/she is either indisposed or has travelled. The result is that people save travelling costs, labour and time for other needs/activities, and this is a very beneficial safety net especially for the poor.

There are, however, reported cases of mistrust between individuals. For example, some farm labourers were said to collect advance or part payment but do not work at the expected time or do not complete the work for which they have collected money. Some market traders in foodstuffs are accused of buying farm produce at very low prices and then selling them on at greatly inflated prices, thereby gaining undue profit at the expense of the farmers. This is said to be particularly common in the remote zone settlements studied.

The excellent social relationships built on mutual respect, trust and reciprocity have combined to provide a form of 'social insurance' for people during crises, such as when flooding occurs in the border and remote zones.

5.2.7 Financial Capital

Financial assets available to the people include cash, savings with banks and $susu^{23}$ contributions and valuable jewelleries. There is also a very limited pension allowance for some people.

Two main forms of financial services are available in settlements studied. There are formal services provided by the rural banks and informal services offered by moneylenders, relatives and friends.

The rural banks are the main channels through which people (salaried workers and cocoa farmers) are paid. It is the government's policy that cocoa farmers are paid through the nearest bank to their communities. The reason for this is to introduce them to formal banking, to help them gain access to credit facilities from the banks and also to ensure prompt payment.

Unfortunately, there is a general problem of lack of access to credit facilities from these banks. According to some local people, banks offer no or very little credit to them even though the majority of them (cocoa farmers) receive the bulk of cocoa proceeds through these banks. In their opinion, banks offer poor quality service, whilst informal credit services provide a fast and efficient service. Some farmers accuse bank officials of occupational discrimination in the granting of loans, saying traders and businessmen are preferred to farmers. Only a few farmers have benefited from bank loans. Farmers also see the demand of high collateral by the banks as a way of denying them access to loan. They equally see the interest rate of 35-50% as too high. It was admitted that the fear of crop failure and the frustrations²⁴ farmers go through before their applications for loans are eventually turned down have discouraged most farmers from making further approaches to the banks for financial assistance. Women seldom apply for loans. They rely on male partners to collect limited production loans available from both formal and informal sources.

As a result of the above reasons, farmers depend heavily on their own resources to finance their farming operations. Farmers who face financial problems at the beginning of the farming season rely mostly on friends, relatives and sometimes village moneylenders. Generally, remittances from relatives are both inadequate and irregular.

²³ Susu is a form of informal savings. People come together and make fixed cash contributions on daily, weekly or monthly basis. The total amount, or part of it, is given to each contributing member in turn at the end of the month. A member can also borrow money from the group in times of emergency at a monthly interest (usually 10%). There are also 'professional' susu collectors who go round and collect money from people daily, twice a week or weekly. Contributors usually do not know each other and the amount contributed is not fixed. The susu collector takes a percentage of the total monthly contribution of each 'client' and pays the rest back. In this case, borrowing is not possible. Some susu collators are unreliable and run away with people's money.

²⁴Farmers said they were often asked to make several visits to the banks only to be disappointed in the end. Thus they waste labour hours.

A few people benefit from pension allowances. The lack of credit facilities has become a major constraint for the economic development of the communities, which depends mainly on agriculture.

5.2.8 Land Tenure²⁵

Farmers in each of the zones studied can be divided into three groups, in relation to land tenure. Firstly, landholder farmers include: a) indigenous citizen farmers who have customary freehold title to $stool^{26}$ land which they, or their ancestors, cleared and b) migrant settler farmers who tend to be long-term residents who established cocoa farms on land that they themselves or their aged/dead relatives 'purchased' from indigenous landholders.

Secondly, migrant settler tenant farmers tend to have relatively secure, long-term tenancy agreements and are permanent residents. Thirdly, migrant 'caretaker' tenant farmers work on already established and mature cocoa farms, generally owned by indigenes, who usually stay in the settlement for relatively short periods of time, averaging two to five years.

Settler farmers predominate in the remote study zone. In the border zone, indigenous landholder Aowins predominate in the settlements of Ghana Nungua and Cocoa Town, whilst settler farmers heavily populate Sika Bile, Domeabra and Fawoman. Indigenous Wassas predominate in the on-road study zone.

Both settler and 'caretaker' farmers are usually tenants who have negotiated informal, often unwritten agreements with landholders. Tenancy arrangements within the study zones are very varied. Under the original *abusa* tenant system, landholders contracted out virgin land to settler tenant farmers who provided the landholder with a one-third share of the cocoa produced (Amanor 1999b). Many other variations exist. Under the *abunu* system, which is now common in areas where land has become scarce (Amanor 1999b), the produce is shared equally between the landholder and the tenant farmer.

The *abusa* tenant system is common in all three of the study zones, but some variations exist within and among them. A new variant of sharecropping tenancy arrangement is peculiar to settlements studied in the border zone. Here, the landholder provides the land whilst the tenant farmer provides labour, capital and management needed for the establishment of the cocoa farm. The *abusa* system then operates for the first eight years after which the land is divided equally between the landlord and tenant farmer, at which time the tenant farmer pays for additional "thank you" drinks.

²⁵ This section is largely drawn from Obeng-Okra et al (2003).

²⁶ Stool land is land held by a particular landowning group (or stool). Stools, represented by stool chiefs, are generally the landholding authorities in Ghana's high forest zone. The sitting stool is the symbol of chieftancy across southern Ghana.

Outright purchase and hiring of land in the study zones appears to be uncommon. However, some migrants have inherited land (including forest), which their settler farmer ancestors acquired through leasehold and outright purchase. These ancestors transferred ownership to their sons and heirs when they became old and returned to their hometowns, or upon their death. The result is that some migrant farmers are in a position to rent land to fellow migrant farmers. Acquisition of land through inheritance is common to migrant farmers at Ampro and Sikaman in the remote zone.

Some migrants (particularly males) have also acquired land through marriage to indigenous partners. Their children are able to inherit this land. The land, however, reverts to the spouse's family in the event of death or divorce. Other migrants have gained access to land through the provision of cheap farm labour to wealthy landlords.

Strangers do not have sale rights over timber species on their farmlands. They can, however, use them for domestic purposes only e.g. house construction. All groups of people, have equal access to NTFPs in communal land. However, there are controls over the use of forest resources by both chiefs and the government Forestry Services Division (FSD). The main concern for migrants relating to land is security of tenure. Most migrants interviewed believe that their land tenure arrangements are relatively secure.

Land shortages are increasingly a problem experienced by people living in settlements surrounded by or in close proximity to forest reserves in Ghana (Amanor 1999b; Amanor 2002). Some farmers, particularly young ones, in the on-road settlements studied, complained of land shortages. They suggested that land from the forest reserve could be released from the forest reserve to alleviate the land shortages and enable them to diversify their farming activities. Although the Forestry Department is currently reluctant to release more land to such communities, the proposed Forest Act as well as the 1994 Forestry Policy and Action Plan endorse the involvement of such communities in collaborative forest management enterprises to raise incomes and diversify off-farm livelihoods and to conserve the forest (Amanor 1999b; Kotey *et al* 1998).

According to local people, the commercialisation of agriculture, with the introduction of cocoa farming, has given men more access and control over land than women. Further discussion revealed that migrant women are particularly disadvantaged. Since they only join their husbands to work on their husband's land for cocoa farming, they have no land of their own to farm. It was also observed that chiefs and family heads command more control over land in their socio-economic position as the custodians of communal and family lands respectively.

Thus, access to land resources is gradually changing, with rich and powerful individuals (family heads) acquiring more control over land to the disadvantage of the poor. The family/clan head controls family land. Although every member has customary rights to use communal land, such rights are usually exercised by family heads, and this has led to the creation of social differentiation among individuals and groups in the communities. According to some elders, there is no exclusive form of individual land control. But, on the other hand, one can argue that the shift towards agricultural commercialisation will,

in the near future, result in the consolidation of land rights in the hands of a few wealthy individuals at the expense of the poor. It must be remembered, however, that this does not mean that the poor would become totally landless; it is very difficult for individuals or family heads to sell family land.

Some local people, particularly from the on-road zone, did complain about the outright sale of land. They see it as an affront to the age-long and highly respected spirit of collective ownership of land. Many people see land as the most secure form of investment. This point came out clearly during the wealth ranking exercise (see Section 2.2.2.).

Sacred groves, reserved old cemeteries, ancestral settlements, headwaters and river courses tend to be conserved areas. Some of these are believed to be the abodes of spirits and local controls and sanctions operate to protect them. Trees have always played a very significant role in the daily life of rural people. There are myths and traditions which control the use of trees. The local people believe that some trees possess spiritual powers and must therefore be left alone. For instance, it is the belief of people of Wassa Esaaman that the *Odii* tree possesses great spiritual/magical powers and whoever wants to collect its seeds must strip himself/herself naked a few metres from the tree and remain so until he or she has collected the seeds.

5.2.9 Rural Livelihoods

Farming is the main economic activity in the Western Region. The main commercial crops in the region are cocoa, oil palm, rubber, cassava and coconut. Rice, plantain, cassava and vegetables are the principal food crops (Townson 1995).

Other important economic activities include public service employment (teachers, health care workers), trading, carpentry and other skilled trades, small-scale gold and diamond mining palm and coconut oil production in large plantations (Townson 1995) as well as logging.

Local people admit that illegal tree felling still goes on in the forests of the Western Region, even though this has been declared illegal in Ghana. The ban on chainsaws was enacted by the government to regulate and generate more income from recognised timber firms and also to control tree felling for commercial purposes. It is said that chainsaw operators made a lot of money from illegal logging, and the ban on their activities has put most of them out of work.

5.2.10 Changes in the Availability of Natural Resources²⁷

The elders of the villages studied talked about the changes in the water levels of local rivers and streams. Rivers and streams appear to dry out much earlier in the dry season than expected. Elders attributed these changes to reduced rainfall, both in terms of volume and length of rainy season. The rains come either earlier or later than expected. Farmers, therefore, cannot predict the start of the rains with certainty. They believe that reduced rainfall has negatively affected crop yields.

Wild animal populations are also said to have declined. Though there is a general acknowledgement that increased agricultural activities have contributed greatly to the present state of affairs, logging (around border and on-road settlements) and chainsaw operations have been major contributors. The local people believe that the noises made by the machines of loggers and chainsaw operators have disturbed the animals and have led animals to re-locate deeper into the forest reserves. The noise, the villagers believe, has also affected the 'peaceful atmosphere' the animals need to reproduce rapidly. Hunters said they walk longer distances before they meet game. Rats and grass-cutters were more easily available on farms and the surrounding bush in the past decade than they are today. Other non-timber forest products (NTFPs) have also reduced. These include rattan, chewing sticks, and snails.

People complained bitterly about reduced stocks of rattan, which has affected their income especially on the part of the young men. It has put some harvesters and weavers out of work, especially in the on-road and border settlements as well as in Ampro, one of the remote settlements studied.

Demand for land, according to the villagers, has increased over the past ten years as new migrants come in search for land and young people (men) leave their parent's households to lead an independent life. However the pressure is generally not so great as to create land shortages. The only exception is in the on-road zone, where people strongly believe that the pressure on land has been much greater over the past decade, due to the proximity of the Subri River Forest Reserve, the sale of land to migrants and the increased area under agriculture increasing. Forested land is cleared every year to make way for new cocoa farms particularly in the remote and border zones.

²⁷ This section is largely drawn from Obeng-Okrah 2002

5.2.11 Demographic Changes

Break-downs by age and gender of the populations of sample households in the study zones of Ghana are given in Figures 5-5-5-7 and Table 5-1. As for Ghana as a whole, the population in the settlements studied is quite young. Figures 5-5-5-7 show that over two-thirds of the population is under the age of 30; this is similar to national figures (Ghana Statistical Service 2000).

Ghana's on-road and border samples have relatively balanced sex ratios, whilst the remote zone sample has an excess of adult males over females (57% males). These figures reflect the fact that the remote study zone is an area of significant in-migration, where many young men have come to farm cocoa. However, Betenase, one of the remote settlements studied, is experiencing population decline. Young people are moving away, and this trend is of great concern to the elders. Most young people are moving to nearby Gwira Banso, which is the seat of the occupant of the Betenase stool. The elders of Betenase founded Gwira Banso. Consequently, the population of Betenase has declined within the past decade. The main reasons given for the migration are the inaccessibility of the village by road and annual flooding of the river Ankobra.





Remote Settlements Demographic Pyramid (in %)





🗆 Female 👘 🖾 Male

Figure 0-6 Population Pyramids, Border Zone, Ghana



Border Settlements Demographic Pyramid (in %)



Border Settlements Demographic Pyramid

🗆 Female 👘 🖾 Male

Figure 0-7 Population Pyramids, On-Road Zone Ghana



On-Road Sample Demographic Pyramid (in %)





30 85 80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90

🗆 Female 👘 🖾 Male

Zone	Settlement Name	Total # of Hholds Sampled	Total # of People Sampled	No of people i	No of people in household						
				1	2	3	4	5	6	>6	
Border	Cocoa Town	29	935	2	3	5	2	7	3	7	6.4
	%			7%	10%	17%	7%	24%	10%	24%	
	Domeabra	14	315	1	1	3	3	2	2	2	5.2
	%			7%	7%	21%	21%	14%	14%	14%	
	Fawoman	11	512	1			3	1	1	5	7.5
	%			9%	0%	0%	27%	9%	9%	45%	
	Ghana Nungua	55	1661	7	4	10	2	8	10	14	6.3
	%			13%	7%	18%	4%	15%	18%	25%	
	Sika Bile	8	177	1		1	2	2	1	1	5.2
	%			13%	0%	13%	25%	25%	13%	13%	
Border Total		117	3600	12	8	19	12	20	17	29	6.3
	%			10%	7%	16%	10%	17%	15%	25%	
Remote	Ampro	39	1108	9	2	4	6	6	4	8	6.4
	%			23%	5%	10%	15%	15%	10%	21%	
	Betanase	36	363	7	14	7	1	4	2	1	3.7
				19%	39%	19%	3%	11%	6%	3%	
Remote	Sikaman	45	844	3	6	12	8	8	4	4	4.9
				7%	13%	27%	18%	18%	9%	9%	
Remote Total		120	2315	19	22	23	15	18	10	13	5.2
				16%	18%	19%	13%	15%	8%	11%	
On-road	Aboaboso	27	851	4	3	2	5	1	2	10	6.5
	%			14.81%	11.11%	7.41%	18.52%	3.70%	7.41%	37.04%	
	Wassa Esaaman	93	2248	16	6	16	13	12	13	17	5.8
	%			17%	6%	17%	14%	13%	14%	18%	
On-road Total		120	3099	20	9	18	18	13	15	27	5.8
		357	9014	17%	8%	15%	15%	11%	13%	23%	

Table 0-1 Sociodemographic Characteristics of Households by Settlement and Settlement Type

Marked differences exist in the ethnic make-up of different zones. Figures 5-8-5-10 summarise these contrasts. Whilst the border and on-road settlements are relatively socially homogeneous, Ghana's remote settlements are relatively socially heterogeneous. It has the highest proportion of adults from other parts of Ghana of all the three zones in Ghana.

These contrasts in ethnic composition are largely due to differences in livelihood opportunities which in turn are partly due to the availability of farm land. The remote zone settlements are economically dynamic areas and are attracting migrants who have come to take up farming opportunities. In contrast, the on-road zone is currently experiencing land shortages and therefore no longer attracts so many migrants.



Figure 0-8 Geographical Origins of Adults in Remote Settlements, Ghana (N=271)



Figure 0-9 Geographical Origins of Adults in Border Settlements, Ghana (N=331)





Table 5-2 provides some information about the movement of adults (people over the age of 14 years) from sample households. Household census questions elicited information about where people spent their childhood and their place of previous residence²⁸.

Zone	Total No. of Respondents	Non- migrants	Return migrants	In- migrants	Temporary residents
Border	318	129	78	111	0
	100%	41%	25%	35%	0%
Remote	265	7	24	231	3
	100%	3%	9%	87%	1%
On- road	282	87	66	126	3
	100%	31%	23%	45%	1%
Totals	865	223	168	468	6
	100%	26%	19%	54%	1%

Table 0-2 Migration Status of Adults Sampled by Zone

Source: Houshold Census 2000

As Table 5-2 makes clear, a high proportion (87%) of the adults sampled in the remote settlements are in-migrants, largely from the Eastern Region. Many migrants have come mainly to establish cocoa farmers. This contrasts sharply with the situation in the on-road and border settlements. Here migration is relatively low. The findings presented in Table 5-2 are consistent with those of the Ghana Living Standards Survey (Ghana Statistical Service 2000) which found that the proportion of migrants in rural forest areas is about 60% of the population. This study also suggests that a third of all migration flows are rural to rural and another third are urban to rural migration; only a tenth of all migration moves are from rural to urban areas (Ghana Statistical Service 2000).

Table 5-3 reflects the contrasts in population movement and stability highlighted above. It provides information on the length of time adults in sample households have stayed in the settlements they currently live in. It is clear that a high proportion of the adults in remote settlements have moved to these settlements relatively recently.

²⁸ Respondents who were born at their current place of residence, or in one of the other settlements sampled within that zone who have never stayed away for a year or more are grouped as non-migrants. People who were born at their current place of residence, or in one of the other settlements sampled within that zone, but who moved out and lived outside their localities for a year or more are classified as return-migrants. Respondents who were not born in their current place of residence or in one of the other settlements sampled within that zone are grouped as in-migrants.

Zone	Sample Size	Temporary resident*	2 mths to 1 year	2 to 4 years	5 to 9 years	10 to 14 years	15 years & over	Arrived Before 15 yrs old	Born Here	Non- respondents
Border	320	9	17	24	36	44	49	7	132	2
	100%	3%	5%	8%	11%	14%	15%	2%	41%	1%
Remote	265	3	49	85	67	22	26	3	10	
	100%	1%	18%	32%	25%	8%	10%	1%	4%	0%
On-road	284	3	21	25	35	27	73	12	87	1
	100%	1%	7%	9%	12%	10%	26%	4%	31%	0%
Totals	869	15	87	134	138	93	148	22	229	3
Totals%	100%	2%	10%	15%	16%	11%	17%	3%	26%	0%

 Table 0-3 Length of Residence of Adults Sampled by Zone

Source: Household Census 2000

About half of adults in the remote settlements studied moved there less than five years ago. The majority of these people are in-migrants from the Eastern Region who have come to farm. The situation in the border and on-road samples contrasts with the above; 41% and 31% of all adults in the border and on-road samples respectively said they were born in the settlement where they now live.

5.2.12 Household Wealth and Assets

Table 5-4 summarises the criteria used by participants in the wealth ranking exercises (see Section 2.2.2 for details of how this was carried out) to group people into different wealth categories. There appeared to be little or no difference in the way key informants from different zones characterised wealth groups (Obeng-Okrah 2002). In identifying the different indicators used to rank the households, the key informants took into consideration living conditions, access to land and labour, physical ability to work and other responsibilities like the ability to afford to send children to school. New settlers are amongst those grouped as "poor" by informants. Analysis of the quantitative data collected during this survey also reflects this finding.

Poorest	Poor	Rich	Richest
 Bed ridden/ infirm people without carer(s). Landless. Total dependence on other people for a living. Inability to send children to school. Has no house. Childless person. 	 Very limited access to land. Healthy but lazy and always looking for quick money. Economically active person still depending on parents. Struggle with difficulty to feed household. (No surplus food to sell). Drunkards who don't have time to work seriously. All new settlers are poor since they depend on others for food and shelter in the first six to nine months. Limited access to land (i.e. family land). Failure to provide adequate labour to manage farms. 	 Heir to property (land, cocoa farm) Very hard working and never in need. Harvest many bags of cocoa. Does not depend on others for living. Up and coming, hard working young men/women. Control over large farmland. Live in own house in good condition. 	 Owns (individual/private)

Table 0-4 Criteria for Different Wealth Categories, Ghana

A comparison of asset indicators in Table 5-5 highlights the relative poverty of remote settlements, compared to on-road and border settlements.

For example, less than 4% of households in remote settlements are made from wooden planks or bricks and a relatively low proportion of households in these settlements have metal sheet roofs. Results as captured in Table 5-5 show that access to modern toilet facilities is limited for most households sampled.

Household Characteristic/ Zone	Sample Size	Brick/Plank Houses (%)	Metal sheet roofs (%)	Pit latrines* (%)	Own homes (%)	Own farmland (%)
Remote	120	4	3	51	95	48
Border	117	50	55	32	91	75
On-road	120	39	41	27	75	71

Table 0-5	Some	Household	Characteristics,	Bv	Zone
I abit 0 0	Some	nousenoiu	Character istics,	$\boldsymbol{\nu}_{j}$	Long

* Figures for pit latrines are misleading, as these figures are for private pit latrines, most households in on-road settlements have access to communal pit latrines.

Source: Fieldwork 2000

A look at the land ownership figures in Table 5-5 reveals that that a much higher proportion of households sampled in Ghana's border and on-road samples "own" farmland (either formally or informally) compared to households sampled Ghana's remote zone. These figures reflect differences in land tenure arrangements, which in turn reflect the contrasting socio-economic characteristics of the three zones (see Section 5.4).

In order to compare the relative wealth of households in the different settlement types, an overall index was developed based along the lines of that used by George Koppert (Koppert 2002). See Section 2.3 for the weighting system and the calculation used to obtain the index.

Table 5-6 gives the wealth index for the Ghana study sites. As would be expected, the remote settlements have the lowest index – they appear to be less wealthy, whilst the on-road and border settlement households appear to be better off. Remote settlements have a relatively high proportion of households headed by in-migrants who have not lived for long in the settlement they now live in. As mentioned above, such households tend to be relatively poor compared to households headed by longer term residents, partly because the latter have not had time to establish a productive farm or are farm labourers and "caretaker" farmers who profit less from cocoa. The border settlements. This may be partly due to the fact that farmers in border settlements are able to profit more from their cocoa than farmers in the other zones because they have access to markets in neighbouring Côte D'Ivoire where cocoa is bought at relatively higher prices than in Ghana.

Zone	Wall	Roof	Floor	Hhitem	Toilet	Electricity	Own house	Adult ed	Child. Ed	Index	No. of observatio
											ns
Border	0.5	0.55	0.82	2.38	0.32	0	0.91	1.66	0.46	7.60	117
Remote	0.04	0.025	0.08	1.97	0.51	0	0.95	1.56	0.53	5.66	120
On-	0.39	0.42	0.82	1.98	0.27	0	0.75	1.98	0.85	7.46	120
Road											
Overall	0.311	0.33	0.57	2.11	0.37	0	0.87	1.8	0.86	7.21	357

Table 0-6 Wealth Index by Settlement Type

Source Household Census 2000

Table 5-6 highlights educational attainment of people in sample households over the age of 14 years. A higher proportion of adults in the remote settlements sampled had received no formal education, compared to adults sampled in border and on-road settlements. These differences may partly be due to the fact that the majority of adults in the remote settlements are relatively poor in-migrants who had comparatively limited access to education when they were children. The figures in Table 5-6 are consistent with the findings of the Ghana Living Standards Survey's (Ghana Statistical Service 2002) which found that about 32% of all adults sampled had never been to school.

Zone	No Formal Education	1-5 yrs	6-10 yrs	<10 yrs	NR	Grand Total
Border	90	43	170	15	1	319
	28%	13%	53%	5%	0%	100%
Remote	89	50	115	5	1	260
	34%	19%	44%	2%	0%	100%
On- road	69	41	161	6	1	278
	25%	15%	58%	2%	0%	100%
Total	248	134	446	26	3	857
Total%	29%	16%	52%	3%	0%	100%

Table 0-7 Years of Education, All Adults Sampled by Zone

²⁹ "Hh item" stands for household items. In the household census, respondents were asked whether they owned specific household items, such as a radio, upholstered sofa, etc. Households were then allocated a score depending on the items they owned.

5.3 Household and Individual Differentiation

Table 5-1 provides a summary of population and household characteristics by settlement and settlement type. It shows that about half of all households sampled in the remote settlements consist of one or two people. These figures reflect the fact that a high proportion of households in Ghana's remote sample consist of single men, many of whom are migrant farmers.

5.3.1 Male and Female-Headed Households

Table 5-8 provides a breakdown of household characteristics by gender of household head. In general, the majority of households sampled are headed by men. However, in the on-road settlements studied about 20% of households sampled were headed by women. This figure is well below the average figures for the whole of Ghana, which indicate that one in every three households in Ghana is headed by a woman (Ghana Statistical Service 2000). These figures reflect the predominance of matrilinearity in Southern Ghana. The majority of female heads sampled in on-road settlements are non-migrants. Table 5-8 indicates that female-headed households tend to be smaller, on average, than male-headed households. This table also shows that female-headed households tend to have lower dependency ratios than male-headed households, which means they have relatively few dependents.

There is a tendency for male heads to be younger than female heads. However, both male and female-headed households in the remote settlements tend to be younger than male-headed households in the two other settlement types. The remote zone households sampled have a relatively high proportion of young male-headed households. Over half (57%) of all male-headed households sampled in this zone are headed by men under the age of 40 years. These figures reflect the fact that a high proportion of households in the remote zone are headed by young men who have come to these areas to take up cocoa farming.

Settlement Type	Sex of HH Head	Total No. of HH sampled	% HH	Av. Age of HH Head	Dep. Ratio	% HH with no deps	Mean HH Size
Border	Female	17	15	53.4	0.86	3%	4.9
Border	Male	100	85	44.1	1.32	7%	6.4
Border Total		117	100		1.27	6%	6.25
Remote	Female	10	8	44.8	1.44	37%	4.2
Remote	Male	110	92	36	1.36	16%	5.2
Remote Total		120	100		1.36	17%	5.2
On-road	Female	26	22	45.5	0.84	12%	3.7
On-road	Male	94	78	43.5	1.22	7%	6.2
On-road Total		120	100		1.17	8%	5.8
	F 1	50	1.5	47.0			
Totals	Female	53	15	47.9			
Totals	Male	304	85	41			
Totals All Zones		357	100		1.26	10%	5.8

Table 0-8 Household Characteristics by Gender of Household Head

Table 5-9 provides information on how household size varies with gender. It reinforces the results of Table 5-8 and shows that in the remote settlements studied a relatively high proportion (nearly a third) of male-headed households consist of either one- or two-person households. Table 5-9 also shows that a relatively high proportion of male-headed households in remote settlements (16%) have no dependents. These findings reflect the fact that a high proportion of households in remote settlements consist of relatively young male migrants with few or no dependents who have come to this area to farm or to work as farm labourers.

Zone	Sex	No. of HH	1	2	3	4	5	6	>6
		sampled							
Border	Female	17	3	3	3	2	3	2	1
		100%	18%	18%	18%	12%	18%	12%	6%
	Male	100	9	5	16	10	17	15	28
		100%	9%	5%	16%	10%	17%	15%	28%
Total Bo	rder	117	12	8	19	12	20	17	29
Total Bo	rder %	100%	10%	7%	16%	10%	17%	15%	25%
Remote	Female	10	2	3	3	0	0	1	1
		100%	20%	30%	30%	0%	0%	10%	10%
	Male	110	17	19	20	15	18	9	12
		100%	15%	17%	18%	14%	16%	8%	11%
Total Remote		120	19	22	23	15	18	10	13
Total Re	mote %	100%	16%	18%	19%	13%	15%	8%	11%
On- road	Female	26	7	5	7	2	4	0	1
		100%	27%	19%	27%	8%	15%	0%	4%
	Male	94	13	4	11	16	9	15	26
		100%	14%	4%	12%	17%	10%	16%	28%
Total On	-road	120	20	9	18	18	13	15	27
Total On	-road %	100%	17%	8%	15%	15%	11%	13%	23%
Total All	Zones	357	51	39	60	45	51	42	69
Total All %	Zones	100%	14%	11%	17%	13%	14%	12%	19%

Table 0-9 Household Size by Zone and Gender of Household Head

Turning to differences in wealth with gender of household head, data collected for the household census survey and wealth ranking exercises were used to group households into "rich" and "poor" (see Section 2.1). On the whole, female-headed households tend to be less wealthy than male-headed households (Table 5-10).

			Wealth	Group
Zone	Sex	No. of	Poor	Rich
		H'holds		
		Sampled		
Border	Female	17	12	5
		100%	71%	29%
	Male	100	38	62
		100%	38%	62%
Border T	otals	117	50	67
Border T	otals %	100%	43%	57%
Remote	Female	10	8	2
		100%	80%	20%
	Male	110	82	28
		100%	75%	25%
Remote	Fotals	120	90	30
Remote	Fotals %	100%	75%	25%
On-	Female	26	17	9
road				
		100%	65%	35%
	Male	94	56	38
		100%	60%	40%
On-road	Totals	120	73	47
On-road	Totals %	100%	61%	39%
Totals		357	213	144
Total		100%	60%	40%
%				

Table 0-10 Wealt	h Categories by	Gender o	of Household	Head and	Settlement	Type
I ubic 0 10 mean	a Cuttes by	Genaer	JI IIOuschola	manual and	Settlement	- <i>J</i> P V

Table 5-11 shows that household head education levels tend to be higher for male-headed households compared to female-headed households. A significantly higher proportion of female heads have never been to school, or have only limited primary school education, compared to male household heads. Overall, over a third (36%) of all female-heads included in the household census in all three zones had no formal education, compared to under a quarter (22%) of all male heads. These figures are consistent with the Ghana Living Standards Survey (Ghana Statistical Service 2002) which indicates that 21% of males and 41% of females have never been to school.

Differences in education levels between male heads and female heads are particularly prominent in the less accessible border and remote settlements sampled, where around half of all of female heads included in the census have no formal education.

Zone	Gender of	No. of	Years of Education			
	Household	Households	0	1 to 4 years	5 to 8 years	> 8
	Head					years
Border	Female	17	8	4	3	2
		100%	47%	24%	18%	12%
	Male	100	18	8	21	53
		100%	18%	8%	21%	53%
Border Totals		117	26	12	24	55
Border Totals %		100%	22%	10%	21%	47%
Remote	Female	10	5	2	2	1
		100%	50%	20%	20%	10%
	Male	110	27	18	23	42
		100%	25%	16%	21%	38%
Remote Totals		120	32	20	25	43
Remote Totals %		100%	27%	17%	21%	36%
On- road	Female	26	6	5	9	6
		100%	23%	19%	35%	23%
	Male	94	23	2	20	49
		100%	24%	2%	21%	52%
On-road Totals		120	29	7	29	55
On-road Total %		100%	24%	6%	24%	46%
Totals		357	87	39	78	153
Totals %		100%	24%	11%	22%	43%

Educational attainment also varies with gender and age. As would be expected, elderly people, particularly women, have generally spent fewer years in formal education compared to younger people.

