

**Field surveys on the medicinal wildlife species of the North West  
Region of Cameroon; their usages and the means of acquisition**

# **Final Report**

**Sustainable Medicinal Wildlife Initiative  
&  
Centre for Indigenous Resources Management and Development  
(CIRMAD)**

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## EXECUTIVE SUMMARY

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In 2010, as part of the Sustainable Medicinal Wildlife Initiative, a study group working with the Centre for Indigenous Resources Management and Development (CIRMAD) undertook the conservation project: *Promotion of the sustainable use of indigenous wildlife resources as medicinal wildlife, in Cameroon's North-West Region*. This project aimed to promote the sustainable use of wildlife products in natural medicine in order to check population decline and species extinction, through subsequent conservation actions.

THE FIELD SURVEY COMPONENT OF THE PROJECT WAS CONDUCTED TO IDENTIFY THE WILDLIFE SPECIES IN THE NORTH WEST REGION OF CAMEROON USED IN TRADITIONAL MEDICINE AND HOW THE USERS ACQUIRE THEM. THE MODEL USED FOR THE DATA COLLECTION WAS A QUESTIONNAIRE STYLE INTERVIEW. THE OBJECTIVES OF THE STUDY WERE AS FOLLOWS; TO ESTABLISH WHETHER MEDICINAL WILDLIFE PRODUCTS ARE USED IN NATURAL MEDICINE IN THE PROJECT SITE, TO FIND WHETHER THESE WILDLIFE PRODUCTS WERE GENERALLY ACQUIRED BY POACHING OR FROM THE ILLEGAL WILDLIFE TRADE AND TO IDENTIFY HOW THE UNSUSTAINABLE USE OF SUCH WILDLIFE RESOURCES CONTRIBUTES TO THE DECLINE IN POPULATION OF LARGE MAMMALS IN THE NORTH WEST REGION. IT IS ENVISAGED THAT THE RESULTS OF THE STUDY WILL LAY THE FOUNDATIONS FOR FUTURE CONSERVATION ACTIONS, BEGINNING WITH THE CONSERVATION EDUCATION COMPONENT OF THE PROJECT.

The questionnaire was conducted in all seven administrative divisions of the North West Region. Data was collected from 58 respondents, who affirmed 54 wild animal species are used in natural medicine for the treatment or prevention of 56 health problems.

Of the 58 tradi-practitioners interviewed only one owned and used a hunting license to acquire some of his medicinal wildlife products while others affirmed they inherited some of the products. The rest acquired their products from generally illegal sources such as hunting either ordering from local hunters or buying from the secretive bushmeat markets. A few of those interviewed declined to give their sources. This is quite revealing of the illegal acquisition of the wildlife products over the years. Apart from those tradi-practitioners who obtained their products from outside the North West Region, which was not indicated by the interview process, most of the product used was illegally acquired. Therefore, the use of wild animal products in natural medicine contributes one way or another to the decreasing trend of wildlife populations in the study site. Of the 56 wildlife species indicated for medicinal use four are large mammal species which have already gone extinct in the North West Region. Of the surviving medicinal wildlife species identified, several are listed in the IUCN Red List of Threatened Species.

There is great need for education and training to ensure the sustainable use of these wildlife products and research for alternatives is imperative.

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*Field surveys on the medicinal wildlife species of N. W. Region, Cameroon, their usages and means of acquisition – SMW/CIRMAD 2010*

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## Abbreviations

|           |  |
|-----------|--|
| CIRMAD    | Centre for Indigenous Resources management and Development             |
| MINFOF    | Ministry of Forestry and Wildlife                                      |
| MINPH     | Ministry of Public Health  |
| WWF-CARPO | World Wide Fund for Nature – Central African Regional Programme Office |
| WCS       | Wildlife Conservation Society  |
| NGO(s)    | Non-Governmental Organisation(s)                                       |
| NWR       | North West Region  |
| WHO       | World Health Organisation  |
| FLV       | Field Liaison Volunteer  |
| Gov't     | Government   |

## INTRODUCTION

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It is common knowledge, in the North West Region of Cameroon and beyond, that fats from the python and the hair of the bush baby are used in treating fire burns while monkey and lion bones are used to treat fractures and bone problems. The use of medicinal wildlife products is taken for granted as medicinal plant products are frequently harvested from the wild without diminishing the overall stock. It is thought by many that the wildlife used will likewise always be available a lack of understanding which has dangerous consequences. After some serious comparative thought on the sustainability of both sources of natural medicine it was apparent that medicinal wildlife species, those animals from which medicinal products can be derived, are more vulnerable than medicinal plants. Because, unlike the latter whereby the roots, backs, leaves or fruits are harvested and the plants generally remain standing, a wild animal whose flesh, fats, bones or hair are required for medicine must be killed to obtain the product.

The North West Region which forms the heart of the Bamenda Highlands, an area known to support high levels of biological diversity and endemism, has a high human population density of approximately 100-250 people per sq km. Consequently, human pressure on wildlife through hunting and the widespread conversion of forest to pasture and agriculture over the last century has been the cause of much habitat loss and species extinction. The elephant, lion and giraffe are some of the large mammals known to have already gone extinct in this savannah region.

Considering this decreasing trend of wildlife resources in the North West Region, it becomes necessary to address the problem from every angle. The Ministry of Forestry and Wildlife and NGOs have been campaigning against poaching and the bushmeat trade over the years. Because wild animal products were normally being used in traditional medicine in this region, which is reputed for the prowess of its traditional doctors and healers, and the relatively few individuals obtaining hunting licenses, it was perceptible that such medicinal wildlife products were obtained from illegal sources.

From February 2010 to November 2010, under the Sustainable Medicinal Wildlife Initiative, a study group which later affiliated with the Centre for Indigenous Resources Management and Development (CIRMAD) undertook a conservation project titled: *Promotion of the sustainable use of indigenous wildlife resources as medicinal wildlife, in Cameroon's North-West Region*. The study sought to identify wildlife species whose products are used in natural medicine and how the users acquire them with the ultimate aim of raising public awareness of sustainable use and conservation of vulnerable species.

The study results were to set the benchmark for the conservation education project. The model used for the data collection was a questionnaire style interview. All lines of required information are inscribed, therefore it is easy to ensure all questions are answered adequately and this is among the reasons why it was chosen.

The study should not be considered as academic research, rather as administrative research. It seeks to prove that local wildlife is threatened by their unsustainable use in natural medicine and to highlight the need for education of those individuals involved, to adopt sustainable use methods. The objectives of the study were to establish that medicinal wildlife products are used in natural medicine in the project site; to find whether these wildlife products were generally products of poaching or the illegal wildlife trade and to show that the unsustainable use of medicinal wildlife resources also contributes to the decreasing trend of large mammals in the North West Region.

## OBJECTIVES

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The aim of the research was to demonstrate the need for sustainably sourced medicinal wildlife products as currently these resources are unsustainably used in the North West Region of Cameroon which is contributing to the decreasing trend of local wildlife populations.

