From: Liyong Emmanuel Sama

**Date of submission:** 16<sup>th</sup> December 2010

#### **1. INTRODUCTION**

In July 2009 a project proposal titled: **Promotion of the sustainable use of indigenous wildlife resources as** *medicinal wildlife,* **in Cameroon's North-West Region,** was proposed to the Rufford Small Grants Foundation for funding support. The project was accepted and the RSG grant was received in **February 2010**, following which we immediately started its execution, and rounded it up in **November 2010**. This is a report of our 10 months work, of the project named: **RSG-Sustainable Medicinal Wildlife Initiative.** 

#### 2. PROJECT EXECUTIVE SUMMARY

In the proposal the project was summarised as follows:

Generally an animal is killed to derive medicinal wildlife. The project aims to promote the sustainable use of wildlife for medicine, through a case study to identify the medicinal species of the indigenous wildlife and the means of their acquisition. We will collect data mainly from trade-practitioners, and link the findings to varied communication tools for public awareness campaigns for their sustainable management.

We will examine the study results with conservation partners and proffer wide recommendations, like proposing some identified species for focused protection, and alternatives for endangered ones.

Our 3-persons team is sourcing funding for the 8-months project.

### 3. MOTIVATION

What motivated this case study was my realization that some medicine is derived from the wildlife of the mainly grassland North West Region of Cameroon, yet the unsustainable way the indigenous wildlife resources are used and traded is leading to the depletion and eventual extinction of some of them in the area.

Secondly, much has been talked, done and written on Medicinal Plants, but that is the contrary for Medicinal Wildlife, at least in Cameroon. Unlike medicinal plants, which are harvested as parts of trees and plants that are generally left intact, an animal is always killed for medicinal wildlife.

Activities (Approximate)	Duration (months)							
	M1	M2	M3	M4	M5	M6	M7	M8
Team building, planning of field								
work and selection of respondents.								
Collection/sorting of field data.		ł						
Awareness campaign activities.		ł						$\rightarrow$
Final data analysis/interpretation		ł						
Workshop for results and							$\blacklozenge$	
recommendations.								
Writing/Submission of final reports.								•

### 4. PLANNED ACTIVITIES AND TIMESCALE

NB: Month 1 (M1) of work was February 2010.

# 5. PROGRESS REPORTS

Upon execution of the planned activities in line with the timescale as here above (sometimes not quite strictly), we submitted Update Reports, which succinctly tell the story of our work, as edited and rendered below:

### 5.1- March 2010:

On receiving the RSG grant in February 2010 I contacted the relevant government services, lobbied and secured two important endorsement letters for the project, from

- 1) Regional Delegate of Forestry and Wildlife (copied to Regional Governor) and affirming that the study has no law enforcement aim, and
- 2) Regional Delegate of Public Health asking "All Tradipractitioners" of NWR to collaborate with us.

In March we started visiting and administering questionnaires (See Appendix III) to tradipractitioners in the various localities. To each respondent we gave our flyer bearing "MESSAGE ON SUSTAIANABLE MEDICINAL WILDLIFE" (See Appendix I) and a copy each of the two Regional Delegates' letters, for better introduction.

For awareness campaigns we passed the "MESSAGE ON SUSTAIANABLE MEDICINAL WILDLIFE" on CNTV for two days, besides distributing them as flyers.

## 5.2- June 2010:

From April – June 2010 we continued the case study with field trips and the administering of questionnaires to tradipractitioners for the identification of medicinal wildlife species.

May:-

- a) Wrote information letters to the 7 Divisional authorities (Delegates) in charge of wildlife management, attaching copies of the flyer and solicited that they propagate the message in their various units.
- b) Lectured and distributed flyers to a gathering of fellow forestry/wildlife management staffs after the yearly Military March-Pass on National Day (20<sup>th</sup> May 2010).
- c) We again passed the "MESSAGE ON SUSTAIANABLE MEDICINAL WILDLIFE" on CNTV by telecast for 40 hours, besides distributing them publicly as flyers.