To summarise, in general, female-headed households tend to be less wealthy, less welleducated and smaller compared to male-headed households. As will become clear in Section 5.5.4, these characteristics influence, the types of livelihoods male and femaleheaded households are involved in.
5.3.2. Households Headed by Non-Migrants and Migrants

As Section 5.2.11 shows, a significant proportion of households in remote settlements samples are headed by migrants, mainly from the Eastern Region and other parts of Ghana.

Levels of education tend to be higher in households headed by in-migrants and returnmigrants (see Table 5-12). A higher proportion of non-migrant heads have no education or only primary-to-middle level education. This may partly reflect the fact that inmigrant heads tend to be relatively young compared to non-migrant heads and younger people tend to be more likely to have attended school.

			Years of Formal Education			on
Zone	Migration Status	No. of H'holds	0	1 to 4	5 to 8	9 years
		Sampled		years	years	or more
Border	In-migrant	42	6	3	12	21
		100%	14%	7%	29%	50%
	Non-migrant	38	12	5	7	14
		100%	32%	13%	18%	37%
	Return migrant	37	8	4	5	20
		100%	22%	11%	14%	54%
Border To	tals	117	26	12	24	55
Border To	tals%	100%	22%	10%	21%	47%
Remote	In-migrant	100	24	16	23	37
		100%	24%	16%	23%	37%
	Non-migrant	20	8	4	2	6
		100%	40%	20%	10%	30%
Remote To	otals	120	32	20	25	43
Remote To	otals %	100%	27%	17%	21%	36%
On-road	In-migrant	63	16	3	12	32
		100%	25%	5%	19%	51%
	Non-migrant	21	4	1	8	8
		100%	19%	5%	38%	38%
	Return migrant	36	9	3	9	15
		100%	25%	8%	25%	42%
On-road T	otals	120	29	7	29	55
On-road T	otals %	100%	24%	6%	24%	46%
Total		357	87	39	78	153
Total %		100%	24%	11%	22%	43%

Table 0-12 Years of Education by Migration Status of Household Head

Source: Household Census 2000

In terms of wealth (see Section 2.1 for an explanation of how households were grouped as "rich" and "poor"), as already stated in Section 5.2, the length of time the household head has resided in the settlement he or she currently lives in appears to significantly influence how wealthy the household is. Households headed by relative new-comers (both in-migrants and return-migrants) residing in remote and border settlements tend to be relatively poor compared to households headed by long-term residents. Table 5-13 reflects these findings. Migrants tend to have fewer income generating opportunities and relatively limited access to land.

Zone	Rich/Poor	Ν	Length of residence						
			0 to 4 years	05 to 10 years	10 to 14 years	15 to 19 years	20 years & up		
Border	Poor	49	12	8	8	5	16		
		100%	24%	16%	16%	10%	33%		
	Rich	67	3	5	13	7	39		
		100%	4%	7%	19%	10%	58%		
Border T	otals	116	15	13	21	12	55		
Border T	otals %	100%	13%	11%	18%	10%	47%		
Remote	Poor	90	49	19	9	2	11		
		100%	54%	21%	10%	2%	12%		
	Rich	30	7	10	5	3	5		
		100%	23%	33%	17%	10%	17%		
Remote	Totals	120	56	29	14	5	16		
Remote	Totals%	100%	47%	24%	12%	4%	13%		
On- road	Poor	72	10	11	9	9	33		
		100%	14%	15%	13%	13%	46%		
	Rich	47	5	8	6	9	19		
		100%	11%	17%	13%	19%	40%		
On-road	Totals	119	15	19	15	18	52		
On-road	Totals %	100%	13%	16%	13%	15%	44%		
Total		355	86	61	50	35	123		
Total		100%	24%	17%	14%	10%	35%		

Table 0-13 Wealth Categories by Length of Residence of Household Head

Source: Household Census 2000

5.4 Household Assets and Wealth

5.4.1 Household Differences in Land Ownership

Table 5-14 reflects some of the differences in land ownership associated with the migration status of household heads. It is clear from this table that the majority of non-migrants and return-migrants own the land they farm in all zones, whilst a much lower proportion of in-migrants own the land they farm. Contrasts between migrants and non-migrants are greatest in remote and border settlements where nearly two-thirds of in-migrants do not own the land they farm. Most in-migrants have access to farmland through share contracts (see Section 5.2.8 on land tenure).

Zone	Migration	Total No. of	Ownership o	Ownership of Farmland			
	Status	Respondents	Does Not	Owns			
			Own Land	Land			
Border	In-migrant	42	25	17			
		100%	60%	40%			
	Non-migrant	38	3	35			
		100%	8%	92%			
	Return migrant	37	1	36			
		100%	3%	97%			
Border T	otals	117	29	88			
Border %	/ 0	100%	25%	75%			
Remote	In-migrant	100	59	41			
		100%	59%	41%			
	Non-migrant	20	3	17			
		100%	15%	85%			
Remote	Fotals	120	62	58			
Remote 9	%	100%	52%	48%			
On- road	In-migrant	63	28	35			
		100%	44%	56%			
	Non-migrant	21	2	19			
		100%	10%	90%			
	Return migrant	36	5	31			
		100%	14%	86%			
On-road	Totals	120	35	85			
On-road %		100%	29%	71%			
Total		357	126	231			
Total		100%	35%	65%			

Table 0-14 Tenure Arrangements by Migration Status

Source: Household Census 2000

In summary, migration status is one of the main factors influencing land tenure patterns. As will become clear in Section 5.5 below, land tenure patterns influence the types of activities that different households and individuals are involved in.

5.4.2 Access to labour³⁰

Farmers in all settlements studied rely heavily on household labour. Households also use three sources of external labour, namely extended family, "partnership groups" and hired labour, during the peak land preparation period (January – March)³¹. "Partnership groups" are collective self-help groups of age mates who organize themselves and help each other in farming activities. These groups are known locally as *nnoboa*. The group usually numbers between three and six people who work in turns on each other's farms on a daily or weekly basis, depending on the volume of work. Dependants (children) may also come together to form such a *nnoboa* group to provide farm labour to their respective households. Such labour is mostly for weeding. Extended family and self-help group labour is also used for harvesting of cocoa, in particular, and for harvesting rice and maize. The host is responsible for the provision of food under these two forms of labour.

Young men living in the study communities sometimes engage in casual wage labour³² to supplement their income. Groups of young men from neighbouring communities and from Ghana's Northern, Eastern and Central Regions are also sources of temporary farm labour. In the border settlements studied, temporary farm labourers also come from Côte D'Ivoire. The volume of migrant labour is higher in remote and border zones, whilst the cost of labour is higher in on-road zones compared to the other two zones. Temporary farm labourers are most frequently hired seasonally rather than permanently, with January – March as a peak period, when land preparation is done. Weeding also attracts considerable demand for labour in April and May.

³⁰ This section is largely drawn from Obeng-Okrah (2002)

³¹ The vegetation is first cleared. The trees are then felled, cut into pieces and allowed to dry. The vegetation is then burnt and the land is cleared once again to prepare it for planting.

³² Two types of casual wage labour were identified: contract and, what is known locally as 'by-day' (i.e. the labourer stops work at mid-day notwithstanding the amount of work done).

5.5 Income Sources in Ghana's Study Settlements 5.5.1 Background³³

Farming is the most important economic activity in all the areas surveyed. The majority of respondents interviewed are principally farmers who are also involved in other activities to supplement their income. Townson's (1995) survey carried out in the area studied also indicates the importance of farming.

Crop farming under the bush fallow system (slash and burn) is the predominant farming system in all zones. The system is dependent on simple hand tools such as cutlasses, axes and hoes. Therefore, with the exception of very few large cocoa farms, farming in the villages is generally on a small scale.

Farmers practise mixed cropping (cocoa, oil palm, coffee and food-crops) in order to make optimum use of the cultivated farmlands. There is not much variation in type of crops grown by different ethnic groups. Both indigenes and migrants are pre-occupied with growing cocoa. However, indigenes tend to grow more food crops for income generation, except in Ampro and Sikaman (remote study settlements), where migrants are also involved in this type of enterprise.

Farmers interviewed complained of reduced crop yields and this may well be the result of reduced fallow period. Fallow periods, which according to the local people used to range on average from 20 to 25 years, have now been drastically reduced to three to five years on average. On-road study communities complained most about the reduction in crop yield. They claim that the forest reserve now occupies a greater part of their land, which would otherwise be used for agriculture. Shortage of land may well be a problem, but poor farming practices are also probably responsible for the reduced crop yields.

Agricultural income is not important for all socio-economic groups. Young women, for example, tend to dominate the buying and selling of foodstuffs. Others (mainly youth) engage in farm labour (known locally as "by-day") especially during land clearing and preparation season (January – March) and during weeding periods.

Gari processing is also an important activity found in the villages. *Gari* is a popular food prepared from cassava. Raw cassava is grated, fermented, pressed and then fried. *Gari* processing provides additional income to households. Other significant agro-based industries include the production of palm oil and palm kernel processing.

Akpeteshie (local gin) distilling also provides income for some people, especially both native and migrant youth (especially Ewes). Akpeteshie distilling is a major activity in the Western Region. Akpeteshie distillers were identified in all villages in all the zones. This activity is usually undertaken by a household or group of young men. The technology used is basically traditional, and depends on simple inputs such as barrels, pipes, fuel wood and water. The sole raw material used is palm or raffia wine tapped

³³This section is drawn from Obeng-Okrah (2002).

from oil and raffia palms, which are commonly found around the villages studied. Interest in *akpeteshie* distilling is rising and there is potential for expansion, taking into account the availability of raw material and high demand for the product.

NTFPs (such as chewing sticks and chewing sponges) may also supplement people's incomes and in some cases may provide significant amounts of income. Rattan cane basketwork is a common source of income to the people of Wassa Esaaman, one of the on-road settlements (men weaving and women selling).

It is the general belief of the chiefs and elders of all the villages that the areas abound in gold deposits. This belief is strongest in the on-road settlements studied. This area shares common boundaries with some of the major gold mining areas. There is no gold mining company in any of the villages but the local people admit that some young men occasionally and illegally mine gold, an operation known locally as *galamsey*.

Fishing, though on a small scale, is an important activity in all zones, due to the presence of many rivers and streams. All groups of people have access to the rivers for fishing. Fishing supplements the protein and income needs of some households.

Fishing is done mainly by the use of fish traps. Both elderly people and young boys set traps in the rivers and streams. A few people use nets for fishing in larger rivers. The main fish caught are tilapia, crab, mudfish and crayfish in remote and border settlements and tilapia and crabs in the on-road settlements studied. Fish is abundant in the rainy season.

5.5.2 Importance of Different Income Sources by Settlement Type

Quantitative data on income sources was largely collected through the multi-round survey. This survey aimed to capture the relative importance of and seasonal variations in different income sources (Section 1.2.4 for details). Multi-round survey respondents were asked to rank the top five sources of income. In some of the tables and figures below, ranks were converted into scores. Each income source was given a score of 5,4,3,2, or 1 according to whether the respondent ranked the income source as being 1^{st} , 2^{nd} , 3^{rd} , 4^{th} or 5^{th} most important income source respectively. In Figures 5-11-5-14, the scores for each income sources. It is important to note that the multi-round survey focussed on assessing the relative importance of different activities in terms of income. It made no attempt to capture the importance of different activities for subsistence purposes.

5.5.2.1 Remote Settlements

Farm income (mainly from cocoa production but also from cassava and plantains) is the main source of income in remote settlements. Farm income accounted for 82% of first rank multi-round survey responses as Table 5-15 makes clear. Farm labour (off-farm income) and NTFP-related activities (mainly rattan weaving) were also important sources of income, accounting for 8% and 6% of first rank multi-round survey responses respectively. As will become clear in Section 5.5.4 below, these activities are important for newly arrived migrants.

Rank	No. of Responses	Farm Income	Fishing	Non-farm rural self- employment	Non-farm wage employment	NTFP	Off- farm*	Remittances	Rental income
1	398	328	0	7	1	23	31	7	1
	100%	82%	0%	2%	0%	6%	8%	2%	0%
2	389	303	0	6	0	32	26	12	10
	100%	78%	0%	2%	0%	8%	7%	3%	3%
3	348	287	1	6	0	39	12	1	2
	100%	82%	0%	2%	0%	11%	3%	0%	1%
4	258	208	4	8	0	28	4	1	4
	100%	81%	2%	3%	0%	11%	2%	0%	2%
5	128	92	0	5	1	26	1	0	2
	100%	72%	0%	4%	1%	20%	1%	0%	2%

Table 0-15 Ranks for Income Sources, Remote Zone Households

Total No. of Households = 80

Source: Multi-round survey 2000 - 2003 *"Off-farm income refers to wage or exchange labour on other farms (i.e. within agriculture).

5.5.2.2 Border Settlements

Income from farming is ranked as the most important source for the majority of households included in the multi-round survey (see Table 5-16). Cocoa was the most significant farm money-earner, accounting for just over two-thirds of all first-rank responses. Non-farm rural self-employment (in the form of petty trading and buying cocoa) and non-farm wage employment (in the form of teachers' salaries) were also important income sources in this zone. In contrast Table 5-16 reflects the overall relatively minor importance of NTFPs in the border study settlements.

Rank	No. of Response s	Farm Incom e	Fishin g	Non-farm rural self- employmen t	Non-farm wage employmen t	NTF Ps	Off- farm	Other Transfer s	Remit tances	Rental income
1	400	326		28	26	1	5		12	1
	100%	82%	0%	7%	7%	0%	1%	0%	3%	0%
2	372	279		51	5	8	8		7	14
	100%	75%	0%	14%	1%	2%	2%	0%	2%	4%
3	293	238	2	21	9	4	4		7	8
	100%	81%	1%	7%	3%	1%	1%	0%	2%	3%
4	201	155	1	16	4	14	3		5	3
	100%	77%	0%	8%	2%	7%	1%	0%	2%	1%
5	96	80		3	2	7	1	1	1	1
	100%	83%	0%	3%	2%	7%	1%	1%	1%	1%

Table 0-16 Ranks for Income Sources, Border Zone Households

Total Number of Households in Sample = 79. Source: Multi-round survey 2000 - 2003

5.5.2.3 On-road Settlements

Farm income is again ranked the most important source of income by the majority of respondents in this zone. The most frequently cited crop ranked first in terms of income was cocoa, accounting for about 40% of all first rank citations (Table 5-17). Cassava, plantains, oil palm and *akpeteshie* distilling were also important sources of farm income. Both NTFP-related and non farm rural self-employment income sources accounted for 10% each of all first rank citations (see Table 5-17). Rattan basket weaving was the most important NTFP-related income source, accounting for 7% of all first rank citations, followed by chewing sponges and chewing sticks. Non-farm rural self-employment income sources included selling cooked food, drugs as well as carpentry and masonry.

	No. of Responses	Farm Income	Non-farm rural self- employment	Non-farm wage employment	NTFP	Off- farm	Other Transfers	Remittances	Rental income
1	407	293	42	17	42	3	3	6	1
	100%	72%	10%	4%	10%	1%	1%	1%	0%
2	391	265	35	7	65	4	2	11	2
	100%	68%	9%	2%	17%	1%	1%	3%	1%
3	376	262	34	3	70	3		3	1
	100%	70%	9%	1%	19%	1%	0%	1%	0%
4	332	224	24	5	70	4		5	
	100%	67%	7%	2%	21%	1%	0%	2%	0%
5	221	148	14	1	55			2	1
	100%	67%	6%	0%	25%	0%	0%	1%	0%

 Table 0-17
 Ranks for Income Sources, On-Road Zone Households

Total Number of Households in Sample = 82 Source: Multi-round survey 2000 - 2003

5.5.3 Seasonal Variations in Income Sources

Turning to look at seasonal variations in different income sources, it is clear from Figure 5-11 that there are seasonal variations in the importance of some income sources in all the settlements studied. For the purposes of this study, the rainy season months were defined as April to September and the dry season months as October to March.

Much of the seasonality recorded reflects fluctuations in demand, which in turn, is closely linked to the agricultural cycle; other causes include fluctuations in raw materials availability and labour availability (Townson 1995).

Land preparation for the new farming season generally occurs between January and March. People concentrate most of their time and energy on farming activities during this period. It is immediately followed by planting. Weeding is done in April/May and in August.

Cocoa is the principal commercial crop grown in the areas studied, and the cocoa production and harvesting cycle strongly influences the timing of other activities (because of fluctuations in the availability of labour) and the demand for goods (because of fluctuations in household income). The main harvesting period for cocoa is October to December and household income is highest during this time. Income from food crops is also highest in the months of September to December. Income from cocoa is lowest in April to May.

Food prices also fluctuate with the seasons. Food is relatively cheap soon after harvesting and more expensive just before the start of the planting season and between April and August. Farmers in Sikaman and Betenase (remote zone settlements) complain of low food prices offered by the few middlemen who go to those areas. Poor market access is the major factor contributing to low buying prices.

Many NTFP-related and other activities are carried out more frequently during the lean season (July – August), the period between planting and harvesting, when labour demands in agriculture are relatively low. Income from chewing sponges, rattan and rattan handicrafts is more significant at this time. Income from basket weaving peaks just before the cocoa harvesting season as demand for baskets to harvest cocoa increases (see Section 6.2.3. below for more details).

Zone	Season	Total
border	Rainy	160
	Dry	240
border T	400	
remote	Rainy	240
	Dry	159
remote T	otal	399
on-road	Rainy	240
	Dry	160
on-road Total		400
Total		1199

Table 0-18 Number of Responses to Multi-round Survey, by Zone and Season

Figure 0-11 Seasonal Variations in Income Sources By Zone



5.5.4 Livelihood Differences between Households and Individuals

Respondents were asked to describe their main occupation as part of the household census survey (see Section 2.2.3). Table 5-19 provides a breakdown of the responses given to this question grouped by different occupational categories for all adults by gender and settlement type. In general, the main occupation type for both men and women in all settlement types is "farm income" – income generated from own-account farming on owner-occupied land, or on land accessed through tenancy. Within the occupation category "farm income", there were contrasts between men and women. A much higher proportion of men are described as "cocoa farmer" compared to women who are described as "farmers". Women tend to be more involved in food crop farming than men.

A lower proportion of men, compared to women, are generally involved in farming in all settlement types. In on-road settlements, 14% of adult women and 12% of adult men surveyed were involved in activities grouped as "non-farm rural self-employment". Women's activities in this category included trading, whilst men's activities in this group included teaching, driving and carpentry. In the border zone 7% of adult men are employed as farm labourers (many of whom are migrants). Gari processing is one of the most important activities for women in remote settlements and border zone settlements of Sika Bile, Domeabra and Fawoman.

The less well-educated, particularly women and the elderly, do not have the skills, opportunities or access to training necessary to obtain higher wage earning jobs or better paid professional positions elsewhere. With lower human capital skills and fewer labour assets these individuals are often engaged in self-employed activities that do not require large investments in human, physical or financial resources e.g. own-account farming, petty trading and food processing.

Table 5-19 also reflects the fact that most respondents did not consider NTFPs as their main occupation. However, as will become clear below, NTFPs are an important source of income for certain socio-economic groups.

				Occupational Category					
Zone	Sex	N	Farm	Non-Farm	Non-Farm	None	NTFPs	Farm	Student
			Income	Rural Self	Wage			Labour	
				Employment	Employment				
Border	Female	172	111	14	5	13	0	0	29
		100%	65%	8%	3%	8%	0%	0%	17%
	Male	157	90	7	9	14	1	11	25
		100%	57%	4%	6%	9%	1%	7%	16%
Border T	otals	329	201	21	14	27	1	11	54
Border T	otals %	100%	61%	6%	4%	8%	0%	3%	16%
Remote	Female	118	106	0	0	5	0	0	7
		100%	90%	0%	0%	4%	0%	0%	6%
	Male	154	138	0	0	0	0	0	16
		100%	90%	0%	0%	0%	0%	0%	10%
Remote	Totals	272	244	0	0	5	0	0	23
Remote	Totals %	100%	90%	0%	0%	2%	0%	0%	8%
On-	Female	143	90	20	3	9	0	1	20
road									
		100%	63%	14%	2%	6%	0%	1%	14%
	Male	151	94	18	4	6	4	3	22
		100%	62%	12%	3%	4%	3%	2%	15%
On-road	Totals	294	184	38	7	15	4	4	42
On-road	Totals %	100%	63%	13%	2%	5%	1%	1%	14%
Totals		895	629	59	21	47	5	15	119
Totals		100%	70%	7%	2%	5%	1%	2%	13%
%									

Table 0-19 Main Occupational Categories of Adults Sampled by Gender and Settlement Type

Source: Household Census 2000

As earlier mentioned in Section 5.2.8, migration status is one of the main factors influencing land tenure patterns and land tenure, in turn, influences the types of activities that households are involved in. Figure 5-12 gives an indication of the relative importance of different income sources by migration status of household head.

Figure 5-12 shows that income from farming is a relatively more important income source for non-migrants and return-migrants compared to in-migrants. It also shows that farm labour is an important source of income for in-migrants in border and remote zones.



Figure 0-12 Top Income Sources, by Migration Status of Household Head and Zone

N= No. of Responses Source: Multi-round survey 2000 – 2003

Agricultural income is also less important for those who have yet to establish a productive farm. This group includes households headed by relatively young in-migrants and return migrants who may have recently moved into an area and who have yet to establish cocoa farms, or have a newly established cocoa farm that is not producing cocoa yet. Such relatively poor households tend to rely relatively more than other household groups on wage labour on other people's farms as well as other trading activities and NTFP-related activities (such as rattan handicrafts and the collection of chewing sponge sticks). These findings are reflected in Figure 5-13.



Figure 0-13 Main Income Sources by Age Cohort of Household Head, All Zones

The multi-round income surveys were administered to a stratified random sub-sample of households in each zone, drawn from households identified in the household census. From an analysis of the household census data and the PRA wealth ranking exercise (see Section 2.1 for details) it was possible to group households identified in the household census into strata according to two variables: whether people in the household are involved in rattan-related enterprises or not and wealthy vs. relatively poor households.

Figure 5-14 give an indication of the relative importance of income sources for households of different wealth categories in border, remote and on-road settlements studied. It is clear from this figure that farm income is the most important source of income for both rich and poor households, but that relatively poor households in border and remote settlements tend to rely more on farm labour and NTFPs, whilst relatively rich households gain income from business activities such as petty trading and salaried employment, such as teaching.



Figure 0-14 Top Income Sources, by Wealth Category and Zone

Source: Multi-round survey 2000 – 2003 N= No. of Responses In summary, these findings reflect the fact that household income is influenced by a number of factors. Migration status, length of residence, gender and age of household head are important determinants of household income. These factors, in turn, influence access to land, labour and wealth. Households headed by in-migrants, youth and women generally tend to be relatively less wealthy than households headed by male non-migrants and older males because the former tend to have fewer labour assets and limited access to productive farmland. As a result, these households are often engaged in self-employed activities, such as farm labouring and NTFP-related activities, which do not require large investments in human, physical or financial resources. Involvement in Rattan-related Activities³⁴

Generally, all the villages studied are involved in rattan related activities. They make extensive use of rattan for fish traps, cocoa drying mats and dry fish/meat baskets. In the remote settlements studied, almost every household employs rattan rope either for tying the wooden pole frame of the house and/or for tying the roof. The villagers also make rattan baskets and fish traps for household use. But the commercial use of rattan cane is very limited in this zone. The same is true for the border settlements of Sika Bile, Domeabra and Fawoman.

The picture is different in the on-road settlements studied. There is a marked variation between the two villages. Wassa Esaaman, the bigger of the two settlements, can best be described as a 'basket village'. Almost every household is involved in basketwork for income generation. There is, however, a sharp contrast between Wassa Esaaman and Aboaboso, the other village studied in this zone. Only a few households weave rattan baskets for domestic use in the latter settlement. As will become clear in Section 6, rattan plays a precise role in the livelihoods of certain household types and in certain settlements.

³⁴ This section draws largely from Obeng-Okrah 2002

6 Patterns of Rattan Household Consumption and Income in Ghanaian Study Settlements

6.1 Household Equipment and Utensils Made With Rattan

This section assesses the extent to which rattan is used to make household articles. It looks at how consumption patterns vary with settlement and household type.

6.1.1 Extent and Frequency of Use

The short rattan consumption and income questionnaire was administered to a total of 240 people in different households to identify who uses rattan products and for what purpose as well as to find out how the use of rattan is changing (see Section 2.2.5). Table 6.1 shows the distribution of the numbers involved in the survey from each zone.

Zone	No.
	Households
	Surveyed
Border	80
Remote	80
On road	80
Total	240

Table 0-1 Households Participating in Short Rattan Survey

Source: Short Rattan Consumption Survey 2001

One of the questions asked of short rattan survey respondents was whether they possessed any households items made with rattan cane. As Table 6.2 shows, in general, a higher proportion of individuals surveyed in remote and on-road settlements reported possessing items made with rattan compared to households surveyed in border settlements.

The reason for the difference between zones is not clear. It may be because, as our findings indicate (see Section 5.2.12), households in the border sample, tend overall, to be relatively wealthy compared to households in the other two settlement types. This, in turn, may lead to a higher degree of substitution of household items made with rattan for manufactured articles by households of border settlements studied compared to households in the other two settlement types. Alternatively, these differences may be cultural. Weaving may not be a significant handicraft amongst the Anyi people. Fish traps are more commonly used in the remote and border households sampled (Table 6-2), because, as explained in Section 5.2, rivers where fishing takes place are commonly found in these zones.

Rattan baskets are a particularly common article used for carrying farm and forest produce to the house and for storing items in the kitchen. Table 6-3 gives an indication of the average number of baskets owned per household. Households in on-road and remote samples possess an average of over three farm baskets each, whilst border households sampled possess less, on average over two farm baskets each.

The multi-round survey (see Section 2.2.4) also provided information on the frequency of use of household items. One of the first questions asked during this survey was whether there were household items (such as baskets, fishing traps, ladders etc. but not furniture such as chairs and cupboards) made with rattan that had been used frequently during the recall period (usually about three to fours months).

Table 6-4 below shows that, in general, rattan items appear to be used most frequently in remote and on-road settlements compared to border settlements. During the two year survey period, at least one household item made with rattan was recorded as being used in 90% or more of the visits made to households in remote and on-road settlements, compared to just under three quarters of the visits made to households in border settlements. The reason for the differences between zones is unclear, but it may, as mentioned, above be due to cultural and relative wealth differences between zones.

The principal items made with rattan, in terms of frequency of use, are baskets, fish traps and gari sieves. Fish traps are cited more frequently by respondents in remote and border settlements because, as pointed out earlier, fishing is a common activity in these zones. As discussed in Section 5.2, a high proportion of households are involved in the production of cassava to make gari in on-road and remote settlements. So it is not surprising that gari sieves are one of the most frequently used household articles made with rattan in these zones.

Zone	No. of	Farm	Kitchen	Gari	Fish	Cocoa drying	Clothes
	Responses	basket	basket	sieve	trap	mat	line
Border	69	54	14	3	51	18	0
	100%	78%	20%	4%	74%	26%	0%
Remote	79	79	26	21	39	10	21
	100%	100%	33%	27%	49%	13%	27%
On- road	77	83	16	10	4	1	7
	100%	100%	21%	13%	5%	1%	9%
Totals	225	221	56	34	94	29	28
Totals	100	98%	25%	15%	42%	13%	12%

Table 0-2 Equipment Made with Rattan Cited More Than Ten Times by Sample Households

Source: Short Rattan Consumption Survey, 2001

Table 0-3 Average No. of Frequently Used Rattan Items Per Household by Zone

	Average No. of Items Per Household								
Zone	Farm basket	Kitchen basket	Gari sieve	Fish trap	Cocoa drying mat				
Border	2.7	1.2	1.0	5.4	2.1				
Remote	3.5	1.3	1.3	6.9	1.9				
On- road	3.3	1.5	1.5	3.5	1.0				
Total	3.2	1.4	1.3	6.0	2.0				

Source: Multi-round Survey, 2001-2003

Zone	No. of Responses	Any rattan items? Y/N		
	1	No	Yes	
Border	390	107	283	
%	100%	27%	73%	
On- road	397	41	356	
%	100%	10%	90%	
Remote	394	22	372	
%	100%	6%	94%	
Totals	1181	170	1010	
Totals	100%	14%	86%	

Table 0-4 Frequency of Use of Rattan Items by Settlement Type

Source: Multi-round survey 2001-2003

Table 0-5 Frequency of Use of Most Commonly Used Household Items Made with Rattan,	, by
Settlement Type.	

Zone	Total No.	Basket	Cocoa Drying	Gari	Fish
	OI Desmonses		Mat	Sieve	Trap
	Responses				
Border	413	214	12	15	156
%	100%	52%	3%	4%	38%
On-	489	372	25	61	2
road					
%	100%	76%	5%	12%	0%
Remote	684	364	36	82	161
%	100%	53%	5%	12%	24%
Totals	1586	950	73	158	319
Totals	100%	60%	5%	10%	20%
/0	1				

Source: Multi-round survey 2001-2003

6.1.2 Rattan Usage - Differentiation by Household Type

Results of the multi-round survey indicate that, in general, there is little variation in the frequency of use of common household items made with rattan between households of different socio-economic groups.

6.1.3 Mode of Acquisition

Turning to look at how rattan items are acquired by different households, there are considerable differences between settlement types. A higher proportion of people in remote settlements tend to make households items made with rattan themselves, compared to more accessible on-road and border settlements. Over two-thirds of all rattan household items recorded in the short rattan survey were reportedly home-made in the remote settlement sampled compared to only about a half of all items cited in both on-road and border settlements (Table 6-6). These variations may be partly due to differences in wealth as well as market and resource access. With less financial resources available and relatively easy access to wild rattan, remote households are more likely to make their own rattan household items than households in the more accessible on-road and border settlements.

Zone	N	ŀ	How obtained?			
		Bought	Gift	Home-made		
Border	141	61	5	75		
	100%	43%	4%	53%		
Remote	215	56	7	152		
	100%	26%	3%	71%		
On-	128	71		57		
road						
	100%	55%	0%	45%		
Totals	484	188	12	284		
Totals	100%	39%	2%	59%		

Table 0-6 Mode of Acquisition of Most Commonly Used Household Items Made with Rattan

N = Total No. of Items Recorded

Source: Short Rattan Consumption Survey 2001

The majority of household items made with rattan and cited by respondents as being bought, were purchased locally either within the village concerned or in a neighbouring

village. In general, the main source of rattan for home-made rattan items in remote settlements was forest35, rather than farm fallow or farmland.

6.1.4 Seasonal Variations in Subsistence Use

One of the aims of this study was to assess seasonal variations in the use of rattan. Table 6-7 presents some of the findings from the multi-round survey on the seasonal variations in the subsistence use of the most frequently used household items made with rattan. For the purpose of this study, the rainy season in Ghana was defined as the period from April through to September, whilst the dry season was defined as the period from October through to March. In general, most equipment made with rattan is used more frequently during the dry season – a period of relatively intensive farming activity. Fish traps are also used relatively more frequently during the fishing season (August to October), when the rivers are less prone to flood.