Even though the study was designed to set a solid basis for conservation actions for the sustainable use of the medicinal resources, we set out with the following objectives:

- To identify the wild animal parts or products used in natural medicine for the treatment or prevention of illnesses in Cameroon's North West Region.
- To find whether medicinal wildlife products used in the North West Region are obtained from legal or illegal sources.
- To show that the unsustainable use of medicinal wildlife resources contributes to the decreasing population of large mammals in the North West Region

## RESEARCH QUESTIONS

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- Are the parts or products of some wild animals used in natural medicine in the North West Region?
- Are the medicinal wildlife products used in the North West Region acquired by poaching and from the illegal wildlife trade?
- Does the unsustainable use of medicinal wildlife resources also contribute to the decreasing trend of large mammals in the North West Region?

# METHODOLOGY

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## Study Site

The North West Region falls within the Western Highlands of Cameroon; lying between Latitude 5°4' and 7°15' North, and longitude 9°30' and 11°15' East. It is bounded to the West and North West by the Federal Republic of Nigeria, to the South by the South West Region and to the South East by the Adamawa Region in Cameroon. The administrative region covers a surface area of 17,910km<sup>2</sup> and has a population of about 1.5 million; 75% of which lives in the rural areas, practicing mostly agriculture and animal husbandry, and depending much on natural medicine for health care.

The North West Region which forms the heart of the Bamenda Highlands, an area known to support high levels of biological diversity and endemism, has a high human population density of approximately 100-250 people per km<sup>2</sup>. Consequently, human pressure on the wildlife and their habitats through hunting and the widespread conversion of forest to pasture and agriculture over the last century has been the cause of much habitat loss and species extinction. The elephant, lion and giraffe are some of the large mammals known to have already gone extinct in this savannah region.

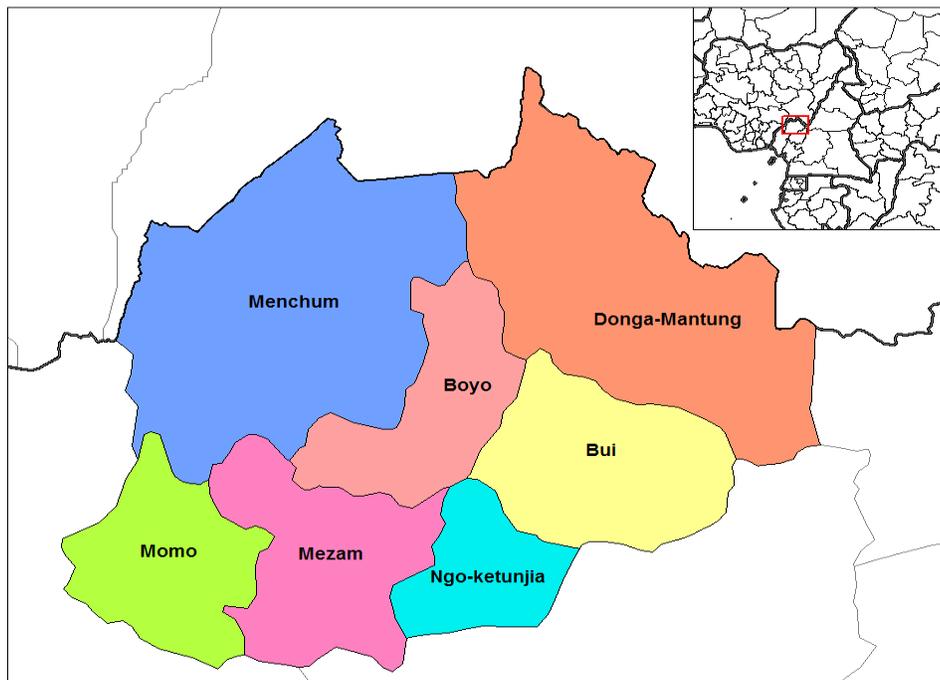


Figure 1: Map of the study site

## **Preliminary actions**

Initially we solicited and obtained two endorsement letters, respectively from:

- the Regional Delegate of Forestry and Wildlife (copied to the Regional Governor) attesting that the study has no law enforcement purpose,
- the Regional Delegate of Public Health assuring tradi-practitioners on the usefulness of the study to humanity and reasoning why they should collaborate with us.

We prepared a half-page flyer titled: "MESSAGE ON SUSTAINABLE MEDICINAL WILDLIFE" to better introduce the novel idea to the respondents.

We identified a Field Liaison Volunteer (FLV) in each target locality for use as a field guide to lead the team to local tradi-practitioners.

## **Selection of respondents/interviewees**

We had set out to administer questionnaires to 60 respondents in the seven divisions; therefore we could talk to eight or nine tradi-practitioners in each division, depending on the availability of such respondents.

## **Materials used**

The Medicinal Wildlife Flyer and the endorsement letters from the regional delegates of MINFOF and MINPH were given to each tradi-practitioner visited, to better introduce the issue of our visit. Various field guides on mammals, birds and reptiles were used for the intricate understanding of the species being referred to by the interviewed respondent. A Kodak camera was used to take some pictures during the field surveys.

## **Data collection process**

Generally, the team contacted the FLV who led them to local tradi-practitioners in each locality. Sometimes the FLV also acted as an interpreter, especially as some of the specie names and illnesses were given by the respondent only in the local dialect.

Because the study was mainly undertaken in rural communities with a generally low level of literacy, information was obtained through a semi-structured interview during which questions were posed and responses filled in the questionnaire form by the project team members themselves. Not every tradi-practitioner approached was used as a respondent. In the case of a negative answer to question number nine of the questionnaire, which asked whether the tradi-practitioner used wild animal products in medicines, the interview was discontinued. In case of an affirmative answer we proceeded with the remaining questions. (See Appendix IV for questionnaire).

## Constraints

Difficulties were found in meeting with and interviewing tradi-practitioners. Besides being generally busy with patients or others who solicit their spiritual interventions these mainly rural people are also farmers and have other occupations. And generally those who consult them pay consultation fees; a point we had overlooked in planning the project. So sometimes the team had to wait hours to have the chance to talk to the host.

## DATA ANALYSIS

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### Community surveyed

The surveys were carried out in all 7 administrative divisions of the North West Region: Boyo, Bui, Donga Mantung, Menchum, Mezam, Momo and Ngoketunjia. It was not planned to cover all municipalities because the idea was rather to get respondents from all the main cultures of this study site.

