

NON-TIMBER FOREST PRODUCTS AND INDIGENOUS MANAGEMENT OF THE FOREST ALONG THE MIDDLE CAQUETÁ RIVER: COMPLEMENTARITY AND NEW OPTIONS

Carlos A. Rodríguez and Maria Clara van der Hammen¹
The Tropenbos-Colombia programme²

1. NON-TIMBER FOREST PRODUCTS: A HISTORY OF INTERCULTURAL CONTACT

For the Amazonian indigenous peoples, the history of contact with global society has been marked since the end of the last century by the exploitation of a non-timber forest product, rubber. During the period of rubber exploitation a scheme based on terror was instituted, which is still part of the collective memory of the present indigenous communities along the Middle and Lower Caquetá and Putumayo rivers (Taussig, 1987, Dominguez and Gómez, 1990).

Besides rubber, a number of other gum products (*chicle*, *juansoco* and *balata*), as well as fish and the trade in otter (*Lutra* spp.), caiman and jaguar fur have been part of the region's economic history.

The exploitation of rubber took place under different modes of 'endeude' relations (in-debt relations), a mechanism that has been perpetuated as the typical socio-economic relationship for the Colombian Amazon. This mechanism is still very common, although its expressions have undergone some minor changes as a consequence of large-scale integration and contact with the market economy.

The *endeude* is an economic relationship consisting of a chain of intermediaries among the big and local traders, characterised by the advance of merchandise as payment for the extracted or collected products. This chain implies a mutual dependence between patron and client and is characterised by low levels of money circulation. In most cases, the client is in debt to the patron because of high prices for merchandise and the low prices of extracted products.

The impact of the exploitation of non-timber forest products on the indigenous communities has been considerable. In the first place, the over-exploitation of labour and the introduction of diseases decimated the population. The exploitation resulted in most cases in considerable displacements of the workers, as the resources are dispersed in the territory in places far away from the settlements. The absence of adult men during much of the year meant the alteration of ritual cycles and therefore of cultural reproduction. The acquisition of merchandise introduced a new form of ownership and the need to build individual houses in order to lock away the newly-acquired individual property, so that the *maloca* or collective roundhouse lost its role as community housing (Rodríguez and van der Hammen, 1993). In other words, a process of

¹ Dr. Carlos Rodríguez is the Programme Team Leader of Tropenbos-Colombia. As a biologist, he previously conducted PhD and Post-doctorate research on fishery management in the Caquetá region from an interdisciplinary perspective. Dr. Maria Clara van der Hammen is an anthropologist with a long experience in participatory research with indigenous communities in the Caquetá region, focusing on cultural aspects of natural resource use.

² Apartado Aéreo 036062, Santafé de Bogotá, Colombia. E-mail: ftropenb@colomsat.net.co

cultural change, new settlement patterns, demographic changes, and of major integration has taken place, also stimulated by governmental policies.

The extraction of products like gums and animal skins generated a series of economic booms for the Amazon region until these products disappeared from the world market during the 1960s. In the first case this was due to substitution by synthetic products and, in the second case, to the prohibition of the fur trade. These economic booms were primarily advantageous for traders and intermediaries, who gained large profits thanks to the low prices paid to the indigenous gatherers, but for the indigenous people they were periods of exploitation. At the same time, however, they were periods in which they had access to a series of products like axes, knives, hooks, nylon, matches, shotguns, sewing machines and outboard motors (Rodríguez and van der Hammen, 1993).

Since the 1960s, the only products that are being commercialised towards the centre of the country are large catfish and, on a smaller scale, ornamental fish. Commercial fishery has been consolidated as the main economic activity of the Middle and Lower Caquetá region, where the *endeude* and patron-client relationships are still present.