Season	N	Baskets	Cocoa Drying	Fish	Fish	Gari
			Mat	Basket	Trap	Sieve
Rainy	626	367	6	32	144	62
%	39%	39%	8%	44%	45%	40%
Dry	960	583	67	40	175	93
%	61%	61%	92%	56%	55%	60%
Total	1586	950	73	72	319	155

Table 0-7 Seasonal Variations in the Use of Equipment Made with Rattan Cited Ten or More Times

N= Total No. of Items Recorded

Source: Multi-round survey 2001-2003

6.1.5 Characteristics of Rural Crafts People Involved in Rattan-Related Activities for Subsistence Use

Findings from the short rattan consumption survey (see Section 2.2.5), indicate that the majority (98%) of crafts people making rattan household items for subsistence use are male, about 40% of them are between the age of 30 to 39, the average age being 37.

Involvement in rattan-related activities for subsistence purposes varies by zone. In general, more individuals from the remote zone tend to be involved in making rattan items for subsistence purposes than in the other zones. These findings are reflected in the analysis of results of both the multi-round and short-rattan survey. Over 70% of remote settlement households included in the short rattan survey reported making their own

³⁵ Respondents did not distinguish between "high" forest or "secondary" forest

household rattan items compared to 31% and 40% of households from the border sample and on-road settlements respectively.

Table 6-8 below also shows that a higher proportion of households included in the multiround survey from the remote study settlements, cited being involved in rattan-related activities for subsistence and home consumption purposes compared to on-road and border settlements. This may well be because the inhabitants of remote settlement types still have relatively easy access to rattan in the forests surrounding their settlements compared to the inhabitants of the on-road and border settlements. In addition, remote settlements have more limited access to markets and are generally less wealthy and may therefore be more likely to make their own rattan items.

Common subsistence activities involving rattan include basket weaving and making fish traps. Activities grouped in the "other" column included making cocoa drying mats, fish baskets and gari sieves.

Zone	Basket weaving	Making Fish Traps	Other Items	Total No. of House- holds Citing Involve-	Total No. of Re- sponses	% of House- holds Citing Involve- ment in Subsistence
				ment in Subsistence Rattan		Rattan Activities
				Activities		
border	21	51	2	74	390	19%
%	28%	69%	3%	100%		
remote	76	58	27	161	394	41%
%	47%	36%	17%	100%		
on road	29	0	0	29	395	8%
%	100%	0%	0%	100%		

Table 0-8 Involvement in I	Rattan-Related Acti	ivities for Subsis	stence and Home	Consumption by 7	Zone
Table 0-0 Involvement in I	Natian-Instation I for	TVILLES IOT DUDSIS	and more and more	Consumption by a	Lonc

Source: Multi-round survey 2001-2003

There appear to be few differences relating to the subsistence use of rattan between households within the same zone. Of the households included in the multi-round survey, roughly equal proportions of households grouped as rich and poor cited involvement in rattan-related activities for subsistence purposes.

6.2 Characteristics of Rural Rattan Specialists and Their Enterprises

Detailed information on the characteristics of rural people specializing in rattan-related activities was collected through the administration of the long rattan survey (see Section 2.2.6). The questionnaire was administered once only to those households included in the household census survey and who are involved in rattan-related enterprises. In addition the questionnaire was administered to a few households in each zone containing specialists identified from the household census. A total of 130 specialists were interviewed, 25 from the remote zone, 96 from the on-road zone and 9 from the border zone. Socio-economic data was collected for 101 of these specialists. As made clear earlier, (see Section 5.5) one of the on-road settlements, Wassa Essaman has a high proportion of households specialising in rattan-related activities. This explains why far more long rattan survey respondents were from the on-road sample. Wassa Essaman was included in an earlier study of NTFPs (Falconer 1992). Falconer noted that the majority of men in this village at that time were engaged in basket weaving and this is still true today.

6.2.1 Types of Activities

In general, the majority of rattan specialists are involved in harvesting and transporting rattan cane or combine harvesting with basket weaving (see Table 6-9 below). However, over a third of rattan specialists interviewed from remote settlements are involved solely in harvesting and transporting cane, whilst many rattan specialists in on-road settlements appear to be involved solely in trading. Rattan cane harvesters included in the long rattan specialist survey mainly supply local markets with cane, rather than larger urban markets. Holbech (2000) suggests that the local trade maybe quite substantial. Raw cane is bought for house construction and repairs as well as for basket weaving.

The importance of harvesting rattan from the remote zone area to feed the urban markets is noted by Holbech (2000). He reports that rattan cane is commonly extracted from this area. It is then transported by timber trucks from the nearby Draw River Forest Reserve as well as from the JCM and GAP concessions in this area along feeder roads to Prestea, a major trading point, then onto the marketing centres of Kumasi. Takoradi and Accra.

Rattan harvesting by organised gangs of harvesters from outside the study area is also know to take place. Holbech notes that large-scale commercial cane harvesters operated in the area. According to Holbech (2000), these harvesters come from Takoradi, Kumasi and Accra. They operate in gangs of 15-20 men from supervised by a leader who pays their salaries and transport. They acquire permits from the Forestry Department to harvest within forest reserves and stool land. Unfortunately, little information on organised cane harvesters was collected during this study but this may be due to the fact that large-scale harvesting gangs have, according to Holbech (2000) largely ceased operating because of the low abundance of rattan both on and off-reserves.

Zone	No. of Responses*	Harvests /Transports	Transports Pattan	Harvests Battan and	Basket	Weaves	Sells Baskets
	Responses	Rattan	Kattall	Weaves	weaving	Baskets	Daskets
		Rattall		baskets		Duskets	
Border	10	0	0	2	8	0	0
	100%	0%	0%	17%	67%	0%	0%
Remote	34	7	7	3	15	1	1
	100%	18%	18%	8%	39%	3%	3%
On- road	129	5	0	18	66	12	28
	100%	4%	0%	14%	51%	9%	22%
Totals	173	12	7	21	81	13	29
Totals %	100%	7%	4%	13%	50%	7%	16%

* Some respondents were involved in more than one activity

6.2.2 Socio-Economic Characteristics of Specialists

The majority of rattan specialists interviewed in the settlements studied are male. However in the on-road sample nearly a fifth of all specialists interviewed in that zone are women (see Table 6-10).

Table 0-10 Gender of Rattan Specialists

		Gender of Rattan Specialist		
Zone	N	Female	Male	
Border	7	0	7	
	100%	0%	100%	
Remote	26	2	24	
	100%	8%	92%	
On- road	68	13	55	
	100%	19%	81%	
Totals	101	15	86	
Totals %	100%	15%	85%	

Source: Long Rattan Survey 2001

Analysis of the long rattan survey data indicates that the majority of women rattan specialists (9) are involved solely in selling baskets, the remaining six are involved in basket weaving. These results are consistent with Falconer (1992) who notes that most cane harvesters, basket weavers as well as furniture artisans are male, whilst women dominate the trade of raw cane and baskets.

Overall, the majority of rattan specialists (over a third of those interviewed) are between the ages of 30 to 39. But there are variations with zone, 50% of the rattan specialists interviewed in the remote zone were between the ages of 20 to 29, but this is thought largely due to the fact that the proportion of the population within this age group is relatively high in this zone for the population as a whole (see Section 5.2.11 on demography). Young boys in the on-road sample often weave baskets during the school holidays to earn money to pay for school fees and books (Falconer 1992).

The majority (65%) of rattan specialists interviewed have between six and ten years of education, but 20% have no received no formal education. These findings reflect the general trends of the sample population as a whole, as discussed in Section 5.3. Location does not appear to be an influencing factor, there was little variation in education levels between rattan specialists from different settlement types.

As would be expected, the education levels of rattan specialists varied between male and females involved but also with activity. In general, female rattan specialists involved in weaving baskets had received less education compared to male basket weavers, whilst women involved in selling baskets had, on the whole, received more education than women involved in basket weaving but less years of formal education than male basket weavers.

These results reflect the general situation described in Section 5.3, where women are generally less well-educated compared to men. Male rattan specialists involved in harvesting and transporting rattan tended to be less well-educated compared to those involved in weaving baskets, six out of ten harvesters had received five or less years of education compared to 21 out of 72 (29%) of basket weavers.

The extent to which education influences the type of rattan-related activity a person is involved in is not clear. On the whole, rattan-related activities do not require any formal education skills. But it does appear that people with lower education levels are involved in the more arduous and marginal activities such as harvesting and transporting cane.

The extent to which the migration status of an individual influences whether an individual is or is not engaged in rattan-related activities is also unclear. In general, the proportions of migrants and non-migrants rattan specialists included in the long rattan survey are similar to the proportions of migrants and non-migrants in the whole sample population. The same can be said for length of residence.

The exception to this general picture is found in the on-road settlements studied, where non-migrant males dominate rattan-related enterprises. A higher proportion of non-

migrants (62%) were involved in rattan-related activities in the on-road sample compared to the proportion of non-migrants in the sample population as a whole (31%) (Table 6-11). Falconer's (1992) research in Essaman also suggests that indigenous Wassa are more likely to be commercial weavers than immigrant farmers.

In contrast, most rattan specialists included in the long rattan survey from border settlements are in-migrants, but the sample size in this settlement is too small to make generalisations.

		Rattan Speciali	Rattan Specialists Mig'n Status		Mig'n Status of Adults, Sample Population		
Zone	Ν	IM	NM	IM	NM	RM	
Border	7	5	2	111	129	78	
	100%	71%	29%	35%	41%	25%	
Remote	25	20	5	231	7	24	
	100%	80%	20%	87%	300%	9%	
On-	62	24	38	468	87	66	
road							
	100%	39%	61%	45%	31%	23%	

 Table 0-11 Migration Status of Rattan Specialists, By Zone Compared to Sample Population as a

 Whole

Source: Long Rattan 2001 and Household Census 2000

The extent to which wealth is a factor influencing whether an individual is, or is not, involved in rattan enterprises is unclear. The proportions of rattan specialists from households grouped as poor and rich (see Section 2.1) are similar to the proportions of households grouped as poor and rich for the sample population as a whole.

6.2.3 Seasonality

Most rattan specialists are involved in rattan-related activities throughout the year. Some specialists were active only during the latter part of the year. This was particularly so for basket weavers, many of whom weave baskets during the latter part of the year – from around June to December, Figure 6-1 reflects this trend. A high proportion of those involved in rattan-related activities state there is a high season for their activity. The high season for harvesting rattan as well as weaving and selling baskets lies around July, August and September (See Figures 6-1 – 6-3).

The high season for rattan-related activities comes before the main crop harvesting season (September to December) and is most probably strongly linked to agricultural activity. The demand for baskets rises during the harvest season as baskets are used to transport cocoa and other products from the farm. Ebanyenle *et al* (1999) report that large quantities of rattan baskets are exported from Ghana's Western Region to

neighbouring Côte D'Ivoire from September to December each year, in time for the coffee harvesting season.

Around July and August there is also a lull in the labour demands for farming, so people can turn their attention to other activities. In summary, most rattan-related activities show seasonal highs which are caused by changes in demand and the availability of labour. These findings are similar to those of Townson (1995).

Figure 0-1 High Season/Activity Period for Rattan Harvesting (% of harvesters citing there is a high season/activity period N=15)



Source: Long Rattan Survey 2001

Figure 0-2 High Seasons/Activity Period for Basket Weaving (% of Basket Weavers Citing there is a high season/activity period N=63)



Source: Long Rattan Survey 2001

Figure 0-3 High Season/Activity Period for Selling Baskets (% of Basket Sellers Citing there is a high season/activity period N=14)



Source: Long Rattan Survey 2001

6.2 4 Labour

The majority of rattan specialists (68%) are single-person enterprises, 32% of rattan specialists said there is another person in the household involved in a rattan-related activity, a high proportion of these households are in the on-road sample. Most rattan specialists (88%) said they did not employ anyone. Of the 15 specialists who said they employed workers all employ them temporarily. Three were rattan harvesters in remote settlements who employ two to four male workers for two weeks to a month at a time to harvest rattan and transport bundles. The remaining 11 specialists who employed workers are basket weavers from the on-road sample who employ between one and four people intermittently during the peak season from a couple of days to three months to peel and split the cane and/or assist them to weave baskets.

6.2.5 Capital and Skills

A high proportion of rattan specialists interviewed stated that their motivation for starting their activity was their need for money. Overall, 45% of specialists interviewed said this was their reason, but responses varied between the different zones (Table 6-12). A higher proportion of specialists from remote and border settlements cited the need for money as the main reason compared to respondents in on-road settlements. Nearly a quarter of respondents in on-road settlements cited "good market" (meaning high demand) as a reason for becoming involved. The majority of those responding in this way were basket weavers.

Zone	N	Need for Money	Family and Friends	Need for Money/ Family and Friends	Good Market	Good Market/ Need for Money	Other
border	9	6	1	0	0	1	1
	100%	67%	11%	0%	0%	11%	11%
remote	24	14	1	8	0	1	
	100%	58%	4%	33%	0%	4%	0%
on-road	96	38	10	22	12	9	5
	100%	40%	10%	23%	13%	9%	5%
Totals	129	58	12	30	12	11	6
Totals	100%	45%	9%	23%	9%	9%	5%

Table 0-12 Motivations for Starting Activity, By Zone

Source: Long Rattan Survey 2001

Roughly a third of those interviewed said they became involved through observation or simply by starting from scratch, a third said they had become involved through

apprenticeship or training at school, whilst a third said they became involved through family and friends. The latter reason was cited more frequently by on-road settlements where rattan basketry is an activity passed down through different generations.

Rural rattan specialists require relatively little in the way of capital investment to establish their enterprises and most of them weave from home. None of those interviewed during the long rattan survey said they needed specialist equipment. This finding reflects the fact that the specialists interviewed were involved in harvesting cane and/or weaving and selling baskets. Such activities require few tools. To summarise, rattan enterprises do not require large human, physical or financial investments. They are characterised as "easy access and low barriers to entry" (Arnold and Townson 1998). Rattan-related enterprises may therefore be a viable option for relatively poor rural households with lower human capital skills and fewer labour and financial assets. Both rural and urban demand for both rattan cane and baskets appears to be quite strong (Falconer 1992; Holbech 2000).

6.2.6 Raw Material Supplies

Over three-quarters of all rattan specialists interviewed during the long rattan survey gather at least part of the rattan cane they use themselves. There were slight variations between zones, a slightly higher proportion of specialists in the on-road settlement sample said they buy some of the rattan they use, compared to specialists in remote and border settlements.

The majority of rattan specialists (95%) who harvested their own rattan cane said their most important source of rattan cane was forest, rather than fallow or farm land (no distinction was made between "high" forest or secondary forest). There was little variation between zones. Overall, reserved forest was the most important source of rattan for those specialists who harvested at least some of the rattan they used (Table 6-13 below). But the importance of reserved compared to off-reserve forest as a source of rattan varied by zone. Reserved forest was especially important for specialists from on-road settlements compared to the other settlement types. This is thought to be largely because the amount of off-reserve forest around on-road settlements is now limited because much of the forests have been cleared to make way for farms. Townson (1995) also notes that both reserved and off-reserve forests are of particular importance as a source of rattan cane for entrepreneurs in Ghana's wet evergreen zone (i.e. the southwest corner of the Western Region).

Table 0-13 Most Important Source of Raw Materials

Zone	No. of Respondents Who Harvested Rattan Themselves	Reserved forest	Off-reserve forest
border	8	7	5
	100%	88%	63%
remote	25	16	21
	100%	64%	84%
on-road	79	79	32
	100%	100%	41%
Totals	112	102	58
Totals	100%	91%	52%

Most (87%) of the specialists interviewed said the availability of rattan cane has decreased over the last five years (Table 6-14 below). Falconer's (1992) study also found that villagers in the Western Region complained that rattan cane is becoming more difficult to find.

Table 0-14 Rattan Cane Availability, By Zone

Zone	No. of Respondents	Don't know	Less available	More available	No change
border	8	2	5	0	1
	100%	25%	63%	0%	13%
remote	25	3	20	1	1
	100%	12%	80%	4%	4%
on-road	83	3	76	0	4
	100%	4%	92%	0%	5%
Totals	116	8	101	1	6
Totals	100%	7%	87%	1%	5%

Source: Long Rattan Survey 2001

Of those specialists who said that rattan cane is now less available, the principal reasons that they gave for this decline is outside people and or in-migrants using more rattan cane (35% of specialists), local people using more (24%) and agricultural clearance (21%), see Table 6-15. Other reasons included destructive practices by local people and outsiders, logging operations, forest guards preventing people using the resource and trappers intentionally damaging rattan to stop people from destroying traps.

Zone	No. of Responses	Clearance for agriculture	Settlers/ outsiders using destructive practices	Forest guards restricting access	Local people using destructive practices	Logging Operations	Local people using more	Outsider using more	Trappers
border	14	5	0	4	0	1	0	4	0
	100%	36%	0%	29%	0%	7%	0%	29%	0%
remote	62	17	11	0	9	1	3	21	0
	100%	27%	18%	0%	15%	2%	5%	34%	0%
on- road	174	30	8	1	8	7	57	62	1
	100%	17%	5%	1%	5%	4%	33%	36%	1%
Totals	250	52	19	5	17	9	60	87	1
Totals	100%	21%	8%	2%	7%	4%	24%	35%	0%

Table 0-15 Reasons for Reduced Availability of Rattan, By Zone

Source: Long Rattan Survey.

It is unclear whether the term "outsiders" is used by respondents to refer to settlers and/or outside harvesting gangs. The proportion of respondents giving different reasons varied with settlement type. Over a third of respondents from the remote settlements said that destructive harvesting practices, by both local people and outsiders, was a reason for reduced availability compared to 10% of respondents in on-road settlements. A high proportion (69%) of respondents from on-road settlements said that less rattan was available now because people were using more of the resource.

During the long rattan survey, specialists who said there was less rattan available compared to five years ago were also asked to suggest ways to increase supplies. The majority (75%) of respondents to this question suggested that deliberately planting rattan would help to increase supplies. This particular response may have been common because the social research officer carrying out the interviews was also involved in cultivation trials with some farmers.

Other suggestions included a periodic ban on harvesting rattan to increase stocks, adherence to a permit system and longer harvesting cycles. Respondents were also asked to suggest ways to maintain supplies. About a third of the respondents (50 out of the 138

responses) suggested that selective harvesting of mature rattan canes would help to maintain supplies. Other ways to maintain supplies included cutting the cane at least five centimetres from soil level and pulling the cane first before cutting to see if it would come down easily, if there appeared to be resistance the respondents suggested that the cane should not be cut.

6.2.7 Markets and Marketing

Markets and marketing channels vary by settlement type and by the type of product being sold. Rattan specialists interviewed were asked to name their most important customer. Roughly half of the basket weavers interviewed from remote and on-road settlements said they sold their baskets locally, the other half said they sold them to outside traders. Falconer (1992) reports that most basket weavers from Essaman sell their baskets to outside traders from Takoradi and Sekondi who regularly come to the village. These traders often pay for baskets in advance.

Those from remote settlements involved in harvesting and transporting cane sold both to local weavers and to outside traders. The majority of respondents involved in harvesting rattan sold it locally to those involved in basket weaving.

Holbech (2000) provides information on the trade routes for rattan cane from both remote and border zone area. He notes that rattan is commonly harvested from the area around the Draw River Forest Reserve (near the remote settlements) and the Mpeasem-Tanie area. In the latter case, the Tano River is used to transport the rattan to Fawoman (one of the border zone settlements). The cane is then transported by road to Elubo and Jewi Wharf. Rattan cane from the Western Region is transported to wholesale markets in Prestea Kumasi, Takoradi and Accra (Holbech 2000). This report does not cover the urban rattan artisan markets. For information on urban rattan artisan markets in southern Ghana see is Obeng Okrah (2002) and Falconer (1992).
6 2 8 Enterprise Problems³⁶

As Table 6-16 indicates, the most commonly cited problems relate to government regulations relating to access to wild rattan, the high costs of transporting of raw rattan and rattan products as well as problems associated with supply of raw rattan cane.

Zone	No. of Responses	Corr- uption	Finance	Government Regulation	Labour	Markets	No problem	Supply of	Tools	Tran- sport
								Rattan		
border	14	0	0	3	0	2	1	6	0	2
	100%	0%	0%	21%	0%	14%	7%	43%	0%	14%
remote	46	1	0	10	1	3	7	12	4	8
	100%	2%	0%	22%	2%	7%	15%	26%	9%	17%
on-road	227	2	9	79	2	9	5	65	1	55
	100%	1%	4%	35%	1%	4%	2%	29%	0%	24%
Totals	287	3	9	92	3	14	13	83	5	65
Totals %	100%	1%	3%	32%	1%	5%	5%	29%	2%	23%

Source: Long Rattan Survey

Conflicts of interest occur between communities and the Forestry Services Division (FSD) over the collection of NTFPs, particularly over the collection of rattan. The FSD insists on the issue of permits to individuals or groups for the collection of rattan. This, according to FSD officials, is to control the collection rate, generate income for both the FSD and the respective District Assembly/stool land and also to prevent the illegal collection of rattan in forest reserves. Rattan harvesters and basket traders complained of harassment by forestry officials. In Wassa Esaaman, basket traders complained of 'over tax' and unnecessary payments they make to both police and forestry officials on their way to market centres. Sometimes their goods are seized when they refuse to pay the "excessive tax" demanded by forestry officials at checkpoints particularly at Daboase, the district capital. Rattan harvesters in the remote zone also talked about un-official payments they make to both the forest guards (in the forest) and the police (on their way to market the rattan).

Discussions with individuals, groups and some opinion leaders show that, generally, people do not see the 'wisdom' and need to make payment for permit to collect something that God, through nature, has given to them. One elderly person argued:

³⁶ Drawn largely from Obeng Okrah 2002

"My son, tell me, tell me, do the people along the coast obtain permit from the government before they go fishing? They don't. They just get up, take their nets, jump into their canoe and off they go. Why then should we go for permit to enter our own forest that our forefather fought and protected for us?"

6.3 Rattan as a Source of Income

6.3.1 Importance of Income from Rattan-related Activities

Rattan-related activities, especially harvesting rattan and basket weaving, make a significant contribution to rural incomes in the study area, particularly to households in the on-road sample. Analysis of multi-round survey data indicate that a high proportion (87%) of rattan-related activities cited by on-road households included in the survey are carried out directly for generating income, rather than for subsistence purposes. (Table 6-17).

Zone	No. of Responses	Income?	Y/N
		No	Yes
Border	101	74	27
	100%	73%	27%
Remote	280	161	119
	100%	58%	43%
On-road	246	32	214
	100%	13%	87%
Totals	627	265	360
Totals %	100%	43%	57%

Table 0-17 Importance of Rattan-Related Activities for Income Generation by Settlement Type

Source: Multi-round survey 2001-2003

Basket weaving was cited as one of the top five income sources in 29% of on-road multiround survey responses. Of these responses 17% and 34% ranked basket weaving as their first and second most important source of income respectively. Falconer (1992) points out that in villages such as Essaman, weavers said that earnings from basket weaving are invested in cocoa farming to pay for labour and other inputs.

Basket weaving was also a significant source of income for some households in the remote sample. Thirteen percent of remote multi-round survey responses cited basket

weaving as an income source and 10% of these responses ranked basket weaving their most important source of income.

Harvesting raw rattan is a significant source of income for some households in the remote sample. It was cited as an income source by 10% of remote responses. Of these responses, 34% ranked harvesting rattan as the most important income source.

For this survey, little information was collected on the quantities of rattan cane and baskets traded by households but it is thought to be quite substantial. Holbech (2000) estimates that raw cane and baskets are two of the most important NTFP marketed from the nearby Ankasa Protected Area. He estimates that between 55 and 65 tonnes of rattan cane, valued at between \$26,400 and \$31,200 are traded annually from around the Ankana area.

Rattan specialists interviewed as part of the long rattan questionnaire were asked whether they considered their rattan work as their main source of income, 123 out of 130 respondents (95%) said yes.

In general, and in relation to the most important income sources, such as cocoa, rattan does not contribute significantly to overall income for the inhabitants of the settlements studied. However, for specific settlements and households, rattan-related activities, particularly harvesting rattan and basket weaving, may generate significant amounts of cash particularly at times when other sources of income, such as farming, are not forthcoming.

To summarise, rattan-related enterprises are a major economic activity in particular settlements, such as Wassa Essaman; generally provide limited income to rural households. But for some poor rural households, with lower human capital skills, limited labour assets and financial resources, harvesting rattan and basket weaving may provide a very significant proportion of overall income.

6.4 Changes in Rattan-related Consumption and Income Patterns

6.4.1 Changes in the Patterns of Consumption

Overall, there appears to be a greater tendency to replace items made with rattan cane with those made with other materials, than *vice versa*. Over half of all respondents in the short rattan survey reported that they had replaced an item previously made with rattan cane with one made from another material (Table 6-18). A relatively low proportion of respondents (18 respondents out of 240 or 7%) said they had replaced items previously made with material other than rattan with items made with rattan.

		Past item	S
		replaced	Y/N
Zone	No. of	No	Yes
	Responses		
Border	86	32	54
	100%	37%	63%
Remote	84	35	49
	100%	42%	58%
On-	89	47	42
road			
	100%	53%	47%
Total	259	114	145
Total	100%	44%	56%
%			

Table 0-18 Households Replacing Rattan Items, by Settlement Type

Source: Short Rattan Survey, 2001

The most commonly cited replaced items made with rattan by short rattan survey respondents were relatively low value items such as cane rope for clothes lines and cocoa mats (accounting for 23% and 35% of items replaced) being replaced by synthetic rope as well as cocoa drying mats (18% of all citations) being replaced by plastic sheeting. The majority of respondents replacing cocoa drying mats were from remote settlements (Table 6-19).

Zone	No. of Responses	Farm basket	Fish trap	Cocoa drying	Cane rope for	Chair	Clothes line	Rope for
	Ĩ		1	mat	construction			cocoa mat
Border	54	12	0	1	3	2	1	35
	100%	22%	0%	2%	6%	4%	2%	65%
Remote	49	3	2	25	3	0	12	4
	100%	6%	4%	51%	6%	0%	24%	8%
On- road	42	5	0	0	0	3	20	12
	100%	12%	0%	0%	0%	7%	48%	29%
Total	145	20	2	26	6	5	33	51
Total%	100%	14%	1%	18%	4%	3%	23%	35%

Table 0-19 Rattan Items Commonly Cited as Being Replaced, by Settlement Type (Items Cit	ed by 5
or more Households)	

Source: Short Rattan Consumption Survey 2001

The most commonly offered reason for replacing rattan items was that the alternative was more durable (Table 6-20). Holbech (2000) also notes that nylon rope is more durable and stronger than cane rope but that it is also more expensive. The second and third most frequently cited reasons for replacing a rattan item related to lack of availability due to shortage of raw materials and that alternatives were more readily available. A higher proportion of respondents from border and on-road settlements gave the reason of shortage of raw materials compared to remote settlements. This is most probably because access to wild rattan is more limited in the cases of border and on-road settlements.

Zone	No. of Responses	Alternative items cost less/original item more expensive	Shortage of raw materials	Rattan item not durable/alternative more durable	Alternative more comfortable/ easier to carry	Alternative more easily available
Denter	52	1	16	22	1	12
Border	53	1	16	22	1	12
	100%	2%	30%	42%	2%	23%
Remote	49	1	1	29		17
	100%	2%	2%	59%	0%	35%
On- road	42	1	15	18	2	3
	100%	2%	36%	43%	5%	7%
Total	144	3	32	69	3	32
Total %	100%	2%	22%	48%	2%	22%

Table 0-20 Reasons For Replacing Rattan Items, By Zone

Source: Short Rattan Consumption Survey 2001

In summary, the rural demand for rattan cane and rattan baskets is strong. Rattan is used relatively frequently in everyday life for house construction and repairs and to produce relatively low value items such as baskets. There is a trend towards replacing some items made with rattan, such as clothes lines, with more durable items, such as nylon rope. But this study has not found that baskets made with rattan are being replaced in the way that is occurring in the Nigerian and Cameroonian study areas (see Sections 8 and 4 respectively). This study made no attempt to look at the urban demand for rattan and rattan products, for details on this see Falconer (1992).

6.4.2 Dynamics of Rattan-related Enterprises

Respondents included in the long rattan survey were asked whether the volume of their business changed over the last five years³⁷. Out of the 130 respondents, 11 said their business had expanded, 99 said their business had decreased and 18 said they had seen no change. All those who said their business had expanded were involved in basket weaving. Those who said their business had decreased were involved in harvesting and transporting rattan, selling baskets as well as basket weaving.

Specialists were also asked about their perceptions of change in the number of competitors involved in their work over the last five years. The majority of those interviewed (101) said that the number of competitors had decreased, 21 said there had been an increase and four said there had been no change. Of those who said there had been an increase, most said this was because there were more local people and outsiders involved.

Respondents included in the long rattan survey were also asked whether, given the opportunity, they would choose to expand their rattan business or start another business. The majority of respondents (80%) said they would choose to expand their business, 12% said they would choose to start a new business. The fact that the majority of the respondents said they would choose to expand their business may indicate that profit margins are relatively attractive compared to other potential options available.

Information on people ceasing to participate in rattan-related activities was collected through the short rattan survey. Sixty-nine out of 240 respondents (29%) said that a household member had been involved in rattan work in the past but was no longer involved. The main reason cited for giving up cited by 20% of respondents was a result of better options becoming available to them. A further 13% said they gave up because of the scarcity of raw rattan. Other reasons for giving up cited were "no time" (8% of respondents) and government regulations relating to permit regulations of the Forestry Department (8% of respondents).

In summary, it is difficult to tell from these results whether rural rattan related enterprises are growing, declining or remaining the same. However other studies (Holbech 2000, and Falconer 1992) indicate that the rural demand for rattan cane and rattan baskets is growing. Table 6-21 below summaries the main characteristics of different income-generating activities by settlement type.

³⁷ Townson (1995) points out responses to this type of question must be treated with caution as people may feel that this information might be used for tax assessment purposes.

Settlement Type	Enterprise Type	Type of Individual	Size of Enterprise	Ease of Entry	Significance of Income	Potential for Expansion
Remote/Border and Roadside Settlements	Weaving baskets and cocoa mats	Usually male	Usually one-person enterprise, part-time or full-time	Easy, requires little inputs and skill	May provide significant contribution, particularly for men in on-road settlements	Currently good, as there is a high demand for baskets
Remote/ on- road/border	Harvesting by individuals	Young men – middle- aged unskilled, little formal education, often new in-migrants.	One person, part-time, seasonal	Easy, requires little inputs	May provide small amounts of seasonal/intermittent income used to fill gap before farm starts producing cocoa and other crops.	Moderate, as wild supplies of rattan, particularly in more accessible areas, are dwindling, but demand for raw cane appears to be growing.
Remote/Border	Harvesting gangs supply to urban markets	Usually young males overseen by dealer, often people from outside the area	More than five in organised group, provides seasonal employment	High, requires capital to pay workers and means of transport	Large income for dealers, relatively small amounts of seasonal income for harvesters	Low, as wild supplies of rattan are dwindling.