Each questionnaire was given a specific number which indicated the administrative division in which it was administered and its serial number. The following abbreviations were used for the 7 administrative divisions: Boyo (BO), Bui (BU), Donga Mantung (DM), Menchum (MC), Mezam (MZ), Momo (MO) and Ngoketunjia (NG).

| Division      | Respondents |
|---------------|-------------|
| Boyo          | 05          |
| Bui           | 11          |
| Donga Mantung | 08          |
| Menchum       | 05          |
| Mezam         | 11          |
| Momo          | 08          |
| Ngoketunjia   | 10          |
| <b>Total</b>  | <b>58</b>   |

Table 1: Number of respondents per division

From the completed questionnaires a register of all the respondents was established, showing: code number, name, sex, age, number of years in practice, location, municipality and division. (See Appendix 1)

## Data analysis process

Each completed questionnaire had a number identifying the locality where it was recorded and 19 questions to note the identity, location, types of medicinal wildlife species used and how they are acquired, illnesses treated with medicinal wildlife products, the conservation awareness and general comments of the respondent. These were then analysed and the result entered in a Matching & Ranking Chart in Microsoft Excel, showing the medicinal wildlife species entered vertically and the illnesses treated/prevented with medicinal wildlife products entered horizontally. These were then plotted to show, 1) how many illnesses are treated or prevented with the products of the species, and 2) how many medicinal wildlife species are alternatively or collectively used to treat/prevent a listed illness. The results are summed up horizontally, for the wildlife species and vertically, for the given illnesses, and ranked up to show the highest used species and the illnesses most treated/prevented with medicinal wildlife products.

## RESULTS

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Of the 62 tradi-practitioners who welcomed and talked to the surveys team, 58 said they use or know how to use medicinal wildlife products. The remaining four revealed later in the interviews that they do not use wildlife products. *The most interesting of them was a lady in Bui Division who after asking our investigator to wait, threw down some divination cowries and interpreted the response that the gods had forbidden her to give us any information!*

Of the 58 respondents who affirm to applying some wildlife products in their medicine, only three were women.

From the results of the survey, 54 wildlife species were indicated as having medicinal values, comprising 25 mammals, 8 birds, 11 reptiles, 8 insects, and 2 fish species while 56 illnesses and other health problems were indicated as being treated or prevented by medicinal wildlife products.

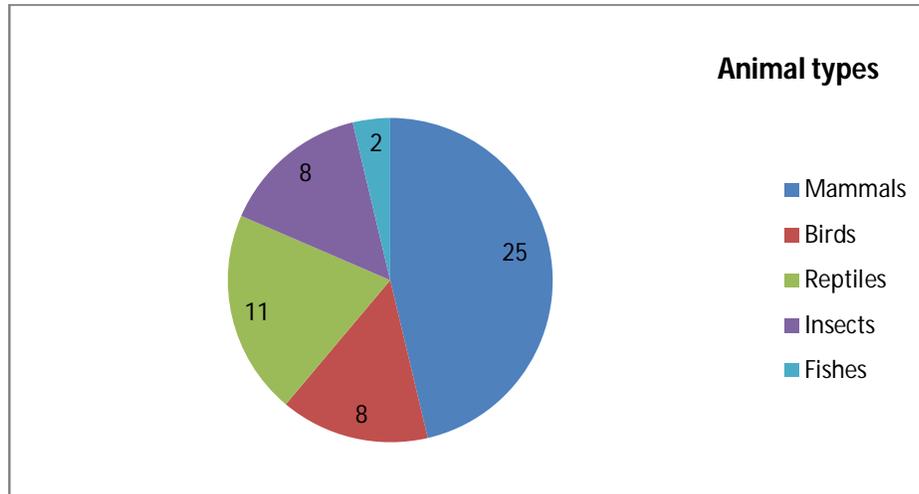


Figure 2: Pie chart showing animal types used in medicine

Of the 54 identified medicinal wildlife species, 13 are listed under the IUCN Red List and are listed under the Class "A" or "Totally Protected" category in Cameroon, and four have already gone extinct in the study site. Furthermore, 14 of the identified species, among which is the endemic *Touraco bannermani*, are banned from international trade by CITES.

The identified species were indicated to be used for the treatment or prevention of 56 health problems.



Figure 3: Tradi-practitioner with chimp and eagle bones

## DISCUSSION

From the ranking in the Matching and Ranking Chart, the medicinal products of the elephant (*Loxodonta africana*), are used for 22 health problems, followed by the lion (*Panthera leo*), with 14 medicinal usages. These 1<sup>st</sup> and 2<sup>nd</sup> highly used medicinal wildlife species are already extinct in the North West Region. The endangered chimpanzee (*Pan troglodytes*) like the African rock python (*Python sebae*), rank as the 3<sup>rd</sup> with 11 medicinal usages.

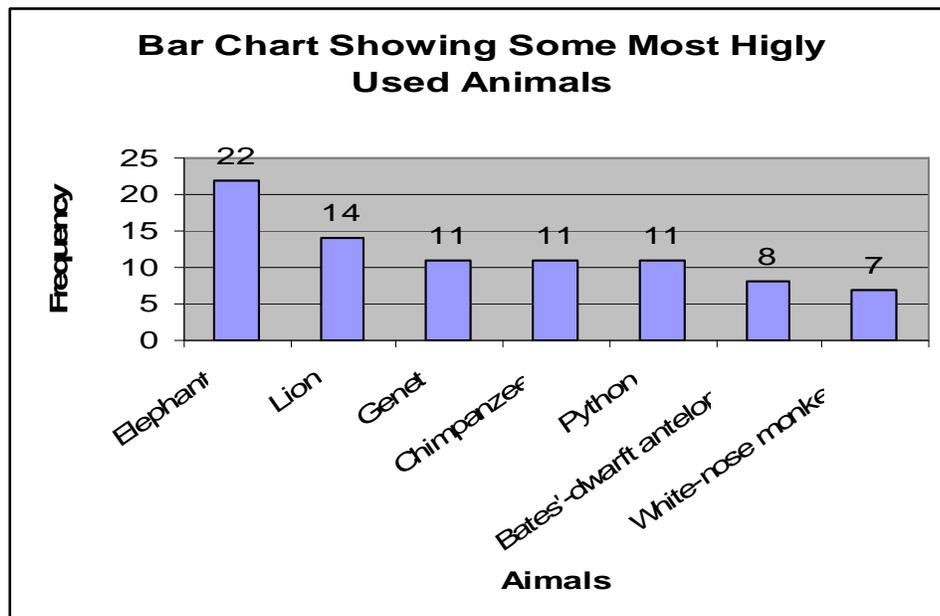


Figure 4: The 7 most highly used medicinal wildlife species

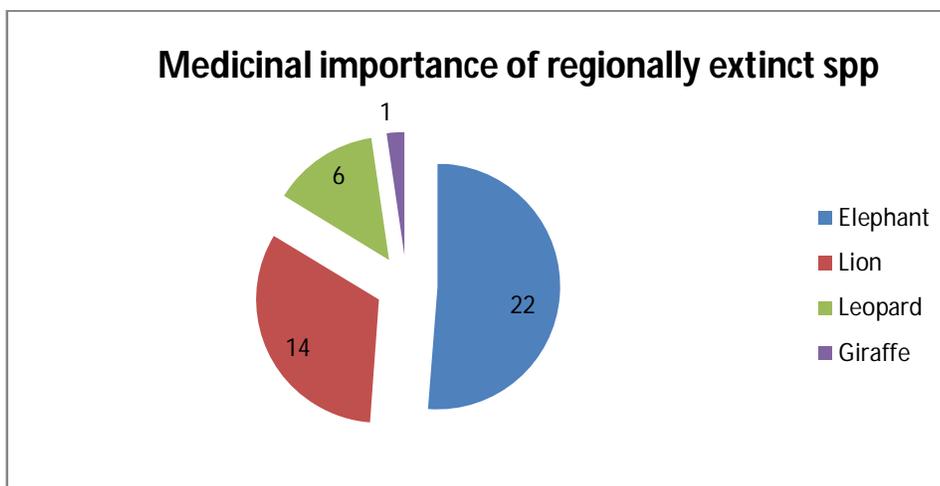


Figure5: Ranking of usage of extinct medicinal wildlife species of North West Region