2. NON-TIMBER FOREST PRODUCTS AS AN ALTERNATIVE FOR REGIONAL DEVELOPMENT

Since the end of the 1970s a series of government programmes has been developed for the indigenous communities and, in general, the Amazon region has received special attention. Both the State and the private sector have generated new ideas and plans for the development and occupation of the Amazon region, based on ideas of integration and participation in the national economy. The advances in the environmental debate have played an important role; for example, a special institution was created in order to guide the development of Amazonia. It included a research and experimental station from where a series of proposals was elaborated for alternative production systems, such as adapted agriculture, agroforestry, captive animal breeding and fish-culture. Many of these alternatives are based on non-timber forest products. The proposals tried to offer production alternatives that were better adapted ecologically, but which could offer a monetary income at the same time. Special attention was paid to the possibility of ending existing commercialisation mechanisms for extracted products like fish, as these implied patron-client relations characterised by *endeude*, which was considered to be unjust and inequitable.

During a workshop for indigenous leaders of the Middle Caquetá region, supported by the Tropenbos-Colombia Programme, the history of State intervention and development programmes carried out in the region was reconstructed in a collective exercise. From a local point of view, the communities saw these projects and programmes as sources of income, as they could work as guides and workers. Nevertheless, they perceived all the proposals as something external. In most cases, they did not really understand either the reasons or the objectives of these projects, but they always hoped they would last as a source of income.

3. TOWARDS PARTICIPATORY RESEARCH

The proposed alternatives were not generating the expected results and some of them were clear failures. Alternatives were often proposed based on the use of resources, while no information was available on the socio-cultural, socio-economic, biological and economic aspects of the

extraction, exploitation and management of these resources. The communities have managed these resources in various ways and they possess valuable information which is important to know and take into account.

In response to this situation, a discussion was started on the causes of these failures and new research strategies were proposed which considered the indigenous point of view. Indigenous knowledge systems received attention through studies of ethnobotany and ethno-ecology.

In this context, a project was started under the Tropenbos-Colombia Programme, dealing with indigenous environmental management in the Middle and Lower Caquetá region. One of the major objectives of this project is to generate relevant information on the management and forest use models employed by the indigenous communities. This information includes both the communities' symbolic vision and the quantification of actual resource use, the latter through a participatory recording of consumption patterns. It is very important to have detailed knowledge of the cultural framework that regulates the use of resources, as well as of the physical magnitude of resource uses, when alternatives have to be proposed.

In the Indigenous Environmental Management project a participatory research strategy has been developed which includes joint research and indigenous communities' own research on themes related to traditional knowledge. In order to quantify resource use, forms were designed for the daily recording of the consumptive use of products obtained through agricultural activities, fishing, or hunting and gathering.

This monitoring of resource use was first carried out at the level of individual households, including roundhouses, isolated households, households forming part of an indigenous settlement, and some colonist households, covering a large territory. This provided valuable information on species and space used and comparative information on resource management at the regional level. The next methodological challenge was how to follow the use of a community as a whole. To meet this challenge, a slow process was started with the Andoke community. Starting with a few households, little by little, more households became part of the project, ending with the whole community recording its consumption of forest and agricultural products. The community became involved in a dynamic discussion which was consolidated as a permanent community observatory of the state of resource use and as a basis for the design of a natural resource management plan for its legally recognised territory.

Community workshops were held to improve the monitoring process and to discuss recording difficulties. As a result, registration forms were redesigned and the names of species and places were unified. In addition, results were discussed and several themes were noted as requiring further study. In this way a scheme was developed for intercultural dialogue between science and the indigenous knowledge system.

4. TRADITIONAL MANAGEMENT VERSUS ACTUAL USE

One of the most evident characteristics of the model of indigenous forest use is the management of biodiversity at all levels. With respect to agricultural diversity, more than 140 crops and varieties are being managed (Annex 1). Over 100 fish species are being used at the regional level (Annex 2) and more than 60 animal species are being hunted, including mammals, birds, reptiles and amphibians (Annex 3).