June:-

a) Lectured and distributed flyers to members of the Regional Union of North-West Tradipractitioners on June 18.

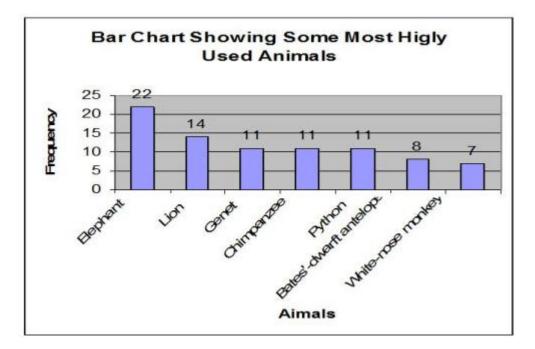
## 5.3- AUGUST 2010:

In July we completed the administration of questionnaires to tradipractitioners, ending up with 62 respondents, and a temporary indication that some 58 wildlife species can be applied for 53 medicinal usages. The data analysis for this period indicated that species listed under class "A" (totally protected) in Cameroon legislation or "endangered" by IUCN rating, and extinct in the study area (for some) rank higher as medicinal wildlife species.

In August, following analysed data so far, we produced 500 posters of: MEDICINAL WILDLIFE SPECIES OF CAMEROON'S NORTH WEST REGION, for further awareness campaigns.

CIRMAD (Centre for Indigenous Resources and Development), a local conservation NGO supported with the reproduction of 50 more of the posters, besides assistance in getting pictures and ranking of some of the species in the study site.

The Medicinal Wildlife Poster was envisaged to be unveiled at a Symposium initially scheduled for September, but which was postponed, not only because the project coordinator had a change of new work station but also because the timing had to be right for the regional delegates we had preferred for officiating at the symposium.



## 5.4- November 2010:

Initially scheduled for September but postponed for better planning, we rescheduled and held the Bamenda Symposium on Sustainable Medicinal Wildlife on Wednesday, November 10, 2010. It was chaired by the Regional Delegate of Forestry and Wildlife – North West Region, flanked by Regional Delegate of Public Health and President of North West Union of Tradipractioners, represented.

Except for a late start and the absence of an expected paper on the domestication of medicinal wildlife, the holding of the symposium which was, as in our plan, "the confab for the presentation of the study results and recommendations" went generally according to programme.

Brief report:

- It was attended by 39 persons (34 invited participants and 5 journalists)
- The study results were presented in PowerPoint and discussed;
- The Medicinal Wildlife Poster was unveiled by the Regional Chief of Service for Pharmacy and Drugs, kick-starting its public distribution;
- A paper on the legal means of acquiring medicinal wildlife, was presented by the Regional Chief of Wildlife and Protected Areas (subordinate of Regional Delegate)
- A dramatic sketch was presented by the Global Youths Theatre Group of Bamenda, depicting the case of a traditional ruler who was very sick and the chief priest prescribed that the natural ruler could be treated only with parts of some totally protected wild animals, following which village guards were sent a-hunting but were accosted by a patrol of game rangers ... The sketch vividly raised awareness and the intellectual debate on sustainability for medicinal wildlife.
- The participants broke into two working groups and came out with recommendations on necessary actions for Government Services, Conservation Organisations and Tradipractitioners, etc. for sustainability in the use/management of medicinal wildlife, as in Page 8 below.

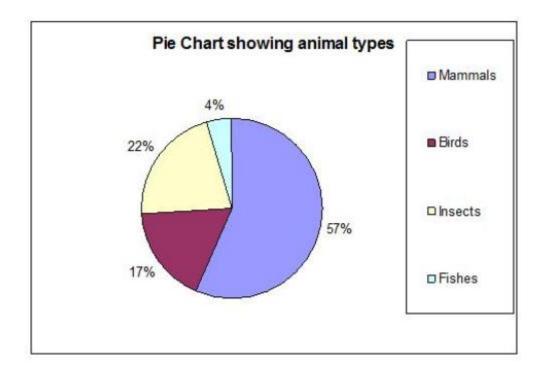
### 5.5- Results-presentation contested!