 Table 0-21 Characteristics of Rattan Income-generating Activities by Settlement Type

7. Rural Settlements and Households Studied in Cross River State, Nigeria

7.1 Background

With a population of over 110 million, Nigeria is the most populous country in Africa. It is also arguably the wealthiest country in Africa, largely because of its huge natural gas and petroleum resources. Despite this, the weak system of governance and stark socio-economic inequalities reflect the fact that the elite tend to profit most from oil revenue.

Over the last 20 years, Nigeria's economy has been decline. Per capita income has declined from US \$1,000 in 1965 to US\$300 in 1998. There is now significant rural poverty and increasing peri-urban poverty.

Once a net exporter of food, Nigeria must now import food. Increasing population densities in many areas of the country are leading to pressure on farm and forest land that is, in turn, leading to conflict over land and natural resources. Land tenure disputes are increasing, as people who have lived most of their lives in the cities are returning to rural areas where they were born.

Other types of conflict, including ethnic and religious conflicts, are common in Nigeria. During the late 1990s and early part of this century, Nigeria was involved in an international conflict with Cameroon over the petroleum-rich Bakassi Peninsula, located on the south-eastern boundary of Cross River State. In 2002, this land was awarded to Cameroon by the International Court of Justice.

Since 1999, Nigeria has had a democratic government. This transition to civil democracy has come after many years of military dictatorship. Nigeria, in terms of political administration and governance, is a Federal Republic State. Nigeria's large population has led to significant decentralisation of government. At the centre, representing the highest level, is the Federal Government, while the administrative structure closest to the communities are the Local Government Areas. The recent creation of new States and Local Government Areas may, it can be argued, be seen as a way of creating new opportunities for elite capture of oil revenue at State and Local Government levels.

The informal marketing sector is very strong and dynamic, however government intervention in marketing has mostly been unsuccessful and, because of this, much energy has gone into the importation of manufactured goods, rather than the development of Nigerian manufacturing businesses. Civil insecurity, in the form of armed robbery and banditry has had a significant negative impact on markets and marketing.

7.2 The Region

Cross River State is one of the 36 States of Nigeria. The State has the highest percentage of tropical humid forest left in Nigeria. The forest resource base of the State cuts across four ecozones: mangrove in the south; swamp forest, humid forest and derived savannah woodland in the north. This forest zone covers a total of area of 21,265 square kilometres. Of this, the humid forest (including the Cross River National Park) covers 7,290 km²; mangrove 480 km²; plantation 460 km²; other forest 216 km² and other land uses 12,299 km² (LENF 1998). The State is divided into 14 Local Government Areas (LGAs), each with an elected assembly.

7.2.1 Socio-economic Context

7.2.1.1 Ethnicity

The population of Cross River State is ethnically diverse and complex. Ethnic groups within the State include the Quas, Efik, Efut and Ejagham in the south and the Ejagham, Boki, Biase, Yakurr, Mbembe, Agbo and Etung in the north. These different ethnic groups dominate in different LGAs. Boki LGA, where the on-road study settlement of Abontakon and the border study settlements of Danare I and II are located, is dominated by people from the Boki ethnic group. Ikom LGA, where the remote study settlements of Old and New Ekuri are located, is dominated by Ejagham and Etung ethnic groups.

Much evidence suggests that many of these ethnic groupings are of recent origin. They were created during the colonial period by groups of villages sharing a common language in attempts to leverage government support. For example the Boki ethnic group is thought to have been formed in this way in response to British colonial rule in the late 1940s (Balogun 1994). Many ethnic groups in the region are comprised of clans. Clans are normally made up of people from several villages who claim a common ancestor. The clan structure plays an important role in mediating conflicts between villages belonging to the same clan, particularly in relation to land.

7.2.1.2 Social Organisation

Each village has a village head and a village council. The village head is often the oldest elder. But this situation is changing, since a major role of the village head is to represent community interests in the LGA's council of Traditional Rulers. These councils advise LGA authorities on how government funds should be disbursed between communities.

The village council is the decision-making body, usually made up of the elders' council, men's council, women's council and youths' council. Council decisions are usually reached by consensus. Village councils have the important role of allocating farm land. Issues concerning women are usually dealt with by the women's council.

Traditionally, the village population is divided into age-grades comprised of people born during the same years. Members of the same age-grade have strong affiliations with each other and will assist fellow members in times of need. In pre-colonial times, traditional regulatory societies, such as *Ekpe*, played an important judicial, mediating and social role in villages in Cross River State (Simmons 1956; Jones 1956). *Ekpe* also played a fundamental role in the development of trade networks from the coast into the hinterland through its control over credit and indebtedness (Latham 1973; Malleson 2000). The influence of traditional societies, such as *Ekpe*, was greatly weakened during colonial times, but in some villages, these societies continue to play an influential role.

More recently, village youth (males aged from about 18 to 40) and elites (relatively welleducated, wealthy, often urban-based indigenes) have become increasingly influential politically. As pointed out earlier, village *youth* often have representatives on village councils. In some villages in Cross River State, decisions need to be ratified by the youth organisation (Balogun 1994).

Elites are increasingly influencing politics and development both at the village and regional level. Dunn and Otu (1996) describe how an elite from Old Ekuri played a pivotal role in the construction of a road to the village and the formation, management and control of a co-operative to facilitate the harvesting and marketing of forest products. The management of this co-operative consults with the village councils of Old and New Ekuri over the use of profits derived from cooperative activities. As Balogun (1994) points out, this represents a shift in control away from one social category to another within the community. In addition to their village-based role, elites often act as brokers through which communities interact with the wider region.

7.2.1.3 Indigenes and Strangers

The local term, indigenes, is used to describe the autochthonous people of the area. Migrants or non-indigenes are commonly referred to as strangers. Strangers from the Ibibio, Hausa/Fulani, Yoruba and Ibo ethnic groups play a significant role in the economy of Cross River State. In Akpabuyo, Odukpani and Akamkpa LGAs it is estimated that over sixty percent of farmers are strangers (Balogun 1994). Many of these strangers are rent agricultural land from indigenes or are employed as farm labourers. Aniah and Ekpoh (1994, quoted in Balogun 1994) report that the main reasons for in-migration into Akampkpa, Boki and Ikom LGAs are agricultural land availability and business, trade and employment opportunities. These migrants are largely coming from areas of relatively high population density, where there is only limited land available for agricultural expansion. As Section 7.2.1.4 on land tenure shows, most strangers rent land from indigenes. Income from rents is a significant source of income for some indigenes.

In recent years, conflicts between strangers farming and harvesting forest products within village land and indigenes in southern LGAs of Cross River State have become more common (see Balogun 1994 for examples of such conflicts). But such conflicts are relatively uncommon in northern LGAs, where the study settlements are located.

7.2.1.4 Land tenure

In Nigeria, customary law is practised alongside modern state law³⁸. According to customary law, vacant land and forest resources within community lands that surround each settlement belong to the community, under the custodianship of the community council.

Rights of use to farmland are claimed by indigenes either by clearing new areas of forested community land or through inheritance. In general, every indigene has a right to cultivate as much communal land as she or he wants. However, a person has no right to lease or sell family land without the consent of the family head. Nobody else can cultivate land, once it has been cleared, without the permission of the person who originally cleared it. Land that is no longer being used by an individual reverts to the community. Outright sale of land is prohibited.

While indigenes acquire land in their village by clearing the forest on it, this right does not apply to all land owned by the community. In communities with large areas of land, where their traditions are still intact, the community council recognises three categories of village land.

Firstly, land close to the village (often within 2-5 km). This is land that has already been cleared and is farmed regularly on a cyclical basis (using the bush fallow system) with clear ownership according to which individual felled the trees and cultivated crops on that land. The community tends to regard land ownership in the area as permanent and the land will be re-awarded to another individual by the village council only in extreme cases (where the land has not been farmed for several decades). Land that is inherited or cleared by indigenes gives them exclusive informal rights to the land and the use of standing trees on their farms. Customary law also permits them to plant perennial crops such as cocoa on their land. Owners often strengthen their claim to this land by planting tree crops. Generally only indigenes can own land which is gained via inheritance or clearance of community land.

Secondly, land further away from the village (5-10 km). This land is often a mosaic of secondary forest with farmland in various stages of regeneration. In many cases, some of the land in this area remains unclaimed by individuals. When individuals approach the village council for new plots of farmland, land is allocated from this area. The farmland here must be in use (as above) and may be more readily re-allocated to others if it is not being used regularly within the fallow cycle.

³⁸ This section is largely drawn from African Rattan Research Programme Briefing Note No.2.

Thirdly, there is community land which is forested land found at distances that may be over 10 km from the village. The majority of Community Forest is grouped under this type of land. This land will only be awarded by the village council to indigenes for farming in exceptional circumstances.

For land in the first two categories, both men and women have these usufruct rights to land. But the status of women limits their capacity to own land. Wives often have to work on their husbands' farm as well as their own. However, women who have the economic power and energy to clear land themselves are able to do so without constraint. Widows and adult female family members inherit land from their husbands and natal family respectively.

While this seems straightforward, conflicts among family members over inherited family land are in practice quite frequent. Distribution of inherited land is rarely equitable and it is common for the first son of the family to have relatively greater access to land than the rest of his siblings. Some people avoid such conflicts by clearing as much land as they need themselves, rather than relying on inherited land.

In more easily accessible settlements, where land is becoming scarce, instances of "land grabbing" (where people are clearing as much land as they can in order to claim ownership of it) are common. Some communities are now changing land tenure regulations to control "land grabbing". For example, some communities are allocating newly cleared community land to indigenes on a temporary basis only. Indigenes are not allowed to plant trees on this communally held land. The land is allowed to revert back to forest once the individual's agreed farming period is over and the land remains in the ownership of the community. The disadvantage with this type of regulation is that it does not encourage long-term investment in the farmland. Other communities are responding to "land grabbing" by allocating indigenes a pre-determined amount of uncleared forest (Balogun 1994).

Strangers, mainly from neighbouring Akwa Ibom, Anambra, Abia and Ebonyi States) are usually excluded from the above customary land use rights. In general, strangers are only allowed to rent land from individuals or the community. Three types of tenancy arrangements are common in the study zones. Firstly, strangers may clear forested land owned by the community, they then may pay rents to the community council for as long as they cultivate the land. Secondly, strangers may rent farm or fallow land that has already be cultivated from individuals on an annual basis. Thirdly, strangers may enter into a sharecropping³⁹ arrangement that is known locally as "work and divide", where the landowner gives out a cocoa farm to a tenant. Both landlord and tenant provide inputs, but the former provides relatively more inputs. After harvesting, the proceeds or profits made are shared on a ratio of 6:1:3, where 60% of the profit belongs to the landowner, 10% is shared equally between the two parties for cost of inputs and 30% goes to the

³⁹ Hill (1986: 180) defines share-cropping as "a form of renting…such that the tenant retains only a portion of the crop and the landlord provides some inputs additional to land".

tenant. The "work and divide" arrangement is more common in more accessible settlements where cocoa farming is more prevalent.

For strangers, renting land is usually dependent on building good relations with the village or by joining an age grade or by marriage (Balogun 1994). There are certain circumstances were strangers may gain permanent access to land. Strangers may gain access to land through marriage or permanent relationships with partners who are indigenes. A male stranger who is married to a female indigene may be given a portion of family or community land to cultivate by the woman's family or the community. However, on termination of the marriage or departure of the man from the village, the land reverts to the family or community. If the man has children and they reside in the community, the land is passed on to them. A female stranger married to a male indigene has access to land via her husband. The children inherit the land when their father dies (Living Earth 1988).

Although, according to customary law, land cannot be sold, in peri-urban or roadside villages, where land is becoming increasingly scarce and customary laws are no longer strictly enforced, increasing numbers of strangers have established more formally documented land titles to plots (i.e. buying land from the community without any government involvement). This situation is virtually absent in more remote communities such as Old and New Ekuri.

Under customary law, trees that are planted are considered the property of the person who planted them. Indigenes are allowed to establish perennial tree crop plantations on both inherited and newly cleared land. Tree planting in south-eastern Nigeria tends to strengthen the security of rights to land (Francis 1987). It is therefore not surprising that *strangers* are not usually allowed to plant or own tree crops on land leased to them.

In 1978, the Federal Government of Nigeria enacted Land Use Decree No 6 of 1978. It was decided that henceforth, all land in the country would be held in trust by the State government on behalf of and for the benefit of the people. The Decree vests all land in each State (except land vested in the Federal Government or its agencies) solely in the State Governor who holds such land in trust for the people and is responsible for allocation of land in urban areas. Similar powers are conferred to the Local Government Area Land Allocation Advisory Committee with respect to non-urban areas. It was decided that the rights of the members of a community to use land and enjoy its benefits should be ensured, protected and preserved by the state or local government as the case may be.

In a radio broadcast to the nation on March 29th 1978, the Head of State assured Nigerian farmers and rural dwellers that they would continue to be able to use land for agricultural, pastoral and residential purposes without any hindrance. They were also assured that their land would be protected from unfair appropriation by dubious and unreasonable individuals or organizations. Although the State can acquire agricultural land for public use, it must allocate the former user alternative land. The effectiveness of this decree within the rural areas is yet to be determined. In theory, the land belongs to the

government but in practice it is still held according to customary land tenure arrangements.

Under Nigerian State law, all land without a title deed or permanent improvements (normally buildings), is considered to be part of the national domain or 'State land' under control of the State governments (not the Federal government unless in the Federal Capital Territory). According to Nigerian law, all forest resources belong to the State except those planted by local councils or private individuals. However in practice, in most cases local people do not recognise that forested land within the village territory (except forests within forest reserve boundaries or national park boundaries) as State land. Farmland and forest resources continue to be informally allocated by village councils according to customary principles.

Current legislation allows any Nigerian to acquire land anywhere within the national territory, even if s/he is not an indigene of the area, provided it is state owned land outside of protected areas. To secure legal ownership of land, a person must apply for a state land certificate or title deed. This is a lengthy and costly procedure that may involve bribery and corruption. As a result, it is generally the elite – richer, better educated and politically influential people – who are in a position to secure legal title to land. Where title deeds are awarded to individuals, there is always a risk that they may take over land 'customarily' owned by the poor. This situation could lead to land-use conflicts and weakens security of tenure particularly for relatively poor people.

As stated above, current legislation is rarely applied, particularly with regard to any land that is considered to belong to a community under the custodianship of a village council (which applies to all land in Nigeria outside of protected areas). Wherever it is applied (and this is becoming more frequent), government officials mindful of the possible conflicts between customary law and state law, often insist that the prospective title deed buyer provide written proof of consent from the traditional village authorities, before awarding the title deed. However this is tacit recognition of customary law outside of current Nigerian law. Many people in Nigeria are now calling for reform of land tenure laws to avoid potential conflict.

Whilst national forest policy is set at federal level, each State has its own forest legislation, implemented by State Forest Departments (Dunn and Otu 1996). The Forestry Department is responsible for the monitoring of harvesting and the levying of tariffs on commercially extracted forest products (Dunn and Otu 1996).

Forest land within National Parks is directly under federal control. All forest land outside National Parks is controlled by State legislation and is divided into two main categories. Firstly, Forest Reserve, which is controlled by the state forest departments. Secondly "Protected Forest" which comprises all non-reserved forests, including community forests.

Extensive conversion of forest reserve land to agricultural land in Cross River State appears to have taken place without government agreement (Dunn *et al* 1994). Access to

Forest Reserves is sometimes informally allocated by village authorities in exchange for gifts and payments to the village head (Alexander and Effa 1994). Currently, much land which officially lies within Forest Reserves in the State is being rented to strangers. As Balogun (1994) points out, the possible de-reservation and allocation of these cultivated areas within Forest Reserves to strangers who are currently cultivating them may lead *indigenes* to encroach into remaining Forest Reserves to pre-empt strangers claiming the land.

Rattan harvesting and transportation is controlled by the 1999 Forest Law in Nigeria, permits are required to harvest cane for commercial purposes (more than two bundles of a maximum length of 4m) in forest reserves and on community land (Sunderland 2001; Morakinyo 1994). The tariff for collection of rattan on community land is split between the community controlling the land and the State government (FORMECU 1993 quoted in Morakinyo 1994). Nigerian communities whose boundaries fall within forest reserves have some rights of access and rights to certain forest products. They have rights to royalties on NTFPs such as rattan. A licence must be bought from the state Forestry Department for the commercial collection of rattan. A portion of the revenue goes to the local community as their royalty (Morakinyo 1994).

7.2.1.5 Rural livelihoods

In general, agriculture is the dominant source of income for rural people in Cross River State. Atte (1994) suggests that agriculture provides 60-90 percent of employment, 80 to 95 percent of the food eaten and 40 to 90 percent of cash income in Cross River State. The importance of different crops varies across the State. In the north, yam is a major cash crop, whilst in the south, cassava, banana, plantains and cocoa are important. As will become clear later in this report, the importance of farming as a source of cash income largely depends on market access. Relatively remote settlements with poor market access tend to rely more heavily on forest products, such as bushmeat, *bush mango* (*Irvingia* spp.), *salad* (*Gnetum* spp), *hot leaves* (*Piper umbellatum* and *P. guineense*) used as cooking ingredients, and *randia* (*Massularia acuminata*), used as a chewing stick, as income earners. Other sources of income for a minority of households include fishing, particularly in southeastern parts of the State, small scale timber extraction, and trading.

7.3. General Description of Study Settlements ⁴⁰

7.3.1 On-road Study Settlement: Abontakon

Abontakon represents our on-road study settlement sample (see Figure 7-1). It is located in Boki LGA along the tarred, but pot-holed, Ikom – Obudu road, about 29km from Ikom. Abontakon is known locally as Biakwan. It is said that when the first "white man" arrived in that area, he asked the first person he saw the name of the village. The man replied, "Abontakon", meaning "children of Takon", as his name was Takon. Thereafter it has been officially referred to as Abontakon, when in fact the correct name is Biakwan.

Biakwan means "the children of bees". It is said that there is a big beehive in the community's sacred grove, or shrine forest as it is commonly called. In the past, whenever an enemy community came to war with the people of Biakwan, rituals were performed to invoke the bees to swarm, attack the enemy and sting them to death. However, if there happened to be an innocent party among the group, he or she was left unhurt. The bee is regarded as sacred in the land of Abontakon.

The main language spoken is Boki. The majority of the inhabitants of villages in Boki LGA share one common language, norms, belief and culture. They also have one major festival called the New Yam Festival. This festival is celebrated on 18th August every year throughout the land of Boki. In addition to indigenes there are also a significant proportion of strangers from surrounding states living in Abontakon (Section 7.3.4).

The major source of drinking water in Abontakon is from the streams during the dry season and also rainwater during the rainy season. However, water is very scarce especially at the times when there has been a long dry season. Most streams dry out during these times and villagers rely on water from the ground for drinking. Some inhabitants buy water packaged in plastic bags from the nearest town of Ikom. Toilet facilities are lacking. The open system of human waste disposal is practiced.

A primary school was established by the missionaries but is now administered by the government. There is no secondary school in Abontakon and children have to travel some distance to the villages of either Bashua or Orimekpang to attend school. There is no hospital or health centre in the village but there are several functioning patent medicine stores. However, a health centre is currently under construction.

Majority of the people in Abontakon are Christians, although African traditional religion is still practiced. The village has many different churches namely the Catholic Church, the Anointed Church of God, Assemblies of God, Deeper Life Bible Church and Solid Rock.

⁴⁰ This section is drawn largely from Ukpe 2002



ARRP Research Communities Cross River State Nigeria

Figure 7-1 Study Settlements, All Zones, Nigeria

Abontakon is one of the project sites of Living Earth Nigeria Foundation (LENF), a nongovernment organization that supports community development through community participation and environmental education. In Cross River State, LENF aims to develop sustainable forest management through community participation and environmental education. A Forest Management Committee also exists and a forest guard resides in the community. The Family Support Programme, during the regime of the late head of State General Sani Abacha, donated a gari-processing unit to the women of the community.

Land around Biakwan is mainly used for farming and building. Land use has changed over time as cocoa plantations, interplanted with banana and plantains, have replaced forested areas. According to LENF (1998) there is no 'virgin' forest left around Abontakon because of farming and timber exploitation. Afi Forest Reserve is located near Abontakon.

7.3.2 Border Study Settlements: Danare I and Danare II⁴¹

Danare I and II are situated on Nigeria's eastern border with Cameroon in Boki LGA (see Figure 7-1). Danare I is located at the end of the Bashua - Biajua - Danare road. A logging company in the past had graded this laterite road. It is passable year round. The other road is the Bashua – Amumba - Danare road that leads directly to Danare II. The Danare I – Bashua road is used year round, although during the rainy season the road is almost impassable. The Danare II – Biajua road is usually in good condition during the dry season. But it is impassable during the rainy season because of a river that rises very high during the rainy season. The road is hilly and very slippery and there is a collapsed bridge across the stream.

Danare I and II are bounded by Bodam in Cameroon, to the east (3km), by Bashua to the west (16km) and to the north by Abo Bonabe. The two Danare villages are about a kilometre apart. They were originally one village. The original Danare village was located between Danare I and II, where the primary school currently is.

Indigenous members of the two communities are said to have common ancestors, known as Bwan Bessong Boki (Bessong Boki's children), along with the settlement of Biajua (also known as Abonorok) and four Cameroonian villages of Bodam, Boka, Badjie and Dadi. It is said that Bessong Boki asked six of his sons to build settlements around his own village of Danare as a form of defence against enemy villages (Schmidt-Soltau et al 2001). These settlements have a common culture and traditional shrine (Bapong shrine). Since these seven villages are so close, conflicts between them over land are common. Boundary disputes between Danare I and II over forested land are common.

All indigenes of Abontakon, Danare I and II consider themselves as belonging to the Boki ethnic group and speak Boki language. In addition to *indigenes*, there are also a

⁴¹ Danare I is otherwise known as Danare Kabe and Danare II is otherwise known as Danare Ogar Ndey.

significant proportion of strangers from surrounding states living in Danare I and II (see Section 7.4.3).

As with most ethnic groups in this region, the Boki ethnic group is comprised of a number of clans. The indigenes of Danare I and II are members of the Abo Clan, along with other neighbouring villages.

Danare II is the only village out of the five villages surveyed that has a secondary school. This school was built by the community and is solely run by the community. There are currently eight teaching staff in the school.

7.3.3 Remote Study Settlements: Old Ekuri and New Ekuri

Located in Akamkpa LGA (see Figure 7-1), these settlements are accessible by a laterite road, built by the communities, from the Calabar – Ikom highway in 1989⁴². During the rainy season the road becomes impassable for most vehicles. The vast majority of the inhabitants of Old and New Ekuri are indigenes.

The people of Old and New Ekuri belong to the Ekuri ethnic group (known by them as Nkukole (Dunn and Otu 1996). A further three settlements belong to this ethnic group, these are Okokori, Edondon and Ekuri Eyeying. They belong to the same ancestral stock and share a common forest. Nkukole (Ekuri) people belong to the larger ethnic group of Ekoi.

The Ekuri villages lie within the 'support zone'⁴³ of Cross River National Park (Dunn and Otu 1996). They have received assistance to manage the Ekuri forest on a sustainable basis, under the Ekuri Community Forest Management Initiative from World Wide Fund for Nature, the DFID-funded Cross River State Forestry Project, the Cross River State Forestry Department and the Ford Foundation⁴⁴.

Old and New Ekuri share a primary school which is managed by the government. There is also a healthcare centre but this has not yet been completed. There is currently no tapped water or mains electricity to these settlements.

These settlements are relatively remote from local markets especially during the rainy season. The Ekuri Initiative, an NGO formed by members of the community to manage forest resources around the two settlements, controls the exploitation of forest resources, particularly timber.

In the past, the Old and New Ekuri had no motorable road. Several logging companies offered to construct the Ekuri road in exchange for logging rights. But the communities

⁴² See Dunn and Otu 1996 for an interesting account of how this was road constructed.

⁴³ This 'support zone' is not a legally classified area. It was planned to provide rural development assistance to the zone's inhabitants to compensate them for their restricted access to the Cross River National Park and to encourage them to support park protection (Dunn and Otu 1996).

⁴⁴ See Dunn and Otu, 1996 for an account of the development of this Initiative.

opted to construct the road themselves in order to sustain the rights to their land and manage their forest resources. They succeeded in opening up the road and constructed bridges. The Ekuri Initiative co-operative controls all timber and forest products in the community forest in accordance with existing government guidelines on sustainable forest management with the help of the Ekuri Initiative. Proceeds from the sale of timber and other forest products are used for village development activities.

Marketing of forest and farm product is difficult because of the poor roads. A four-wheel drive vehicle takes market wares at a fee of N500.00 per person on Wednesdays and Saturdays to the nearby Ochon market.

7.3.4 Demographic Changes

Table 7-1 provides a breakdown of the socio-demographic characteristics of households by settlement and settlement type. It is clear from this table that Abontakon is the largest of all the settlements studied. Danare II is also relatively large compared to Danare I, and New Ekuri is relatively large compared to Old Ekuri.

Table 7-2 and Figure 7-1 provide break-downs of the populations of sample households in the three study zones. Figure 7-1 clearly shows that all the study zones have relatively balanced sex ratios. But population age structures are greatly skewed with the majority of the population are still not adult.

Figure 7-2 summarises information on the geographical origin of adults sampled for the different study zones. It shows the remote settlements studied have relatively few resident adults who originate from outside Cross River State compared to the on-road settlement of Abontakon and the border settlements, Danare I and II. Around 40% of all adults in Nigeria's on-road sample originate from outside Cross River State, 27% originate from Ebonyi and Imo States, whilst 13% originate from Akwa Ibom State. A about a quarter of all adults sampled in Danare I and II originate from Akwa Ibom, Imo and Ebonyi States.

These contrasts in ethnic make-up between zones are largely due to differences in market access. Abontakon and, to a lesser extent, Danare I and II, have relatively good market access and are relatively economically dynamic compared to the relatively inaccessible Ekuri settlements. Strangers from surrounding settlements and States have been attracted to Abontakon and Danare I and II to take up farming and trading. Farmland in surrounding States is relatively difficult to acquire compared to Cross River State because the population densities in the former are much higher. The rural population density of Akwa Ibom State is approximately four times higher than that of Cross River State (Balogun 1994).

Zone	Settlement Name	Total # H'holds Sampled	Total No. of People Sampled	1	2	3	4	5	6	>6	Mean H'Hold Size	Total No. of H'holds	Est. Total Pop'n
Border	Danare 1	27	141	4	1	4	3	1	4	10	5.2	78	406
				15%	4%	15%	11%	4%	15%	37%			
	Danare 2	74	359	17	6	8	3	9	7	24	4.9	220	1078
				23%	8%	11%	4%	12%	9%	32%			
Remote	New Ekuri	63	323	7	8	3	11	6	10	18	5.1	180	918
				11%	13%	5%	17%	10%	16%	29%			
	Old Ekuri	33	218	4		4	2	4	3	16	6.6	85	561
				12%	0%	12%	6%	12%	9%	48%			
On- road	Abontakon	101	449	19	7	11	13	18	16	16	4.4	358	1575
				19%	7%	11%	13%	18%	16%	16%			

Table 7-1 Socio-Demographic Characteristics of Households by Settlement and Zone

No. of People in Household

Source: Household Census 2000

Zone	Total Pop.	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
	1					10 to		20 to		30 to		40 to		50 to		60 to			
				0 to 9	0 to 9	19	10 to 19	29	20 to 29	39	30 to 39	49	40 to 49	59	50 to 59	69	60 to 69	70 +	70 +

Border	501	239	262	56	70	71	74	50	49	19	28	18	17	15	11	3	10	7	3
	100%	48%	52%	11%	14%	14%	15%	10%	10%	4%	6%	4%	3%	3%	2%	1%	2%	1%	1%
Remote	542	270	272	84	88	64	48	44	59	29	31	19	23	18	14	7	4	5	5
	100%	50%	50%	15%	16%	12%	9%	8%	11%	5%	6%	4%	4%	3%	3%	1%	1%	1%	1%
On-																			
road	448	233	215	81	69	57	45	28	42	28	24	23	13	6	8	7	10	3	4
	100%	52%	48%	18%	15%	13%	10%	6%	9%	6%	5%	5%	3%	1%	2%	2%	2%	1%	1%
	1491	742	749	221	227	192	167	122	150	76	83	60	53	39	33	17	24	15	12
	100%	50%	50%	15%	15%	13%	11%	8%	10%	5%	6%	4%	4%	3%	2%	1%	2%	1%	1%





On-Road Sample Households Demographic Pyramid (in % N=448)

Remote Sample Households Demographic Pyramid (in % N=542)







Figure 7-3 Geographical Origins of Sample Adults by Zone

Geographical Origins of Danare Adults Border Settlements, Nigeria



Geographical Origins of Ekuri Adults Off-Road Settlements, Nigeria



Household census survey questions elicited information about where people spent their childhood and place of previous residence⁴⁵. Table 7-3 provides some information about the movement of adults (people over the age of 14 years) from sample households. Border and on-road zone settlements have a relatively high proportion (over 20%) inmigrants compared to the remote settlement sample.

Country	Zone	Total No. of Respondents	Non- migrants	Return migrants	In- migrants	Temporary residents
Nigeria	Border	299	209	26	62	2
		100%	70%	9%	21%	1%
	Remote	301	268	18	15	0
		100%	89%	6%	5%	0%
	On- road	245	131	41	69	4
		100%	53%	17%	28%	2%
Total Nig	geria	845	608	85	146	6
% Total	Nigeria	100%	72%	10%	17%	1%

Table 7-3 Migration Status of Adults Sampled by Zone

Source: Household Census, 2000

Populations in all three of Nigeria's study zones are relatively stable. Over half of all adults residing in these zones have been there for over 20 years or more. Nigeria's on-road sample has the highest proportion of short-term residents (Table 7-4). Here, 18% of the adults sampled said they had lived in the settlement they currently live in for less than five years. Most of these are strangers from neighbouring LGAs and states who have come here to take up farming opportunities. The majority of adults sampled in Nigeria's off-road and border settlements were born in the settlement they currently live in and had resided there since birth.