The management of diversity is one of the main characteristics of indigenous forest use. It follows temporal processes and seasonal changes, according to annual and even multi-annual cycles, the seasonal availability of the resources and the spatial diversity of the different landscape units and habitats (van der Hammen, 1991, Rodríguez and van der Hammen, 1996, van der Hammen and Rodríguez, 1996). The sustainability of indigenous models is based on cultural and ecological principles, of which the following are the most important:

- There is only a limited amount of energy that has to be kept flowing among all creation.
- Everything in nature has a spiritual owner, nothing can be used without permission.
- The territory is a multi-ethnic space in which each ethnic group has its own mythical birthplace which it has to take care of.
- In this multi-ethnic territory each ethnic group has its own task in order to help maintain the balance.
- The *maloca* or roundhouse is the basic unit of interaction with nature.
- The shaman is the person in charge of establishing a harmonious relationship with the spiritual owners.
- The spirits that gave origin to the different ethnic groups still support them, therefore these beings like tapirs, palms, certain fish species, and birds are considered to be sacred.
- Animals have their own sacred sites and respect for these places guarantees the harmonious sharing of the territory between animals, plants and human beings.

Traditional indigenous management of the tropical forest can be considered to be a successful form of conservation, as it does not include a fundamental transformation of ecosystems. A high proportion of the Colombian Amazon is considered to be untouched, undisturbed and unaltered, and this situation is the result of indigenous intervention and management over decades, centuries and even millennia.

Actual forest management by indigenous communities is based mainly on traditional models and is dominated by subsistence consumption. However, socio-cultural changes have transformed the use patterns, sometimes leading to pressure on specific resources with market value. Examples are the meat of hunted animals commercialised at the local level, and large catfish, commercialised at the extra-regional level. This pressure may cause imbalances and sometimes even jeopardise the sustainability of the resource.

5. CHALLENGES FOR NTFP RESEARCH

This situation presents a double challenge. One part of that challenge is the search for alternative resources or products for which there are no well-established markets. On the other hand, there is need for research aimed at developing sustainable ways of using resources that are currently being exploited.

The use of non-timber forest products has been proposed as a valuable alternative, but this will only be successful when a broad approach is adopted, which integrates basic research (biological and ecological aspects) and research into social, cultural and economic aspects. Total control of all or part of the commercialisation process is essential in order to break with already established mechanisms of mediation. This means that basic research will have to respond to the challenge of directing its efforts towards the needs of local population. This implies more applied research, including experiments which may contribute to the development of sustainable management models. Research should also take into account the cultural impact and define its

proposals as part of a natural resource management plan. In this context, it is important to include local knowledge and research carried out by the local people themselves.

The Tropenbos-Colombia Programme has considered and developed both these challenges. In order to define the sustainability of large catfish exploitation, the present basis of the local economy, a detailed study of the historical, social, cultural, economic and ecological aspects of commercial fisheries has been carried out in the Lower and Middle Caquetá region (Rodríguez, 1991; in press). As a result, reliable information is now available on the magnitude of extraction from a database encompassing more than one decade. This provides a firm basis for developing sustainable commercial fishery and for considering the future management patterns of the resource. In this process, the participation of fishermen and traders, together with inter-institutional action, will allow all the actors to agree upon such a plan.

Figure 1 Catch areas along the lower Caquetá River

The Indigenous Environmental Management project has taken some initiatives to develop income-generating alternatives based on non-timber forest products. Lianas are traditionally used to make traps and baskets and are also used in the construction of houses. They are in growing demand as a raw material for the furniture industry in the centre of the country. Research on this resource covers botanical aspects, life cycles, growth, abundance and use of lianas, using both scientific and traditional knowledge and including some experiments in planting and forest enrichment. So far there seem to be few options for planting and enrichment, but a huge volume of information has been generated on uses and traditional knowledge. This will make it possible to formulate alternatives and improve strategies for the future. The project has created an interest in recovering techniques of manufacturing traditional products made of the *yaré* liana, such as traps and basketry. Younger generations no longer know these techniques.

