The Dilemma of Integrated Conservation and Development in the Korup National Park, Cameroon

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Deutsche Zusammenfassung

Titel: Das Dilemma des integrierten Umweltschutzes im Korup Nationalpark, Kamerun.

Der Korup Nationalpark beheimatet eines der ersten integrierten Programme zum Umweltschutz und zur Entwicklung (so genannte *ICDPs - Interated Conservation and Development Projects*) von tropischen Regenwäldern. Seine gegenwärtigen Managementprinzipien basieren auf konventionellen Theorien des Umweltschutzes und Kameruns nationaler Waldpolitik, die keine menschlichen Siedlungen innerhalb des Parkes vorsieht. Nationalparks sind entwicklungspolitische Maßnahmen, die in die bestehenden Lebenswelten der Waldkommunen eingreifen und von diesen aufgegriffen und transformiert werden. Im Korup Nationalpark wird die Entnahme natürlicher Ressourcen durch staatliche Gesetze untersagt, wobei die Ressourcen im Prinzip mit einem integrierten Ansatz von Umweltschutz und Entwicklung gemanagt werden sollten. Diese Gesetzgebung ist ungerecht und ignoriert die Perspektiven der lokalen Bevölkerung, deren Lebensgrundlage direkt auf die Waldnutzung gründet. Stattdessen reflektiert sie die universelle Idee von Umweltschutz der nationalen und internationalen Akteure und vernachlässigt die Interessen der Gemeinschaften innerhalb des Parks.

Kameruns Umweltschutzpolitik basiert auf der interventionistischen Idee, derzufolge effektiver Umweltschutz nur durch das Eingreifen des Staates erreicht werden kann.[1] Dieses Dilemma kann auch anhand anderer Beispiele nachgewiesen werden, wie im Himalaya, wo ansässige bäuerliche Gemeinschaften als Hindernis für eine effektive und vernünftige Nutzung von Ressourcen angesehen wurden.[2] In fast allen Fällen werden die ansässigen Gemeinschaften als Ausbeuter der Waldressourcen wahrgenommen, so als seien diese Ressourcen nicht begrenzt. Folglich gehen die offiziellen Stellen in Kamerun davon aus, dass die ´gefährdeten Waldressourcen ´ nur durch die Schaffung eines unberührten und unbewohnten Ökosystems geschützt werden könnten. Diese schematische, durch die Neo-Malthusianer[3] popularisierte Vorstellung wird durch theoretische Metaphern gestützt, die dazu dienen, Politik (irre)zu führen und die eine überzeugende Erklärung dafür bietet, wie die Erschöpfung und Degradation der natürlichen Ressourcen stattgefunden habe. In der Wahrnehmung der offiziellen Stellen in Kamerun agiert die lokale Waldbevölkerung als Komplize von Nigerianern, die im Park jagen, Waffen hineinschmuggeln und untergräbt so jeden Versuch, diese Wildräuberei zu verhindern. Die offizielle Politik der Umsiedlung aus dem Nationalpark wurde von internationalen Gebern technisch und finanziell gefördert. In einem Pilotprojekt wurde im Jahr 2000 ein Dorf umgesiedelt, was zu Konflikten zwischen staatlichen Akteuren und lokalen Gemeinschaften führte. Die internationalen Geber zogen sich daraufhin im Jahr 2003 zurück und limitierten somit die Möglichkeit des Staates, noch mehr Umsiedlungen vorzunehmen. Die Umsiedlung kreierte ein Vakuum, da illegale Wilderer anfingen, in den nun unbewohnten Gebieten des Waldes zu jagen – der

[1] Agrawal and Gibson, 1999:631; Long, 1992:20
[2] Eckholm, 1976; Ives and Messerli, 1989:1-6
[3] Garrett Hardin, and Paul Ehrlich, among others

Umweltschutzeffekt trat nicht ein. Demzufolge unterwandert die Nationalisierung der Wälder nicht nur traditionelle, lokale Institutionen, sondern wirkt sich demotivierend auf Teile der Lokalbevölkerung aus, deren Energie für den Umweltschutz mobilisiert werden könnte.[4] Wie im Himalaja beobachtet wurde, zog der restriktive Zugang zu *livelihood*-Ressourcen die Zerstörung der Wälder nach sich, da die lokale Bevölkerung versuchte, so viele Ressourcen wie möglich zu entnehmen, bevor ihnen ihre traditionelle Besitz- und Zugangsrechte entzogen wurden.[5] Die Umweltschutzmaßnahmen in Korup provozierten dasselbe Dilemma. Die Idee von Umsiedlungen wird stark von Demographen und Ökologen gestützt und von den Anhängern Boserups sowie anderen Umsiedlungsgegnern abgelehnt. Politik begründet sich manchmal auf Spekulationen über die Umgehensweise der lokalen Gemeinschaften mit den Ressourcen und wirken ihrer Rolle im Management natürlicher Ressourcen entgegen. Demzufolge muss ein akteurszentrierter Forschungsansatz verfolgt werden, um verschiedene Strategien lokaler Akteure identifizieren und charakterisieren zu können, um lokale Effektivität im Lösen von Umweltschutzproblemen und die strukturellen Folgen zu erfassen und somit ein Verständnis des oben genannten Dilemmas herbeizuführen.

Zielsetzung und Fragestellung

Die wichtigsten zwei Ziele dieser Studie sind sowohl gesellschaftlicher als auch wissenschaftlicher Art. Gesellschaftlich gesehen trägt die Studie zum Verständnis darüber bei, wie die nationale „grüne" Waldgesetzgebung praktisch lokales Wissen und lokale Institutionen ignoriert, obwohl im neuen Umweltschutzdiskurs die Rolle von lokalen Gemeinschaften als Mitstreiter im Umweltschutz und Management natürlicher Ressourcen, die in der Lage sind, soziale Dilemmata zu lösen, anerkannt wird. Wissenschaftlich gesehen, beleuchtet die Fallstudie empirisch die Debatte über menschliche Siedlungen innerhalb von Nationalparks, indem sie die Konstruktion und Interpretation der Realität der indigenen Siedler im sozialen Kontext verständlich macht. Der dynamische Ansatz erkennt die Rolle von lokalen Aktivitäten und das lokale Umweltbewusstsein an. Bisher haben Studien diese Faktoren wenig reflektiert. Die Bedeutung, die die Bevölkerung ihren eigenen Aktivitäten und Interessen zuschreibt, wird durch die lokale Interpretation von staatlichen Aktionen und anhand der lokalen Kommentare zu staatlich formulierten Ansprüchen deutlich.

Die Fragestellung ist theoretisch und empirisch breit angelegt. Die theoretische Frage konzentriert sich darauf, wie integrierter Umweltschutz und Entwicklung im Korup Nationalpark erfolgreich praktiziert werden könnten. Die empirischen Fragen sind: was sind die staatlich formulierten Behauptungen zu den *livelihoods* der indigenen Siedler im Park? Wie interpretieren diese Siedler die Auswirkungen ihrer Wirtschaftsweise auf den Wald? Welche Schlussfolgerungen können aus der Analyse der Fallstudie gezogen werden?

[4] Egbe Samuel (1997) fragt, ob die Nationalisierung der Wälder notwendig war, die vor der staatlichen Regulierung von indigenen Gemeinschaften bewohnt waren.
[5] Ives and Messerli, (1989:61)

Unterfragen beschäftigen sich mit den gegenwärtigen Debatten um menschliche Siedlungen in Nationalparks und den sozialen Beziehungen innerhalb der ansässigen Gemeinschaften, die helfen, ein Verständnis von effektiven Entscheidungsprozessen hinsichtlich der Nutzung natürlicher Ressourcen auf der Mikroebene zu entwickeln. Die wirtschaftlichen Aktivitäten sind ebenso wichtig wie die Entwicklung von Methoden zur Ressourcenentnahme sowie das durch tägliche Interaktionen mit dem Wald erworbene Wissen, das segmentiert ist und ausgetauscht und von Wissenschaftlern angezapft wird. Von gleichwertiger Bedeutung sind so genannte *soft management practices* oder ländliche Strategien, die eine allgemein verbreitete Weltsicht und kulturelle Werte ausdrücken, in die dieses Wissen eingebettet ist.

Die theoretischen und empirischen Antworten führen zu Empfehlungen hinsichtlich einer Herangehensweise an die ICDP Prinzipien, die dazu beitragen könnten, die Interessen aller Beteiligten besser zu berücksichtigen, was eine sichere Lebensgrundlage für die Waldkommunen und einen gleichzeitigen Umweltschutz im Park einschließt – und das mit den zeitlich, finanziell und menschlich begrenzten Ressourcen, die Kamerun zur Verfügung stehen.

Leitidee

Es gibt ausreichend Theorien, die die Argumentation rechtfertigen würden, dass integrierter Umweltschutz und Entwicklung im Korup Nationalpark erfolgreich sein könnten, wenn die Partizipation der lokalen Gemeinschaften mit Verantwortlichkeiten und Nutzen gefördert würde. Die Lokalbevölkerung schätzt ihre Siedlung im Nationalpark nicht ausschließlich problematisch ein. Die Strategie der Umsiedlung auf der Makroebene wurde mit übertriebenen Behauptungen über lokale Gemeinschaften begründet, die nicht die wichtigste Quelle von Umweltproblemen waren, sondern im Gegenteil ein wesentlicher Schlüsselfaktor der Problemlösung.

Rechtfertigung der Studie

Der Korup Nationalpark stellt einen passenden Fall dar, denn er ist der reichste und älteste erhaltene Regenwald in Afrika, der internationale Unterstützung erfahren hat. Er gehört zu den Nationalparks der ersten Kategorie mit einem strengen Schutzstatus. Als eins der ersten integrierten Umweltschutz- und Entwicklungsprojekte in tropischen Regenwäldern wurde vom Management des Parks eine strenge Begrenzung der Ressourcennutzung durch lokale Gemeinschaften innerhalb des Parks verfügt. Die Biodiversität und das Ökosystem von Korup sind als einzigartig bekannt. Der Park ist der Nutzung durch sechs ansässige Siedlergemeinschaften und durch 80 weiteren Gemeinschaften in seiner Nachbarschaft ausgesetzt, sowie einer schlechten Politik der Regierung, Finanznöten und Konflikten zwischen Siedlern und den Managern des Parks. Korup ist der einzige Park im Kongobecken mit einem offiziellen Umsiedlungsprogramm; das entsprechende Pilotprojekt (1981-2000) ist gescheitert. Der kontinuierliche Schutz des Parks ist notwendig, um seine reiche und einzigartige Biodiversität zu sichern, die Gefahr läuft zu verschwinden, wenn

die indigenen Siedler komplett aus dem Park ausgewiesen werden. Das gegenwärtige Fehlen von Geldern für den Umweltschutz wird die schon prekäre Situation noch verschlechtern. Selbst Diskussionen um die Einrichtung von *limited access zones* für ansässige Gemeinschaften und um einen partizipatorischen Ansatz im Umweltschutz erkennen noch nicht die Rolle der Siedler im Management der natürlichen Ressourcen an.

Die Nationalisierung der Wälder und die Ausweisung der lokalen Bevölkerung öffnen den Wald für die Zerstörung.[6] Aber Verhandlungen und der Dialog zwischen den Akteuren können Umweltschutzmaßnahmen signifikant beeinflussen, genauso wie die Verbreitung neuer Ideen und Praktiken auf ein unterstützendes Netzwerk von Akteuren auf verschiedenen Ebenen baut.[7] Die Anerkennung der Rechte indigener Siedler hat geholfen, Wälder in der Zentralafrikanischen Republik zu schützen und führte zur Verbesserung der Wälder im Machakos-Distrikt von Kenia.[8] Diese Erfolge brachten Wissenschaftler dazu, sich für die Analyse der lokalen Waldnutzung einzusetzen. Gegenwärtig besteht noch ein Mangel an Fallstudien, die diesen Anspruch verfolgen.[9] Auch im Korup Nationalpark sind akteur-zentrierte Studien unterentwickelt; Studien beschäftigten sich nicht mit dem Management des Parks, sondern mit der Struktur und der Dynamik des Waldes.[10] Diese Studien, die die Politik der Errichtung temporärer Nutzungszonen anstießen, haben es versäumt, die Perspektiven der lokalen Bevölkerung miteinzubeziehen. Bisher bestehen keine *blue prints* für das effektive Management von Regenwäldern; die Gemeinschaften sollten bei der Analyse der Politik berücksichtigt werden.[11]

Das Verstehen der Absichten und Motive von Akteuren ist entscheidend wegen der multiplen Realitäten und potentiellen Interessenkonflikte.[12] Akteur-orientierte Forschung, die Verhandlungsprozesse und Dialoge hervorhebt, kann signifikanten Einfluss auf die politischen Maßnahmen nehmen.[13] Dem angewandten Ansatz des *limited property right* fehlen Anreizmechanismen für die gewünschte nachhaltige Ressourcenentnahme, die für die Siedler von größter Wichtigkeit sind.[14] Er beinhaltet ebenso wenig Anreize für die effektive Arbeit der staatlichen Akteure und so genannten *eco guards* (Wildhüter).[15] Die offene Frage bleibt, ob die Gemeinschaften im Korup Park tatsächlich ihren Wald schützen; das Beispiel Loma Alta im Westen Ecuadors zeigt, dass der Schutz nicht erreicht werden konnte, obwohl die Gemeinschaft einen starken Bezug zum Wald aufwies.[16]

Global gesehen, sind Regierungen für ihre Schwierigkeit aus einer Distanz heraus Autorität durchzusetzen bekannt, sowie für die Dezentralisierung von Autorität hin zu sozialen

[6] Schmidt-Soltau, 2005
[7] Mahanty, 2002:1370
[8] Eyong, 2007; Tiffen et al., 1994
[9] Agrawal and Gibson, 1999:631; Gibson et al., 1998b; Agrawal, 2001; Ostrom, 2002; Potentee and Ostrom, 2004
[10] Korup Management Plan, 2002:8
[11] Potentee and Ostrom, 2002:5
[12] Ascher, 2000; Long, 1992:26
[13] Mahanty, 2002
[14] Castello and Kaffine, 2008:21
[15] Agrawal and Gibson, 1999
[16] Becker and Gibson, 1998

Organisationen, die in der Nähe der Ressourcen aktiv sind, um eine effektive Regierung auf der Mikroebene ausüben zu können.[17] Das Kameruner Ministerium, das die Managemententscheidungen über den Korup Nationalpark trifft, weist eine deutliche Abwesenheit im Forschungsgebiet auf. Seine strenge Politik der Ausweisung ist nicht innovativ; die *eco guards* beschwerten sich, dass die Kontrolle des Waldes sehr schwer praktizierbar sei und so illegale Aktivitäten ausländischer multinationaler Konzerne ermöglicht würden, die sich im und um das Waldgebiet aufhalten und die Regeln nicht respektierten.

In den 1960er Jahren argumentierten die Anhänger von Boserup, dass lokale Gemeinschaften umweltfreundliche Technologien und Produktionsweisen praktizieren würden, um den Verlust von Ressourcen in das Gegenteil zu verkehren. Diese Strategien zeigten im Machacos-Distrikt von Kenia Erfolge.[18] Es wird angenommen, dass Gemeinschaften mit der Zeit durchdachte Rituale und Praktiken entwickeln, um die Entnahme von Ressourcen zu limitieren, den Zugang zu kritischen Ressourcen einzuschränken, sowie Ernten und Erträge zu verteilen.[19] Dennoch gibt es wenig Informationen darüber, welche Auswirkung lokale Gemeinschaften praktisch und konkret auf den Schutz der Umwelt haben.[20]

Staatliche Akteure behaupten, dass lokale Wirtschaftsweisen nicht im Sinne des öffentlichen Rechtes und Besitzes (der so genannten *public goods*) seien und die Schutzmaßnahmen behinderten. Dieser Auffassung zufolge, würde die Ausweisung der lokalen Bevölkerung den Schutz des Parks verbessern. In der Regel ignorierte und demotivierte das staatliche Management die Siedler, deren Energie eigentlich für das Waldmanagement mobilisiert werden müsste, vor allem weil die aufsehenden Waldbehörden (*forest departments*) die lokalen Gewohnheitsrechte als ´schwach´ wahrgenommen haben. Seit 1988 wurde vom Management ein strikter Ansatz verfolgt, der Umweltschutz mit dem Schutz von Biodiversität gleichsetzt. Dieser Ansatz zieht Konflikte nach sich, da die lokale Bevölkerung den Eindruck gewinnt, dass den Tieren mehr Rechte eingeräumt werden als ihnen selbst und dass ihnen ihre Besitzrechte am Wald abgesprochen werden. Wie die ausländischen Wilderer versuchen sie deshalb, soviel Ressourcen wie möglich aus dem Wald herauszuholen und setzen sich den damit verbundenen Risiken aus. Dementsprechend verkehrt sich der Umweltschutz, der als Entwicklungsmotor gedacht war, nun in ein Dilemma. Die Literaturrecherche vor der Feldforschung sowie Meinungsäußerungen staatlicher Stellen vermittelten den Eindruck, dass das Bevölkerungswachstum, die Entnahmeaktivitäten sowie deren Methoden und Techniken den Umweltschutz im Korup Nationalpark behinderten.

[17] Agrawal and Gibson, 1999:634; Agrawal and Lemos, 2007:38; Long and Long, 1992:270
[18] Tiffen et al., 1994
[19] Western and Wright, 1994:1
[20] Agrawal and Gibson, 1999:633

Daten und Methoden

Die Studie wurde als Sammlung qualitativer und quantitativer Daten aus Primär- und Sekundärquellen konzipiert. Die empirischen Daten wurden mithilfe partizipatorischer Methoden erhoben, [21] während die Sekundärdaten aus Zeitschriftenartikeln, Büchern, Projektberichten, Zeitungen, Webseiten, Notizen und den Transkriptionen persönlicher Gespräche stammen. Zur Erfassung quantitativer Daten wurden Fragebögen benutzt. Qualitative Daten basieren auf Leitfadeninterviews, die aufgezeichnet wurden. Die Forschung war von vielen Herausforderungen geprägt.[22]

Die Untersuchung bestand aus Monaten der Interaktion mit den ansässigen Gemeinschaften, in denen untersucht wurde, welches Wissen diese Gemeinschaften haben, wie sie die Herausforderungen im Park wahrnehmen und wie sie ihre Wirtschaftweise interpretieren. Einer allgemeinen Annahme zufolge, hängt der Erfolg oder Misserfolg von Umweltschutz vor allem von den Perspektiven der lokalen Akteure ab. Diese Perspektiven auf extern initiierte Umweltschutzmaßnahmen wurde mithilfe von ethnographischen Methoden untersucht.

Die Kombination von ethnographischen und standardisierten Forschungsmethoden wurde gewählt, um den Eigenschaften der Bevölkerung Rechnung zu tragen. Zum Beispiel war die Durchführung von Interviews praktikabler als das Ausfüllen von Fragebögen, was ohne die Hilfe des Forschungsteams aufgrund der geringen Bildung der Leute nicht möglich gewesen wäre. Die Forschungsfragen wurden vom Interviewer gestellt und die entsprechenden Antworten von ihm auf dem Fragebogen notiert. Auch der Einsatz von Aufnahmegeräten war nützlich, da die Antworten auf den Fragebogen sehr ausführlich und detailliert ausfielen und nicht alle Information sofort notiert werden konnten. Um Übersetzungsprobleme zu mildern, wurden die Fragen in Pidgin-Englisch gestellt, das in den meisten Gebieten Kameruns als lingua franca fungiert. Insgesamt nutzte die Studie eine Kombination aus kleinen, partizipatorischen Umfragen zur Erhebung der wirtschaftlichen Aktivitäten, wie von Malleson und Kollegen (2008) vorgeschlagen. Trotzdem war eine gewisse Forschungsmüdigkeit (*research fatigue*) in den Gemeinschaften beobachtbar.

Struktur der Arbeit

Das erste Kapitel führt in das Problem, die Zielsetzung, den Umfang sowie die Leitidee der Studie ein. Nationalparks sind eine Entwicklungsmaßnahme, die in die Lebenswelt von Waldgemeinschaften eindringt und von deren Perspektiven vermittelt und transformiert wird.

Das zweite Kapitel stellt die Debatten zwischen den Romantikern und Pragmatikern dar, um die Frage zu beantworten, wie das Dilemma von integriertem Umweltschutz und Entwicklung in tropischen Parks zu überwinden sei. Das Kapitel diskutiert die Literatur zu

[21] Forscher und Forschungsassistent verbrachten jeweils zwei Monate in jeder Forschungsgemeinde und führten Beobachtungen und Interviews mit der lokalen Bevölkerung durch.
[22] Siehe Anhang 1

Partnerschaften mit lokalen Gemeinschaften, zu kommunalen Besitzrechten, zu traditionellem ökologischen Wissen und zum Management natürlicher Ressourcen.

Das dritte Kapitel zieht in der Forschung erhobene Daten heran, um die Eigenschaften der Feldforschungsorte und die Rolle der ansässigen Gemeinschaften im Umweltschutz zu diskutieren. Es bietet eine Definition von ´Gemeinschaft´ an und stellt den Ursprung des Konzepts im Diskurs von Ressourcenmanagement vor. Empirische Daten erklären, warum die Gemeinschaften in Korup die besseren Verbündeten für Umweltschutz und Entwicklung sind.

Das vierte Kapitel stellt die wirtschaftlichen Aktivitäten aus Sicht der ansässigen Gemeinschaften dar. Bisherige Studien haben vernachlässigt zu dokumentieren, wie Akteure ihre Interaktionen mit dem Wald interpretieren. Das Kapitel beantwortet die Fragen: Wie wirtschaften die ansässigen Gemeinschaften? Wie werden saisonale Aktivitäten ausgeführt? Wie interpretieren die Siedler ihre Wirkung auf den Wald?

Das fünfte Kapitel basiert auf empirischen Daten und fokussiert indigenes Wissen, Wissen über natürliche Ressourcen: Wald, Pflanzen und Tiere. Das Kapitel diskutiert das Konzept von indigenem ökologischen Wissen und identifiziert so genannte *soft management pratices* sowie soziale Mechanismen hinter diesen Praktiken unter Zuhilfenahme des *frameworks* zum Austausch traditionellen ökologischen Wissens von LaRochelles und Berkes (2003). Die beantworteten Fragen dieses Kapitels lauten: Was ist indigenes ökologisches Wissen? Wie wird es gelernt und auf lokaler Ebene geteilt? Wie wurde dieses Wissen dokumentiert und für Umweltschutzmaßnahmen in Korup und anderen Waldgebieten eingesetzt?

Das sechste Kapitel untersucht die Behauptung, die lokalen *livelihood* Aktivitäten würden zur Degradation des Korup Nationalparks führen. Es beschreibt die Akteure des Umweltschutzes mit ihren Interessen und Netzwerken. Von empirischen Daten ausgehend, kritisiert das Kapitel die offiziellen Behauptungen und zeigt, dass sowohl offizielle als auch lokale Behauptungen inkonsistent sind.

Das siebente Kapitel diskutiert lokales und staatliches Management der Waldressourcen mithilfe empirischer Daten. Es nutzt das *Institutional Analyses and Development (IDA) framework* um zu klären, welche Regeln in Korup von Bedeutung sind, insbesondere die einschränkenden Regeln des lokalen Geheimbundes Ekpwe. Zudem analysiert das Kapitel, wie verschiedene lokale Regelwerke, Sanktionsformen und Autoritäten zusammenwirken.

Das achte Kapitel stellt die Sichtweise des Autors vor, die auf der Synthese der Ergebnisse aller vorherigen Kapitel beruht und stellt auch andere Lehren, die sich aus der Studie ziehen lassen, dar. Das Kapitel endet mit einem Vorschlag für zukünftiges Handeln, da die vorliegende Studie politische Implikationen birgt.

Wichtigste Ergebnisse der Studie

Die Studie fand heraus, dass die Gemeinschaften eine geringe Bevölkerungszahl aufweisen (weniger als 250 Menschen), die in Esukutan insignifikant und langsam wächst und in Ikondo Kondo I ca. 3% innerhalb von zwei Jahren zunimmt. Es gibt kaum Zuzug, insbesondere nicht in Esukutan. Es wird gesagt, dass eine kleine Gruppengröße und ethnische Homogenität den Schutz des Waldes begünstigen, da einheitliche soziale Regeln bestehen, die Menschen aneinander binden.[23] Der geringe Bildungsstatus und die Abwesenheit von Regierungsstellen in den Dörfern erklären teilweise, warum die lokale Bevölkerung die Gesetzgebung des Nationalparks nicht versteht. Die Gemeinschaften weisen eine Geschichte von freiwilliger Umsiedlung auf, d.h. Dörfer wurden innerhalb des Waldes verlegt, um bessere Lebensbedingungen zu sichern. Die Gruppen sind patriarchal und Frauen werden gewohnheitsrechtlich von Entscheidungsprozessen ausgeschlossen. Die privilegierteste Gruppe stellen die Ältesten, die einen überproportionalen Nutzen aus ihrem Wissen, und damit ihrer Macht, ziehen. Die Ältesten agieren als strategische Gruppe, die geheimes Wissen haben sowie den Bünden und Netzwerken zum Wissensaustausch vorstehen, welche die Entscheidungen treffen und durchsetzen. Sozialer Status ist zugeschrieben und der Status der Ältesten ist groß, besonders in Esukutan. Es gibt Belege dafür, dass diejenigen, die aus wohlhabenden, politisch einflussreichen Familien stammen, auch auf der oberen Statusebene verbleiben. Zusammenfassend wirken diese Eigenschaften als Basis für das Management natürlicher Ressourcen, da die integrierten Gruppen lokal entstandene Normen nutzen, um die für ihre *livelihood* notwendigen Ressourcen in einer nachhaltigen Weise zu verwenden, auch wenn das Management nicht auf sozialer Gleichheit beruht.

Die lokale Bevölkerung kultiviert Nahrungspflanzen und andere Pflanzen, betreibt Viehhaltung, jagt, fischt und sammelt Produkte des Waldes (so genannte *non-timber forest products*), engagiert sich im Kleinhandel, im ländlichen Handwerk und anderen Dienstleistungen. Diese typischen Aktivitäten basieren nur zum Teil auf der Nutzung natürlicher Ressourcen.[24] Geldsendungen waren in Korup unwesentlich. Die Aktivitäten sind nach Geschlecht organisiert und beinhalten eine Diversifikation hinsichtlich der Jahreszeiten, der Marktsituation, den Konditionen der Ressourcen sowie anderer Faktoren. Die Entnahmeaktivitäten sind eher geringfügig und potentiell ungefährlich für den Wald; Bäume werden nicht gefällt, die Freilegung von Land und Abbrennen ermöglichen eine Regeneration, Palmen werden um die Dörfer herum gepflanzt. Allerdings haben sich Jagdmethoden entwickelt, die von Experten und Amateurjägern als nicht nachhaltig eingeschätzt werden. Generell sehen die lokalen Siedler ihre Entnahmeaktivitäten als nicht kontraproduktiv an. Viele Siedler verweisen auf Mythen und (über-)natürliche Kräfte, um gegenwärtige Veränderungen hinsichtlich der Ressourcen zu erklären. Mit Hinblick auf die Einkommensstruktur fand die Studie heraus, dass Entnahmeaktivitäten in beiden Gemeinschaften noch mehr als 50% zum Haushaltseinkommen beitragen. Das bedeutet, dass die landwirtschaftliche Entwicklung nur eine langsame Alternative zur lokalen Jagd darstellt.

[23] Olson, 1965:2; Agrawal and Goyal, 1999:2
[24] See Frank Ellis (2000)

Die Siedler verfügen nicht nur über ein gutes Wissen ihrer *livelihood* Ressourcen, sondern ebenfalls über wichtige mentale Karten, Konzepte und Ideen für das alltägliche Management des Parks. Dies ist als indigenes, ökologisches Wissen zusammengefasst worden, weil es das Wissen, die Praktiken und das Glaubenssystem umfasst, die die Beziehung von Lebewesen, inklusive der Menschen, zueinander und zur Umwelt bestimmen.[25] Das Wissen ist kumulativ und entwickelt sich über Anpassungsprozesse; es ist in die kulturellen Prozesse der Gruppe eingebettet und wird durch sie übertragen. Indigenes ökologisches Wissen wird von Schlüsselpersonen aus dem Kreis der Ältesten verwaltet, die es selektiv an Blutsverwandte der jüngeren Generation weitergeben. Die Ältesten wissen mehr als die jüngere Generation. Dementsprechend ist das Wissen alters-, gender-, und statusspezifisch, sowie auf bestimmte Tier- und Pflanzenarten bezogen. Der Wert dieses Wissens beruht nicht nur auf dessen Inhalt, sondern auch auf den kulturellen Rahmenbedingungen von Respekt, Reziprozität und Verantwortlichkeit, in die es eingebettet ist. Wissenschaftler und Politiker konsultieren zunehmend dieses Wissen als potentielle Quelle von Ideen für den Umweltschutz.[26] Fallstudien zeigen, dass dieses Wissen akkurate und zuverlässige Informationen über die Arten enthält [27]; Wissenschaftler haben das Potential dieses erfahrungsbasierten Wissens für den Erhalt von Biodiversität und Entwicklung hervorgehoben.[28] Das Wissen hilft den Siedlern, die dynamischen Veränderungen im Ökosystem zu überwachen, zu interpretieren und auf sie zu reagieren.[29] Es gibt Belege dafür, wie Nutzer von Ressourcen ihr indigenes ökologisches Wissen nutzen, um den Verlust von bestimmten Wildpflanzen durch *soft management practices* umzukehren.[30] Diese Schutzmaßnahmen stellen einen Aspekt von Ökosystemerhalt oder den ländlichen Strategien im Sinne von Boserup dar.

Die Analyse verschiedener offizieller Behauptungen, die das Fundament der Managementstrategien und- interessen auf der Makroebene legen, zeigt, dass das lokale Bevölkerungswachstum ein geringeres Problem war als die Regierungspolitik der Umsiedlung, die das Umweltschutzdilemma im Korup Nationalpark hervorrief. Die Analyse verdeutlicht ebenfalls, dass die lokalen Gemeinschaften nicht die Hauptursache des Dilemmas sind. Als Ursachen wurden hingegen die ineffektive Umsiedlung durch den Staat und deren Wahrnehmung durch die lokale Bevölkerung identifiziert. Die lokale Bevölkerung versteht die Umsiedlung als Maßnahme, die den Tieren mehr Rechte zuspricht als den lokalen Gemeinschaften, die fuer sich einen traditionallen Besitzanspruch auf die Waelder geltend macht. Die Forschung hingegen konnte zeigen, dass das Wissen und die Praktiken der lokalen Bevoelkerung im Umgang mit natürlichen Ressourcen gerade Schlüssel zur Lösung sind. Das Management auf der Mikroebene ist insofern effektiv als die Ekpwe-Mechnismen Wilderer vertreiben und ökologisch unnachhaltiges und sozial inakzeptables Verhalten sanktionieren. Das Management durch Ekpwe ist näher an den

[25] Berkes, 1993; Kimmerer, 2002:432-433
[26] Kimmerer, 2002:432
[27] Berkes 1977; Anderson 1996, Begossi, 1998; Huntington, 2000; Kimmerer, 2002; Mander, 1991, Oates et al., 2004; Richards 1997; Stephenson 1982; and Turner et al. 2000
[28] Berkes, 1993; 1999; Evers and Gerke, 2005; Turner et *al.*, 2000; Kimmerer, 2002; LaRochelle and Berkes, 2003
[29] Turner et al., 2000:1252
[30] Moegenburg and Levey, 2002:320; Sharpe, 1998:26

Ressourcen und seine Regeln werden lokal besser verstanden als die nationalen Gesetze, die aus der Ferne verordnet werden.

Allgemeine Schlussfolgerung

Wenn die ICDP Politik erfolgreich sein soll, muss die lokale Bevölkerung auf allen Ebenen der Umweltschutzmaßnahmen in die neue Politik eingebunden werden, was eine Identifizierung der lokalen Belange und eine direkte Teilnahme lokaler Akteure an Entscheidungsprozessen einschließt. Umsiedlung, wie sie praktiziert wurde, ist keine gute Option, denn sie ist eine von außen kommende Maßnahme, die in die lokale Lebenswelt eindringt und deren Ergebnis durch die lokale Wahrnehmung bestimmt wird. Zukünftige interdisziplinäre Studien sollten darauf zielen, verschiedene Werte eines Nationalparks miteinander zu versöhnen und herauszufinden, wie lokale Gemeinschaften mit ihrem eingebetteten Wissen und Institutionen den Wald erfolgreich schützen. Institutionen haben verschiedene Dimensionen, sind in das Wissenssystem der Gemeinschaften eingebettet und werden mündlich an jüngere Generationen weitergegeben. Sie verändern sich. Da die Ergebnisse von Schutzmaßnahmen von der Schnittmenge unterschiedlicher Lebenswelten abhängt, ist eine Ethnographie der Schnittstelle und Aushandlung von diversen sozialen Interessen notwendig. Ein die Ebenen übergreifendes, angepasstes Management hat eine größere Erfolgschance für den Umweltschutz und ist somit zu empfehlen. Auf der lokalen Ebene könnte Ekpwe weiterhin die Schäden im Wald minimieren, die Ressourcen regelmäßig kontrollieren und Limits zur Entnahme festlegen sowie angemessene Maßnahmen zum Management unterstützen. *Eco guards* könnten die äußeren Grenzen des Waldes kontrollieren.

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Abbreviations

CBD	Convention on Biological Diversity
CFM	Collaborative Forest Management
CPO	Cameroon Project Office
DFID	Department for International Development (United Kingdom)
EC	European Commission
FAO	Food and Agricultural Organization
Frs CFA	Central African CFA francs (655.957 CFA francs = 1 euro)
GDP	Gross Domestic Product
GTZ	German Technical Corporation
HH	Household
IAD	Institutional Analysis and Development framework
ICDPs	Integrated Conservation and Development Projects
KfW	Kreditanstalt für Wiederaufbau, meaning Reconstruction Credit Institute
KREO	Korup Rainforest Ecotourism Organisation/Korup Guides Association
KNAFR	Korup Native Administration Forest Reserve
KNP	Korup National Park
MDGs	Millennium Development Goals
MINEF	Ministry of the Environment and Forestry
NEMP	National Environment Management Plan
NRM	Natural Resources Management
NRMCs	Natural Resources Management Committees
NTFPs	Non-Timber Forest Products
IUCN	International Union for the Conservation of Nature
ODA	Overseas Development Assistance
SDO	Sub Divisional Officer
TUZ	Temporary Use Zones
UN	United Nations
US DoD	United States Department of Defense
WCED	World Commission on Environment and Development
WCS	World Conservation Society
WWF	World Wildlife Fund for nature

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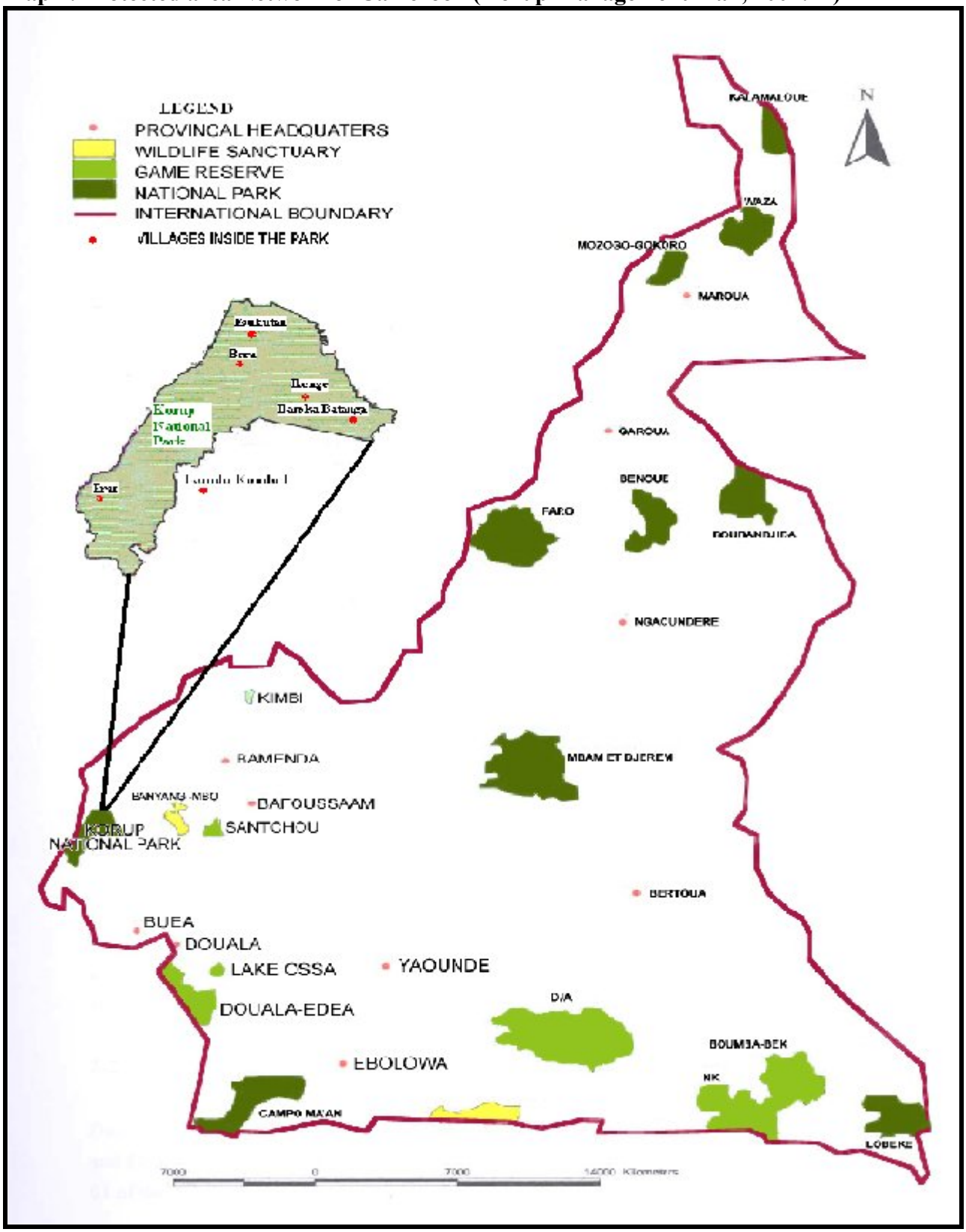
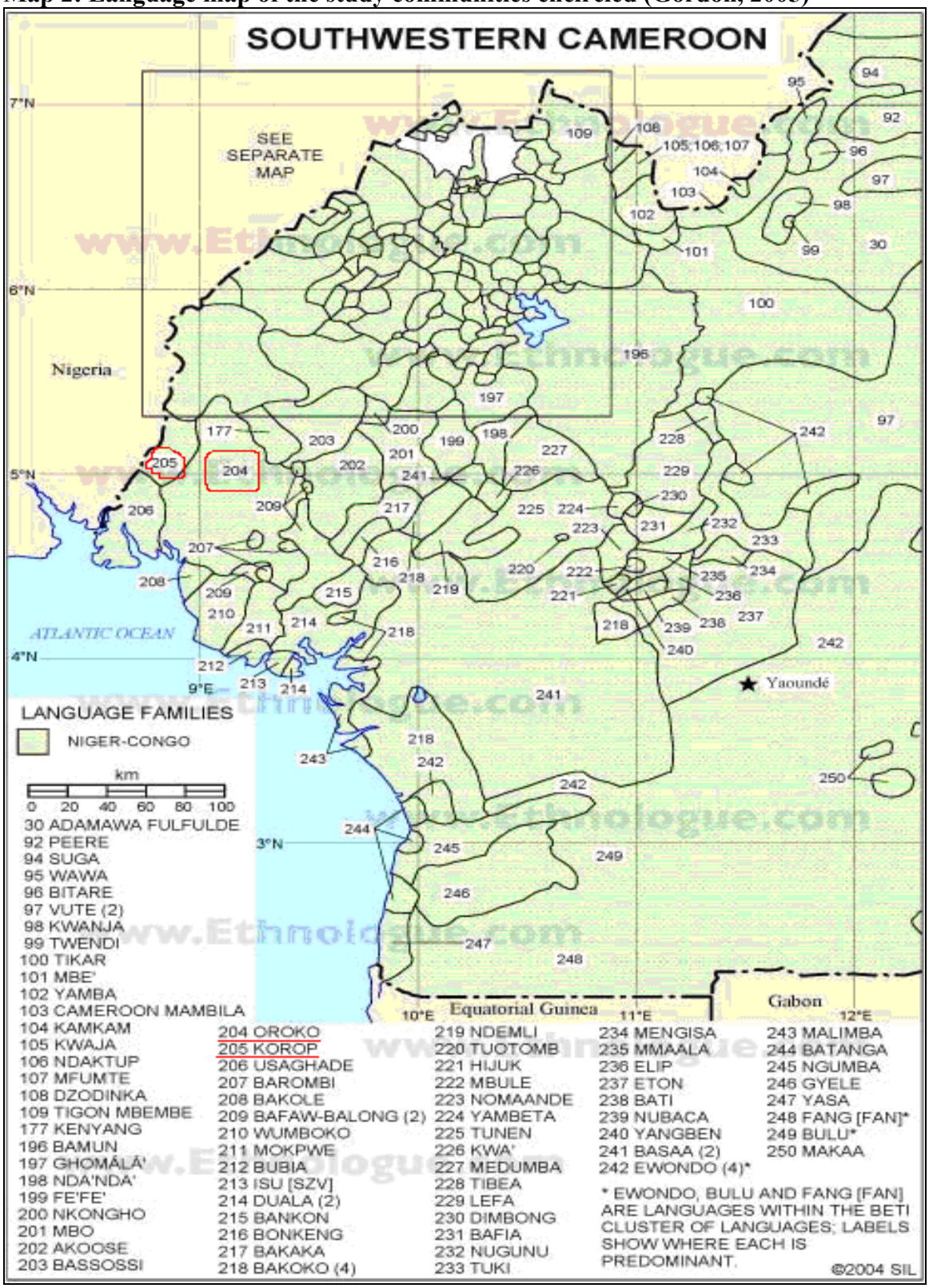
To all the above mentioned, I say GRACIAS!

Map 1: Protected area Network of Cameroon (Korup Management Plan, 2002:11)



Map 2: Language map of the study communities encircled (Gordon, 2005)



Chapter 1: Korup Park and the integrated conservation and development dilemma

1.0 Introduction

In Cameroon, about 10,327,000 hectares of forest have in principle, been designated for the conservation of biological diversity as parks and forest reserves (FAO, 2006:19). National parks like the Korup National Park are managed mainly for ecosystem protection and recreation (EarthTrends, 2003:1) and they are known to have ecological, economic, and social values (Kassar and Lasserre, 2004). These [use and non-use] values serve the interest of both conservationists and local forest resources users. Direct use values of national parks that are of interest to local communities include; pool for fishing and hunting, non-timber forest products and timber and as well as an income source from eco-tourists, researchers etc. The International Union for the Conservation of Nature (IUCN) defines national parks as a natural area of land and/or sea, designated to (i) protect the ecological integrity of one or more ecosystems for present and future generations, (ii) exclude exploitation or occupation inimical to the purposes of designation of the area and (iii) provide a foundation for spiritual, scientific, educational, recreational and visitor opportunities, all of which must be environmentally and culturally compatible (FAO, 2006:99). Since the late 1970, the conservation community thought national parks policies should be geared towards the integrated conservation and development approach in order to counter the backlash suffered by the policing approach. The idea is to provide alternative income generating sources for communities to stop exploiting from inside national parks. Hence, ICDPs are a development intervention that enters into the existing life-worlds of forest communities and the outcome is mediated and transformed by the perceptions of locals (Long, 1992:20).

1.1 Cameroon's forest policy and the conservation dilemma

Cameroon's forest policy as defined by the 1996 National Environment Management Plan (NEMP) aims to protect forest resources so as to amongsts other things, encourage public participation in forest conservation and management to raise living standards; establish effective institutions, and enlist the full participation of all stakeholders to vitalize the

forest sector. This policy would increase the national share of protected areas from 20% to 30% or about 14,250,000 hectares (Korup Management Plan, 2002:10). Some issues undercut the process leading to this reform: first, there is hardly any firm commitment on the part of the government; neither does it have the capacity to carry out this reform[31]. Second, conservation partners failed to devise an implementation strategy that is compatible with the underlying dynamics of political and socioeconomic changes on the ground. Third, while this forest policy is well codified on paper, its implementation is absorbent. A policy document on the Korup forest area mentions 'active participation of local communities' 16 times but still preaches forced relocation as the solution (Korup Management Plan, 2002). Also, prior information campaigns do not seek the opinions of community representatives who attend meetings (Essama-Nssah and Gockowski, 2000:49). This policy ignores the perspectives of forests dependants and reflects only universal notions of conservation that are of interest to national and international actors.

This policy is still built on the interventionist idea that effective conservation is through the heavy hand of the state (Agrawal and Gibson, 1999:631; Long, 1992:20); a dilemma that is not unique to the Korup forest area. In the Himalayas, farming communities were seen as obstacles to the efficient and rational organization of resource use (Eckholm, 1976; Ives and Messerli, 1989:1-6). Communities are imagined to destructively exploit forests; hence, the official thought is that threatened forests resources are to be protected in an uninhabited and pristine ecosystem. This schematic representation, popularized by neo-Malthusians [Garrett Hardin, and Paul Ehrlich, among others] bolstered by theoretical metaphors that served to (mis)guide policy, provide a persuasive explanation of how resource degradation and depletion takes place (Agrawal and Gibson, 1999:631). In the Korup National Park area, relocation is the official solution that is technically and financially backed by international donors. Locals were informed that relocation would lead to their development as they would be given hospitals, roads, electricity, markets, pipe borne water and so on. A pilot village relocated in 2000 did not get all what was promised and this has angered and accelerated conflicts between state agents and local communities. International donors withdrew funding in July 2003 limiting the capacity of the state to displace more

[31] A brief detail of this policy is found on http://www.fao.org/forestry/30816/en/cmr/

communities. Illegal poachers hunt in the vacated site; a conservation outcome not hoped for (Korup Management Plan, 2002: viii). Local action and consciousness play a role in conservation (Long, 1992:20) so; the prohibition and policing approach to national parks undermine traditional institution, demotivate locals and usher in dilemmas. Egbe Samuel (1997:15) asks whether it is necessary to nationalize forests, which were actually inhabited by indigenous communities long before the coming into force of state regulations.

Community conservation scholars who argue that local population growth is not always the main conservation problem have long demystified the population thesis on which Cameroon's forest policy is based. In the 1960s, the Boserupian school of thought argued that communities devise rural strategies such as; environmentally friendly technologies, production and others, to reverse the loss of resources. These strategies thrived in the Machacos district in Kenya (Tiffen et al., 1994). It is held that communities down the millennia have developed elaborate rituals and practices to limit off take levels, restrict access to critical resources, and distribute harvests (Western and Wright, 1994:1). Despite this, there is little information on how communities affect outcomes, which explains why states still see them as obstacles than as part of the conservation solution (Agrawal and Gibson, 1999:633). This perception and policy action provokes the conservation dilemmas. In the Himalayas, the restricted access to livelihoods resources accelerated the destruction of forest as local people sought to obtain all they could before they are deprived of their traditional rights and ownership (Ives and Messerli, 1989:61). Anti-displacement for conservation scholars dismiss relocation policies on grounds that they are usually based on speculative representations that alter locals' attitudes and undermine their potentials. So, understanding conservation dilemma requires an actor-oriented research to identify and characterize differing actor strategies and rationales, their effectiveness for solving problems and the structural outcomes (Long, 1992).