From the responses of the 58 interviewed tradi-practitioners; two inherited some of the products (especially bones) they use, 14 claimed to hunt for the products themselves, 32 declared that they usually ordered required products from local hunters, 36 bought from the open but secretive bushmeat markets, six of them could not declare their sources, one said they were unavailable, and none had obtained products through captive breeding. Of the 14 claiming to be hunting for the products themselves only one could have acquired the product legally, because in 2010, in the North West Region (MINFOF records, 2010) he alone obtained and operated with a Small Game Hunting Permit. However, this would not have allowed him to kill the totally protected species in the identified list.

This is quite revealing of the illegal acquisition of the wildlife products over the years. Except that the tradi-practitioners bought their products out of the Region, which was not so indicated, most of what they used was illegally acquired.

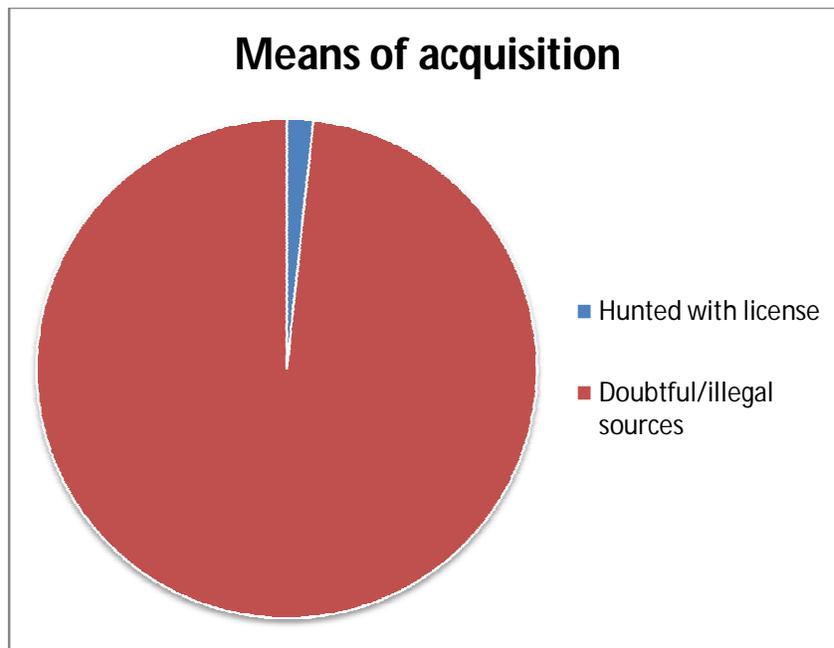


Figure 6: Means of acquisition of medicinal wildlife products by tradi-practitioners

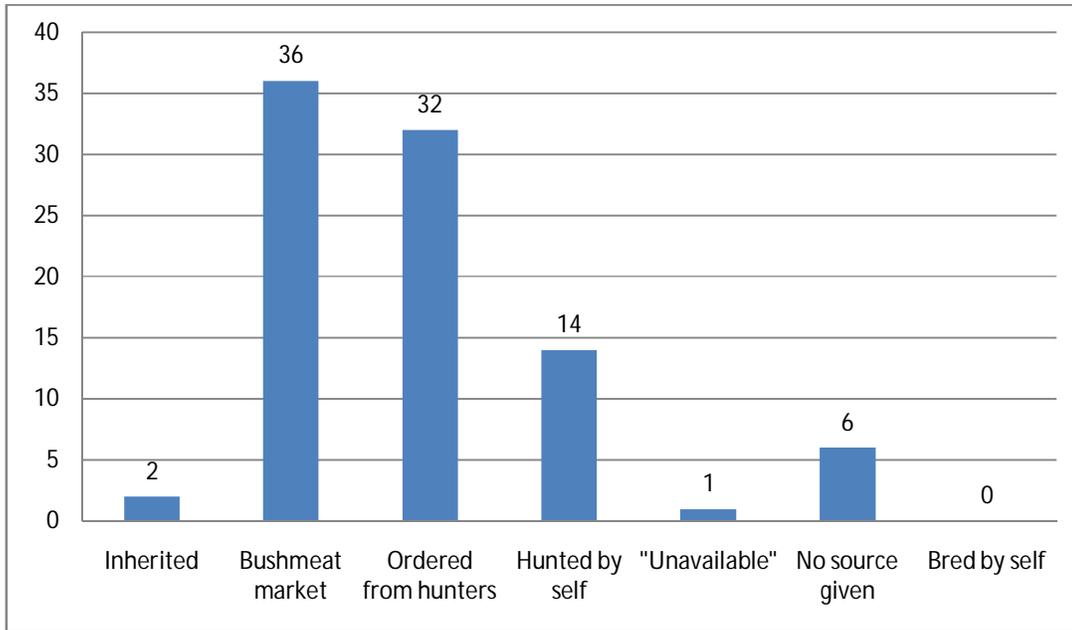


Figure 7: Means of acquisition of medicinal wildlife products by tradi-practitioners in NWR

Table 3: Large mammals useful in natural medicine but now extinct in NWR

| Animal   | Nbr. of Illnesses/usages | Ranking          |
|----------|--------------------------|------------------|
| Elephant | 22                       | 1 <sup>st</sup>  |
| Lion     | 14                       | 2 <sup>nd</sup>  |
| Leopard  | 5                        | 7 <sup>th</sup>  |
| Giraffe  | 2                        | 10 <sup>th</sup> |

Another aspect of the study was to ascertain the medicinal importance of the wildlife resources to global health, considering the assertion of WHO that 80% of the health needs of the populations of the developing world are satisfied with natural medicine. Of the 53 medical problems mentioned, mystical protection, madness/mental problems, mental retardation among children and rheumatism rank in descending order as the most requiring the use of medicinal wildlife products.