The mechanism of joint research with local communities has created an interest in alternatives that are based on traditional as well as scientific knowledge, up to the point where different proposals have been generated for the study of other resources. These include the management of palms and fauna, and some studies are to be started on the *pui* palm used for roofing, and on macaws, parrots, and butterflies.

The interdisciplinary approach and methodologies developed in the Indigenous Environmental Management project in the Middle and Lower Caquetá river basin, have revealed in considerable detail the symbolic, economic and social context in which the natural resources are being used. Traditional patterns as well as the pressures and economic situations that generate new use patterns have been clarified.

The exploitation of non-timber forest products undoubtedly constitutes an important aspect of indigenous management. Nevertheless, there is an important point to consider: indigenous management implies the use of the biodiversity as a whole, not just the exploitation of a few products with commercial value.

The search for income-generating alternatives through non-timber forest products has been proposed as a strategy for conservation and improving people's livelihoods, but these objectives are not easily achieved in practice. In the case of the Middle and Lower Caquetá region, after two decades of projects involving alternative Amazonian products, none of these have been consolidated.

The causes of these failures seem to lie in the limitations of research. Proposals have been formulated externally, without really knowing the Amazonian context and without considering local knowledge or traditional management models. These complex subjects require the consideration of a broad range of social, cultural, economic, institutional and commercial aspects. They also require inter-institutional cooperation not always easy to obtain. For proposals on the sustainable exploitation of non-timber forest products to be successful, they should therefore consider:

- the historical context of the use and exploitation of these products;
- the traditional management models and local knowledge of these resources;
- participatory research proposals and experiments;
- traditional socio-economic and labour relations;
- the ecological impact (the use of biodiversity vs. the use of one or a few resources);
- the cultural impact;
- the economic impact;
- new labour and social relations;
- the establishment of a management plan for the territory and its resources as a framework for the exploitation of non-timber forest products;
- the commercialisation of the products.

The exploitation of non-timber forest products as a mechanism for forest conservation continues to be an interesting option in spite of many historical failures. But to be successful, it seems to be necessary to attend to the whole range of the above aspects in an integrated and participatory manner. If this is not done, false expectations about the potentials of NTFP development will be raised.

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ANNEX 1 POLYVARIETY OF CROPS IN THE TRADITIONAL YUKUNA CHAGRA

Name in yucuna	Common name	Characteristics
MANIOC		
1. Chitapanari	Jeechúwaké	broadleaf
2. Yawaru		low little plant
3. Karipuwaké	Karipuwake	plant with many branches
4.	Kariwake	purple shoot
5.	Inerukaná	
6.	Jeechumerú	
7. Jeeruke	Yuca de puerco	broadleaf
8. Yechake	Yuca de Yecha	chocolate skin
9. Kunuke	Yuca de siringa	small long leaf
10 Yuchike	Y. de Juansoco	milky on peeling
11 Wapaná	Y. de Bodoquera	very long stem
12 Puturuke	Y. de Perdíz	chocolate stem
13 Awe'etuke	Y. de Awe'eretú	short stems
14 Jiñake	Y. de diablo	black stem, dark leaf, red skin
15 Kenake		red skin
16 Wereri	Y. de Tanimuka	white leaf on the back
17 Wajari'ike	Y. de Manicuera	
18 Kuruwanurupi		similar to yawaru, dark stem
19 Tuhirike	Y. de mochilero	yellow primordium
20 Pariwake	Yuca dulce	
21 Jeechútupana	Yuca de blanco	
SWEET POTATO		
22 Kejrú	Yota	
23 Peyawaruna	Pierna de Jeechú	
AROID ROOTS		
24 Iwatá	Mafafa	broadleaf
25 Puumi	Mafafa	slimy, food of the ara bred for feathers
26 Pujyú	Mafafa	idem
27 Puyaná	Mafafa	slimy, to burn the mouth of the manguare drum
28 Ujri	Mafafa	large leaf, small root
YAM		
29 Kuayú	ñame de diablo ñame de monte ñame de caracol	black grows in savannas type of parasite, grows on trunks
BANANA		
30 Erojopaparune	P. de dormilón	throws off 3 or 4 shoots
31 Pujarúpare	costillade perezoso	has no inflorescence
32 Kamiya'ala	P. de Kari	short, thick
33 Majiguara	P. enano	
34 We'ejiri	Pildoro	
35 Satume	P. de Santo	
36 Jeechupa'are	Costilla de Jeechú	banana
37 Kawachí	Antebrazo de Jeechú	large, green, ripens yellow
38 Popocho	Del Perú (Keyaco)	
FRUIT TREES (Paeji)		
MARAÑON		
39 Jilucajone		large, red
40 Jilukerani		small, red
41 Jilujewana		large, yellow
42 Ipichijewana de Guargauchi	De lombriz	round, without seeds, wild