1.3 Objectives and research questions

The major objectives of this study are two fold; societal and scientific since conservation and development embody practice and theory in real communities of need. At the societal

level, this study aims to provide an understanding of how the national "green" forestry legislation, which international donors support, practically ignores local knowledge and institutions, although the new conservation discourse is that communities are good conservation allies and resource managers, if they are able to solve social dilemmas.

At the scientific level, this project is a case study to enlighten the debate on human settlements inside national parks based on an understanding of how forest peoples construct and interpret their own reality within their context. How communities' interprete state actions, projects their worldview and by letting them comment on the official claims, brings out the meanings they attach to their activities and interests. It is a dynamic approach needed to understand the real conservation threats to the national park and which recognizes the central role of communities in solving conservation dilemmas.

The research questions focus on the integrated conservation and development dilemma in the Korup National Park rainforest such as: how do the indigenes interpret the impact of their livelihood activities on the forest? Is the integrated conservation and development dilemma in Korup transformable? What lessons could be learnt from these analyses?

Sub questions focus on; current debates about human settlements inside national parks and the social inter-relationships in communities that help our understanding of how the decision-making process on resource use is effectively shaped at the micro level. The livelihood activities as well as the evolutions in resource extraction methods and knowledge gained from daily interactions with forest resources; how it is segmented, exchanged and tapped into by researchers; are also important. Of equal importance are local soft management practices or rural strategies that are a widespread worldview and values of the culture to which that knowledge is embedded.

Theoretical and empirical answers to these questions guide a recommendation for an approach to the ICDPs principles that balances the interests of all actors, which is a secured livelihood for the forest communities, and simultaneous conservation of the resources in the park, given the limited; time, money and human resources available to Cameroon.

1.4 Guiding idea

Integrated conservation and development dilemma in the Korup is transformable by changing the local perception of conservation as granting more rights to animals. This is because locals do not entirely interpret their habitation of the national park as problematic. The relocation policy is based on exaggerated claims about local communities who may not be the main source of the conservation dilemma, but have in fact been an integral part of the key solution. The harsh enforcements of state law instead helps local hunters to develop secure poaching tricks and communities try to make the most out of the forest before relocation effectively purges them of their traditional proprietorship rights.

1.5 Justifications and scope of the study

Korup National Park is a suitable case because it is Africa's richest and oldest remaining rainforest that attracted international support. Official classification holds it as a first category national park with a strict protection status (Korup Management Plan, 2002:70). Its biodiversity and ecosystems are unique and diverse and face multiple threats ranging from hunting pressures from six resident and more than 80 neighbouring communities, bad government policies, and lack of funding, conflicts between people and wildlife and insular management. Although established as one of the first integrated conservation and development projects (ICDPs) in tropical rainforests, its managers opted for stringent policing approaches. Officials think; locals are accomplices to Nigerians who hunt inside and smuggle arms through the park; making anti-poaching a daunting task; and that the park will be better protected if there are no people living inside it. It's pilot relocation scheme (1981-2000) is backfiring (Schmidt-Soltau, 2004; 2009) as locals now wonder if conservation menas granting more rights to animals than them who traditional own the forest. However, continued conservation is vital to safeguard the mangrove swamps of Rio del Rey and Cross River, reputed to be the richest fishing resources in West Africa. This rich and unique biodiversity risks extinction if indigenous communities that traditionally protect their resources are evicted (Eyong, 2007:133). Current talk of creating 'limited access zones' for resident communities and a participatory approach to conservation, still do not recognize or mention the roles of communities and at best undermines their needs.

Policing, prohibiting and excluding locals opens up forests to destruction but negotiations, dialogue and bargaining between actors significantly shape the destiny of conservation interventions just as the dissemination of new ideas and practice rest on a supportive network of actors at different scales (Mahanty, 2002:1370). A sense of ownership or the recognition of indigenous people's rights is helping to conserve forests in Central African Republic and it led to improvements in forest conditions in the Machakos district of Kenya (Eyong, 2007; Tiffen et al., 1994). Scholars have highlighted the lack of sufficient and explicit cases on common action to solve resource use and conservation problems (Agrawal and Gibson, 1999:631; Gibson et al., 1998b; Agrawal, 2001; Ostrom, 2002; Potentee and Ostrom, 2004). Besides, research in Korup National Park is under-developed and has not been linked to park management but current research is restricted to the forest structure and dynamics (Korup Management Plan, 2002:8). These studies, which framed the policy to create temporary use zones have not taken on board, the perspectives of the locals. Also, no blueprint exists for effective management of rainforests and so, communities should be incorporated into policy analyses (Peters, 1996: 40; Potentee and Ostrom, 2002:5).

Understanding the "intentions and motives" of actors is crucial due to the multiple realities and potentially conflicting interests that may shape the destiny of interventions (Ascher, 2000; Long, 1992:26; Mahanty, 2002). So, the adopted "limited property right approach" based on classical conservation theory of pristine forests, lacks the inducements for the desired sustainable extraction behaviours that are internal to the locals (Castello and Kaffine, 2008:21). It avails little incentives for state agents or eco-guards to work effectively (Agrawal and Gibson, 1999). The pending question is; if Korup communities actually do protect their forest because the Loma Alta in western Ecuador is an example of a community with strong bonds that failed to protect its forests (Becker and Gibson, 1998).

Governments are known to be unable to exercise authority at a distance and so decentralization of authority to social formations that are located near the resource makes for effective micro level governance (Agrawal and Gibson, 1999:634; Agrawal and Lemos, 2007:38; Long and Long, 1992:270). In Cameroon, the Ministry that makes management decisions for the Korup National Park has a conspicuous absence in the area. Its heavy-

handed policing and eviction strategy is non-innovative and eco guards complain that checks are very difficult on the ground giving free rein to illegal practices of foreign multinational corporations that overrun the park's surroundings and respect no rules.

This work is not a duplication of efforts. Some researchers have been conducting studies in the Korup forest area: Awoh Innocentia; in Cameroon is working on vulnerability and forced migration. Yufanyi Mbolo, a master student in Germany is looking at environmental refugee and relocation, Dr. Kai Schmidt-Soltau is using this case to argue against forced relocation. Wopong Lilian, a doctoral student in Germany is taking on a gender perspective. Ruth Malleson has focused on human livelihoods mostly in roadside settlements. This work is limited to a qualitative understanding of how locals construct and interpret their own reality inside the rainforest. Theoretically, it is confined to the contemporary conservation theory of sustainable forests. Due to time and financial constraints, a comparison of only two of the five communities using the resources of the national park is made; one inside the national park and one displaced to the support zone. This study presents the *emic perspective or villager's view*[32]. Emic constructs are meaningful and appropriate; accounts, descriptions, and analyses expressed by locals. These *insiders'* claims are validated by structured observations. The etic perspective is via some interpretations of the researcher. It consists of extrinsic concepts and categories in the communities that have scientific meaning although this did not solely judge the validity of such an outsider perspective because development is about theory and contextualized practices (Long, 2002). Also, indigenes are key actors with scientifically valid knowledge. Both primary and secondary sources provided data to test the stated hypotheses. Empirical data from a quantitative survey are spiced with densely described cases and contextualized using secondary sources. Quantification aimed at showing how much difference and similarities there are between and within objects. As Norman Long and Ann Long (1992) suggested, this is how development research merges theory and practice based on the perspectives of the researcher as well as other actors.

[32] In-depth accounts of the emic and etic perspectives as developed by Kenneth Pike (1954) and other arguments are summarized on Professor James Lett's Faculty Webpage of the Indiana River Community College: http://faculty.ircc.edu/faculty/jlett/Article%20on%20Emics%20and%20Etics.htm

1.6 Concepts and structure of the dissertation

Four concepts; integrated conservation and development, community, institutions and indigenous ecological knowledge exchange, are operationalized in empirical and analytic chapters. Appropriate theoretical frameworks are mentioned at the onset of each empirical chapter, to aid analyses of locals' perspectives. A review chapter states its scientific basis.

Chapter One: generally introduces the problem, aims, scope and guiding ideas of this study. National parks are a development intervention that enters into the life-worlds of forest communities and in this way is mediated and transformed by their perspectives.

Chapter Two: *Human settlements in national parks: state of the art* is a review of current scientific debates between the romantics and the utilitarians to answer the theoretical question of how to overcome the integrated conservation and development dilemma in tropical parks. It reviews literature about partnerships with local communities; locals common property rights, traditional ecological knowledge and resource governance.

Chapter Three: *The research communities*, uses field data to discuss the specific characteristics of the study area in line with the body of knowledge on the role of community in natural resource conservation (Agrawal and Gibson, 1999). It begins with a review of the historical origin of community. Questions addressed in this chapter include: what is a community? And what makes the communities that inhabit the Korup National Park better conservation and development allies?

Chapter Four: *Household livelihoods activities and diversification* identifies and densely describes the extraction activities of forest households in the communities. It presents an emic perspective of how these livelihoods activities are carried out, and the evolutions in extraction methods. This microscopic view of local extraction activities facilitates our understanding of locals' responses to and interpretations of official claims about their impact on the protected forest. It answers the following empirical questions: what are the livelihoods activities of the people? How are these seasonal activities carried out? And how do the indigenes interpret the impact of their livelihoods activities on the forest?

Chapter five: *Indigenous ecological knowledge: potentials for conservation of Korup National Park* uses empirical data which focus on one aspect of indigenous knowledge; knowledge of natural resources: forest, plants and animals. It discusses the concept of indigenous ecological knowledge and identifies soft management practices as well as social mechanisms behind these practices using the traditional ecological knowledge exchange framework of LaRochelles and Berkes (2003). It provides instances of its usefulness in science. It answers questions like: what is indigenous ecological knowledge? How is it learned and shared locally? How has this knowledge been sought and used for conservation activities in the Korup and other forest areas?

Chapter six: *Livelihoods activities in the forest: an actor perspective* uses empirical data from previous chapters to assess the official claim that human livelihoods activities degrade Korup National Park. It describes the conservation actors, their interests and networks. From empirical data, it criticizes the official claims to be replete with reifications and fraught with conflicts and a clash of cultural/knowledge paradigms. It also presents and explains the internal consistencies in both the official claims and the local responses.

Chapter 7: *Whose rules matter in the Korup forest area;* uses field data to discuss state and local governance of forest resources. It uses the IAD framework to answer the question of whose rules matter in the area; to show the coercing powers of Ekpwe and how different micro level rule enforcement bodies occupy different spheres of power and usually act in combination. Also, the contradicting state laws complicate the work of eco guards on the ground. It explains why guards provide end-of-the-pipe solutions, while locals are better at preventing destructive and unauthorized resource extraction. Since ethical sensibilities still guide interactions between members, non-compliance is an unimagined reality.

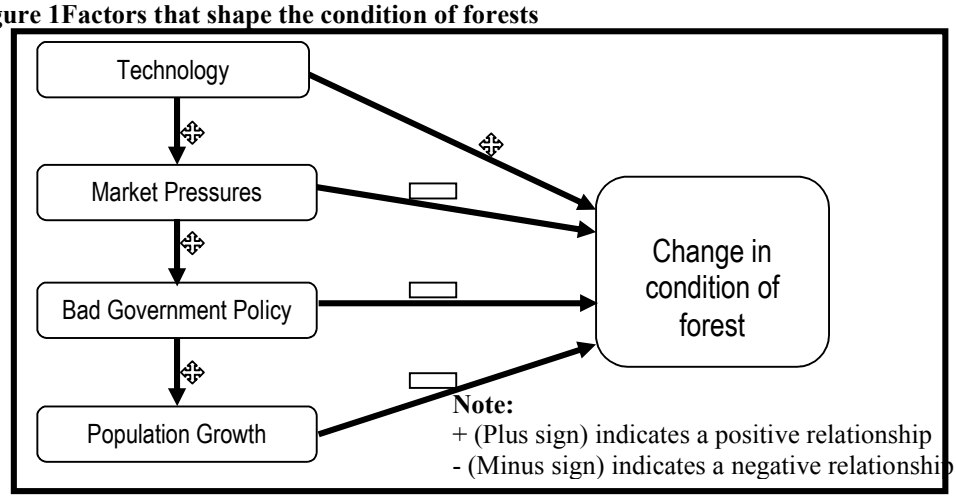
Chapter 8: *Conclusion chapter* highlights the views of the researcher based on a synthesis of the conclusions drawn from all the previous chapters. It mentions other lessons learnt from this study including the embeddedness of institutions and indigenous ecological knowledge. Their transmission to other generations though with changes guarantees their survival. It proposes the way forward since this work also has policy implications.

Chapter 2: Human settlements in national parks: state of the art

2.0 Introduction

This review attempts answers to these theoretical questions; what causes the degradation of national parks? Should human settlements and livelihoods activities be allowed inside parks? How could conservation of national parks be made to succeed? These questions are relevant for Korup National Park, which was established in an area that had long been inhabited by communities. As a public property, state laws in principle, prohibit all forms of livelihoods in it except scientific research, tourism and recreation so as to maintain a pristine biome. Conventional wisdom holds that population growth, government policies, market pressures and technology are factors that shape the condition of forests. These factors are usually claimed to be universal despite differences that might exist in the degree to which people carry out livelihood activities in any given context.

Figure 1Factors that shape the condition of forests



(Source: Adapted from Agrawal, 1995)

Figure 1 diagrammatically summarizes the huge volumes of literature on factors that cause forest decline. These factors include; ecological footprints, local population growth and affluence (Ehrlich and Ehrlich, 1991; Rudel, 1994); poor government policy and national debt (Agrawal, 1995-2001; Ascher, 2000; Kahn and McDonald, 1995; World Bank, 1992), commercial logging and technology (Capistrano, 1994; Ehrlich and Ehrlich, 1991; Eyong, 2007), and so on. The argument about market or affluence is that people would speed up

their extraction rates to meet market demands and to get rich quick, which results in high ecological footprints and rapid forest depletion. Bad government policies deny locals their rights to the forest; a source of their livelihood and provoke unsustainable exploitation, given the slightest opportunity. Technology is often cited as having a positive influence on the forest, ignoring the fact that new technologies are efficient but unselective to, for instance, log trees that would otherwise not be logged by locals. The above-mentioned factors have fed both camps of a long-standing debate between those who argue that national parks can survive with or without people. If we ask the question: conservation for whose interest, we find on the one hand Utilitarians or the 'Parks and People' category who think that conservation should be for the people and with the people. The 'Parks or People' camp is known as romantics who argue that people in parks is bad for conservation.

2.1 The debates

2.1.1 "Parks or People": conservation for the animals and plants paradigm

The romantics consist of conservation biologists whose perception of parks is that they are better off as ecological islands and so should not accommodate people. Prior to the 1970s, the romantics' tradition formed the basis for establishing national parks in tropical Africa. Through this ideology, donor communities forced poor countries to hastily enact green forestry legislation to create pristine parks dedicated to preserving nature in the raw and at all costs. This macro-scale management satisfies global values of nutrient cycling and climate regulation (Arnold and Ruiz-Perez, 2005:139; Tutin, 2002:76). It also perceives existing parks inhabitants as villains and advocates expelling them (Khare et al., 2000:93). The romantics' ideology has already facilitated the eviction and impoverishment of about 120-150,000 people in the Congo basin and more will be displaced in the future, despite its deleterious outcomes (Cernea and Schmidt-Soltau, 2006:1808). So, for the romantics, only tourism, recreation and research activities should be allowed in parks.

Romantics tie population growth to national parks degradation. Demographers and neo-Malthusians supporting this view have shown that population negatively affects forests (Burgess, 1992; Ehrlich and Ehrlich, 1991; Rudel, 1994; UN, 1992; WCED, 1987). This

camp hold the view that forests in the Congo basin[33] are likely to experience the next wave of biodiversity loss from land clearance, based on population projections. A study using a regression model with projected population sizes, found that on average, the number of threatened species is expected to increase 7% by 2020, and 14% by 2050, due to human population growth alone (McKee et *al*., 2003:161). So, the flora and fauna of Congo are at great risk as the number of inhabitants is set to explode and a lot of biodiversity will be lost. Another controversial study based on projections also claims that footprints not heads or share numbers destroy natural resources in conservation hotspots (Liu et *al*., 2003). Hence, household dynamics influence biodiversity through consumption of wood for fuel, habitat alteration for home building and associated activities (Ibid: 530). Adams and Mcshane (1996), claim that Africa's wildlife heritage is under siege, due to heavy hunting pressures. Despite exploring a joint African/Western approach to conservation with the goal of returning control to the Africans, they still argue that indigenous populations are a big problem than a solution. However, these studies are united on the idea to abate human population growth in the area as a sufficient step in the epic attempt to conserve biodiversity. But their population assertions remain an untested guess in the Korup area.

Some scholars have condemned the allowance of human activities inside parks. In his book, John F. Oates (1999), calls the current conservation theory of wildlife protection through promoting human economic development, a myth because left to their own devices, poor tropical people will not act as good wildlife conservationists (Oates, 1999:44). He supports his argument with his view that where people are very poor, human well being is more likely to be promoted by large-scale political, social, and economic reforms than by community development through conservation projects (*Ibid*: 54-57). So, conservation projects should put the intrinsic value of nature to the forefront. Another book edited by Terborgh, J., Schaik, C.V., Davenport, L. and Rao, M. (2002), argues that allowing sustainable use of resources in parks is a defeatist and utopian idea and that protected areas are the only real hope for saving tropical biodiversity (P. 5). Their survey of 201 parks in 16 tropical countries found that more than 85% of them have poaching

[33] The Congo basin includes tropical rainforests found in countries around the central African sub region; Cameroon, Central African Republic, Congo Brazzaville, Gabon and Equatorial Guinea.

problems; 72% have encroachment and logging problems; and over 25% suffer from overgrazing, road construction, and fires (*Ibid*). It had been noted earlier that intensive local land use impedes attempts to protect biodiversity outside strictly protected reserves, which are crucial to minimizing the loss of tropical biodiversity (Terborgh and Schaik, 1997:15). John Terborgh, (1999 & 2004) supports this views and strongly voices that to save the old-growth forests entails suspending all economic activity in them; logging, prospecting, and recreation. In the extreme, he argues that tropical forests are worth more dead than alive and that when conservation organizations advocate sustainable use of tropical forests, it signals that conservation is on the run (Terborgh, 1999: 121-140). He opines that local livelihood activities are 'unsustainable' and negatively impact rainforests and advocates the top-down approach to protect parks because enforcement is in the hands of police and other armed forces that respond to orders from their commanders (*Ibid*:170).

However, the fate of the top-down approach advocated by romantics has been called to question. For instance, Claude Martin (2003) argues that for the sake of nature, top-down managements of government bodies exclude, and forcefully eject indigenous people, often with disastrous consequences for culture, quality of life and the biodiversity they are out to protect. Officials usually back their arguments with claims that without policing parks, hunting zone rotation, local population density, and reliance on swidden agriculture, will increase and this may overcome the self regenerative capacity of the ecosystem (De Avila-Pires et *al.*, 2001). In Cameroon, intervention projects that were established on a conservation and development platform but ended up with strict enforcements faced local hostility and their coercive measures have been totally ineffective (Sharpe, 1998:26). Since the 1970s a new consciousness emerged that the strict conservation practices of macro-level institutions have failed to maintain the ecological values of parks through adequate species protection (Gibson et al., 2000; Gibson et al., 1998b). Attempts to reverse the situation have now focused on community participation in conservation (Agrawal and Gibson, 1999:629; Sharpe, 1998:26). This emerging but less criticized approach argues parks could succeed if they work for local people. The idea is that parks should be of prime importance to communities. Hence, established parks should work for people who live in or adjacent to them that for centuries has relied on its natural resources for their survival.

2.1.2 “Parks and People”: conservation for the people and with the people

Conversely, utilitarians argue that high population growth is not always a conservation problem because it could lead to technological advances and innovative uses of natural resources, stimulating economic development and innovative resource management practices or rural strategies (Agrawal, 1995; Binswanger and Pingali, 1989; Boserup, 1965, 1981; Simon, 1983, 1990). These rural strategies include: shorter fallow periods, intensive use of family labour, development and adoption of labour intensive technologies (Pender, 1999:2). The strategies arise when; some forest products provide early warning signals concerning forest conditions; forest products are predictably available; and when the forest users have developed accurate knowledge of the conditions or about natural forces. This Boserupian ideology gained momentum when a demographer conceded, “any theory of population and resources that overlooks cultural phenomena is likely to be deficient” (Davis, 1991 cited in Agrawal, 1995). An often-cited study supporting the Boserupian perspective was carried out in the Machakos district in Kenya. It concluded that between the 1930’s and the 1990’s, despite a five-fold increase in population, per capita income had increased, erosion was much better controlled, and trees were more prevalent in the landscape, (Tiffen, et al., 1994; cited in Pender, 1999:2). The Boserupian view caused a shift away from the exclusion approach to the people-centered approaches. The new idea was to integrate conservation with development because of the belief that the former is a social and political process, especially for tropical forests that host many poor people. This new optimism to broaden the understanding of nature conservation is being supported.

In an article Brechin and colleagues, (2002) argue that the conservation community will necessarily have to reflect internally on the fundamental concepts, methods, and modes of organization that govern collective action. The authors stress that both the ‘what’ (the ends) and the ‘how’ (the means) need to be negotiated and applied in context and that the highly politicized idea of conservation and development increases both the complexity of the protection project as well as the incidence of conflict and resistance. This is why most areas considered to be high priority biodiversity ‘hot spots’ are also social and political ‘hotbeds’ (Myers 1988; Myers et al., 2000; Brechin et al., 2002:42). This idea inspired scholars to

criticize the essence of parks if locals are not involved in their management. In this light, Jonathan Adams (2006) thinks that national parks are just not an effective way to protect the wilderness, no matter how large they may be. To him, parks policies isolate and often degrade the fauna and flora they are meant to sustain. Reflecting on success stories, he favours a system of landscape connectivity that requires community support. In their work, Steenkamp and Grossman (2001:8) conclude that much of the social and political sustainability of conservation rests on rural people who inhabit and depend on these areas for survival. This idea forms the backbone of the collaborative forest management (CFM); a working partnership between the local forest users, state forest departments, the local governments, civic groups, nongovernmental organisations, and private sector stakeholders (Carter and Gronow, 2005:2). Through it, local people gain a strong, legally backed voice in forest management; an ingredient of integrated conservation and development (Ibid: 1).

2.1.3 Integrated Conservation and Development: a rescue for tropical forests?

Integrated Conservation and Development Projects (ICDPs) were born in the late 1970s as a remedy to the backlash of the protected area approach. The rationale was to allow some extractive activities within protected areas as a means to match conservation with poverty alleviation. This reconciles parks managements with local peoples' needs and aspirations (McShane and Wells, 2004). ICDPs attracted the lion's share of the funding or "green aid comprising donations and loans from the international donor community" (Tutin, 2002:78). These green aid packages were meant for developing areas that support livelihoods around parks. For Korup, a 300,000km^2 support zone was carved out of the periphery of the park in 1989 and reserved for promoting agricultural development. Huge amounts of money were spent on this buffer zone that was five times larger than the Park (Korup Management Plan, 2002: vii). The idea was to provide; extension and social buffering. The former aimed at extending the area of habitats protected in the park into the buffer zone, allowing larger breeding populations of animal and plant species. Under this process a proposal was made to extend the park boundaries to include a very big village Ekon I (with 46 houses and a population of 409) and earmarked for relocation. Social buffering was to provide products

or an equivalent cash value to support zone villages to domesticate resources they formerly collect from the park and divert attention away from it. It did not yield the desired results.

2.1.4 The ICDPs obsession questioned

A number of concerns have been raised about the 1970s obsession with ICDPs. Some argue it was a good intention but its implementation was and is still bureaucratic. For instance, Katrina Brown (2003), argues that this was an attempt to 'get people on board' existing strategies and that the policy, practice and institutions remain expert-driven, undemocratic and autocratic. The pending challenges are: a more pluralist approach to understanding the knowledge and values of different actors; greater deliberation and inclusion in decision-making; and a remodeling of the conservation institutions. Also, Caroline Tutin (2002) argues that ICDPs in the Congo Basin have not been able to reconcile conservation with development due to prevailing attitudes that condone exploitation of forest largely due to no clear understanding of the biodiversity threats that are still invisible (Tutin, 2002:78). To her, parks have come under attack from the utilitarian philosophies in favour of forest dwellers of having to pay their way or earn their living (*Ibid*: 82). Although the levels of hunting and logging in parks are very low but increasing, Tutin argues that allowing increasing extraction of resources compromises conservation. Her assertion that parks are the only proven way to conserve biodiversity may not be correct because of the 102,102 hotspots on the 2003 UN list of protected areas in the world, national parks make up only 3.8% or 3880 (Chape et al., 2003:21-22). The categories that allow sustainable out-take form the majority, which gives the impression that parks could reconcile conservation with development. In a book edited by T.O. McShane and M.P. Wells (2004), the authors hold the same views that ICDPs are showing disappointing results (p.4). The experience in Korup was that rural development activities within the support zone went to larger, more accessible villages, often at some distance from the park itself. The first ever management plan for the Korup National Park states that regrettably this wrong application of the ICDP approach did not yield the conservation goal hoped for (Korup Management Plan, 2002: vii). However, the official claim was that communities inside the park must be relocated. It is worth noting that this is contrary to the ICDPs approach that makes for sustainable use.

2.1.5 ICDPs and human displacements: a review of the Korup case

Korup is one example of ICDPs where for long indigenes have been considered villains whose right of stay deters the right of way for conservation and must be prevented from parks (Berkes, 2002:293). Hence, population displacement activity was put to the forefront even though it is described as "irrelevant to the threatening situation at hand" and that "it relieves tension for the moment" (Terborgh, 1999:22). This exclusion policy is said to be an abuse of the human and property rights and interests of local communities (Aveodo, 2005:5; Brockington and Schmidt-Soltau, 2004:2; Cernea and Schmidt-Soltau, 2003:44; Schmidt-Soltau, 2002:9; 2003:9; Cernea and Schmidt-Soltau, 2006:1809) because folding human rights under the umbrella of conservation seems to curtail the rights of these peoples (Weeks and Mehta, 2004:262). One of such rights is 'not to be poor'. Conservation induced displacements is known to lead to daunting poverty for many generations of people who are often moved to already degraded sites (Cernea, 1991-2003; Cernea and Schmidt-Soltau, 2003; Geisler, 2003; Lamb, 1997). The overshadowing nature of ecological reasons of not letting locals inside parks makes the mere argument for 'people in parks' on the basis of human rights, not sufficiently convincing to government officials. Displacement is the official conservation discourse in the Korup forest area and way back in 1981; enclaves were informed to stop; building houses and opening new farms because relocation was imminent. The official reason for relocation was to stop villagers from extracting from the park and to bring people closer to markets, hospitals and roads (development). This did not happen and so there is fierce resentments in the communities when resettlement is mentioned given that all eyes were on the flawed pilot scheme (Röschenthaler, 2000:7). Locals think relocation hinders development as it has made them poorer (Korup Project, 1999:43). This is not what the rural development discourse at the time was preaching.

2.1.6 Relocation and the international development discourse

In the 1980s, the World Bank, a major international development partner of the government of Cameroon recommended the opening of farm-to-markets roads as a poverty alleviation tool. The relocation policy was linked to this new optimism on grounds that park villagers

would be moved closer to road terminals so that they could sell extracted products and get out of poverty. Two seasonal roads linking farms to markets were constructed around the Korup National Park. A military road was built crossing the southern part of the park, linking the military base in the Bakassi Peninsula. Another road in the northeastern sector links that region to other towns and villages. These roads now help people and weapons to enter conservation forests and large quantities of bush meat flow to urban centres (Egbeseh, 2007:18). Farm to market roads could cause immigration to ICDPs areas. A study in Northern Cameroon concluded that road construction and improvement in living standards may stimulate immigration and jeopardize the stability necessary in protected areas (Sholtes, 2003:54). Checking the negative consequences of such a poverty alleviation tool requires heavy human and financial resources. Unfortunately, the past decades have witnessed a global funding shortfall in the overall Official Development Assistance for forest conservation. A global review found that it has halved from US$ 2.2 billion per year in 1991 and 1992 to US$ 1.1 billion 2002 and 2003 (James et al., 1999:2). This is happening at a time when most government sector budgets remained the same at about US$ 3 billion a year (Redford, 2005:2). Developing countries with nearly 60% of the total global area under protection, account for 10% of the global expenditures (James et al., 1999:4). The biodiversity rich Congo Basin countries have budgets of less than 3% and thus the inability to pay for staff salaries, uniforms, equipment or vehicle fuel makes most parks to exist as "paper parks" (Spergel, 2002:364). This chronic under-funding has precluded effective management of most parks, resulting in their progressive ecological impoverishment and the loss of biodiversity (Wilkie et al., 2001; Spergel, 2002:364). In the Korup case, external funding seized in July 2003. This funding shortfall makes it hard to sustain the strict protection approach, which calls for an assessment of local governance.

2.2 Community participation in natural resources: the new optimism

The last decades witnessed calls for balanced approaches that "focus on integrating protected areas with wider uses and values, including cultural assets, livelihood uses and ecosystem services to ensure biodiversity conservation and sustainable development" (id21 insights, 2005:2). The contention is that the romantics' and utilitarians' philosophies are

too extreme and have neither worked for conservation nor development (Chan et al., 2007:59). During the 2003 World Parks Congress and 2004 Programme of Work on Protected Areas of the Convention on Biological Diversity (CBD), the issue of governance type was mentioned. This emergent concept drew attention in that real conservation, not a bureaucratic pretence, has everything to gain (Borrini-Feyerabend et al., 2005:6). Scholars are now subscribing to the optimism for community management of natural resources as common property with a legal customary basis (Agrawal and Gibson, 1999:629; Bruce, 1999:3-6; Sholtes, 2003:54; Wana, 2008:96). Studies have noted that communities have a better chance if they are subject to slow exogenous change; small group size; resource is relatively scarce; the user population lives close to the resources and governance is highly centralized (Bruce and Fortmann, 1992; Bruce, 1999:4). This is because traditional communities down the millennium have devised rules, developed elaborate rituals and practices to limit off take levels, restrict access to critical resources, and distribute harvests so as to regulate the environmental behaviours of members (Crew and Harrison, 1998; Western and Wright, 1994:1). But communities do not always succeed (Pender, 1999:3).

2.3 Korup forest communities, land rights and resources governance

Scholars argue that parks are not feasible in areas of human settlements and other activities and that such areas should be made conservation units that allow some degree of multiple uses provided that species safeguard are always paramount (Meyers et al., 2000:852; O'Riordan and Stoll-Kleemann, 2002). But Cameroon's 1974 Land law nationalized lands considered to be 'vacant and without master' and restricted local people's access to forest resources (Egbe, 1996: 25; Malleson, 2000:63). Pending relocation, inhabitants of parks enjoy usufruct rights (rights to the produce of the land while the government owns the trees, petroleum, minerals and all other underground resources). This principle is not what is observable in the various settlements, where different property rights are associated with different property types. Locals use traditional ownership claims to frame tenure principles that are enforced by local agents (Malleson, 1999). The traditional society 'Ekpe' and local youth groups prevent strangers from hunting within their village boundaries, illustrating that local institutions can play a significant role in forest management. Village leaders own

rights to sell land to strangers on behalf of the entire community (Malleson, 1999; Sharpe, 1998). Use rights for communal properties are restricted only to members who own collective exclusion rights[34] (Hanna and Munasinghe, 1995). However, resource management failures rest on poorly defined and transferred rights (Ostrom, 2003; Tucker, 1999). The colonial idea that local communities are poor resource users, forced classical studies to recommend external authorities impose a different set of rights. For instance, works from Demsetz, (1967); Posner, (1977); and Simmons et al. (1996) state that private property is the most efficient form of ownership, while Ophuls (1973) argued that government ownership and control is better (Cited in Ostrom, 1999a: 2). Conventionally, national parks are the public property of the state. But the inability of states to effectively conserve forests challenges this conventional theory and it is argued that well defined and transferred rights would save parks (Agrawal and Gibson, 1999:631; Ostrom, 1999a).

Contextually, when the British colonialists established the Korup Forest Reserve in 1937, the land rights of the settlements were acknowledged. They acquired a new status of 'park enclaves' so as to protect and ensure their rights to livelihood resources. The nationalization of the reserve in 1986 expropriated these land rights (Röschenthaler, 2000: 4). Till date, villages still live inside the park and their governance structures, land tenure principles and practices still determine the type of livelihood activities to be carried out where and by whom (Röschenthaler, 2000:61). One of the first surveys in the Korup forest area, reported gendered livelihood activities; women mostly did food crops' farming, men did hunting with nets, traps and guns, and both genders did fishing with baskets and hooks. The report concluded that all these activities were small in scale with little potential to damage the forest ecosystem and that trees were not cut but the grass was cleared and burned making conditions better for regeneration (Carr, 1923: 26-30). 65 years later, Mark Infield (1988) noted that hunting was unsustainable and that 55% of the Ikondo Kondo people were not willing to stop hunting. He recommended the employment of game guards to keep away illegal poachers but cautioned that locals resented relocation because "if they leave the forest, Nigerians will move in and there will be war" (Infield, 1988:58). In the

[34] To facilitate understanding, it is important to highlight the difference between the concepts of goods, rights, and owners of goods. Goods are a natural given; rights are an institutional invention; and owners of rights are entities that make different representational claims to common pool goods (Mckean, 1999).

subsequent years, Ruth Malleson noted that Korup forest people collect wild fruits, leaves and seeds from the forest floor, farms and fallow without any damage to the trees (Malleson, 1993:17; 2000:13). A simple observation one could draw from a quick look into the findings of all these studies on the Korup National Park is that all the researchers used conventional research methods (questionnaires, brief field visits and desk top reviews) and ended up reported their personal interpretations and not the perceptions of the locals.

Meanwhile an appraisal of local extraction activities should be based on thorough knowledge of users' beliefs than is currently available (Begossi, 1998; Crewe and Harrison, 1998:29; Ives and Messerli, 1989:79; LaRochelle and Berkes, 2005). The recognition of local people's tacit knowledge of fauna, flora and seasonal variations plays a role in conservation partnerships especially in the Central African Republic where two-thirds of Dzanga-Sangha National Park is a "Special Reserve" (Eyong, 2007). The knowledge of the pigmies is being used in managing the reserve within which, pygmies retain the rights to livelihoods resources as provided under national law. Some pigmies are employed as research assistants. Similar arrangements are reported amongst rural communities in Brazil (Begossi, 1998; Begossi and Avila-Pires, 2003). This new conservation approach of 'people and parks' that began in 1996 is credited for the fact that it reflects, respects and supports local realities. The approach is being extended to the Amazon, the Coral Triangle, etc (The Post, 2008). The basic assumption is that conservation can only succeed through allowing some sustainable use of resources by rainforest inhabitants.

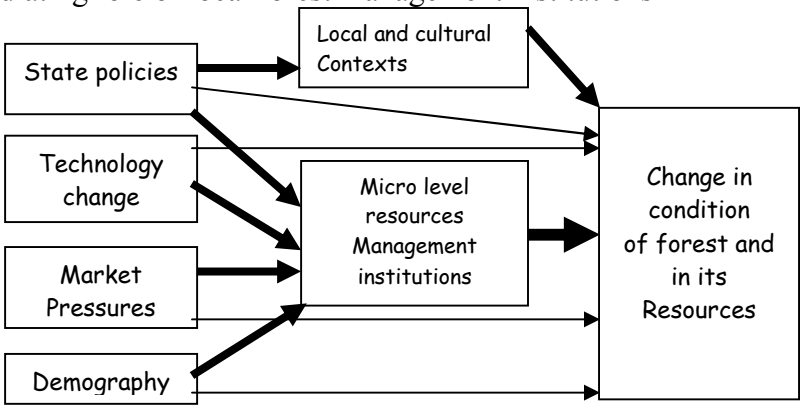
2.5 Conclusion

This review has shown that romantics detest human settlements inside national parks on grounds that population growth, technology and extraction for the markets cause forest decline. Their strict protection or top-down approach causes conflicts and does not provide adequate species protection. The ICDPs approach also failed because it remained expert driven and bureaucratic. The new idea is hinged on partnership with communities although questions posed by Adams and Hulme, (2000:193) need to be addressed; who should define conservation policy and how should interests be negotiated. However, Beard and

Dasgupta (2006:1451) hold that successful natural resources governance depends on community cohesion, stable social relationships and adherence to hierarchy. Collective interest breeds the ability to overcome social dilemmas. So, where there are human settlements, sustainable use and management of forests rather than protection is desirable. The Boserupian idea of rural strategies is gaining momentum. Ignoring, disempowering and treating indigenous realities as the enemy and oppressing local communities, discourage them from practicing their ecosystem restoration strategies.

This critical review reveals that there is sufficient theory on how integrated conservation and development could succeed in tropical forests. Most of the scholarship point to the direction of Boserupian arguments or the "people and parks" debate. The neo-Malthusian or romantics tradition ("parks or people" debate) that hinges on the classical conservation theory of reversibility and pristine forests is known to cause untold hardship to many. This explains why since the 1970s, the also highly philosophical contemporary conservation theory talks of community-based conservation, local/indigenous management of natural resources. Its operationalization would succeed in tropical forests if it allows sustainable use to meet local needs due to the idea that communities constrain, soften, mediate and attenuate impacts on their forests. Thick and thin arrows on Figure 2 indicate a strong and weak effect, respectively. Partnerships with local communities through recognized property rights, traditional ecological knowledge, political ecology, and others would help to allay current conflicts. Meanwhile prohibition could be adopted when exploitation or occupation is inimical to the conservation goal and if there is evidence that local governance is failing.

Figure 2: Mediating role of local forest management institutions



(Adapted from Agrawal, 1995)

Chapter 3: Resources use decision-making in Korup forest communities

3. Introduction

This chapter discusses the research setting, reviews the concept of community and x-rays the social inter-relationships that guide how the decision-making process on resource use is shaped. It describes the; location, human population structures; age, sex, economic activities, average annual incomes, education levels, and residence patterns. It explores other characteristics of importance to advocates of the role of communities in natural resource management like; small spatial unit, homogeneous social structure and shared norms (Agrawal and Gibson, 1999:629). Kith and kin networks (village leadership and associations) are discussed because it is possible that different actors with different interests shape decision-making in a community. The concepts of household and land relationships; land entitlements and measures of farm sizes as a degree of land clearance, as they apply in the communities, are explained. Questions addressed in this chapter include: what is a community? And what makes a community a better tool for conservation and development in the Korup National Park area? Empirical data[35] are used to answer these questions. The historical origin of community as discussed in a review by Arun Agrawal and Clark Gibson (1999) is the guiding theoretical framework. It is judged the most relevant because it is a fairly recent explication of the concept with respect to forests.

3.1 The concept of "community" in resources conservation

There are multiple definitions of 'community' as there are scientific disciplines. Generally, a community is a group of interacting individuals in a shared environment. A "community" is organized around common values in a shared geographical location. The group could share common characteristics, regardless of their location or type of interaction, hence, a community of interest or an ethnic group. For this study, community is approached as both a descriptive category and as a set of variables because in practice the two are entwined and often difficult to separate (Frazer, 1999:76: Smith, 2001). Community is therefore treated here as the interlocking social networks of neighbourhood, kinship and friendship;

[35] See appendix for detailed discussions of the methods used in collecting analyzing and presenting the data.

community life (Crow and Allan, 1994:1; Frazer, 1999:73). Communities are distinguished from others by boundaries (both similarity and difference) in the way that people within and outside experience them. Community values include; tolerance, reciprocity and trust or "weak ties" in the form of respect and confidence that individuals will support each other at all times (Putnam, 2000: 274). Inherent in these ties are short and long run altruism and self-interest of the respective social actors. Lately, "community" has gained fame in the resource management discourse (Agrawal and Gibson, 1999:630).

Community as a concept finds its roots in the evolutionist agenda of most 19th and early 20th century scholars in their attempt to understand social change. A pioneer was Sir Henry Maine, who thought the world was moving from relationships based on kin networks status and joint property to one based on contract, territory and individual rights (from weak to strong ties). It was in this light that Tonnies formulated his *Gemeinschaft* or community and *Gesellschaft* or society (Smith, 2001). Tonnies' view of community as an organic whole attracts many in the natural resources conservation debate (Agrawal and Gibson, 1999:630). But ecologists argue that even if communities had successfully managed resources in some harmonious past, that past was long gone and that effective conservation was through the heavy hand of the state or through the market and private property rights (Agrawal and Gibson, 1999:631). Yet, the top-down approaches that rely on guard patrols and penalties imposed hardship on locals (Wells and Brandon, 1992:1) but failed to provide species protection. These weaknesses of the state-centric approach re-live prospects of community-based conservation as a promising option based on common action (Agrawal and Gibson, 1999:632). This collective action is said to be possible in the so-called 'mythic community'; small, integrated groups using locally evolved norms to manage resources sustainably (*Ibid*: 640). Such characteristics may exist in the Korup forest settlements.

3.2 Location, history and biodiversity of Korup National Park

The biome called Korup National Park is embedded in a growing protected area network of Cameroon (Map 1). It is located in South West Cameroon, extending from 4°54' to 5°28' North and from 8°42' to 9°16' East, about 50km inland in the Bight of Biafra. The park occupies 1269km^2 of land in Ndian and a small portion in Manyu, divisions in Southwest

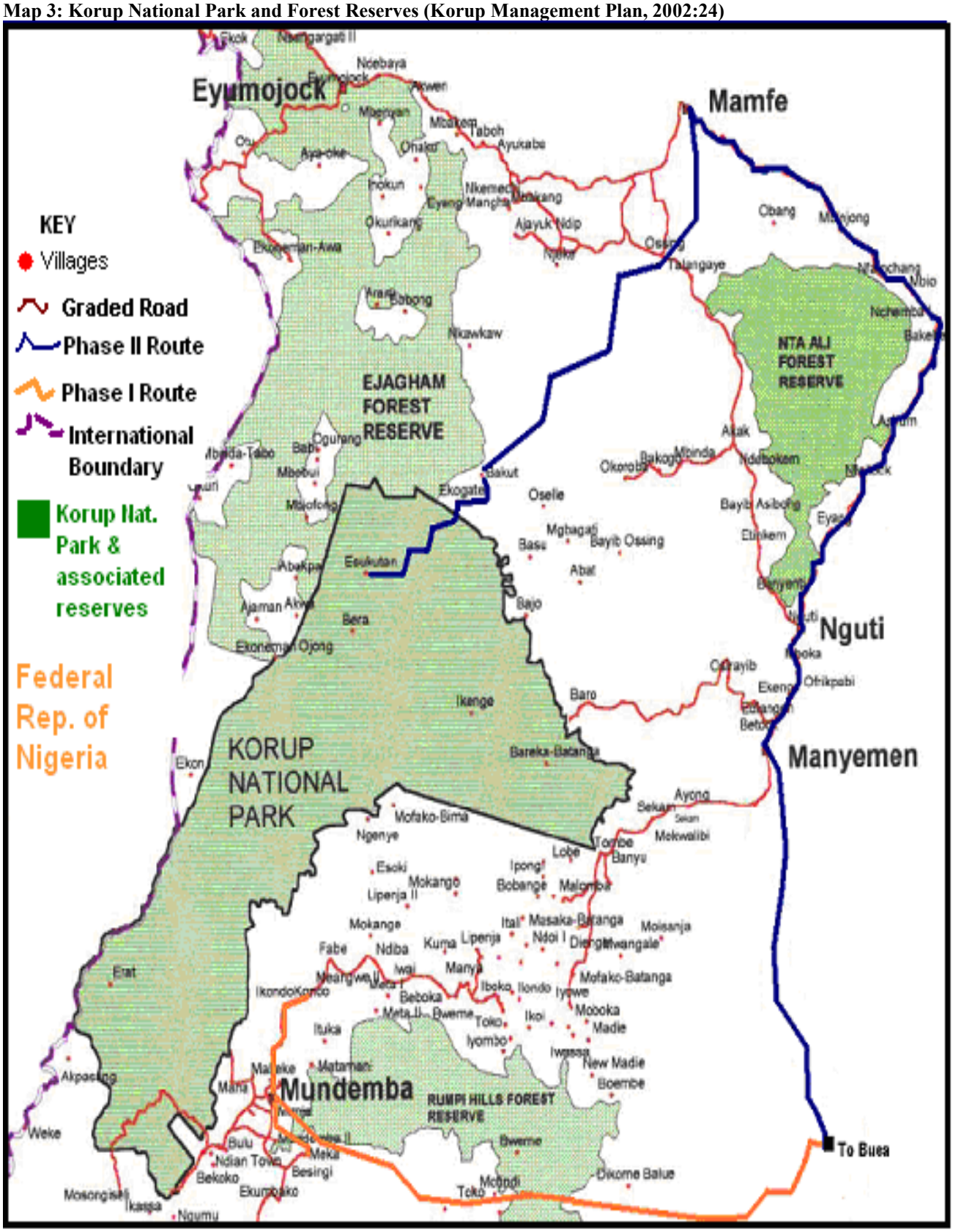
of Cameroon. It shares about 25km of its western borders with the Cross River National Park, Nigeria. Its elevation ranges from sea level to 1079m on Mount Yuhan near its centre, a horst 4km west of Ikondo Kondo. A third of the park is hilly and higher than 360m above sea level. A greater part of the park is low-lying undulating land. The Korup/Akwayefe and the Mana Rivers in the south and by the Bake/Munnaya and their tributaries in the northeastern sector drain the forest. The Ndian River in the center flows towards the southern sector. The Akpasang and Korup Rivers drain the western and southwestern sectors. Annual rainfall average is 5500mm in the south, decreasing northwards. It has a distinct dry season from November-March and rainfall from April-October each year. The 50-hectare forest plot is located in tropical evergreen forest 1km south of a Chimpanzee Camp and 552 meters above sea level. The terrain has huge gneiss boulders and steep cliffs. The central part lies in a valley. All these characteristics make the park very heterogeneous in terms of soil type, aspect, topography, and vegetation type. The soils are extremely sandy, low in nutrients and possess poor water-retaining qualities. These soils are generally acidic, infertile and unsuitable for agriculture. In the southern sector of the Korup National Park, the mean annual temperatures and rainfall are in excess of 27°C, and 5,000mm, respectively.