A renown/retired wildlife biologist whom we had invited and was expected to tell the symposium which of the identified medicinal wildlife species could be considered for *ex situ* conservation or domestication (as easier means of acquiring products by tradipractitioners)

instead contested, in the plenary, the way we had presented the results, and proposed us technical guidance for "satisfactory work".

The contested p	points and	l our stand	lpoint:
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No.	Contested point	Our standpoint
1.	Why list species already	Think of a research question like: "Is the extinction of
	extinct in the North West	the elephant and the lion from Cameroon's North
	Region (study site) like the	West Region due to their use in traditional medicine?"
	elephant and lion, in the	Secondly, the local tradipractitioners continue to use
	report and poster, instead of	parts/products of those species; how do they acquire
	leaving them out?	these? And the study was just a lay research to
		identify species about which to raise awareness.
2.	Why restrict the term	To be more focused we used the word <i>wildlife</i> as
	Medicinal Wildlife only to	defined in the Oxford Advance Learners Dictionary,
	animals when wildlife	as "animals, birds, insects, etc that are wild and live in
	encompasses plants?	a natural environment", and to focus on animals.
3.	Why do the results	We had felt it was too early to render public our
	presented not show in detail	matching chart that shows which illnesses or
	which part of which animal	medicinal usages are solved with the parts/products
	is applied for what illness or	of the identified species.
	medicinal usage, and how?	However, we had requested for the other detailed
		information in the questionnaires but the
		tradipractitioners were rather reticent and responses
		got were patchy and deficient. It would take a formal
		research project to establish such details.



