Chapter 3: Data collection, methodology and ethics

3.1. Informants

In order to maximise the difference between informants and to find cross-sectional representation, I identified 39 individuals for participation in the research, representing women and men below and above 30 years of age. I sampled informants by using snowball and referral methods, as well as adventitious sampling (Bernard2006:187-198) in social settings such as market day, funeral ceremonies and chance meetings with potential candidates. The four focus groups were made up of 10 women aged 30 -80 and above (Women 1), eight younger women between 15 and 30 (Women 2), 11 men of the ages 30- 80 and above (Men 1), and 10 men between 15 and 30 (Men 2). I chose the distinctive age limit of 30 for purely pragmatic reasons: many of the youth under 25 showed little interest in cooperating in the research, were too busy or did not appear for arranged meetings. Cooperation rate and understanding for the research purpose was much higher among older women and men. In individual sessions, socio-demographic data were collected, and informants given free list exercises and a questionnaire interview. In a follow-up session, four individuals from each group (including with an older woman and a younger man with specialist medicinal plant knowledge were asked to identify plant and their uses on a walk through a test field.

3.2. Research assistants and translators

Veyo Marguerite and Tchiebeu Daniel acted as my female and male research assistants and translators. As members of the Mambila Dictionary Committee[10], they are both literate in French and Mambila[11] and had previous research experience working with Dr. David Zeitlyn and Dr. Bruce Connell on the Mambila Dictionary Project. Daniel also assisted me with questions about differing pronunciations and correct transcription of plant names. Daniel Gangfi, an older Notable of the chief with previous experience in plant collections assisted me with the voucher specimens in the field and supplied me with much additional information about plants and their uses.

---

[10] The Mambila Dictionary Committee was established in 1998 by Dr. Bruce Connell
[11] See Appendix III. 2.

<u>3.3. Free list and questionnaire interview</u>

Reasonable session duration and appropriate interview questions were established after piloting free list exercises and questions with my two research assistants[12]. Sessions were run on an individual basis with translation help in French and Mambila (nine sessions) and without a translator in French (23 sessions). At the beginning of the sessions, demographic data were elicited[13]. Free listing of plant names was kept open in order to elicit the largest possible number of plant names for the Mambila Dictionary and to get an idea of the basic categories existing in the local classification system of plants. As there is no word for "plant" as a unique beginner in Mambila, informants were asked to free list the Mambila names for 10 trees and 10 other plants. Subsequent interview questions targeted informants' knowledge of ethnoecological categories, naming abilities in languages other than Mambila (mainly French and Fufulde), theoretical and practical[14] knowledge of plant use, and knowledge transmission patterns. For these elicitations I chose three tree and three other plant species randomly from the free list with the objective of covering as great a range of plants as possible. Sessions lasted on average 30 minutes and were recorded through note taking and on a digital voice recorder or a minidisk player.

Free lists supplied names for a total of 73 trees and 100 other plants (grasses, vines, herbs and bulbs, as well as uses for 47 trees and 37 plant species[15]. At times, data had to be eliminated from the free list analysis as in the case of **jogo,** which was mentioned as a tree in three free lists but turned out to mean simply "root" without denominating any tree in particular.

<u>3.4. Plant identification trail walks</u>

Based on the frequency of mentions and the salience of trees and plants I established a list of the "top 22" trees and other plants[16] and chose a trail walk locality for these plant species based on accessibility and proximity to the village. I identified trees and plants for the identification tasks with the help of an older, knowledgeable informant and memorised their location. The trail walk identification tasks required a great deal of flexibility in terms of timing. Initially, I aimed to take informants in groups of three on trail walks in order to

---

[12] See Appendix II, table 2.
[13] See Appendix II, table 3.
[14] Theoretical plant knowledge can be understood as the ability to name plant uses while practical plant knowledge is the practical skill to identify plants, name their uses and have the ability to apply these . .
[15] See Appendix II, table 4 and 5.
[16] See Appendix II, table 6.

record agreements and disagreements between informants. However, individuals seemed to influence each others' responses and it was difficult to tell how much people really knew when they were more hesitant with their responses. Under additional time constraints, I continued the trail walks on an individual basis with four people from each group eliciting name and use of trees and plants pointed out to them on the walk. In the case of two particular plants, which had been free listed under their generic names, informants were asked to show me all plants that matched the name. Informants were given knowledge scores [17], which I designed based on their knowledge in identifying plants and naming at least one use for them.

3.5. Interviews

In individual semi-structured focus interviews with key informants from both sexes, I elicited information for a yearly activity calendar for men and women[18] and gained insight into young women and men's activities, interests and their attitude towards education and traditional practices. I also interviewed the chief of the village and his Notables about history, socio-demographics, land tenure practices, culturally important plants, reforestation issues, and the effects of commoditisation on peoples' farming regimes and plant use.