The origin of Korup National Park dates back to the colonial era (1884-1960) until the present. It was not officially recognized until 1937 when it became known as the Korup Native Administration Forest Reserve (KNAFR). The British colonial Administrative Order No. 25 of 1937 that established the KNAFR carved three enclaves (Bera, Esukutan and Bakumba) and legally granted them rights of stay, permission to fish, hunt and to collect NTFPs. Erat only became an enclave after 1961 with the reunification of French and English Cameroons and negotiations between its elders and Forestry department authorities in Cameroon granted the people rights to their land. By 1971, researchers appealed to the government of Cameroon to transform the forest reserve into a national park, as did Presidential Decree No. 86/1283 of October 30 1986 (Oates, 1999). This decree withdrew the legal basis of enclaves and expanded the boundaries of Korup National Park to include three settlements: Ikondo Kondo, Ikenge and Bareka Batanga. There are about 187 settlements in and around the national park. People in these communities, carry out

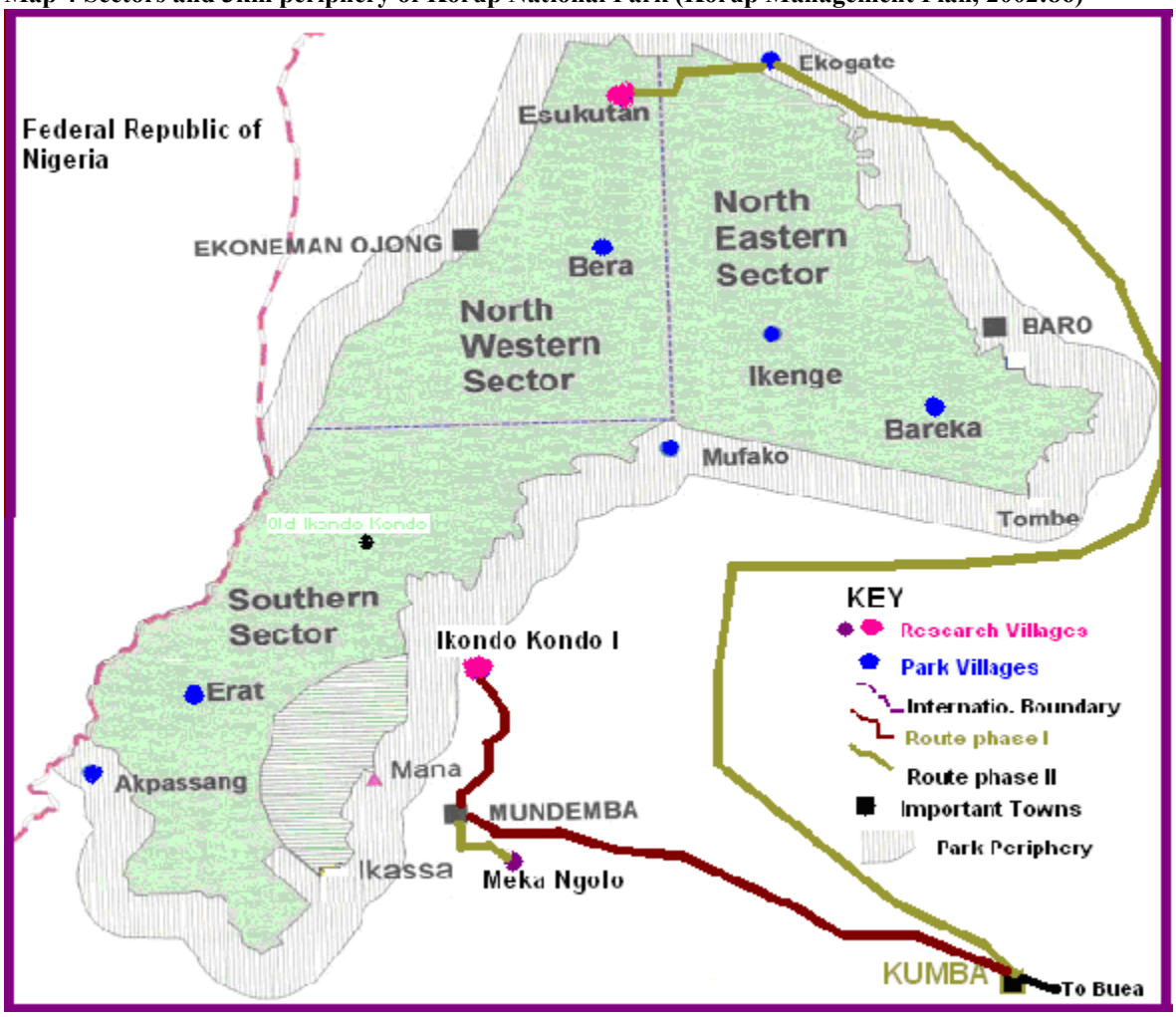
livelihood activities in and around the protected forest. Today, the park embodies three forest reserves of various sizes: the Rumpi Hills (45,843 ha), Nta-ali (35000 ha) and Ejagham (74,851 ha) with a primary forest cover of 125,900 hectares (Map 1). The 300,000km^2 periphery or support zone surrounds a mosaic of ecosystems including; forests, grasslands, agricultural and heritage lands (Map 2). These ecosystems provide an important animal refuge and corridor linking Ejagham and Rumpi Hills Forest Reserves.

Korup is contiguous with Cross River National Park in Nigeria, but no cross boundary conservation agreements exist between them. Excluding Rumpi Hills Reserve, the three other protected areas cover almost 6,000km² of mainly lowland rainforest with no established links and currently managed in isolation. A wild life corridor is planned to link these reserves and the Korup National Park (Korup Management Plan, 2002:19). Coloured lines and pink dots indicate the research routes and villages, respectively. A military road cuts across the southern sector of the park, while another links villages. A graded road now leads to Ikondo Kondo I while footpaths in the forest link Esukutan to other villages (See Map 3). A 3km stretch of mostly secondary forest serves as a buffer to the park. It provides communities with NTFPs such as Eru, Njansanga, bush mango, fuel wood, bush meat, fish and medicinal plants as well as land for agriculture (Map 4). For more than three decades, no government activities took place in that reserve. However, studies carried out in the 1970s and the 1980s (Struhsaker, 1970; Gatland, 1986) have exposed the fact that in terms of its biodiversity, Korup forest is Africa's richest rainforest for which comparable data exist. The Earthlife Foundation carried out the first conservation activities in the late 1970s and early 1980s (Korup Project, 1999; Korup Management Plan, 2002:18). Korup forest is the oldest remaining rainforest in Africa today and has survived the ice age or Pleistocene glaciations, over about 600 million years ago and the single richest lowland site in Africa for herpetofauna, butterflies and birds (Larsen, 1997; Korup Management Plan, 2002:35). Korup is critically important for primate conservation supporting large populations of chimpanzee, drill, red-capped mangabey, red-eared monkey, Preuss' red colobus monkey and Preuss' monkey (Oates, 1996). This biodiversity richness led to its classification as first class national park with a priority protection status.

Map 3: Korup National Park and Forest Reserves (Korup Management Plan, 2002:24)



Map 4 Sectors and 3km periphery of Korup National Park (Korup Management Plan, 2002:86)



Korup National Park aims to *conserve* the biodiversity and integrity of all its physical and ecological processes for the benefit of the locals, the state and the world at large (Korup Management Plan, 2002:1). Its long term objectives include (See *Ibid*: 3):

- To protect the structure and extent of the best surviving example of the Atlantic Biafran forest type, its physical features and biodiversity.
- To promote sustainable land use and sustainable rural development within neighbouring communities to provide added support to conservation of the Park.
- To increase our knowledge and understanding of forest ecosystems for the purposes of national park management and forest conservation.
- To promote low environmental impact ecotourism that provides economic and social benefits to local people to support the conservation of the Park.

While the goal of the park is to *conserve*, its first long-term objective is to *protect*. Such are conflicting terminologies because conservation has a *use component* while protection means exclusion. Also, objective 2 is the deception that led to the creation of a support zone, which is 5 times larger than the park itself, and hence, its total neglect. Objectives 1 and 3 are for the sake of nature and little or nothing regarding local populations. If ever objective 4 will be achieved, then the huddle is changing the status quo? Ministerial decree No.96-237-PM of 10th April 1996 allows for 55% of every collection to be put in the state treasury while 45% is saved in a wild life trust fund. This compounds the conundrum that conservation benefits are borne by the macro level actors while the [poor] local communities bear the brunt or the cost (Cernea and Schmidt-Soltau, 2006:1809).

3.3 Characteristics of the research communities

Esukutan and Ikondo Kondo I were selected for the following reasons: these villages reflect the ethnic diversity in the park (Ororup and Bakoko, respectively) and they all extract wild resources from a cross section of the national park representing the north eastern and south western sectors. Although, Ikondo Kondo I was relocated, the people still extract from the park. These two villages are easily accessible than the other villages inside the park. The villages speak Oroko and Korop languages[36], which also span across the sub region although there are slight variations (Gordon, 2005) and many of the villagers speak Pidgin English that was used for interviewing with little need for interpreters' errors.

3.3.1 Local population, educational levels and household dynamics

A complete enumeration of both villages reveals the following: Esukutan has 207 inhabitants in 43 inhabited houses and Ikondo Kondo I has 223 inhabitants in 50 inhabited houses. Put together, the two has a population of 430 inhabitants (Table 1). These figures take into consideration village members who were not present at the time of the field visit,

[36] Ethnic groups in Ndian Division, South West Cameroon, along the Nigerian border, Northwest of Mundemba town, speak Korop. Korop is classified with languages spoken across the; Niger-Congo, Atlantic-Congo, Volta-Congo, Benue-Congo, Cross River, Delta Cross, Upper Cross, Kiong-Korop. The Bima, Batanga and Bakoko ethnic groups speak Oroko. It is spoken across the Niger-Congo, Atlantic-Congo, Volta-Congo, Benue-Congo, Bantoid, Southern, Narrow Bantu, Northwest, Lundu-Balong, Oroko

while those who migrated permanently were not. Household resource persons were asked to state how many household members were present and how many were temporarily out of the village. Probing questions requested details like the name, sex, age and level of education of each member. For absent members, details like where they went to, the duration of stay and when they would come back helped eliminate those who have permanently migrated out of the village. Temporary migration is found to be mostly for "studies", "medical care in Nigeria" and to "buy goods from Nigeria". Permanent migrants are mostly women married in neighbouring villages or men who go to work in big towns and who do not own property (house, farm and nuclear family) in their respective villages.

Table 1: Population trends in the two villages

Data Source	Esukutan		Ikondo Kondo I	
	Houses	**Population**	**Houses**	**Population**
Fieldwork 2006	43	T= 207; P= 171; A= 36	50	T= 223; P= 194; A= 29
Röschenthaler, 11.1999	32	202	51	189
Ebune, 06,1999	18	340	53	260
Vabi, 03.1999	78	340	47	260
Devitt, 1988	22	155	18	92
Gartlan & Mcloed, 1986	19	372	23	173
Carr, 1923/24	-	130	31	104
Note: **T**= total population; **P**= number present; and **A**= number absent but will return within the next **6** months				

(Source: Röschenthaler, 2000:22; Field notes, 2006)

The conflicting statistics from the Korup Project library (Table 1) initiated a new census. An independent consultant carried out the November 1999 study. In-house researchers who in the same year, recorded identical population figures but different numbers of houses carried out the earlier studies. Whilst one could suspect a typographic error, it is not at all clear if these figures are correct. Both researchers did not provide details on how they arrived at those figures. However, the visitors' book kept by villagers was verified to find out if these researchers visited the village. Ikondo Kondo I did not have one, but none of the two Korup Project researchers signed that of Esukutan. Also, villagers did not remember seeing them in their village in 1999. So, one could conclude that these researchers never visited the villages they were out to study. The remoteness of the villages deters many who cannot trek for over five hours in the thick forest or withstand the bites of mosquitoes and midgets. However, their wrong data guided the selection of these villages for study as it was considered that a group of 50-500 persons is ideal for common action.

Figure 3: Population; Esukutan and Ikondo Kondo I

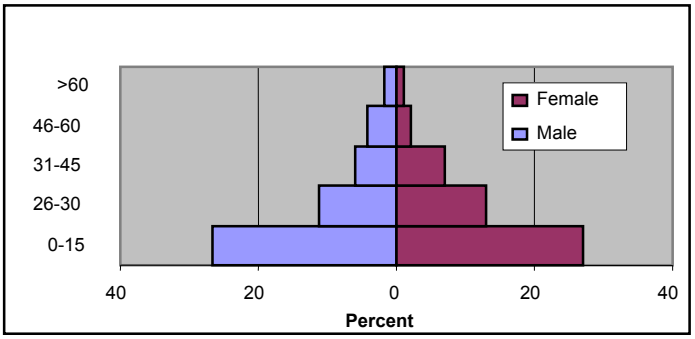


Table 2: Age categories

Age	Male	Female
0 - 15	115	116
16 - 30	48	56
31 - 45	26	30
46 - 60	18	9
>60	8	4

Between 1999 and 2006, Esukutan recorded a population growth of 7 people, while Ikondo Kondo I grew 17.5% (Table 2). This means an average of 2.5% per year[37]. This growth is found to be due to high natural increase (births) and immigration and low natural decrease (deaths) and emigration. There is a remark by the head of Ikondo Kondo I village council that since their relocation in 2000, the village has recorded only one death. In general, the communities have a young aged population structure (Figure 3). 70% are people below 15 years, 24.2% are below 30. 13% are below 45.6.3% are below 60 and 2.8% are above 60 years. There are 215 males and females respectively, with no significant differences within age categories from 0-45 years. There are twice as much male than females between 46 and above 60 categories. The life expectancy at birth has been reported for the entire Cameroon to be about 53 years for men and 54 years for women[38] but a few live above 60 years. These people live in small micro social units, here referred to as 'households'.

3.3.2 Household composition and household heads in Korup

Qualitative interviews reveal that households could compose of a single individual or a group of not necessarily related persons; living in the same house with a common housekeeping. Individual members could earn income but [almost] all is pooled and handed to the head of the household who makes important [spending] decisions concerning the group's daily up-keep. A total of 94 households were counted with each village having 47 households. The qualitative and quantitative data reveal that household composition varies

[37] The CIA World Fact Book (2007) confirms that Cameroon's population growth rate for 2006 was 2.04%. This information is available on: http://www.indexmundi.com/cameroon/population_growth_rate.html
[38] These are figures for Cameroon in general as reported in CIA World Fact Book, 2007. See *'Note 7'*.

according to gender of the recognized head of the household. Age is insignificant. For instance, young male headed households have many dependants. In Ikondo Kondo I, the head of HH 6 is male and less than 35 but has 10 children and one wife while three oldest men including the indigenous chief live alone. But on average, households are composed of about four or five persons, three households were found that have grandparents. Large households have 12 members while about six are composed of single members.

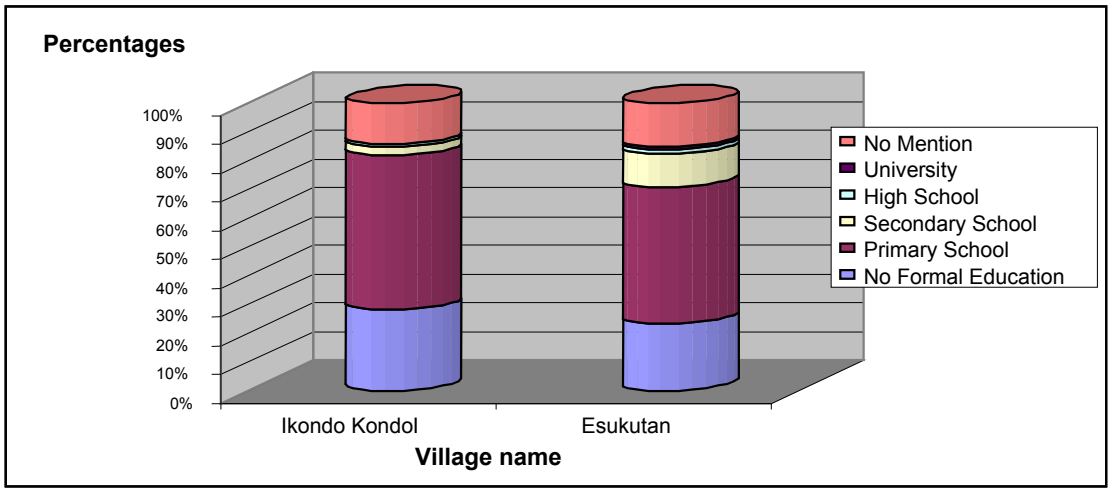
The number of dependent individuals is higher for single parent homes (especially female headed households) because in most cases, male headed households have two income earners (mother and father). In some cases there are 5 children depending on one mother, while for male-headed households; there are mostly 6 kids depending on two working parents. Old age dependency is pretty low as the few older people are still able to care for themselves. A question on household head was posed to 84 of the 94 households mostly in the presence of at least three other household members to find out if the concept of household head is a contested category. *Who do you consider as the head of this household and why*? The responses point to a male bias irrespective of whether the respondent is the man, his wife and or daughter as implied in the statements below:

- *I own this house, cloth and feed every member. You see I have no husband to take over these responsibilities (Female household head: Ikondo Kondo I)*
- *I married two wives and take care of the needs of all my 7 children. Also, I control and decide for everyone (Male household head: Ikondo Kondo I)*
- *I own this house and all what is inside. A man is always the head of the household because he takes responsibility for all members (60 year old man: Esukutan)*
- *My husband; he owns the house and provides for our needs like feeding, school fees for children, health care and is responsible for all what members do in this village (27 year old woman and mother of 4 children: Ikondo Kondo I)*
- *He is the father and controls all of us in the house (16 years girl: Ikondo Kondo I)*

So, in the communities, a typical household head is; a man, who owns the house and other landed property, provides for and represents the entire domestic group. Discussions with village leaders and women reveal that a woman is only considered household head when

the husband dies or when she divorces and lives alone. In consonance to this common perception, this study finds that 10 (26%) of the 41 households, which granted complete interviews in Esukutan are headed by women. Meanwhile, 16 (37%) of the 43 households that granted complete interviews in Ikondo Kondo I are headed by women.

Figure 4: Level of education of Esukutan and Ikondo Kondo I



The majority in each village has acquired basic formal education (Figure 4). People with no formal education are the second largest category; mostly people in their late 40s and children below 7 because school attendance age in Cameroon is 7 years. The "no mention" category comprises those who were absent from the villages but reported to have gone for a visit and to return in the next six months. Esukutan has a slightly high population of secondary school leavers or dropouts as many of its people benefited from government bursaries than Ikondo Kondo I. Esukutan has two university students. There is none from Ikondo Kondo I. Esukutan has three high school students and Ikondo Kondo I has two.

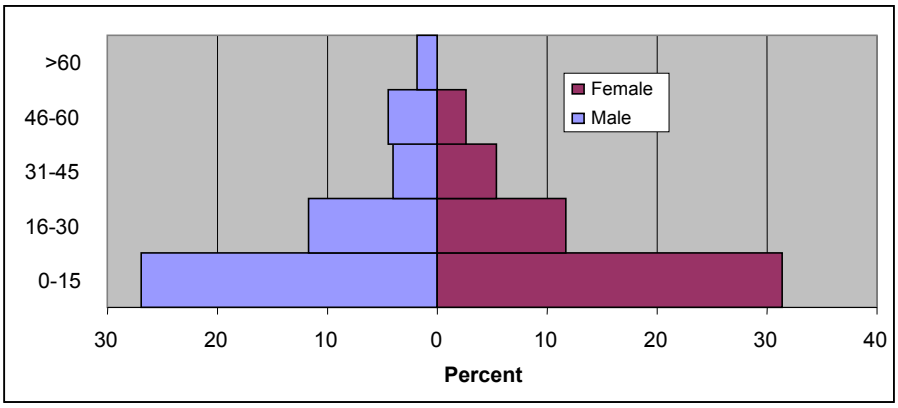
3.4 Specific characteristics of individual communities

3.4.1 Ikondo Kondo I

There are 223 people living in 52 habitable houses. The difference in terms of numbers of males and females is insignificant. The population structure shows a young age population and about 59% is below 15. There are more males in the ages 40 and above, with virtually no female above 60 (Figure 5). So, women die on or before celebrating their 60th birthday.

Few men survive up to their 60th birthday. So, in the communities, the life expectancy is shorter for women than for men. The reasons for this were not immediately investigated. In terms of infrastructure, 53 living houses and 4 community structures (1 Ekpwe Hall, 1 Cassava Processing House, 1 Community Hall and 1 Primary School building) were constructed with donor funds and donated to the village in the 1990s. A Cassava Processing Center (Kachang Ka Korup) was constructed by WWF Cameroon Project Office (WWF-CPO) and donated to the women to jointly process gari for sale.

Figure 5: Population; Ikondo Kondo I



A hall meant for community activities like; meetings, concerts, indoor dance and so on, is now used by Pentecostal churches for Sunday service and a guest house for preachers. Their Ekpwe hall is described as 'ultra modern airy building contrasts the dark, dusty and mud hut that was existed in the old village' (Korup Project, 1999:17). Instead of using it for Ekpwe activities, the village elders complain that the younger generations do not respect the rules of Ekpwe any longer and so no Ekpwe activity has taken place in that hall for the past 5 years. However, they acknowledge that the house is too modern for a cultural practice and that when researchers come, they stay in the hall with restricted access to the rooms that contain Ekpwe artifacts and art objects. All communal structures are roofed with zinc. In 2001, one house caught fire, got burnt and is inhabitable. The Sub Divisional Officer (SDO) for Ndian Division narrated the story of the house got burnt as follows:

> *After relocation a man poisoned a river with Gammalin to catch fish. He took the catch home, set fire in his kitchen to dry the fish. He left to go and continue collecting the dead fishes and his house caught fire. He was reported to the*

> *gendarmes but he fled the village for a safe-heaven. Since then, the burnt house has been completely covered by weeds. An administrative order was passed banning river poisoning* (Personal communication, Mundemba, 23.07.06).

The village was planned and built as part of the resettlement agreement. So houses have similar shapes, sizes and types of construction materials. Houses are lined on both sides of paths in the village. House sizes reflect the size of houses in the settlement inside the national park. Structure and type of materials used do not reflect the reality of the old village. An example is a blind man who owned the only biggest and zinc roof house in the old village now he occupies the biggest living structures in the new settlement but there is no distinction in the construction materials used. This to him is a loss of respect he enjoyed in the old village. Hence, respect is also based on one's wealth and possessions. Relocation has now distorted this picture by a kind of leveling mechanism that equates people not on the bases of their wealth and status. Apart from community buildings that are relatively larger, the construction of living houses followed three formulae; F5, F4 and F3:

F5 are the largest living houses with one big sitting room in the middle, four sleeping rooms and one kitchen in one block. Those who owned larger houses in the old village occupy F5 houses. Political power play a role as village elders got F5 houses. A good example is the indigenous Chief who owns an F5 although he lives alone.

F4 are the second largest living houses with one big living room, three sleeping rooms and one kitchen, all in one block. These types of houses are occupied by bigger households or households with many dependants (at least 5 persons in that household).

F3 houses are smaller and made of one sitting room and two sleeping rooms. A kitchen is attached at the back and those who were 25 years and were single or newly married at the time of relocation in the late 1990s occupy these houses.

The walls of these houses are made of earthen bricks that were molded using cement and a machine that is no longer available nor is it accessible to Ikondo Kondo I villagers. The roofs comprise of specially seasoned cement tiles that are lined on planks. Complaints from the villagers that these tiles were leaking were recorded in May 1999 and the authorities did not take any steps to fix the problem. Also, a strong wind blew in 2005 and destroyed most tiles, roofs and the houses. We did not observe a single roof that did not leak when it rained. Also, family sizes have increased since 2000 and so the need for more living space

and the inability to repair destroyed parts of houses explain why some people have started constructing kitchens using sticks tied with ropes, choked with mud and thatched roofs. Some former kitchens are now being used as sleeping rooms for children or if they are inhabitable, parts are used to store harvested food, drinking water and other belongings.

Picture 1: Thatched kitchens, Ikondo Kondo I

All kitchens, whether constructed by Korup Project or by the indigenes themselves have barns for smoking collected or harvested NTFPs. This is the final stage of the processing of extracted wild forest seeds, leaves or barks of trees. Instead of using the traditional three stones fireside, households use earth to build around the stones with an opening on one side for fitting wood as well as an open top for direct heating. Elderly women explained that this method conserves heat and makes the fireside suitable for drying gari. There are quite some hard-to-notice differences between barns in kitchens that belong to old women and those of young women. Elderly people mostly construct durable barns. Younger woman do not construct barns that are durable or that could last for many years.

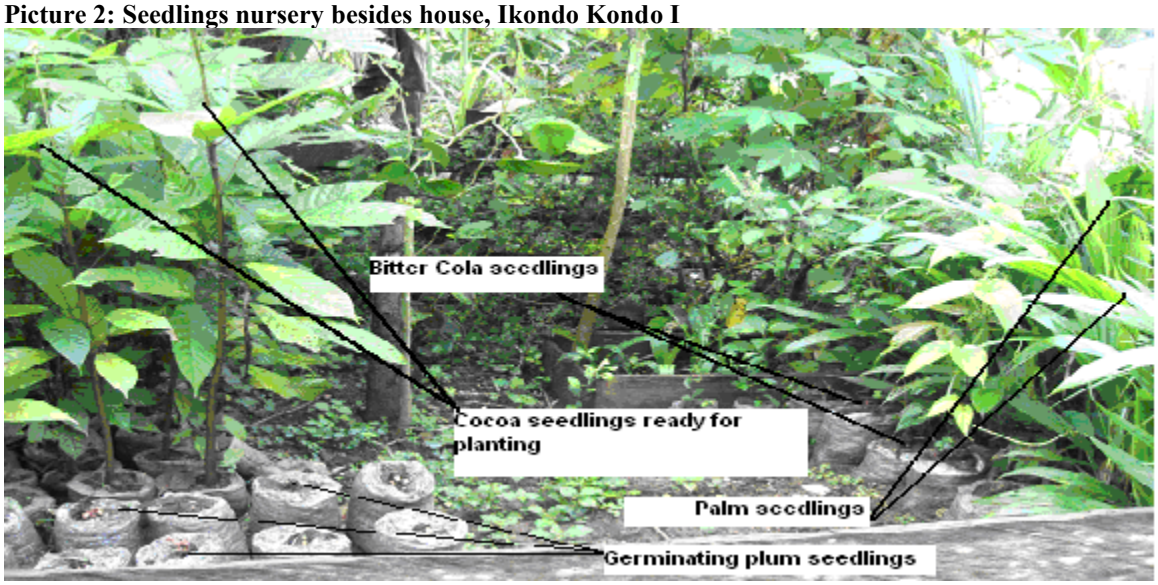
Pipe-borne water was provided to the villagers as part of the resettlement agreement. A reservoir of the pipe-borne water was built some 300 meters from the northwestern end of the village. Six running taps were built to distribute water to the entire village. Initially and until the official inauguration of the "new" village, these taps were functional but six months later, no water came out of them till date. The lack of maintenance on the entire water system has forced villagers to fall back to their old way of fetching water from the nearby rivers and streams. There are two main access roads to the source of drinking water;

a small stream that flows around the village. It is about 500 meters from houses and the upstream is reserved for fetching drinking water while the downstream is reserved for bathing and laundry. Women and children fetch water early in the morning before going to school/farms and in the evening after they return from the forest/school. Drinking water is stored in plastic buckets or aluminum pots in cool spots in the house and a cup is used to serve the water. This same water is used for cooking and washing plates and pots. Electricity was also cut a few months after installation and so today all houses have electricity cables and lamp holders but no current to light up houses. They complain to researchers because no government official has visited their village since 2002. But the village leadership plans to make a formal complain "soon".

Ikondo Kondo I village layout is rectangular in shape as opposed to its linear structure in its high forest edge location (Appendix 3b). Its current location is an abandoned forest frontier that is surrounded by old farm fallow land with little wildlife and few valuable timber trees. This location grants the village access to the Mundemba town markets in Ndian Division of Southwest Province, Cameroon. There are farms and gardens around houses. Food crops like; cassava, plantains, bananas, cocoyam, maize, coconut trees, palm trees, bitter cola trees, and recently, bush mango are grown on farms. Fruit crops include: oranges, limes, avocado pears, guava, pawpaw, pineapples, plums, wild apples, sugarcane, mango, tangerine, palms and coconut. Women keep small gardens. Garden crops include; okra, red and yellow pepper plants, huckleberry plants, edible bitter herbs and other vegetables. Cocoa is also grown behind houses. Prior to relocation, they did not grow cash crops but relied on extracting NTFPs as well as food crops farming for survival.

Many households have nurseries of different plant seedlings including; cocoa, palm, plums and bitter cola germinating in plastic bags containing soil. Men who are mostly concerned with cash crop farming own these nurseries (See picture 2). Seedlings are mostly from the wild. In 2005 the local Member of Parliament provided 150 palm seedlings to be divided among Ikondo Kondo I villagers. A few households benefited while 28 confessed that they were not even informed. Beneficiaries explain that the seedlings could not adapt to the new environment (sandy and acidic soils, the heat and so on) and thus, wilted.

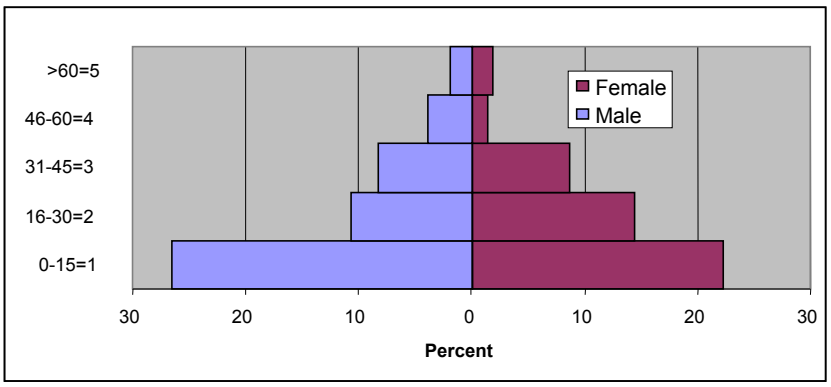
Picture 2: Seedlings nursery besides house, Ikondo Kondo I



3.4.2 Esukutan

Esukutan has a population of 207 inhabitants. There are slightly more males than females (106:101 respectively). The population structure has a typical pyramid shape with a very flat bottom and a tiny top (Figure 3). There are more males than females in the ages 0-15, while females outnumber males in the; 16-30 age interval.

Figure 6: Population; Esukutan



There was no significant difference in the 31-45 age category, but in the 46-60 age category, there were 8 men to 3 women. There were 4 each in the above 60 category. It could be deducted that most females die after 45. Very few women live up to and above 60 years. Also fewer men survive up to their 60th birthday. This means a statistical figure for

the life expectancy (average number of years a person in this community is expected to live at birth) should fall between 45-60 years. Men die more when they are above 60 years than when they are below 60. No explanation has been found for this demographic trend but further research is necessary, to guide any informed conclusions on this aspect.

Esukutan is a remote settlement surrounded by relatively intact high forest. Its poor access to markets limits the range of livelihoods and households fear to waste their labour if the produce is not able to get to a market. Like other remote settlements in the park, Esukutan village is socially homogenous. Villagers migrate to roadside settlements in search of jobs and a better standard of living, taking along their nuclear family members. So, there is a higher emigration and low immigration by those who emigrated in the first place. Its high intact forests with a relative abundance of animals and plants do not attract emigrants.

Picture 3: Down-hill view of Esukutan village

Esukutan is a linear settlement with a footpath in the middle of the village separating houses on both sides (Picture 3). At a point, the path separates in two directions giving a characteristic Y-shaped village. From both entrances [and exits] a total of 46 structures are spread along a 425m stretch. There are about 43 households living in about 40 of the 46 houses or structures in the village. However, there are 3 uncompleted buildings, 1 Ekpwe Hall, 1 school building and 1 church house that were not inhabited by individuals.

Uncompleted houses are unoccupied. Houses are built closed to each other with a narrow space between them and so prospects for village extension rely on spaces at the outskirts. Lineages build close to each other because in the past there use to be so much quarrels and fights. So, as a defense strategy, families live around each other. With some trust and calm, the young ones are building in spaces not necessarily closed to their blood relations.

The downhill view of the village layout does not show the house of the indigenous chief as well as the entire school compound. This photo shows a mosaic of thatched and zinc roof houses. Table 3 summarizes some changes that have taken place in Esukutan since November 1999 and the situation in 2006. It shows that between 1999 and 2006, 7 new inhabited houses were constructed within the 425 meter length of the village.

Table 3: Esukutan village Infrastructure (Roshenthaler, 2000; Author's observation)

Infrastructure	1999 (41)	2006 (46)
Inhabited Houses	32	40
School buildings	5	3 (2005 storm destroyed 2)
Ekpe Hall	1	1
Uncompleted Houses	2	3
Eating House (restaurant)	1	0
Thatched Houses	?	35
Zinc Roofed Houses	?	11

Generally, kitchens are separate buildings behind living houses on both sides of the footpath along the village. The houses could easily be distinguished by the size and type of construction materials used. Generally houses are built with mud or earth and roofed with thatches or zinc. In all, there are 35 thatched and 11 zinc roofed houses. An eating house (restaurant) that existed in 1999 is now used as a kitchen by the then owner. So, there is no more sale of cooked food because an Ekpwe law was passed in early 2000 banning the sale of cooked food in the village. According to village elders, women are worried the restaurant has made their husbands to hardly eat food cooked by them. So to please wives, a ban was issued and so the restaurant closed. Also, there is a ban on the sale of a locally brewed illicit gin (afofo) because instead of using palm wine for its brewing, Nigerians (main brewers) use organic substances which cause severe health problems to consumers. Bans are effective and till date women who traded in afofo have now trade on imported wines from Equatorial Guinea which most villagers think they are expensive to buy.

The Esukutan School had three buildings but a strong wind destroyed two of them in 2003 and since then, the only building that was not destroyed has been partitioned into classrooms. This government primary school had two teachers to teach all the seven classes. At the time of the field visit, only one teacher was teaching while the other was in the towns to fulfill some administrative duties. In 1999 all the two teachers left for a 9 months training course in Mundemba town and so villagers employed some educated youths to help on a part-time basis. Villagers who also bought blackboards built the school. This school serves Ikenge, Esukutan and Bera because it is a Class 7 school, while the Ikenge primary school is just up to class four. So children trek every morning from these neighbouring villages to attend school and trek back after school closes.

Esukutan people fetch drinking water from a stream that is about 858 meters from the village center. Women and children fetch water for household cooking, cleaning and washing. The upstream is reserved for fetching drinking water and the downstream, for bathing. Men and women bath in separate sections of the stream for moral reasons. Farms are closer to the settlement area. Few cash crop farms are located within a 1 km radius of the village but food crops are grown behind houses. These include plantains, cassava, bananas, beans, maize, cocoyam, sugarcane and yams. Fruit trees like; coconut trees, mango trees, pears, plums, orange, palm trees and bitter cola, are around houses. In front of the indigenous chief's house is a woman propagated a cocoa farm that has got a big njangsanga tree that. Generally, as opposed to Ikondo Kondo I people when they were still inside the Korup National Park, all men have cocoa farms and according to the laws of the Bakoko All Youths Association, young men are obliged to open cocoa farms.

3.4.3 Differences and similarities of both communities

Many miles of unoccupied land from the other villagers separate these villagers. They are largely homogenous in terms of ethnic composition. In Esukutan for instance, two men; one from the French speaking; and the other from the English speaking provinces are the only permanent resident settlers. Ikondo Kondo I, has only one settler. Settlers have all started the process of fully immersing themselves into the customs and traditions of their host communities. This explains why Malleson (1993) describe the communities as

'homogenous'. The close-knit nature of the communities make village life open and very public such that one can hear, see and smell almost everything that goes on anywhere in the village. This does not imply individuals do not have secrets; the bottom line is that privacy is rare although sexual discreetness is possible when everyone is asleep.

In terms of access to markets, neither Esukutan nor Ikondo Kondo I has a demarcated market place in their village; where buying and selling can take place. Markets are located many kilometers away in nearby towns. Esukutan people transport bush meat and other NTFPs through former Ekogate to Bakut, which has an unpaved motorable road. They could either transport their bags of cocoa through Ikenge to Baro or to Bakut for sale. This depends on the location of buyers at that time of need. Ikondo Kondo I people buy their basic needs from Mundemba Town market where they sell collected items from the forest. Also, interestingly buyers come into the villages to buy bush meat, cocoa beans as well as bush mango and njangsanga. The marketing processes are discussed in Chapter 4.

There are differences and similarities in village histories. Esukutan elders reveal that the real name of their village is 'Matei'; meaning, "rest place". The founder was late Nikpwa Namurongo whom in a hunting spree in the thick forest found the site to be very suitable for habitation. It had drinking water, flat hilltop and there were many edible fruits, fishing streams and rivers. He informed his brethrens about his plans that the village should relocate. His idea was welcomed and lineages moved to settle in Matei. German colonial masters renamed the village 'Esukutan'. Ikondo Kondo I was formerly known as Ikondo Kondo, which means, "we are the world". Seven brothers living in a hill top location inside the thick forest called "Kitok" started quarrelling over resource scarcity, encroachments and thievery. Drunkenness was said to cause disputes. The influentials talked them into breaking up. The bitter confrontations forced each brother to go searching for a suitable place for his family. Four brothers found locations in Cameroon (Ikondo Kondo, Erat, Ekon and Akpassang). The other three went to settle in Nigerian lands. Osumja named Ikondo Kondo village. When it was relocated in 2000, the name was changed to Ikondo Kondo I. So, both villages have a history of voluntary relocation.

The activities of these forest peoples are greatly regulated by the dry and rainy seasons (November to March and April to October, respectively). The wet season inundates the low-lying parts close to big rivers and streams, making travel difficult. The dry season is the time to feast, trade and politic with allies. Livelihood activities include; subsistence farming, fishing, hunting and gathering of NTFPs, fetching water, visiting with each other, and porting. They make some of their material possessions (fishing baskets, bows, nets made of fibres from forest plants, processed NTFPs and colourful pigments with which they paint the bodies of nursing mothers). Life is pretty easy in the sense that they earn their living with about three hours of work per day. Almost the entire village is disserted everyday from 7 am and some people start coming back from the farms at about 11 am. People seek healthcare from local healers while serious cases are transferred to herbalists in neighbouring Nigeria. A case in point is the wife of a former Village Council chairman of Esukutan whose wife has been receiving treatment from a Nigerian healer for the past 4 months prior to our visit in November 2006. Food taboos, sacred forests, rites, totems and other beliefs and practices dominate their culture. These embody traditional; technologies, healing methods, natural resource management, celebrations, and patterns of social interaction that contribute to group welfare and identity (DMFA, 2002; World Bank, 2003). Social life is organized along kin relationships, decent from ancestors, marriage exchanges between kin and descent groups, and the transient charisma of indigenous chiefs.

At the head of their political organization, is a Chief who works in collaboration with the Village Council. Appointed chiefs represent the Cameroon government. This creates a bipolar power structure especially as one could easily observe formally educated subjects paying loyalty to the government chief and vice versa. These chiefs permanently reside outside but any visitor is forced to contact them for entry rights and sometimes information about the village. Those of Ikondo Kondo I and Esukutan were interviewed in Mundemba where they permanently live. Their permission does not guarantee free acceptance by the villagers. Our research team was subject to heavy scrutiny despite the fact that we had a written permission from their government chief. How the exercise of their power affects the solidarity of the village is a question every scholar interested in micro level institutional analyses would ask.

Government appointed chiefs are officially recognized by the state that also employs them to work as eco guards for the park. They have less power over their peoples and are hated in their villages for supporting the harsh conservation policies of the state. Indigenous chiefs were observed to exert much control and enjoy the support of most people. The Indigenous Chief ensures order and determines the village's relationship to others. Chieftaincy is hereditary and their positions are largely the result of kinship and marriage patterns. Indigenous Chiefs are by their charisma, personal wit and wisdom, superior among equals. Indigenous chiefs do clear farms, plants crops, collect wild fruits and hunt. They are simultaneously peacemakers often employing threat or actual use of force. For instance, the Esukutan chief was observed scolding children who played with a Dane gun. So, the government appointed chief is disaffected from his people. His support in the community is largely from people younger than 45 who have also been victims of the harsh sanctions dictated by elders in the Ekpwe association that essentially governs the village.

The societies are essentially patriarchal and many of the household heads are men. Arranged marriages by older kin, usually men, who are brothers, uncles, and father are rife. Being a political process, girls are promised in marriage at a tender age and the prospective husbands create alliances with other men via marriages exchanges. The sex-ratio imbalance described above is due in part to the shortage of women in the age categories above 46 years. Few men in younger age categories have multiple concubines and elopements had been reported. Infidelity led to 7 divorce cases in Ikondo Kondo I since 2000. Most female household heads were divorcees and one was as young as 19. This confirms the view that once a woman is divorced, re-marriage is difficult. There were no reports of widow inheritance since the only widow in Ikondo Kondo I had no in-laws in that village. Story telling, songs and dances are still common practices usually encouraged by elders and geared towards encouraging social solidarity and cohesion. The stage for such stories is around a fireside after an evening meal or in the moonlight. Household members as well as neighbours join in story telling events. Sometimes songs are sung which convey a message that encourages group behaviour and discourages individualism. There is also a diversity of delicious dishes that symbolize sharing, reciprocity and obligation. These are tourist attractions and alternative income sources for the locals that could be tapped into.

Village life appears to be communal at face value but there is more to this in terms of culture and polity. This is because everyone goes to the farm, people farm in groups and there is a multiplicity of pockets of alliances or fictive kin networks. However, power and politics lie heavily in the hands of elderly men who make and enforce important decisions regarding community life. These elderly men also head pockets of village associations and knowledge sharing networks. Membership to these associations, an important cultural heritage of the people, is open to all based on age, gender and purpose. Youth and women's groups exist but they function under the umbrella of rules set by the governing male dominated juju society (Ekpwe). Apart from playing the role of the village government and judiciary at various levels, these associations have many cultural and social functions. There are rules to which members have to adhere, and they also have to help each other in difficult situations. They perform dances, masquerades and songs during rites of passage such as initiation ceremonies or funeral celebrations. They also perform when a new chief is installed like in the case of the relocated Ikondo Kondo I village. If a family member dies, the head of that family has a moral obligation to invite all the associations to which the deceased person had membership to perform at the funeral. Until around the late 1980s villages organized cultural dance competitions during which each village gave it's most beautiful and innovative cultural performances. Village elders hold the view that the richness of the performances reflected the general cultural condition of that village.

There are mutual self-help groups that work on members' farms in turns including: njangis, village daughters' meetings and married women or stranger's meeting. Njangi (saving and credit) associations are fictive kin groups in which members contribute a fixed amount of money at every meeting (usually once a week). The entire sum of money is handed to individual members to finance investments like paying fees for children, building a house, marrying a new wife, footing hospital bills and so on. These associations are important for a village's strength in self-help and development. Kin networks offer a good platform for information and knowledge sharing among members. They could also serve as entry points for new knowledge if the influential members or group leaders get hold of this knowledge. An individual could have membership in many of these associations but must abide by its rules and regulations, which in turn shape her/his weekly calendar. For instance, women

from other villages but married to husbands in Esukutan formed a group called "strangers women". This group held weekly activities on Sundays (Table 4).

Table 4: Observed weekly activities for Esukutan villagers

Week Day	Associations' Activity
Sundays	"Strangers' meeting"; for women married to men from this village. They share experiences and learn more about village rules and laws.
Sundays	"Njangi"; women get together, do weekly savings and gossip
No special date 'Emergencies'	Village Council meeting for both men and women to discuss issues relating to village problems and to seek possible solution.

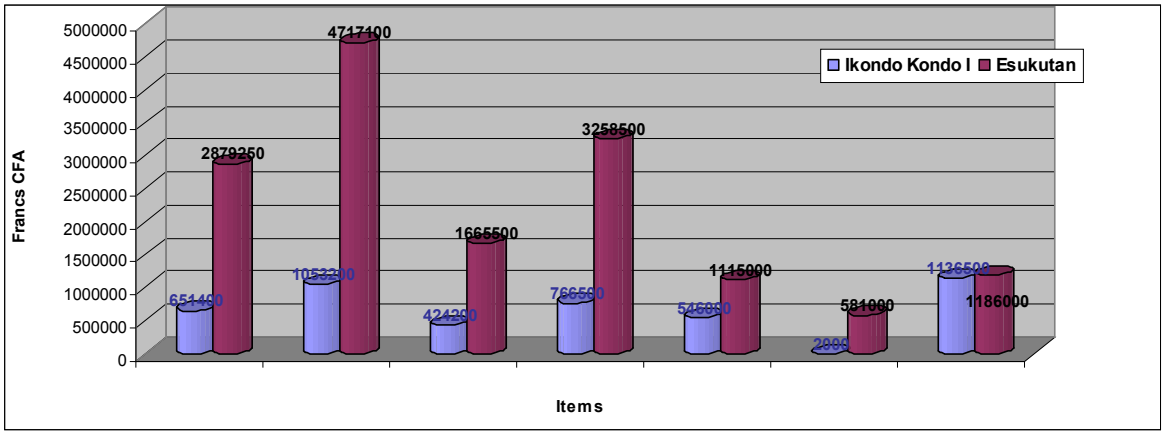
There are remnants of associations founded on more modern society's principles like education. For instance, the Bakoko Student's Union which was founded in 1991 gave birth to the Bakoko All Youth Association that aimed to save money and enable members to complete schooling and to pay hospital bills. It obliged Bakoko youths to open and own cocoa farms. Members help each other to clear their farms in turns. Individual members made savings in the association's bank. Esukutan Youth Association was a strong saving and credit group that was not functional in 2006 probably due to the fact that this is a highly migrating group. Males dominate meetings even as women are well represented. An Ikondo Kondo I Youth Task Force assisted in constructing the resettlement site. In 2006, this group was reported not to have performed any function after location was complete in 2000. Also, the members had all come of age and were unwilling to act as youth. Membership in different traditional associations does not deter membership in Christian Churches like: Presbyterian, Full Gospel, Deeper Life, Assemblies of God and the Roman Catholic. Most worshippers of the Presbyterian and Roman Catholic churches maintain membership in indigenous associations. But the Pentecostal churches (Full Gospel, Deeper Life, and Assemblies of God) do not allow membership in indigenous associations. In the relocated Ikondo Kondo I, the house of a woman is host to the Deeper Life Church.

However, social life is stratified in terms of complexes of social institutions that generate observed inequalities. Social standings are dictated by ascribed rather than acquired status and this seems to be continuous since people lose their standing only through death. Age, gender and wealth status were observed as the main determinants of mobility mechanisms linking individuals to positions of control and power. For instance, those very old persons

in the villages commanded a lot of respect from the young ones. The oldest persons in Ekpwe and Ekpwo are said to be the most knowledgeable. They also hold leadership positions in the village polity; they have long experiences in their forest communities and so carryout all negotiations on behalf of their families and households. So, elders are the most privileged that enjoy a disproportionate share of the benefits of knowledge as power. They make the rules or institutional processes that define what is good or bad behaviour, who has right to own land and so on. Customarily, women are excluded from village decision-making at birth. They do not participate in village council sessions and important village settlements. There is an observed rigidity in the stratification systems since males with inheritance rights enjoy income, power or prestige on the basis of their parents. For instance, the son of the chief is a potential chief and so people avoid hurting him even if he is not yet enthroned. Status crystallization is high and those born to wealthier parents or families that wield political power consistently remain on top of status hierarchies. So parents are said to be pacesetters for their children giving a sense of 'you remain a child until your father dies'. Parents openly scold even their married sons and daughters.

Quantitative interviews reveal different qualitative measures of households' well-being rankings. In Esukutan, households base their rankings on; investments in the education of children as a secure way to riches, skill and ownership of landed property like a zinc roofed house or an imported set of chairs. Ikondo Kondo I do not consider ownership of a house to be riches. The basis for riches in Ikondo Kondo I also does not reflect cash income but investments on farms and other diversification strategies. The highest income earner for 2006 (primary school teacher) is not mentioned as the richest household. Although he was one of the interpreters for this study, he was reported by others to be drunk every day. He spends heavily on drinks (afofo) and did not own a cocoa farm. Here, education just like plant NTFPs collection was not mentioned except for hunting skills. Wealth ranking was to find out if households' awareness of the link between their income strategies and the wealth that is amassed. This awareness is perceived to be a potential target by policy attempts to discourage dependence on certain livelihoods activities that cause much damage to forest composition and structure, yet yields very low incomes while encouraging others that cause less damage but bring high income.

Figure 7: Household expenditures and items; Esukutan and Ikondo Kondo I



In terms of expenses, the household situation and expenditure items are similar. Household questionnaires collected data on expenses; school needs, feeding, farm inputs (pesticides, porting of farm produce), loan payment, healthcare, bride wealth, clothes, soap and kerosene (see Figure 4). Generally, Esukutan households with high incomes spend more on all the items. Feeding has the highest expenses not because people actually buy food items but because locals spent more on soup ingredients like meat, magi, salt and palm oil. However, school needs tops the expenditure list of two female-headed households in Esukutan. This was because they have at least six schooling children. However, households hardly accept that their incomes are enough. Many households use the phrase "we are just managing to survive" to support their claims. One female-headed household reported a remittance of 15000 FRS CFA from his migrated husband since 2002.