⁴⁵ Respondents who were born at their current place of residence, or in one of the other settlements sampled within that zone who have never stayed away for a year or more are grouped as non-migrants. People who were born at their current place of residence, or in one of the other settlements sampled within that zone but who moved out and lived outside their localities for a year or more are classified as return-migrants. Respondents who were not born in their current place of residence or in one of the other settlements sampled within that zone are grouped as in-migrants.

Zone	Ν	Temporary resident*	2 months to 1 year	2 to 4 years	5 to 9 years	10 to 14 years	15 years & over	Arrived Before 15 yrs old	Born Here	Non- respondents
Border	303	4	7	22	21	7	15	1	223	3
	100%	1%	2%	7%	7%	2%	5%	0%	74%	1%
Off-road	304	1	0	5	1	2	8	5	278	4
	100%	0%	0%	2%	0%	1%	3%	2%	91%	1%
On-road	248	4	14	26	24	3	11	0	163	3
	100%	2%	6%	10%	10%	1%	4%	0%	66%	1%
TOTALS	855	9	21	53	46	12	34	6	664	10
	100%	1%	2%	6%	5%	1%	4%	1%	78%	1%

Table 7-4 Length of Residence, All Adults, Sample Households, Nigeria, By Zone

Source: Household Census, 2000

7.3.5 Household Wealth and Assets

Table 7-5 summarises some of the basic features of households sampled in the Nigerian study zones. A comparison of asset indicators (see Section 2.3) in this table highlights the relative poverty of off-road settlements, compared to on-road and border settlements. For example, only 2% of households in remote settlements are made from wooden planks or bricks and a relatively low proportion of households in these settlements have metal sheet roofs.

The home ownership figures in Table 7-5 reveal that a higher proportion of households rent their homes in on-road settlements. Over three-quarters of households rent homes in Nigeria's on-road sample.

Household Characteristic/ Zone	Sample Size	Brick/Plank Houses (%)	Metal sheet roofs (%)	Pit latrines* (%)	Own homes (%)	Own farmland (%)
Remote	96	2	57	8	53	86
Border	101	52	83	13	50	83
On-road	100	80	90	8	24	72

Table 7-5 Household Characteristics by Settlement Type

Source: Household Census

* Figures for pit latrines are a little misleading, as these figures are for private pit latrines. Most households in on-road settlements in these countries have access to communal pit latrines.

An overall wealth index was developed along the lines of that used by George Koppert (2002). See Section 2.3 for the weighting system and the calculation used to obtain the index. Table 7-6 gives the wealth index for the Nigerian study sites. As would be expected, remote settlements appear to be the poorest settlement type, they have the lowest index. Both the more accessible on-road and border settlement types are relatively wealthy compared to the remote settlements.

Zone	Wall	Roof	Floor	House hold items ⁴⁶	Toilet	Electricity	Own house	Adult Ed.	Child Ed.	Index	Ν
Border	2.27	0.83	0.76	3.63	0.26	0.08	0.53	2.22	0.34	10.91	101
Remote	0.05	0.57	0.01	3.69	0.17	0.01	0.50	1.86	0.24	7.10	96
On- road	2.86	0.89	0.82	4.46	0.16	0.03	0.24	2.19	0.21	11.86	101

Table 7-6 Wealth Index by Settlement Type, Nigeria

Source: Household Census 2000

Table 7-7 highlights educational attainment of adults (over the age of 14 years) in sample households. Differences between zones are quite marked. A fifth of all adults sampled in Old and New Ekuri received no formal education, compared to 12% and 11% in border and on-road settlements respectively. These contrasts reflect differences in access to schools in the different areas.

Table 7-7 Years of Education, All Adults Sampled by Zone

Country	Zone	Ν	No Formal Education	1-5 yrs	6-10 yrs	<10 yrs	Non Respondents
Nigeria	Border	302	35	20	172	72	3
		100%	12%	7%	57%	24%	1%
	Remote	303	62	18	155	65	3
		100%	20%	6%	51%	21%	1%
	On-road	245	26	14	132	72	1
		100%	11%	6%	54%	29%	0%

⁴⁶ In the household census, respondents were asked whether they owned specific household items, such as a radio, upholstered sofa etc. Households were then allocated a score depending on the items they owned.

Total Nigeria	850	123	52	459	209	7
Total Nigeria (%)	100%	14%	6%	54%	25%	1%

Source: Household Census 2000

7.4 Household and Individual Differentiation

7.4.1 Defining Wealth and Poverty

Tables 7-8 - 7-10 summarise the criteria used by participants in the wealth ranking exercise (see Section 2.2.2) to group households into different wealth categories.

Examination of the criteria used by participants in the wealth ranking exercise points to the importance of agriculture production as a source of wealth. Land, wives and children, who supply the majority of farm labour were also identified as wealth. The ability to feed and educate children was also an important criterion in assessing wealth.

The criteria used by participants in the wealth ranking exercise were similar to those stated by villagers participating in the wealth ranking exercises described by Balogun (1994).

7.4.2 Male and Female Headed Households

Roughly a quarter of households are headed by women in the more accessible on-road and border settlements. This section looks at the contrasting demographic characteristics of male-headed and female-headed households. As will become clear, differences in household characteristics affect total available labour resources, which in turn, influence household livelihood strategies.

Table 7-11 provides data collected from the household census which shows some of the contrasting characteristics of male- and female-headed households. There is a general tendency for male household heads to be younger than female household heads, on average. Figures in Table 7-11 reveal that male-headed households in border and on-road settlements tend to have lower dependency ratios⁴⁷ than female-headed households. These figures indicate that female-headed households in these settlements tend to have relatively more dependents and relatively less household labour available to them compared to male-headed households. Table 7-11 also reveals that about a third of male-headed households in the more accessible settlements studied have no dependents. Many of these are young, single men living on their own who are farmers. Some are migrant farm labourers in on-road settlements.

⁴⁷ Defined as the number of people of 0-14 years and 60 and above divided, by the population 15-59 years.

Table 7-8 Wealth Ranking for Nigeria's On-Road Zone Settlement: Abontakon

Source: Fieldwork 2000 (Ukpe 2002)

 Table 7-9 Wealth Ranking for Nigeria's Border Zone Settlements: Danare I and II

Rich	Medium	Poorest			
(Only one man in the community)	These are of two levels – those that	• Live "from hand to mouth"			
• Has 11 children that are graduates	own land / farms and those who rent farmland	• Mostly labourers who do odd			
Has landed property at Ikom	• Always pay their community	jobs			
• Has an oil palm farm	levies				
• Has a milling machine	• Dress well				
	• Do not borrow much money, and				
	when they borrow can easily pay				
	back				

Source: Fieldwork 2000 (Ukpe 2002)

Rich	Medium	Poorest
Own large farms	Own small to medium-sized	• Farm labourers, widows,
• Own large houses with zinc roofs and	cocoa farms	elderly single men and
cement block walls	• Involved in petty trading	women, handicapped people
• Own relatively large cocoa plantations	Send children to school	• Live in mud and thatch
• Wage earners (school teachers) and	• Live in mud and thatch houses	houses
business men and women.		• Farm very small areas of land,
		generally not involved in
		perennial crops

Table 7-10 Wealth Ranking for Nigeria's Off-Road Zone Settlements: Old and New Ekuri

Source: Fieldwork 2000 (Ukpe 2002)

Zone	Gender of H'Hold Head	N (Total No. of HH sampled)	% of all HH	Av. Age of HH Head	Mean Dep. Ratio	% HH with no dependents	Mean HH Size
Border	Female	28	28%	49	1.1	29%	4.6
	Male	73	72%	43	0.7	34%	5.1
Total Bor	der	101	100%		0.8		5.0
On-road	Female	25	25%	49	1.3	8%	3.7
	Male	76	75%	41	1.0	30%	4.7
Total On-	road	101	100%		1.1		
Remote	Female	14	15%	46	1.0	36%	3.6
	Male	96	85%	43	1.0	14%	6.0
Total Ren	note		100%		1.0		5.6
Total	Female	67	22%		1.1	22%	4.1
	Male	231	78%		0.9	26%	5.3
Total All	Zones	298	100%		1.0	26%	5.0

Table 7-11 Household Characteristics by Zone & Gender of Household Head

Source: Household Census 2000

Table 7-12 provides information on how household size varies with gender of household head. This table reinforces the results of Table 7-11 above, it is clear that a high proportion (roughly a quarter) of male-headed households in border and on-road settlements consist of one-person and two-person households. Female-headed households, in general consist of more than two people, however in remote settlements over a third of female-headed households are small, consisting of either one or two people only. Most of these households are headed by women over the age of 50 with no dependents.

		No. of			No	People in	HH		
Zone	Sex	sampled	1	2	3	4	5	6	>6
Border	Female	28	4	4	2	4	3	4	7
		100%	14%	14%	7%	14%	11%	14%	25%
	Male	73	17	3	10	2	7	7	27
		100%	23%	4%	14%	3%	10%	10%	37%
Total Border		101	21	7	12	6	10	11	34
Total Border %		100%	21%	7%	12%	6%	10%	11%	34%
Remote	Female	14	3	2	2	4	0	1	2
		100%	21%	14%	14%	29%	0%	7%	14%
	Male	82	8	6	5	9	10	12	32
		100%	10%	7%	6%	11%	12%	15%	39%
Total Remote		96	11	8	7	13	10	13	34
Total Remote %		100%	11%	8%	7%	14%	10%	14%	35%
On-road	Female	25	2	2	10	3	6	1	1
		100%	8%	8%	40%	12%	24%	4%	4%
	Male	76	17	5	1	11	12	15	15
		100%	22%	7%	1%	14%	16%	20%	20%
Total On-road		101	19	7	11	14	18	16	16
Total On-road %		100%	19%	7%	11%	14%	18%	16%	16%
Total All Zones		298	51	22	30	33	38	40	84
Total %		100%	17%	7%	10%	11%	13%	13%	28%
Source: House	hold Cens	sus 2000							

Table 7-12 Household Size, By Zone and Gender of Household Head
Turning to differences in wealth with gender of household head, data collected for the household census survey and wealth ranking exercises were used to group households into "rich" and "poor" (see Section 2.3). In general, a higher proportion of female-headed households fall into the poor household category than male-headed households. Table 7-13 illustrates these findings. Differences are greatest in the remote settlements sampled where 90% of female-headed households are ranked as poor compared to only 50% of male-headed households. Differences in wealth between male and female-headed households in more accessible border and on-road settlements are less noteworthy.

Zone	Gender of H'Hold Head	Ν	Poor	Rich
Border	Female	28	14	14
		100%	50%	50%
	Male	73	29	44
		100%	40%	60%
Border T	otal	101	43	58
Border T	otal %	100%	43%	57%
Remote	Female	14	13	1
		100%	93%	7%
	Male	82	40	42
		100%	49%	51%
Remote T	otal	96	53	43
Remote 7	otal %	100%	55%	45%
On-road	Female	25	10	15
		100%	40%	60%
	Male	76	23	53
		100%	30%	70%
On-road	Total	101	33	68
On-road	Total %	100%	33%	67%
Total All	Zones	298	129	169
Total All	Zones %	100.00%	43%	57%

Table 7-13 Wealth Categories by Gender of Household Head and Settlement Type

Source: Household Census 2000

Considerable differences in levels of education exist between male and female household heads, as shown in Table 7-14. In general, male heads tend to be better-educated than female heads. These differences are greatest in remote and border settlements where over half (57%) of all female heads have no formal education compared to 12% and 8% of male heads respectively and reflect the more limited access to education facilities in these settlements. Table 7-14 also reveals that much higher proportions of male heads have attained middle or higher education levels than female heads in all zones. Generally, elderly female and male heads have spent fewer years in formal education compared to younger heads.

In summary, female-headed households tend to be less wealthy and have less household labour available to them than male-headed households. Furthermore, female household heads tend to be less well educated. As will become clear in Section 7.6, with lower human capital skills and fewer labour assets, female-head households have relatively limited livelihood options compared to male-headed households.

Zone	Gender of H'Head	No. of HH Sampled	0	1 to 4 years	5 to 8 years	9 years or more	Non- Repondents
Border	Female	28	16	0	8	2	2
		100%	57%	0%	29%	7%	7%
	Male	73	6	11	30	26	0
		100%	8%	15%	41%	36%	0%
Border Total		101	22	11	38	28	2
Border T	otal %	100%	22%	11%	38%	28%	2%
Remote	Female	14	8	0	6	0	0
		100%	57%	0%	43%	0%	0%
	Male	82	10	4	37	30	1
		100%	12%	5%	45%	37%	1%
Remote Total		96	18	4	43	30	1

Table 7-14 Years of Formal Education by Zone and Gender of Household Head

Years of Formal Education

Remote Total %		100%	19%	4%	45%	31%	1%
On-road	Female	25	12	3	5	5	0
		100%	48%	12%	20%	20%	0%
	Male	76	4	2	29	39	2
		100%	5%	3%	38%	51%	3%
On-roadT	otal	101	16	5	34	44	2
On-road T	Total %	100%	16%	5%	34%	44%	2%
Total All	Zones	298	56	20	115	102	5
Total All	Zones %	100%	19%	7%	39%	34%	2%

Source: Household Census 2000

7.4.3 Households Headed by Indigenes and Strangers

This section compares the differences between households headed by indigenes and strangers. As Section 7.2.1.3 makes clear, the majority of households headed by migrants are found in the more accessible on-road settlement, Abontakon. Discussions in this Section will therefore focus on this zone.

Table 7-15 summarises some of socio-demographic differences between non-migrant, migrant and return-migrant households in the on-road settlement studied⁴⁸. In general, migrant households tend to be smaller in size compared to non-migrant households. Nearly a third (30%) of all migrant households consist of one person compared to 17 % of non-migrant households.

Analysis of household census data indicates that stranger heads tend to be generally younger than indigene heads. The average age of stranger household heads sampled in Abontakon is 36, compared to 47 for indigene household heads. This difference may partly explain why stranger headed households tend to have lower dependency ratios than households headed by indigenes.

⁴⁸ Respondents who were born at their current place of residence, or in one of the other settlements sampled within that zone who have never stayed away for a year or more are grouped as non-migrants. People who were born at their current place of residence, or in one of the other settlements sampled within that zone but who moved out and lived outside their localities for a year or more are classified as return-migrants. Respondents who were not born in their current place of residence or in one of the other settlements sampled within that zone are grouped as in-migrants.

Migration Status of	No. of H'holds	No People in Household						Mean HH	Mean Den	H'Holds with no	
H'Hold Head	Sampled	1	2	3	4	5	6	>6	Size	Ratio	deps
In-Migrant	27	8	1	4	3	6	3	2	3.6	0.8	10
	100%	30%	4%	15%	11%	22%	11%	7%			37%
Non- migrant	52	9	2	7	6	11	6	11	4.8	1.2	9
	100%	17%	4%	13%	12%	21%	12%	21%			17%
Return	20	2	4	0	3	1	7	3	4.7	1.0	5
migrant	100%	10%	20%	0%	15%	5%	35%	15%			25%
Settlement Totals	101	19	7	11	14	18	16	16	4.4	1.1	25
Totals	100%	19%	7%	11%	14%	18%	16%	16%			25%

Table 7-15 Household Characteristics By Migration Status of Household Head, Abontakon (On-road Study Settlement)

Source: Household Census 2000

There appears to be little differences in education levels between migrant and nonmigrant heads. However, differences in wealth between indigene and stranger headed households appear to be quite striking. As Table 7-16 reveals, a much higher proportion of households headed by strangers tend to be grouped as poor (see Section 2.3 for details on how households were grouped as rich and poor) compared to households headed by indigenes. Over two-thirds of households headed by strangers were grouped as poor, compared to only 19% of households headed by indigenes. These figures reflect differences in ownership of farmland, homes, and household assets as will become clear in the following Section.

Migration Status of H'Hold Head	No. of Households Sampled	Poor	Rich
Stranger	27	18	9
	100%	67%	33%
Indigene	52	10	42
	100%	19%	81%
Return migrant	20	4	16
	100%	20%	80%
Totals	101	33	68
Totals %	100%	33%	67%

Table 7-16 Wealth Categories by Migration Status of Household Head, Abontakon, On-road Settlement

7.5 Household Assets and Wealth

7.5.1 Household Differences in Land Ownership

In the remote settlements sampled, where land is still plentiful, the majority of households, both female and male-headed households, as well as households headed by both young and elderly, people "own" land. In general, obtaining land for farming or building does not involve any formal procedures.

In the border and on-road settlements studied, the proportion of households owning farmland varies with age, ethnic origin and wealth. In general, a higher proportion of households headed by men and women over the age of 29 own land compared to households headed by people younger than 29 years or less. Many households headed by younger people are farming land owned by their parents which they will inherit when their parents die.

Table 7-17 reflects the contrasts in land ownership between households headed by indigenes and strangers. It is clear from this table that the majority of indigenes own the land they farm in all zones. Contrasts are greatest in the on-road settlement studied, where over three-quarters of stranger-headed households do not own the land they farm. Most of these households are farmers from neighbouring States who rent land from indigenes. As pointed out in Section 7.2.1.4, most strangers are not allowed to own land; they must rent it. However, just over half of the stranger-headed households in the border settlements studied own the land they farm. Information was not collected during formal surveys on how land was acquired, but these strangers most probably acquired the farmland they now own through marriage with an indigene or possibly by purchasing it

from indigenes. Strangers in the on-road study settlement of Abontakon may be less able to purchase land because land tends to be relatively expensive in more accessible settlements as it becomes scarcer. In addition, land may be increasingly less accessible to strangers in Abontakon because of recent local changes in land tenure regulations that tighten access to land (see Section 7.2.1.4).

Zone	Status of	Total No. of Respondents	Ownership of Farmland			
	Household Head		Does Not Own Land	Owns Land		
Border	Strangers	15	7	8		
		100%	47%	53%		
	Indigenes	78	2	76		
		100%	3%	97%		
Border 7	Fotals	93	9	84		
Border 7	Fotals %	100%	10%	90%		
Remote	Strangers	5	2	3		
		100%	40%	60%		
	Indigenes	87	5	82		
		100%	6%	94%		
Remote '	Totals	92	7	85		
Remote	% Totals	100%	8%	92%		
On- road	Strangers	25	19	6		
		100%	76%	24%		
	Indigenes	70	4	66		
		100%	6%	94%		
On-road	Totals	95	23	72		

Table 7-17 Ownership of Farmland by Indigenes and Strangers

On-road % Totals	100%	25%	75%				
Total All Zones	281	40	241				
Total All Zones %	100%	14%	86%				
Source: Household Census 2000							

Table 7-18 gives an indication of how ownership of farmland varies with wealth. In general, a higher proportion of households grouped as "poor" (see Section 2.3 for an explanation of how households were grouped as "rich" and "poor") do not own the land they farm compared to households grouped as "rich". Differences in land ownership patterns are greatest in the on-road settlement studied, where over half of all households grouped as "poor" do not own the land they farm, whilst over 90% of households grouped as "rich" do own the land they farm.

Table 7-18 Land Ownership by Wealth Group

			Ownership of Fa	rmland
Zone	Rich/poor	Total No. of Respondents	Do Not Own Land	Own Land
Border	Poor	35	5	30
		100%	14%	86%
	Rich	58	4	54
		100%	7%	93%
Border T	otals	93	9	84
Border T	otals %	100%	10%	90%
Off- road	Poor	51	6	45
		100%	12%	88%
	Rich	41	1	40
		100%	2%	98%
Off-road	Totals	92	7	85
Off-road	% Totals	100%	8%	92%
On-road	Poor	30	18	12
		100%	60%	40%
	Rich	66	6	60
		100%	9%	91%
On-road	Totals	96	24	72
On-road	% Totals	100%	25%	75%
Total All	Zones	281	40	241

Total All Zones % 100%

14%

86%

Source: Household Census 2000

In summary, migration status and wealth are two of the main factors influencing land tenure patterns. As will become clear in Section 7.6, land tenure patterns, in turn, influence the types of activities that different households and individuals are involved in.

7.5.2 Access to labour

Farm labourers are most frequently hired seasonally, at the beginning of the dry season, to clear farm land in preparation for the cultivation of crops. Analysis of household census data indicates that a higher proportion of households grouped as "rich" hire labour compared to households grouped as poor. A higher proportion of "rich" households hire labour year round than "poor" households. This is as would be expected since relatively wealthy households can more easily afford to employ farm labourers for longer periods than poor households. Both male and female-headed households employ farm labourers, but a higher proportion of the former hire labour year-round compared to the latter.

7.6 Income Sources in Nigeria's Study Settlements

Farming is the main occupation for the majority of adults in all three zones studied: remote settlements, on-road settlements and border settlements. Over a quarter of respondents in all Nigeria's zones said that farming was their main occupation. Other occupations include trading, teaching and studying.

Farming in general focuses on crop production for both consumption-in-kind and for cash income obtained from the sale of crops. The main food crops include cassava, plantains, bananas, yams and *egusi* whilst the main perennial cash crops include cocoa and oil palm. Other income sources include petty trading and civil service salaries.

Forest-related enterprises (including timber exploitation and the harvesting of non-timber forest products (NTFPs)) provide very limited income for a few people in on-road and border zones. However NTFPs are a particularly important source of income in the remote villages studied.

Quantitative data on income sources was largely collected through the multi-round survey. This survey aimed to capture the relative importance of and seasonal variations in different income sources (Section 2.2.4 for details). Multi-round survey respondents were asked to rank the top five sources of income. In some of the tables and figures below, ranks were converted into scores. Each income source was given a score of 5,4,3,2, or 1 according to whether the respondent ranked the income source as being 1st, 2nd, 3rd, 4th or 5th most important income source respectively. The scores for each income source were totalled and are shown in Figures 7-4 - 7-7 as a percentage of the total scores for all income sources.

It is important to note that the multi-round survey focussed on assessing the relative importance of different activities in terms of income. It made no attempt to capture the importance of different activities for subsistence or other purposes.

7.6.1 Importance of Different Income Sources by Settlement Type7.6.1.1 Livelihoods in Remote Settlements

As pointed out earlier in Section 7.2.1.5, the importance of different income sources is strongly influenced by market access. The remote settlements of Old and New Ekuri have relatively poor market access, so carrying relatively bulky agricultural products is more costly. For the inhabitants of these settlements, relatively high value, low weight agricultural crops, such as plantains and forest products, such as *salad* (*Gnetum*) and bushmeat are important sources of income. Analysis of the multi-round survey data reflects these trends. Farm and NTFP accounted for 40% and 34% respectively out of all first rank multi-round survey responses in Old and New Ekuri (Table 7-19). Plantains are one of the most important sources of farm income for households sampled in Old and New Ekuri. They were ranked as the most important income source in 27% of all first rank responses. Bushmeat and *salad* are two of the most important NTFP-related income sources; they ranked first in 13% and 10% respectively of all first rank responses.

Wages for non-farm related activities are also important source of income for some households. This income source accounted for 16% of all first rank multi-round survey responses. Many of these responses are from households headed by wage earners who are either teachers at the school or employed as security guards at the school or health centre.

Rank	No. of Responses	Farm Income	Fishing	Non-Farm Rural Self- Employment or Business Income	Non-Farm Wage Employment	NTFPs	Off- Farm Income
1	166	66	0	13	27	57	3
	100%	40%	0%	8%	16%	34%	2%
2	164	97	0	9	2	55	1
	100%	59%	0%	5%	1%	34%	1%
3	137	77	0	2	1	57	0
	100%	56%	0%	1%	1%	42%	0%
4	87	58	2	1	0	26	0
	100%	67%	2%	1%	0%	30%	0%
5	46	34	1	0	0	11	0
	100%	74%	2%	0%	0%	24%	0%

Table 7-19 Ranks for Different Income Categories, Remote Settlements

Source: Multi-round survey 2001 - 2003

7.6.1.2 Livelihoods in Border Settlements

Farm income from intercropping cocoa with bananas and plantains as well as the cultivation of cassava, yams, and oil palm are the main sources of farm income in border study settlements. Table 7-20 reflects the importance of income generated from own-account farming. Farm income accounted for 74% of first rank multi-round survey responses as Table 7-21 makes clear. Trading and other business enterprises as well as NTFPs (mainly *bush mango* and *salad*) are relatively less important sources of income. Both these sources accounted for 11% of first rank multi-round survey responses.

Rank	No. of Responses	Farm Income	Non-Farm Rural Self- Employment or Business Income	Non-Farm Wage Employment	NTFPs	Off- Farm Income	Rental Income
1	152	113	16	5	16	1	1
	100%	74%	11%	3%	11%	1%	1%
2	143	106	7	1	28		1
	100%	74%	5%	1%	20%	0%	1%
3	112	82	4		26		
	100%	73%	4%	0%	23%	0%	0%
4	70	50	1		19		
	100%	71%	1%	0%	27%	0%	0%
5	37	29			8		
	100%	78%	0%	0%	22%	0%	0%

Table 7-20 Ranks for Different Income Categories, Border Settlements

Source: Multi-round survey 2001 - 2003

7.6.1 3 Livelihoods in On-road Settlement

Farm income is again one of the most important income sources in on-road settlements, as Table 7-21 shows. Major cash crops in the on-road settlement sampled are cocoa, banana, and plantain. Cocoa is harvested during the months of October to December. Banana and plantain are available year round. Lorry loads of banana and plantain are sold almost every other day and they are mostly taken to the northern part of the country (Ukpe 2002).

A higher proportion of respondents in on-road settlements ranked non-farm rural selfemployment activities (including carpentry, bricklaying, tailoring, trading and timber exploitation), as well as non-farm wage employment (including teachers and other government-paid work) as important income sources compared to those in remote and border settlements studied. Non-farm rural self-employment income together with nonfarm wage employment income accounted for 25% of all first rank responses in the onroad sample.

Rank		Grand Total	Farm Income	Non-Farm Rural Self- Employment or Business Income	Non-Farm Wage Employment	NTFPs	Off- Farm Income	Rental Income
	1	220	146	32	21	10	5	5
		100%	66%	15%	10%	5%	2%	2%
	2	197	157	15	3	17	3	2
		100%	80%	8%	2%	9%	2%	1%
	3	153	118	8	1	24	2	
		100%	77%	5%	1%	16%	1%	0%
	4	99	89	2		7	1	
		100%	90%	2%	0%	7%	1%	0%
	5	53	46	2	1	4		
		100%	87%	4%	2%	8%	0%	0%

Table 7-21 Ranks for Different Income Categories, On-road Settlement

7.6.2 Seasonal Variations in Income Sources

Turning to look at seasonal variations in different income sources, it is clear from Figure 7-4 that there are significant seasonal variations in the importance of some income sources in all the settlements studied. Income from NTFPs, in particular, varies considerably between the main dry and rainy seasons. *Bush mango* shows the greatest seasonal variation in all the settlements studied. This largely due to the fact that the most common species of *bush mango* (*Irvingia gabonensis*) fruits during the rainy season and much of it is markets quite soon after it is harvested and processed.

Income from *salad* also varies, being a relatively more important income source during the dry season. This may be partly due to the fact that during the harvesting during the rainy is seasonal is relatively limited because most people are concentrating on harvesting *bush mango* and also partly due to the fact that market access is much more limited during the rainy season because of muddy roads. Figure 7-4 also reflects that income from rattan is more important during the dry season when the drying of canes is easier and markets more accessible, than in the rainy season (see Section 8.2.2 for further details).

Income from major farm crops, generally varies less with the seasons. Cassava, plantains, bananas and cocoa are important income sources year-round. However, income from and *melon (Cucumeropsis manii)* and yams is seasonal. *Melon* and yams are harvested at the beginning and the end of the rainy season respectively.

Figure 7-4 Seasonal Variations in Top Income Sources By Zone



7.6.3 Livelihood Differences between Households and Individuals

Respondents were asked to describe their main occupation as part of the household census survey (see Section 2.2.3). Table 7-22 provides a breakdown of the responses given to this question grouped by different occupational categories for household heads by gender and settlement type.

In general, the main occupation type for the majority of women in all settlement types is "farm income" – income generated from own-account farming on owner-occupied land, or on land accessed through tenancy. A large proportion of young adults are students in both border and on-road settlements. The proportion of adults studying in remote settlements is lower, largely because they have more limited access to higher education facilities.

A lower proportion of men, compared to women, are generally involved in farming in all settlement types. In the border settlement studied, 12% of men included in the household census were involved in non-farm rural self-employment. Many of these men are involved in trading manufactured goods in rural settlements in Cameroon. A significant proportion of adult men are engaged in non-farm wage earning activities, including teaching, health workers and drivers.

The less well-educated, namely older women and the elderly, do not have the skills, opportunities or access to training necessary to obtain higher wage earning jobs or better paid professional positions elsewhere. With lower human capital skills and fewer labour assets these individuals are often engaged in self-employed activities that do not require large investments in human, physical or financial resources e.g. own-account farming and petty trading.

Zone	Sex	Ν	Farm income	Non-farm rural self-employment or business income	Non-farm wage employment	NTFP	Off- farm	Student	Other	Non- Respondent
Border	Female	155	71	19	6	1		53	3	2
		100%	46%	12%	4%	1%	0%	34%	2%	1%
	Male	148	59	18	10		4	53	3	1
		100%	40%	12%	7%	0%	3%	36%	2%	1%
Total Border		303	130	37	16	1	4	106	6	3
Total Border %		100%	43%	12%	5%	0%	1%	35%	2%	1%
Remote	Female	145	98	8	2			25	12	
		100%	68%	6%	1%	0%	0%	17%	8%	0%
	Male	134	58	19	23	3	2	21	8	
		100%	43%	14%	17%	2%	1%	16%	6%	0%
Total Rem	ote	279	156	27	25	3	2	46	20	
Total Rem	ote %	1	56%	10%	9%	1%	1%	16%	7%	0%
On-road	Female	126	65	15	2		1	37	5	1

Table 7-22 Main Occupational Categories of Adults Sampled by Gender and Settlement Type

	100%	52%	12%	2%	0%	1%	29%	4%	1%
Male	120	52	8	12		8	34	2	4
	100%	43%	7%	10%	0%	7%	28%	2%	3%
Total On-road	246	117	23	14		9	71	7	5
Total On-road %	100%	48%	9%	6%	0%	4%	29%	3%	2%
Total All Settlements	828	403	87	55	4	15	223	33	8
Total All Settlements %	100%	49%	11%	7%	0%	2%	27%	4%	1%

Source: Multi-round survey 2001-2003

Figure 7-5 gives some indication of the relative importance of different income sources for male (MHH) and female-headed (FHH) households by zone. As earlier explained, respondents were asked to rank their income sources. These ranks were then turned into scores (income sources ranked first, second and third were given a score of five, four, three respectively and so on). The scores for each income source were totalled and are shown in Figure 7-5 as a percentage of the total scores for all income sources. The number of responses for each category is given in Table 7-23 below, As Figure 7-5 shows, the contrasts between male and female-headed households are greatest in on-road and border settlements. Cocoa is much more important as a source of income to male-headed households than female-headed households, whilst cassava is relatively more important for the female-headed households than male-headed households. Petty-trading and the sale of cooked food, which fall under "business" are particularly important sources of income for female-headed households in on-road settlements. Wage employment ("salary") is relatively more important source of income for men compared to women in border and on-road settlements.