# 7. ANALYSIS SUMMARY

7.1- Identified Medicinal Wildlife Species, Status and Medicinal Ranking

Scientific name	English name	French name	Status in NWR	Class in Cameroon	Cites App.	Med. Usages	Ranking		
MAMMALS									
1. Geneta geneta	Spotted genet	Genette volgaire	Common	В		11	3 <sup>rd</sup>		
2. Pan troglodytes	Chimpanzee	Chimpanzé	Very rare	Α	I	11	3 <sup>rd</sup>		
3. Loxodonta spp.	Elephant	Elephant	Extinct	A/B	I	22	1 <sup>st</sup>		
4. Cephalophus monticolor	Blue duiker	Cephalophe de Maxwell	Common	С		3	9 <sup>th</sup>		
5. Cephalophus dorsalis	Bay duiker	Cephalophe Bai	Common	В		2	10 <sup>th</sup>		
6. Panthera leo	Lion	Le lion	Extinct	Α	I	14	2 <sup>nd</sup>		
7. Thryonomys swinderianus	Cane rat	Aulacode grand	Common	С		4	8 <sup>th</sup>		
8. Gorilla gorilla	Gorilla	Gorille	Very rare	Α	I	4	8 <sup>th</sup>		
9. Cercopithecus nictitans	White-nose monkey	Hocheur	Common	С		7	5 <sup>th</sup>		
10. Galago alleni	Galago/bush baby	Galago d'Allen	Common	Α		6	6 <sup>th</sup>		
11. Erythrocebus patas	Patas monkey	Le singe rouge	Common	С		5	7 <sup>th</sup>		
12. Perodicticus potto	Potto	Potto de Bosman	Common	Α		2	10 <sup>th</sup>		
13. Felis silvestis	African wild cat	Chat sauvage d'afrique	Common	С		5	7 <sup>th</sup>		
14. Cricetormys gambianus	Giant Gambian rat	Rat géant de Gambie	Common	С		4	8 <sup>th</sup>		
15. Panthera pardus	Leopard	Panthère d'afrique	Very rare	Α	I	5	7 <sup>th</sup>		
16. Atherurus africana	Porcupine	Atherure africaine	Common	С		2	10 <sup>th</sup>		
17. Papio cynocephalus	Baboon	Babouin	Common	С		5	7 <sup>th</sup>		
18. Potamochoerus porcus	Bush pig	Potamochère d'afrique	Common	В		1			
19. Xerni spp	Ground squirrel	Écureuil foisseur	Common	С		3	9 <sup>th</sup>		
20. Manis tricuspis	Tree pangolin	Pangolin commun	Common	С		2	10 <sup>th</sup>		
21. Hippopotamus amphibius	Hippopotamus	Hippopotame	Very rare	Α		4	8 <sup>th</sup>		
22. Procavia capensis	Rock hyrax	Daman de rocher	Common	С		2	10 <sup>th</sup>		
23. Giraffe camelopardaliis	Giraffe	Giraffe	Extinct	А		2	10 <sup>th</sup>		
24. Vulpes vulpes	Red Fox	Renard	Rare	С		2	10 <sup>th</sup>		
25. Neotragus batesi	Bates' dwarf antelope	Antelope de Bates	Rare	С		8	4 <sup>th</sup>		
26. Tragelaphus scriptus	Bushbuck	Guip harnaché	Common	В		1			
BIRDS									
27. Tyto alba (soumagnei)	Owl	Effraie du Cap	Common	В	I	3	9 <sup>th</sup>		
28. Touraco bannermani	Bannerman's touraco	Touraco de Bannerman	Endemic	Α		2	10 <sup>th</sup>		
29. Pandion haliaetus	Osprey (hawk)	Balbuzard pêcheur	Common	В		1			
30. Francolinus sgamatus	Scaly francolin	Francolin ecailleux	Common	С		1			

31. Macrodipteryx longipennis	Standard-wing nightjar	Engoulevent à balanciers	Common	С		2	10 <sup>th</sup>
32. Megacerle maxima	Giant king fisher	Martin-pêcheur giant	Common	С		1	
33. Polemaetus bellicosus	Martial eagle	Aigle martial	Rare	В		5	<b>7</b> <sup>th</sup>
34. Hirundo spp	Swallow	Hirondelle	Common	A/B/C		1	
	•	<b>REPTILES/AMPHIBIANS</b>					
35. Python sebae	African rock python	Python de Sébae	Common	В		11	3 <sup>rd</sup>
36. Chamaeleo spp.	Chameleon	Cameléon	Common	А		5	<b>7</b> <sup>th</sup>
37. <u>Varanus albigularis</u>	Monitor lizard	Varan	Rare	С		5	<b>7</b> <sup>th</sup>
38. Crocodylus cataphractus	Crocodile	Crocodile à museau allongé	Rare	A	II	2	10 <sup>th</sup>
39. Bufo bufo	Toad	Crapaud	Common	C`		2	10 <sup>th</sup>
40. Agama agama	Rainbow Lizard	Lézard Agama	Common	В		2	10 <sup>th</sup>
41. Kinixys erosa	Tortoise	Cinixys rongée	Rare	В		4	<b>8</b> <sup>th</sup>
42. Ramphotyphlops braminus	Brahminy blind snake	Serpent de Brahminy	Rare	С		2	10 <sup>th</sup>
43. <u>Lumbricus terrestris</u>	Earthworm	Ver de terre	Common	С		*	
44. Rana temporia	Frog (& tadpoles)	Grenouille	Common	С		3	9 <sup>th</sup>
45. Serpentes spp.	Snakes (all types)	Les serpents		С		6	<b>6</b> <sup>th</sup>
	· · · · · ·	INSECTS					
46. Cretaceous	Soldier ants	Fourmi manyang	Common	С		2	10 <sup>th</sup>
47. Opisthacanthus rugiceps	Scorpion	Scorpion	Common	С		5	<b>7</b> <sup>th</sup>
48. Coptoptermes formosanus	Termite	Termite	Common	С		1	
49. Lasius niger	Black ant	Fourmi noire	Common	С		2	10 <sup>th</sup>
50. Pharacocerus ephippiatus	West African spider	Araignée	Common	С		1	
51. Corixa punctata	Water boatman	Lave	Common	С		1	
52. Vermeleo	Ant-lion	Fourmi-lion	Common	С		1	
53. Sphodromantis viridis	Praying mantis	Mantis boxeur	Common	С		*	
54. Porpax asperipes	Dragon fly	Libellule	Seasonal	С		*	
55. Scarabaeoidea	Dung beetle	Scarabée	Common	С		*	
56. Apis spp	Bees	Abeille	Common	С		3	9 <sup>th</sup>
		FISHES					
57. Malapterurus electricus	Electric fish	Poisson électrique	Rare	С		3	<b>9</b> <sup>th</sup>
58. Clarias anguillaris	Mud fish	Silure	Common	С		2	10 <sup>th</sup>