In terms of village hygiene, Esukutan is cleaner than Ikondo Kondo I. First, it is obligatory that a day is set aside for community work to clean the footpath in the dense ever-green forest from the point which represents the boundary the neighbouring village. Men and women above 25 years old are supposed to work as full community members. The main street in the village is always kept clean. The village council imposes fines on those who do not comply with community works. So, individuals could as a matter of good will clean the village footpath. One hunter was observed voluntarily clearing and widening a section of the footpath inside the forest. He had cleared a distance of about 500 meters and cut all the logs of wood across that path. Our guides told us that he was acting on his own and that may push the village council to announce community work in the coming days. Sections of

the stream for fetching drinking and cooking water are protected with magical charms to deter people from washing clothes there. The charms are renewed to show the seriousness of injunctions. In Ikondo Kondo I, the main streets are bushy and an informant said, since 2000, the villagers have cleaned their roads only once. Two female secondary school leavers were observed cleaning the portion directly in front of their house. The indigenous chief as well as the only primary school teacher explained why the village was bushy. The latter tried once to make village cleaning by school children as compulsory manual labour but parents objected. Fewer people obey the indigenous chief and no one is willing to listen to him any more now that the village has relocated.

Dominant diseases and health issues in the communities include; malaria, cough, catarrh, fungal infections, stomach and head aches, diarrhea, rheumatism, blindness, measles, chicken pox, hyena, typhoid, yellow fever and chest pains. These are ailments are treated by indigenous birth attendants and specialist healers. 11 and 31 households in Ikondo Kondo I and Esukutan, respectively, declared their preference for indigenous healers as the primary source of health care. 25 and 4 households in Ikondo Kondo I and Esukutan respectively used modern health care facilities like hospitals and clinic while 3 and 5 in Ikondo Kondo I and Esukutan, respectively resort to auto medication (herbs).

Conflicts in both villages are not always blind, uncontrolled violence. Shouting and chest-pounding show how flexible the people are when it comes to settling disputes without immediate resort to lethal force. Kin and friendship alliances serve to limit violence, while inter-village trading and feasting cement relationships. These alliances extend into inter- and intra-village exchange of marriages that may not last forever. The village leaders, whose political acumen, traverse the thin line between friendship and animosity and strategies are admirable and complex. An observed case concerns a witchdoctor from Ekoneman Ojong who had reported to the indigenous chief and the village council of his village that after two years of healing patients from Esukutan, he has not been paid. The leaders contacted the Esukutan leadership, which then took the responsibility and recovered the money. The healer was invited to come and collect his dues in our presence. Him and the defaulted clients made peace, shared drinks from the same cup and promised exchange

visits. No conflicts or inter-marriages are reported between Esukutan (Bakoko ethnic group) and Ikondo Kondo I (Korup ethnic group). The only primary school teacher in Esukutan village is from Erat (Korup ethnic group). The physical distance between the two villages may account for why inter-marriages are rare between the ethnic groups.

Villagers show solidarity even in times of shocks like the strong winds that blew in 2004 and an outbreak of measles, cholera and dysentery in the same year in Ikondo Kondo I. The winds damaged houses as roofs were leaking. Strong winds also destroyed crops and the house of a village member of Esukutan in 2005. Households gave a helping hand to reconstruct damaged houses. This was a moral choice and no one was under any obligation to do it. A 2005 incident in which buffalos destroyed crops on farms along the road to Ikenge was countered by a joint village effort as households contributed cash and invited an expert hunter from Manyemen a bushmeat market hub who killed these animals.

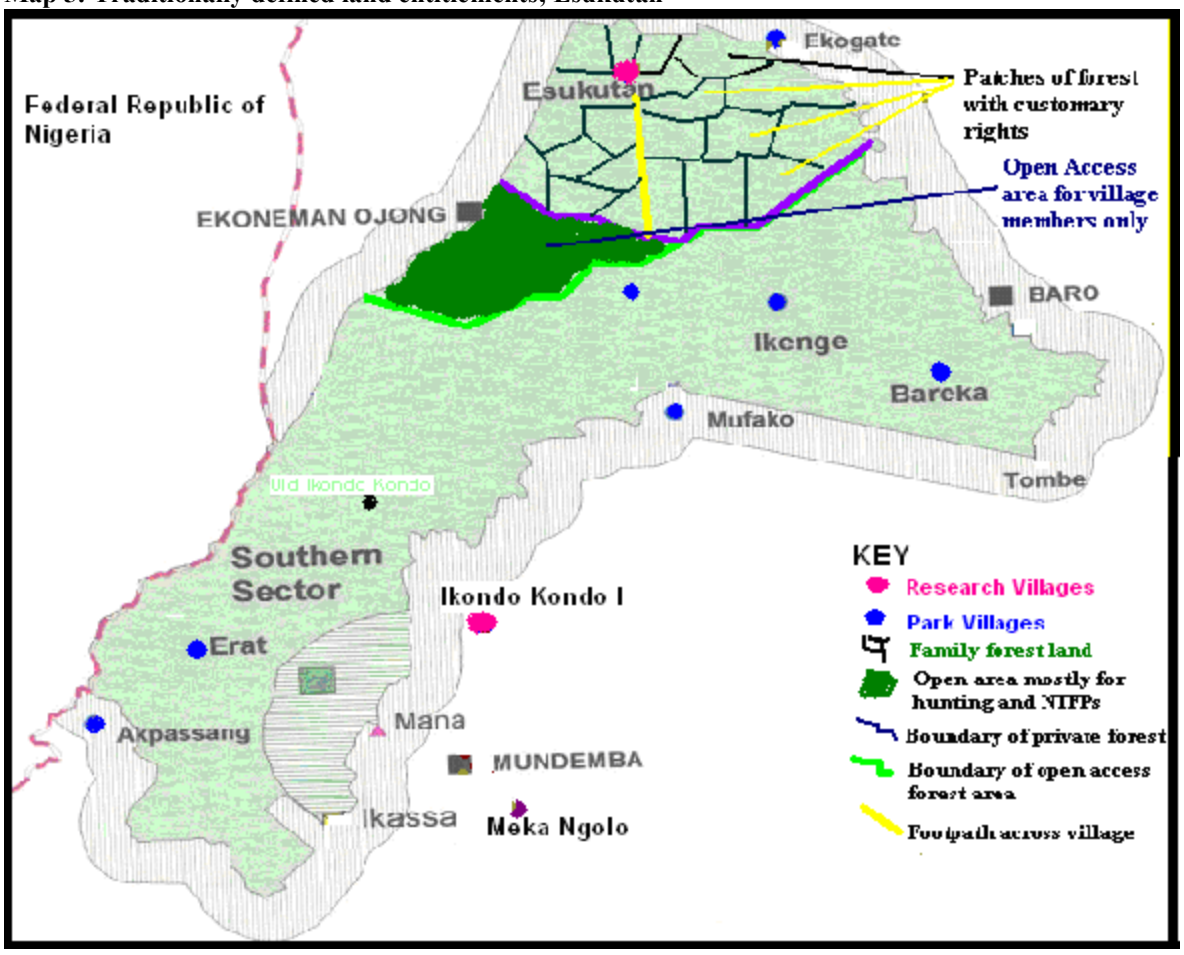
3.5 Forest-land relationships

3.5.1 Land tenure systems

Two parallel land tenure systems exist for the Korup National Park forest which is formally a state property. A 1983 forestry law of the Republic of Cameroon prohibits; the use of timber and NTFPs, cash crop farming and hunting inside the national park, without permission. It also prohibits the act of indigenes permitting strangers to use forest products (exercise of alienation rights). Pending relocation, communities still have limited usufruct rights granted by state law. However, communities claim customary land use rights and ownership over the entire forest and village elders reveal that local customary use rights are maintained on the basis of land clearance. Boundaries with adjacent communities are demarcated by the use of streams, trees, crops (like pineapples) and other physical attributes (hills). These traditional territories are recognized by communities whose members normally live, farm, gather and hunt within their own territory. Village land rights extend up to the point where that village clears and ends. The territory is ordered according to certain criteria. For instance, the village forest is distributed among lineages, which further distribute the land to households. The private patches of land lie within 10 km

around the village (See Map 5). Owners carry out livelihood activities and jealously keep away unauthorized entrants from the plots including those from the same village. Therefore, individuals have private ownership and use rights on the overall communal land.

Map 5: Traditionally defined land entitlements; Esukutan



(Source: Adapted from Management Plan, 2002)

Expert interviews with elders reveal that an individual cannot lease, rent or sell land because it is communally owned. The entire forest is apportioned to the different lineages that make up the clan. Within each lineage, landed property is bequeathed by parcelling it among male children. Discussions in Esukutan reveal that land ownership is largely dependent on marital status. Customarily, women are not allowed to own land, but could work on their husbands' lands. On the other hand, males of any age are allocated farm plots once they have a wife and are living on their own. Landed property bequeath is synonymous to capital bequeath because as one Esukutan elder noted, "*land is the biggest*

capital to give a son". Inheritance is in itself an insurance policy; it does not only guarantee the continuous survival of the farm but also ensures that future heirs would earn a livelihood. Also, the sons or brothers of the family head as well as from his mother's family can inherit land. Land ownership influences the decision of a family to accept the marriage proposal of a man to their daughter. In principle, women could open cocoa farms in the village forestland. Informants could not remember the last time any woman ever asked for a farm plot in Esukutan. Household interviews revealed that women who reported incomes from cash crops were widows who worked on their late husbands' lands. In all, land entitlements discriminate against women, which stand in between explanations why women do not own cash crops farms in either of the communities. Elders parcel land to their sons early enough because it serves as a contract under their social security system whereby children take care of their parents when the latter grow old and frail. Women may not own land but they are under obligation to care for their parents too. Every holder of land has a lifelong right; as a custodian of the land for future generations as the customs demand them not to be proprietors. So, land rights are generally controlled by the customs and the chief in consultation with the village council regulates land use by any stranger. 'Stranger' household in Esukutan provided 6 bottles of afofo, one goat and food to the authorities who finally granted them a piece of land to cultivate. They do not have the right to sell or lease that land but could carry out all forest linked livelihood activities.

Hunting with firearms in daylight or at night does not respect boundaries but a part of the virgin forest is for hunting. For Esukutan, the area of forest beyond a 10 km limit from the settlement is where large scale hunting and collection of NTFPs takes place (this area is coloured green on Map 5). It is access-free only to village members. This open access does not guarantee exhaustibility because Ekpwe laws are binding for extraction in the entire village forest. However, people from other communities are free to hunt in such an open access territory but not without formal permission from the village council to conduct more than a casual hunting or gathering expedition. Village leaders and community members do acknowledge that such acts took place up to the 80s but they no longer do it.

3.5.2 Land clearance: an authenticator of ownership rights

Land clearance is an important customary activity because it authenticates ownership rights. A piece of farmland is appropriated by clearance. Men go for a land survey by wandering around the thick forest cutting trails that would become tracts. They look for a place that has not got too many rocks, tight tree cover, and is not hilly. The reason is that rocks are not good for the roots of the crops; and that roots of trees as well as their shades did not provide good conditions for plant growth. Farming on the hillside needs much investment in time and energies to employ soil conservation techniques (Chapter 5). There are labour intensive since practices are manual and not mechanised. Farms are located some 500 meters away from big streams and rivers because they usually overflow their banks during periods of heavy rainfall. So, to avoid crops damage by floods villagers farm far away from streams and rivers. Also, informants disclose that encroachments are a potential source of conflict and so people generally farm close to the boundaries with neighbours. This guarantees automatic encroachments checks and reduces conflicts.

Table 5: Farm sizes as disclosed by households in both communities

Category	Number of households in each category	
	Ikondo Kondo I	Esukutan
Small (0.5-1.5 acres)	17	16
Medium (2-3.5 acres)	18	18
Large (4.0- above acres)	6	6

Generally farm sizes are small. For instance, the highest cocoa producer in Esukutan does not own more than three hectares of forest while the smallest cocoa producer in Ikondo Kondo I cleared only about one hectare of forest. The declared farmland holdings in 2006 are grouped in three categories of small, medium and large farmland cultivators as in Table 5. In 2006, Ikondo Kondo I households cleared a total of 96 hectares of forest, 15 hectares less than the official declaration after the relocation in 2000 (Korup Project, 1999:24). Esukutan households cleared a total of 85 hectares of farmland with an average of 1.98 hectares per household. In 1923, the average was between one acre (4046, 24 m^2; slightly less than a hectare), and one acre and a half (6069, 36 m^2; slightly above one hectare) per family (Carr, 1923:25). Our findings show that small farmland cultivator households in the communities are mainly young couples or unmarried women.

Quantitative data show that farm size is correlated to the gender of the household heads. Hence, in both communities, females head half of the smallholder households. Also, female-headed households cleared a maximum of 2 hectares. A cash incentive of 23000 FRS CFA was paid to relocated household that cleared up to 1 hectare motivated locals to clear bigger portions of land. In 2006, many households did no longer cultivate the entire volume of land that was cleared in 2000. It was also observed that female headed households in Ikondo Kondo I, clear land that is big enough for farming food crops.

3.6 Conclusion

The communities possess characteristics that are almost similar to those of the so called 'mythic community'; small population (less than 250 inhabitants) with an insignificantly low growth rate for Esukutan inside the park, while that of Ikondo Kondo I was about 3% in every two years. There is little in-migration especially in Esukutan and the ethnic homogeneity is characteristic features of communities that facilitate forest protection via socially crafted rules (Olson, 1965:2; Agrawal and Goyal, 1999:2). In fact to a large extent, people are bonded to each other through membership in self-help, savings and cultural groups whose rules guide behaviour at any point in time and social space. The low educational level and the absence of governmental agencies in the villages partly explain why locals do not understand national park laws. The prevailing ecological knowledge is based on daily experiences in the forest. Elders are the most privileged and enjoy a disproportionate share of the benefits of knowledge as power. The people farm, hunt, fish and collect non-timber forest products for survival. Social standings are ascribed and status crystallization is high, especially in Esukutan. There is inertia in that those born to wealthier parents or families that wield political power consistently remain on top of the village status hierarchies. Resource use decision making rests on the higher rungs pockets of knowledge sharing networks that are headed by elders; a strategic group (Evers and Gerke, 2009). Women are by customs excluded from village decision-making processes. So, it seems that these characteristics form the basis of effective local common action to transform conservation dilemmas as the integrated groups use locally evolved norms to regulate resource use in a sustainable but not necessarily an equitable manner.

Chapter 4: Household livelihoods activities and diversification

4. Introduction

This chapter is a thick description of households' livelihood activities because they are the epi-centre of the discourse on human settlements in the national park. The idea is to expose the meanings behind these activities and their symbolic import (context). Also, in a conservation hotspot, human livelihood activities could justify the claims of either the romantics or the utilitarians (Chapter 2). In this case study, conservation is mistaken for protection. There are many definitions of the concepts of "conservation" and "protection". The most convincing and recent distinction is made by Pearce et al., (2005:283) who argue that *conservation* instead of production describes the proper management of the forest for the sustained yield of forest products or services or their combination. To them, *protection* conjures up the image of leaving a forest totally alone when in practice some management of fire and invasive exotic species is still likely to be required to conserve forest structure and composition. Contemporary conservation entails sustainable resources extraction, use and management to ensure sustained yields of forest resources. Studies between 1923 and 2000 describe Korup forest people's livelihood activities as small in scale and with little potential to damage the forest; trees are not cut, the grass is cleared and burnt to make conditions better for regeneration and palm trees are planted around the village (Carr, 1923; Infield, 1988; Malleson, 2000). None of them expose how the social actors interpret their interactions with forest resources. In filling this gap, this chapter addresses the following questions: what are the livelihoods activities of the people? How are these seasonal activities carried out? How do locals interpret the impact of their activities on the forest?

4.1 Rural livelihoods: theoretical framework

In answering these questions, the analyses in this chapter focus on the aspect of Frank Ellis, (2000:10) "rural livelihoods framework" which is "activities". This is because the aim is not to explore the livelihood outcomes of the people but to understand how the processes occur and how locals interpret them. Both social and biological sciences documentations are explored since it is advised that livelihoods and diversity should be approached in an

interdisciplinary way (Ellis, 2000:3). The social sciences tend to sympathize with the poverty situation of locals (Carr, 1923; Malleson, 1993, 1999, 2000), while the biological sciences literature is fraught with theoretical assumptions and predictions about the population impact on resource abundance (Liu et *al*., 2003; McKee et *al*., 2003). Conventional thinking is that the exploitation of forests for outputs other than hardwood may have no disruptions to their ecosystems (Meyers, 1988:209). Studies that mention livelihood activities focus on incomes and do generalize that the way these activities are carried is sustainable (Carr, 1923:5-27; Korup Project, 1999:19-21; Malleson, 1999). But the reality is that households employ different methods of extraction for some activities. Hence, the categorization of rural households based on economic activities is useful (Ruiz-Perez et *al*., 2004) just like the documented multiple functions of NTFPs to households (Angelsen and Wunder, 2003:1; Arnold and Ruiz-Perez, 2005:134; Chopra, 1997; Khare et al., 2000; Shackleton et al., 2002:191; Paumgarten, 2005:191; Shackleton and Shackleton, 2004:658; Wilkie and Godoy, 1996:84). These functions not explain rural peoples' dependence on forest resources but also give a clue to the extraction behaviours of users.

4.2 Livelihood activities, diversity, seasonality, gender and typicality

Scholars have extensively and convincingly discussed rural livelihood activities (Ellis, 2000; Ellis and Freeman, 2005). These typical natural and non-natural resources based activities include; collection, cultivation of food and non-food crops, livestock, rural trade, rural manufacture, remittances, other services and transfers (Ellis, 2000:30). In the communities, 'rural manufacture and remittances' are insignificant. There are no blacksmiths, migrant household members are mostly school children and so money would go from the village to the city and not the other way round. Also, households do not mention an instance when their married daughters gave gifts of money to them; neither do households feel comfortable with the researcher's idea to state in monetary terms all the meaningful exchanges they make. More to this, the two households, which acknowledge such transfers, do not see the need to characterize bush meat in monetary terms. Hence, for this chapter, rural manufacture, remittances and other transfers are not discussed.

Some livelihood activities are gendered and households engage in more than one activity because of 'choice and necessity' caused by the rainy and dry seasons (Ellis, 2000:55). As the seasons change, households or individuals shift more to or from one activity to the other and hence, participate in a diverse portfolio of activities (*Ibid*:4). For instance, in the heart of the rainy season, nearly everyone goes to sleep in the forest to collect bush mango and harvest eru. During this period, hunting with guns is banned because of possible accidents. In an evening story-telling time, the chief of Esukutan village narrated how he almost killed himself in a hunting spree for porcupines in mid July when the rains were very heavy and places were slippery. He came across a slippery slope and fell down. A hanging branch hooked the trigger of his loaded gun and pulled it and the bullets came out. When he got up, gazed around and listened to hear if the stray bullets killed anyone. He immediately went home and recounted the story to family members and other villagers who also gave accounts of past experiences. Since then, people fear hunting during the rainy season when bush mango collection is at its peak. However, some hunters reported that during such periods, they hunt far away from farming areas of the forest.

Examples of activity shifts due to changing seasons are presented in two separate *seasonal calendars*, which picture what the people are doing during the different seasons. Locals spend much of their time in the "bush houses" or huts during the peak season for NTFPs collection (Malleson et *al*., 2008:8). Conversational interviews and field observations reveal that occupational shift from one activity to another reflects prevailing weather conditions. Tables 1 and 2 are typical seasonal calendar for men and women in Esukutan. Ikondo Kondo I villagers did not accept a request for constructing a seasonal calendar, besides they are no longer located or legally extract inside the national park. Seasonal calendars differ only slightly. While men start their farming year in October by clearing virgin forest (black bush), women start theirs in January by weeding previous farm plots. This observation seems to be true if one takes farm preparation as the beginning of the traditional year. If the departure point is based on the idea that such remote communities had once been hunter-gatherer societies, then it is hard to state which activity opens the year for them. However, the farming calendar gives an idea of what men and women consider to constitute and represent their year (Table 6&7).

Table 6: Seasonal Calendar: "Typical" Esukutan male

October – November	Land clearance and felling of smaller trees to plant cocoa, bananas, plantain suckers and cocoyam. Hunting with guns, traps, fishing with nets and hooks
January – February	Burning and wrecking slashed material, cutting Leanne to provide sun light necessary for plant growth. Intensive fishing with hooks, nets and baskets.
February - March	Clearing and weeding of grasslands to plant cassava, maize, egusi, groundnuts, yams, beans, cocoa and plantains. Pruning cocoa trees and weeding of grass for the last harvests of food crops other than cassava.
April	Work on cocoa farm; spraying of cocoa trees with gammalin to kill fungi and other pests, a chemical called co-seed is also used. Hunting and fishing.
May – July	Continuous spraying of cocoa trees since cocoa pods grow bigger. Chemicals do expire three weeks or one month after usages. Failure to do so will cause too much black pods. Harvesting starts in June and ends in August. Other species could be harvested until December. Limited hunting.
June- August	Picking of bush mango and processing. No hunting with guns but traps
September	Rounding up NTFPs collection, drying the cocoa beans as well as preparing children for school. Fishing with hooks.

Markets and resource abundance cause activity shift or participation in multiple activities. Conversational interviews with households' resource persons in both communities reveal that the past five years have witnessed low NTFP yields, and cash crops are once-in-a-year income earners. So, men and youths are now heavily engaged in the collection of bush mango and njangsanga that were formerly collected by women. Former full time hunters and fishers are increasingly shifting to open food and cash crops farms; otherwise less strenuous activities with an assured annual income. Most people explain that hunting is strenuous and less successful because animals are reducing in the forest. However, hunting with firearms is banned in September when the market for extracted wild seeds is good, so men collect wild seeds for the most part of the month. So, in a typical household, members engage in many different activities and or may pool their incomes.

Gender segmentation is observed in activities like hunting and virgin forest clearance; entirely carried out by men (Chapter 3). It is tempting to generalize like Fiona Flintan, (2003:3) that woman are main collectors of NTFPs but Table 1 shows that men also engage in bush mango collection especially during the peak season. These seasonal calendars do not include festivals, ceremonies and other cultural displays because the intension was to capture those activities that have a direct interaction with forest resources. Informants did not mention important meetings, groupings and emergency situations that happen to discuss forest related issues. But, some were observed and noted by the research team.

Table 7: Seasonal Calendar: "Typical" Esukutan female

January	Virgin forest slashing by men, women weed cultivated plots to harvest crops; select seeds for next planting; fishing with baskets (tadpoles, crabs, tilapia).
January – February	Second phase of weeding of cocoyam, cassava, yams, plantains and bananas farm plots. Also harvest for home consumption. Some fishing with baskets.
March	Planting of cocoyam, cassava, yams, plantains, banana, maize and beans. Harvesting cassava for gari production and sale.
February- March	Harvesting of cocoyam, cassava is harvest throughout the year. Soil tillage and planting of new seeds. Some fishing with baskets.
April- May	First phase of weeding grass and mulching; some fishing with baskets
June-December	Collection of NTFPs (wild seeds) and processing for sale to buy school and Christmas needs for children and the family.

Conversational interviews with village elders reveal that people do not specialize in any activity because there are a lot of uncertainties in their livelihood activities. The issue for them is to allocate their time according to the changing seasons. So, a fisher can farm, a hunter can trap. Hunters, fishers and so on do farming. Also, women help to clear cocoa farms, collect the harvested pods as well as in the processing of the beans.

Table 8: Segmental engagements in livelihoods activities

Livelihoods Activity		Boys < 15	Girls < 15	Men	Women
Farming	Food crops	Gari processing, slash and slash material burning	Soil tillage, seeding, drinking water	Locate and clear plot, plant suckers, nurse seedlings, prune, spray, harvest and process beans	Weed, mulch, harvest, gari processing, gather cocoa pods, removing and porting beans for sale or home
	Cash crops	Collect harvested pods, help in land clearance	Collect pods and port processed beans		
NTFPs Extraction	Animals	Set traps	-	Guns and traps	Check traps
	Plants	Collect bush mango, some harvest eru, all collect firewood	Harvest eru, njangsanga, ngongo leaves and bush mango	Bush mangoes others occasionally	Collect all sorts of wild fruits, seeds and harvest leaves
Fishing		Hooks	Baskets	Poisons, nets	Baskets
Petty Trade		-		Alcohol, cigarettes, kerosene, magi	
Porting and guiding		Sales items; cocoa beans, bush meat, processed wild seeds, and cargo			

But a high degree of specialisation and social differentiation exists in hunting and trapping which men exclusively do. However, not all males in a household carryout hunting as well as not all households that have males do engage in animal hunting. All households do Farming and fishing but the latter is not as intensive to qualify as a main occupation. Fishing is also seasonal. Petty trade is an activity that could start with the sale of one packet

of cigarettes to about five packets a week. Most of these activities have been studied and described as "typical" for rural communities (Ellis, 2000:16).

4.3 Livelihoods activities

4.3.1 Farming

Groups of two men and two women (above 30 years) in each research village were asked to discuss in detail how farming is carried out and to state what certain practices mean to them. The responses do not reveal much difference in method, practice and meaning. Interview partners usually start by differentiating between cash and food, crops farming. The initial phase of the farming activity; land surveillance and clearance is the same for both the food and cash crops farming types. Land clearance starts in late November until early March of each year because that is when the first rains fall. Clearing at this stage is still too rough. Like their grandparents, indigenes constitute themselves in to small rotating gendered work groups (*njangis* in Pidgin). For virgin forest clearance, the njangi or work group of the father as well as the son(s) take turns to slash and open up the area. They use cutlasses or machetes that are sharpened using a hand-filing device usually bought from neighbouring Nigeria. They clear all the grass, cut the shrubs, ropes and small trees in and around the piece of land to be cultivated. Slashed material is left to dry for a few weeks. The larger trees are left standing and usually provide shade for the farmers. When their leaves fall off, they rot and increase the organic content of the soils and thus, soil fertility. This also explains why tree cutting is selective. A rich man may outsource land clearance to menial jobbers and pay them in cash. Njangis or work groups are not hired in terms of cash but the owner of the farm has to provide food and drinks. This happens until each member takes his or her turn. There was a curiosity to find out if members respect the defined quantities of food and drinks to be provided. A common remark from all informants in both villages is that "*the food and drinks must almost match what the previous member provided*" but they do not remember the last time a member defaulted.

Burning of slashed material is next. It facilitates tilling and planting. Usually, members of the domestic group or a work group gather the slashed materials in heaps and burn them.

Wild fires is undesirable because it is labour intensive and so only small heaps of dried matter is made at a reasonable distance in the cleared space to create fire breaks. Dried logs around are lit and in some cases they retain fire to complete the process. Women and children do the second stage of burning since it involves thorough wrecking of the half burnt matter. Locals reveal that burning releases nutrients in the form of ash which if washed by rain leaches into the soil as natural fertilizers. They also explain that burning helps to reduce soil compaction, increases water percolation and aeration and this is good for plant roots. Our Ikondo Kondo I host disclosed another importance of burning. Holding black soil in her hand, she explained that burning increases its water retention capacity and is good for plant nutrition. These explanations capture the soil science concept of bulk density; the resultant of the weight of the unit volume of a soil and its pore spaces. The pore spaces regulate the water and aeration status of soils, plant root penetration and development. Burning stops with the heavy rains by the end of March and tilling starts.

4.3.1.1 Food crops farming

Additional food crops farming practices include: tilling, seed varieties' selection, planting, weeding, harvesting, storage and use. These inherited practices from past generations have undergone minor changes and households continue to farm on the lineage forest plots. Land tillage is done with metal hoes produced by blacksmiths. Seeds are sown immediately after tillage. Locals are aware that their soils are strongly compacted and so they till in order loosen them and make the soils suitable for plant growth. Some are aware that tilling can open the soil to agents of soil erosion like wind and running water. Tilling is haphazard and in a slovenly manner. Conversational group interviews with elderly villagers reveal that the main food crops grown in both villages are not different from those indicated in a 1923 report (Carr, 1923). They grow plantains, bananas, cocoyams, beans, maize, *caso*, *essaka*, *masua* and pepper and in smaller quantities of yams, mbu, sugar cane, cassava and okra (some are dialect names). The villagers grow fruits like coconuts, mangoes, plums, pears, pawpaw, guava, lemon and oranges on their farms.

Mixed or inter-cropping; a common farming practice is confirmed by households and was observed on farms around settlements. For instance, beans, maize and coco yams are inter-

cropped and left to grow simultaneously. Plantains and bananas are inter-cropped with cocoa plants. Groundnut, a leguminous plant, is intercropped with other crops while other leguminous plants are planted during the fallow period in a bid to enrich the soil. But, locals say when cassava is planted on a piece of land that formerly had ground nuts and beans, and then the latter grows well. This in scientific terms is explained by the symbiotic association between the atmospheric nitrogen fixing bacteria (nitrobacters) that harbour the root nodules. Esukutan villagers reported the practice of crop rotation and farm fallowing but Ikondo Kondo I people have not yet started practicing it because they were relocated just some six years back. None of the villages' households admitted using inorganic fertiliser. Their argument is that *"we do not have money to buy inorganic fertilizers and also food grown with it does not taste good"*. Instead rotten cocoa pods are used as organic fertilizers for plants. Food crops farms are on average, less than one hectare per household since cultivation is to meet households' needs and relative self-sufficiency. Garri, a product of cassava is the only food crop that has a good local and Nigerian market. Indigenes complained that ripe bananas are left to rot in the farms because of no buyer at home.

After planting in March, the next two months are devoted to intensive weeding and mulching. The weeds are removed with the hands while hoes are used to dig the soil and bury them around the crop. These activities are important to avoid; crops being invaded by weeds and heavy rains and strong winds that could cause soil erosion. *This gives the crop stability, the decayed material increases soil fertility and plant growth"*[39]. Parents teach their kids at a tender age (about 10), through demonstration and explanation. Women revealed that mulching is important for crops' stability and soil moisture. Weeding is selective as only the unwanted (grass and shrubs) are removed leaving the crop with vast growth opportunities. It is continuous because by the time locals finish weeding the entire farm, the corners that were weeded first would have been invaded by grass and so they go and start all over. Mostly members of the domestic group provide labour for weeding is as children reportedly accompany their mothers to the farm after school.

[39] Mrs. Awo, July 2006, Ikondo Kondo I, Interview transcription (trans. Pidgin to English)

Crops harvest starts immediately after the first phase of weeding, especially maize (takes between 3 and 4 months from the time of seeding for the kernels to ripen); beans (pods ripen in less than 80 days); and groundnuts (pods ripen in about 4 months from the date of seeding). Cassava is harvested year round that is why gari production is year round. Cocoyams are harvested during the second phase of weeding; between January and February. It is not possible to measure the quantity of most food crops harvested because it is not done on the same day. Cocoa harvests for 2006 range from 50kg to about 10000 kg (10 bags), for Esukutan households. Ikondo Kondo I was relocated when their farms were not yet ready and so till date their cocoa farms have not yet started producing cocoa beans. This village is relocated to an area that is about 25 km from Mundemba town, which has a farmers' cooperative union that buys and exports cocoa and coffee from small holders but Ikondo Kondo I people have nothing to sell. While Esukutan households with limited market opportunities have bigger cocoa farms, cash crop farming was not common when Ikondo Kondo people were still leaving inside the Korup National Park. *"This is why many people abandoned seedlings that were donated by government agencies during the time of resettlement"*[40]. However, things are getting better and Ikondo Kondo I people are slowly being transformed from a purely hunting and gathering lifestyle that characterize their histories inside the national park to agriculturalists. *"Since 2000, people have been adapting to an extent that if some are asked to go back to the old village they will refuse. There was hunger but now people are cultivating bigger farm plots to sell the surplus"*[41].

4.3.1.2 Cash crop farming

Cash crop farming involves palms and cocoa in small-scale plantations. The former is also consumed at the level of the household but the latter is entirely for export. Cash crops are planted in rows with some sort of uniform distance between each seedling. Locals reveal that palm trees originated from that forest and their fathers propagated their wildings. They cut down some overcrowded palm plants to ensure proper growth conditions for the desired germinating palm seedlings. Rodents eat the seeds of palms and also help to spread very few of them which end up germinating in different parts of the forest. This uneven

[40] Ikondo Kondo I village council secretary, July 2006: personal communication in Ikondo Kondo I village
[41] Government chief Awoh Simon of Ikondo Kondo I, 16 July, 2006: Formal interview, Mundemba town

distribution of palms in the forest and the need to produce large quantities of palm oil for home consumption force many households to nurse seedlings in small nurseries behind or besides their house (See Chapter 3). Meanwhile Esukutan households trace the source of cocoa seedlings to as far back as the German colonial rule, Ikondo Kondo I households say they got their seedlings from the government of Cameroon during the relocation process.

There are a series of activities related to cocoa farming, which are graded according to seasons and months of the year as disclosed by the highest cocoa producer in Esukutan in 2006. Cocoa farms are cleared between October and November, slashed material wreckage and burning takes place thereafter. Seedling transplant is around March because it is not too hot and not too wet. Planting is in rows and at a distance of about 4 meters between the seedlings. Manual slashing is done along the tree rows or around young plants to keep away weeds. Farmers do not use herbicides because they are too expensive. When matured leaves of cocoa plants fall off, they provide leaf mulch and together with the heavy shading of the complete canopy inhibit weed growth. So, weeding is occasional to remove woody weeds. Shading by other plants and trees also helps to reduce light penetration. Pruning to develop the preferred structure and limit tree height is done between February and March. To prevent high levels of yield loss, pests and disease control is given much attention. This involves the use of Gammalin 20, 80 or recently, Calisulfan 360 EC as the major insecticides to fight Black Pod (*phytophthora fungus*), and viruses like Swollen Shoot and Vascular Streak Dieback. These pests attack mostly during the rainy season and years of prolonged rainfall means too much investment in buying these chemicals. They are bought using savings from the previous years. A majority of households who lack capital enter in to a deal with suppliers of these chemicals. The cost is often too high but the return is in kind (cocoa beans equivalent to the cash value of the chemicals supplied). Cocoa plants need between 5 to 8 years to start producing cocoa beans that could be harvested and sold.

Harvesting could be all year round but the main harvest periods spans from July to September and is done by mostly males. They use hand cutlasses to cut pods from the tree instead of pulling as it can damage the flower cushion or tear the bark of the tree. The cocoa pods are left lying under the parent tree while children and sometimes women use

baskets to collect and pile the pods on a heap. A separate day is allocated for breaking open the pods to release the beans using cutlasses. Leaves from banana plants are cut and spread on the ground and the bags containing cocoa beans are put on then and wrapped and left to ferment. This takes about a week to complete. The fermented beans are then dried in the sun or using locally constructed ovens. After which dry beans are hand sorted to remove debris and defective beans. The sorted beans are put in bags and ready for marketing.

4.3.2 Extraction of non-timber forest products

Collection and harvesting of NTFPs is another livelihood activity. Here a distinction is made between plant and animal NTFP. Animal NTFPs related activities are discussed under hunting. Plant NTFP activities are linked to the intensive gathering of leaves, herbs, seeds and bark of trees for food, medicine, house construction and for sale. These activities are seasonal. Table 5 is list of extracted plant NTFPs in the communities (field notes).

Table 9: Most collected or harvested NTFPs

Common and Scientific name of Plant NTFP	Ikondo Kondo I	Esukutan
Bush Mango *(Irvingia gabonensis)*	yes	yes
Eru *(Gnetum spp.)*	no	yes
Njangsanga *(Ricinodendron heudelotti)*	yes	yes
Bush onion *(Afrostyrax lepidophyllus)*	yes	yes
Mushroom *(Agaricus bisporus)*	yes	yes
Rattan *(Rattan spp.)*	yes	yes
Bitter Kola *(Garcinia spp)*	yes	yes
Bush pepper *(Piper guineense)*	no	yes
Alligator pepper *(Afromomum melegueta)*	no	yes
Akpa	no	yes
Sleeping mats *(Pandanus candellabrum)*	yes	yes
Ngongo leaves	no	yes
Palm Nuts *(Eleaeis guineensis)*	yes	yes
Njabe *(Baillonella toxisperma)*	no	yes
Shell nuts *(Poga oleosa)*	no	yes

These wild plants are collected, picked or harvest from dense forest (locally called, *black bush*), secondary forest (*bush*) and on farm fallows (*farms*). NTFPs extraction is very intensive for some people during the seasons. In the following paragraphs, five important NTFPs; bush mango, eru, njangsanga, cola and alligator pepper are discussed.

Bush mango *(Irvingia gabonensis)* collection is very intensive during the heart of the rainy season (June to September). At such times, entire households leave the village and spend at least two weeks in the thick forest (black bush). They carry along un-cooked food, which they prepare in small thatched huts that are built with sticks and ropes for sleeping during the night. During the day, one of the eldest children (usually the girl) takes care of the young baby in that hut while the rest wander in the forest to collect bush mango seeds. At this time, hunting with guns is banned to avoid many casualties. Ripen bush mango seeds fall off from the parent trees during the heavy rains in July. Men, women and children collect the fruits and put them in a heap to ferment. After, the rotten juicy material is squeezed with the hands and the coated seeds are transferred to the hut for drying on smoke barns. Some of the seeds collected from secondary forest are taken home for drying. In times of high yields, excess seeds are stock to the walls of kitchens (picture 3a). After a while, stones are used to crack open the shells and to take off the kernels (Picture 3b), which are then dried. The dried kernels are ground into a paste and used for cooking. Bush mango is a lucrative business done with Nigerian buyers who come right into the villages.

Picture 3a & 3b: *Irvingia gabonensis* seeds on a wall (3a) and kernels ready for cooking (3b)

Eru or *Gnetum africanum* is another NTFP whose leaves are used as vegetable, medicine and are also sold. Conversational interviews with indigenes reveal the commercial, medicinal and food value of eru. Picking or cutting the leaves or the entire climbe harvests this plant. Eru leaves can be eaten raw or sliced in thin shreds and added to vegetable soups. Different households in Esukutan harvest the leaves on a daily basis. Women and youths reported that they mostly harvest Eru, on average twice a week and sold in the village whenever a buyer comes. In the past, foreigners used to pay a token fee to the

village council to gain harvest rights. Esukutan village elders said this practice had stopped since the 1980s. Females reportedly do large-scale eru harvesting for sale. Males harvest eru to eat if they find it on their way in the forest. It was disclosed in both Ikondo Kondo I and Esukutan villages that eru is harvested mostly by youth (teenagers) and primary school children above 10 years old. This was observed only once in Esukutan and it was not observed in Ikondo Kondo I during the field research. This however may be explained by the fact that June and July were official schools holiday months. Also, the secondary forest in the present location of Ikondo Kondo I does not have an abundance of eru. The only teacher in Esukutan primary school prevented children from harvesting eru during our visit. Parents criticized him and reported that he hunts at night but bars children from going to harvest eru to sell and buy some of their school needs. Locals do know that eru from the thick forest or 'black bush' has a different taste and a high medicinal content from eru harvested in a secondary forest. However, the price of a bundle of eru is not affected by the origin or place of collection.

Njangsanga (*Ricinodendron heudelotii*): Njangsanga is predominant in the tropical dense forests of Central and West Africa. It is a soup thickener and a regularly used cooking ingredient. The seeds are picked from the forest floor. Proper collection involves prior slashing to clear open the area for easy visibility of fruits on the ground. The fruits are gathered in heaps, usually close to the parent tree and left to rot (picture 3a). After about a month, the seeds will be separated from the fermented fruits and boiled. The boiling goes through the night in large aluminum pots and kernel extraction starts in the morning of the next day and only interrupted when it is time to eat. Locals explained that boiling is done at night because it is uninterrupted and many of the seeds will develop cracks through which small flattened metal tips could be used to force open the shells and release the kernels. The cream white kernels (picture 3b) are then spread on locally made baskets and placed on barns well above hot fires for dehydration (picture 3c). The dried njangsanga kernels could then be ground into a paste and used to cook soups. According to informants, kernel extraction requires a lot of patience and "women are patient to remove njangsanga shells all day long". Sometimes groups of women help each other in turns, similar to the description of group work for farming activities. Some males and youths were observed in Esukutan in

2006 helping their respective mothers during the extraction of njangsanga kernels. The pictures below show the main stages in the processing of njangsanga. The bark of njangsanga trees is medicinal and so locals use knives to debark the tree and this could hurt the cortex and phloem (tissues that help in food and water uptake) of the tree.

Picture 4a, b& c: Fruit rotting, kernel extraction and smoking of Njansanga, Esukutan

The domestication of *Ricinodendron heudelotii* has been going on in Cameroon for a few years now (Alene et al, 2005). Its regeneration is by seeds or propagation of its wildings, which works well only with genetically heterogeneous descendants (Alene et al, 2005). Studies are underway to facilitate an in-vitro vegetative propagation of njangsanga in Cameroon (Fotso et al, 2004). However, locals also nurture germinating seedling and do not cut or burn adult trees when clearing the farm plot. Some do cut large lianes (climbing tropical vines) in order to encourage the njangsanga trees in the forest to fruit.

Picture 5: A basin of bitter cola on exhibition at an agro-pastoral show in Cameroon, December 2006

Bitter cola (*Garcinia kola*): Bitter cola is a widespread wild forest product in tropical rain forests. It is sometimes domesticated on farms for home consumption and sale. The ripe fruits are collected from the floor of the farm, fallow or forest and left to rot. The seeds are

then separated from the fermented material by hand. Folks use it as; digestive agent, to clean the digestive tract; and it is chewed to stimulate saliva flows. Bitter cola is also a poison antidote. It is also believed to be an aphrodisiac, cure to abdominal disorders and has no side effects even when taken in excess doses (Adedeji et al, 2006). Bitter cola seeds are reservoirs of huge amounts of caffeine, theobromine, kolatin and glucose. Clinical tests carried out by Nigerian researchers reported the antimicrobial activity of dry powdered bitter cola seed. It reduces mortality of broiler chicks by increasing their dietary efficiencies and this activity is also possible for humans (Adedeji et al, 2006:191; 2006b:184). Bitter cola is used as snack to entertain strangers and there is a saying that "he, who brings cola, brings life". It has multiple cultural uses in cementing transactions. For instance, as a sign of a prospective smooth business, parties share and eat bitter cola. As a social artifact, bitter cola is eaten during important life events like births, celebrations, and conferring chieftaincy titles. Men eat it most, and a woman in Ikondo Kondo I always made reference to bitter cola as "my husband's cola nuts". In the relocated Ikondo Kondo I, a man in possession of bitter cola was observed to command a lot of power and respect amongst villagers. Hence, bitter cola plays a social recognition role. It is used in folk medicine to; heal cough, jaundice, high fever and other ailments. It is used; to welcome visitors, as a digestive agent and locals ate bitter cola when they suffer from stomach disorder or constipation. Improved varieties seedlings were provided by Korup Project to the relocated Ikondo Kondo I people to domesticate. Most recipients abandoned the germinated seedlings to wilt because they were still not sure if their new location would be permanent. Bitter cola it is not planted on a large scale but rodents do spread the fruits.

Alligator pepper (*Afromomum melegueta*) is a tropical forest plant that produces an edible fruit and an aromatic spice with a hot peppery taste. It is harvested by plucking the fruits with no damage to the parent plant. Village members do not expect that Alligator pepper is always sold to them. Refusal to offer it free of charge to others will earn one a bad image and consequently, isolation. At the time of field studies, informant acknowledged that so far no case has been reported. Alligator pepper is domesticated under conditions similar to those in its original habitat in the dense forest. Alligator pepper is used in ethno-medicine in the Korup area as a remedy for a variety of ailments. It is a store of gingerol, paradol,

shagaol, manganese, gum, tannin, starch, and a resin and also found to have antifungal and antimicrobial properties (Okigbo and Ogbonnaya, 2006:727-728).

Picture 6: Dried fruit of Afromomum melegueta

Table 10: Harvesting methods of plant NTFPs as observed in the field

Name of NTFPs	Method of collection/harvest	Part of plant collected/harvested
Njansanga *Ricinodendron heudelotii*	- Picking - Debarking	- Seeds - Bark
Bush Mango *Irvingia gabonensis*	- Picking - Debarking - Cutting leaves	- Roots - Seeds - Leaves - Stem
Eru *Gnetum Africanum*	- Picking - Cutting leaves - Cutting climber	- Leaves - Tisane of stem
Bitter kola *Garcinia kola*	- Picking - Debarking	- Seeds, - Juice, - Tree bark
Alligator pepper *Afromomum melegueta*	- Cutting - Picking	- Fruits - Grains

Table 6 summarizes the different methods of collecting or harvesting five major plant NTFPs in the communities. It is constructed from a review of responses to questions that required respondents to name a resource and state its extraction methods. While methods like *picking the seeds and fruits* from the forest floor and farm fallow do not destroy the entire plants, methods like *debarking and cutting of entire climbers* do have long terms side effects especially if they are done on a market scale. Locals do not accept that their extraction methods are destructive, elderly women complain that children do not extract NTFPs in the careful manner, as did their [older] generation. To them, children do not carefully cut the climbers of eru and lianes on other NTFPs like njangsanga and bush mango trees. However, this assertion could not be verified further since most women who

answered questions relating to NTFPs harvest mentioned that they always teach their children how to harvest particular forest plants.

4.3.3 Hunting

Animal NTFPs extraction activities are known as hunting. Hunting takes place throughout the year but declines in intensity during December to March, the peak farming season. The reason is partly because locals are known to shift from one portfolio to the next as seasons change. The idea to limit accidents is also a priority for most people in the communities. Hunting in the national park takes two forms: with guns, practised by 14 or 30% of the 47 households in Ikondo Kondo I and 24 or 51% of households in Esukutan. Most adult men in the villages possess or have easy access to a firearm. The second method of killing animals is traps; used by 36% of the households.

A detailed conversation interview with two hunters in Ikondo Kondo I in September 2006 reveal the history and evolution of hunting. Informants said that many years back, their great grandparents use to hunt in groups and later on share the booty. At first, a group of about 10 or 15 brave men would set wild fires at one corner of the forest and then encircle a part of the forest and start making noise to chase animals towards the fire. The animals would run until they get caught up in the fire, at which point the group hunters would hit them with sticks until the trapped animals die. However, hunting with fires caused so many human accidents (some hunters became hunted) and so a new technology was introduced. This involved the use of nets made of wild fibres collected from the forest. So instead of fire, the net is horizontally and firmly tied to trees across a cross section of the forest. Then the group hunters in a semi-circle would start beating drums and making noise. In this process, they move closer towards the direction of the net and so the frightened animals would run and get trapped. Some of the hunters would hurriedly untie both ends of the net and then cover the trapped animals so that when battery with sticks starts, their chances of escape would be slim. This method is the most efficient in terms of the fewer number of animal escapes. The trapped animals are battered to death. They would take the game home and the head of the group would share it based on ascribed status. Sharing of the game was a social process with power bases. Certain parts or whole animals were culturally assigned

to an individual base on his social standing in the community. So what households get from the shared game is a culturally defined quantity that is commensurate with the status of the head of that household. In some cases, a big ceremony is organized and most of the game would be cooked and shared amongst everybody in the village. The skulls, bulls and tusks of very large mammals used to be and currently supposed to be kept in the Ekpwe Halls.