Name in yucuna	Common name	Characteristics
CAIMO (Jima)		
Inerukana		
Jeechúmeru		
44 Kupirapajimare	Caimo de pajaritos	
45 Ipureñaño		green when ripens
46	Seno de Jeechú	large
UVA (Kajmu)		
47	Grande de Iyariru	
48	Pequeño de Jeechú	
ANON(Kajyu)		
49	Anón propio	
50	Anón de nutria	small, of the flooded forest
MARACA		
51 Jeechúpaje	Cabeza de Jeechú	sweet, small
52 Jiñalapanita	Maraca de pescado	white, of the shore
53 Inerukana		round
UMARI		
54 Mañacureitapa	El más grande	black
55 Jiñalumare	De pescado	green
56 Pusulumare	de Tintín	yellow
57		red
INGA		
58 Pijloro	Guamo de fruta	longest
59 Jiña	De pescado	
60 Walá	De laurel de monte.	for parrots
AVOCADO Piriyé)		
61 Jeechú	De pepa mas grande.	
62 Inerukaná	De hoja pequeña.	
63 Jeechúmeru	De hoja mas pequeña.	
64 Jema	De danta.	wild, is not cultivated
CHONTADURO PALM(Pipiri)		
65 Jeechú-pipiri	Jeechú	proper chontaduro
66 Kamuná-pipiri	Kamuná	
67 Jiñapiri	Pescado	yellow, small
PINEAPPLES (children of Jeechú)		
67		red
68		yellow
69		orange
PINEAPPLES WITHOUT STARCH		
70 Jarechinamawiro de diablos		
71 Makuemani	de makú	
72 Jeenúamawiro	amarilla	large
73 Kuañamawiro	de bambero	
74 Juupimawirone	de caloche	
ACTUAL PINEAPPLES		
75 Laarú	de guacamayo rojo	red leaves
76 Yawi	cabeza de tigre	large, round, yellow
77 Kayapí	de castaño	has pure juice, for straining

Name in yucuna	Common name	Characteristics
PINEAPPLE WITHOUT SEEDS		
78 Muraná	de pescado	forbidden to scrape
79 Tijwi		forbidden to scrape
COCA (Ipatú)		
80 Jeechú	de Jeechú	
81 Jeeriwaná	hermano de Kanumá	
82 Iyuwacaco	de carguero	round leaf
83 Mamú	de sábaló	large leaf
84 Pachica		round leaf
TOBACCO		
85 Jeechú		large leaf
86 Majnori		small leaf, thick
87 Parori		round leaf
88 tabaco de tigre		white tobacco to cure children
89 lukuri		to make snuff
CHILE PEPPER		
CHILES FOR CURING		
90 Kulaná	Ají dulce	cannot be consumed
91 Awitoóco	Ají amarillo	cannot be consumed
CHILES FOR CONSUMPTION		
92 Jeechú	Dedo de Jeechú	yellow
93 Kuphiracá	Ají de Inerukana	
94 Ichironji	Ojo de pescado	
CHILE TO SNUFF		
95 Karipulakena	de Karipulakena	
96 Jeechútupana	de hombre blanco	
GUAYA		
97 Guaya	Guaya de Jeechú	proper
98 Mura	Guaya silvestre	wild
99 Lupuguayaé	Guaua de danta	wild
CUYAS		
100 Acarú		large, for caguana
101 Kuwijro	de Jeechú con pico	for small funting preys
102 Acarú	redonda	for distributing guarapo
103 Ipatuke	totuma	to keep coca
104 Úrero	totuma	for big game
105 Acayá	totuma	to offer hunting
MARACA		
106 Jeechú	de Keyaco	to put healing tar
107 Laarí	maraca de baile	
SEEDS OF THE MARACA		
108 Ijirila	pepa de guache	
109 Sasai	pepa de guache	