\*These four (4) of the indicated species are to be crosschecked for their real medicinal usages.

## 7.2- Analysis Report

Of the 62 tradipractitioners who welcomed and talked to us, 58 said they use or know how to use medicinal wildlife. The rest 4 revealed only later in the interviews that they don't, probably after satisfying their curiosity on the novel issue. The most interesting of them was a lady in Bui Division who after asking our investigators to wait, threw down some divination cowries and interpreted the response that the gods have forbidden her from giving us any information. However, some had put us off upon first contact that they don't deal with medicinal wildlife.

Of the 58 respondents who affirmed to practicing medicinal wildlife, only 3 were women.

After collecting general information on respondents and the identification of medicinal wildlife species and usages as in points 1–13 of the questionnaire (see Appendix III), points 14–19 sought to get the means of acquisition of the species and general comment about their availability and sustainability.

Q/No.	Question	Responses of tradipractitioners				
14	How do you get your animal	Town market = 16	Bred by self = 0			
	parts/products for medicinal use?	Local market = 20	Inherited = 2			
		Ordered from hunters = 32	"Not available" = 1			
		Hunted by self = 14	No source given = 6			
		NB: Most tradipractitioners acquire from more the	an one source.			
15	Are you aware of the reducing	Yes = 50				
	patterns of wildlife species in the	No = 4				
	NWR?	Don't know = 8				
16	What do you think should be done	The government should stop the hunting of anima	als; license should be obtained by those hunting.			
	for those sources of wildlife	Those hunting should be warned on the type of a	nimals to hunt.			
	medicine to last longer?	Government should legislate that some species sh	ould not be hunted.			
		Protect young animals; kill only mature ones. (Jus	t a few from many given.)			
17	What alternative products do you	There are other concoctions which are not wildlife	2.			
	think can give the same treatments if	I will use medicinal plants, though not as effective	enough in my treatments.			
	the species go extinct?	I will certainly stop because I don't have alternative	/es.			
		No alternative. (Just a few from many given.)				
18	Suggest how best to protect these	Stop bushfires and indiscriminate hunting.				
	wildlife species for sustainable	All hunters should obtain licenses and always be o	hecked.			
	wildlife medicine.	Hunters should be warned so that not all species are killed. (Just a few from many given.)				
19	Any other comment on Medicinal	Thanking government for steps being taken to sto	p poaching.			
	Wildlife, if any.	It's good for government to control hunting so the	at some species should never be hunted.			
		I'm happy that government has regulated the hun	ting of wildlife. (Just a few from many given.)			