Firearms such as the muzzle loading "Dane" guns were first introduced in the area around the 1870s and the introduction of the gun and gunpowder technology revolutionized the hunting process. It enabled smaller groups to hunt and thence individuals started going for hunting without being accompanied and if they take a companion, they instead preferred someone who would help with transporting the game. Since then, hunting with firearms has become a firmly established hunting culture. This change has been easily embraced due to the increasing household sizes and the people are becoming more concerned about the welfare of families and pay less attention to group activities, although they remained loyal to them. So the difficulty to rally a great number for group hunting using nets and another deadly incident that discourages hunting with nets. The informants mentioned a story related to an incident in which the hunting net trapped two Chimpanzees that almost overpowered the group hunters. Some members rushed to the village and brought spears and in the process of trying to kill the chimps, one hunter was pierced and he died later on.

4.3.3.1. Hunting with guns or firearms

Hunting with guns is carried out at night and in the daytime. Expert hunters (mostly from villages within the support zone of Korup National Park) use automatic rifles, double-barrel shotguns and factory-made shotguns. These experts hunt mostly large mammals like; elephants, buffalos, war tugs, chimpanzees etc. Locals commonly used riffles and the Dane gun. Local blacksmiths manufacture most of the shotguns. Bullets and firearms are smuggled from Nigeria. Night hunters use carbide headlamps and touch lights to hunt species like duikers (*Cephalophus spp.)*, genets (*Genetta spp.)* and the two-spotted palm civet (*Nandinia binotata)*. Once our village helpers in Ikondo Kondo I was observed cleaning the contents of a carbide headlamp in preparation for a one week hunting expedition in the National Park forest. He explained that he postponed his trip because we

offered him the opportunity as interpreter with a daily income. Hunting expeditions could last for two weeks (Ikondo Kondo I hunter reported) or three months (Esukutan hunter stayed in his forest hurt). In this case, the hunters sleep in small huts called *bush houses* in which they smoke and dehydrate the game and prepare their food while in the forest. Their relations go on pre-arranged dates to help transport the game to the nearest market.

When going to hunt, hunters are observed to leave without creating an alarm but when they return, the news spreads through gossips to buyers. The secrecy is tied to the illegal nature of this activity even though locals complain that no one has convinced them why they should not hunt. This communication channel was used to locate and interview one of the hunters. He had just come back from a three nights hunting spree inside the National Park with a family of 4 drills *(Mandrillus leucophaeus)*. Drills are endangered but he killed the parent and young animals because his former profession is now illegal:

> *"Hunting now is quite tiring. In fact one must count himself lucky to catch a bush baby; an animal we never had time for back in the old village because of its small size. You see, we are left with no option now but to maximize the slightest opportunity we have, by hunting down whatever animal that we can find without regard for size or protection status since we are not allowed to enter any forest to hunt. If we do not hunt animals, we would just die of hunger since there is no alternative for us. My brother and I are planning to buy a better gun that can kill larger mammals because we have spent a lot of money to hire hunters from neighbouring villages. We would save money by kill them ourselves"*[42].

Hunter households fearlessly list the types of animals they hunt, which include animals on the endangered species list of the area (Appendix 3). Here are some of the responses:

- *Fritambo (duikers), deer, monkeys, porcupine, war tug (bush pig), sleeping deer and drills* (Ikondo Kondo I hunter)
- *All types of animals except elephants and buffalos* (Ikondo Kondo I hunter)
- *Grass cutters and any other animals that get caught-up by my traps* (Esukutan trapper)
- *Monkeys, deers, porcupine, pangolin, water meat* (Esukutan hunter)
- *Fritambo, porcupine, deer, war tug or bush pig* (Esukutan hunter)

However, hunting with guns could be a very strenuous activity that has also got a lifespan. Some locals are of the opinion that hunting is very strenuous and at the "age of 40, a hunter

[42] Awoh Jonas, August 2006: Interview transcription, Ikondo Kondo I

is weak and looks like someone above 60. The lifespan of a hunter is shorter than that of farmer because the latter has produce that brings money for a longer period. That is why many hunters start reducing their hunting in preference for cash crop farming"[43]. To increase their chances of success hunters now use dogs to enable them hunt animal species that were not possible to kill with only a gun. One hunter in Ikondo Kondo I who owns two dogs revealed that dogs help a lot during hunting. Dogs go around sniffing and looking for traces of animals and once they spot one, these dogs start barking and wagging their tails. The hunter easily identifies and shoots the animal. Blue duikers are easily hunted with the use of dogs because of their drab colour, small size, and the limited eye shine in daylight.

4.3.3.2 Trapping with wire snares

Trapping is another method of killing wild animals. Traps are made of metal iron or wire snares and are mainly set during the wet season. Their positioning is usually along well defined and easily identified paths that animals must use due to the thick grass covers the forest floor. Households could have as few as 30 wire snares around their farmland (Ikondo Kondo I) or as many as 1500 wire snares (Esukutan household). Trapper households explain that wire snares are set around palm nuts, cassava, or ripen cocoa to entangle any predators. However, a trapping rotation could take between one and three days but, this also depends on the distance to their location in the forest and the numbers too. Trapping is limited to land entitlements (Chapter 3) and is used to protect farms. That means a household must obtain permission to trap in another's farmland. Many of such arrangements exist in Esukutan but there was no mention of it in Ikondo Kondo I.

4.3.4 Fishing in small streams and rivers

Fishing is another livelihoods activity, which is done mostly for home consumption and less for sale. Fishing is a dry season activity for both men and women with the least activity during the wet months of July, August, and September. Locals use several fishing methods: nets, baskets, hooks, poisoning and at times, they use their bare hands. Men more often use line, nylon nets of various designs, sleeping hooks and hooks, whereas women use basket

[43] Government chief of Ikondo Kondo I, July 16 2006, Mundemba town

traps. Further discussions with elders, household members and a fisherman in Esukutan reveal that poisons have been used to catch fish. They explain that in former times, their grandparents used fish poisons from biodegradable wild forest plants such as the fruits of *Blya supida, Massularia acuminata and Strychnos aculeate*. Locals do confirm that the poison from this forest plant did not have an effect on the human body and that smaller fishes were resistant to it. They explain how in the past, the entire village would be informed that a certain part of a named stream or river would be poisoned using toxins from macerated fruits of these wild vegetable. So, every household would postpone farming and prepare to make long walks through the meanders of the river to pick floating fish. However, recent cases were reported whereby some household members used Gammalin 20 or 80, an inorganic chemical pesticide meant for spraying cocoa to catch fish. Most villagers complain it obliterates the entire aquatic animal and plant life on application and when people eat poisoned fish caught, they suffer severe health problems.

Women blame men for using Gammalin 20 to completely render rivers devoid of fish. A nursing mother complained that those who fish with poisons have no regard for her likes that cannot find fish to eat. Many elderly people who used to catch tadpoles and the very tiny fishes because they are frail to cast heavy nets or swim across fast flowing rivers, also complained. Young children seem to have some knowledge of the negative effects of gammalin and did complain that other villages are still using gammalin to kill fish, which is not good for downstream villages. This non-degradable poison is detested because it kills fishes indiscriminately. Bans have also been placed on the local concoctions.

4.3.5 Petty Trade

Another livelihood activity is petty trade carried out by mostly female-headed households. There are no stores or shops where traded items are displayed, instead business owners kept these items in their sleeping rooms and would bring out just the quantity that a buyer demands. Everyone knows who has what item in stock. These business items are not stocked in large quantities because the entrepreneurs do not have enough capital to increase the size of their business. Even if one had the opportunity, the distance from or to a market is too far for porting. To avoid spending too much of the profits on porters, petty traders

buy just what they and any household member can port for free. This is also true for cases whereby the trader has got high enough capital to buy in bulk. The scale of trade differs with the village. Esukutan had many varies of traded items than Ikondo Kondo I that is some 25 km away from shops in Mundemba town. Petty trading households retailed items like; slippers made of plastic, loin clothes, drinks (locally brewed whisky called *afofo* and low quality imported red wine and whisky called *Don Simon* and *gold bond*, respectively), kerosene, eggs, fowls, magi cubes, salt, cigarettes, tobacco and batteries for torch lights. Ikondo Kondo I traders traded in items like *afofo* and cigarettes, kerosene and bullets.

4.3.6 Domestication of animals

Domestication of animals is another activity. There are no fences, cages or huts to contain these animals and no periodic feeding or tethering was observed. Animals stray the entire village. However, households use pieces of clothe and other ropes to differentiate between their animals. Again the type of animals and the scale of domestication differ with the household and village. The domesticated animals include: fowls, goats, dogs, pigs and sheep (Table 7). Not all households have domestic animals. For instance, 10 and 25 households in Ikondo Kondo I and Esukutan, respectively, domesticate fowls. 7 and one, respectively domesticate goats in Ikondo Kondo I and Esukutan. The reason could be that goats do well in secondary or tertiary forest that has more grass like it is the case with Ikondo Kondo I. In the same vein, 9 households domesticate pigs in Ikondo Kondo I, but no pigs are found in Esukutan village. No sheep is found in Ikondo Kondo I but one household in Esukutan domesticate it. Table 7 presents details of these domestic animals.

Table 11: Domesticated animals

Animal Type	Fowls	Dogs	Goats	Pigs	Sheep
Ikondo Kondo I	58	3	16	18	-
Esukutan	505	5	5	-	14

Households reveal that they do it for household consumption but would love to sell them, decrying that even if one rears large numbers of these animals, buyers would still go in for bush meat than for a goat. However, many households use fowls to pay for medical bills owed indigenous healers and soothsayers. A reported case was one of the two stranger

households in Esukutan whose head is known as the village's "medical doctor". He buys manufactured drugs from Nigeria and administers them to the sick in Esukutan. People pay him in cash and in kind. Some clients pay the cash value of what he charges but as a sign of gratitude, they would give him a hen or a cock. For other cases, those who were not in possession of cash would offer domesticated animals to him. He eats some and the others stray his compound. This is how owns the highest number of fowls in the village.

Domestic animals are for home consumption, to sell if possible, and for ritual purposes. A woman is said to have visited a healer in another village when sick. The healer asked her to offer a white cock and a black hen before the necessary healing rituals would be performed. The woman searched in the village of that healer but could not find exactly what was demanded. When she came back to Esukutan, she found the requested colours and types of chicken, which she bought and took back to the healer. The healing process then commenced and she became well. This is just one example to explain that domesticated animals could be sold but this depends on the urgency of their need. Another reason why domesticated animals are not sold in the area goes beyond the income poverty argument. The availability of freely hunted bush meat in the forest still impinges on any attempts to create the demand for domesticated animals. Also, domestication is rapidly increasing in scale and scope because most former hunters see it is the next sustainable protein option.

4.3.7 Porting, guiding and other menial jobs

People in Korup forest villages also offer their services regularly and get paid. Some of them especially males are well known for rendering particular services such that any request is directed to them. They do odd jobs like porting for cocoa producers, guiding researchers who visit their villages, assist to teach in the primary schools or to clear farms for other households. For many of the people, these jobs provide a good chunk of the incomes they need to be able to acquire other basic necessities. However, expert hunters as well as some who had recently gotten help from such activities accept these sources of income as preferable since they invest only physical power. Not all farm works is paid in cash. Some people do assist others on their farms and get food as pay. The extent to which such activity constitutes a livelihood activity was not investigated partly because it was not

widespread. Kin groups and social help networks work for each member on rotation basis and so paid outsourcing of work is not common.

This plurality of portfolios raises questions on the issue of "main occupation". At the onset, we considered main occupation as the activity that provides the most income and which an individual invests much time in. Fieldwork in the Korup and responses to the question "what is your main occupation" reveal no fine boundaries that define an activity as a main occupation. For instance, village elders gave the following answers: "*we do all sorts of things to survive*" (Meka spokesperson), "*we are farmers, we are not government workers*" (blind man; Ikondo Kondo I), "*our people hunt, cultivate food and cash crops, collective plant NTFPs and port*" (Esukutan chief). The latter remarks that if you focus on one activity, nobody would provide you with the other basic needs. The amount of money an individual makes from engaging in one activity is not enough to meet other needs. Since cash crops are a once-in-a-year income earner, people sell NTFPs to be able to acquire farming inputs. NTFPs also provide capital true for petty traders in both communities.

4.4 Marketing the extracted forest products

Extracted NTFPs and cultivated are sold locally. For instance, Eru leaves are tied in small bundles and sold to buyers inside the village. These commodities are either sold in the village or transported as head loads to the nearest village that has a market. Processed wild seeds are sold in cups of about 200grams or bags that could contain 5kg, 10kg or 25kg. Measurement problems stifled quantification of each NTFP harvested per year. Households could not measure the quantity of NTFPs they sold based on cash value because sales were not a onetime affair. Sale of processed NTFPs is based on; urgency of need of money and availability of buyers. Price does not vary with place of sale because buyers have been forced to buy at the market price in the villages but to also deduct the cost of porting. This makes selling in the village or in a nearest market a near insignificant issue in terms of price differences. Fresh bush meat is sold to Nigerian buyers in the village, while dried or smoked hunters or their relations take meat to the nearby markets. The price of the meat depends on demand and taste. Most animals on the endangered species list (appendix 3) are

in high demand and are also high priced. Cocoa beans are sold in bags of about 100kgs. Gari, a product of cassava is also sold in basins, cups or buckets. This makes it extremely hard to quantify the total amount of garri sold.

4.5 Household incomes and livelihoods activities

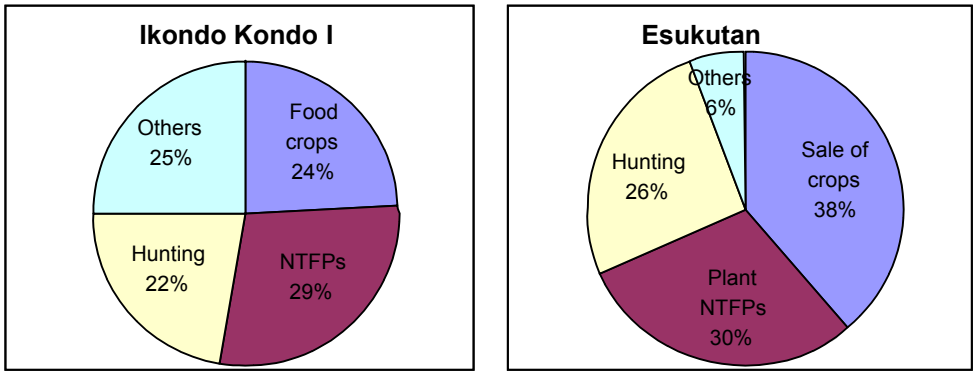
4.5.1. Composition of household incomes

The composition of incomes differs with households[44]. Different members calculate the total income from each activity as the resultant aggregates from that activity as reported to and or handed to the head of the household. However, only products that were sold are considered in these calculations. Items consumed by households are not included in the calculations because households do not record the quantities consumed. Total incomes from each activity are plotted on pie charts (Fig. 8). For Ikondo Kondo I, the collection, harvesting, processing and sales of wild fruits, seeds and leaves (NTFPs) contributes 29% to the total incomes of all the households. Three NTFPs species generate about 87% of the total incomes from NTFPs: bush mango (57.3%), njangsanga (16.5%) and eru (11.7%). The situation is different for individual villages. For Esukutan households, Bush mango, Eru and Njangsanga contribute 47.7%; 14.8% and 20%, respectively (or 82.5% of the entire incomes from plant NTFP extraction). For Ikondo Kondo I the three NTFPs contribute 94.1%; 0% and 3.1% respectively (or 97.2% of incomes from the sale of extracted plant NTFPs). Income from petty trade and salaries of research assistants and the primary school teacher, money earned from odd jobs, porting for traders and so on amount to 25%. Farming (sale of garri) contributes 24% while hunting contributes 22% of the declared total households' incomes (Figure 8).

The situation is slightly different for Esukutan, whereby food and cash crops farming (mostly cocoa beans and cassava) make up 38% of households' incomes. NTFPs contribute 30% to the total incomes. Petty trade and salaries of research assistants and the primary school teacher and helper, money earned from odd jobs, porting for traders and so on amount to 6%. Farming (garri) contributes 24% while hunting contributes 26%.

[44] The estimated household incomes are shown on Tables 3 and 4 on Appendix 1 and 2.

Figure 8: Composition of income; Esukutan and Ikondo Kondo I



To better understand households' dependence on wild forest products from these charts, two explanatory categories are created; a) income from wild forest products including; hunting, trapping, fishing, collecting and harvesting of NTFPs are conceived as *wild forest products income sources*. And b) non-wild forest products incomes, including; food and cash crops farming, petty trade, manual labour, guiding, research assistance, salaries etc are conceived as *non-wild forest products income sources.* However, given that cash crops in Ikondo Kondo I had not yet started producing at the time of data collection, one would expect these villagers to continue hunting and gathering inside the Korup National Park. It is found that Ikondo Kondo I households depend more on resources inside the Korup National Park for up to 51% of their incomes. This challenges the intention of relocation that was meant to transform local from being wild resources collectors and gatherers into agricultural producers. Also, the idea of eliminating the extraction pressures from Ikondo Kondo I people on the conserved resources inside the Korup National Park is challenged.

In Esukutan, non-wild resources income contributes less than half (42%) of the total income of households in 2006. However, hunting and gathering activities still make up more than half of the total households incomes (56%) in the same year. This means forest dependence, as a function of household income is high for Esukutan and would make it hard for people to abandon such activities and to resist any form of external protection. It is premature to conclude for Ikondo Kondo I at the moment, for the simple reason that the village was relocated in 2000 when farms were not yet ready. The relocated people are gradually adapting to the realities of their new site and one cannot forecast what the future holds for them. However, based on the perceptions of household heads, petty business is

highest in their economic priorities. "*I would increase the production of garri and palm oil so that I can sell and get much income to educate my children*", "*I want to do petty trade if I find money*", "*If the government opens a market in this village, we shall all be rich people*" were utterances from household heads in Ikondo Kondo I. These aspirations were reported in 1999 when they were still moving to their current site (Korup Project, 1999:4).

Salaries of teachers and per diems of villagers who assisted in surveys provide very high incomes for those households concerned. In any case, petty trade does not provide income that is higher than any other. That is, if one household sells NTFPs, cocoa, gari and also trade in manufactured goods, the income from the other sources were far higher than income from trade. Also, women traders explain that family relatives do not buy and pay cash. As family members, they could come and take items like kerosene, magi cubes and salt on credit, so business does not flourish in these villages. As observed, one would be considered 'wicked' for refusing to sell on credit and some traders explained how their in-laws no longer buy from them because an earlier attempt to buy on credit was rejected. Selling on credit and limited capital make petty trade a risky activity. As a supplement, traders own farms and collect NTFPs. This trader's dilemma justifies the diversification of portfolios. Income from fishing is declared by only one household and as a result, it is included in the category of "others" in Esukutan village where a lone commercial fishing household exists. This single member household engages heavily on fishing and sells almost the entire catch. Generally, fishing is on a small scale and entirely for consumption.

4.5.2 Households and economic inequalities

Across the village, household incomes are observed to vary with the gender of the head of the household (Appendix 2a&b). The abbreviations 'M' and 'F' represent the gender of the household head. Letter M, represents the male-headed household, while F stands for female-headed household. The graphs show that the incomes of male-headed households fall on the very high points (peaks) on each of the graphs. Incomes reported by female headed households generally fall on the troughs. Zero incomes (points directly on the X-axis) are those of households that were absent during the period of data collection. Overall, male-headed households earn higher than female headed households. Trend lines are used

(yellow and red coloured lines on figures 1 and 2, respectively) to show the general trends based on the gender of the head of households; above and below these lines. All households on or above the trend lines are medium and high-income households. While female-headed households generally fall below the trend lines, 2 in Esukutan and 3 in Ikondo Kondo I are medium income households. This leads to the conclusion that there is an income inequality based on the gender of head of household.

Household composition also explains this inequality. Male-headed households have many members who do not only engage in most of the six mentioned livelihoods activities but also contribute differentially to the overall income. Generally, males head all the households that engage in many livelihood activities. In most female-headed households, only the mother works and earns the income for the entire household because the dependents are too old (in cases where a grandfather or mother lives in that household). Also, these households have a high young age dependency ratio of 4:1. Another explanation is that females do not carry out most of the very high income earning activities like hunting and cash crops farming. So, the lack of matured males in female-headed households limits their range of livelihood activities as well as total incomes. The peculiar case of Esukutan village is that female-headed households have low incomes because most do not own cocoa farms, probably because of discriminatory land tenure systems. Hence, dependency and tenure systems also account for the prevailing income inequality.

There is an income gap between and within household types. With respect to Ikondo Kondo I, there is a female-female headed household income gap that ranges from highest (390,000 frs CFA) to the lowest (25,600 frs CFA). The range (highest minus lowest) is 365000 frs CFA. This gap is almost three times wider between male-headed households. The highest earns 884000 frs CFA and lowest earns 15000 frs CFA, giving a range of 879000frs CFA. When male and female-headed households are compared, the picture is worse. The income of the highest male-headed household is 78% of the total earnings of all female-headed households. So the highest income earner (male headed household) has about 35 times what the lowest female-headed household earns or the latter has about 3% of the total income of the former. Likewise the income of the highest female-headed

household is about 11 times higher than that of the male-headed household with the lowest income. About 75% of Ikondo Kondo I households earn below the average income of 145981 frs CFA. Only one female-headed household earn above this average.

The average household income for Esukutan is 392,417 frs CFA, and only two female headed households earn above this average. More than 90% of male-headed households did report incomes above this average. The household with the highest income earned 1,507,500 frs CFA and lowest earned 174,000 frs CFA, giving a range of 1,490,100frs CFA. Female-headed household with the highest income in Esukutan earned 33% of what the highest male-headed household earned. This household earned about 3 times higher than the lowest male-headed household earned in the same year. The total income of all female headed households in Esukutan village in 2006 was 1,920,000 frs CFA just slightly more than (1.3 times or 79%) what the highest income earning male headed household head did report for the same year (1,507,500 frs CFA).

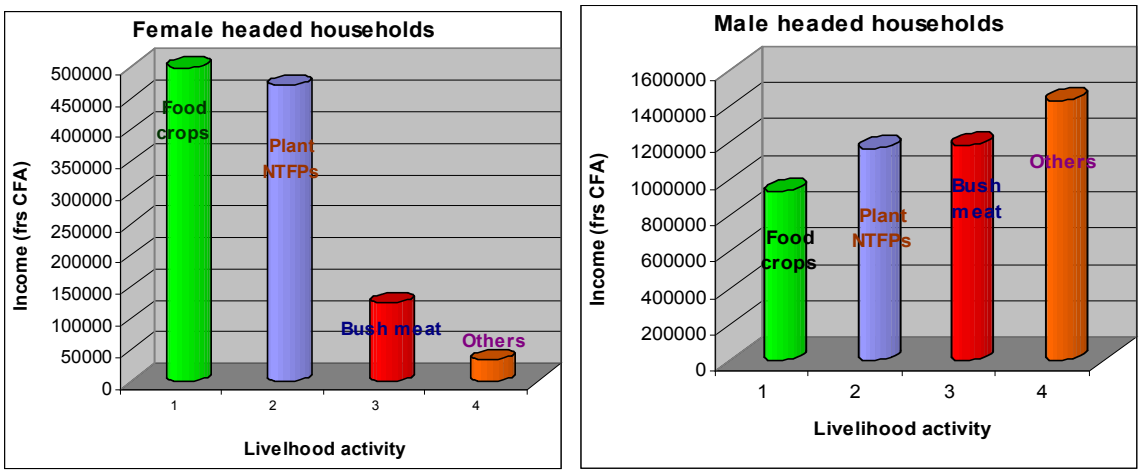
4.5.3 Tenure rights and income inequality

Discriminatory land tenure rights partly accounts for income inequality, especially in Esukutan. It is doubtful for Ikondo Kondo I because land allocation granted equal rights to everyone but land use practices saw female landowners growing food crops while males are investing in both food and cash crops. Ikondo Kondo I female headed households are benefiting from the gari processing unit that was donated them by WWF-CPO that earns them the lion's share of their incomes. This is followed by a heavy reliance on collecting, picking and harvesting plant NTFPs. Income from bush meat is significantly low because the few boys who engage in trapping do not catch the types of large mammals that could sell at higher prices. They trap moles, rodents, squirrels, duikers and snakes that are mostly eaten and of course; hunting is the third highest income contributor. Incomes from "other" activities like sales of cigarettes, tobacco (snuff), weaved fishing baskets, etc contribute the least even at the level of individual households. The situation is different for male-headed households (Figure 9). Forest related services like porting, guiding, research assistance, salary of primary school teacher and petty trade of 3 male-headed households paint a general village wide picture of this source ranking first in households' income

contributions. Bush meat and plant NTFPs contribute almost the same amounts, and so rank second and third, respectively. Food crops (gari) sale is impressively high and is the highest contributor for some individual households (those with larger cocoa farms.

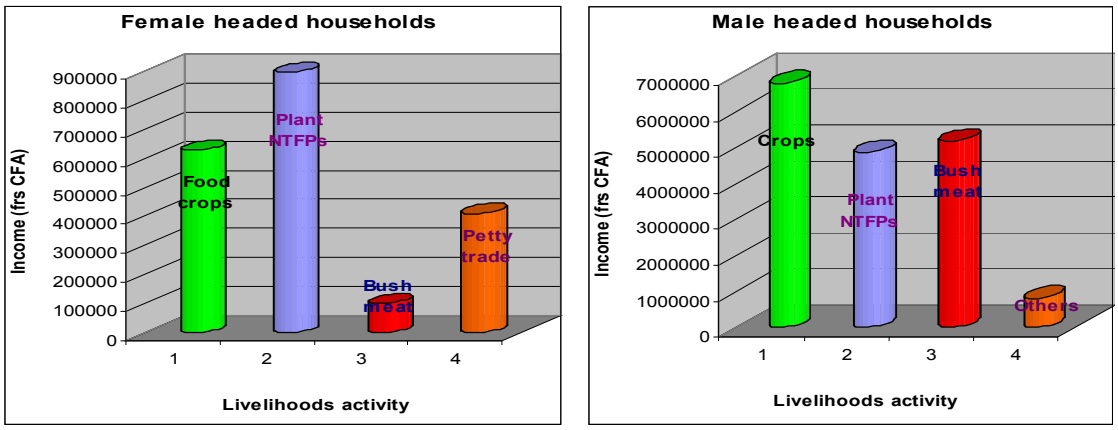
Generally, the rate at which male-headed households rely on wild forest resources for incomes is about four times that of female-headed households. As discussed above, the literature considers these intensive plant and animal NTFPs extractive activities to be counterproductive to the structure and composition of forest (Oates, 1999; Peters, 1996). The claim in the literature is that animals contribute to forest structure and composition by playing a seeds and fruits dispersal function (See Chapter 2). Also, animals are eating these seeds, fruits and leaves as food. However, both male and female-headed households rely on the different wild species available in their forest for a sizeable chunk of their annual incomes (See Figure 8).

Figure 9: Income composition of male and female-headed households, Ikondo Kondo I



In Esukutan, the degree to which households' incomes depend on out-of-the-forest activities differ significantly with the situation in Ikondo Kondo I, no matter the gender of the household head. Figure 9 shows that plant NTFPs contribute the highest share to the entire incomes of female-headed households. This amount doubles that for male headed households from the same activity (See lengths of sky-blue bars on figure 10).

Figure 10: Income composition of male and female-headed households, Esukutan



Crops' farming is the second highest contributor. Petty trade, ranks third, while income from trapping is last. Figure 10 shows that male-headed households depend more on crops' farming for the greatest share of their incomes, followed by bush meat. Plant NTFPs ranked third, while the income "others" contribute the least. It would be tempting to look at the length of the bars and conclude that female-headed households in Esukutan rely more on wild forest resources. The scales of the graphs are different and so total incomes are a better measure to use because everyone sells at the same price and they extract from the same forest area. Based on total incomes, wild forest products dependence is five times higher for male-headed households than for female-headed households. Using dependence on wild forest resources as the standard, Korup households were categorized as follows:

Subsistence strategy households depend heavily on wild resources and mostly report two significant income activities (gari production and plant NTFPs). There are 14 and 23 in Esukutan and Ikondo Kondo I, respectively. 11 households headed by women in Ikondo Kondo I have only one source of income. If we exclude income from cash crops farming, then the picture is different for Esukutan village, as male-headed households would fall under the subsistence strategy category. Third, if we separate plant from animal NTFPs, then some male-headed households in both communities would fit into the category.

Diversified-strategy households are those for whom NTFPs provide additional income. The bulk of their income is from agriculture or from off-farm sources and they report very high incomes from 3 or more livelihood activities. There are 25 and 11 in Esukutan and Ikondo

Kondo I, respectively. Generally, male-headed households and Esukutan households are diversified strategies households. The larger chunk of their incomes comes from farming and petty trade while wild forest resources provide additional incomes.

Specialized-strategy households are those with higher incomes like the primary school teacher of Ikondo Kondo I who is a government employee. His wife does not report any sales of collected wild forest resources. Two hunters in Ikondo Kondo I that had assisted researchers from Britain and the United States of America did earn the bigger part of their 2006 incomes within 6 months. If they had continued working and earning that much they would qualify as specialized strategies households. An Esukutan female-headed household falls in this category as it makes about 97% of its total household income from petty trade.

Although the above distinction makes academic sense, it also has some practical realities. Mainstream conservationists blame subsistence strategy households for heavily degrading the forest for the market. But specialized strategies households indirectly force these households to deplete the forest. Rich households usually buy bush meat from hunters. Five household heads in Ikondo Kondo I and two in Esukutan were observed providing bullets to hunters who in return gave them hunted game. One of these hunters is a former village council chairperson who requested an advanced pay from our research team so that he could buy bullets. So, consumers and extractors have to be blamed for any mal behaviours.

4.5.4 Household incomes and the differentiated livelihood situation

The analyses above link livelihood diversification and high income. Participatory wealth ranking is used to establish a socially differentiated picture of the livelihood situation (Malleson et al, 2008:9). By letting household heads rank the richest households in each village and explain the reasons for the ranks, we unfold the qualitative measures about well-being that exist in the villages. This outcome is compared with the quantitative data to find out if others also recognize the household, which reported the highest income, as the wealthiest in that village. This wealth ranking reveals households' awareness on the link between income strategies and wealth. For Esukutan, other households as the wealthiest rank one female-headed household and four male-headed households. Their reasons reveal

a material bases (wealth) and not income (short term) for riches. But the quantitative data reveal that a male-headed household is the richest. 29% of households rank the female headed household as the richest because it; has many children attending secondary school; owns a zinc roofed house and a large farm. 26% rank the indigenous chief as the richest citing his ownership of a large cocoa farm, zinc roofed house and educating two children in secondary school. Three households rank HH7 as the richest for the same reasons plus that he owns a TV set and a generator. Five households rank HH9 as the richest because of all these reasons plus the fact that he owns plastic chairs. Three others (HH1, HH23, and HH24) are ranked richest by one household each for their great hunting skills and sponsorship of children from sales of bush meat. So, wealthiest households in Esukutan; invests in the education of children (rankers saw as a secured path to riches); has skill and ownership of landed property like a zinc roofed house or an imported set of plastic chairs.

For Ikondo Kondo I ownership of a house does not mean riches probably because everybody owns a free house donated at the time of relocation in 2000. 23 households rank HH36 as the richest. This retired tailor ranks highest because unlike others, he planted all the palm, banana, plantain and biter cola seedlings that Korup Project freely donated. It is the only household that supply palm oil to the village. It also produces and sells garri. One household each to be the richest because they are "hardworking and own large cassava, bananas, and plantain farms" ranks HH4, HH8, HH38 and HH43. HH21 ranks richest by three households because he rears animals, ports for researchers, owns large cocoa and palm farm and sells afofo in the village. The government chief of Ikondo Kondo I, who resides permanently in Mundemba, is ranked by four other households as the richest because he logs around the village and earns a monthly salary as a game guard. One household ranks HH6 the richest because he has not stopped hunting after 4 arrests by game guards and has great hunting skills. In all, wealth ranking in Ikondo Kondo I only reflects investments on farms and on children's education. Hunting skills are also seen as wealth as hunters are sure of killing an animal every hunting expedition.

In discussing the economic prospects for their households, locals often say out-of-wild forest resources investments have the best prospects for riches. The general trend in

Esukutan is assets based. Those living in thatched houses said they want to increase cocoa production so as to earn more money, build a zinc-roofed house and educate their children. Households that own a zinc-roofed house declared their intentions to increase both cash and food crops production so as to earn more money to buy plastic chairs, educate children in secondary and high school and to live a 'better' life. Ikondo Kondo I households were not asked this question, which is considered too sensitive for the people who now 'feel abandoned after relocation'.

Although locals would invest more on off-wild income activities, their reliance on NTFPs will continue due to on the multiple functions including: the safety (emergency and daily) nets, and gap filling. NTFPs are very vital for the livelihoods of Korup forest people as a guarantee of livelihoods security. This security or safety net function is observable in the daily lives of households. Households use them on a daily basis as food, medicine or for wading witchcraft (see alligator pepper). As observed in the communities, every household ate more than one type of NTFP a day. *"Don't you see what is in my pot", "we would die without NTFPs"* are some of the recurrent responses when households are asked when they last used an NTFP. For some, just eating foods with wild forest plants ensure good health. *"I am almost 40 but I have never been hospitalized for malaria, typhoid fever and other illnesses because of my continuous eating of wild medicinal plants. Without these wild plants that are harvested for free in the park, many people in my village would have died*[45]*"*. NTFPs are reported to play an emergency safety net function; either when households use them directly as medicine when a member falls sick or when processed wild forest products are sold during times of emergency. Hunting of animals to sell and pay hospital bills was noted. The emphasis is on the timing of the action (when facing a shock). There are no hospitals in the communities, and so in times of sickness, the first aid or remedy is often herbs, seeds or barks of wild plants (Chapter 3). Many households can be observed stockpiling bags of njangsanga and or bush mango that could be sold and the money used to handle an emergency.

[45] The government chief of Ikondo Kondo I explained in an interview in Mundemba Town, July 2006

Esukutan women keep bags of njangsanga on barns in order to sell them in times of crisis. They have no regular income but according to them problems are regular and so to prepare for the rainy days, household do not sell all the collected NTFPs at once. The bags of njangsanga are reserved so that if a household member falls sick and could not be treated by using folk medicine, they would immediately sell the njangsanga and use the money to rush the patient to the hospital. They are aware of their resilience and shock readiness capacities and so those who *"cannot prepare for bad days by stocking collected saleable forest products then your entire household will perish if your emergency requires serious medical attention"*[46]. A story is narrated of a man who died due to lack of money to go to the hospital. He had sold all what he collected in the previous years and spent the money not knowing that NTFPs yields would reduce drastically the coming year. This emergency safety net function also reveals how households adopt the 'fastening of the belt' approach in anticipation of a readiness to face a possible shock in the near future.

Another example of this safety net function of NTFPs is that of the indigenous chief of Ikondo Kondo I whom we visited on his sick bed and he was going to sell the bush mango seeds on his barn so that he could receive medical attention at the Mundemba health center.

In Esukutan, a former village council chairman asked for an advance pay so that he could purchase bullets to be used latter for hunting inside the national park. On November 03, 2006 when our research team arrived at the road terminus in Bakut, he opted to port the three heavy bags alone. His reason is that he needed money to foot the bills of his sick wife at a healer's compound in Nigeria. He insisted to be paid before doing the job so that he can buy bullets for hunting. This idea does not to fit into the theory that environmental services like porting provide alternative income and reduce dependence on wild resources.

Households also mention how animal and plant NTFPs play gap filling and cost saving functions. Farming and petty trade providing the bulk while NTFPs provide additional income to fill the gap between what is realised and what is spent. Households rely on medicinal herbs for treatment than spending money to get healthcare from the nearest

[46] Translated interview with Ana Obini, Esukutan Village, November 2006.

health post. NTFPs are used as food on a daily basis, which is integral to direct household provisioning. The limited access to cash incomes in both communities makes the direct cost saving function of wild forest products an important livelihood security aspect. Conversational interviews reveal that the collection and use of NTFPs help to meet daily household needs for food, house construction, medicine and investments in the education of children; buying farm inputs like cutlasses, hoes, and pesticides. They also provide capital for petty traders. All petty trading households revealed that their source of capital was from sale of NTFPs, especially bush mango, njangsanga and bush meat.

A revealing cost saving example is repeated in almost all the thatched houses in Esukutan village. They compare the price of a bundle of zinc sheets as a measure of how much money their household has been saving by merely using freely harvested thatches from the forest to roof their houses. This confirms the idea that cost saving are better reflected by replacement values of the goods that the NTFPs substitute, rather than direct-use value based on farm-gate prices (Shackleton and Shackleton, 2004:660). Owners of zinc roofed houses also declare cost savings by roofing their kitchens with thatches. So, the relative magnitude of this cost saving example is glaring for owners of thatched houses (who consider themselves poorer households) than for owners of zinc roofed houses (who are viewed as wealthier by poorer households). If Korup forest peoples have to pay for extracted NTFPs, then the cost would be "*too high for them to bear*"[47]. These functions shows that local dependence NTFPs is engrained in the coping strategies of the people for centuries now which make abandoning it a difficult choice.

Qualitative interviews reveal that markets than drive extraction by home consumption. Households' resource persons estimate that more of the extracted resources is sold than is consumed by households. Yet many live on a daily subsistence basis and could rarely provide a 'sustainable' livelihood or a way out of poverty. 29 households in Esukutan and 24 in Ikondo Kondo I whose primary source of income and main livelihood option is NTFPs continue to be poor, have limited assets (no plastic chairs, no zinc roofed house) and unable to meet their aspirations (educate children beyond primary school).

[47] Ikondo Kondo I government chief: Mundemba, June, 2006

4.6 Conclusion

The economic activities of these forest communities are typical of rural livelihoods; cash and food crops farming, hunting, fishing, petty trade, collection of plant NTFPs, and domestication of animals, porting, guiding and other menial jobs. Most are seasonal and gendered. Extraction methods like; picking, cutting and small scale debarking, are careful. Parent trees are not destructively felled. The multiple (economic, medicinal and food) values of NTFPs and long-term security are the reasons for their careful extraction. Hunting methods have evolved as the muzzle "Dane" gun in the 1870s has outlived traditional methods like nets, fires, spears and crossbows. Night hunting and the use of dogs do not only make hunting successful but animals that could not be hunted earlier are easily killed today. Trapping is also non-selective but indigenes use them to protect farms from animals that destroy their crops. Fishing with poisons is locally acknowledged to obliterate entire aquatic life. Locals are aware it has put a strain on the availability of fish to the many households that do not hunt and cannot afford bush meat. So, improved technologies enable for unsustainable hunting, although locals do not kill large animals.

The initial stages of farming involve slash and burning of fires. The burning process is careful and involves the use of firebreaks to avoid wild fires. For locals, burning also plays a soil conservation function as well as it enables suitable conditions for plant growth.

As mentioned at the unset of this chapter, local extraction activities are at the epicentre of the conservation debate pitting romantics and utilitarians (see Chapter 2). The observations in these communities support the idea that modern extraction technologies exercebate the destructive extraction of resources. This is even worse for the relocated Ikondo Kondo I where the not only the population has grown due to the governments relocation policy, but government chief (an eco guard) is now able to use chainsaws to log and sell wood in Mundemba town. The remoteness of his former village and the absence of chainsaws prevented him from logging before the relocation process. This means that traditional extraction technologies seem to be conservation friendlier than modern technologies. However, local communities are gradually replacing their traditional technologies for what most perceive as improved and mass extraction technologies.

CHAPTER 5: Indigenous ecological knowledge and its conservation potentials

5. Introduction

This chapter is based mainly on field research data. It discusses the concept of indigenous ecological knowledge and identifies local conservation practices as well as the social mechanisms behind these practices from the worldview and values of the culture to which this knowledge is embedded. It focuses on indigenous knowledge of the forest, plants and animals and provides instances of its usefulness in science. This knowledge helps indigenes monitor, interpret, and respond to dynamic changes in ecosystems and the resources and services that they generate (Turner et al., 2000:1252). Its value is in the information it contains, the cultural framework of respect, reciprocity and responsibility in which it is embedded, and its proven centrality to conservation partnership with indigenous populations (Berkes, 2004:621; Chapter 2; Kimmerer, 2002:432). Indigenous ecological knowledge is high on the conservation agenda because there is a great deal to learn from it in sustainably managing very complex tropical ecological systems (WCSD Report, 1987:115). The Convention on Biological Diversity (CBD) calls for it to be recognized, protected, and utilized (Berkes, 1993; Melchias, 2001; Kimmerer, 2002:432). This same call is stated in the UN forest principles that also advocate an equitable sharing of benefits accruing from the use of this knowledge. A number of case studies show that traditional ecological knowledge provides accurate and reliable species information in; fisheries, caribouage structure, census of bowhead whales, wolves, elephants, forest fungi and food plants (Berkes 1977; Anderson 1996, Begossi, 1998; Huntington, 2000; Kimmerer, 2002; Mander, 1991, Oates et al., 2004; Richards 1997; Stephenson 1982; and Turner et al. 2000). Increasingly, academics, agency scientists and policy makers seek this knowledge as a potential source of ideas for emerging conservation, after having ignored it (Kimmerer, 2002:432). It confirms the view of one scholar that current efforts to ignore traditional ecological knowledge have not provided adequate species protection (Sharpe, 1998:26). This chapter answers the following questions: What is indigenous ecological knowledge? How is it learned and shared locally? And how has this knowledge been sought and used for conservation related activities in the Korup and other forest areas?

Different scholars use terms like 'traditional', 'indigenous' and 'local' to refer to the ecological knowledge of people who have lived in an area for many centuries. *Traditional or Indigenous knowledge* refers to what such people know and do, what they have known and done for generations – practices that evolved and proved flexible enough to cope with change (Melchias, 2001:34). Indigenous peoples are also known as long resident peoples who depend on the resources of a particular place and define themselves in relation to that environment (Turner et *al.*, 2000:1276). These people have developed a wealth of knowledge of how to live with and manage local resources. *"We know how to carefully use this forest because our children will also need it. If we had destroyed it, the government and whites would not have met it intact as it is today"*[48]. Another idea is that *"we get for look out for property [forest] weh we papa dem die livam for we"* (trans: we have to guard property inherited from our forefathers). This shows that the concept of "fatherland" is of local relevance[49]. Here, it is contended that 'indigenous' is part of 'local' knowledge that is developed outside the formal educational system (Eyong, 2007:122). *Local knowledge* is the result of the mixture of indigenous and external forms of knowledge and "*the processes in local knowledge production involve the interaction between local communities who have their own practices and discourses, and external agents of change, who have their own practices and discourses*" (Pottier, 2003:2). The term indigenous[50] knowledge is preferred because the knowledge interface is still informal especially about the extraction and use of wild forest products. This appellation is less value-laden (Ruddle, 1994:161; Berkes, 1999:8). This knowledge is practice and belief, verbal and non-verbal concerning the relationship of living beings to one another and to the physical environment, which is held by peoples in relatively non-technological societies who directly depend on local resources (Berkes, 1993; Kimmerer, 2002:432-433). It is cumulative and evolves by adaptive processes and handed down through generations by cultural transmission (Berkes, 1999:8).

As people use a resource, their knowledge of it tends to be thorough (Flintan, 2003:4). Scholars have sought to highlight the potentials of this experience-based knowledge to

[48] Indigenous Chief of Esukutan, personal communication: 21 November, 2006
[49] Nursing mother in Esukutan; personal communication: 23 November, 2006
[50] For those uncomfortables with this term, it is also used in the broad sense to mean local knowledge held by indigenous people or local knowledge that is unique to a given culture or society (Berkes, 1999:8).

protected areas, ecosystem restoration[51], and biodiversity conservation (Berkes, 1993; 1999; Turner et *al.*, 2000; Kimmerer, 2002; LaRochelle and Berkes, 2003). There is evidence of how resource users are using indigenous ecological knowledge to enable them to reverse the loss of certain wild plants, also known as local soft management practices (Moegenburg and Levey, 2002:320). These rural [conservation] strategies of Boserupians (Chapter 2) are aspects of ecosystem restoration that needs to be recognized and utilized.

5.1 Theoretical framework and characteristics of respondents

Resources dependence to a large extent fashions; conservation attitudes and actions that change with time; and the amount of knowledge acquired (Turner et *al.*, 2000:1277). Indigenous ecological knowledge is not homogenous; it differs with gender and the degree of retention of traditional resource management systems (Berkes et *al.*, 2000:1252; Turner et *al.*, 2000:1276). Knowledge is a basis of the Boserupian rural strategies/technologies to counter the population effect on forests (Chapter 2), which signals beneficial interactions between humans and ecosystems (Burke and Mitchell, 2007:348). A framework that captures indigenous ecological knowledge exchange dynamics is developed by Turner et al (2000) and has been applied to the Raramuri situation in Mexico by LaRochelle and Berkes (2003:364-371). This framework is adopted for this study because its application is relevant to forest peoples. It has three broad themes: philosophy or worldview; practices and strategies for sustainable living; and communication and exchange of knowledge. The worldview denotes the perception of the landscape and understanding of ecological processes and human-nature kinship and traditional ceremonies. Practices and strategies for sustainable living denote activities like; selective harvesting, pruning, domestication of NTFPs and environmental modification; while communication and exchange of knowledge is via monitoring, traditions, stories and experiences on the land (Turner et al., 2000:1275).

These analyses are guided by secondary and empirical data[52]. Knowledgeability is the main criteria for selecting informants for six expert interviews with elders. It was not possible to

[51] Process of recovery of degraded, damaged, or destroyed ecosystem (Burke and Mitchell, 2007:349)
[52] See appendix 1a on methods, data sources, types and analyses.

have an equal representation of males and females in each age group[53]. The refusal by mostly males, forced a new idea to interview as many females as possible in the different age categories who were willing to be interviewed. In all, 40 females and 22 males were sampled, resulting in a female bias. Three categories 'youths', 'parents' and 'grandparents' are developed. In identifying youth, a cultural approach is used because some people older than 35 saw themselves as youth and kept saying 'we the youths'. Once an individual identifies with a category of persons by doing and acting with and for such a category, age limits become meaningless (Fokwang, 1999; 2003). This study finds that although 'youth' is mostly associated with not having a wife, child and familial responsibility, those who are married and have children are championing youth activities and one is famously called "king of the youths". Also, in a group interview in Esukutan, participants mentioned that any man who is above 25 and has not yet taken steps to get initiated into the Ekpwe is not man-enough. So, non-membership in an indigenous association justifies the treatment of an old man as a young member if he joins the group later. This leads to the conclusion that the concept of youth in these communities transcends demographic and cultural boundaries. Youth thus, is a biological, contextual and cultural concept. For practical purposes, respondents between 10 and 39 are considered as youth. They make up 67.7% of the sample. People between 40 and above are considered 'parents because they are perceived to attain middle-aged and elderly status sooner, while grandparents (above 60) are parents who do not still have dependent children. They get support from children and grandchildren and have attained the status of 'elders'.

Marital status is seen to influence land access and ownership. 15 respondents are married, 24 are not, 1 is divorced and 11 are widowed (1 widower). These proportions reflect the real population dynamics (See Chapter 3) and almost all the eldest people are widowed. Discussions with women about the discriminatory indigenous land tenure systems reveal indifference amongst Esukutan women. One reason for this could be deduced from the responses of five women of ages 19 and 42; separately interviewed. The 42 year old informant said "*there is abundant land to farm on, so there is no need to fight with our husbands over land*". Another, aged 22 asked; "*what is land? Has anybody died and took*

[53] See appendix 1a for explanations

his or her land along?" The 19 year old shares her mother's view by saying; "*my mother never told me that fighting to own land was a good thing for women*". Currently, land scarcity is not yet a problem to trickle demands from Esukutan women. The responses show that this status quo is justified by the failure of older generations to uphold these rights earlier and pass them on to other generations. A divorcee in Esukutan who is a small scale retailer of cigarettes, wines, whiskies and other household utilities like kerosene, lighters and candies, does not bother because she cultivates on her parent's land.