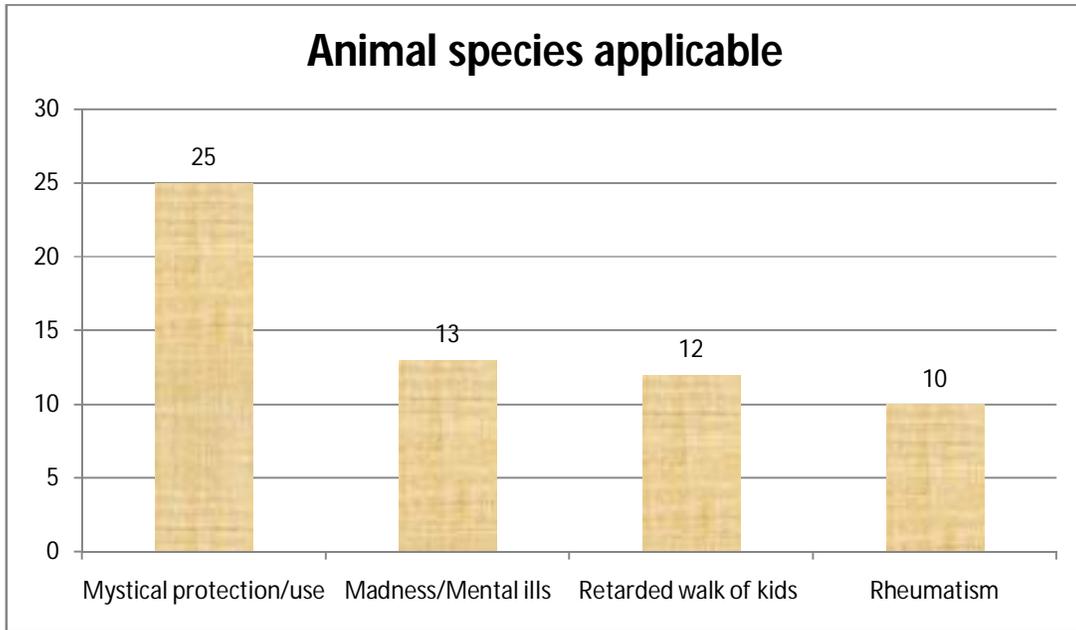


Figure 8: Medical problems most requiring the use of medicinal wildlife products.

## CONCLUSION

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Considering that two local government agencies in charge of *medicinal wildlife* (MINFOF and MINPH) collaborated with this study and that verifiable data was collected by interviewing 59 natural medicine practitioners with longevity of practice ranging from 3 to 55 years, from 18 of the 34 municipalities of a region reputed for the prowess of its “traditional doctors” and the efficacy of its natural medicine, the following deduction can be made:

- ✓ The parts or products of some wild animals are used in natural medicine in the North West Region
- ✓ The medicinal wildlife products used in the North West Region are mostly acquired by poaching and the illegal wildlife trade.
- ✓ The unsustainable use of medicinal wildlife resources also contributes to the decreasing trend of large mammals in the North West Region.
- ✓ The use of the parts or products of wild animals in natural medicine must have been a motivating factor in some hunting expeditions in the study site.
- ✓ Hunting to satisfy demands for the medicinal parts or products of some animals obviously contributed to the extinction of some large mammals of the North West Region in the last century.

- ✓ The Red-Listed Nigeria-Cameroon chimpanzee is further threatened in the North West Region by the high demand for its medicinal parts and products for natural medicine.

## RECOMMENDATIONS

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### **On methodology**

In designing the questionnaire we did not consider a question on the educational level of the respondent, because it could have been rather embarrassing because majority of the people in the trade are currently either illiterate or of very low literacy levels. Also not considered was a question on their occupation, since it had no particular relevance to the objectives of the study. But in retrospect, both questions are necessary, especially when it comes to selecting participants to educational seminars and training workshops on sustainable methods and alternatives.

Another lesson learnt is that because people who come to consult the tradi-practitioners generally pay some consultation fees, it may be necessary to make allowance for some token gifts to such target respondents when planning for such field surveys.

### **For medicinal wildlife conservation**

To counter the threat to the wildlife resources by their use in natural medicine, community education, training and intensive and extensive research are necessary onward actions, for sustainable medicinal wildlife use.

Community education campaigns using flyers and/or posters, meeting lectures, radio talks and TV presentations, drama and film to raise public awareness on this practice that is certainly a conservation problem. But since the use of medicinal wildlife is an age-old practice imbedded in many cultures, there is need to train the natural medicine practitioners on sustainable use methods and the adaptation of possible alternatives.

This study should be considered to have begun the process of intensive and extensive research on medicinal wildlife species, their use patterns, how the practice impacts on indigenous wildlife populations and species survival in specific sites; and a national survey for Cameroon, and the Central African sub-region in the longer term.

## PROJECT TEAM

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### **Liyong Emmanuel Sama**

He holds a B.Sc in Wildlife Management, besides an international Diploma in Natural Resource Management (Wildlife/Protected Area Management) from the Southern African Wildlife College.

From 1982 – 2012 he served in the Cameroon Civil Service as a game ranger in Kimbi Game Reserve, the Wildlife Services in Bamenda, Kribi, Buea, Akwaya; and as chief game ranger in the Korup National Park. Then as Game Officer for Ndian and Mezam Divisions respectively before becoming the pioneer Conservator of the Kagwene Gorilla Sanctuary in 2010 and of the Kilum-Ijim Plantlife Sanctuary in 2012.

As an anti-poaching instructor he has trained game rangers in the Korup National Park in 2003 and 2004; and in Nigeria in the Cross River National Park (2008) and the Mbe Mountains Conservation Area (2010) under successive WCS-Nigeria consultancies.

Since 2010 he became involved in non-governmental conservation work. He is the founding Coordinator of the Centre for Indigenous Resources Management and Development (CIRMAD), an NGO for conservation and civil society work.

*He spearheaded this study on medicinal wildlife use in the North West Region as the Sustainable Medicinal Wildlife Initiative, presented preliminary results and a produced poster of identified species in a historic medicinal wildlife symposium, carried out media and proximity campaigns for sustainable medicinal wildlife use and the training of natural medicine practitioners. He conceived and produced the MEDICINAL WILDLIFE PALAVER, an educative action movie for conservation education, these with the funding support of the Rufford Small Grants Foundation. See <[http://www.ruffordsmallgrants.org/rsg/projects/emmanuel\\_liyong\\_sama](http://www.ruffordsmallgrants.org/rsg/projects/emmanuel_liyong_sama)>.*

### **Kahdzefee Jude Thaddeus Nsai**

Holds a B.Sc. and HPD in nursing and is currently enrolled in an MSc course in midwifery. He has volunteered as a nurse in some local health units; participated in routine public vaccination exercises, prevention of mother to child transmission of HIV/AIDS, community management of malaria; integrated management of childhood diseases; has done research on traditional medicine in the Bamenda municipality.

He has a wealth of experience in working on local medicinal practices and has been member of the Project Team of both Phases I & II of the Sustainable Medicinal Wildlife Initiative.

## **Mimma Perpetua Dinga**

Holds a BA in African Studies - International Relations option; has worked as Secretary in Rural World Resources International; supervised researches with Research and Marketing Services (RMS); periodic supervisor of national elections in various constituencies; crew leader in national population census; successively controller, interviewer, census agent for the National Institute of Statistics for household surveys, census of enterprises, public expenditure survey, health care needs, water and sanitation and livestock/agriculture census.

Has a wealth of experience in working with and in the rural communities. She was a member of the Project Team of both Phases I & II of the Sustainable Medicinal Wildlife Initiative.