### 8. RECOMMENDATIONS FROM WORKING GROUPS AT BAMENDA SYMPOSIUM.

GROUP (I)

SECTOR	GOV'T SERVICES	NGOs	TRADIPRATITIONERS
ACTIONS	<ul> <li>Sensitization:</li> <li>To all actors involved in the use of the parts of protected species.</li> <li>Create reserves for the identified protected species.</li> <li>Create more awareness in forums, meetings, songs, etc.</li> <li>Government should propose alternative means to healing to Tradipractitioners.</li> <li>Rehabilitate protected species (now extinct?)</li> <li>Government should encourage a forestation and reforestation.</li> <li>Government should re-enforce law and order &amp; propose sanctions on perpetrators.</li> </ul>	<ul> <li>Pro-health NGOs should hold several seminars with tradipractitioners and propose more researchable and scientific approach to healing – than allowing them with their conservative means.</li> <li>NGOs should build local capacities; training of trainers.</li> <li>Raise funds for M.WL (Medicinal Wildlife) conservation (Medicinal Wildlife) conservation (Medicinal Wildlife Extension)</li> <li>NGO: Produce micro-programmes on local radio on the conservation and instill Field Marshals to check local poaching.</li> </ul>	<ul> <li>Tradipractitioners should go for more research in treating, using alternative means than conservative methods of using protected parts of animals.</li> <li>Practitioners should collaborate with each other – so as to provide these alternatives.</li> <li>They should do more research to adopt modern therapies.</li> <li>They should be educated on the dangers involved in dealing with these protected species.</li> </ul>

CRITERIA	ROLE							
	GOV'T SERVICES NGOs		TRADIPRACTITIONERS					
Sensitization	Develop sensitization messages	Facilitate sensitization messages	Help disseminate and abide					
Provision	Create facilities for the obtaining of inputs.	Create networking with stakeholders.	Ensure the respect of the regulations (legislations)					
Promotion of alternatives	Carry out research	Capacity building	Research on alternatives					
Monitoring	Conceive and develop monitoring tools	<ul> <li>Participate in the conception and development of tools.</li> <li>Facilitate monitoring.</li> </ul>	Provide necessary info's.					

# <u>GROUP (II)</u>

# 9. AWARENESS RAISING ON SUSTAINABLE MEDICINAL WILDLIFE

Right from the onset of the project we had engaged in awareness raising activities through the distribution of flyers, lectures to meetings, interactive discussions, telecast messages and radio announcements.

The Bamenda Symposium on Sustainable Medicinal Wildlife which held on 10<sup>th</sup> November, 2010 was widely reported on 2 nation-wide audio-visual chains (CRTV and STV) and in Cameroon's leading English Language newspaper (The Post) which are all connected to the web, besides 2 local TV and radio station (CNTV and Radio Afrique Nouvelle).

Besides, as media coverage reports of the symposium were being digested by the public I presented for some 30 minutes an interactive radio-talk on Sustainable Medicinal Wildlife, the poster and the symposium recommendations over CRTV Bamenda in the morning of November 15, 2010.

Nevertheless, we judge that this objective is not yet fully achieved, and more needs still to be done, considering that we are highlighting a novel issue which needs time to sink in, for better mentality change.

## 9. CONCLUSION

The goal of this project was to raise the problem of the vulnerability of *medicinal wildlife* (the wild animal species whose parts/products are used for traditional medicine – whose use is less sustainable, compared to the use of medicinal plants) not only to place it on the marketplace of ideas, into the management boards of conservators, the thinking heads of tradipractitioners, but also, possibly, in the laboratory of researchers; all geared towards a greater sustainability in the use of the concerned species.

This can be considered to have been achieved to quite a decree, except that being a novel idea we need to do much more, at local, national and international level, through more awareness raising and networking.

We count on RSGF to remain our illustrious partner in this endeavour.