5.2 Age and gender segmentation of indigenous ecological knowledge

Some elders from rural African communities are traditional keepers and users of local ecological knowledge and wisdom (Lalonde, 1993:56). The African adage, "when a knowledgeable old person dies, a whole library disappears" conceives of elders as the guardians, educators and practitioners of indigenous ecological knowledge. It grows in a spiral with time, but simultaneously, it is diminishing amongst the youth in every society as assimilation and environmental change escalate as well as the death of key elders (Lalonde, 1993:57; Turner et al., 2000:1277). As observed in Korup communities and in quantitative terms, youths and non-youths have different levels of indigenous ecological knowledge as is reflected in their livelihood activities. In most cases, the differences are species based. As an example, *Njangsanga* is used to explain how youths and non-youths (parents) demonstrate this knowledge by taking action to fight the poor yields trends. Several years of yields monitoring enables women to note a decline of *Njangsanga* and this knowledge and attitude urge them to propagate it (See Table 12).

Table 12: Conservation attitudes toward Njangsanga by Korup youths and adults

Age group	Conservation method of Njangsanga				Total
	Plant at home	Plant in forest	Grows naturally	Not applicable	
Non-youths	2 (10%)	5 (25%)	13 (65%)	0 (0%)	20 (32.3%)
Youths	1 (2.4%)	14 (33.3%)	22 (52.4%)	5 (11.9%)	42 (67.7%)
Total					62 (100%)

From Table 12, conservation of *Njangsanga* is not popular with youths and non-youths in the sample who think it grows naturally and so there is no need to propagation. However,

35.7% of youth and 33% of non-youth, make little efforts to propagate its wildings[54]. As youths clear farther in the forest, they create conditions necessary for its growth like; cutting lianes around the wildly germinated plants to provide sunlight. Also, where one has a farm plot determines where conservation action is taken (at home or around houses). 10% of non-youths and 2.4% of youths in the sample propagated njangsanga at home. Its propagation at home was mainly to avoid trekking long distances at old age. A 42 years old Esukutan woman said "*I am planting all these plants on my farms around the house because when I am old, I shall not have the strength to go into the forest to collect large quantities that would fetch me money for kerosene, magi cubes, salt and soap to wash my dresses"*. Also, the indigenous Chief of Ikondo Kondo I said, "*Adults mostly propagate njangsanga around homes in preparation of their old age*". These support the general observation that farms around homes belong to the older persons in both communities.

Quantitative data show that the parent generation seems to conserve less than their children. Contrarily, parents' extensive knowledge is explained by the fact that they are the most active farmers. Elders, whose knowledge is higher than that of others, are responsible for knowledge transfer in communities; die before they reach 90 years. They are often observed to be accompanied by their grandchildren to the forest. Grandmothers in Esukutan invite their grandchildren and tell forest related stories like tales, myths and legends. They illustrate how older generations use to do hunting with nets and how certain forest plants such as the Iroko tree could not be harvested without offering sacrifices.

A study argues that gender influences conservation knowledge (Kellert and Berry, 1987) which is also species-based (Czech et *al.*, 2001:187; Gillingham and Lee, 1999:225). So, a gender-blind approach could isolate women from conservation and its benefits; reduce the value of the stake they have in biodiversity, and poor use of women's knowledge, skill and labour resources (Flintan, 2003:49). Marginalization of women in ICDPs negatively impact on them than men and does not help efforts in making ICDPs succeed (Flintan, 2003:2). Also, transcending the land ownership boundary and with respect to plant NTFPs, women hold extensive indigenous ecological knowledge. However, the sample shows no

[54] A Pearson Chi-Square test returned a non-significant value of 5.030 at 17% level.

significant difference[55] in the gendered conservation attitudes towards bush mango. An explanation could either be that there is a difference but the sample is too large or too small to capture it. But the qualitative interviews and field observations reveal gender differences in conserving bush mango. Informants disclose that for long, men have been engaged in hunting and clearing of forests to open up cash crop plantations, while women mostly collect NTFPs and till the soil to plant food crops. Division of labour (along gender lines) has for long assigned special roles to men and women. The pilot study in Meka also reveals that out of the 10 male household heads, nine directed questions on NTFPs to their wives. So, long term acquaintance with a resource means more knowledge of the resource.

There was a curiosity to investigate if indigenous ecological knowledge held by specialists is gendered. Extensive discussions with two healers and critical observations in Ikondo Kondo I reveal that the female healer domesticates medicinal plants while male healer mostly harvests inside the national park. The female healer keeps a small garden of medicinal plants around her house. The male healer domesticated only three species of the plants he uses for healing. The female healer who was also one of the six indigenous birth attendants of Ikondo Kondo I, Eno Anastacia treats menstrual pains, head ache, stomach ache, hernia, malaria, fractures and rheumatism. She uses a variety of herbs and barks of trees that are sourced from both the dense and the forbidden forests around the village.

The female healer nurses especially, plants that are scarce or not easily sourced around her compound. Among the rationales for this domestication is old age; she wants to reduce the distance traveled to harvest these plants when in need as well as to have multiple sources. A community of domesticated medicinal plants demonstrates an interesting biology (Picture 8). The laws of symbiosis are respected with few cases of parasitism. That is, plant species are grown in a close ecological relationship that benefits both; and not at the other's expense. This relationship is known as mutualism[56]. With parasitism, one species benefits by harming the other. This healer notes that in her community of medicinal plants, there is competition (for food and sunlight) but neither species benefits; neutralism as both species is unaffected. She domesticates epiphytes; plants that live perched on sturdier ones and do

[55] A Pearson Chi-Square of 5.527, 3 at degrees of freedom is the result of the significance test.
[56] It is commensalism when one species benefits without the other being seriously affected.

not take any nourishment from their host but for exposure to sunlight. This knowledge, she explains, is based on her everyday experiences and usage handed down over her lifetime by her parents who always display, explain and describe their actions.

Picture 7: Community of domesticated medicinal plants by a female healer in Ikondo Kondo I

Mr. Tambe Alfred, the male healer treats stomachache, gastritis and helps nursing mothers to lactate. He uses the shoots of plants that grow by the roadside as medicine. A plant whose upper side of its leave is green and the down side is red grows wildly in his backyard and is used to increase the blood level of anemic patients. When asked if he cultivated the plants he uses, he replied, "*I use to plant of them when we were still in the old village, but in this new village, I have planted just a few in my backyard*". He cited other very large trees including *Irusu* tree that is found in the primary forest and cannot be planted in his "*backyard because they are too large and will not grow*". When reminded of the fact that the female healer domesticates most medicinal plants she uses, this informant said "*I think I should be doing same in the future*". This is an indication that he has postponed small scale conservation of medicinal plants. Like others do, he keeps at home, barks of trees that are only sourced from primary forest.

Another gendered indigenous ecological knowledge is linked to hunting or the killing of animals, which is entirely done by young males with many years of hunting experience. However, the slight edge of the female population in the two villages as well as their role as [informal] teachers is an assurance that the prevalence, growth and spread of indigenous ecological knowledge, is probable. The discussions above show that age, gender long-term occupation with certain activities and social status are the major determinants of sound ecological knowledge. However, indigenous healers do not have an association that could serve as a networking platform for effective knowledge management and transfer.

5.3 Philosophy and worldview

5.3.1 Spirituality and power of things

Korup forest villagers attribute spirits to many aspects of their environments. These peoples hold the view that their forests including humans are a creation of the almighty and that all shall come to pass but the forest will remain. An earlier study noted that Korup people attribute everything to a God of creation (Röschenthaler, 2000:34) that is why the fear of divine retribution shapes local conservation attitudes towards many forest plants. The spirituality or power of all things is best explained by the belief in and existence of human - nature relationships (Carr, 1923:48). Also, human-animal relationships or worldview is persistent. For instance, each man is supposed to possess a soul in some animal and is aware of the animal in which his soul resides. The death of this particular animal results in the death of its owner. As a hunter, he kills the species of animal to which he is allied and not the one in which his soul resides. If he meets the animal in the forest, it is believed that recognition would immediately take place, and naturally no harm would occur to either. When these large animals are perceived to be people destroy crops, the perceived owner is accused of the damage. When hunters kill them, those individuals who in most cases possess valaubale knowledge die. Ikondo Kondo I elders explain that this is the reason why they do not kill elephants, crocodiles or buffalos, at random. Killing them has mystical implications and necessitates elaborate expiatory rituals (Röschenthaler, 2000:34).

Young hunters label people-animals relationships as *witchcraft* that causes hunting accidents. A case is reported of a hunter slapped by a Chimpanzee in the forest long ago. The hunter then realised that he was about to kill a person. Besides, villagers because of this belief do not eat Chimpanzees. However, these mammals are said to show signs and this explains why the reading of natural signs is widespread amongst hunters. When hunters have dreams at night before an expedition, they narrate them to elderly family members, who would interpret them for the young hunters and caution them on their safety. This belief explains why locals do not kill large mammals that destroy crops, but they hire experts from outside communities. There is also a perception that rainbows indicate the birthplace of an important personality or the surroundings of where a viper is giving birth (Korup Project, 1999:29). Such places are generally feared and avoided by locals.

5.3.2 Ancestral lands and ancestral worship

A pioneer study reports that there were no shrines or burial grounds where ritual were performed and that the Ororop tribe to which Ikondo Kondo I belongs does not perform funeral ceremonies (Carr, 1923:51). This study does not link the different traditional associations with burial grounds, ancestors or sacred places in the forest. Instead these societies are related only to the life world and the village of the living people, but not to the spirit world. However, sacred objects or places like fetishes, shrines, groves and graves are in existence. Ikondo Kondo people had graves inside their living houses because of the philosophy that the dead would be angry if rains fall on their graves. Elders believe that ill omens are the rewards for non-respect of ancestors. Living family members perform rituals at regular intervals invoking the dead to intercede when a member is sick, in hard times and for general security. Ekpwe forests are ancestral lands for religious governance on which extractive activities are banned. Usually Ekpwe signs and symbols are used to publicize these bans.

5.3.3 Food taboos

There are a multiplicity of food taboos; a cultural ritual that in the worldview of the people binds the living and the dead and is crucial for the smooth functioning of society. Most tabooed animals are totems that die when owners die (Eyong, 2007:129-130). Generally,

the respect for food taboos is high amongst pregnant women. They do not eat certain types of snakes, liver, alligator or duikers for fear it might affect production of breast milk. Some women do not eat chimpanzees, eggs, elephant, fox, leopard, dog, pig, or any other domestic animal for fear of too much bleeding during childbirth. Others do not eat animals like bush baby, fox, animal parts like the head of a pig, deer, or even a tortoise, because they are believed to cause fetal abortions. There are also numerous personal preferences and men generally do not adhere to many food taboos. Some men may not eat specific animals because of membership in a traditional association, whose powers locals believe, are weakened by such animals. These taboos coupled with the fact that hunting is a risky venture do command respect for nature by many villagers. However, times are changing and the most highly educated segment of the village (youths) see no reason to respect taboos since they did not become sick after eating a forbidden food. Christianity too is denying the respect for taboos just like it does with sacred society membership amongst converts. In all, taboos are linked to social power, for men, and to reproduction for women.

5.3.4 Health-seeking behaviours

In the communities, ill health is perceived as the reward of non-respect of a taboo and so angry ancestors punish the victims by inflicting pain or ailment in a mystical way. Serious cleansing by elders takes place. A description of the 'health-seeking behaviour of villagers illustrates the local worldview that ill health and ill luck are not simple occurrences. They have a spiritual undertone and treatment is done in its totality. People generally would not think of malaria or typhoid as a result of poor sanitary conditions (See Box 5).

Box 1: Health seeking behaviours

A former village council chairperson of Esukutan explained the different decisions he makes when sick based on a series of judgments. The first thing is to be convinced that his health has deteriorated and needs care. The next decision is where to seek care. At this stage, questions are posed. Why me, why at this time, place, day and date? Whom did I offend that caused my ill health? The many questions mean no scientifically proven answer will satisfy him. The obvious decision is to consult a traditional doctor or healer for diagnosis and cure. To him, local healers are important and often reflect the group's cultural and religious beliefs. So, the health seeking behaviour of the people is a function of their 'belief, perception and evaluation' that is deeply rooted in their culture. Traditional healers diagnose the cause and then treat the symptoms. Unlike their modern healthcare practitioners, they go beyond the physical body into the spiritual realm. As observed older

people first consult with the traditional doctor and tend to go to hospitals as a last resort while the younger generation skew increasingly toward modern medicine and only look for traditional answers if their problems seem unsolvable by the former. However, those who depend primarily on medicinal plants tend to care much about how these plants are harvested. Several observations uncovered folk or local healing practices that have common principles and procedures utilized in; hydrotherapy, heat therapy, spinal manipulation, quarantine, bone setting and surgery (Eyong, 2007:125).

5.4 Gendered perceptions of the landscape

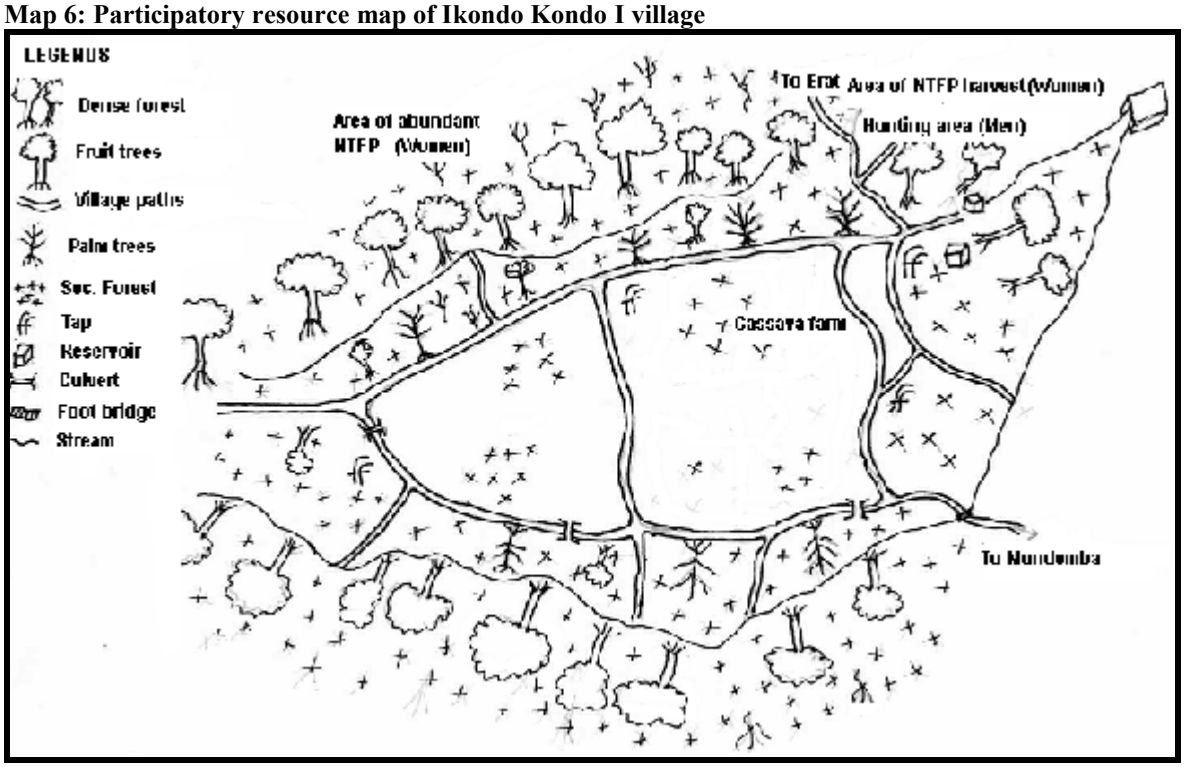
5.4.1 Mental maps of the forest and its resources

Much is known about the forest type, geology and climate of the Korup National Park (Korup Management Plan, 2002:16-19). A valid conclusion to be drawn from the review of available documents is that there is less about socio-economic conditions. More important for daily management of the park are good local mental maps of its features, concepts and ideas. Groups of men, women and children above 10 were asked questions related to the boundaries and important geological and geographic sites around their forests. Answers to the question "what do you use to demarcate your boundaries with other villages" reveal that women and children have good specific knowledge of the forest boundaries as well as demarcation objects which include streams, plants, large trees, a rocky hill and valleys. Conversations with children reveal their knowledge of these features because they accompany their parents to the forest as well as from as they are trekking from one village to the next. Every village member knows where village use rights start and end and it is their responsibility to take action to defend them. So, everyone is a guard of the village forest. Interviews with Ikondo Kondo I elders reveal that it is very important that all children know their forest boundaries because trespass could lead to village feuds. The reason is that a land certificate is just a paper from the absentee state when the local reality is that trespass (access and withdrawal rights) is not a good strategy for sustainable living.

Village elders were asked to name places in this forest and explain the meanings and the importance attached to them in their daily activities in the forest. The responses reveal names of nodes or rest places for hunters and visitors in the forest. The former location of Ikondo Kondo had a place called *Korobika Woka*, which is a habitat for buffalos. *Mekan*

and *Tabina* are places where elephants live. Because Tabina was farther in the forest, hunters built sleeping huts there that were also used for smoking the game during long hunting expeditions. *Aquaretor* is a very muddy and marshy place where food crops like plantains, vegetables and some other foodstuff are grown. Small animals like grass cutters and rodents are easily found there. *Mayak* is another place where people on a journey through the forest could spend the night. It has huts for people to sleep and cook.

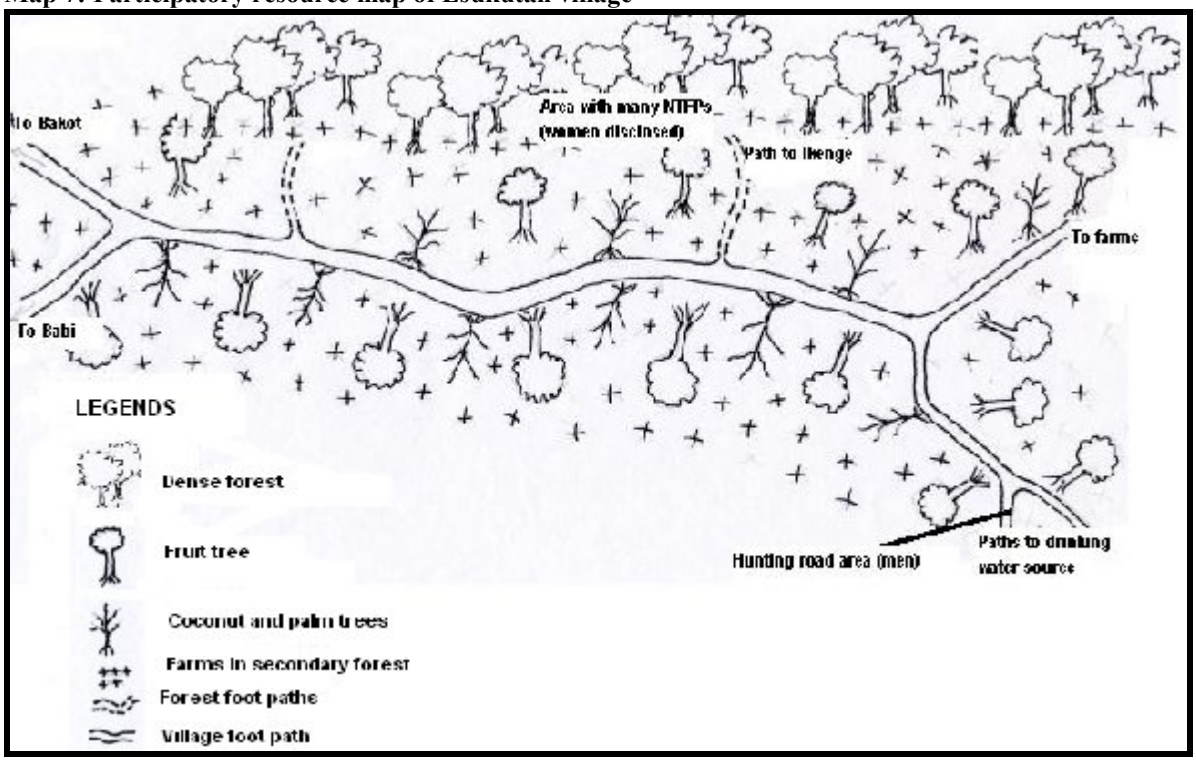
Map 6: Participatory resource map of Ikondo Kondo I village



Esukutan villagers hold similar knowledge. *Resoa* is a rest places. During a long trek inside the forest, people stop at Resoa to eat whatever food they have before continuing to their destination. The closest rest place visited by the research team was *Resoa Moukouri*, which is on the road to Ikenge, a village to the east of Esukutan. Also, *Robanga's* small streams are used for fetching drinking water while *Manyumbouki* is the last eating point on the road to Ikenge. At such points, people tell stories and other meaningful knowledge exchanges. A revelation was made of a rock called *Ribarobaro* on the road to Bera, a village to the east of Esukutan, which is believed to host spirits. In the heart of the dry season, it coughs out exploding fire while thin shiny flakes fly off to farther destinations. Esukutan elders

revealed that they have extensive knowledge of animal habitats and lucrative hunting grounds. They mention that no one knows the forest better than them, and that anybody from the village can just go to the forest and kill a type of animal within 30 minutes. This knowledge on animal habitats could important because it is cheap and easy to access.

Map 7: Participatory resource map of Esukutan village



5.4.2 Gendered understanding of ecological processes

'Participatory resource maps' (Malleson et al., 2008:4) conceived during the 40th day[57] of the field research was a tool to map knowledge of resources within the village land. First, the team undertook a transect walk of about 2 kilometers from the village center in the direction of Erat (a park enclave) to observe the location and main landscape uses along that transect. Later, a group of seven women of ages 13 and 36 was randomly chosen for discussions and diagramming. The output is a resource map (Map 6). The next morning,

[57] This timing was proper since resource distribution, access and use could be very sensitive in the area and so care was taken not to attempt a resources mapping at the onset. 40 days was enough to generate adequate rapport that facilitated trust and cooperation from the villagers of Ikondo Kondo I.

this group was taken for an outdoor and on-field observation along that transect. They identified only those resources that were important to them like places with abundance of NTFPs. The on-site and the in-door diagrams were compared. The same exercise was done with a group of men including two experienced hunters. During the identification walk, hunters point hunting grounds inside the national park, suggesting that they hunt in it. Men kept showing and naming owners of cocoa plantations around the village (Map 6) and did not mention NTFPs. The women do not mention resources that are sourced from inside the national park. These concealments show the sensitivity in talking about extracting in the Korup national park. A case was reported of a group of Ikondo Kondo I women intercepted by eco-guards in 2001 on their way from harvesting eru inside the national park. This experience and the fear of being arrested prematurely terminated the transect walk.

This exercise in Esukutan reveals the same gender segmentation (men with hunting positions; and women with other plant NTFPs and food crops). A common mention is the distinction of where to fetch drinking water and where to swim in a small stream around the settlement (Map 7). Cocoa farms are located outside the 1 km radius of the village but participants did not mention any. Resource maps reveal that gender roles account for why people mapped out the location in which their forest activities mostly take place. Women identify with plant NTFPs, and so have developed extensive knowledge of their location, abundance and uses while men stick to their hunting places and cash crop farms. Also, during household interviews, men refer to their wives for questions on plant NTFPs. This means there is a hierarchy of significance and gendered labour roles, which lead to knowledge specific maps of forest resources. Since these maps could guide conservation policies, future attempts should develop one with children in the communities.

5.4.3 Knowledge of multi-purpose uses of wild plants

Knowledge of how the five NTFPs described in Chapter 4 are used was investigated. 62 randomly selected respondents of different ages and gender provide clues on the segmentation of this knowledge. However, it is worthy to note that locals know the uses of many medicinal plants but this study was interested in their knowledge (what they know about and do with these plants). It reveals that knowledge of wild plants is skewed in

favour of women, as explained earlier. Informants have atleast three most important uses[58] of each resource. For example, bush mango is eaten, sold and used as medicine in the communities. More than 77% of the respondents eat bush mango on a daily basis. However, women eat and sell bush mango more than men. Many females were observed using it in mixtures of portions to induce the production of breast milk especially four nursing mothers. Also, there is much scientific evidence of the curative properties of bush mango as reviewed in Chapter 4. In terms of age, there were hardly any observable differences in the use of bush mango between youth and non-youths. Qualitative interviews confirm that the quantity of bush mango that is sold is always more than that which is consumed by the extracting household. As a daily household ingredient in soups, one could understand why more indigenes report its use as food than it is sold.

Eru is another important NTFP that is observed to have multiple uses as food, medicine and for sale. In Esukutan, 4 nursing teenage mothers were observed using Eru to reduce pain of child birth. The quantity of Eru harvested for sale is far more than the quantity consumed or used as medicine by harvesters. Locals reveal that Eru ['salad' as it is locally called] is not harvested on large scale unless a buyer comes into the village. Esukutan elders do not allow buyers to go and harvest salad by themselves; women and children do it and sell to them. The reason elders give is that foreigners had abused their trust and destructively harvested their resources. The school teacher in Esukutan noted that eru harvesting disrupts schooling as children absent themselves just to harvest eru and the school has to shut down. Knowledge of these multiple uses of eru is spread amongst elders and very young individuals and is indicative of no significant age and gender differences.

Njansanga is locally used for a variety of purposes by different age groups. It is; eaten as a soup thickener; used variously as medicine in mixtures to treat different ailments and as well as sold for cash income. Njangsanga trees are felled across narrow rivers and streams and used as bridges. Knowledge on its multiple medicinal uses is widely available to village members and is referred to as 'folk' or medicine 'of the people'. Qualitative interviews and observations reveal that njangsanga has a local broad spectrum in its

[58] Reported uses that are than three months ago are added to the category of 'not applicable'.

curative powers including ailments like: heart problems, witchcraft cleansing, and spleen for children, stomach and navels problems. Justifying its use in indigenous medicines, a study argues that n-hexane extracts from barks of njangsanga trees have antimicrobial properties that are more effective against *Streptococcus faecalis* than many drugs in the market today (Momeni et *al*, 2005:386). Ikondo Kondo I people could not mention many medicinal uses of forest products, which explains their little or no reliance on folk medicine due to closeness of a modern health care facility in Mundemba town.

The multiple uses of bitter cola and alligator pepper are discussed in Chapter 4. However, in addition to that information, locals use alligator pepper to ward off evil spirits and many individuals and households keep hold of it on a permanent basis. This re-enforces the widespread believe in ghosts as evidenced in two reported cases:

Box 2: Use of alligator pepper to ward-off evil spirits

An Ikondo Kondo I informant reports that evil spirits use to trouble her family at nights. They had horrible nightmares while children cry in their sleep. She attributes it to angry ancestors over her marriage with a man who hails from a hated lineage. A witchdoctor from Ekoneman Ojong (a village on the fringes of the Korup National Park) made some magical spells, communicated with the angry ancestors and then transmitted their advice to his client. Among the medicines given to her by the 'medicineman' was a dried alligator pepper fruit. She had to macerate and dissolve seven seeds in water every night and sprinkle the solution around their house for seven nights. These orders were kept and no witches and nightmares troubled the family again, she confessed.

Box 3: Use of alligator pepper to prevent mystical disappearance of money

Locals report that they always have to wrap their money with alligator pepper seeds to prevent it from being stolen in a mystical way when they go to the big towns. Informants said that it works and has saved his money in many instances. In a related case, women and children take seeds of alligator pepper to the market so that the money from sales of their commodities does not disappear mysteriously.

5.5 Strategies for sustainable living

5.5.1 Careful extraction methods and soft management of NTFPs

The strategies of sustainable living of the people are captured in the extraction methods as well as the soft management practices. This provokes thoughts of whether the harvesting of

herbs and barks of trees by healers or for local use is sustainable. An array of wild plants sourced from secondary forest, the edges of paths, farms, village peripheries and small gardens owned by specialist healers are carefully harvested and propagated. It is reported that species used for severe illnesses are sourced from high edged forest (Shiembo, 1999).

Table 13: Medicinal uses and extraction methods of five forest plants

Name of NTFPs	Medicinal uses / Treatment	Method of harvest	Part of plant used	Conservation Activity
Njansanga *Ricinodendron heudelotii*	- Heart problems - Witchcraft cleansing - Spleen for children - Stomach problems - Navel	- Picking	- Seeds - Bark	- Grows naturally - Propagate in forest - Propagate at home
Bush Mango *Irvingia gabonensis*	- Fodder - Chewing sticks - Anti-ulcer - Diarrhea - Toothache - Hernias - Yellow fever - Poison antidote	- Picking - Debarking - Cutting leaves	- Roots - Seeds - Leaves - Stem	- Grows naturally - Wildings transplant
Eru *Gnetum Africanum*	- Protein source - Essential amino acids - Nausea - Poison antidote - Warts and boils - Pain of childbirth	- Picking - Cutting leaves - Cutting climber	- Leaves - Tisane of stem	- Grows naturally - Propagate in forest
Bitter kola *Garcinia kola*	- Constipation - Cough syrup - Stomach disorder - Poison antidote	- Picking	- Seeds, - Juice, - Tree bark	- Propagate in forest - Propagate at home - Grows naturally
Alligator pepper *Afromomum melegueta*	-Controls over-bleeding - Abscess - Cough - Stomach problems - Spleen for children - Blood clotting - Fractures	- Cutting - Picking	- Fruits - Grains	- Grows naturally - Propagate in forest - Propagate at home

Through semi-structured questions community members would describe the ecology; name, medicinal uses, harvesting methods, parts used and conservation attitudes towards each of the NTFPs. The multiple uses of these high sourced plants justify the existence of some knowledge about their ecology. Again, this knowledge tends to vary with time and gender. The methods of harvest are sustainable in the sense that they involve; careful debarking, selective harvesting, picking, pruning and cutting (Table 13). Extraction

methods are species sensitive. Locals avoid cutting the; buds; shoots; the entire plant; the tap root; and other sensitive parts, with a knife to avoid damaging the entire plant. Seeds are picked, gathered or collected from the floor of the forest and on farms. Elders teach their children such self-control and consciousness in extraction methods especially as they attach so much importance to good health. Table 13 shows an array of health problems that have an indigenous remedy from five forest plants each of which contains curative elements for at least four different ailments. Local women prefer indigenous medicines for children especially wild plants used for treating spleen problems in children. For Esukutan women the importance of forest is also reflected in the life saving functions of these plants. They undertake local actions to conserve these plants.

The local conservation practices constitute what is known as soft management because they are only partial and not intensive (Moegenburg and Levey, 2002:320). Propagation is location-bound and locals generally refer to farms around the settlement as "*behind the house*" or "*at home*". Propagation inside the forest is here referred to as 'in-situ' and at home is known as 'ex-situ' because the thick forest is the original habitat for most wild forest plants. 62 randomly selected respondents and 32 focus group and key informant interviews reveal the local soft management practices in the communities. They are gendered and people's attitudes towards species, do influence management activities. For instance, in these communities, there is a perception that njangsanga grows naturally, and so many people did not see the need to propagate it. However, a growing number of locals carry out in-situ propagation while the old who own farms around houses carry out ex-situ propagation. To this age group, propagating njangsanga wildings at home reduces trekking distance. In quantitative terms, there is a significant difference[59] in conservation attitudes between and within age groups. Certain factors account for this difference. First, parents are concerned with capital bequeath as some household heads propagate in the forest in preparation of their children's future. Second, the middle-aged group still holds a long standing belief or myth over generations that planting a naturally growing NTFP shortens the planter's lifespan. Such re-enforcing myths stoke fear in people but things are changing as Esukutan teenagers are propagating njangsanga wildings.

[59] A Pearson Chi-square test returned a significant value of 32.591 at 5% and with 15 degrees of freedom.

There are slight differences in the conservation attitudes towards bush mango. Although people propagate bush mango for posterity, many still build their attitudes around the belief or worldview that bush mango grows naturally (God given). Like njangsanga, bush mango is percieved to be a gift of God and that planting it by humans is sanctioned by a divine retribution. Since death is most feared by locals, they avoid attempting to plant bush mango because it shortens their lifespan. This assertion is justified with stories that people in the generations that have passed away tried to plant bush mango but died without enjoying the harvest. However, youths in both settlements are actively propagating bush mango wildings more than njangsanga because it fetches much money for them.

Extensive discussions also reveal the gendered conservation attitudes of bush mango and njangsanga. In Boserupian terminology, knowledge of these rural strategies is linked to gender roles. Men generally cut down trees that prevent sunlight from the desired plants, while women cut lianes, and transplant wildings. However, propagation efforts are partial since more than 50% of locals believe that these NTFPs should not be planted by man. Locals do not conserve eru on a large scale because of its relative abundance in both primary and secondary forests and are unlikely to take steps to propagate it. Currently, Ikondo Kondo I households do take steps to spread Eru seeds on farms (See Box 3). This leads to the idea that when a resource is declining, the people take action to reverse its loss. Locals source the seeds from inside the national park, which might raise issues of access and use rights, which is the case with non-mobile forest resources. No cases of tress pass were reported, but locals are aware that eru on individual farms belong to the owners except for those found in the thick forests. Generally, what is important to note here is finding that while many teenage Esukutan respondents are spreading eru seeds inside the forest, Ikondo Kondo I respondents who take such actions do so on farms around their homes. This resource that was formerly harvested on farms inside the park is now becoming a domestic crop. This creates conflict potentials based on who has access and use rights when this resource gets ready for harvest. The indigenous Chief of Esukutan explains that young women and children are much concerned about their future, which depends on the abundance of resources in many locations of the forest. This explains why these groups try to safeguard their future through propagating these livelihood resources today.

Box 4: Case of a local who spread eru seeds in the forest

A hunter's wife accompanied him to the forest to help transport the game. She came to a spot that had an abundance of mature eru plants. She harvested the leaves including seeds and tied the latter in a bundle. On their way home, her load was too heavy and she decided to throw some of the eru seeds. The spot was accidentally visited 6 months latter by the same hunter who amazingly found that these seeds had all germinated. When asked why he went to that spot, the hunter said "I wanted to go close to where I had a good catch during my previous hunting expeditions". This suggests that his visit was not to monitor the outcome of his wife's unintended conservation efforts. The woman "conservator-by-chance", harvested the eru seeds because she wanted to show her curious children how eru seeds look like. She also added that thanks to her efforts, people will not walk long distances into the forest to harvest eru again. As already explained in Chapter 3, local land tenure systems require that resources along forest paths belong to all community members, and so no one has exclusive rights over such mobile resources.

In Ikondo Kondo I, hunters disclose that eru seeds might have stuck to their clothes or bags and fell off as they went along. Also, the elders strongly argue that conservation is out of question and it is not a priority for them: "*do not expect us to plant eru when we had it free of charge in our old village, and besides the government displaced us from our forest in order to provide for us in this new site*". Such conservation opportunism is probably echoed because they have been relocated to an area that is not rich in such important NTFPs.

Bitter cola has a widespread use as local medicine but its propagation is skewed in favour of males as explained in Chapter 4. Rodents are helping to spread bitter cola fruits and their remote locations in the forest provide little incentives for indigenes to propagate it.

Alligator pepper is collected in its original habitat in the dense forest. It is share luck to find it and locals tend to think one needs special blessings from the ancestors to be able to find alligator pepper in his farm. Alligator pepper is scarce but widely use in these villages.

5.5.2 Food storage techniques

Locals are aware of the changing seasons, disaster patterns, improved yields and other risks and so they develop storage facilities. One widely observed technique for food storage is the use of smake barns. Locally prepared barns for kitchens and forest huts are made of wood tied with ropes and the walls choked with mud to serve as food storage places

throughout seasons. For instance, smoke as well as some plant species is used to prevent weevil attacks on maize. Picture 7 shows maize that is surviving the second planting season. The bundle is not directly hung above the hot smoke like is common knowledge. Parents help to construct such facilities for their married children especially in Esukutan.

Picture 8: Indigenous technology for preserving maize in a youth's house in Esukutan, 2006

5.5.3 Reciprocal and interactive relationships

The communal and social cohabitation of settlements have reproduced a system of care based on kind. In this system, older members support the young financially, materially and morally in anticipation of care in return and when in need. It also manifests via inter-household dependence and the most exchanged items are not locally produced such as kerosene, salt and maggi cubes. Households engage in 'give and take' relationships first with blood relations and then with other lineages paving the way for interdependence. Reciprocation does not entirely mean giving an equal amount as was given to you. For instance, women do their best to provide as much food to a needy neighbour in times of infirmity but this recipient may not refund the same quantity. However, as observed sharing, reciprocity and obligation are norms that bind village members. For instance, death is seen as a community problem. Sympathizers do not need an invitation to come and pay their last respect to the dead or to mourn with the bereaved. Going to the farm or to work

when there is a corpse lying in the village is regarded as deviant, though it is economically unwise not to work for a while given that one needs to eat every day. Sympathizers come with food and drinks during celebrations to see off the ghost on its way to the spirit realm. They tell stories, sing and dance to appease the bereaved. When others are bereaved, these acts are reciprocated by both the old and the young; representing an intra-generational contract for sustainability on an ethical basis to promote social solidarity and cohesion.

Witchcraft accusations, sorcery and magic are the most widely used levelling mechanisms. An example was a blind man in Ikondo Kondo I who was accused by some youths to be a witch. To them, it is not possible that a blind man could use a cutlass to clear grass around his compound. Individual achievements are in most cases associated with mystical powers. To avoid expressing individualistic tendencies that invite witchcraft accusations, people tend to work cohesively. So, witchcraft is used as a mechanism for social control to command collective societal efforts than competition and individualism. Gifting is premised on a proverb that "if you eat alone, you would suffer and die alone". Generally, a child in the village is treated as everybody's child. People consider themselves as brothers, sisters, mothers, fathers, aunts or uncles as the case may be. Children grow up to learn to be friends with their parents' friends. Locals often think "no man is an island", "man is nothing without friends" etc. In all, these relationships are said to facilitate the sharing of ideas and gifts and an assurance that their interdependent thoughts and experiences provide the knowledge that is needed for a common survival (LaRochelle and Berkes, 2003:376).

5.5.4 Respect

Respect is to knowledge exchange and reciprocal relationships. When locals interact inside the forest, they consider the fact that they would mingle with each other back in the village as Ekpwe, village council members etc (Knudsen, 2008:33). Locals consider one's moral standing as largely a reflection of the moral standing of the family; the moral unit. If a family is known to have committed a serious crime, then this reflects in to the perceived moral standing of his kindred. Korup forest people also show respect for nature especially through the myriad of food taboos and the non-extraction of certain trees in the forest. Although this respect is a result of the fear of divine retribution, the respect of deities in the

form of totems has conservation relevance; such as the idea of people not killing large mammals because they are humans. Children are made to know these relationships and take them as eternal. This is how respect creeps into the daily interactions of people as well as with resources extraction and is transmitted as tacit knowledge to the younger generations (LaRochelle and Berkes, 2003; Turner et al., 2000; Knudsen, 2008:32).

5.6 Environmental modification: indigenous soil conservation techniques

Table 14: Indigenous soil conservation techniques

Technique	Description	Function	Prevalence
Ridging	Soil is tilled with or without imbedded organic residues. They are used for growing food crops like: taro, legumes, etc.	Contoured ridges prevent soil erosion and retain moisture	- Round top ridges; widely used on hills - Flat top ridges are used on plateaus
Trash lines Log lines	Most are formed by placing slow to decompose crop residues in lines across the plot. Log lines are tree trunks on the ground which may be filled out using crop residues or weeds. Soil is then put on this material	- Impede runoff, enhance infiltration - Lower palatability to animals, withstand water deluges - Decomposition increases soil fertility and yields	- Trash lines; widely used - Log lines; common in recently cleared primary forests
Burning of wood	Sometimes hardwoods are burnt for the terrace to be formed.	- Leak water, loosen soil for plant roots	Primary forests
Earthen bunds	Bunds are created to retain soil but leak water. Cultivation on the inter-bunds leads to forms natural benches over time.	Semi-permeable, allow water to pass through but not soil	Are rarely used
Retention ditches	Digging of holes or furrows	Capture runoff and allow infiltration for crop roots to tap	Used in steep areas
Stone and earth terraces	Lining of pebbles and boulders	Protect and increase cultivated land	Rarely used except in Ikondo Kondo I
Composting	Plant residues like cocoa pods	Increases soil fertility and promotes rainfall infiltration	All cocoa farmers
Mulching	Rooting of weeds and burying with soil around the growing plants.	Conserves soil and water, maintains soil fertility and reduces weed growth	Widely used

Another aspect of sustainable living could be seen in how locals modify the natural environment to ensure improved yields of crops. Studies argue that based on a wealth of accumulated knowledge and handed down practices, indigenes carry out environmental

modifications for species to prosper; like selective burning, land disturbance to produce a mosaic of patches on the landscape (LaRochelle and Berkes, 2003:369; Turner et al., 2000:1279). Here, focus is on soil conservation techniques or cultivation related practices that some other scholars would prefer to refer to as strategies for a sustainable living (LaRochelle and Berkes, 2003:369; Turner et al., 2000:1275; Shetto, 1999:67-70). These techniques that are orally and practically passed down from generation to generation differ with farming seasons in all communities. Even youths use rudimentary farming technology and depend on manual labour from extended family members or rotating self-help groups. The observed soil conservation practices are summarized on Table 14 whose advantages contrast those of mechanized conventional soil tillage that encourages splash and sheet erosion; leaving the soil surface bare under sporadic tropical downpours (Shetto, 1999:67). Since soil conservation improves yields, locals developed food storage facilities.

5.7 Environmental monitoring and communication: knowledge of early warning indicators

Locals monitor their environment and have developed a wealth of knowledge of early warnings on natural occurrences as well as resource abundance. These are mostly "natural phenomena and animal behaviour" that signal an occurrence before it happens (Howell, 2003:1). Hence, early warning indicators about resources dynamics are crucial for locals. These knowledge systems are visible as indicators are closer to the people and information dissemination is simple with no equipment needed. Reaction time is shorter and communities depend mostly on experts who interpret these signs and warn the others.

Box 5: Early warning against floods and strong winds in Esukutan, 2005

A 70 year old man in Esukutan revealed that in 2005, when he heard dogs crying loud, cocks crowed at mid-day, ants and flies move in an unusual way, he knew a nearby river would overflow its banks accompanied by strong winds and thunder storms that will destroy crops and homes. He warned village members to strengthen their coping strategies through; offering sacrifices and stocking enough food at home. Some re-enforced support to durable crops on their farms by erecting wind brakes. Since this warning came more than one week before the disaster stroke, most villagers took appropriate action to appease the gods. A single household (HH 7) accused him of "native beliefs" and so did not act to prepare for the disaster. The storms damaged his house, business and property.

Also, hunters report that they monitor the behaviour of the moon for signs of the presence of certain animals at known points or places in the forest. The reliability of these claims cannot be substantiated due to insufficient evidence. Women and youths explain that a poor crop yield is predicted by looking at the leaves of growing plants. Sometimes the remedy is wood ash from kitchens; waste from foodstuff; or environmental modifications. However, some village elders complain of a disappearance of such knowledge as people with powers to interpret natural signs die. None of such persons exist in Ikondo Kondo I, the only one (male) in Esukutan was not available for interviewing.

Through reciprocal and interactive relationships locals informally monitor each other as well as the landscape (forest resources). The longer one engages into the monitoring domain, the more knowledge one accumulates. One is likely to lose this knowledge and stop monitoring the landscape if one is not using it or the resources get extinct (LaRochelle and Berkes, 2003:370). Those with special skills monitor the behaviour of certain resources and communicate it to others. Villagers regularly go to parts of their forest at night, in the morning or during the day, all week or month. Although such visits are for usual extraction activities as rightful owners of the forest, they also have a security purpose. Unauthorized entry or trespass is easily noticed and reported to the cohesive powers (Ekpwe) and village hierarchy. When individuals and hunters from Ikondo Kondo I who had visited their old village in the Park revealed that an unidentified hunter erased all the structures, it sparked anger and regrets about their relocation. Ekpwe is the monitoring body with a role to socialize the young into acceptable ways of living in harmony with nature. Consequently, the nature/culture connexion is reflected in the peoples' worldviews.

5.6 Learning and exchange of indigenous ecological knowledge

Learning of indigenous ecological knowledge is said to include; observation, imitation, modelling, shared practice and storytelling (Lalonde, 1993:57). These typical methods are also used in Korup, as children observe and then repeatedly act or use the same resources for the very purposes. These methods are interactive, flexible, and simple and combine abstraction and practices. Quantitative surveys uncover gender differences. Males acquire

knowledge rather by observation than by repeated use, while many females gain knowledge by repeated use than by observation. In conformity with findings from the qualitative interviews, elders first explain to their children, the latter then observe their teachers and after a while the learners repeatedly use the resource. Also, village elders disclose that grandmothers, who also serve as models, demonstrate the expected behaviour in person, mostly to female learners. They tell re-enforcing stories that are essential for behavioural learning about symbolic persons or actions that took place in the past. Also, females report learning through someone who told those myths or legends. Male respondents tend to learn by practicing than females who disclosed that stories matter most to them. Societies influence learning as the moral obligations of parents. "*If my child fails to learn how to grow crops, other villagers will laugh at me for the failure*"[60].

Those who know much, tend to assist or share with those who know less. Familiarization and observation is followed by practice; first with assistance and then on one's own and culminating in sharing of learned experiences with others (LaRochelle and Berkes, 2003:370). Elders and parents are responsible for this knowledge transfer and hence, the marginal importance of schools. "W*e do not have the mandate to teach knowledge that is developed and used outside the ambits of formal educational structures*"[61]. Qualitative interviews reveal gender based preferences for transferring indigenous ecological knowledge especially by specialists. A male specialist healer in Ikondo Kondo I revealed that his father showed/taught him and so he has started teaching his first son who is obedient. He prefers teaching his own children so that they can also use these herbs to cure themselves. As a man, Mr. Tambe thinks it is better to teach a male although it is also good to teach a female who is mature, and who is obedient and willing to learn. A female healer in the same village got her knowledge from her father but is willing to teach any male or female of that village. The bottom line is that specialist knowledge is a family conserve but incentives like payments and learning durations facilitate its spread to non-family members. However, children also prefer to be what their grandparents were. Statements like "*my grandfather was a renowned healer; sooth sayer; shaman; and so on and I would*

[60] It was common to find locals trying to avoid an action for fear of verbal scolding or gossips in Esukutan.
[61] Primary school teacher in Ikondo Kondo I on teaching the ecology of forest plants in his school.

want to follow his foot-steps"; reveal that mentorship takes place. Also, four young girls plan to assume their parents' roles as indigenous birth attendants for the community.

5.7 Growth of knowledge on forest resources

Traditional ecological knowledge grows in a spiral and increases with time (Turner el al., 2000:1277). In Korup communities, children start harvesting and using forest resources early in life and keep expanding on their knowledge. The time required learning how to use a resource for a purpose differs with individuals. Fast learners learn once they are told or have observed and used the resource till up to 10 times or a few days. Slow learners take weeks, months and years to acquire the same knowledge. Learning incentives like reinforcement and punishment play a role the learning speed (Huitt, 2004). Grandparents are known to devise subtle ways of punishment against slow learning capacities: Failure to memorize the correct composition of a portion after several tries would lead to expression of dissatisfaction and continuous reminder of not teaching other important aspects. Sometimes grandparents would send slow learners on errands when they are about to mix a portion. Subsequently, the slow learner would struggle to be very attentive and avoid making mistakes. Awareness of the repercussions of not doing what is expected forced learners to pay attention; a process known as "response reinforcements and punishment" (Ormrod, 2007; Huitt, 2004). So, 'attention' is critical for reducing learning time.