## **ACKNOWLEDGEMENTS**

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- The Rufford Small Grants Foundation, for funding support for both the pilot and 2<sup>nd</sup> phases of the novel wildlife conservation project.
- Mbonglang Joseph, the N. W. Regional Delegate of Forestry & Wildlife in 2010, for the official disclaimer of wildlife law enforcement or taxation link to the field surveys.
- Dr. Ndiforchu, the N. W. Regional Delegate of Public Health in 2010, for his endorsement letter and solicitation of the collaboration of the target respondents.
- Dr. Bime Leonard, president of Tradi-practitioners of N. W. Region in 2010 (for an insight to the complexity of natural medicine and the practitioners).
- Ndosa Lacksabi Gwandiko, a prominent tradi-practitioner for facilitating our practice of the complex questionnaire administration at his shrine.
- Tantoh John Takwi, the tradi-practitioner, licensed hunter and naturalist for all his insightful information, advice and collaboration in both phases of project.
- Dr. Wanzi Christopher, the retired wildlife biologist for his useful critique of the field results at the 2010 historic Bamenda symposium on sustainable medicinal wildlife use.
- All the FLVs without whom we couldn't know the tradi-practitioners of the targeted/visited localities.
- All the tradi-practitioners who sacrificed their time for the questionnaire administration.

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## **APPENDICES:**

### ***Appendix I: Respondents, their locations, ages and years in the practice of natural medicine***

| Division      | Municipality | Name                  | Sex | Age  | Yrs as T/P |
|---------------|--------------|-----------------------|-----|------|------------|
| Boyo          | Fundong      | Nkwen Paul            | M   | 36   | 18         |
|               | Fundong      | Francis Njong         | M   | 75   | 30         |
|               | Njinikom     | KubeNgeh              | M   | 70   | 35         |
|               | Njinikom     | Isaiah Fruto          | M   | 62   | 20         |
|               | Njinikom     | Nahlam                | M   | 50   | 20         |
| Bui           | Kumbo        | Ngoran Umaru          | M   | 46   | 10         |
|               | Kumbo        | Fai NgehNjai          | M   | 100+ | 30+        |
|               | Kumbo        | Shey Charles Yuyun    | M   | 57   | 25         |
|               | Jakiri       | Womilan Damasus       | M   | 58   | 26         |
|               | Jakiri       | TatahVitalisNsai      | M   | 39   | 23         |
|               | Jakiri       | Emmanuel Shalar       | M   | 39   | 23         |
|               | Jakiri       | Shey Wogarum          | M   | 45   | 33         |
|               | Jakiri       | Barah Terence         | M   | 24   | 5          |
|               | Elak-Oku     | Nforme Nyinchia Henry | M   | 66   | 40         |
|               | Elak-Oku     | Tata Isaiah Nkiese    | M   | 61   | 37         |
|               | Elak-Oku     | Nchinda David Kingkoh | M   | 58   | 20         |
| Donga Mantung | Ndu          | Ndzi Umaru            | M   | 40   | 17         |
|               | Nkambe       | GamnjeChrysantusBunji | M   | 67   | 20         |
|               | Nkambe       | Amadou Ibrahim Mallam | M   | 40   | 15         |
|               | Nkambe       | Adamu Salle           | M   | 60   | 20         |
|               | Misaje       | Ndung Hassan Bijeng   | M   | 36   | 10         |
|               | Nkambe       | Mallam Ahidjo Buhdi   | M   | ??   | 8          |
|               | Nkambe       | Yaya Umaru            | M   | 30   | 5          |

|              |             |                         |   |    |    |
|--------------|-------------|-------------------------|---|----|----|
|              | Nkambe      | Gado Mallam             | M | 68 | 48 |
| Menchum      | Fungum      | Elvis Kedze             | M | 23 | 3  |
|              | Wum         | Agem John               | M | 42 | 9  |
|              | Wum         | Nfon Linus Leng         | M | 48 | 28 |
|              | Fungum      | Pa Umaro                | M | 60 | 40 |
|              | Fungum      | Kom Augustine           | M | 38 | 19 |
| Mezam        | Bamenda II  | Ndosa Lacksabi Gwandiko | M | 66 | 51 |
|              | Bamenda I   | Tantoh John Takwi       | M | 65 | 55 |
|              | Bamenda II  | Tarnga Ambrose Tarh     | M | 57 | 38 |
|              | Bamenda III | Bime Leonard Nfon       | M | 52 | 35 |
|              | Bamenda III | Linus Ndeh              | M | 55 | 49 |
|              | Santa       | Mukong Takoh            | M | 55 | 19 |
|              | Santa       | WirbaMvedze             | M | 35 | 26 |
|              | Santa       | Ngu Joseph              | M | 66 | 42 |
|              | Bamenda II  | Sama Dayebga Peter      | M | 49 | 27 |
|              | Bamenda II  | Ngwali Joan Gana        | F | 40 | 14 |
|              | Bamenda III | Mafor Christina         | F | 51 | 37 |
| Momo         | Njikwa      | Angyiembe George        | M | 32 | 25 |
|              | Njikwa      | Peter Ambele            | M | 72 | 50 |
|              | Njikwa      | Afunda Moses Etoh       | M | 48 | 25 |
|              | Njikwa      | Api Mathew Akoh         | M | 50 | 35 |
|              | Njikwa      | Anya Mathew             | M | 53 | 24 |
|              | Mbengwi     | Ticha Bah Charles       | M | 45 | 20 |
|              | Mbengwi     | Ngah Frederick          | M | 60 | 50 |
|              | Njikwa      | Ampam John Nke          | M | 52 | 35 |
| Ngoke-tunjia | Ndop        | Laijeh Foncha Forba     | M | 46 | 36 |
|              | Ndop        | Kweyi Vincent           | M | 60 | 25 |
|              | Ndop        | Mah Peter               | M | 58 | 30 |

|  |            |                       |   |    |    |
|--|------------|-----------------------|---|----|----|
|  | Ndop       | Nuwa Michael          | M | 59 | 25 |
|  | Ndop       | Nchiefung Christopher | M | 40 | 10 |
|  | Ndop       | Tifor Paul Nfor       | M | 44 | 14 |
|  | Ndop       | Samba Anna Babunda    | F | 45 | 4  |
|  | Ndop       | Ntetnku Mina          | F | 49 | 13 |
|  | Ndop       | Ngijun Moses          | M | 60 | 13 |
|  | Balikumbat | Mundama Timothy N.    | M | 47 | 25 |