These differences between male-headed and female-headed households are thought to reflect patterns of land tenure and post-marital residence (see Section 7.5.1), as well as the fact that female-headed households tend to have relatively lower human capital skills and more limited access to labour than male-headed households.

NTFPs, such as *bush mango* and *salad* (*Gnetum* spp.) are relatively important income sources for both male and female-headed households in both the remote and border settlements studied. Figure 7-5 also indicates that bushmeat is a relatively important income source only for male-headed households in the remote settlements studied.



Figure 7-5 Top Ten Income Sources by Zone and Gender of Household Head

Zone	Female Headed Households	Male-Headed Households
On-road	173	202
Remote	36	206
Border	73	152

Table 7-23 No. of Responses to Multi-round Survey by Gender of Household Head and Zone

As mentioned in Section 7.5, migration status and wealth are two of the main factors influencing land tenure patterns. Land tenure patterns, in turn, influence the types of activities that different households and individuals are involved in. Figure 7-6 gives an indication of the relative importance of different income sources by migration status of household head. As before, ranks were converted to scores. The scores for each income source were totalled and are shown in Figure 7-6 as a percentage of the total scores for all income sources. The number of responses given by individuals from households of different migration status for each settlement type is given in Table 7-24 below.

Income earned by in-migrant⁴⁹ households from cocoa and bananas is likely to be mainly through share-cropping arrangements, where in-migrants work on the farms owned by indigenes. Figure 7-6 also indicates that farm labour is a relatively important source of income for in-migrant households, compared to non-migrant and return migrant households, reflecting the fact that in-migrants gain some income from working for others. Wage employment ("salary"), commonly with the State as teachers and health workers etc, is an important source of income for non-migrant and return migrant households rather than the households of in-migrants.

Table 7-24 No. of Responses to Multi-round Survey by Migration Status of Household Head, On-Road Settlement

Migration	No. of
Status	Responses
In-migrants	51

⁴⁹ As earlier stated, respondents who were born at their current place of residence, or in one of the other settlements sampled within that zone who have never stayed away for a year or more are grouped as non-migrants. People who were born at their current place of residence, or in one of the other settlements sampled within that zone but who moved out and lived outside their localities for a year or more are classified as return-migrants. Respondents who were not born in their current place of residence or in one of the other settlements sampled within that zone are grouped as in-migrants.

Non-migrants	163
Return Migrants	52
Total	266



Figure 7-6 Important Income Sources by Migration Status, On-Road Settlement

Source: Multi-round survey 2001-2003

The multi-round income surveys were administered to a stratified random sub-sample of households in each zone, drawn from households identified in the household census. From an analysis of the household census data and the PRA wealth ranking exercise (see Section 2.2 for details) it was possible to group households identified in the household census into strata according to two variables: whether people in the household are involved in rattan-related enterprises or not and relatively wealthy vs. relatively poor households.

Figure 7-7 gives an indication of the relative importance of income sources for households of different wealth categories in border, remote and on-road settlements studied. As before, ranks were turned into scores (income sources ranked first, second and third were given a score of five, four, three respectively and so on). The scores for each income source were totalled and are shown in Figure 7-7 as a percentage of the total scores for all income sources. The number of respondents grouped as relatively "rich" and relatively "poor" for each settlement type are given in Table 7-25.

It is clear from Figure 7-7 that cocoa, banana and plantains are the most important income sources for both rich and poor people in more accessible settlements. "Business", which includes petty trading, is a relatively important income source for relatively wealthy households in the border settlements studied. Such households are most

probably engaged in the cross-border trade of manufactured goods to households in remote settlements in neighbouring Cameroon.

Cultivating cassava, harvesting and processing bushmango, as well as farm labouring are relatively important income-earning activities for households grouped as poor in all three study zones. Other forest-related activities, namely the bushmeat trade and harvesting salad are relatively important income sources for poor households in the remote settlements studies. These income sources are suited to the resources available to relatively poor households, as they require little investment in terms of labour and capital and are characterised by ease of entry and open market access (Falconer 1988; Arnold and Townson 1998).

In summary, these findings reflect the fact that household income is influenced by a number of factors. Access to markets and forest resources, as well as migration status and gender of household head are important determinants of household income. These factors, in turn, influence access to wealth, land and labour. Female-headed and migrantheaded households generally tend to be relatively less wealthy than households headed by male indigenes because the former tend to have lower human capital skills, fewer labour assets, and/or limited access to permanently owned farmland. As a result, these households are often engaged in self-employed activities, such as cassava farming, farm labouring, petty trading and harvesting and processing bushmango (as well as other NTFPs in remote settlements), which do not require large investments in human, physical or financial resources.

Zone	Rich/poor	No. of Responses			
Border	Poor	107			
	Rich	118			
Border To	otal	225			
Off- road	Poor	136			
	Rich	106			
Off-road	Total	242			
On-road	Poor	63			
	Rich	203			
On-road	Fotal	266			
Grand To	otal	733			

Table 7-25 No. of Responses to Multi-round Survey by Zone and Wealth Group

Figure 7-7 Top Income Sources by Zone and Household Wealth Category

Source: Multi-round Survey 2001-2003



7.6.4 Involvement in Rattan-related Activities

It is clear from the preceding sections that, in general, rattan is not a major source of income for either rich or poor households in any of the three study zones. Rattan-related activities were cited as one of the top five income sources only by a limited number of respondents from relatively poor households in the remote settlements studied. However, as will become clear in Section 8, rattan plays a precise role in the livelihoods of certain household types.

7.6.5 Livelihood Patterns

In summary, the key variables affecting income-generation patterns in the settlements studied are access to markets and forest resources, gender, ethnicity, land-holding, and wealth status. Table 7-26 summarises the main characteristics of the three study zones in Nigeria and Table 7-27 summarises the wealth/livelihood categories for the main households types found in different settlement types.

Zone "Off-road"		"Cross-border"	"Roadside"		
Location of settlements	Old and New Ekuri, within the support zone of Cross River State National Park, Akamkpa Local Government Area (LGA).	Danare in Boki LGA is located about two kilometers west of the Nigerian – Cameroon border.	Abontakon in Boki LGA, about 29km from Ikom, is located along the tarred, but pot-holed, Ikom – Obudu road.		
Market access	Accessible by a 30 km laterite road built by the communities from the Calabar – Ikom highway. Road becomes impassable to most vehicles during the rainy season.	Can be reached from Bashua, via a laterite road which sometimes becomes impassable during the rainy season. Access to Cameroonian markets via footpaths.	Good access to urban markets by road.		
Forest access	Mature, relatively intact high forest. With abundant stands of rattan.	Mosaic of relatively undisturbed forest, secondary forest, fallow, and farmland.	Farm/fallow patchwork. Encroachment in forest reserve common.		
Population density	Low	Moderate	High		
Ethnic make-up	Mainly indigenes, socially homogenous.	Moderately socially heterogeneous. Some migrants mainly from neighbouring states.	Many permanent migrants, mainly from surrounding rural areas and neighbouring states.		
Livelihood Opportunities	Cocoa and food crop farming, NTFPs, and timber.	Cocoa, oil palm, NTFP collection, and cross- border trade of Nigerian manufactured goods to Cameroon.	Cocoa, oil palm, commercial food crops (mainly cassava), petty trading, farm labour and civil service jobs (including teaching).		

 Table 7-26 Main Characteristics of Nigerian Study Zones

Table 7-27 Groups of Households with Similar Asset-bases found in Different Settlement Types, in Descending Order of Wealth Status

Settlement type	Livelihood category	Characteristics
	(in descending order	
	of wealth status)	
Remote	1) Wealthy households	Households headed by relatively wealthy, and
		well-educated male indigenes some in full-time
		salaried employment (eg teachers), own land,
		hires seasonal labour and gains some income from
		agriculture (cocoa, plantains, banana) and
		supplements income from petty trading, other
		skills (eg carpentry) and/or NTFPs.
	2)Middle income	Little or no education, owns land, some hire
	farmers	labour seasonally, most don't trade, main income
		from agriculture (plantains and bananas and
		NTFPs (bush mango and salad).
	3) Marginal farmers	Male and female headed households, primary
		income from NTFPs, mainly relies on food crops
		for subsistence, do not hire labour, do not trade.
		Some individuals involved in rattan-related
		activities.
On-road	1) Wealthy	Main income salary or cocoa, food crops, owns
	indigenes/salaried	land (and rents it out to share-croppers), hires
	workers	farm labour, often on a permanent basis.
	2) Middle income	Indigenes, main income from cocoa, food crops,
	farmers	do not trade, some hire occasional labour.
	3) Share croppers	Migrants from neighbouring states, rent land,
		grow mainly cocoa, bananas and plantains as
		share-croppers, hire occasional labour, do not
		trade.
	6)Poor single men and	Mainly young to middle-aged in-migrants, rent
	women	land to cultivate food crops, do not hire labour.
		Some involved in wage labour.
Border	1)Wealthy indigenes:	Relatively well-educated, own land (rents out to
	farmers/wage earners	share croppers), cultivate cocoa, banana and
		plantains, hires labour seasonally/full-time,
		supplements income with trading
	2)Middle income	Main income from cocoa, plantains and bananas,
	farmers	hires labour seasonally.
	3)In-migrants cocoa	In-migrants from neighbouring states, involved in
	share croppers	share cropping cocoa, hire labour seasonally.
	3) Marginal farmers	Many are single male youths, cultivate food crops,
		do not hire labour, do not trade. Some are rattan
		weavers.

8 Patterns of Rattan Household Consumption and Income in Nigerian Study Settlements

8.1 Household Equipment and Utensils Made With Rattan

This section assesses the extent to which rattan is used to make household articles. It looks at how consumption patterns vary with settlement and household type.

8.1.1 Extent and Frequency of Use

The short rattan consumption and income survey questionnaire was administered to a total of 164 individuals in different households to identify who uses rattan products and for what purpose as well as to find out how the use of rattan is changing (see Section 8.4). Table 8-1 shows the distribution of the numbers involved in the survey from each zone.

Zone	No. Households Surveyed	No. of Non- Respondents	No. of Interviews		
Border	80	31	49		
Remote	78	29	49		
On road	77	11	66		
Total	235	71	164		

Table 0-1 Households Participating in Short Rattan Survey

Source: Short Rattan Consumption Survey 2001

One of the questions asked of short rattan survey respondents was whether they possessed any households items made with rattan cane. As Table 8-2 shows, in general, a higher proportion of individuals surveyed in border and on-road settlements reported possessing items made with rattan compared to households surveyed in remote settlements. This may well indicate that households in remote settlements tend to possess less household items (whether made with rattan or not) because our findings indicate (see Section 7.5) that the inhabitants of remote settlements studied are relatively poor compared to households in the other two settlement types.

The findings presented in Table 8-3 relate to solely to the use of items made with rattan. They do not relate to the use of rattan cane rope for other purposes (such as household construction and repairs). As will become clear in Section 8.4 below, rattan cane rope is used relatively more frequently for other purposes in remote settlements studied compared to the more accessible settlements.

Rattan baskets are a particularly common article used for carrying farm and forest produce to the house and to market. Households sampled in border settlements possessed

an average of 2.6 baskets per households, whilst households in the on-road and off-road samples possessed an average of 1 and 0.4 baskets per household respectively.

The multi-round survey (see Section 2.2.4) also provided information on the frequency of use of household items. One of the first questions asked during this survey was whether there were household items (such as baskets, fishing traps, ladders etc. but **not** furniture such as chairs and cupboards) made with rattan that had been used frequently during the recall period (usually about three to four months).

Table 8-3 below shows that, in general, rattan items are used most frequently in border and on-road settlements compared to remote settlements. During the two year survey period, at least one household item made with rattan was recorded as being used in 77% of the visits made to households in border and on-road settlements, compared to just over half of the visits made to households in remote settlements. These findings again most probably reflect the fact that households sampled in remote settlements tend to be relatively poorer and tend to possess fewer household items (whether made with rattan or not) than households sampled in border and on-road settlements.

The most important items made with rattan, in terms of frequency of use, are baskets and gari sieves. As discussed in Section 7.6, a high proportion of households are involved in the production of cassava to make gari. So it is not surprising that gari sieves are one of the most frequently used household articles made with rattan.

Zone	No. of Responses	Chair	%	Cupboard	%	Drying tray	%	Gari sieve	º⁄0	Baskets	%	None	%	Serving tray	º⁄₀	Table	%
Border	49	16	33%	7	14%	8	16%	15	31%	46	94%	4	8%	0	0%	6	12%
Remote	49	3	6%	1	2%	0	0%	10	20%	14	29%	26	53%	1	2%	1	2%
On road	66	12	18%	8	12%	1	2%	9	14%	35	53%	20	30%	11	17%	2	3%
Total	164	31	19%	16	10%	9	5%	34	21%	95	58%	20	12%	12	7%	8	5%

Table 0-2 Equipment Made with Rattan Cited More Than Ten Times by Sample Households

Source: Short Rattan Consumption Survey, 2001

Table 0-3 Frequency of Use of Rattan Items by Settlement Type

Settlement Type	No. of Responses	No	%	Yes	%
Border	244	57	23%	187	77%
Remote	262	120	46%	142	54%
On road	312	71	23%	241	77%
Total	818	248	30%	570	70%

Source: Multi-round survey 2001-2003

Zone	No. of Responses	Baskets	%	Gari sieve	%	Drying tray	%	Trap for animals	%	Fufu sieve	%
Border	244	177	73%	42	17%	15	6%	0	0%	19	8%
Remote	262	93	35%	76	29%	10	4%	11	4%	2	1%
On road	312	218	70%	90	29%	17	5%	0	0%	3	1%
Total	818	436	53%	208	25%	42	5%	11	1%	24	3%
Source: M	ulti-round survey	2001-2003									

Table 0-4 Frequency of Use of Most Commonly Used Household Items Made with Rattan, by Settlement Type.

8.1.2 Rattan Usage - Differentiation by Household Type

Turning to look at difference between types of households, the results of the multi-round survey indicate that, in general, households headed by older people tend to use baskets and gari sieves more frequently than households headed by younger people, as Table 8-5 shows. This may be because households headed by older people have had time to accumulate relatively more rattan items and because elderly people are more likely to make these items than younger people (see Section 8.1.5 below).

Age cohort	No. of Responses	No	Yes
10 to 19	11	6	5
%	100%	55%	45%
20 to 29	116	51	65
%	100%	44%	56%
30 to 39	205	73	132
%	100%	36%	64%
40 to 49	185	49	136
%	100%	26%	74%
50 to 59	154	39	115
%	100%	25%	75%
60 to 69	77	17	60
%	100%	22%	78%
70 & up	61	9	52
%	100%	15%	85%
Totals	809	244	565
Total %	100%	30%	70%

Table 0-5 Frequency of Use of Rattan Household Items by Age Cohort of Household Head

Source: Multi-round survey 2001-2003

Table 8-6 indicates that households headed by indigenes in Abontakon, the on-road settlement studied, appear to use rattan baskets and gari sieves more frequently compared to households headed by in-migrants. This may be because, as discussed in Section

7.4.3, in-migrants tend to be relatively poor compared to non-migrants and, as a result, the latter tend to possess more household items. In addition, migrant household heads tend, on average to be younger than non-migrant heads. Younger households may not have had time to accumulate as many household items as older households.

Migration Status	No. of Responses	No	Yes
In-migrant	57	21	36
%	100%	37%	63%
Non-migrant	191	37	154
%	100%	19%	81%
Return migrant	64	13	51
%	100%	20%	80%

Table 0-6 Frequency of Use of Rattan Household Items in On-Road Sample Households by Migration Status of Household Head

Use Any Items Made with Rattan Frequently?

Source: Multi-round survey 2001-2003

In general, there appears to be little difference in the frequency of use of rattan items between households grouped as "poor" and those grouped as "rich" (see Section 2.1).

8.1.3 Mode of Acquisition

Turning to look at how rattan items are acquired by different households, there are considerable differences between settlement types. A higher proportion of people in remote settlements tend to make households items made with rattan themselves, compared to more accessible on-road and border settlements. Nearly a two-thirds of all rattan household items recorded in the short rattan survey were reportedly home-made in the remote settlement sampled compared to only about a quarter and fifth of all items cited in the on-road and border settlements sampled respectively (Table 8-7). These variations may be partly due to differences in wealth between settlement types (see Section 8.4), as well as market and resource access. With less financial resources available and relatively easy access to wild rattan, remote households are more likely to make their own rattan household items than households in the more accessible on-road and border settlements.

Table 0-7 Mode of Acquisition of Most Commonly Used Household Items Made with Rattan

Settlement N Bought Given Home-
Туре				made
Border	98	73	8	17
	100%	74%	8%	17%
Off road	34	11	1	22
	100%	32%	3%	65%
On road	89	57	8	24
	100%	64%	9%	27%

N = Total No. of Items Recorded Source: Short Rattan Consumption Survey 2001

The majority of household items made with rattan and cited by respondents as being bought, were purchased locally either within the village concerned or in a neighbouring village. In general, the main source of rattan for home-made rattan items in remote settlements was forest⁵⁰, rather than farm fallow or farmland (see Table 8-8).

Table 0-8 Source of Rattan Cane Used to Make Household Items, by Zone

			Source of c	alle
Zone	Ν	Farm	Fallow	Forest
Border	15	0	0	15
	100%	0%	0%	100%
Off road	22	2	2	18
	100%	9%	9%	82%
	-			
On road	24	5	7	14
	100%	21%	29%	58%
Total	61	7	9	47

Source of cane

⁵⁰ Respondents did not distinguish between "high" forest or "secondary" forest

Total 100% 11% 15% 77%

Source: Short Rattan Consumption Survey 2001

8.1.4 Seasonal Variations in Subsistence Use

One of the aims of this study was to assess seasonal variations in the use of rattan. Table 8-9 presents some of the findings from the multi-round survey on the seasonal variations in the subsistence use of the most frequently used household items made with rattan. For the purpose of this study, the rainy season in Nigeria was defined as the period from March through to October, whilst the dry season was defined as the period from November through to February. In general, most equipment made with rattan is used more frequently during the dry season – a period of relatively intensive farming activity.

Season	Total	Farm basket	Kitch- en basket	Gari sieve	Stor- age basket	Dry- ing tray	Cocoa drying mat	Cocoa basket	Cass- ava basket	Cane rope for const'n	Ani- mal trap	Fufu sieve
Rainy	174	76	3	66	6	4	0	8	0	0	5	6
	24%	25%	6%	32%	12%	10%	0%	47%	0%	0%	45%	25%
Dry	559	224	44	142	46	38	9	9	18	5	6	18
	76%	75%	94%	68%	88%	90%	100%	53%	100%	100%	55%	75%
Total	733	300	47	208	52	42	9	17	18	5	11	24
Total %	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Table 0-9 Seasonal Variations in the Use of Equipment Made with Rattan Cited Five or More Times

Source: Multi-round survey 2001-2003

8.1.5 Characteristics of Rural Crafts People Involved in Rattan-Related Activities for Subsistence Use

Findings from the short rattan consumption survey (see Section 8.1.2), indicate that the majority (87%) of crafts people making rattan household items for subsistence use are male (55 out of a total of 63 makers) whose average age is 46 (ranging from 20 to 80 years), but most are elderly. Both households grouped as rich and poor were involved in making rattan items for home use.

8.1 6 Rattan-Related Activities for Subsistence and Home Consumption in Other Sectors

Analysis of the multi-round survey data indicates that a high proportion of households, particularly those in remote settlements, included in the survey were involved in rattan-related activities for home consumption and subsistence purposes. Table 8-10 shows that some sort of rattan-related activity was cited in over a third of all multi-round survey responses. Common subsistence activities involving rattan include basket weaving, construction, roofing and repair of houses, kitchens, toilets and bathrooms, shade and yam barns. Split rattan cane rope is commonly used in the construction of such houses, for wattle, interlaced with wooden rods. It is also used for securing the thatches to the roof beams. Cane rope is also commonly for staking and tying yams. Activities grouped in the "other" column included making household items with rattan cane (such as ladders, sieves, chairs and tables) as well as using cane rope to attach the funnel used when tapping palm wine.

A relatively higher proportion of households included in the multi-round survey from the remote and border settlements studied, cited being involved in rattan-related activities for subsistence and home consumption purposes compared to on-road settlements. This may well be because the inhabitants of the former settlement types still have relatively easy access to rattan in the forests surrounding their settlements compared to the inhabitants of the on-road settlement, Abontakon. In addition, it may be because a higher proportion of houses in remote and border settlements are constructed with wattle and daub walls and thatched roofs (see Section 7.3.5).

zone	basket weaving	building const'n	building repairs	staking/ tying yams	roofing/ roof repairs	other	Total No. of House- holds Citing Involve- ment in Rattan Activities	Total No. of Re- sponses	% of House- holds Citing Involve- ment in Rattan Activities
border	27	26	19	1	11	13	97	225	43%
%	28%	27%	20%	1%	11%	13%	100%	-	
remote	6	75	18	12	0	7	118	242	49%
%	5%	64%	15%	10%	0%	3%	100%		
on road	26	27	9	0	0	6	68	266	26%
%	38%	40%	13%	0%	0%	9%	100%		
Total	59	128	46	13	11	26	283	733	39%
Total	21%	45%	16%	5%	4%	9%	100%		
a	3 6 1.1	1	2001	0000					

 Table 0-10 Involvement in Rattan-Related Activities for Subsistence and Home Consumption by

 Zone

Source: Multi-round survey 2001-2003

Of the households included in the multi-round survey, roughly equal proportions of households grouped as rich and poor cited involvement in rattan-related activities.

8.2 Characteristics of Rural Rattan Specialists and Their Enterprises

Detailed information on the characteristics of rural people specializing in rattan-related activities was collected through the administration of the long rattan survey (see Section 2.2.6). A total of ten specialists were interviewed, but background socio-economic information was collected on only four of those interviewed through the administration of the household census, it is therefore difficult to comment on the socio-economic characteristics of rattan specialists in the settlements studied. Three of those interviewed for the long rattan survey are from the on-road sample, five are from the remote sample and two are from the border sample.

8.2 1 Types of Activities

The rural rattan specialists or entrepreneurs interviewed are involved in harvesting raw cane, cleaning and splitting it for sale and/or weaving it into baskets and other products and selling them.

8.2.2 Seasonality

There appears to be little periodicity of rattan-related activities for the rattan specialists interviewed. All the specialists interviewed for the long rattan survey are engaged in rattan activities year-round (more than six months of the year).

Defo (1999) points out that rattan stems can be harvested all year round and weaving can therefore take place as well, but there is marked seasonality in terms of involvement in rural rattan activities. The peak season for rattan-related activities occurs in June – August, the heart of the rainy season, when agricultural labour demands are at their lowest. Rattan activities appear to be carried out at times that do not conflict with farm work, although sun-drying rattan during the heart of the rainy season is lengthy and can delay work (Malleson 2000b).

The peak season for rattan-related activities also corresponds with the main harvesting season for bush mango (*Irvingia* spp.), one of the most economically important NTFPs of the region. At this time, weavers are busy making baskets for people to transport bush mango from the forest and farms to home. Some rattan specialists also reported a high season around November to January (Figure 8-1). This period corresponds to the main cocoa harvesting season (when demand for baskets for drying and storing cocoa is relatively high).

Figure 0-1 High Seasons for Rattan Related Activities



Source: Long Rattan Survey 2001

8.2 3 Labour

Most of the rural rattan specialists interviewed work alone. Only one out of eight respondents said he employed three apprentices.

8.2 4 Capital and Skills

Almost all (nine out of ten) of the rattan specialists interviewed stated that their motivation for starting their activity their need for money. Eight out of ten interviewees said they became involved through observing family and friends.

Rural rattan specialists require relatively little in the way of capital investment to establish their enterprises and most of them weave from home. Specialist equipment. mentioned included relatively low cost items such as gloves, blow torch and vices. See Dione *et al* (2000) and Razak (2001) for details on tools, equipment and materials commonly used in processing rattan.

To summarise, rattan enterprises do not require large human, physical or financial investments. They are characterised as "easy access and low barriers to entry" (Arnold and Townson 1998). Rattan-related enterprises may therefore be a viable option for relatively poor rural households with lower human capital skills and fewer labour and financial assets. However, as will be discussed in Section 8.3, such enterprises generally provide at best marginal returns to those engaged in them.

8 2 5 Raw Material Supplies

All the rattan specialists interviewed for the long rattan survey harvest all of the rattan they use themselves. Forest, as opposed to farm or fallow land, was cited as the main source of rattan by all of the specialists

Five of the specialists interviewed said there is less rattan available and three interviewees said there is no change in the availability of rattan over the last five years. All of those interviewed from the on-road settlement, Abontakon, said there was less rattan available now. Reasons given for this change included the fact that there were more people harvesting and more land being cleared to make way for farming. Sunderland (2001) reports similar findings from his survey of settlements in Cross River State. Many harvesters reported the need to travel further into the forest to harvest rattan and cutting and burning rattan clumps during farm clearance is said to have lead to local scarcity around some settlements.

8.2 6 Markets and Marketing

Most specialists interviewed said they sold their products to individuals from the same or neighbouring communities. There is also some trade in bundles of raw cane collected by harvesters (both indigenes and non-indigenes) direct to urban artisans in towns within the State or via middle men from Akaw-Ibom (Sunderland 2001). Bundles of rattan are also harvested by organised harvesting gangs and exported from the State to Port Harcourt, Lagos and Aba (Morakinyo 1995; Sunderland 2001) (see Section 8.3 below).

8.27 Enterprise Problems

As Table 8-11 indicates, the most commonly cited problem is lack of equipment. Other problems cited by respondents included problems associated with supply of raw rattan cane, the problem of sitting for prolonged periods of time and the risk of accidents.

	υ	1	υ	1		
Table 0-11	Major	· Probl	ems Er	ncountered by Rural	Rattan	Specialists

Problem	No. of Responses) (N= 10)
Lack of equipment	7
Transporting raw rattan	4
Prolonged Sitting	3
Risk of Accidents	2
Source: Long Rattar	Survey 2001

From the survey results, rattan supplies do appear to be a constraint to the growth of enterprises, apart from in Abontakon, the on-road settlements studied. Here, all three respondents who were asked if there were more rattan available would they use it, said they would. The remaining seven respondents said they would not use more rattan if it were available because they had sufficient supplies.

8.3 Rattan as a Source of Income

8.3 1 Importance of Income from Rattan-related Activities

In general, rattan-related activities are not a major contributor to rural incomes. Analysis of multi-round survey data indicate that most rattan-related activities cited by households included in the survey are carried out for home consumption and subsistence purposes rather than for directly generating income (Table 8-12).

Zone	Received income from rattan activity? Yes/No	No of Responses	Total No. of Responses
border	No	97	104
	%	93%	
	Yes	7	
	%	7%	
off road	No	120	142
	⁰∕₀	85%	
	Yes	22	
	%	15%	
on road	No	68	89
	º/ ₀	76%	
	Yes	21	
	%	24%	

Table 0-12 Importance of Rattan-Related Activities for Income, By Settlement Type

Source: Multi-round survey 2001-2003

Only ten households out of a total of 236 included in the multi-round survey (see Section 2.2.4), cited rattan-related activities as one of their top five income sources. All the households that cited rattan-related activities as a top income source are from the remote settlements of Old and New Ekuri and the majority of those engaged are involved in the harvesting and sale of bundles of rattan cane.

However, rattan-related activities do provide important, often seasonal, contributions to the income of a very small proportion of households with rattan specialists. Rattan specialists interviewed as part of the long rattan questionnaire were asked whether they considered their rattan work as their main source of income. Six out of ten respondents said they did.

Harvesting rattan cane can be an important source of income for dealers controlling organised rattan harvesting gangs. Such gangs come mainly from neighbouring Akwa Ibom State. The rattan they collect is largely exported from the State (see Box below). But, apart from income from registration fees and occasional income from employment as harvesters, communities in Cross River State benefit little from the export trade of rattan (Sunderland 2001). Some communities (e.g. Iko Ekeperem) in Cross River State are said not to request any payment for access to rattan in the forests surrounding their settlements (Sunderland 2001). Other communities, such as Ekon-Anaku, have developed a tariff system, where people are charged a standard rate for NTFPs transported through the village. These NTFPs mainly come from Korup National Park (Sunderland *et al* 2003b). The Ekuri villages (the off-road settlements studied) have banned non-indigenes from harvesting rattan in their community forest.

The total value of the rattan trade in Cross River State is thought to be in the region of N22 million (Sunderland 2001 updated from Omulaubi and Abang 1994). A study of the marketing margins of NTFPs (Omulaubi and Abang 1994) reveals that harvesters' costs (for someone who harvests rattan cane and delivers it to wholesale buyers) include hiring labour, transport and paying forestry tariff as well as the costs of supervision, road taxes and road "gifts" (bribes to reduce delay at various checkpoints including Police, Army, Customs, Forestry and the Nigerian Union of Road Transport Workers (NURTW). Omulabi and Abang (1994) point out that whilst bribes at checkpoints may not significantly increase trading costs, the traffic delays these checkpoints create have a negative impact on trading itself. They point out that these checkpoints may inhibit potential entrepreneurs from becoming involved in the trade. Omulabi and Abang's (1994) study also estimates that urban artisans producing cane chairs enjoy higher profit margins (a return to investment of 39.4% than harvesters (a return to investment of 26.3%). The study also estimates that retailers of rattan furniture in large urban centres, such as Aba, also enjoy a reasonable margin of 31.6%.

In general, and in relation to the most important income sources, rattan does not contribute significantly to overall income for the inhabitants of the settlements studied. However, for specific households and individuals within households, rattan-related activities, such as harvesting rattan cane and basket weaving, may generate significant amounts of cash at times when other sources of income, such as farming, are not forthcoming. Rattan-related activities provide the sole source of income, for at least one elderly gentlemen from one of the remote settlements studied.

To summarise, rattan-related enterprises generally provide very limited income to rural households. But for some poor rural households, with lower human capital skills, limited labour assets and financial resources, harvesting rattan and basket weaving may provide a very significant proportion of overall income.

Harvesting by outsiders may be reasonably lucrative, the main barriers to entry into this activity is the ability to communicate with those who grant access to the forest. This may be local communities, in the case of community forests, or government in the case of forest reserves. In the latter case, the harvester must pay a tariff, so access to capital may be a barrier (Omoluabi and Abang 1994). Rattan furniture businesses are relatively lucrative in comparison to harvesting and basket weaving, but this type of enterprise is largely inaccessible to the inhabitants of the settlements studied because of their limited access to urban markets.