If one assumes that fast learning means behaviour change due to knowledge gained at first experience, then one finds a justification of why women are not favourites for specialist indigenous ecological knowledge transfer. The specialist healers in Ikondo Kondo I do not have any gender preference to transfer their knowledge but they "prefer fast learners". One of the healers explains, "*Women are very shy and easily discouraged*". Social learning is guided by rules and norms whose non-observance could lead to discouragement and knowledge erosion. There is a ccase of Ikondo Kondo I youth whose late parents had handed over healings powers to her but she could not keep to the rules and so abandoned healing for a husband. Such gossips also reveal what the villagers' expectations. However, knowledge sharing is characterized by prescribed social roles, statuses and token payments.

Token payments are in the form of items, presents and services, which include; ground tobacco locally called snuff, cola nuts, drinks, money, running errands and clearing farms. All these are valuable commodities for both the giving youths and the recipient elders. They may not be considered as payments in the real sense of the word but as symbolic gestures in appreciation of camaraderie. Monetary and other forms of payments like tobacco, alcohol, errands and working on farms tend to have a more expert connotation. Parents who are well-established healers request money to transfer knowledge related to healing and medicinal plants. However, informants reveal that monetary payments are never commensurate to the opportunities the knowledge gain offers in the long run. There is a belief that if a healer asks for an amount of money that is higher than what the orators demand, his healing powers will be withdrawn and the healer together with the apprentice will not be able to use them. So, the amount of money charged (25-500 frs CFA or 0, 4-0, 76 euros) must meet standards set by gods or ancestors.

Some gender differences exist in the compensation paid to knowledge transferees. Females make compensations in the form of; fish, drinks and kola but males worked on farms. Males run errands as payment but there is a caveat here; errands according to a healer in Ikondo Kondo I is part of the on-the-job's training and not merely as a mode of payment. Errands could include: going; into the forest to harvest a plant, to another village to deliver a parcel meant for a client (patient), or message bearer. They are important because elders expect children to do exactly what they teach and do. However, specialized healers do not have many children and do transfer knowledge to their children for almost no charge.

5.8 Conservation potentials of indigenous ecological knowledge

Indigenous peoples' knowledge as well as formal scientific enquiries has potentials to provide sound knowledge of the ecology, spatial distribution and abundance of forest and its resources (Bih, 2006:1). A core aspect of conservation is research, and knowledge is a major factor of innovation and sustainable conservation (Evers and Gerke, 2004:2; Gerke and Evers, 2006). Scholars did suggest that indigenous knowledge of park villagers is invaluable for research purposes and could assist efforts to combat poaching by outsiders

(Ruitenbeek, 1988a; Oates et al., 2004). In this light, two hunters from Ikondo Kondo I are helpful to British and American researchers. Their hunting experience has gained them extensive knowledge of seasonal variations and animal behaviours; reproductive patterns as well as the times and places of eating, sleeping and playing in the forest. Once shown pictures of these animals, the assistants would describe their location in the forest and the appropriate time to find these animals. When discussing about the characteristics of certain animals, the western reaserchers take down extensive notes. Their cliam to have helped in the discovery of mammals that are new to the researchers could not be verified since the researchers did not sign the "village visitors' book". This use of indigenous ecological knowledge is a spin-off to the advantage of conservation as for six months; these men were cut off from hunting, due to their new 'better' way of earning a living. They did not buy game from other hunters, since this would encourage them to continue hunting. Rather, they bought fish from the nearby town and took to their families. This example shows a low transparency of science. It also depicts how this knowledge aids a rapid bio-monitoring approach and how global knowledge is being localized through short training workshops for hunters on the use of global positioning systems machines to record animals' locations in the forest. This is how hunters make an input to modern science.

Another example is linked to the discovery of 36 medicinal plants in the area that are new to science including the vine; *Ancistrocladus korupensis*. Researchers are currently working to isolate its curative components for a possible cure of aids (Cragg et al., 1996). In 1987, a joint team of local healers and a National Cancer Institute sponsored researcher; Duncan Thomas collected a variety of medicinal plants from the park. In an open meeting in Ekon village, the researcher requested each healer to describe the symptoms that the vine cures. He later tested it in the laboratory and discovered the vine to be effective against the replication of the HIV/AIDS virus. However, the publications of this discovery make no mention of the input of local healers (Thomas and Gereau, 1993; Thomas et al., 1994; Cragg et al., 1996). Field studies show that the Rengo Camp and the Ikondo Kondo sites have an abundance of this plant 5.5% and 4.5%, respectively followed by Akpasang, Chimpanzee Camp, Mana River, and the lowest, Ikassa (Thomas et al., 1994:313; Thomas and Gereau, 1993:494). It is estimated that 10,000 vines are in skeletal highly leached soils

with pH of about 4.0 (Cragg et al., 1996). However, this highly important discovery with the use of local people's knowledge has gotten minimal macro level in-situ conservation support. The same old styled bio-prospecting politics is prevailing whereby the vine would be propagated in green houses in western laboratories or botanical gardens and then patented so that royalties would not flow to locals who provided the knowledge base.

Another example shows how knowledge that "is bound by language, tradition and values to a community" has conservation relevance at a global level (Evers and Gerke, 2006:5). In 1996 the WWF realised its importance in sustainable livelihoods and biodiversity conservation and then shaped its strategy to create partnerships with Ba'Aka pigmies of Central Africa's bio-diverse regions. It is based on the principle that "the knowledge, social and livelihood systems and cultures of the pigmies are closely attuned to the natural laws operating in the local ecosystems" (WWF International, 2008:1). Consequently, two-thirds of Dzanga-Sangha National Park is now classified as a new type of protected area, which enables the Ba'Aka pigmies to remain in the reserve and maintain traditional lifestyles (Chapter 2). Their awareness of the seasons and moods of the forest qualify pigmies as research assistants, who appreciate that their accumulated knowledge is important in the 'modern' world. The WWF has posted this innovation on the Internet and extended the practice to the Amazon and other conservation hot-spots (The Post, 2008).

5.9 Conclusions

Korup indigenes possess experience-based knowledge that has helped them monitor, interpret, and respond to dynamic changes in the forest resources. Indigenous ecological knowledge is tacit knowledge. It is cumulative, evolves by adaptive processes and deeply embedded in the groups' cultural processes. It is age, gender and species sensitive. This knowledge and its conservation potentials are in line with the Boserupian argument that communities develop rural strategies to counter the effect of population pressures on resources (Chapter 2). In a way, relocating communities out of the national park like the romantics advocate is to deny the potential contributions indigenous ecological knowledge has made so far to both scientific discoveries and conservation efforts in the region. Baral

and Heinen, (2007:64) also report this observation in their study of Nepal. Key elders who discriminatory transfer it to blood relations of younger generations hold indigenous ecological knowledge. Things are changing especially when it comes to transfer of specialist knowledge. The knowledge exchange process is better captured using the Turner et al. (2000) framework. Rules embedded in the knowledge systems are transferred to younger generations through hands-on, gendered and interactive methods.

Stories' telling is central to disseminating as well as researching on this knowledge. This confirms the recommendations of De Groot and Zwaal, (2007:45) that storytelling is a worthy addition to the methodological repertoire in a structurally balanced and substantively open manner Participatory resource mapping offers a tool to mirror the gendered knowledge of the abundance and location of species.

This knowledge is reflected in soft management practices, but this is hindered by certain beliefs about divine retribution. None use of a resource, species extinction, churches, basic formal education and the relocation policy are some of the observed reasons for its erosion.

Indigenous cultivation practices and early warning systems and indicators as well as knowledge of nodes in the forest have implications for the park's daily management. Also bio prospecting inside the Korup National Park has relied on the knowledge of local healers. Western researchers rely on the ecological knowledge of local hunters. This cooperation is captured by the theory of globalising local knowledge and localising global knowledge (Evers and Gerke, 2003:4 & 5; Gerke and Evers, 2006). So, it would be a conservation advantage to incorporate this knowledge, and giving it priority in extensive interdisciplinary research endeavours, before much of it is lost as holders die. Integrating it is a liberation approach that improves conservation attitudes and foster local participation in ICDPs that strive to be effective in natural resources management. However, this potential has not been realised by macro level actors in the Korup national Park case. This ignorance might in greater part be responsible for the conservation bedlam in the area. The reason is clearly the dominance of the romantics ideology discussed in Chapter 2.

CHAPTER 6: Locals' perspectives on livelihood activities in Korup National Park

6. Introduction

The previous chapters have demonstrated how the mostly careful extraction activities and the conservation relevance of indigenous ecological knowledge validate the Borupian idea of not displacing communities from the Korup National Park. Neo-Malthusians and social scientists with a deep interest on conservation and poverty issues do argue about the impact of livelihood activities inside rainforest parks (see Chapter 2). While quantification of their claims exists at the moment, Cameroon Government officials have been banking on the wealth of global conservation theories that neglects local perceptions; an ingredient of successful conservation (Maindze, 2004:1). The actor-oriented perspective of Norman Long (1989; 1992; 2001) has good prospects for exploring local perspectives on their interactions with the resources inside the national park. It enables our understanding of the intricate and varied ways in which new and old forms of local extraction methods are perceived as generators of heterogeneous patterns of not only ecological, but social and economic change (Long, 2001:12). Since, existing sources have documented the official claims; this chapter focuses attention on the road less travelled, the perspectives of locals.

The conservation discourse of the late 70s and 80s claims that the extraction of NTFPs[62] rather than timber is more environmentally caring (Meyers, 1988:209) because NTFPs are easily accessible to poor rural populations (Kumar and Saxena, 2002). A pending puzzle is the fate of people who live in national parks, with a long history of reliance on a variety of non-timber forest products for their livelihoods (Clement, 2004:159; McCann, 1999:107; Moegenburg, 2002:489; Posey, 1982:24; 1985; Khare et al., 2000: v). The assumption that the potential long-term economic returns from forests managed for NTFP are greater than

[62] NTFPs are sometimes referred to as non-wood forest products (NWFPs). NTFP in its broadest sense includes biological resources collected from the wild by rural people for direct consumption or income generation on a small scale (Shackleton and Shackleton, 2005:658). So, wild animals and plants constitute NTFPs. In this chapter, NTFPs include forest services and benefits. Forest services include; ecotourism, research, porting, guiding, grazing and bio prospecting, while forest benefits include; soil conservation, soil fertility, watershed protection and many others. Some of these services provide livelihoods benefits to forest dwellers and so a clear complete definition of NTFPs must include these two dimensions. It should be noted that most publications exclude forest services and benefits due to difficulty in assessing and quantifying.

the net returns from timber or forest conversion to agriculture justifies a conservation focus for tropical forests that is "not just biological, but economic and social as well" (Peters et al., 1989 cited in Hiremath, 2004:211). Since the 1990s, realistic assessments have lowered the high expectations of the economic and conservation benefits of forest products (Peters et al., 1989; Godoy and Bawa, 1993; Simpson et *al*., 1996; Godoy et *al*., 2000; Sheil and Wunder, 2002). These claims are over-simplified assessments based on limited evaluation of the complexities in the economic, social and market related issues surrounding NTFPs (Sunderland et *al*., 2004:1). In examining the claims about extraction activities inside Korup National Park, an NTFP based analysis is used because NTFPs are the main sources of income for the people as discussed in Chapter 4. There is no commercial logging inside the national. In this regard, the scale of NTFP extraction and use is linked to welfare, forest management, structure and function, tenure and control (Perez and Arnold, 1996:14).

This chapter presents an interface[63] analysis of the conflicts of interest and discourses that develop between social actors; state as the 'intervening' and local the recipient (Long, 2002:2-8). It reveals the relocation project that is premised on unsustainable local hunting resulting in a declining population of original mammal species (Oates et *al.*, 2004:10, Waltert et *al.*, 2002:257; Waltert et *al.*, 2006:291). This chapter analyzes the different life worlds or battlefields of knowledge[64] that fuels the ICDP dilemma in Korup. It answers the questions: who are the actors? What are their main interests? What are the official claims and the local responses? How are the issues argued? In the analyses, the official claims are confronted with local responses and observations from previous chapters. This is because there is no acceptable standard by which an activity could be said to be sustainable. Our understanding of the reproductive characteristics and extraction practices that permit adequate regeneration is largely possible from the perspective of the resource users.

Two concepts; *cowboy economics* and *spaceship ecology* describe the behaviour of natural resources users (Boulding, 1996, Harding, 1993; Shiva, 2003). These 20th century concepts

[63] According to Norman Long (1992:6; 2002:6) interfaces are social situations or arenas in which the interactions of local communities inside the Korup National Park are contested by state agencies.
[64] Norman Long explains that the image of the 'battlefields of knowledge' conveys the idea of contested arenas in which actors´ understandings; interests and values are pitched against each other (Long, 2002:1).

are relevant for analyses of policies that seek to exclude occupation of national parks. The classic 'cowboy economics' depicts resource users who exploit the forest as if it had no limits and frontiers. It is also the mentality of those who assume absolute rights and plunder resources without responsibility for others[65]. Advocates for the *people versus parks* debate argue that unfettered access leads to cowboy economics and that high market demand for NTFPs forces destructive harvesting to collect the maximum quantity at a time (Sunderland et al., 2004:14-15). The concept of spaceship ecology was developed by Kenneth E. Boulding in the late 60s and has been picked up by interested scholars (Begossi, 1998:40; Fuller, 1970; Eyong and Foy, 2006:147). The 'spaceship ecology' concept depicts resource users who extract considering the forest as a limiting reservoir – a spaceship where minimisation substitutes maximisation (Boulding, 1996; cited in Begossi, 1998:40). This view to be advocated for in the *Parks and people paradigm* allows for species harvesting in a sustainable manner. This partly explains why user groups have better chances to assess.

6.1 Actors

6.1.1 Actors as social categories

Actors or social categories in the Korup case are broadly; 'macro' (Korup Project; international donors, state government and eco guards) and 'micro' (locals) based on ideologies to win the struggle. These are not homogenous entities in themselves and they do have diverse perceptions. The entities are an imposed abstract aggregation for simplicity, and not a pattern of institutionalized social action labeled by participants.

6.1.1.1 The international donors and their commitments

A host of international organizations have been active in the Korup National Park. It includes the World Wildlife Fund for Nature (WWF) that assisted the government in the creation of the Korup National Park in 1986**.** Until 1996, the WWF remained the major donor. The German Technical Corporation (GTZ) was invited into the project in 1991, and it financed the forestry and agro-forestry activities in the Support Zone (especially the three

[65] Vandana Shiva in Motion Magazine, 03.06.2003 argues in line with Boulding idea of spaceship ecology.

forest reserves). The Overseas Development Assistance (ODA – DFID): 1986-1997 and the World Conservation Society (WCS): 1989-1993, sponsored and carried out biological research. The German government through Kreditanstalt für Wiederaufbau (KfW) since 1994 earmarked Korup for special grants to support rural access tracks, water and sanitation. The US Department of Defense (US DoD) since 1993 committed to and financed communal structures at the relocation site in collaboration with the Cameroon military. European Commission (EC) funding was effectively provided in 1994. As a major donor of the Korup Project, the EC sponsored anti-poaching campaigns and ordered the recruitment of 12 more game guards all of which came from villages within a three-kilometer periphery of the Park. It also financed access roads. Until 2003 the EC and GTZ were major donors, despite the lack of donor coordination, accountability and institutional collaboration (Obase and Victor, 1997:6). These public service contractors which finance and support research activities, elaborate management plans and provide top managers for the Korup Project. International donors withdrew in July of 2003 and the government is the only one remaining. A potential donor KfW is currently elaborating a village development programme. At the time of writing, there was no clear plan of action on the table.

6.1.1.2 The Korup Project

Korup National Park Project founded by the WWF, was one of the first Integrated Conservation and Development Projects (ICDPs) established in the tropical rainforests since 1988. It embodied a multi-national and multi-donor bureaucracy comprising of national (Cameroon Government and eco guards) and international donors. It aimed to conserve the undisturbed forest ecosystems in the Korup area through the sustainable management and development of these protected areas and the associated support zone. It was to demonstrate how a forested buffer zone surrounding Korup can be self-sustaining in agriculture and forest, linked with and dependent upon, the ecological balance of the park and benefiting from the products drawn from its medicinal and chemical treasure chest (Johnson, 1988:4; Malleson 2000: 252). Indicators at the project purpose level included:

- The time required to obtain bush meat from the forest does not increase;
- The distance travelled to collect NTFP does not increase;

- No elephants are shot illegally in forest reserves after September 1999;
- A 50% decline in the exploitation of Eru, Njangsanga, Bush-mango and chewing-sticks in the park by villagers from the support zone by 2000.

It is hard to say if Korup Project achieved these goals because community members report that a notorious hunter shot elephants and buffalos in Ikenge in 2004 and 2005 from Manyemen. Eru, Njangsanga and Bush-mango are the main income sources for women in and outside the Park, while chewing stick (*Massularia acuminata*) has been over exploited and sold. No bio-monitoring survey has been carried out since then. However, a socio-economic impact assessment of the inhabitants of the project area reveals that Korup Project enjoyed 5% popularity (Schmidt-Soltau et al, 2004:10) especially due to its very unpopular relocation programme that started and ended with the pilot village Ikondo Kondo I. Many inhabitants do not know what else the project did apart from arresting hunters, project staff just passing through their village in "flashy" cars, holding meetings with chiefs and selected villagers and donating infrastructure.

6.1.1.3 The Government and Eco Guards

The Government of Cameroon makes park laws[66], though it fails to ensure that they are enforced at all costs. The government established the national park, provided personnel and paid their salaries when Korup Project was still operating. Presidential Decree No.92/069 of April 1992 created the Ministry of the Environment and Forestry (MINEF) whose mandate is to develop a comprehensive national strategy to protect the environment and conserve the country's natural resources. The Department of Wildlife and Protected Areas in addition to other functions, manages and protects national parks and wildlife reserves. It is represented at the provincial, divisional and sub divisional levels by delegation staff. The Sub Divisional Officer for Ndian is also added to the category of government agents. However, each protected area has its own specific staff including a Conservator and a number of game guards. Korup as of 2006 had 1 conservator and 2 official game guards. Eco guards carry out surveillance and law enforcement of the park.

[66] National parks laws prohibit use of timber and NTFPs without permission; cash crop farming; hunting of all kinds of animals without permission; permission park villagers formerly granted to strangers to use forest products; and rights to change the borders of the reserves without a de-reservation-order from government.

6.1.1.4 Locals or micro level actors

Micro level actors consist of village organizations like households, council of elders, chiefs, hunters, women and youth groups, and reluctantly, government appointed chiefs. They constitute micro social units, which apply their customary rights to protect their lands from encroachments, although not officially recognized. An infant indigenous non-governmental organization; Korup Rainforest Ecotourism Organisation / Korup Guides Association (KREO/KOGAN), stands to be a platform for advancing the course of the locals. It is hard to include western researchers as actors with a committed stake in the conservation of the Korup National Park because it is officially acknowledged that current research is driven by external interests and contributes little to Korup National Park (Korup Management Plan, 2002:79). Scientists do not feel the obligation to leave copies of their works with the Korup Park Service library and so up-to-date knowledge is lacking. Also, western tourists may have an interest in admiring nature but have not directly contributed to the current conservation discourse in the area. Local universities have not done scientific research on the park except individual professors could work for partner universities on a project but the reports are not open to the public. Hence, for now it is fair not to include; KREO/KOGAN, local universities western researchers and tourists as actors.

6.2 Actors' interests, conservation linkages and networks

Actors have interests in any social structure that constrains and enable social behaviour (Long, 1992:24). The actors in this case are interested in the resources inside the park; they obviously express and legitimize it differently. International actors are interested in reducing the extractive activities of locals as the overall conservation goal basically for the enormous environmental goods and services that forests provide (Schmidt-Soltau, 2003:6). These ecosystem functions of national parks (de Groot et *al.*, 2002:397) include:

1. Regulation functions: They regulate essential ecological processes and life support systems through bio-geochemical cycles and other biospheric processes and provide many services to humans such as clean air, water and soil, and biological control.

2. Habitat functions: Forests provide refuge and reproduction habitat to wild species, thus contributing to conservation of biological and genetic diversity and evolutionary processes.

3. Production functions: Photosynthesis and nutrient uptake by autotrophs converts energy, carbon dioxide, water and nutrients into a wide variety of carbohydrate structures which are then used by secondary producers to create an even larger variety of living biomass. Humans consume, ranging from food and raw materials to energy and genetic resources.

4. Information functions: Forest ecosystems provide an essential 'reference function' and contribute to the maintenance of human health by providing opportunities for reflection, spiritual enrichment, cognitive development, and recreation and aesthetic experiences.

The interests of state and international actors are locally reflected in the goals and objectives of the Korup National Park (Chapter 3). Three key words describe them; poverty alleviation, conservation and development. The idea of relocation so that development could come easily to the people is a key goal. However, international forest partnerships since the 1990s have been built on a platter of politics of carbon sequestration especially as Cameroon's forest have a capacity of 6.6 gigatones. It is high enough to attract international support for forest protection. However, this seems to favour rich western scientists and tourists, which visit the park for research and leisure. Hence, this international interest led to the official goal of limiting human activities inside protected areas only to research, tourism and recreation. Cameroon government shares this interest and has enacted national park laws that eco guards must enforce. As a poor natural resource steward, the government is in dire need of external technical and financial support (Ascher, 2000). Foreign exchange through green aid is another interest of the government of Cameroon in pursuing the national park strategy in the Korup forest area (*Ibid*). Consequently, to maintain its political standing in the global conservation community, the government of Cameroon has to undertake actions that construe with the goal number 7 of the United Nations Millennium Development Goals (MDGs); that focuses on reversing the loss of environmental resources (FAO, 2006:196). Consequently, the forestry laws dictate how environmental threats could be wiped. Eco guards; trained paramilitaries are employed

to patrol the Park and provide law enforcement and surveillance as a means of safeguarding the interests of their employers. As actors, their interests are defined by state orders and not necessarily a reflection of the interests of the local communities. However, management approaches have been dictated through funding agreements. For instance, a financial agreement signed in the early 1990s between the government of Cameroon and the European Commission clearly dictates the management priorities of the Korup National Park. Two of the seven terms of reference urges Korup National Park authorities to:

- Build and implement a development programme directed towards the rural areas surrounding the Korup Park in order to help local people to find sustainable economic alternatives to the present hunting, trapping, gathering and deforesting practices. This programme will be based on the development of appropriate, sustainable farming and extractive systems, the improvement of community social infrastructure and the development of small-scale economic activity.

- Develop an environmental education and awareness programme that would assist the local people to take part in the decision making process, manage their own resources and address issues of poverty, population, health, environment and sustainable development (Financial Agreement 1992:1 - 2).

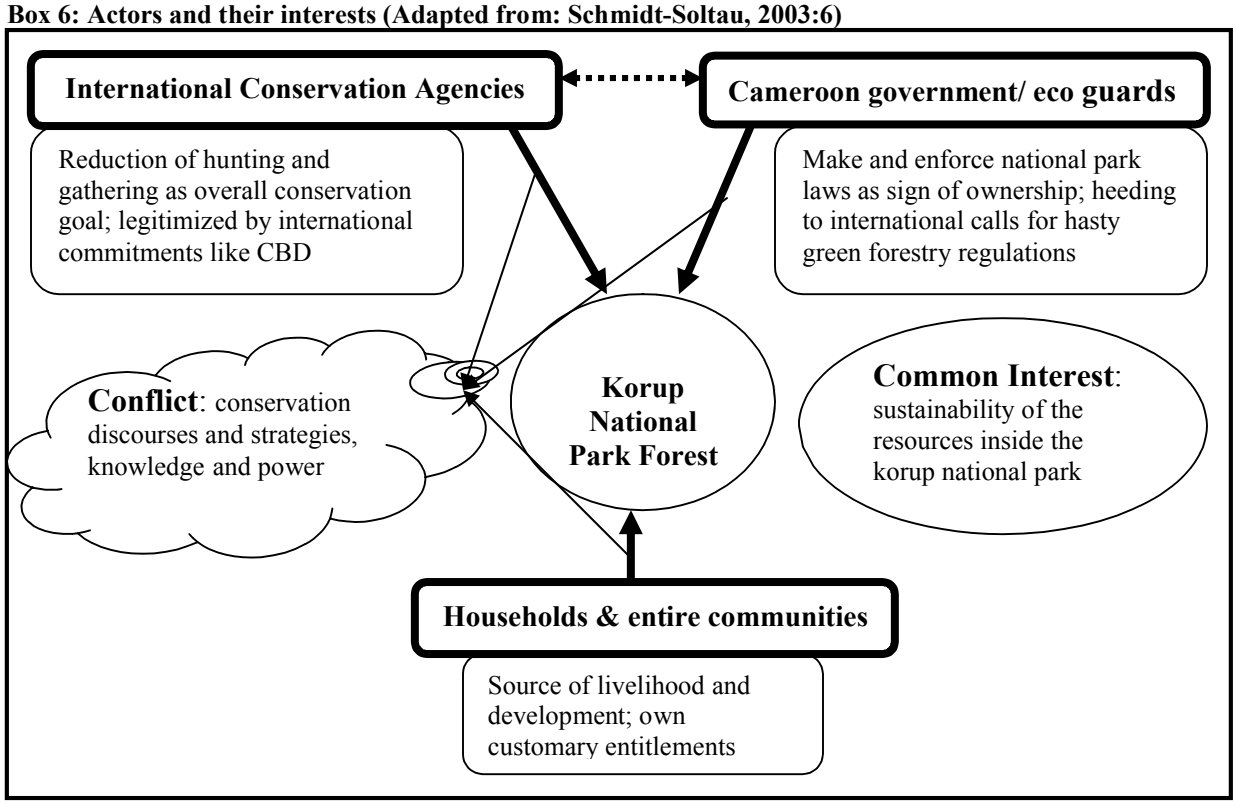
Such outside dictation of policies is somehow justified given that environmental concerns had not been a priority to the government of Cameroon prior to the 1970s when the country enjoyed real economic boom. In the early 1980s and 1990s, state interest in the environment grew, partly in response to the international concern over biodiversity conservation (Malleson, 2000:249). Against this background, the non-legally binding authoritative statement of principles on forests adopted in 1992 put the primary task of conserving or sustainable management of forests in the hands of host governments and its peoples. In a smart anticipation of the availability of donor funds, the government passed Decree No. 81-13 in 1981 calling for the total protection to 20% of the country's forest through the establishment of national parks and forest reserves (*Ibid*). In principle, national park laws ban all forms of human livelihoods inside them. The strategy of macro level actors is to exclude resident communities from national park despite the fact that the same national park law does not explicitly call for human displacements from national parks.

The community members are interested in forest resources for their livelihoods. The KREO/KOGAN is interested in the beauty and diverse nature of Korup rainforest, which

attracts many people to visit it. It asserts that communities inside the park have not been involved at all in developing its current limited tourist potentials. So, it advocates a participatory local management approach to address issues of unsustainable resource use.

Hence, the Korup case represents an interface that is characterized by competing interests revolving on a shared goal. Manifest cases of contestations in the 1980s were reported in by members of Erat village but Esukutan and Ikondo Kondo I have not officially laid a complain. Elites of Erat wrote a series of protest letters to the government of Cameroon and hired the services of a Nigerian Lawyer to fight their cause. They were ignored. Also, when buffalos destroyed their crops they wrote letters to the local commander asking him to send some gendarmes to kill these animals but their calls were again ignored (Röschenthaler, 2000:36). This then forced locals to hire expert hunters from outside to kill these animals.

Box 6: Actors and their interests (Adapted from: Schmidt-Soltau, 2003:6)



Successful conservation is said to be through a supportive network of actors through claims, orders and goods are channeled and which defend respective interests (Long,

[67] See chapter two for the views of the romantics and conservation biologists.

1992:4, Mahanty, 2002). A network of the national government and international donors (broken arrow in Box 6) is in charge of administrative issues. International fora and treaties on protected areas legitimize this network. Actors are linked by development finance partnerships initiated by conventions and treaties. Cameroon is a signatory to many treaties including a conservation treaty in 1999, but which has so far made little progress on the ground due to lack of financial backing from Western donors and credit organisations. In June of 2002, it participated in the planning meeting of the Africa Forest Law Enforcement and Governance (AFLEG) process in Brazzaville that involved more than 73 participants from 27 countries representing governments, international organizations, NGOs, and the private sector. It hosted a Ministerial Conference in Yaounde, from 13-16 October 2003 and signed the declaration that urges governmental commitment and will for action and partnerships. This 'Yaoundé Accord' is a trans-border conservation initiative aimed at protecting more than 3.5 million hectares of forest in the Congo basin.

Table 15: Cameroon's international treaties

Name of treaty	Place	Year
The Convention on Conservation of Nature and Natural Resources	Algers	1968
The Convention on the Protection of Cultural and Natural Heritage	Paris	1972
Convention on International Trade of Threatened Flora and Fauna Species	Washington	1973
Joint regulation of flora and fauna in the Lake Tchad Basin	Enugu	1977
Accord for Co-operation among Central African States on wildlife conservation	Libreville	1983
The Convention on the Protection of the Ozone Layer	Vienna	1985
The Convention on Climate Change	Rio de Janerio	1992
The Convention on the Conservation of Biological Diversity	Rio de Janerio	1992
The Convention on Desertification	Paris	1994
The Conservation of Central African Forest Ecosystems	Yaounde	1999
Africa Forest Law Enforcement and Governance	Brazzaville	2002
COMIFAC (Commission of Ministers in charge of Forests in Central Africa)	Brazzaville	2004
TRIDOM (Tri-national Dja-Odzala-Minkebe) forest landscape programme	Brazzaville	2005

(Source: Korup Management Plan, 2002:15)

Global networks like the the International Union for the Conservation of Nature give rise to multi-actor and multi-level governance in which authority is increasingly shared. It consists of 'like-minded' nested members sharing a common socio-biological identity, which has intrinsically superseded the confines of and are much more powerful than nation states. Contracts, treaties and agreements oblige network actors. The nodes or ties are strong although donor commitments often characterize short cycles of four to eight years.

Through conservation networks, formal and documented knowledge on nature protection as well as "green aid" flow from rich to cash-trapped members (UN, 2007:28). At the village level, networks consist of households, families and village associations through which knowledge and information are shared among members. These networks are based on verbal contracts, loyalty, trust, kin relationships and obligation whereby individuals are nested within face-to-face relations with other persons (weak ties). Micro level actors do not constitute an organized structure and do not have access to global networks and so one would hardly see them as negotiating from a position of power. Consequently, ethical sensibilities are the arenas for the less powerful actors. In January of 2005 an emerging indigenous NGO initiated a Memorandum of Understanding that is signed by 22 Chiefs and representatives of villages in the park and its peripheral zones. This document states "the indigenous people have decided to take a step in collaboration with the NGO to conserve the Korup National Park forest and the animals" (MoU, 2005:1).

This means that access to this emerging network opens local actors to its constraints and opportunities (structural positions). Power is attached to positions in structures of social relations. The indigenous network could be likened to a lined network where locals do not have many ties. There are no cliques, groups or sub groups in this network. Should the KREO/KOGAN get access to a global conservation network, then there is a possibility to have more ties which also means more power to extract better bargains in exchanges, as well as be a focus for deference and attention from those in less favored positions. However, a list of "anticipated benefits / opportunities" for the villagers as well as its 8 goals portray the KREO/KOGAN as a platform for advancing the interest of the locals, promising benefits and obligations for the villagers if they ban hunting and snaring.

6.3 Livelihood activities in Korup National Park: official claims versus local responses

6.3.1 National laws and human activities inside parks

Generally the view amongst Korup National Park officials is that human settlement inside the park is a conservation constraint and is outlawed. But Article 8 of Decree No.95-466

PM of the July 20, 1995 redefining national parks does not specifically prohibit human settlement within them. It virtually forbids all forms of local livelihoods in parks:

> *"A national park is an uninterrupted area whose ... natural environment as a whole is of special interest and should be preserved from any natural deterioration and protected against any human interference likely to alter their outlook, composition and evolution. ... the following shall be taken into consideration; the preservation of endangered animal and plant species as well as habitats on all or part of the territory; the preservation or degradation of major migration corridors for wildlife; the scientific or technical studies indispensable for the development of human knowledge. The following should be forbidden: hunting and fishing except as Park management operations; industrial activities; extraction of materials; pollution of any nature; farming, grazing and forestry activities; stray domestic animals; the introduction of local or imported animal and plant species, except for scientific purposes or as part of management operations authorised by the Minister in charge of wildlife".*

Accordingly, livelihood activities inside parks and not human settlements are illegal. The most illegal are hunting by night or snaring of animals and gathering of NTFPs although the latter pose less of a threat to ecological integrity (Korup Management Plan, 2007:38). A study reveals that locals readily acknowledge that there is a significant decline in wildlife populations (Vabi, 1999). About 35% of households do acknowledge it. Unsustainable hunting is the reason why the creation of Korup National Park by Presidential Decree No.86/1283 of 30th October 1986, removed the legal basis for all park enclaves. State officials point to the 1995 redefinition of national parks in addition to the neo-Malthusian idea of population growth and resources depletion (Chapter 2) to justify the displacement of communities. Locals, who are emotionally attached to and as the traditional owners of the forest, argue that they were first while the national park came later on.

Chapter 3 argues that the population of the relocated community grew almost 18% in seven years while that of the community inside the park had an insignificant increase of seven people. Hence, current population growth inside the park is not a strong argument. Official documents acknowledge that the local population is not a problem but that the growing Nigerian population means the demand for forest products would increase illegal activities since the western boundary of the park is exposed and vulnerable to exploitation (Korup

Management Plan, 2002:70). This claim is observed to be partially correct because over 93% of buyers of NTFPs in the villages are Nigerians (Ibid). Cross-border poaching by armed gangs in Nigeria is also imagined by officials to be going on in the remote inaccessible areas of the western sector of the park. These gangs are also said to easily slip back across the border upon detection of an anti-poaching patrol in the area. In this regard, policing of the western boarder and not relocation is the best pill. As yet, there is no collaborative arrangement between Korup and Cross River National Parks allowing for 'hot pursuit' of poachers across the international border (Obase and Victor, 1997:9). I

Population growth impact could be exacerbated by other factors. This applies to the bush meat hunting activity where the growing numbers of hunters care much about incomes than household food security. Conversationally, hunters would state that at least 30% of the games are eaten at home, while 70% is sold. Interactions with hunting households reveal the contrary. All hunted game is sold and only the 'internal organs' (like liver, intestines), claws, tails and the head are reserved for household consumption. Besides, the hunter himself eats the meatiest parts of what is consumed at home. *"My husband sells all the game and we eat either rotten game or only the internal organs and he spends the money on afofo and cigarettes while we do not have kerosene ...*[68]" This confirms the contention in the Chapter 2 that increasing exploitation of high income generating NTFPs amidst deforestation may still not guarantee improved dietary in-take by extracting households.

Another factor that exacerbates population pressures on forest is markets (Arnold and Ruiz-Perez, 2005:139). The issue of increasing trade on indigenous economies has been noted to affect extraction rates but this issue has been rarely researched in indigenous rain forest communities (Moegenburg, 2002:489; Pérez and Arnold, 1996:83). Scholars argue that harvest of NTFPs especially to meet market demands should be limited where conservation of biodiversity is the goal (Moegenburg and Levey, 2002:320). Hunting in Korup has the potential dilemma of 'degrading forest for the markets'. Also money from NTFPs sales is poorly invested by mostly male household heads that are unable and in seven cases, unwilling to recall all their expenses. Some openly do not want to talk about that because it

[68] An Ikondo Kondo I house wife revealed during a conversational interview, December, 2006

would make them angrier. Most of them are in debts but 15 female-headed households do make savings and these women are ready to disclose it in private. Male-headed households do not generally cooperate on this issue[69]. So, market hunting promotes unsustainable hunting of certain animal species and carries other less evident costs.

Technology is another factor that could catalyze or mediate the population effect. It is not only the organisation of tools (equipment, machines or hardware) but also techniques (methods or skills for using tools) to perform tasks (Crew and Harrison, 1998:35). New technologies are efficient but highly unselective and could further accelerate the resource depletion process by enabling extraction of a much wider range of species. In this respect, it is argued that the introduction of dogs among Waorani tribesmen enabled them to hunt species previously ignored or rarely hunted (Peters, 1996:49). Firearms aided by the use of outboard motors, flashlights and headlamps do mitigate the spatial and temporal constraints, allowing exploitation of riverine and nocturnal animals that previously were rarely harvested (*Ibid*). In Korup communities, new hunting technologies involve the use of dogs, snares made from steel cables; small sized fishing nets instead of the usual bigger sized ones; and so on. Hence, the range of traditional patterns of hunting wild animals has narrowed with acculturation and articulation with modern society's technologies and cash incomes and this trend has so far been noted anecdotally (Peters, 1996:49).

Government policy is also another factor and not population growth. Qualitative interviews reveal that unsustainable extraction is catalized by the limited property rights approach; a major dis-incentive for locals to monitor the forest. Local monitoring and reduces state's costs (Agrawal and Ostrom, 2001: 491; Agrawal and Yadama, 1997:435; Fernandez, 2006:360, Furubotn and Pejovich, 1972:1137; Mcgrath, et al, 2007:79; Ostrom, 2003:239; Tucker, 1999:202). A sense of ownership is an incentive for local monitoring and that is why the security of property rights makes households to invest in the family property for long-term benefits. However, Chapter 4 has shown that unsustainable extraction goes in the park on a small scale, which is indicative of the conservation dilemma.

[69] In the fiercest reaction noticed in Ikondo Kondo I a man asked "*so you have been sent by the government to come and verify how much we have saved to that tax officials can come and harass us*". It spread like wild fire throughout the village and many others came up for clarification and so this issue was dropped.

6.3.2 Massive forest clearance inside the park for agriculture

Officially, forest clearance is not allowed in the park because it scares animals and destroys habitats. Findings from Michael Vabi's 1999 study note that agriculture is not profitable because Korup soils are unsuitable for agriculture. The first ever Management Plan of the Korup National Park adds that Korup soil "is too infertile for coffee and cocoa and the altitude is too low for tea" (Korup Management Plan, 2002:38). It is not clear if this is related to plantation or subsistence farming. Besides, our findings show that crops' farming contributes 38% and 24% of household incomes in Esukutan and Ikondo Kondo I, respectively. For Ikondo Kondo I, incomes from hunting reduced to less than 30% down from 33% as was reported in 1999 (Korup Project, 1999). Community elders have a perception that the current small scale shifting cultivation practices cannot alter huge forest ecosystems. Besides, only 6 of the 43 households in Esukutan own more than one farm; a separate farm for cash crops and another for food crops. These are larger households with more than four able-bodied men and women that provide enough human farm labour.

The degree of forest clearance for agriculture is measured here through farm size, which on average is not more than 2 hectares (Chapter 3). 37 smaller households own one big farm because the forest regenerates faster than their shifting cultivation cycles. They prefer to have just one farm and then concentrate on it every day so as to avoid the fast regenerating forest to eat up both farms. These households practice farm fallow on the same plot. They grow food crops on one section of the plot while cocoa is planted all over. After several years (7-10), they switch crops on other section of the plot. In this way they ensure that weeds do not succeed and dominate the growing crops. Ikondo Kondo I people have smaller farm plots and have not yet started practicing shifting cultivation. The empirical survey reveals that farm sizes as a degree of forest clearance is generally small although Esukutan households have slightly increased their land clearance from the 1923 level.

The above finding notwithstanding, forest clearance to meet the food and other needs of growing rural populations can result in habitat and species loss (Hens and Boon, 2003:6). Although current forest clearance is significantly low, Korup officials speculate a danger if the practice of shifting cultivation is widespread inside the national park. In reality, a two

year field study found that despite a 90% average drop in tree basal area converted from forest to farm land, overall bird species richness did not decrease significantly with the increasing habitat modification (Waltert et *al.*, 2005:1351). However, locals acknowledge this by stating that when they clear farms, that is when animals come around to destroy crops. To them, land clearance has little impact on the condition of the forest because it regenerates faster and the amount of forest destruction is small compared to the standing volume of pristine forest. Hence, claims about local forest clearance are still speculative.

6.3.3 Wild fires and the practice of slash and burn agriculture

Some Korup National Park officials claim that communities set wild forest fires and that their slash and burn farming practice makes it easy for animals to be killed. Our observations show that indigenes use firebreaks to prevent wild fires while elders revealed that hunting with fires never took place at the heart of the dry season. Whether as individuals or as groups, the local response is that burning is careful and not intended to destroy forest ecosystems. *"We do not burn wild fires, which is why this forest is still intact today"*. *"Burning attracts birds that fly around, so it does not kill"*. *"We no longer hunt with fires"*. These are some of the statements recorded from informants, who mentioned that burning attracts elephants to visit the cleared spaces and that in 2004, women in neighbouring Ikenge spotted at least four elephants during three visits to their farms and these animals destroyed crops. It has been scientifically proven that many wildlife species especially elephants favour the secondary forest habitats typically found associated with village sites (Akanige, 2007:49). Also, locals know that burning facilitates fast regeneration of forest which is one and the main reason why many do not have many or bigger farms. Elsewhere is is scientifically proven by findings from rural Brazil that slash and burn agriculture creates the patchiness on which wild life thrives and in tropical evergreen forests, it is bad if it generates wild and uncontrollable fires (Begossi, 1998; Lamb (1997).

6.3.4 Logging activities

Official documents state that there is little threat from small scale logging by locals that is for house construction and furniture (Korup Management Plan, 2002:74). This study

observes that the relocated Ikondo Kondo I people fell and cut timber trees into planks on-site using a chain saw usually without the 'officially' required permit from the Forestry Department. An administrator of the area acknowledges that the forestry department officials in exchange for bribes condone this illegal logging. Customary laws permit owners to cut trees on their farms, without permission from the village council and there are no such restrictions on the felling of specific tree species. Firewood is abundant and is mostly collected by women. The remote nature of the area coupled with national regulations on illegal logging in protected areas make logging a near non-issue. However, improved access due to timber concessions in the support zone has increased hunting levels inside the national park. A Korup report notes that in a bid to supply logging companies with meat, elephant poaching has increased (Ellenberg et *al.*, 1997; Management Plan, 2002:62). Timber concessions are the problem because the scope of logging inside the national park by locals is relatively small and generally an insignificant long-term threat.

6.3.5 River poisoning to kill fish

Korup Park officials claim that locals are fishing with chlorinated hydrocarbon insecticides such as Gammalin-40 and Gammalin-80, intended for the spraying of cocoa plants. This practice not only threatens fish populations but various piscivores like the endemic and rare giant otter shrew (*Potomogale velox)*, and also endangers human health (Gartlan, 1999). The "widespread use of Gammalin for fishing" has been reported in Esukutan (Korup Management Plan, 2002:61). Its elders admit this fact and Chapter 7 explains in detail how they have dealt with reported cases and that river poisoning is now a thing of the past. Officials do not mention recent Ikondo Kondo I cases that also led to a house being burnt. However, officials got their knowledge of river poison only after locals had dealt with it.

6.3.6 Intensive NTFPs extraction reduces animal food

The Conservator of the Korup National Park claims that locals intensively collect NTFPs, which are food for animals, quoting a study which reveals that "excessive collection of bush mango, shell nut and njabe is admitted to by locals" (Vabi, 1999). The overall reduction of key NTFPs, is officially claimed has obliged women and youths to exploit

NTFPs such as eru (*Gnetum spp*.) cashew nut (*Tetracarpidium conophorum*) and bush pepper - *Piper guineensis* that were previously not harvested (Korup Management Plan, 2002:60-61). Locals do not acknowledge destructive harvesting of NTFPs and blame poor yields on natural forces. Instead elders insist that preventing them from collecting NTFPs is like animals have more rights to survive than them. They insist that it is never possible for them to thoroughly collect all the seeds and fruits. Contrarily, observations show that men and youths increasingly extract NTFPs due to declining incomes from cash crop farming.

6.3.7 Local hunting pressures are unsustainable

It is no official secret that hunting is unsustainable and has caused the populations of large mammals to be highly dispersed and low (Korup Management Plan, 2002:21). A 1988 survey estimates a total annual off-take of animals from hunting and trapping of over 270,000 kg (more than 29,000 individual animals) by hunters living in villages within Korup National Park (Infield, 1988:30). This finding is questionable on grounds that it does not measure animals that are killed and sold by outside hunters. Officially, hunting and trapping are viewed primarily as a means of locals earning income and not as a source of protein (Korup Management Plan, 2002:62). It is noted that the bulk of bush meat in small and urban towns in Cameroon and Nigeria originates from Korup National Park and traders from Nigeria regularly visit villages to exchange ammunition and carbide for bush meat and that endangered species such as drill and red colobus are also traded (Vabi, 1999).

These perceived local hunting pressures are the main rationale behind the relocation discourse. In investigating this "sensitive issue in the area", questions are best framed on local perceptions of the forest (Röschenthaler, 2000:34). Informants are asked about the importance of having the forest, in groups or individually. These conversational interviews reveal an emotional and religious importance for some: *"The forest was preserved for us by our parents. We cannot play with it. That is why we conserve it. It is important than silver and gold to us"*. For most female household heads, the forest is the source of life for their family. It is a place where they farm and hunt to feed and educate their children. Most male household heads perceive the forest as the source of their survival and development. They *"educate children, build houses, marry wives, and buy medication and many other things,*

with money from the forest". "All our money comes from the things we get from the forest". Some perceive the forest as a natural gift from God. They did not buy it and will not sell it. They will die and be buried in it. A man in Ikondo Kondo I did not change his idea of exploiting forests for their products: *"The tropical rainforest is nice to me. I use it for hunting and trapping*. *I feel happy after I shoot or kill animals in the forest"*

Esukutan households give positive responses on the importance of having a forest with an abundance of animals. For instance, economic returns of having animals in the forest are mentioned, *"It is good to live in the forest with animals because we hunt and sell or eat them"*. However, more than 90% of men and 84% of women complain that wild animals destroy their crops. These figures are up from a previous study, which found that "55% of men and 44% women felt that their crops are threatened by wild animals" (Röschenthaler, 2000:36). A study of Ikondo Kondo I reveal that 84% do not like animals because they are dangerous and destroy crops. The remaining 16% give caveats like: *"I love bush-meat; if the forest is empty I will not get my preferred food again"* (Korup Project, 1999:14). So, without the destruction crops, some locals are happy if all animals are not extirpated.

Another related claim is that locals hunt with firearms. Linking this to the argument about improved technology, a Korup official acknowledges that local hunting with firearms can select game but trapping is unselective and kills even endangered species like; porcupine blue duiker drills, red Colobus, elephants, gorillas and bush pig, etc. Some locals acknowledge that traps kill all types of animals and the game sometimes gets rotten because it takes three days in a row for a complete trapping rotation for individuals having as much as 1500 wire snares. Few households state that in order to make hunting sustainable, government should provide them with beef (cow meat) and fish as alternatives to hunting. "*The government should employ all hunters so that we will have an alternative source of income. Village boys, hunters and other did apply to fill job vacancies as park guards, but were never given the jobs. Instead, the jobs were improperly given to the town settlers only. This leaves local hunters with no alternative but to keep on hunting*"[70]. Responses to a follow-up question on what hunters would do to help solve this problem

[70] "Prominent" hunters of Ikondo Kondo I, July 2006, Ikondo Kondo I village

reveal that long term employment is the key. *"If the government employs us as guards, then we would help them protect these animals from being hunted. We will hand over our hunting equipments. We worked with western researchers [whites] for six months and we were well paid. In this period, we had no time for hunting, since we had a better income. We encouraged others to kill the type of animals that our researchers are looking for"*[71]. This reveals that local hunters also see long term employment as research assistants as a sustainable alternative to hunting inside the Korup National Park.