Name in yucuna	Common name	Characteristics
PAINT		
110 Kerapiri	bejuco de jabón	for the hair
111 Lana		for the hair
112 Kerajama	pintura de baile	corporal paint
MEDICINAL PLANTS		
113	Remedio de culebra	
114	Remedio de armadillo	
FIBRES		
115 Ma'awi	Fique	small like a pineapple
FISH POISON		
115	de bejuco	
116	de raíz	

**ANNEX 2 CATCH COMPOSITION AND DISTRIBUTION OF FISH FOR THE
ANDOKE COMMUNITY, MIDDLE CAQUETÁ RIVER, COLOMBIAN
AMAZON (MAY 1997-APRIL 1998)**

ANNEX 3 CATCH COMPOSITION IN NUMBER OF INDIVIDUALS PER HUNTED SPECIES DURING THE PERIOD SEPTEMBER 1997 – OCTOBER 1998 BY 30 HOUSEHOLDS OF THE ANDOKE COMMUNITY IN THE MIDDLE CAQUETÁ REGION OF THE COLOMBIAN AMAZON

Common name	Scientific name	Name in Andoque	Total
Mammals			
Puerco	<i>Tayassu pecari</i>	<i>i;x</i>	19
Cerrillo	<i>Pecari tajacu</i>	<i>sə'me</i>	42
Venado Pardo	<i>Mazama gouazoubira</i>	<i>Tóbeo</i>	4
Venado	<i>Mazama americana</i>		2
Tigre	<i>Panthera onca</i>		1
Tigre colorado	<i>Felis concolor</i>	<i>adú;no</i>	1
Tigrillo	<i>Felis</i> sp.		3
Zorra	<i>Eira barbara</i>	<i>no;x;</i>	2
Bujeo	<i>Inia geoffrensis</i>		1
Gurre	<i>Dasypus</i> sp.	<i>Feíko</i>	6
Gurre 1	<i>Dasypus septemcinctus</i>	<i>ba'tufi</i>	3
Gurre 2	<i>Dasypus kappleri</i>	<i>ne'de</i>	3
Oso hormiguero	<i>Myrmecophaga tridactyla</i>	<i>Heoruk#</i>	2
Chucha	Didelphidae		1
Danta	<i>Tapirus terrestris</i>	<i>i;tø</i>	102
Chichico	<i>Saimiri</i> spp.		3
Churuco	<i>Lagothrix lagothricha</i>	<i>Soó</i>	8
Mico tanque	<i>Cebus albifrons</i>	<i>Kóyaiø</i>	1
Maicero	<i>Cebus apella</i>	<i>Mekú</i>	4
Mico	Primates	<i>Kóta</i>	1
Mico volador	<i>Pithecia</i> sp.	<i>pøde'de</i>	2
Ardilla	<i>Sciurus</i> sp.		2
Borugo	<i>Agouti paca</i>	<i>ø-ø</i>	173
Guara	<i>Dasyprocta fuliginosa</i>	<i>Txx</i>	36
Tintin	<i>Myoproctas</i> spp.	<i>Siøhø</i>	32
Puerco espín	<i>Coendou</i> spp.		1
Rata espinosa	Echimyidae		1
Ratón	Rodentia	<i>Posi</i>	5
Yulo	<i>Hydrochaeris hydrochaeris</i>	<i>Seyó</i>	2
Reptiles			
Babilla	Alligatorinae	<i>tu'mí;</i>	79
Charapa	<i>Podocnemis expansa</i>	<i>pa'dé</i>	57
Taricaya	<i>Podocnemis unifilis</i>	<i>Sieñekófi</i>	7
Morrocóy	<i>Geochelone</i> spp.	<i>Yóyafi</i>	19
Others			
Grillo	Ortoptera	<i>sxxs'</i>	1
Hormiga	Formicidae		1
Hormiga arriera	<i>Atta</i> sp.	<i>Edá</i>	5
Charapa eggs		<i>pa'díhadí</i>	1
Gallineta eggs			1
Tente eggs		<i>ku'fihadí</i>	1
Rana	Anura	<i>ø'he</i>	8
Cangrejo	Braquiuro	<i>Søde</i>	1
Sapo	Anura 1	<i>ø'he</i>	1
Mojojoí	Coleoptera		16
Birds			
Ave	Bird 1	<i>Nødi</i>	1
Ave pequena	Bird 2	<i>bo'bo</i>	1