Rattan Harvesting Gangs

In the past rattan harvesting gangs operated in the forested areas around the on-road settlement of Abontakon. The last group of harvesters came three years ago in 2000. They probably stopped coming due to scarcity of the product and the distance from the village market. While they were here they harvested from the forest, lived in the community and paid some community members to harvest for them. The harvesters worked for a company in Lagos. There were three of them, all males and possibly graduates, aged between 35 and 45 years.

The harvesters they employed were paid N250 per bundle. A bundle contains about 25 strands of rattan cane rope of about 10 feet long. The harvesters came once in that year during the dry season, they stayed in the village all through the harvesting period which lasted for about six months. The harvesters trekked between six to ten kilometres to collect the rattan.

Each harvester would harvest and headload the rattan to a central place from where it was transported to Lagos. In Lagos it is speculated that the rattan is used to make furniture.

The harvesters paid a village registration fee of N2,000 and an evacuation fee of N50 per bundle. They were also made to pay for a government permit. The government fee was negotiated between the leader of the harvesting team and the government official. It was not disclosed to the villagers. Even though the villagers had a right to know, they did not demand to know how much the harvester paid per trip to the government. The final permission for harvesting came from the village council. Problems associated with this business include scarcity, transport and distance.

Taken from Martin Egot's NTFP report carried out in Phase II of the African Rattan Research Programme study (see Egot 2003).

8.4 Changes in Rattan-related Consumption and Income Patterns

8.4.1 Changes in the Patterns of Consumption

Overall, there appears to be a greater tendency to replace items made with rattan cane with those made with other materials, than vice versa. Nearly a third of all respondents in the short rattan survey reported that they had replaced an item previously made with rattan cane with one made from another material (Table 8-13). A relatively low proportion of respondents (14 respondents out of 133 or 10%) said they had replaced items previously made with material other than rattan with items made with rattan.

Table 0-13	Households	Replacing	Rattan Items,	by Settlement	Type
		- F			J I -

		Past items replaced? Y/N				
Zone	Ν	No	Yes			
Border	28	16	12			
%	100%	57%	43%			
Off-road	38	22	16			
%	100%	58%	42%			
On-road	65	43	22			
°⁄0	100%	66%	34%			
Total	131	81	50			
Total %	100%	62%	38%			

Source: Short Rattan Consumption Survey, 2001

The most commonly cited replaced items made with rattan by short rattan survey respondents were relatively low value items, such as baskets (accounting for 39% of items replaced) and drying trays (8 citations). The majority of respondents replacing baskets were from remote settlements (Table 8-14).

Table 0-14 Rattan Items Commonly Cited as Being Replaced, by Settlement Type (Items Cited by 5 or more Households)

Zone	No. of Responses	bottle holder	climbing harness	drying tray	fish trap	basket	cane rope
Border	48		4	9	1	20	4

	100%	0%	8%	19%	2%	42%	8%
Remote	32	1			3	16	
	100%	3%	0%	0%	9%	50%	0%
On-road	31	4	1		2	7	
	100%	13%	3%	0%	6%	23%	0%
Total	111	5	5	9	6	43	4
Total %	100%	5%	5%	8%	5%	39%	4%

Source: Short Rattan Consumption Survey 2001

The most commonly offered reason for replacing rattan items was "modernisation". The second and third most frequently cited reasons for replacing a rattan item related to lack of availability due to decline in number of artisans and durability of the items.

It is not clear, from the analysis of survey results, whether rattan items are no longer available in more accessible settlements because of scarcity of wild rattan or because the demand for man-made alternatives to rattan outweighs the demand for rattan items. But, in general, low value rattan items are increasingly being replaced by more durable manufactured alternatives. Morakinyo (1994) also reports the trend in replacing items that used to be made with rattan with items made with other materials in Cross River State. Synthetic rope and wire and wire are now used for tying yams rather than rope made with rattan. He also reports that plastic bowls are being used to carry items instead of baskets made from rattan.

It is important to note that the type of rattan items replacing non-rattan items were relatively high value items, such as wooden tables, chairs and shelves, rather than items such as baskets. The majority of respondents said the reason why they had replaced the item was for aesthetic reasons (nine out of 14 respondents). A further three respondents said that they had replaced the item because it was cheaper than the wooden alternative.

This trend of replacing relatively expensive wooden tables and chairs with cheaper products made with rattan is thought to have been brought about because of increased rural and urban poverty and also partly because the rising cost of wooden furniture. Table 8-15 summarises the main findings in terms of consumption.

Settlement Type	Resource Changes	Rattan Usage	Patterns of Change in Consumption
Remote	Still supplies of wild rattan	Rattan is used relatively frequently in everyday life to make relatively low value items such as baskets and other as well as for house construction and repairs and tying yams. Rattan is harvested from surrounding forests to supply urban markets	There is a general trend towards replacing low cost items made with rattan cane, such as baskets, with more durable alternatives made with synthetic materials.
Relatively accessible border and on-road settlements	Perceived scarcity of wild rattan in relatively accessible forests	On the one hand, the use of low value rattan items seems to be on the decline. On the other hand, the use of relatively high value rattan items such as chairs seems to be on the increase. Rattan harvested from surrounding forest for subsistence use only.	Relatively low-value rattan items are increasingly being replaced by cheaper, manufactured alternatives. Some items, such as chairs and shelves that used to be made with wood are now being replaced with items made with rattan for aesthetic reasons and because rattan cane furniture is cheaper than wood.

 Table 0-15 A Summary of Research Findings Relating to Rural Rattan Consumption Patterns

8.4.2 Dynamics of Rattan-related Enterprises

There is little evidence from our research to show that rural rattan enterprises in Cross River State are, in general, growing. Respondents included in the long rattan survey were asked whether the volume of their business changed over the last five years⁵¹. Out of the ten respondents, four said their business had expanded, four said their business had decreased and two said they had seen no change. All those who said their business had expanded were involved in making cane furniture. Those who said their business had decreased were involved in harvesting and splitting raw cane for sale from the remote settlements of Old or New Ekuri.

Respondents included in the long rattan survey were asked whether, given the opportunity, they would choose to expand their rattan business or start another business. The majority of respondents (five out of ten) said they would choose to start a new business, three said they would choose to expand their rattan enterprise and two said they did not know. The fact that half of the respondents said they would choose to start a new

⁵¹ Townson (1995) points out responses to this type of question must be treated with caution as people may feel that this information might be used for tax assessment purposes.

business may indicate that profit margins are less attractive than other potential options available. This is supported by the fact that "no time" was a commonly cited reason for business closure (see below). Furthermore, as explained in Section 8.4.1, there appears to have been a fall in the demand for everyday household items made with rattan. Another influencing factor may be that scarcity of rattan supplies is making the harvesting of wild rattan more time consuming and therefore less profitable, particularly in the more accessible roadside settlement of Abontakon.

Information on people ceasing to participate in rattan-related activities was collected through the short rattan survey. Twelve out of 164 respondents (7%) said that a household member had been involved in rattan work in the past but was no longer involved. Most of the individuals (11 out of 12) had been weavers.

The majority (seven out of 12) of individuals who had given up weaving are elderly people who said they are too old to carry on weaving. Four individuals said the reason they had given up was because they had "no time". No-one cited supply problems as a reason for giving up.

In summary, there is little evidence to indicate that rural rattan related enterprises are growing. However, Sunderland (2001) reports that the urban rattan sector in Nigeria is growing and prices and revenues are increasing due to increasing demand for good quality cane furniture. Table 8-16 summarises the main study findings in relation to rattan sales.

Settlement Type	Enterprise Type	Type of Individual	Size of Enterprise	Ease of Entry	Significance of Income	Potential for Expansion
Remote/Border and Roadside Settlements	Basket weaving	Usually male, often elderly, unskilled, little formal education and from a poor household	Usually one-person enterprise, part-time or full-time	Easy, requires little inputs and skill	May provide significant intermittent contribution, particularly for elderly and infirm who may have very limited livelihood choices. But relatively small amount of income compared to other rattan related enterprises	Currently low, as declining demand for baskets
Remote/ on- road/border	Harvesting by individuals	Young men – middle-aged unskilled, little formal education	One person, part-time, seasonal	Easy, requires little inputs	May provide small amounts of seasonal/intermittent income used to fill gaps in income flows	Moderate, as wild supplies of rattan, particularly in more accessible areas, are dwindling

Implications for developmentTable 0-16 Characteristics of Rattan Income-generating Activities by Settlement Type

	1	r	-			
Kemote/Border	Harvesting gangs supply to urban markets	Usually young males overseen by dealer, often people from neighbouring Akwa Ibom State	More than five in organised group, provides seasonal employment for non- indigenes and indigenes alike.	High, requires capital to pay workers and means of transport	Large income for dealers, relatively small amounts of seasonal income for harvesters	Low, as wild supplies of rattan are dwindling.
On-road /Urban	Furniture making	Usually male, may be young, skilled with some formal education	May be more than one person, full- time may occasionally employ part- time workers	Relatively difficult, requires some costly inputs e.g. blow torch.	Fair, regular source of income for permanent workforce. Relatively low, intermittent income for occasional workers	Possibly high, as demand for high value rattan furniture appears to be increasing. But unsure as some evidence suggests market is in decline.

9 Conclusions and Policy Implications

9.1 Introduction

This report summarises the findings of a socio-economic study of households and individuals in the humid forest zone of Southwest Province Cameroon, Western Region Ghana and Cross River State Nigeria. The study is an output of the African Rattan Research Programme's "Development and Promotion of African Rattans" Project, a three year project designed specifically to alleviate poverty in selected areas of Cameroon, Ghana and Nigeria through the improvement of rural and urban livelihoods based on: (i) improved production, internal marketing and transformation of rattan, a high-value nontimber forest product and (ii) increased production and sustainable management of rattan in the West and Central African region through the development of appropriate cultivation for low-income farmers.

Three different types of "zone" can be identified in each of the three country's study regions on the basis of accessibility to local and cross-border markets and forest resources. These are: border zones, remote zones and on-road zones. The primary objectives of the study were to gain an idea of the present patterns of rattan usage and sales, their implications for livelihoods and a more comprehensive and socially differentiated view of the significance of rattan and other NTFPs for rural livelihoods within each of the three study zones in Cameroon, Ghana and Nigeria. The study was conducted over a three-year period from 2000 to 2003. A total of over 1,000 households were visited.

9.2 Socio-Economic Characteristic of Households

The baseline socio-economic survey approach adopted for this study offers important insights into the socio-economic characteristics of rural households in different types of settlement found in Cameroon, Ghana and Nigeria. The focus on specific types of settlement and households has been useful for unravelling the diversity of people's lives. It helps to capture the different types of households, to find out what different households are doing and what income they are earning. The baseline socio-economic survey approach has also helped to highlight how certain socio-economic groups are excluded from access to key resources and economic opportunities and how this, in turn, affects, their livelihoods. The findings from this baseline socio-economic survey highlight the diversity of rural households and their livelihoods in contrasting rural settings.

This report highlights some of the contrasting characteristics of households sampled in the study zones of Ghana, Nigeria and Cameroon. There are some striking differences in household composition, population trends and social characteristics between zones and countries. Differences between Ghana's off-road sample and Nigeria and Cameroon's off-road samples are particularly pronounced. Ghana's remote sample lies in an economically dynamic area which is experiencing relatively rapid population growth, due largely to the influx of migrants from other parts of Ghana. A high proportion of households in Ghana's remote sample tend to be relatively poor

Cameroon's border zone sample shows similar characteristics, with a relatively high proportion of relatively poor, recently settled strangers, mainly from Nigeria. In contrast, the populations of Cameroon and Nigeria's remote study settlements are relatively stable and socially homogenous but also relatively poor. Their relative remoteness and poor market accessibility mean that few strangers are currently attracted to these settlements.

Differences in ethnic composition between zones and countries are also pronounced. All Ghana's three study zones as well as Cameroon's and Nigeria's border and on-road zones have relatively high proportions of migrants, whilst Cameroon's and Nigeria's remote study zones are relatively socially homogenous.

Study results indicate that the main factors influencing livelihoods at the settlement level are access to markets and forest resources. Different external factors impinge on forest settlements rendering them dynamic, stable or declining

At the household level, gender of household head, migration status, wealth and age are the main factors. Gender and migration status strongly influence access to land and patterns of land tenure as well as wealth, which, in turn, strongly influence the types of livelihood activities households and individuals are involved in.

Marked differences are found between male and female-headed households in all three countries. Female-headed households generally tend to have limited access to land and less labour available to them and are generally poorer than male-headed households.

In summary, forest settlements in the regions studied are by no means uniform. A range of external factors impinge on forest settlements rendering them dynamic, stable or declining. Different households within these settlements have varying opportunities and assets which, in turn, affect their livelihood strategies. In terms of policy, this diversity needs to be taken into account when planning development programmes.

For the majority of households sampled in more accessible on-road and border settlements, farming is the primary source of income. But the majority of poor households sampled in on-road settlements in Cameroon, Ghana and Nigeria do not own farmland. These patterns of land ownership influence the types of livelihood activities households and individuals are involved in. In the on-road settlements studied, households headed by non-migrants tend to "own" land on which they plant perennial cash crops, mainly cocoa and oil palm as well as plantains and bananas. On the other hand, relatively poor migrants, tend to rent land on a short-term basis to cultivate food crops (especially Nigerian migrants in Cameroon's border zone and Nigerian migrants in Nigeria's on-road and border zones). Relatively wealthy migrants tend, where possible, to buy land from indigenes on which they establish perennial cash crop plantations of cocoa, oil palm and rubber (particularly in Cameroon's on-road zone) or enter into long term share cropping arrangements to farm cocoa (particularly in Ghana's remote zone). The short-term leasing of land provides an opportunity for relatively poor households to earn an income and provides an important source of income for natives. But leasing land in this way is not legal, and tenants have little incentive to implement environmentally sound farming practices or to cultivate valuable perennial NTFPs because of the short-term nature of the lease and because local practice prevents them from planting perennial crops, such as cocoa or other useful trees that produce NTFPs. Land tenure issues are linked to ethno-political status and are contentious; refer to our land tenure briefing note (ARRP 2002).

The policy implication is that, in the long term, land tenure legislation needs to be designed carefully so as to support leasing by the poor and encourage tenants and landlords to invest in long-term, environmentally sound farming practices which would include economically important perennial NTFP crops, but not to give greater power to relatively wealthy land owners.

Our findings indicate that cassava is one the most important sources of income for relatively poor households in more accessible study settlements, particularly in Cameroon and Nigeria. Cassava is a light-demanding crop. This combined with the fact that many poor farmers rent land on a short-term basis, has led farmers, particularly in areas where population density is relatively high, to clear the majority of trees on their farmers, including, in some cases, those which yield useful forest products. The widespread cultivation of light demanding cassava by relatively poor households in relatively accessible settlements may, therefore have diminished access to forest resources, which in turn, has led to a decline in the importance of NTFPs as a source of income as well as a source of sustenance.

Given the importance of cassava, particularly for poor farming households, the policy implication from these findings is that efforts should be made to develop environmentally sound agricultural practices for cassava production that, if possible, promote the conservation of trees on farms. Findings of this report indicate that agricultural clearance rather than forestry development is a major influence on raw material availability for rural NTFP-based enterprises, particularly in relation to the more accessible settlements studied.

In the remote settlements sampled, income generating opportunities are relatively limited compared to border and on-road settlements. Many households rely on forest resources for a significant proportion of their income. Forest-based activities are particularly important for poor households in remote settlements, they offer one of the few income earning opportunities for these households because they require little investment in terms of labour and capital and are characterised by ease of entry and open market access (Falconer 1988; Arnold and Townson 1998).

The importance of forest resources for rural poor in remote settlements must be a pivotal consideration in any policy that aims to achieve sustainable forest management. Possible solutions include the establishment of community forests and sustainable harvesting and

cultivation guidelines for NTFPs that are currently being over-harvested. Another option could be the formation of associations for those involved in NTFPs to give political voice to their concerns and to develop self-regulatory mechanism for the problems of over-harvesting (see below).

9.3 Importance of Rattan for Income

In overall terms, rattan and other NTFPs make a limited contribution to the economy of the study settlements in Cameroon, Ghana and Nigeria. Agriculture and trading make by far the largest contribution to the incomes of most households in all settlements studied. But, on a more specific level, rattan and NTFP-related activities play a precise and, in some cases, significant role in the livelihoods of specific socio-economic groups within the study areas. The importance of different rattan-related activities is discussed in turn below.

9.3.1 Rattan Harvesting

Rattan harvesting requires relatively little in terms of inputs; it may be characterised as an activity with relatively easy access and low barriers of entry (Arnold and Townson 1998). However, harvesting rattan is a risky and arduous task which most people, given other opportunities, would choose to avoid (Sunderland *et al* 2000).

Relatively poor, young to middle-aged men, particularly in more accessible roadside and border settlements in Cameroon and Nigeria are seasonally involved in harvesting rattan cane to supply urban rattan artisans. For these groups, rattan harvesting can provide an important contribution to income, by yielding cash which helps to fill seasonal income gaps, for example at Christmas time and at the start of the school year.

In Ghana, rattan harvesting provides income for relatively poor, young, recently settled migrants in relatively remote settlements. For this group, this activity may provide a useful source of cash during the first years of residence in their new homes, when income from agriculture, particularly cocoa, is not yet forthcoming.

Rattan harvesting is also an activity carried out by organised gangs of rattan harvesters. However, since these gangs are often controlled by urban-based patrons, who recruit urban-based harvesters to assist them, little of the income from this type of enterprise benefits the inhabitants of rural settlements around which the harvesting gangs operate. Possible ways to increase benefits to local communities from organised harvesting gangs are discussed in Section 9.5 below.

9.3.2 Basket Weaving

Basket-weaving requires relatively little skill or capital investment, as few tools are required and most basket-weavers operate from home. Weaving can be conveniently carried out during the rainy season at a time that does not conflict with intense farming activity. Like rattan harvesting, it is characterised by "ease of access and low barriers to

entry" (Arnold and Townson 1998) and may provide an important "safety net" function (Ndoye 1994, Sunderland *et al* 2000) by filling gaps in seasonal income flows.

In Nigeria and Cameroon, income from basket weaving contributes significantly to the livelihoods of a small proportion of relatively poor, elderly, often infirm men in remote study settlements. However, there appears to be little potential to expand such enterprises as baskets and other low value items made with rattan cane are increasingly being replaced by cheaper and/or more comfortable alternatives. Arnold and Townson (1998) argue that, in such cases, it may be more constructive to help basket weavers to move into more lucrative activities rather than trying to help them in their current line of work. Despite this, weaving remains a convenient and useful source of income, particularly for poor, elderly and/or infirm individuals, with low labour assets, limited financial resources and skills, and who have limited income-earning options available to them.

The situation in the Ghana study areas is very different. Here, basket weaving is an activity carried out by young and middle-aged men in both relatively inaccessible remote settlements and relatively accessible on-road settlements. In Wassa Essaman, one of the on-road settlements studied, a high proportion of active men are engaged in basket weaving all year round. But, overall, the majority of basket weavers included in this study are involved on a seasonal or occasional basis. Income from basket weaving is particularly important for relatively poor, recently arrived migrant cocoa farmers in remote settlements who have yet to receive income from their farming activities.

Since rural basket weavers are some of the poorest people in the settlements studied, it is important to consider how best to support them in order to reduce their vulnerability to poverty and increase their income earning potential. Weavers with access to markets, particularly those who are able to display products along the road, could be given specific skills training and access to capital to buy tools to enable them to produce higher value rattan items, such as chairs and shelving units, with higher profit margins than baskets.

9.3.3 Rattan Furniture Enterprises

In more accessible roadside settlements in Cameroon, Ghana and Nigeria, rattan contributes significantly to the income of a small proportion of young and middle-aged men through furniture-making enterprises, although the majority of rattan furniture enterprises are based in urban areas. Demand for relatively high value furniture made with rattan cane appears to be increasing in more accessible rural and urban areas, as explained in Section 9.4 below.

There does appear to be some potential to increase the profit of such enterprises by adding value through improving quality. The African Rattan Research Programme is involved in initiatives in Cameroon, Ghana and Nigeria study areas to introduce appropriate processing and transformation technologies from Asia that are suitable for the African context. These are proving to be effective means of adding value and durability to rattan products (Sunderland 2001 - see Section 9.5.2 below).

However, rattan furniture-making enterprises require some skill and relatively costly inputs that may prevent relatively poor individuals from becoming involved. Such individuals are likely to require access to credit to enable them to take full advantage of training.

9.3.4 Summary Points

To summarise, in general, rattan-related activities are relatively minor income-earners for rural people in the areas studied. Such activities have both advantages and disadvantages. They tend to fit well into broader livelihoods strategies because they can be done at times when they do not conflict with intensive farming periods and they require little investment. But rattan-related activities also have disadvantages. Harvesting is risky and can lead to injury and in some areas is becoming increasingly arduous because of the decline in the availability of wild stocks of rattan. Returns from rattan harvesting and basket-weaving appear relatively small compared to most farming activities. Transport costs are increasing, which, in turn, are partly due to increasing distance travelled from harvesting sites as well as poor road conditions and harassment and bribery by law and order officers at road checkpoints. For these reasons, most rural people, given other opportunities, would choose to avoid rattan harvesting and basket weaving (Sunderland *et al* 2000).

9.3.5 The Significance of External Factors in Relation to Rattanrelated Income Generation

It is worth noting, in passing, that national and international political and economic factors may drastically change the current situation and could have significant incomerelated implications for even the most remote settlements. The construction of roads into remote areas, such as Takamanda in Cameroon, may open up opportunities to develop the trade in raw cane, for example. Political conflict between neighbouring countries or changes in the value of a currency may open up or close down the cross-border trade of raw cane. For example, the conflict between Nigeria and Cameroon over the Bakassi peninsular hindered the trade of NTFPs between these two countries in the late 1990s. Alternatively, a drop in the price of cocoa may cause farmers to abandon their cocoa farms and dismiss their farm labourers. Rattan harvesting may then be one of the few viable economic activities available for such ex-farm labourers.

9.4 Changing Consumption Patterns

In general, low value rattan items, such as baskets are still used regularly by the majority of rural households, especially in the settlements studied in Ghana. But proximity and ease of access to markets as well as relative wealth influences the contribution that rattan makes to rural livelihoods both in terms of everyday use and income. Low value rattan items, such as baskets, are generally used and made more by households in less accessible, relatively poor settlements, particularly in Cameroon and Nigeria. Most households in relatively wealthy and accessible settlements either buy these items, rather than make them, or tend to use cheaper manufactured alternatives.

There is a general trend of replacing low-value rattan items, such as baskets and sieves, with cheaper man-made alternatives. Bags made from old fertiliser sacks are replacing rattan baskets used to carry farm produce in more accessible study settlements of Cameroon and Nigeria. These bags are used instead of rattan baskets because they are cheaper, more durable and more comfortable. Rattan baskets used for shopping are also being replaced by low grade plastic bags. However, used plastic bags appear to be an increasingly serious litter problem in the region. In South Africa, low grade plastic shopping bags have been banned, whilst in the Republic of Ireland plastic bags are taxed. These measures have led to a decline in the demand for plastic bags. Could Cameroon, Ghana and Nigeria implement measures along these lines? Banning plastic bags may lead to a resurgence in the demand for locally made rattan baskets.

In contrast to the above, the demand for relatively high value rattan furniture items, such as chairs, sofas, and shelf units appears to be growing in urban areas of Ghana, Nigeria and Cameroon. Data from this and other studies in these countries indicate that furniture items that were in the past made with wood are increasingly being replaced by items made with rattan cane. Rising prices of wooden furniture, partly due to reduced availability of high value timber species, as well as aesthetic reasons, are factors that contribute to this change in consumption patterns.

9.5 Policy and Development Implications

9.5.1 Rattan Resource Management Issues

In Ghana, Nigeria and Cameroon, rattans are harvested exclusively from wild populations, unlike some areas of Southeast Asia. At the moment, like most other NTFPs, rattan is considered an "open access resource" (Sunderland 2002). Anyone can harvest rattan and other NTFPs on off-reserve land, provided it is not cultivated.

Overall, the majority of rattan specialists interviewed for this study from Cameroon, Ghana and Nigeria perceive that rattan supplies are declining compared with five years ago. Sunderland *et al* (2003b) argue that, in the absence of knowledge on the population structure, abundance and distribution, regeneration, growth and reproductive patterns for rattan, it is difficult to determine what might be "sustainable" harvesting levels. But, they go on to point out that inventory data can provide an assessment of the impact of current harvesting practices for NTFPs. Their study in Takamanda Forest Reserve indicates that both the commercial species of rattan cane (*L.secundiflorum* and *E. macrocarpa*) are abundant and are not currently at risk of over-harvesting in the Reserve (Sunderland *et al* (2003b). A study in the Mokoko Forest Reserve also indicates that harvesting pressure on rattans is fairly low (Sunderland and Tchouto1999).

However, studies report scarcity of supplies in the on-road study settlement area in Cameroon (Shiembo 1986, Bureau des Etudes Forestiers/ Environmental 1998) as well as in urban markets of Cameroon (Shiembo 1986, Sunderland *et al* 2000). Scarcity of wild supplies of rattan is also reported (Sunderland 2001) around Biase in Cross River State,

Nigeria and in Ghana's wet evergreen zone (Townson 1995; Falconer 1992; Oteng-Amoako and Obiri-Darko 2000). In these areas, the way in which rattan is harvested is having a detrimental impact on the clumps being harvested, and this is reducing the ability of clumps to regenerate.

Formal legislation to transfer the management of forest resources from the State to forest communities is in the process of being implemented in Cameroon, Nigeria and Ghana. As a result, there does appear to be some potential for communities to benefit more from rattan and other NTFP enterprises by developing and implementing community-based forest management plans for forest resources, such as rattan, in forested areas. It is in the more accessible rural settlements, where local people perceive shortages in wild supplies of rattan cane and other NTFPs, that community forest management initiatives would be most useful and effective.

Providing guidance to harvesters on sustainable harvesting practices for rattan and other NTFPs should be part of community forest management plans, where rattan is being harvested unsustainably. Guidelines advising harvesters not to cut the young and immature stems to allow regeneration could increase production, allow the harvester to harvest again on a shorter rotation and increase the survival chances of individual clusters (Sunderland 2001). Guidance could be given by members of village councils or rattan associations to harvesters, particularly harvesting gangs. The African Rattan Research Programme is producing guidelines on sustainable rattan harvesting.

As noted above, significant amounts of rattan cane are harvested by organised groups of men, who are often urban-based individuals, in forests around more accessible settlements studied in Cameroon, Nigeria and Ghana. It appears that this activity is quite lucrative for the gang leaders, but communities currently benefit little from such enterprises, apart from gaining some income from trade in food and accommodation. Currently, there appear to be few community-level controls on the harvest of rattan and other NTFPs in these areas. At most, a token gift of alcoholic beverage may be, in general, all that is given to the village council along with a token cash payment at the start of harvesting.

The current moves to transfer the management of forests resources from the State to forest communities may provide some potential for communities to gain more benefit from outsiders harvesting forest resources from within village forests. For example, communities could introduce a tariff system, where harvesting gangs pay communities according to the quantity of rattan harvested. A system along these lines is apparently proving successful in Cross River State, Nigeria, where the people of Ekon-Anaku charge a standard rate for NTFPs transported through their village (Sunderland *et al* 2003b). However, to be effective, this type of system must be applied throughout the area, otherwise visiting gangs will simply choose to go to a neighbouring settlement where the tariff system is not operating.

Another possible strategy to increase supplies of rattan in areas where they are dwindling, which is being researched by the African Rattan Research Programme in collaboration

with interested communities and individual farmers, is enrichment planting of rattan in secondary forests and the cultivation of rattan as part of farm agroforestry systems. Preliminary results indicate that a number of factors affect the ability and willingness of communities and farmers to cultivate rattan (see Obeng-Okrah *et al*). Our research findings indicate that secure land and resource tenure is one of the most significant factors influencing the cultivation of rattan and other perennial NTFPs. Other factors include: land availability (a particular problem in the case of Ghana's on-road study settlements); management and labour costs and gender. In addition our findings indicate that farmers are understandably cautious about cultivating a new, unimproved crop that they are unsure will be economically viable and that may only yield profits after seven to ten years. The cultivation issue will be the subject of future papers.

Sunderland *et al* (2002) suggest that the formalisation of rattan trade, through the introduction of a system of harvesting licenses and quotas by the State based on known and actual sustainable yields could provide revenue for the State. Furthermore, it has been suggested that formalising the trade in NTFPs could change the way in which rattan and other NTFPs are perceived and managed (Sunderland *et al* 2003b). However, such policy advice has a number of shortcomings, particularly for the livelihoods of those involved in rattan-related activities. Firstly, there is the "what is in it for me?" question. Currently communities see little or no direct benefit from formal taxation under the present situation as few mechanisms currently exist by which revenue can be directed to communities. There is a danger that the introduction of formal harvesting licenses and quotas by the State may benefit the State but adversely affect those involved in rattan-related activities.

The formalisation of the rattan trade may cause a number of perverse effects. For example, the added costs of licenses (as well as time and travel costs required to apply for permits), may make harvesting even more of an unattractive proposition for individual rattan harvesters. This, in turn, may lead to reduced supplies of raw cane and increased costs of raw cane in urban markets. A price hike in raw materials for rural basket weavers and urban rattan furniture makers is likely to reduce their profit margins and/or increase the cost of finished products. Reduced profit margins may, in turn, inhibit potential entrepreneurs from becoming involved in rattan-related activities. Increased costs of low-value rattan goods may also lead consumers to switch to substitutes.

The introduction of harvesting permits could also lead to outside harvesting gangs dominating rattan harvesting operations because gang leaders may have the capital and clout to access licenses and manipulate the system. Imposing licenses only on those individuals or groups who harvest above a specified volume of rattan over a given period of time may help to bypass this problem.

It is useful to note, in passing, a point that Omamo and Farrington (2004) make in relation to policy advice concerning African agricultural economics as some of what they argue is relevant to African forest policy advice. They argue that much policy advice does not address the practical issue of implementation and that much more attention

needs to be paid to implementation constraints, such as corruption, and how these can be overcome.

With the above point in mind, one can argue that the introduction of a system of harvesting licenses and quotas may be costly to implement. This may be a significant problem, considering the limited resources of the forestry services in Cameroon, Nigeria and Ghana. Sunderland *et al* (2000) argue that forestry officers are already gathering "informal taxes" in Cameroon so that it would not take much more regulation to collect taxes on an official basis. It may, however, be more worthwhile and cost effective for the State firstly to focus on overcoming the current corrupt practices of forestry officials before trying to introduce rattan harvesting licenses and quotas.

Another obstacle to the introduction of harvesting licenses and quotas is the fact that baseline information to establish sustainable yield levels is required and this is not currently available in most cases.