# **APPENDICES:**

## Appendix I: Flyer Message

# A MESSAGE ON SUSTAINABLE MEDICINAL WILDLIFE

### What is Medicinal Wildlife?

Medicinal Wildlife is any medicinal material derived from a wild animal – the mammals, birds, reptiles, amphibians, even the fish and the insects. Medicinal wildlife can be the parts or products like the hide/skin, fur, flesh, bone, blood, fats, dung/droppings which are used for the treatment or prevention of illnesses. These could be processed into medicine by being soaked, cooked, roasted, fried, ground, burnt into ashes, etc. before being applied.

#### The sad truth about Medicinal Wildlife:

Unlike for medicinal plants whereby the leaves, the bark, the roots or fruits are collected and the plant is left standing, a wildlife species whose part or product is required for medicine must have been killed or is killed.

We need the medicine, but we need the animals too, if only for a sustainable base of traditional medicine. There is therefore the imperative need for the sustainable use/management of the medicinal wildlife species.

#### AN APPEAL: Let us – Conservationists, Researchers, Tradipractitioners, the Media, etc. – wake and work for sustainability in Medicinal Wildlife.

This is a message from RSG–Sustainable Medicinal Wildlife Initiative,



Contact us: Tel: (237) 77 98 40 46 / 97 62 84 17. Email: esama\_1@yahoo.co.uk

Animals/Illnesses	Body	Burns	Convulsion	Diabetes	Wet	Ring	Sexual	Spiritual	Total	Ranking
	Pains				dreams	warms	weakness	attacks		
Elephant										
Lion										
King fisher										
Patas monkey										
Snakes										
Earthworm										
Snail										
Total										
Ranking										

### Appendix II: A Sample of the Matching Chart used for field results analysis.

#### Appendix III: The Questionnaire use for the identification study.

21115	RSG – SUSTAINABLI	E MEDICINAL W	ILDLIFE INITI	ATIVE		
		S/No	/	Date:	/	_/2010
1)	Name		_ Sex	Age _ Tel:		
2)	Residence/Location			_ Tel:		
3)	Village of origin	_Sub-Division		Division		
4)	Knowledge/skill inherited or learnt?					
5)	If inherited/learnt (delete one), from	who?				
6)	For how long have you been practic	ing traditional me	dicine?			
7)	Trade name, if any:	Ass	ociation, if any	/:		
	Have you ever heard of Medicinal W		-			
9)	Have you ever used wildlife parts or	products for treat	tment? Yes/No	o. (If No, we dis	continu	ue.)

10) If yes, for what illnesses?

11) Where do your patients come from? \_\_\_\_\_

12) List some wildlife species (mammals, reptiles, birds, etc.) whose parts or products (hide/skin, fur, flesh, bone, blood, fats, dung/droppings, etc) you use for the treatment of illnesses, and the processing techniques (soaked, cooked, roasted, fried, ground, burnt ashes, etc) and rank them as in the table below:

No.	Wildlife Species (in any identifiable appellation)	Part/Product used	Usage	Processing techniques	Ranking#

NB: We do not ask how the parts/products are <u>applied</u>, - for respect of trade confidentiality.

13) Do you know of any other wildlife species hunted specifically for medicinal use? Yes/No. If yes, name some: \_\_\_\_\_

14) How do you get your animal parts/products for medicinal use? **[Tick where applicable]** Town market \\_/ Local market \\_/ Ordered from hunters \\_/ Hunted by self \\_/ Bred by self \\_/

- 15) Are you aware of the reducing patterns of wildlife species in the NWR? Yes/No.
- 16) What do you think should be done for those sources of wildlife medicine to last longer?

17) What alternative products do you think can give the same treatments if the species go extinct?

- 18) Suggest how best to protect these wildlife species for sustainable wildlife medicine:
- 19) Any other comment on Medicinal Wildlife, if any.

\* Begin Serial No. with BO (Boyo); BU (Bui); DM (Donga Mantung); MC (Menchum); MM( Momo); MZ (Mezam); NG(Ngoketunjia), as applicable.

# Indicate whether it is Abundant, Common, Rare, Vulnerable or Extinct - in the area.

END/-