***Appendix II: The illnesses/health problems treated with products of the identified medicinal wildlife species***

|                           |                           |                         |
|---------------------------|---------------------------|-------------------------|
| 1. Antibiotics/Anti-venom | 20. Epilepsy              | 39. Rheumatism          |
| 2. Arthritis              | 21. Foetus improvement    | 40. Scabies/Rashes      |
| 3. Asthma                 | 22. Fractures/sprains     | 41. Sexual weakness     |
| 4. Baby strengthening     | 23. Gastritis             | 42. Side pains          |
| 5. Barrenness/Infertility | 24. Gout/water knee       | 43. Sleeping sickness   |
| 6. Bed wetting            | 25. Headaches             | 44. Sore throat/goiter  |
| 7. Bewitchment            | 26. Heart diseases        | 45. Spleen troubles     |
| 8. Body pains/weakness    | 27. Hypertension          | 46. Stomach ache        |
| 9. Burns                  | 28. Joint pains           | 47. Swollen belly       |
| 10. Calcium deficiency    | 29. Madness/mental ills   | 48. Swollen limbs/parts |
| 11. Cancer                | 30. Malaria               | 49. Tooth ache          |
| 12. Cells rebuilding      | 31. Menstrual problems    | 50. Tuberculosis/coughs |
| 13. Convulsion            | 32. Miscarriages/bleeding | 51. Unstable marriages  |
| 14. Diabetes              | 33. Mystical protection   | 52. Venereal diseases   |
| 15. Diarrhea/Dysentery    | 34. Nightmares/demons     | 53. Waist pains         |
| 16. Divination            | 35. Obesity               | 54. Wet dreams          |
| 17. Dog bites             | 36. Paralysis/stroke      | 55. Wounds/Sores        |
| 18. Eczema                | 37. Poisonings            | 56. Yaws/Ring worm      |
| 19. Elephantiasis         | 38. Retarded walk – kids  |                         |

**Appendix III: The Identified Medicinal Wildlife Species**

| Scientific name                   | English name      | French name            | Status in NWR | Class in Cameroon | Cites App. | IUCN listing    | Med. Usages |
|-----------------------------------|-------------------|------------------------|---------------|-------------------|------------|-----------------|-------------|
| <b>MAMMALS</b>                    |                   |                        |               |                   |            |                 |             |
| 1. <i>Geneta geneta</i>           | Spotted genet     | Genette volgaire       | Common        | B                 |            |                 | 11          |
| 2. <i>Pan troglodytes</i>         | Chimpanzee        | Chimpanzé              | Very rare     | A                 | I          | Endangered      | 11          |
| 3. <i>Loxodonta spp.</i>          | Elephant          | Elephant               | Extinct       | A/B               | I          | Endangered      | 22          |
| 4. <i>Cephalophus monticolor</i>  | Blue duiker       | Cephalophe de Maxwell  | Common        | C                 |            |                 | 3           |
| 5. <i>Cephalophus dorsalis</i>    | Bay duiker        | Cephalophe Bai         | Common        | B                 | II         |                 | 2           |
| 6. <i>Panthera leo</i>            | Lion              | Le lion                | Extinct       | A                 | I          | Endangered      | 14          |
| 7. <i>Thryonomys swinderianus</i> | Cane rat          | Aulacode grand         | Common        | C                 |            |                 | 4           |
| 8. <i>Gorilla gorilla</i>         | Gorilla           | Gorille                | Very rare     | A                 | I          | Critically end. | 4           |
| 9. <i>Cercopithecus nictitans</i> | White-nose monkey | Hocheur                | Common        | C                 |            |                 | 7           |
| 10. <i>Galago alleni</i>          | Galago/bush baby  | Galago d'Allen         | Common        | A                 |            |                 | 6           |
| 11. <i>Erythrocebus patas</i>     | Patas monkey      | Le singe rouge         | Common        | C                 |            |                 | 5           |
| 12. <i>Perodicticus potto</i>     | Potto             | Potto de Bosman        | Common        | A                 |            |                 | 2           |
| 13. <i>Felis silvestris</i>       | African wild cat  | Chat sauvage d'afrique | Common        | C                 |            |                 | 5           |

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|                                      |                        |                          |           |   |    |            |   |
|--------------------------------------|------------------------|--------------------------|-----------|---|----|------------|---|
| 14. <i>Cricetomys gambianus</i>      | Giant Gambian rat      | Rat géant de Gambie      | Common    | C |    |            | 4 |
| 15. <i>Neotragus batesi</i>          | Bates' dwarf antelope  | Antelope de Bates        | Rare      | C |    |            | 8 |
| 16. <i>Panthera pardus</i>           | Leopard                | Panthère d'afrique       | Very rare | A | I  | Endangered | 5 |
| 17. <i>Atherurus africana</i>        | Porcupine              | Atherure africaine       | Common    | C |    |            | 2 |
| 18. <i>Papio cynocephalus</i>        | Baboon                 | Babouin                  | Common    | C |    |            | 5 |
| 19. <i>Potamochoerus porcus</i>      | Bush pig               | Potamochèred'afrique     | Common    | B |    |            | 1 |
| 20. <i>Xerni spp</i>                 | Ground squirrel        | Écureuil foisseur        | Common    | C |    |            | 3 |
| 21. <i>Manis tricuspis</i>           | Tree pangolin          | Pangolin commun          | Common    | C | II |            | 2 |
| 22. <i>Hippopotamus amphibius</i>    | Hippopotamus           | Hippopotame              | Very rare | A | II |            | 4 |
| 23. <i>Procavia capensis</i>         | Rock hyrax             | Daman de rocher          | Common    | C |    |            | 2 |
| 24. <i>Giraffe camelopardaliis</i>   | Giraffe                | Giraffe                  | Extinct   | A |    |            | 2 |
| 25. <i>Tragelaphus scriptus</i>      | Bushbuck               | Guip harnaché            | Common    | B |    |            | 1 |
| <b>BIRDS</b>                         |                        |                          |           |   |    |            |   |
| 26. <i>Tyto alba (soumagnei)</i>     | Owl                    | Effraie du Cap           | Common    | B | I  |            | 3 |
| 27. <i>Touraco bannermani</i>        | Bannerman's touraco    | Touraco de Bannerman     | Endemic   | A | II | Endangered | 2 |
| 28. <i>Pandion haliaetus</i>         | Osprey (hawk)          | Balbuzardpêcheur         | Common    | B |    |            | 1 |
| 29. <i>Francolinus sqamatus</i>      | Scaly francolin        | Francolin ecailleux      | Common    | C |    |            | 1 |
| 30. <i>Macrodipteryx longipennis</i> | Standard-wing nightjar | Engoulevent à balanciers | Common    | C |    |            | 2 |