3.6. Voucher specimen collection and identification

The aim of the voucher specimen collections was to collect, in two sets, as many specimens listed in the free lists as possible for taxonomic identification purposes. However, this proved quite difficult as many of the mentioned tree and other plant specimens were not in flower or were too difficult to access without hired climbers and better collection equipment such as poles. One set was subsequently identified and deposited in the National Herbarium in Yaounde, and the other set in the Herbarium at the Royal Botanic Gardens Kew. In total 131 voucher specimens were collected of 62 plant species. 39 of these species were mentioned on free lists, while the remaining 23 were collected on plant collection walks with my assistant, mainly following specifications set out in Forman and Bridson (1991)[19]. Early experimentation with drying specimens was necessary in order to ensure good quality, and I initially collected plants with the assistance of my female research assistant on walks to and from her cornfield. As I was gradually shown more plants in the village, I also collected on my own and showed the voucher specimens to various people with special

---

[17] See Appendix II, table 7 and 8.
[18] See Appendix II, table 9.
[19] See Appendix III, 1.

plant knowledge for identification and confirmation on vernacular names. In addition to this, I utilised certain reference books and plant lists to help me identify plants in the field (Blench 2006, Perrin et al. 1995, Assi et al. 1985, Letouzey 1986). Scientific names of plants in the summary list[20] are based on identifications from the National Herbarium in Yaounde (Y), *Mabberley's Plant Book* (Mabberley 2008), and the online digital library Aluka[21], Of the 131 voucher specimens collected, I lost 12 to mould or inappropriate drying. A total of 54 species were identified at the National Herbarium in Yaounde and are currently in the process of being mounted and identified at the Kew Herbarium.

3.7. Participant observation

As most of the daily activities take place in the unfenced compound in front of the house (with the exception of Muslims who often fence their compounds), it was very easy to observe men and women going about their work. In most cases, people were happy to talk about what they were doing, and I observed men weaving baskets and fishing traps, fixing bath houses and buildings in the compound as well as making carpentry objects. I gained much insight into the lives and concerns of young men by taking taxi rides on motorbikes, or chatting with them in the local shops or while observing their card games. I learned about young women's plant management skills by helping with and observing preparation chores from collecting wood to making the fire,

Figure 8.Observing 88-year old Wuwea Barabas fixing a fishtrap (photo D. Zeitlyn).

from dehusking the dry corn and cooking the daily corn meal to preparing the traditional corn beer **kpata** (figure 9).

Occasionally, I accompanied them to the fields, and I also witnessed the various steps of palm oil production and observed the preparation of locally popular snacks, which are sold on the market (i.e. the **bâton,** a gelatinous stick of boiled fermented manioc paste).

---

[20] See Appendix II, Table 4 and 5.
[21] www.aluka.org

Cracking oil palm kernels (*Elaeis guineensis)* for the "black oil" was a favourite pastime with the old women as was the weekly participation in the beer drinking circles at the local market.

3.8. Data analysis

Some of my preliminary data analysis such as the "top 22" list, which was based on frequency of mentions, was done in the field in handwritten form or on my laptop computer. I also entered free listed plant names into an excel sheet, noting their vernacular names and elicited uses. The free lists also informed about the total variety of plants listed by the different focus groups.

I listened to interviews in Mambila with my male assistant in order to correctly transcribe the plant names in Mambila. I also devised knowledge

Figure 9. Making maize beer (kpata) (photo R.K.)

score values to test my participants' plant knowledge on the identification trail walks, which were later used in multiple linear regression analysis[22]. Plant data were organized by creating card files on free listed plants similar to those developed by Berlin and his colleagues in Chiapas (Martin 2004:13), and all data were kept mainly in handwritten form, with photographs of plants being regularly downloaded and backed up on a USB stick. Preliminary identification of some plants was facilitated by existing literature[23]. However, most of the collected voucher specimens were identified taxonomically in Yaounde and are presently awaiting identification at Kew.

Further data analysis involved the creation of an attribute matrix of the numerical data, which was used in a cluster analysis to show similarities and dissimilarities between participants' free lists[24]. Relationships between free listed plants, sex and age were analyzed with the help of ANTHROPAC 4 (Borgatti 1996). Regression analysis demonstrated the agreement on plant uses on trail walks in relation to age, sex and level of education[25].

---

[22] See Appendix II, Table 8.
[23] Referencing a plant list compiled by Roger Blench (2006) of plants in Fufulde language and by comparison with dictionary entries of Mona Perrin's dictionary of the Mambila dialect of Atta village (Perrin 1995).
[24] See Appendix II, table 15 and 16.
[25] See Appendix II, table 1 and 18.

Multiple linear regression in SPSS software was used to correlate plant knowledge with the independent variables age, sex and education measured in years spent at school (see page 47).

3.9. Permissions and ethics

Preliminary permission for plant collection was obtained from the Cameroon Ministry of Research in collaboration with the National Herbarium in Yaounde. Upon my arrival in Yaounde, I discussed plant collection methods with the director of the National Herbarium and made arrangements for voucher specimens to be identified and deposited there upon my return from the field.

My acclimatisation and sensitisation to Mambila culture was greatly facilitated by Dr. David Zeitlyn who introduced me to the village in informal meetings, instructed me in the local ways of speaking, expressions, gestures and other body language used by my local counterparts. Due to the chief's illness, I was unable to get his formal permission to conduct the research and to explain my aims and objectives until one month later upon his return. Dr. Zeitlyn was instrumental in explaining the purpose and nature of my research to the most important people in the village, and in establishing fair compensations and payments for assistants and research participants. A small field guide of most mentioned plants, with photographs, vernacular as well as scientific names, and mentioned uses will be prepared as compensation for the village and will serve the community as a reference document.