Chamon	Bird 3		1
Pico rojo	Bird 4	<i>Piókodo</i>	1
Pato	Anatidae	<i>Koma;da</i>	3
Common name	Scientific name	Name in Andoque	Total
Birds (cont'd)			
Pato real	Anatidae 1	<i>koi;gpøipokʔ</i>	4
Chupaflor	Trochilidae		1
Garza	<i>Syrigma sibilatrix</i>	<i>Yoffi</i>	5
Garzón	Ardeidae	<i>Tøxdakʔ</i>	2
Pato agujero	Ardeidae 1		1
Paloma	Columbidae		5
Paloma 1	Columbidae 1	<i>Hapøkoda</i>	1
Paloma 2	Columbidae 2	<i>Hʔhinkʔ</i>	4
Paloma de centro	Columbidae 3	<i>Pinafxi</i>	2
Torcasa	<i>Columba</i> spp.		2
Paujil coconuco	<i>Crax</i> spp. 1		5
Paujil camarana	<i>Crax daubentoni</i>		2
Pava blanca	<i>Penelope</i> sp.	<i>Soi</i>	3
Pava colorada	<i>Penelope</i> sp. 1	<i>Kʔfx</i>	7
Guacharaca	<i>Penelope</i> sp. 2	<i>Fødøhe</i>	3
Pava	<i>Penelope purpurascens</i>		4
Paujil	Cracidae		5
Paujil colorado	Cracidae 1	<i>ø'paihayo</i>	1
Pava negra	Cracidae 2		1
Perdíz	Cracidae 3	<i>Pokødo</i>	4
Azulejo	<i>Thraupis episcopus</i>		2
Cocinera	Icteridae	<i>ø'í</i>	2
Mochilero	Icteridae 1	<i>kx;ti</i>	1
Golondrina	Hirundinidae	<i>Kokofi</i>	1
Carpintero	Picidae		2
Picón	<i>Ramphastidae</i>	<i>se'hø</i>	4
Guacamaya	<i>Ara</i> sp.	<i>a'du</i>	3
Loro	Psittacidae		5
Gallineta	<i>Tinamus</i> spp.	<i>Payoø</i>	3
Panguana 1	<i>Crypturellus</i> sp. 1	<i>Yoyakoʔ</i>	7
Panguana	<i>Crypturellus</i> sp.		7
Panguana 2	<i>Crypturellus</i> sp. 2	<i>Foi</i>	1

Source: Project Indigenous Management of the Tropical Forest, Tropenbos-Colombia programme (Sarmiento, 1998; De la Hoz, 1998)