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|                                    |                        |                            |        |       |    |            |    |
|------------------------------------|------------------------|----------------------------|--------|-------|----|------------|----|
| 31. <i>Megacerle maxima</i>        | Giant king fisher      | Martin-pêcheur giant       | Common | C     |    |            | 1  |
| 32. <i>Polemaetus bellicosus</i>   | Martial eagle          | Aigle martial              | Rare   | B     |    |            | 5  |
| 33. <i>Hirundo spp</i>             | Swallow                | Hirondelle                 | Common | A/B/C |    |            | 1  |
| <b>REPTILES/AMPHIBIANS</b>         |                        |                            |        |       |    |            |    |
| 34. <i>Python sebae</i>            | African rock python    | Python de Sébae            | Common | B     | II | Endangered | 11 |
| 35. <i>Chamaeleo spp.</i>          | Chameleon              | Caméléon                   | Common | A     |    |            | 5  |
| 36. <i>Varanus albigularis</i>     | Monitor lizard         | Varan                      | Rare   | C     | II |            | 5  |
| 37. <i>Crocodylus cataphractus</i> | Snouted-nose crocodile | Crocodile à museau allongé | Rare   | A     | II | Endangered | 2  |
| 38. <i>Bufo bufo</i>               | Toad                   | Crapaud                    | Common | C     |    |            | 2  |
| 39. <i>Agama agama</i>             | Rainbow Lizard         | Lézard Agama               | Common | B     |    |            | 2  |
| 40. <i>Kinixys erosa</i>           | Tortoise               | Cinixysrongée              | Rare   | B     |    |            | 4  |
| 41. <i>Ramphotyphlops braminus</i> | Brahminyblind snake    | Serpent de Brahminy        | Rare   | C     |    |            | 2  |
| 42. <i>Rana temporaria</i>         | Frog (& tadpoles)      | Grenouille                 | Common | C     |    |            | 3  |
| 43. <i>Helix spp</i>               | Snail                  | Escargot                   | Common | C     |    |            | 1  |
| 44. <i>Serpentes spp.</i>          | Snakes (all types)     | Les serpents               |        | C     |    |            | 6  |
| <b>INSECTS</b>                     |                        |                            |        |       |    |            |    |
| 45. <i>Cretaceous</i>              | Soldier ants           | Fourmi manyang             | Common | C     |    |            | 2  |
| 46. <i>Opisthacanthus rugiceps</i> | Scorpion               | Scorpion                   | Common | C     | II |            | 5  |

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|                                    |                     |                    |        |   |  |  |   |
|------------------------------------|---------------------|--------------------|--------|---|--|--|---|
| 47. <i>Coptotermes formosanus</i>  | Termite             | Termite            | Common | C |  |  | 1 |
| 48. <i>Lasius niger</i>            | Black ant           | Fourmi noire       | Common | C |  |  | 2 |
| 49. <i>Pharacocerus ehippiatus</i> | West African spider | Araignée           | Common | C |  |  | 1 |
| 50. <i>Corixa punctata</i>         | Water boatman       | Lave               | Common | C |  |  | 1 |
| 51. <i>Vermeleo</i>                | Ant-lion            | Fourmi-lion        | Common | C |  |  | 1 |
| 52. <i>Apis spp</i>                | Honey bee           | Abeille            | Common | C |  |  | 3 |
| <b>FISHES</b>                      |                     |                    |        |   |  |  |   |
| 53. <i>Malapterurus electricus</i> | Electric fish       | Poisson électrique | Rare   | C |  |  | 3 |
| 54. <i>Clarias anguillaris</i>     | Mud fish            | Silure             | Common | C |  |  | 2 |



**Appendix V: Sample of questionnaire administered to tradi-practitioners**



\*S/No. \_\_\_\_/\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/2010

- 1) Name \_\_\_\_\_ Sex \_\_\_\_\_ Age \_\_\_\_\_
- 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 practicing traditional medicine? \_\_\_\_\_
- 7) Trade name, if any: \_\_\_\_\_ Association, if any: \_\_\_\_\_
- 8) Have you ever heard of Medicinal Wildlife? Yes/No.
- 9) Have you ever used wildlife parts or products for treatment? Yes/No. (If No, we discontinue.)
- 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<br>(in any identifiable appellation) | Part/Product used | Usage | Processing techniques | Ranking# |
|-----|---|-------------------|-------|-----------------------|----------|
|     |   |                   |       |                       |          |
|     |   |                   |       |                       |          |
|     |   |                   |       |                       |          |
|     |   |                   |       |                       |          |

**NB: We do not ask how the parts/products are applied, - 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. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

=//=

**Appendix VI: Online links to written and media reports on the Sustainable Medicinal Wildlife Initiative**

| No. | Link   | Comment  |
|-----|--|--|
| 1.  | <a href="http://www.ruffordsmallgrants.org/rsg/projects/emmanuel_liyong_sama">http://www.ruffordsmallgrants.org/rsg/projects/emmanuel_liyong_sama</a>  | For completion reports of 1 <sup>st</sup> and 2 <sup>nd</sup> phases of the Sustainable medicinal Wildlife Initiative, project updates, project pictures, etc. (2010 – 2012) |
| 2.  | <a href="http://www.cameroonpostline.com/tradi-practitioners-cautioned-against-wanton-medicinal-wildlife-exploitation">www.cameroonpostline.com/tradi-practitioners-cautioned-against-wanton-medicinal-wildlife-exploitation</a> | Report of <i>The Post</i> newspaper on the 2010 Bamenda Symposium on Sustainable Medicinal Wildlife Use  |
| 3.  | <a href="http://www.fao.org/forestry/nwfp/nonwood.htm/non-wood_news_24">www.fao.org/forestry/nwfp/nonwood.htm/non-wood_news_24</a>   | Published article in <i>Non-Wood News</i> magazine (of the FAO) on results of the 1 <sup>st</sup> phase  |
| 4.  | <b>Cameroon: Tradi-Practitioners Against Threats to Wildlife</b>   | Report of <i>Cameroon Tribune</i> newspaper on the training seminar for tradi-practitioners.   |

**Appendix VII: Recommendations of Bamenda Symposium on Sustainable Medicinal Wildlife, of 10/11/2010**

| <b>GROUP ONE</b> |   |   |   |
|------------------|---|---|---|
| <b>SECTOR</b>    | <b>GOV'T SERVICES</b>   | <b>NGOs</b>   | <b>TRADIPRATITIONERS</b>  |
| <b>ACTIONS</b>   | <ul style="list-style-type: none"> <li>❖ <b>Sensitization:</b> <ul style="list-style-type: none"> <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> </ul> </li> <li>❖ Gov't should propose alternative means to healing to Tradi-practitioners.</li> <li>❖ Rehabilitate protected species (<i>now extinct?</i>)</li> <li>❖ Gov't should encourage aforestation and reforestation.</li> <li>❖ Gov't should re-enforce law and order &amp; propose sanctions on perpetrators.</li> </ul> | <ul style="list-style-type: none"> <li>➤ Pro-health NGOs should hold several seminars with tradi-practitioners 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 (<i>Medicinal Wildlife</i>) 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 style="list-style-type: none"> <li>✓ Tradi-practitioners 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> |

| <b>GROUP TWO</b>          |  |   |  |
|---------------------------|--|---|--|
| <b>CRITERIA</b>           | <b>ROLE</b>                                    |   |  |
|                           | <b>GOV'T SERVICES</b>                          | <b>NGOs</b>   | <b>TRADIPRACTITIONERS</b>                            |
| 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 style="list-style-type: none"> <li>▪ Participate in the conception and development of tools.</li> <li>▪ Facilitate monitoring.</li> </ul> | Provide necessary information.                       |

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## **Distribution list**

Rufford Small Grants Foundation

Ministry of Forestry and Wildlife – Cameroon

Ministry of Public Health – Cameroon

WWF-CARPO

WCS – Cameroon Country Programme Office

International University, Bamenda – Cameroon

Selected and interested media