It is clear that local people need to be actively involved in the management of both offreserve and on-reserve forest resources, because, as Falconer (1992) points out what happens outside forest reserves will influence what happens inside forest reserves.

Findings of our study indicate that in more accessible settlements, agricultural clearance a major contributor to increasing scarcity of rattan cane – as noted above agricultural clearance rather than forestry development is a major influence on raw material availability for NTFP-based enterprises (Townson 1995). Policies that influence agricultural development may well influence the availability of raw materials for NTFP-based enterprises.

9.5.2 Other Ways to Develop a Sustainable Rattan Trade and Add Value to Rattan-Related Activities

Apart from resource management strategies discussed above, there are a number of ways that may help the development of a sustainable and fair rattan trade that will benefit relatively poor, rural forest-dwellers and contribute to forest conservation.

Firstly, none of the rattan specialists interviewed in Cameroon or Nigeria said they belonged to associations. A higher proportion of rattan specialists in Ghana said they were members of associations, but Oteng-Amoako and Obiri-Darko (2000) argue that these are not very effective. The formation of such associations may help to give political voice to the concerns of rattan users, to develop self-regulatory mechanisms for the problems of informal trade activities, provide information on sound rattan management and provide information and shared facilities for improved processing and transformation and marketing. Morakinyo (1994) suggests that the Nigerian Export Promotion Council (NEPC) could set up a rattan processing and marketing association to undertake some of the above. According to Falconer (1992), Ghana's Export Promotion Council has initiated a programme to develop the export of cane products and is working towards promoting good quality rattan goods for export. However, it does appear that in Cameroon, Ghana and Nigeria, the export market for rattan is far less important than domestic, largely urban-based demand for rattan furniture. Furthermore, the circumstances, needs and aspirations of rural-based individuals involved in rattan-related activities are very different from urban-based rattan furniture makers. It may therefore be more appropriate to work with the different groups on the formation of specific associations for particular rattan users. Oteng-Amoako and Obiri-Darko (2000) suggest specific associations for rattan harvesters, rattan weavers and other groups of users.

Secondly, support and guidance could be given to rattan artisans in all zones and countries to help increase the quality, and hence price, of finished rattan products. Improving rattan processing and transformation is an activity of the Development of African Rattans Project (see Razak 2001). The main intervention involves boiling raw cane in diesel oil to improve the drying of cane, removes the epidermis (which means the canes no longer need to be scraped), protects against termites and other boring insects and gives the cane a glossy and shiny look (Sunderland 2001). A model processing units for training and demonstration has been recently constructed in Limbe, Cameroon and other model units will be established in Nigeria and Ghana. Encouraging improved rattan processing interventions in rural settlements where wild rattan supplies are still abundant in the surrounding forests would add value to the product and should increase returns for rural people.

Finally, and perhaps most importantly, it is essential that that the above interventions are carried out in conjunction with community forest management initiatives which should hopefully safeguard the benefits of forests and forest resources for local people.

9.5.3 Rattan: A Path Out of Rural Poverty?

Does rattan offer a route out of poverty for the chronically poor living in rural areas studied in Ghana, Cameroon and Nigeria? The answer, which hopefully has become clear from reading this report, is that it depends on the circumstances. A range of factors are important in this regard, including the socio-economic characteristics of the individual, demand for rattan products, market accessibility, as well as accessibility to, and the condition of, the rattan resource. The above question is discussed below in relation to arguably two of the poorest socio-economic groups considered in this study.

In Ghana, rattan harvesting and basket weaving provide an important source of income for recently settled, relatively poor, migrant cocoa farmers in remote settlements who have yet to establish cocoa farms, or have newly established cocoa farms that are not producing cocoa yet. Such relatively poor households tend to rely relatively more on wage labour on other people's farm, as well as trading activities and NTFP-related activities (such as harvesting rattan cane and weaving baskets) for their income, until the farm they are working on starts producing cocoa. For this group, it could be argued that rattan-related activities do contribute to their route out of poverty because they, along with other activities, provide income when agricultural income is not yet forthcoming.

The situation in relatively inaccessible settlements in Cameroon and Nigeria is very different. In such settlements very poor, elderly, and often infirm men are involved in basket-weaving. For such men, basket-weaving may well be one of the few income-

generating options available to them. But the demand for rattan baskets in these settlements appears to be declining as they are increasingly being replaced by cheaper, more durable and/or more comfortable alternatives. As explained above, there appears to be little potential to expand such basket weaving enterprises. In such cases, it could be argued that this type of rattan-related activity does little to help the chronically poor out of poverty. And, in the long run, it may be better to assist such people to engage in more lucrative options.

To conclude, despite their undoubted importance in the present livelihoods of poor and vulnerable social groups, rattan and other NTFP-related enterprises do not, in general, provide a route out of poverty. The best options for reducing the poverty and vulnerability of these social groups may be to increase their income earning potential by improving access to markets, credit and training skills.

References

Abeyasekera, S. 2000. *Analysis approaches to participatory work involving ranks and scores*. University of Reading, Statistical Services Centre.

Alexander, D., and O. Effa.(1994) *The Non-timber forest products report: the preliminary NTFP survey of Cross River State.* CRSFP, Calabar.

Amanor, K.S. 1999a. *The potential for tree certification and labelling in farming systems in Ghana*. Unpublished paper for IIED, London

Amanor, J.S. 1999b. <u>Global Restructuring and Land Rights in Ghana</u>. Forest Food <u>Chains, Timber and Rural Livelihoods</u>. Nordiska Afikainstitutet Research Report No. 108. Uppsala: Nordiska Afikainstitutet

Amanor, J.S. 2002. Shifting Tradition: Forest Resource Tenure in Ghana. In Toulmin et al (eds) *The Dynamics of Resource Tenure in West Africa*. London: James Currey.

African Research Association. n.d. Obonyi Socioeconomic Survey Report. Unpublished report.

African Rattan Research Programme. 2002. Land Tenure and Its Implications for Rattan Cultivation in Southwest Province Cameroon. ARRP Briefing Note No.1

Aniah, E.J. and I.J. Ekpoh. 1994. Population and Agricultural Intensification in the Tropical High Forest of Cross River State, Nigeria (Interim Report). Unpublished Report for the Cross River State Forestry Project (ODA Assisted). Calabar Nigeria.

Arnold, M. and I. Townson. 1998. Assessing the Potential of Forest Product Activities to Contribute to Rural Incomes in Africa. *ODI Natural Resource Perspectives No.37*.

Asaha, S. and Malleson R. 2000. *Socio-economic Studies Fieldwork and Survey Manual for Cameroon*. Unpublished report for the African Rattan Research Programme's Development and Promotion of African Rattan's Project.

Asaha, S. 2002. Social Research Officer, Cameroon Progress Report Rattan Socio-Economic Studies Report No. 3. African Rattan Research Programme unpublished report.

Asaha, S. 2003. A Socio-economic Survey and Monitoring of the Rural, Peri-urban and Urban Rattan Markets of Cameroon. African Rattan Research Programme Technical Note No. 17.

Atte, O. D. 1994. Land and Forests of Cross River State: A Participatory Appraisal of Rural Peoples' Perceptions and Preferences. Cross River State Forestry Project, Calabar, Nigeria.

Ayeni, J.S.O. and M. Mdaihli. 2001. Cameroonian-German (MINEF-GTZ Project for the Protection of Forests around Akwaya (PROFA): Project Planning Workshop. Mamfe.

Balogun, P. 1994. *The Impact of Social and Economic Issues on Forestry in Cross River State, Nigeria.* Unpublished Report for ODA Cross River State Forestry Project.

Brown, D. 1999. *Principles and practice of forest co-management: evidence from West-Central Africa.* European Union Tropical Forestry Paper 2. London: Overseas Development Institute.

Bureau des Etudes Forestiers/Environmental. 1998. *Non-timber Forest Products Exploitation in the Southern Bakundu Forest Reserve*. Unpublished report for ONADEF-ITTO

Cable, S. and M. Cheek 1998. *The plants of Mount Cameroon: A conservation checklist*. Royal Botanic Gardens, Kew.

CERUT, 1999. The wealth of forests in Cameroon: Results of field testing a methodology for the valuation of non-timber forest products (NTFP's) in NW and SW Cameroon. A report to AIDEnvironment, Amsterdam, The Netherlands. 65pp.

Collaborative Forest Management Team (CFMT), Forest Management Support Centre (FMSC), Forestry Services Division, 1999. *Guidelines: Collaboration In The Management Of Non-Timber Forest Product /Resources In The High Forest Zone. Forest Department, Kumasi.*

Comiskey, J.A. and F. Dallmeier. 2003. Adaptive Management: A Framework for Biodiversity Conservation in Takamanda Forest Reserve, Cameroon. In Comiskey, J.A., T.C.H. Sunderland, J.L. Sunderland-Groves (eds). *Takamanda: the Biodiversity of an African Rainforest*. SI/MAB Series #8. Washington: Smithsonian Institution.

Comiskey, J.A., T.C.H. Sunderland, J.L. Sunderland-Groves (eds). 2003. *Takamanda: the Biodiversity of an African Rainforest*. SI/MAB Series #8. Washington: Smithsonian Institution.

Defo, L. 1999. Rattan or Porcupine? Benefits and limitations of a high value non-wood forest product for conservation in the Yaoundé region of Cameroon. In T.C.H. Sunderland & L.E. Clark (eds.). *The non-wood forest products of Central Africa: current research issues and prospects for conservation and development*. Food and Agricultural Organization.

DFID. 2003. Ghana: Country Assistance Plan 2003-2006. London: DFID.

Dione, A.M., I. Tamnjong, N. Ndam and P. Blackmore. 2000. *Socio-economic Case Study of the Production-To-Consumption System of the Rattan Sector in Cameroon*. Unpublished report for Limbe Botanical Gardens, Cameroon and International Network for Bamboo and Rattan, Beijing, China.

Dunn, A. and D. Otu 1996. A community forest inventory for productive forest management in Cross River State, Nigeria. In *Recent Approaches to Participatory Forest Resource Assessment*. Rural Development Forestry Study Guide 2 Rural Development Forestry Network. London: Overseas Development Institute.

Dunn, R., D. Otu and J. Wong. 1994. *Report of the reconnaissance inventory of high forest and swamp forest areas in Cross River State, Nigeria.* Cross River State Forestry Project (ODA Assisted), Calabar, Nigeria.

Ebanyenle, E., J.K. Afful-Mensah and J. Asiedu. 1999. *Socio-economic Survey of the Rattan Sector in Ghana: Report on a survey conducted in Western Region 8-20 August 1999.* Unpublished report for FORIG.

Egot, M. 2003. *A preliminary report on a socio-economic survey of NTFPs in Cross River State, Nigeria.* Unpublished report for the African Rattan Research Programme.

Ekwoge H., H. Ebong, G. Vissi, P. Lontchi, J. M. Mbani, G. Ntube. 1999. *Participatory Land use Mapping in the Boa Plain area, South West Province*. Unpublished report for the Mount Cameroon Project and CARPE IR1.

Eno, N.M. 2004. *A rapid faunal survey of the Southern Bakundu and Barombi-Mbo Forest Reserves, SW Province, Cameroon*. A report to the Wildlife Conservation Society's Cameroon Biodiversity Programme. 12pp.

Environmental Resources Management (ERM). 1998. *Environmental Impact Assessment of Plantation Expansion in Forested Lowland of the Mount Cameroon region*. Report to the Department for International Development (DFID).

Falconer, J. 1992. *Non-timber forest products in Southern Ghana* Main Report. Unpublished report for the Forestry Department Ghana/ Overseas Development Administration U.K.

Falconer, J. and M. Arnold 1988. *Forests, Trees and Household Food Security*. ODI Social Forestry Network Paper 7a. Winter 1988

Francis, P.A. 1987. Land tenure systems and agricultural innovation. The case of alley farming in Nigeria. In *Land Use Policy* July 1987

FORMECU 1993. *Forest Revenue System Development in Nigeria*. Paper presented by FORMECU (Forest Management, Evaluation and Co-ordinating Unit, Federal

Department of Forestry, Nigeria) at a Seminar on Forest Revenue System Development in Nigeria, Benin City, Nov. 1993.

Gartlan, J.S. 1984. *Korup regional management plan: conservation and development in the Ndian Division of Cameroon* (Draft). Wisconsin: Wisconsin Regional Primate Research Centre. Unpublished report.

Ghana Statistical Service. 2000. *Ghana Living Standards Survey Report of the Fourth Round (GLSS 4)* Accra: Ghana Statistical Service.

Ghirotti, M. 1992. A Simple Method for Scoring Housing Conditions as Income Proxy in Ethiopia. In *Special Issue On Applications of Wealth Ranking*. RRA Notes No. 15. IIED.

Groves, J.L. and F. Maisels. 1999. *Report on the Large Mammal Fauna of the Takamanda Forest Reserve, South West Province, Cameroon, with special emphasis on the gorilla population*. Unpublished report to WWF Cameroon.

Holbech, L.H. 2000. Non-timber Forest Products Survey Part II, Annexe to Main Report Market Survey and Trade Route Assessment around the Ankasa Protected Area. Unpublished report for the Protected Areas Development Programme, Western Region, Ghana.

Hill, P. 1986. *Development economics on trial: the anthropological case for a prosecution*. Cambridge: Cambridge University Press.

Jones, G.I. 1956. The political organization of Old Calabar. In *The Efik traders of Old Calabar* (ed.) D. Forde. London: Oxford University Press.

Koppert, G. 2002. First Draft of the Socioeconomic Baseline Surveys in the Pipeline Corridor. Unpublished report

Kotey, N.A., J. Francois, J.G.K. Owusus, R. Yeboah, K.S. Amanor and L. Antwi. 1998. *Falling into place*. London: International Institute for Environment and Development (IIED).

Latham, A.J.H. 1973. *Old Calabar 1600-1891 the impact of the international economy upon a traditional society*. Oxford: Clarendon Press

Letouzey, R. 1985. *Notice de la carte phytogéographique du Cameroun*. Institute de la Carte Internationale de la Végétation, Toulouse.

Living Earth Nigerian Foundation. 1998. Desk Research Report on Sustainable Management of Community Forest Initiatives in Cross River State. Unpublished Report.

Living Earth Nigerian Foundation. 2002. Community Based Sustainable Management of

Tropical Rainforest in Cross River State, Nigeria: 4th Interim Narrative and Financial Report to the European Commission.

Malleson, R. 2000a. *Socio-economic Consultant's Trip Report for Cameroon and Nigeria*. Unpublished report for the African Rattan Research Programme's Development of African Rattans Project.

Malleson, R. 2000b. *Forest Livelihoods in Southwest Province, Cameroon: An Evaluation of the Korup Experience*. PhD Thesis, University College London.

Malleson, R. 2001. *Socio-economic Consultant's Trip Report for Ghana*. Unpublished report for the African Rattan Research Programme's Development of African Rattans Project.

Mascarenhas, J. and P.D. Prem Kumar 1991. Participatory mapping and modelling: users' notes. In *RRA notes number 12 July 1991*. London: International Institute for Environment and Development.

Mbani, J. M. 1996. Information profile for geographical zones: Mokoko River Forest Reserve. Unpublished report.

Mdaihli, M., T. du Feu, J.S.O. Ayeni. 2003. Fisheries in the Southern Border Zone of Takamanda Forest Reserve, Cameroon. In Comiskey, J.A., T.C.H. Sunderland, J.L. Sunderland-Groves (eds). *Takamanda: the Biodiversity of an African Rainforest*. SI/MAB Series #8. Washington: Smithsonian Institution.

Morakinyo, T. 1994. *The Ecology and Silviculture of Rattans in Africa: A Management Strategy for Cross River State and Edo State, Nigeria.* Unpublished report prepared for the World Wide Fund for Nature (WWF-UK) and Cross River National Park, Nigeria.

Morakinyo, T. 1994 The commercial rattan trade in Nigeria. In *Forests, Trees and People Newsletter No. 25*

MINEF 2003. Participatory Management Plan of the Takamanda Forest Reserve, Southwest Province, Cameroon.

Mukherjee, N. 1992. Villagers' perceptions of rural poverty through the mapping methods of PRA. In *Rapid rural appraisal notes number 15 special issue on applications of wealth ranking*. London: International Institute for Environment and Development.

Myers, N, R.A. Mittermeier, C.G. Mittermeier, G.A.B. de Foncesca & J. Kent. Biodiversity hotspots for conservation priorities. *Nature*. Vol. 203: 853-858.

Nweke, F., S. Haffblade and B. Zulu. 2004. *Building on Successes in African Agriculture*. *Recent Growth in African Cassava*. Focus 12, Brief 3. Washington D.C.: International Food Policy Research Institute.

Obeng-Okrah, K. and R. Malleson 2001. *Socio-economic Studies Fieldwork and Survey Manual for Ghana*. Unpublished report for the African Rattan Research Programme's Development and Promotion of African Rattan's Project.

Obeng-Okrah, K. 2002. *Social research officer, Ghana progress report, rattan socioeconomic studies report No.4.* Unpublished report for the African Rattan Research Programme.

Obeng-Okrah, K., A. Oteng Amoako, R. Malleson, T. Sunderland, P. Burnham. 2003. *Land Tenure and its implications for rattan cane cultivation in Ghana's Western Region*. African Rattan Research Programme's Briefing Note No.2 March 2003.

Omamo, S.W. and J. Farrington. 2004. Policy Research and African Agriculture: Time for a Dose of Reality? *ODI Natural Resource Perspectives* No.90 January 2004.

Omoluabi, A.C. and Abang, S.O. 1994. *Marketing Margins in Non-Timber Forest Products Trade in Cross River State of Nigeria*. Unpublished report for The Cross River State Forestry Project (ODA Assisted).

Oteng- Amoako, A.A. and B. Obiri-Darko. 2000. Rattan as a Sustainable Cottage Industry in Ghana: The Need for Development Interventions. In Sunderland, T.C.H. and J.P. Profizi (eds.) *New Research on African Rattans. Proceedings No.9.* Beijing: International Network for Bamboo and Rattan

Razak B. W., 2001. *Rattan Processing and Transformation in South West Province of Cameroon*. African Rattan Research Programme Report.

Schmidt-Soltau, K., M. Mdaihili, and J.S.O. Ayeni. 2001. *Socio-economic baseline survey of the Takamanda Forest Reserve*. Unpublished report to PROFA (GTZ-MINEF) Office. Mamfe.

Shiembo, P.N. 1986. *Development and Utilisation of Minor Forest Produce in Cameroon with Particular Reference to <u>Raphia</u> and cane (rattan palms). (Unpubl.) MPhil. Thesis, University of Ibadan.*

Simmons. D. 1956. An ethnographic sketch of the Efik people. In *The Efik traders of Calabar* (ed.) D. Forde. London: Oxford University Press.

Slayback, D. 2003. Landcover change in the Takamanda Forest Reserve, Cameroon: 1986-2000. In Comiskey, J.A., T.C.H. Sunderland, J.L. Sunderland-Groves (eds). *Takamanda: the Biodiversity of an African Rainforest*. SI/MAB Series #8. Washington: Smithsonian Institution.

Sunderland, T.C.H. 2001. Cross River State Community Forestry Project: Non timber forest products advisor report. Unpublished report for the Department for International

Development/ Environmental Resources Management / Scott Wilson Kirkpatrick & Co. Ltd.

Sunderland, T.C.H. 2002. The Rattans of West and Central Africa: An Overview In Sunderland, T.C.H. and J.P. Profizi (eds.) *New Research on African Rattans. Proceedings No.9.* Beijing: International Network for Bamboo and Rattan

Sunderland, T.C.H. and P. Tchouto. 1999. A Participatory Survey and Inventory of Timber and Non-timber Forest Products of the Mokoko River Forest Reserve, SW Province, Cameroon. A report for IR1/CARPE.

Sunderland, T.C.H, S. Bisong, J.S.O. Ayeni. 2001. Distribution, Utilization and Sustainability of Non-Timber Forest Products from Takamanda Forest Reserve, Cameroon. A Consultancy Report for PROFA. March 2002.

Sunderland, T.C.H., M. P. B. Balinga and J.L. Groves 2002. Cane Bridges of Cameroon. *Palms* Vol. 46 No.2 pp.93-95

Sunderland, T.C.H., L. Defo, N. Ndam, M.Abwe and I Tamnjong 2002 *A Socioeconomic profile of the commercial rattan trade in Cameroon*. In <u>New Research on</u> <u>African Rattans</u> INBAR Proceedings No.9. INBAR, Beijing.

Sunderland, T.C.H. & A.B. Morakinyo, 2002. *Nypa fruticans*, a weed in West Africa. *Palms*. 46(3): 154-155.

Sunderland, T.C.H, J.A. Comiskey, S. Besong, H. Mboh, J.Fonwebon and M. Abwe Dione. 2003a. Vegetation Assessment of Takamanda Forest Reserve, Cameroon. In Comiskey, J.A., T.C.H. Sunderland, J.L. Sunderland-Groves (eds). *Takamanda: the Biodiversity of an African Rainforest*. SI/MAB Series #8. Washington: Smithsonian Institution.

Sunderland, T.C.H., S. Bisong, J.S.O. Ayeni 2003b. Distribution, Utilization and Sustainability of Non-Timber Forest Products from Takamanda Forest Reserve, Cameroon. In Comiskey, J.A., T.C.H. Sunderland, J.L. Sunderland-Groves (eds). *Takamanda: the Biodiversity of an African Rainforest.* SI/MAB Series #8. Washington: Smithsonian Institution.

Sunderland-Groves, J.L., F. Maisels. 2003a Large Mammals of Takamanda Forest Reserve, Cameroon. In Comiskey, J.A., T.C.H. Sunderland, J.L. Sunderland-Groves (eds). *Takamanda: the Biodiversity of an African Rainforest*. SI/MAB Series #8. Washington: Smithsonian Institution.

Sunderland-Groves, J.L., T.C.H. Sunderland, J.A. Comiskey, J.S.O. Ayeni and M. Mdaihli. 2003b Takamanda Forest Reserve, Cameroon. In Comiskey, J.A., T.C.H. Sunderland, J.L. Sunderland-Groves (eds). *Takamanda: the Biodiversity of an African Rainforest*. SI/MAB Series #8. Washington: Smithsonian Institution.

Toulmin *et al* . 2002.(eds) *The Dynamics of Resource Tenure in West Africa*. London: James Currey.

Townson, I.M. 1995. *Incomes from Non-Timber Forest Products: Patterns of Enterprise Activity in the Forest Zone of Southern Ghana. Main report.* Unpublished report for ODA Forestry Research Programme with the Planning Branch of the Ghana Forestry Department.

Thomas, D.W. 1994. *Vegetation and conservation of the Mokoko River Forest Reserve*. Mount Cameroon Project, Limbe.

Ukpe, I. and R.Malleson. 2000. *Socio-economic Studies Fieldwork and Survey Manual for Nigeria*. Unpublished report for the African Rattan Research Programme's Development and Promotion of African Rattan's Project.

Ukpe, I. 2002. Social Research Officer, Nigeria Progress Report, Rattan Socio-economic Studies Report No. 5 May 2002. Unpublished report for African Rattan Research Programme's Development of African Rattan's Project.

Wollenberg, E., A.S. Nawir. 1998. Estimating the Incomes of People who Depend on the forest. In E. Wollenberg and A. Ingles (eds) *Incomes from the forest: methods for the development and conservation of forest products for local communities*. CIFOR/IUCN.
APPENDIX A GLOSSARY

* Asterisks refer the reader to other entries

<i>abusa</i> system (Ghana)	Under the <i>abusa</i> system, landholders contract out virgin land to settler tenant farmers who provided the landholder with a one-third share of the cocoa produced (Amanor 1999b). Many other variations exist.
<i>abunu</i> system (Ghana)	Under the <i>abunu</i> system, which is now common in areas where land has become scarce (Amanor 1999b), cocoa is shared equally between the landholder and the tenant farmer.
afofo (Cameroon)	Alcohol made from distilled palm wine, otherwise known as <i>illicit gin</i> .
afang (Nigeria)	Common name in Cross River State, Nigeria for <i>Gnetum africanum</i> and <i>Gnetum buchholzianum</i> . These are wild, woody understorey forest climbers. Leaves are commonly used in cooking and are of great commercial importance in the humid forest zone of West and Central Africa.
akpeteshie (Ghana)	Local name in Ghana study settlements for a distilled drink made from the sap of raphia and/or oil palm.
atakpame (Ghana)	Houses with mud walls, without wooden frame but superior to wattle and daub.
dry season mango (Cameroon) <i>bitter kola</i>	<i>Irvingia wombulu</i> , forest tree rarely found in the wild in the fieldwork area, common further north. Kernels commercially important condiment like sweet bush mango*. <i>Garcinia kola</i> , forest tree, seed eaten as a stimulant, like kola
	nuts*, bark and seed used for medicinal purposes.
<i>bush mango</i> (Cameroon)	<i>Irvingia</i> spp., large forest tree, the kernels of two species, dry season bush mango* and sweet bush mango* are a commercially important condiment in some parts of the humid forest zone of West and Central Africa, used to thicken and flavour soups.

bushmeat	Game meat, usually hunted or trapped, land snails are not included under this term.
bush onion (Cameroon)	<i>Afrostyrax lepidophyllus</i> , also known as <i>country onion</i> (P), forest tree, strongly smelling of garlic; seeds used as a spice, commercially important.
casu nut	<i>Tetracarpidium conophorum</i> , forest liane, seeds eaten cooked as a snack, high in protein and carbohydrates.
<i>chewing stick</i> (Cameroon and Nigeria)	Split stem or root wood of numerous forest tree species which are widely used to clean teeth in West Africa.
cocoyams Egusi (Cameroon and Nigeria)	<i>Colocasia</i> spp. and <i>Xanthosoma</i> spp. <i>Cucumeropsis manii</i> , commonly cultivated oily seed, ground then used to thicken and enrich soups, particularly delicious mixed with green leaf vegetables or tomato-based stews.
Ekpe	One of the most widespread, prominent and powerful male secret societies in parts of Southwest Cameroon and Southeastern Nigeria.
elites	Politically powerful, wealthy, educated individuals.
eru (Cameroon)	Common name in Southwestern Cameroon for <i>Gnetum</i> <i>africanum</i> and <i>Gnetum buchholzianum</i> . These are woody understorey forest climbers, leaves of great commercial importance in the humid forest zone of West and Central Africa. Used locally to make a popular dish, also called <i>eru</i> , made by combining finely chopped <i>eru</i> leaves with <i>waterleaf</i> (<i>Talinum triangulare</i>), a semi-domesticated herb and other ingredients.
fufu(Cameroon and Nigeria)	Pounded starchy vegetable, usually eaten as an accompaniment to soup with the fingers.
galamsey (Ghana)	Small scale (illegal) gold mining.
<i>gari</i> (Ghana, Cameroon and Nigeria)	A widely used, fermented, ground and precooked cassava flour, to which boiling water is added to make a type of <i>fufu*</i> or porridge.
hot leaves	Local name in Southeastern Nigeria for <i>Piper umbellatum</i> and <i>P. guineense</i> leaves. Used for cooking. Particularly good with fish.

<i>indigenes</i> (Cameroon and Nigeria)	A locally used term, both in Southwest Cameroon and Southeast Nigeria, for the autochthonous people of the area, also known as <i>natives</i> *.
kenja (Cameroon)	Concial farm baskets made from rattan.
kola nuts	<i>Cola acuminata</i> and <i>C. nitidia</i> , medium-sized forest trees, often planted in cocoa farms. Seeds are important items of regional trade in West Africa; stimulants often used medicinally, for traditional ceremonies and to welcome and entertain guests.
natives (Cameroon and Nigeria)	Locally used term for the autochthonous people of an area, also known as <i>indigenes</i> *.
njabe (Cameroon)	<i>Baillonella toxisperma, moabi</i> , valuable, slow-growing timber tree, seed used to produce cooking oil, important source of cash for women in some settlements.
njansañg (Cameroon)	<i>Ricinodendron heudelotii</i> , common, secondary forest tree; seeds important source of cash, used ground as a condiment, especially in <i>pépé soup</i> * and to flavour fish, high in fat, similar levels to those found in ripe peanuts (Hart and Hart 1986).
nnoboa (Ghana)	Farm labour working groups (Ghana). The group usually numbers between three and six people who work in turns on each other's farms on a daily or weekly basis, depending on the volume of work.
odikro (Ghana)	Village chief
oil palm	<i>Elaeis guineensis</i> , indigenous to the forest zone of West Africa; the source of palm oil, kernel oil and palm wine, both wild and cultivated.
okra	<i>Hibiscus esculentus,</i> commonly cultivated vegetable used in soups to give mucilaginous consistency.
palm wine	Popular alcoholic drink made from the sap of oil palm* and certain species of raffia palm*.

pidgin English	An auxiliary, English-related lingua franca spoken in Cameroon and throughout West Africa (Todd 1991: 4).
<i>plum</i> (Cameroon)	<i>Dacryodes edulis</i> , wild and cultivated tree, popular oily fruit, similar in texture to avocado pear, eaten boiled or lightly grilled on its own or with hot paste, made with chilli pepper*, <i>bombanda</i> * and other spices; wood sometimes used to make mortars, fruit commercially important.
raffia palm	<i>Raphia</i> spp., several species found in the KFA. <i>Raphia hookeri</i> , <i>ukot</i> * is probably the most useful species found in the KFA - fronds used for thatches (<i>sow</i> *), rachis used for furniture and poles, sap tapped to produce palm wine* and <i>afofo</i> *.
rattan cane	Climbing palms belonging to the family Palmae which grow wild in the forests of West and Central Africa and Southeast Asia; stems used to make a wide range of household products.
randia	Local name in Southeastern Nigeria for <i>Massularia acuminata</i> , used as a chewing stick*. Commercially important.
salad	The common name in Southeastern Nigeria for <i>Gnetum africanum</i> and <i>Gnetum buchholzianum</i> . These are woody understorey forest climbers. The leaves are of great commercial importance in the humid forest zone of West and Central Africa. Used locally to make a popular dish, also called <i>salad</i> , made by combining raw, finely chopped <i>salad</i> leaves with raw egg and other ingredients.
Stool land (Ghana)	Stool land is land held by a particular landowning group (or stool). Stools, represented by stool chiefs, are generally the landholding authorities in Ghana's high forest zone. The sitting stool is the symbol of chieftancy across southern Ghana.
strangers(Cameroon and Nigeria)	Locally used for short and long-term settlers from outside the area.
sweet bush mango(Cameroon)	Sweet bush mango, <i>Irvingia gabonensis</i> , most widespread species of bush mango* found in forest, farm and fallow land in low altitude areas of Southwest Province. Seed kernel used as a condiment.

wrapping leaves (P) *Megaphrynium macrostachyum,* forest herb, commonly found in cocoa farms, used to wrap food and to weave a rough variety of sleeping mat called *etambong**.