6.3.8 Heavy forest dependence keeps locals in poverty

A head of the Korup National Park Management Consultative Committee thinks that as long as communities continue to stay inside the park, they would remain poor. He adds that this would even be worse when the resources they depend on are exhausted given their current unsustainable extraction methods and that it is the good will of the government to relocate them for development. A study notes that many poor native forest dwellers have a long culturally rooted tradition of and continue to depend on forests for their livelihoods (Wunder, 2005:108). The forest-poverty link in this official claim could be validated on grounds that the cow boy economics or unsustainable extraction limits the range of asset bases, resulting in poverty. In national parks where extraction is entirely restricted, 'asset' and 'welfare' poverty abound (Angelsen and Wunder, 2003:1; Paumgarten, 2005:190). So, the forest-poverty link may differ with the management regime. The official claim in Korup is that destructive extraction could transcend the current transient poverty that characterizes high forest edge settlements in the national park to chronic poverty, and there is a decline in wild resources. Locals acknowledge the decline of certain wild plants and fruits in the last decade and have adopted different coping strategies.

Using the Household Economy Approach[72] Korup households could be categorized based on livelihood strategies (Ruiz-Perez et al, 2004). Our empirical findings show that female headed households and households with an elderly or infirm head have a greater

[71] *Ibid*

[72] The Household Economy Approach was developed by the UK NGO, "Save the Children" in the 1990s after about 20 years of work in development aid. It describes … how … resources are exploited in the daily, seasonal and long-term bases. It relates households and communities with the wider economy.

dependence on wild resources to solve emergencies or a possible shock like; asset loss, adverse market conditions, ill-health, death, retrenchment, natural disasters and other expenditures. These subsistence or vulnerable households rely more on forests as safety nets and do not have other asset bases to turn to in times of difficulty. This explains why female-headed households are affected the most by declining NTFPs yields. Diversified (average income) and specialized (above average income) engage in many livelihood activities and are less dependent on wild resources for the greater share of their incomes. Their accumulated assets explains helps them withstand the effect of declining NTFPs yield. Instead, the prohibition policy of 1981 has made many households "*to be poorer than they were*"[73]. Eco guards impound any collected and processed wild forest product that is taken to the market and so marketing of these products is covert, which helps to keep prices down while risks involved increase with the extent of the value chain. Middlemen (risk-takers) buy these products at very low prices (compared to profits they make) and then smuggle them into rural and urban markets where consumers buy at exorbitant prices. As prices of imported necessities like; chalk, exercise books, school uniforms and medicines skyrocket, eru harvesters especially, continue to be trapped in poverty. The same could be said of bush meat hunters who spend about half what they get from the sale of each game for bullets, alcohol, cigarettes and so on. The stringent prohibition policy has also provoked a local reaction as hunters and gatherers now want to make use of every opportunity they come across. They engage in destructive extraction. Seed collectors pick every seed around the parent tree by clearing wide areas around them. So, few or no seeds are left to germinate. Hunters also acknowledge a decline in wild animals in the past years due to excessive killing by growing numbers of hunters. Hence, for a successful hunting expedition, one needs to spend many nights in the forest, be accompanied by a dog and also needs automatic rifles; technologies that were not used before. However, households reveal that due to forest changes, they have to exploit more to sell just to acquire what they cannot produce or get for free from nature or the forest. Discussions with locals did raise awareness that unsustainable hunting and collection of wild leaves, fruits and seeds distorts ecosystem services on which human livelihood depends with great consequences for their long term wellbeing and that of the forest.

[73] Personal communication with the divisional officer, Mundemba town, June 2006

These findings differ from previous ones that the livelihoods activities of Korup people are small in scale with little potential to damage the forest, and facilitate conservation of the National Park (Carr, 1923: 26-30; Malleson, 1993:17). Globally, locals do not completely clear the forest and when they do, several trees are left on farms to provide shade and NTFPs, as well as help improve soil fertility and also because trees are too difficult to fell. For locals, grass burning makes conditions better for regeneration; a soft management practice. However, the ecologist's perspective is that rainforests are delicate and human extractive activities that appear to be benign at the onset may later have a severe impact on the structure and dynamics of tropical rainforests (For details see Peters, 1996:26).

6.4 Knowledge processes about the state of forest degradation

Knowledge processes (internal and external) shape responses and strategies (Long, 1992:26). The central question to these analyses is how the social actors develop their knowledge of the issues. It is here contended that experience based knowledge is vital for endorsing or contesting the official claims. Locals have accumulated firsthand experience of animal behavious and it is from this knowledge that they organise successful hunting activities. This knowledge has also been helpful to science[74]. Answers to the question, "how do you know that resources in the park are degrading?" reveal that locals develop their knowledge from daily interactions with the resources inside the national park. However, local knowledge and evaluation differ between experts and amateur participants in the hunting activity as revealed by interviews with hunter households as well as two prominent hunters. The questions centre on changes in wild life species:

Prominent[75] Hunters: *"the population of the animals is dropping but not to extinction. Over-hunting is the cause of the decline because the number of hunters is increasing. Few hunters kill endangered species and animals that happen to reproduce just once a year".*

Hunter household, Ikondo Kondo I: *"animals would never get finished in that national park. Animals are scarce because the forest is busy at this time of the year. People go to the forest in turns and so animals are running and going farther. If we stop for just two months, animals would come nearer to our houses and destroy our crops".*

[74] For example, western researchers noted that in the Takamanda area, a specialist elephant hunter reported that the few elephants he encounters in that forest are coming from Nigeria (Oates et al., 2004:75).
[75] For purposes of protecting the identity of certain informants at their request, the term "prominent" is used.

Hunter household, Esukutan: "*Animals would never get finished in this forest. As we are killing the matured ones, the young animals grow and reproduce. Besides, hunters select their game; that is, appreciating the size of the animals, their reproductive state (like, very young and small or a pregnant) and if that animal has a high market demand"*.

So, expert and amateur hunters do acknowledge that animals are reducing due to increasing number of hunters and frequent hunting rotations. But there are internal inconsistencies in these expert revelations especially on the issues of selecting game and nighttime hunting.

Korup officials get their knowledge from global theoretical deductions and not from on-site detail surveys. The assistant Conservator and the SDO for Ndian division stated, "one could deduce from studies on other parks in the world that human activities inside them are harmful". They were reminded that locals develop their knowledge from daily interactions with forest resources, which has a high chance of providing reliable information. But, they reiterate that; *"locals do not have expert knowledge, they did not go to school and so what they have is lay man's knowledge that comprise of beliefs and myths"*. The SDO who heads the Korup National Park Management Consultative Committee in a remark, differs with the general official idea of total condemnation of locals by arguing that:

> *"The presence of the people inside the park is vital but continuous lectures would raise their awareness that development only started when man abandoned hunting and gathering for a sedentary life. The fact that no such communication exists between the state and the communities is worrying"*.

Critics argue that the knowledge of demographers and conservation biologists guides official criticisms of local peoples' dependence on wild resources and other livelihood activities in national parks (Shackleton, et al, 2007:708). Generally, there are fears that the "low economic value of rain forests amidst secured land and other property rights could force local people to clear forests for other uses" (Godoy et al., 2000:62). Also, it is feared that unsustainable hunting extirpates wild animals and affects the condition of the forest because these animals are seed predators and dispersers (Forget and Jansen, 2007:107; Moegenburg, 2002; Moegenburg and Levey, 2002:223; Moegenburg and Levey, 2003:2600). This in turn influences the reproductive success of plants, soil fertility and regulation of pest populations (Redford, 1996:41). Making matters worse, scholars contend

that areas where more seeds are collected tend to also have more intense hunting (Forget and Jansen, 2007:111; Peters, 1996:27). Some ecologists do argue that over-harvesting of certain NTFPs, degrades ecosystems, depletes nutrients from the export of large amounts of nutrient-rich plant parts or soil erosion resulting from over-harvest of species that help to stabilise soil (Hiremath, 2004:212; Forget and Jansen, 2007:111; Peters, 1996:27). The outcome affects the availability of desirable NTFP species, jeopardise other ecosystems functions like soil water conservation and carbon sequestration. These fears are based on observed cases from other regions, which might not be the case in Korup until studies prove them. Arguments that local communities are often not aware of the wide range of environmental services that wild life provides as well as the effects that losing them would have on their livelihoods validate the need to blame locals (Hiremath, 2004:212; Kiss, 1990; Redford, 1996:42). Locals are not aware of those functions as documented in books but they have untapped extensive practice based knowledge as explained in Chapter 4. It is based on knowledge of many years of yields monitoring that 18 of the 84 households report reductions in wild animals; 30 note that forest trees no longer bear much fruits; 19 households in Ikondo Kondo I report a reduced exploitation area and infertile soils. 17 households either have not noticed changes or did not answer the question.

Generally, households attribute forest changes to nature. Middle-aged women think it is a sign that ancestors are angry with the way Cameroon government officials are playing with their forest. An Esukutan notable argues that hunting has been going on for centuries in the park but has not *yet surpassed the reproductive capacities of animals and when forests are disturbed, animals move to the thick forest that is not regularly disturbed by hunters and seed collectors"*[76]. However, one could deduce from this local response that if too much hunting did not send away the animals, then intensive collection of fruits and seeds did. The 3rd National Report on Status and Strength of Biodiversity in Cameroon (2005:4) argues that faunal (wildlife: bush meat) loss is the most significant threat to the Korup rainforest and that locals mostly hunt for sale. However, commercial extractors have been described as competitors with forest frugivores and their activities reduce the total supply

[76] Mr. Adolf Nwese, government chief of Esukutan, former worker with Korup Project and today the director of an indigenous non-governmental organisation (NGO) still at its infancy, May 29, 2006

of resources available (Peters, 1996:27)[77]. Group discussions with hunters, women and children, reveal a qualitative measure of local knowledge of forest change via NTFPs yield trends. Women in Esukutan explain how a decade ago they were unable to collect all the wild seeds on their farms because yield levels were so high. With poor yields in the last five years, NTFPs collection has been intensive in order to meet household needs and income. Consequently, very few germinating seedlings could be found on farms now than in the past. This local perception is slightly consistent with ecologists' claims.

Culturally, locals prefer wild animals to domesticated ones because their acquisition, distribution and use are deeply entrenched in local cultures and economies. Membership fees for Ekpwe are paid in kind. Usually, a certain number of limbs of bush deer is demanded for the initiation rites. As long as this cultural obligation continues, the killing of bush deer would still go on. Bush meat also provides the population with a flexible source of income, a direct source of affordable animal protein. In the words of one hunter, *"if I need money for something urgent, I am sure to kill an animal for sale and my problem would be solved"*. Bush meat and fishes are often the only store of protein for the communities and a safety net in times of shock. Besides, diversification has brought a shift to non-wild resources for a greater share of household incomes. In terms of incomes from bush meat sales, a study imagines that 33% of the village income is from bush meat (Egbeseh, 2007:5). This study observes that hunting contributes on average; 24% of total households' incomes. So, wild resources extraction does not bring in as much income as non-wild sources. A survey calculated that hunting and trapping provide 120 kg of bushmeat for each person per annum (Infield, 1988:62). These exaggerated annual out-take figures are used by state agencies to justify that hunting inside the national park is unsustainable. But, household incomes, markets, dietary functions as well as culture are crucial in explaining why locals would resist any attempts to force them to stop hunting.

Responses to the question *"How are these changes affecting your daily lives"* connect local knowledge of forest change to community wellbeing. 51.2% of the households complain of

[77] This is the reason why in 2000, the Conservator of Korup National Park rejected a request from six women to go and collect eru in the park.

lower incomes and standards of living and increased spending on substitutes. About 12% complain of hunger, poverty and sufferings. Interestingly, about 25% think these changes have forced them to be hard working and their lives have been improved. However, 24% did not answer this question at all. These figures show that most of the households have a negative perception of the impact of forest changes on their livelihoods.

On the whole, the locals' perceptions of forest changes are inconsistent. For instance, as a group, hunters dismiss claims that too much hunting causes extinction of wild animals. In private, they acknowledge it. Esukutan hunters argue that animals have not actually reduced but have gone farther inside the forest and that animals come from time to time to destroy their crops. *"Animals are not reducing, had it been so, they would not have been destroying crops* (81 households). *Wildlife is increasing and as they are killed, others reproduce* (15 households). *We do not kill young animals* (all households)*."* So, crops destruction is a local indicator for the presence of large and small animals in the forest. Bio-monitors and prospectors have relied on this knowledge for important break-throughs in scientific research in Korup (Chapter 5). So, arguments that locals have lay forms of knowledge may not be tenable since researchers continually tap this knowledge.

6.5 Forced relocation: dominant discourse, legitimacy and power

All actors exercise some kind of powers over those in highly subordinate positions and so intervention ideologies become the strategic weapons to win over the struggles (Long, 1992:24). The idea of 'relocation' is treated here as a sign of "power and legitimacy" of rights of entitlements by the state (Schmidt-Soltau and Brockington, 2007:2197). In 1981, state agencies used discursive means to give reasons for relocation. Cameroon government officials did insist that human activities inside the park undermine the "public purpose" and since then relocation has been the central discourse. 'Laws' and the 'public good' are used to legitimate state power and eviction of locals from the rain forest (Schmidt-Soltau and Brockington, 2007). For instance, an extraordinary meeting of the Resettlement Commission in July 1997 resolved that relocation was no more a choice but the only option because the extraction activities of the communities are outlawed. The argument was that

communities harbour poachers from outside the area, and that some of these villages resist visits by and is unofficially "no-go areas" for eco guards. These non-park indigenes abuse this opportunity, hunt and smuggle weapons into the park, making anti-poaching activities a daunting task as it is very difficult to distinguish an identified park resident from outsiders (Obase, 1995). Currently, only 20% of the park is adequately protected and so, some government officials still contend that relocation offers the best prospect for its effective protection (Korup Project, 2000; Obase and Victor, 1997:9).

A pilot village, Ikondo Kondo was relocated in 2000 with financial support from international donors. Voluntary relocation without external assistance is not unusual for Korup forest communities (Chapter 3; Röschenthaler, 2000). It is important to note that there are differences between a village's own decision to relocate and an imposed decision from a government, even when it is labelled "voluntarily". One difference is in the incentive for the displaced to independently adapt in their new area. It is highest when communities decide to move to places with; enough water; fertile soils for agriculture or suitable land for constructing their daily lives. The situation is complex when people's *right of stay* are compromised by the *right of way* of development projects, and even if compensated; compensations are not always commensurate to the losses (Cernea, 2003:42).

The relocation question was discussed during workshops between different governmental departments, representatives of international donors and village representatives (macro and local level actors). For instance, a workshop was held in December 1985 during which participants recommended that roads be built to facilitate resettlement. In May 1991, some village elite were disappointed that after "nearly six years, not a kilometer of road has been constructed to dis-enclave the area but rather, an attempt was being made to move the Bakoko villages out of their tribe ... in order to plant them on a timber road" (Malleson, 2000:285). The host villages were also unhappy about people from a different ethnic group (Bakoko) settling on their land and they sent a petition to the Divisional Officer to voice their dissatisfaction. Due to this impasse, a workshop was organised in July 1991 to further discuss the resettlement issue with village representatives, external elites and government staff. External elite vocally objected a proposed site claiming it was outside "their Oroko

tribe with whom they share no ethnic affinity, nor language, nor custom ... where they would be eternal strangers at best and slaves at worst..." (*Ibid*). Also that site was on a logging road meaning that the area had been depleted of all mature timber trees. This elite likened the current relocation of 'traditional owners of forest to distant lands...' to the one used by the French in the 1930's to acquire the northern parks of Waza and Benoue and warned that it would not succeed in the Korup forest area. However, all the parties involved agreed on a site, which was to be surveyed by a resettlement commission (village chief and two councilors of all three villages). However, a long logging contract leased out in the Macha area by the Cameroon government raised the enthusiasms of the locals because they would soon get a road since Korup Project had no funds to construct the road from Mundemba to Macha. The November 1990 resettlement proposal submitted to the US military attaché did not include a budget for road construction because the originally imposed Bakoko resettlement site was Babong (Malleson, 2000:288). With this agreement to relocate, villages were to be allowed to hunt certain species of animals that are not considered to be endangered like; blue duiker, tree pangolin, porcupine and some monkeys. For official reasons, relocation plans for Bakoko villages were abandoned for that of Ikondo Kondo and code-named the "Ikondo Kondo I Pilot Resettlement Project".

The Ikondo Kondo village administration choosed a location at a place called "six cup garri", but officials objected because it was too close to the park (Korup Project, 1999:27). Resettlement was not presented to the locals as an option. At the on set, 80% of local hunters were prepared to give up hunting and trapping if sustainable alternatives are made available (Devitt, 1988; Korup Project, 1999:30). Older people resisted, but younger and middle-aged people welcomed the idea on conditions of improved communications and economic opportunities (Korup Management Plan, 2002: 42). Knowing just how much power village chiefs enjoy over their citizens, 25 village chiefs of Korup forest area were sent on a tour to Waza National Park in northern Cameroon in 1986 and this gradually convinced many to accept the idea. Villagers stopped opening new farms, building new houses or acquiring new possessions in anticipation of relocation. An Ikondo Kondo Village Youth Task Force was formed and trained by resettlement officials to help in construction of houses in the new site.

However, studies that were commissioned on the resettlement issue contradict themselves. A socio-economic survey of the area in 1987 by Paul Devitt (1988), favours resettlement and strongly recommends that the government of Cameroon should be responsible for the detailed planning, financing and implementation of the process. A social cost-benefit analysis of resettlement by Jack Ruitenbeek (1988b) suggests that allowing people to remain inside the national park is both feasible and desirable. It argues that indigenous knowledge within Park villages is invaluable for research purposes and could be used to assist efforts to combat poaching by outsiders. A 1996 mid-term review of Korup Project states that the Project lacked the authority, funds and expertise to handle resettlement alone. With additional funds from the EC, the resettlement of Ikondo Kondo I went ahead but the cost exceeded the budget for all park villages by 137% (Malleson, 2000:289). These misgivings forced donors to suspend green aid to the Korup Project in July 2003. In 1999 a positive attitude towards resettlement was noted "the new village is nice", is an often heard statement, although people still complain about the houses and ask for additional infrastructure (Korup Project, 1999:28). In 2006 the government Chief of the displaced community revealed that since the year 2000 his people have been adapting and that most would refuse to go back to the old village if asked to do so. At the onset there was hunger but now people are cultivating so as to sell the surplus. Apart from leaking roofs, no piped borne water and no electricity, life has improved from the 1999 situation on our first visit.

6.6 Negotiations platforms and the expression of power

This sub section discusses how social actors negotiated the issues. It holds that knowledge processes imply power, authority and legitimation (Long, 1992:27). Negotiation arenas are resettlement workshops with officials and representatives of locals, which were neither open nor participatory. During workshops the powerful state actors use speeches to intimidate and deceive the powerless locals. Their arguments are sometimes inconsistent. For instance, a resettlement workshop of 6 July 1991, did not only point to state actors' insistence to relocate communities but show internal inconsistencies in the reasons to do so. The SDO blatantly categorize the livelihood activities of locals as wilfully destructive:

> *"It is true that a forest reserve cannot be said to be conserved if it is inhabited by people who, in their effort to eke out a living, destroy what we want to preserve. That is why it is necessary to displace the population of the villages situated within the Park to a new site considerably away from it"* (Korup Project, 1991:22).

He contradictes himself by saying; "*the entire resettlement process must be voluntary"* (*Ibid)*. The representative of the main international donor WWF takes on a 'development' focus. His 'relocation for development' rhetoric is a sort of subtle pressure on the locals:

> *"WWF would like to see park villages resettled to a site where benefits can be brought to them ... WWF can do nothing unless there is quick choice of a site; there is a real danger that funding agencies hearing the discussions, debates and arguments may decide not to fund the programme"* (Korup Project, 1991:5-6).

The Conservator of Korup National Park at that time focuses on the government's rights of entitlement as well as his biological conception of parks as ecological islands;

> "*a national park is a large track of land declared to be public property by the national government ... camping, game viewing and research are permitted because they do not alter the park*" (Korup Project, 1991:11).

In a bid to win over the support of donors, the then director of the Park legitimates the relocation policy by arguing that park villages are not indigenous to the area:

> *"... Korup people have moved in and out of the park within the last 50 years. Villages split up to form new ones ... It is erroneously claimed that the villagers in the park are indigenous people and too often we refuse to acknowledge that these are 20th century people with 20th century expectations ... They have chain saws, firearms of all sorts (including automatic weapons) and poisonous compounds. They hunt indiscriminately and own zinc houses etc ..."* (Burnham, 2000:48).

This study did not find any chainsaw in Esukutan inside the park, except for Ikondo Kondo I which harbours a multiplicity of chainsaw operators from Mundemba town. However, these speeches exerted pressure and intimidated locals such that there is little trust between the social actors which does not help conservation either (Korup Project, 1999:22).

Another issue is 'who' has been representing locals. In July of 1990 a resettlement workshop was organised by the Wildlife Conservation International at Ikenge that ended with a unanimous agreement on the Bakoko resettlement. Korup officials threatened the 'illiterates and primary school pupils' who participated on behalf of their communities that if they do not accept to be relocated, their villages will be bombed (Agoons and Malleson, 1991:15; in Malleson, 2000:288). Such negotiations by threats including arrests by eco guards have generated local resentments and ill feeling about conservation. So, after 25 years of suspended economic activities, Esukutan people perceive of Korup National Park as a "whiteman's idea" designed to throw them out of the forest so that its resources would be consumed at a later time when all other forests must have been degraded. This perception is similar to an earlier claim from Ikondo Kondo I inhabitants that government is prohibiting hunting inside the park because it *"wants to create a place where animals are kept to eat later, when animals of other forests are finished, ... 77% expressed that the national park is a white men's idea, while the village leaders think that Cameroonian authorities asked foreigners for help"* (Korup Project, 1999:15). Previous studies also mention that this view is widespread in other communities in and around the national park. *"Some people think the whites have bought the land from the Government because it has some value, which the local people are unaware of"* (Devitt, 1988:41; Infield, 1988:35). So, locals' perception is that leaving the area serves the interests of the whites who have bought the forest. Another issue that angers park villagers is that they suffer most from the brunt of park protection but the limited rural development interventions of Korup Project went to roadside settlements whose livelihoods had little direct impact on the national park.

These have provoked a local resistance and locals spoiled tourist trails (Malleson, 2000:290). Esukutan, Ikenge and Erat banned Korup officials and eco guards from their settlements. Calls from Korup staff for Ekpe leaders to punish hunters exacerbated a rift between youth and the former, thereby undermining the already weakened social fabric of the communities. The emphasis on anti-poaching particularly antagonises hunters and encourages them to hold the view that they must profit from wildlife, while this opportunity lasts. So, locals who offer countervailing arguments and perspectives on conservation do not endorse the original ideas and justifications for resettlement.

6.7 Explaining the internal inconsistencies

The local perception that animals have reduced or increased has multiple interpretations. Locals who think wild animals are reducing attribute it to high hunting pressures. Others, who argue that animals have increased, cite crop damages that are causing food shortages and hunger. Since state officials do not listen to their complaints, they feel like doing what it takes to drive away the destructive animals and prevent human suffering. Many households have developed a series of coping strategies. Some avoid domestication of animals because these are also not controlled in fences or cages and so destroy crops more than wild animals. Others tie small fences around farms to prevent animals from entering. Many set traps against holes created by animals or around their farms. Others cultivate bigger plots so that if some are destroyed, the others would be safe.

Some hunters out of good will do not hunt down pregnant animals in the dark dense forest. Hunters from the relocated Ikondo Kondo I think insecure user rights make them not to adhere to norms. Esukutan hunters still claim ownership rights and so observe norms. As opposed to Ikondo Kondo I hunters, they still make conservation a priority. When asked: Is forest protection your priority or your survival? "*Forest protection is not the priority of the people; their survival is most important now that they have been abandoned on their own. This is through hunting, collecting NTFPs, logging and so on. Talking about forest protection will be interpreted as if you have ignited another problem. So avoid it*"[78].

The official claims focus on almost entirely biological factors, while locals are holistic in their perceptions. Complaints from locals that the forest is protected at their expense and that the animals have more rights to survive than them is based on no clear knowledge of why animals should be protected while people are displaced from the Korup National Park (See Korup Project, 1999; Röschenthaler, 2000:5). The lack of donor funds is changing the discourse to an in situ arrangement through establishing Temporary Use Zones (TUZ) with specific boundaries and user rights on a village by village basis confining farming activities within a reasonably small area, while hunting which has a major impact on wildlife

[78] Government chief Awoh Simon of Ikondo Kondo I, 16 July, 2006: Formal interview, Mundemba town

populations should exempt key conservation species such as drill, chimpanzee, red colobus, leopard, elephant and buffalo etc (Management Plan, 2002:75). However, there is still no official statement on how the TUZs would be managed and who would do it.

6. Conclusion

The government of Cameroon and its donors on the one hand and the local communities on the other hand, are two social categories involved in this actor-oriented analysis. The former are too bureaucratic and far away from the resource under protection. Donor agencies dictate the conservation agenda. The national government's departments make national park laws, while the Korup Park Service and eco guards enforce them. The latter, are locals [communities] that live in close proximity to the resources under protection.

International donors have an interest in stamping out the extraction activities of the communities; and the national government and eco guards are interested in bringing development to the locals (reduce poverty while conserving the rainforest). Locals are interested in the forest which doubles as their main source of livelihood and survival.

Cameroon's forestry law bans all human activities that are not officially linked with conservation of the park, but does not explicitly prescribe relocation. But apart from the development rationale, the relocation of the Ikondo Kondo I is neither justified nor implied in the IUCN definition of national parks. The proposed temporary use zones or in situ management arrangement has not regarded local knowledge, power and authority. The continued conflicts and local perception of conservation as granting more rights to animals reflects a battlefield of knowledge that should not have been allowed to develop at all.

This actor-oriented perspective has exposed the speculative nature of most official claims about local extraction activities inside the national park. However, these claims are real but most of them are not at crisis levels to warrant relocation from the tropical rainforest. However, admittance by some locals of unsustainable hunting and scant cases of fish poisoning seem to be the target shifting points of the official discourse on relocation. Through financial and knowledge networks, macro level actors have dictated rather than

dialogue with locals who have developed a negative perception of conservation as being a "white man's plot to take away their source of livelihood". Although, local perceptions contradict official claims, locals' acknowledge river poisoning as well as night hunting or long stays in the forest by hunters, as unsustainable. Also, the idea of employing foreign expert hunters to kill large and destructive animals does not only have cultural implications for the locals, it also craves conservation concerns. Hunters are making the most of its resources before relocation actually purge them of their traditional rights over the forest. However, anyone with an interest in the ICDP approach in the Korup area is faced with one dilemma: most of the official claims are reifications that are supported by global theoretical speculations, which are not most importantly, locally justified. More so, it is not certain that state agents would be effective in protecting the resources if communities are relocated and many locals have declared war if this would make foreigners to take over their land.

A key lesson to learn is that the dissemination of new ideas and practice in conservation interventions rest on the establishment of a supportive network of all the actors. Rather than ignoring locals and using speculative arguments to win the struggle and coerce them into the relocation project, it should be emphasized that the outcomes of ICDPs intervention is determined by effective negotiation processes that incorporate the perspectives of all the social actors involved. These negotiations could help in balancing interests.

In all, where incentives to generate cash are powerful, the nutritional status of hunter households are compromised by the sale of needed game meat for the purchase of non-edible goods or low-protein foods. However, if carefully regulated, markets could be important sources of income. Also, successful intervention by imposing limits on the extraction of forest resources for the sake of conservation and development, may well rely on local monitoring by resource users. They have extensive knowledge and are known to adapt their economic strategies in response to collective management regulations that impose constraints on the range of options available to them. This leads to the next chapter that discusses the different rule enforcement strategies employed by the main social actors' invloved in the Korup case and their structural outcomes.

Chapter 7: Whose rules matter in the Korup forest area?

7.0 Introduction

"Unable to grasp the 'stick of enforcement', conservation organisations turned to the 'carrot of economic assistance', but they must come to grips with the failure of that approach as well. Bottom-up processes initiated at the village level will not improve the security of parks because the rely 100 per cent on voluntary compliance" (Terborgh, 1999:169; cited in Schmidt-Soltau, 2004:94).

Such is the reflection of a conservation biologist who disagrees with the conservation and development approach. It does raise some thematic questions like: Stick of enforcement of what? Who eats the carrot and who gets whipped with the stick? What are the lessons to be learnt from the Korup experience for a way forward? Whatever the intricacies are, the departure point is that successful resources governance is predicated on the ability to overcome social dilemmas. Locals have knowledge of the forest and its resources (Chapter 5), but not everyone extracts sustainably (Chapter 4). It is not enough to state that official claims are myth-like and that communities are conservation allies (Chapter 6) without understanding resources governance systems. As advised by Norman Long (1992), actor oriented research should identify and characterize differing actor strategies and rationales, their effectiveness for solving conservation problems and their structural outcomes. It is important not only because of the currently favoured community conservation, but as a key to the success of the temporary uses zones arrangement that is proposed for the park. An analysis of whose rule is most effective determines the key actor in the success of Korup. The core of this issue relates to questions on conservation authority. Specific questions focus on the wider concept of institutions (both rules and their enforcement mechanisms).

7.1 Approaching institutions: theoretical framework

This chapter is boosted by New Institutional Economics studies on institutions and property rights, especially those of Arun Agrawal and Elinor Ostrom. Those authors are authorities for studies on local governance of forest resources because their extensive works and common property approach to institutions is the most relevant to study tropical forest communities. This does not imply that resources are better governed under common or

private property regimes, or are poorly managed by governments (Agrawal and Chhatre, 2006:151-152). It does not assume that co- or indigenous management is the best either. There are examples of successful and unsuccessful resources management by governments, communal groups, cooperatives, voluntary groups and private individuals or firms (Ostrom, 2003:249). An analysis of the institutional framework of a setting has the potential to state with certainty whose institutions works well for that particular context. The 2003 World Parks Congress and 2004 Programme of Work on Protected Areas of the CBD recognized that any IUCN category of protected areas can be effectively governed by any governance type (Borrini-Feyerabend, 2005:6). However, there is a growing bias towards community governance of forest resources as the "road less traveled" in the conservation discourse (Brechin et al, 2003:270). However, property rights and types shape forest resources governance attitudes. Forests as common-pool resources are characterized by difficulty of exclusion and exhaustibility of resource units and are threatened by overuse (Ostrom, 2003). Property rights guide incentives for greater internalization of externalities (Demsetz, 1967:348). Hence, if well defined; communities would exercise a conservation authority through evolving rights regimes to constraint resource use. Ostrom (2003:249) describes five types of property rights owned by authorized entrants and users:

Access: the right to enter a defined physical area and enjoy non-subtractive benefits (For a forest, this would constitute bird watching, ecotourism, boat trips on the creeks, etc)

Withdrawal: the right to obtain resource units or products of a resource system (e.g. hunting animals, fishing, extracting non-timber forest products)

Management: the right to regulate internal use patterns and transform the resource by making improvements (e.g. propagating wildings or nursing and planting seedlings, etc)

Exclusion: the right to determine who will have access and how rights may be transferred (e.g. community leadership may be responsible for land issues, Ekpwe, etc)

Alienation: right to sell or lease, exclusion, management or withdrawal rights (e.g. if households have the authority to sell farmland, settlement plots etc.)

The most important for hunting and land tillage are the collective choice rights of management and exclusion (Demsetz, 1967: 354; Ostrom, 2003:253), whereby users' institutions enforce regulations to constrain destructive and authorized extraction. A scholar

argues that groups with at least the right of proprietorship are able to govern and manage their systems more effectively than presumed in the earlier theoretical literature (Ostrom, 2003:239). However, the conventional theory of common property resources guided by the [mis]conception that communities grant free and open access to forest that must be protected, did provoke scholarly recommendations for external authorities to impose a different set of institutions. Harold Demsetz, (1967:356); Richard Posner, (1977) and Simmons et al. (1996)[79] argue that private property is the most economically efficient form of ownership. Ophuls (1973) argues that government ownership and control is better (Ostrom, 1999a:2). The nationalization of forests and the establishment of national parks has led to incessant conflicts between governments and indigenes (Adams and Hume, 2001) while strict and insular management instead of the participatory approach is "now backfiring" in the Korup National Park (Cernea and Schmidt-Soltau, 2006:1823). It has set the "government against indigenes when, in fact, successful resource management requires the opposite" (Bromley and Cernea, 1989:25). Apparently, in establishing the Korup National Park in 1986, the government of Cameroon took on far more resource management authority than it could carry out effectively in balancing the needs of the people and conservation. Also, international calls for poor country governments to hastily enact green forestry legislations through the establishment of protected areas ignored how forest communities govern forest resources and sought ways to displace them. Parks managements in the Congo Basin have displaced and impoverished hundreds of thousands of forest people (Cernea and Schmidt-Soltau, 2006:1818; Norton-Grifiths, 1999:1557) using national laws to argue that their livelihood activities are destroying the parks.

Market demands (Chapter 4) and *'get rich quick or die trying'* make rule violation, inevitable. Arun Agrawal and Gautam Yadama (1997) have developed a thesis of how local institutions [not necessarily created by the state] play a critical role to counter the destructive influence of structural and socio-economic variables. It guides analysis of whose rules are effective because institutional effectiveness and the impact of rules on human behaviour cannot be fully assessed without knowledge about the extent of rules

[79] The executive summary of this report clearly states, "Private management through clearly defined property rights is superior to political management on every point. We can improve resource management greatly by relying more on property rights and market forces and less on political management."

observance (Agrawal and Yadama, 1997:459), as well as forest ownership. In principle, the communities enjoy usufruct rights; that is, rights to collect fruits, leaves and seeds. The government of Cameroon owns the right to the trees, timber and minerals. This tenure niche overlap (common pool resource and a national park) and the ineffective state control has led to continuous use on a furtive or open basis. Little is known of communities because academics and parks protection agencies have long ignored and downplayed their role in protecting biodiversity (Ostrom, 1999a). Consequently, local governance is truly the road less traveled. It has been recently argued that the political influence of forest communities could be strengthened by secure land tenure and well defined property rights and opportunities to use their resources (CIFOR, 2007:24). This leads to the main argument of this chapter that in the wake of state failures, the relocation policy is to blame for the conservation vacuum that currently exists in the Korup national park. Hence, if state is not effective on the ground, there is a need to revitalize and empower institutions created and enforced by user communities, because they have a higher chance of being respected.

7.2 The concept of institutions

What is an institution in this context? There exists a plurality of definitions of the concept of institutions, as there are surging scholarly works and academic disciplines (Eguavoen, 2008:8-9). The most classical common property approach definition holds that "institutions consist of informal constraints, formal rules, and the enforcement characteristics of both" (North, 1989:239). Another argues that institutions are "prescriptions humans use to organize repetitive and organised interactions" (Ostrom, 2001; 2005). Institutions are characterized by "the incentive structures and the physical and social environment in which human beings live" (Ascher, 2000; Chakraborty, 2001:343). It is re-iterated that institutions do not necessarily have to be bounded units with physically defined characteristics in time or space (Poteete and Ostrom, 2004). Elinor Ostrom (1999b) concedes that some scholars think institutions are organisational structures, political party or family, which to her brings clarity problems and so has exclusively focused her works on rules. In a book chapter "*Institutional Rational Choice: an assessment of the Institutional Analysis and Development Framework*" Elinor Ostrom (1999b) defines institutions as rules, norms and

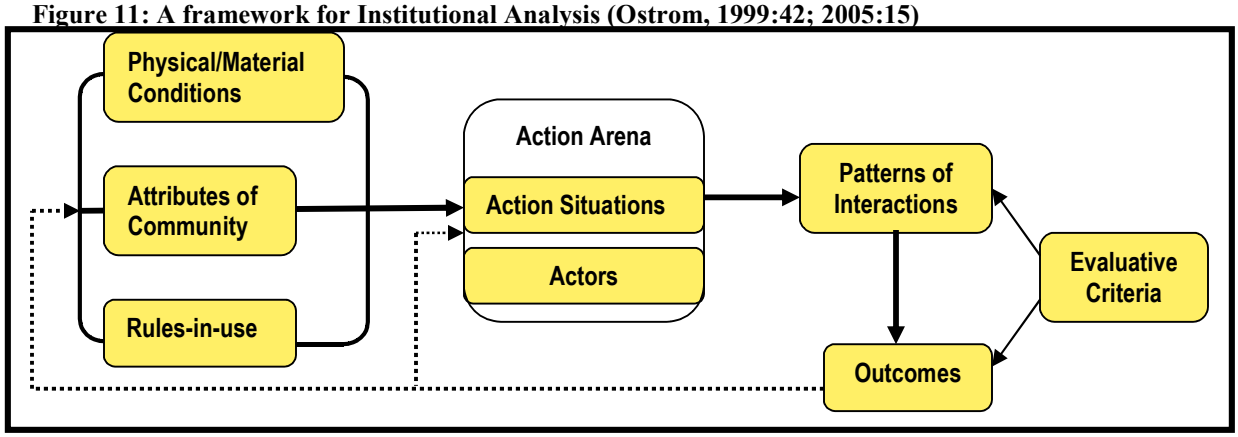
strategies that organize shared concepts used by humans in repetitive situations. To her, rules mean shared prescriptions like "must", "must not" or "may" that are mutually understood and predictably enforced by those responsible for monitoring and sanctioning in any particular situation. Also, norms are shared prescriptions that are enforced by participants themselves through internally and externally imposed costs and inducements. Strategies, Elinor Ostrom argues, are regularized plans that individuals make within the incentive structures (Ostrom, 1999b:39). These plans could be rational or irrational.

For this chapter, institutions are not only rules or organizations but also both. The argument here is that a rule without an enforcement body is like assessing a software program while ignoring the hardware that runs it. So, it is not academically sensible to treat rules in isolation to their enforcement bodies because in most cases, they are part of the culture and history of a people. Institutions are therefore part; village associations, cultural sites and processes [effective regulations put in place] by groups with a strong identity and leadership. These groups survive on common pool resources through patterned behaviours that directly or indirectly control and regulate resource use. These behaviour control mechanisms (institutions) are "embedded in the traditions" and transmitted to other generations through the indigenous knowledge exchange process (Knudsen, 2008:40). Traditional norms and values (customs for acceptable patterns) of resource extraction, set the rules of the game of social interaction and fashion how individual behaviour meet group expectations of forest use, and the long term security of resources. In this way, institutions could be seen as a way of life or the culture of a social unit. They always come into contact with other institutions, but could be highly resilient to changing circumstances even though they undergo change to some extent (Eguavoen, 2008:9). This change could influence conservation attitudes. Poteete and Ostrom, (2004:6) argue that if institutions, as they usually do, evolve as unwritten norms or rules, they would be difficult for outsiders to observe or get recognized. These assumptions are tested in the Korup context with the help of the institutional analysis and development framework (IAD) of Elinor Ostrom.

Elinor Ostrom's institutional analysis and development framework (Figure 11) incorporates analysis on three levels. One level comprises the physical attributes of the forest, attributes

of the community, and the rules in use. The action arena includes; the action situation and the actors. The last, patterns of interactions produce outcomes, also constitute evaluative criteria (Ostrom, 1999b:42). The material attribute could be proximity to the resource, which is not completely degraded. The attributes of a community include: the values or generally accepted behaviour, level of common understanding by participants about the structure of action arenas, the extent of homogeneity in the preferences of community members, the size and composition of the community, and the extent of inequality of basic assets among those affected (Ostrom, 2004:35). The rules-in-use could be regulations, instructions, precepts, and principles (Ostrom, 2005:16). A rule is regulation when it is the rule being announced, put into effect, enforced (strictly, laxly, invariably, etc.), disobeyed, broken, rescinded, changed, revoked or reinstated. Elinor Ostrom argues that a rule is a precept when it is used as a maxim for prudential or moral behaviour that puts charity ahead of justice (Ostrom, 2004:20). Rules could also be a set of instructions for creating an action situation in a particular environment. Rules could be principles when they are a moral belief and mostly enforced by the individuals concerned.

Figure 11: A framework for Institutional Analysis (Ostrom, 1999:42; 2005:15)



The action arena is the social space where individuals interact, exchange goods and services, solve problems, dominate one another or fight (Ostrom, 1999b:42). Actors are either acting as individuals or as a group. Such an idea of grouping actors is used in discussing the Korup case. Action situations include: the set of participants; specific positions filled by participants; allowable actions and their linkage to outcomes; potential outcomes linked to individual sequences of action; level of control each participant has

over choice; information available to participants about the structure of the action situation; and the incentives and deterrents assigned to actions and outcomes (Ostrom, 2005:16).

Actors' interactions produce outcomes. When participants share common values and interact in a multi-complex set of arrangements within a small community, the probabilities of them developing adequate rules and norms to govern repetitive relationships are much greater. Reputation for keeping one's word is important in such small communities meanwhile the cost of developing monitoring and sanctioning mechanisms is relatively low. Heterogeneity in terms of culture and distrust substantially increase the task of devising and sustaining effective rules. However, in a well-ordered human enterprise, some behaviour is rarely observed because individuals following rules do not normally engage in that activity in the given setting (Ostrom, 2004:23). This means a common understanding and respect of the rules in use or enforced is pivotal. The IAD framework is hailed by Elinor Ostrom as relevant for analyzing common pool resources institutions, and could be applied in the analysis of sacred groves (1999b:44). The framework is also suitable for this chapter in that it examines the origin of rules or how they change in a particular context.

7.3 History of forest governance[80]

The documented history of forest governance in Cameroon dates as far as the colonial era. Since 1916, the British and French colonial policies outlived that of the Germans. The common denominator of the policies of these powers was that communities were granted usufruct rights, while the colonial authority owned the trusteeship over the forest. That is jurisdiction over forests was with the forestry service while rural communities could only gather non-timber forest products for domestic use (Amanor, 2004:8). A major difference was that the French *tèrres vacants et sans mâitre* and the German *herrenlos* land policies did not recognize and preserve the native rights of communities like British policy did (Egbe, 1997:9). They faced local resistance. For instance, the 1935 French forest code introduced a license-to-log system that granted commercial rights over forest products. Only French citizens and expatriates enjoyed this privilege. However, the British colonial rule was responsible for the Korup forests area (British Cameroons) and so its policies are

[80] This historical timeline of forest governance is based on discussions with the SDO for Ndian in June 2006.

discussed. Its rule vested forests governance in the hands of the British Crown whose headquarters was in southern Nigeria. Local chiefs controlled at the ground level but were answerable to the British Crown. This indirect rule system stymied protests by placing land under the authority of loyal chiefs. Although the colonial authority ratified the by-laws introduced by chiefs, they intervened whenever chiefs deviated from official policy. Under this system, paramount chiefs were responsible for creating forest reserves; meanwhile the Forestry Department had legal rights to demarcate forest reserves if the chiefs failed to act (Amanor, 2004:9). This policy expected communities to participate in the implementation of development projects although they did not have any voice in their design. In this way, the colonial regime in Nigeria adopted a multi-layer management approach that recognized the conservation authority of indigenous institutions to some observable extent.

The postwar and independence years saw the emergence of a bureaucracy, which mimicked the colonial forest policies. British colonial Order No. 25 of 14 October 1937 originally established the forest as the Korup Native Administration Forest Reserve (KNAFR). Its provisions retained the right of enclaves to hunt, fish, collect; snails, tortoises, land crabs, honey, kola, wild fruits, nuts and so on. The boundaries of the reserve were regularly demarcated from thence until the mid-1960s and this marked the official commencement of post-colonial state ownership and control (Malleson, 1999; 2000; 2001). Ordinance No. 74/357 of 17 August 1974 that mirrors the national integration and development agenda of the independent state, which was aimed at using law to pursue its hegemonic project, defines the first forestry legislation. It was abrogated in the 1980s and replaced by Ordinance No 83/969 of 12 April 1983 because it was out-dated. Decree No. 83/170 of 1983 established the laws binding national parks in Cameroon. It banned hunting, gathering, fishing and logging in national parks and forest reserves. Relocation was originally announced in 1981 but after a 1983 assessment, people in the park enclaves were instructed not to build new houses, plant trees, cash crops or open new farmland since resettlement was imminent. Three years later, presidential decree No. 86/1283 of October 30th 1986 created the Korup National Park and withdrew the extraction rights of all enclaves in the "national park". The 1983 law was later found to be inadequate in solving forestry issues of the times and so was promulgated and replaced by Law No 94/01 of 20

January 1994. Its decree of application came in August 1995 that called for participatory forestry management and the concept of community forestry was adopted. A National Forestry Action Plan and National Environmental Management Plan were drawn up in 1996. Table 16 outlines the relevant laws and decrees to the Korup National Park case.

Table 16: Relevant forestry legislation (Korup Management Plan, 2002:40)

Year	Decrees, Laws and Orders
14.10.1937	•Order No. 25 established the Korup Native Administration Forest Reserve
30.10.1986	•Decree No.86-1283 established Korup National Park (KNP)
20.01.1994	•Law No.94-01 established forestry, wildlife and fisheries regulations in Cameroon
19.04.1994	•Order No 037-CAB-PM classified KNP as Category One PA with priority protection
20.07.1995	•Decree No 95-466-PM established conditions for implementation of wildlife regulations
18.12.1995	•Decree No 95-678-PM establish indicative framework for land use in the southern forest
1996	•National Forestry Action Plan and National Environmental Management Plan
10.04.1996	•Decree No 96-237-PM defined the conditions for the functioning of Special Fund provided in the Law 1994 related to forestry, wildlife and fisheries
05.08.1996	•Framework Law No. 96/12 on the Environment
21.12.1998	•Decree No 98-345 of organized Ministry of Environment and Forest

Generally, the subsequent forestry decrees have still made local extraction inside the park illegal even though communities had long inhabited it before the introduction of the nation-building concept. It has been noted that there was no prior consultation with locals before enacting laws to ban their activities inside their "God-given or ancestral property" (Egbe, 1997:12). So, state management generally ignored and de-motivated locals whose energies needed to be mobilized in the forest management efforts (*Ibid*). The major explanation is that the over-seer forestry departments perceived of local or customary rules as 'weak'.

Since 1988, eco guards; the para-military surveillance and enforcement unit of the Korup National Park Service, employed by the government of Cameroon, have been trained to guard the national park. They are supposed to patrol its boundaries and station at game guard posts, all of which are located on the Cameroonian side of the park when in effect, most bush meat is smuggled into Nigeria through footpaths across the national park. The

first ever Management Plan of the park, which expired in 2007, recommends the building of two game posts in strategic villages along the Cameroon-Nigeria border. One year to its expiration there was still no funding. Originally, three fully integrated and 23 contracted eco guards are to police the 126,900 hectares of closed canopy Korup forest.

Looking into the provisions of the decrees, laws and orders on Table 16, one could find inherent contradictions in their details. In such a cloudy circumstance, when state authorities undertake certain actions, they refer to different legislations for justification. As such, one is not certain which law is actually abrogated and which is the currently applicable one. One relevant contradiction is that although Korup National Park is one of the first ICDPs in 1986, eight years later, Order No. 037-CAB-PM classified it as a first category protected area with a high priority and protection status. There is a contradiction of certain objectives of the national forestry policy as defined by the 1996 Environmental Management Plan. The objective: *to increase the participation of local populations in forest conservation and management in order to contribute to raising their living standards* is also contradicted by Prime Ministerial decree No.96-237-PM of April 10th 1996 which creates a Special Fund for the Management and Equipment of Wildlife Conservation and Protected Areas as provided for in Law No.94-01 of January 20th, 1994. This Fund receives 30% of all revenue generated from hunting permits, licenses, trophy, capture and traders' fees. 40% of the proceeds from transactions, fines and various sales of wildlife products are also paid to the fund. This decree provides that of the other wildlife related revenues, 55% should go to the public treasury, and 45% to this special fund. There is no official stipulation that benefits derived from conservation activities be shared with locals. "*Local people are not entitled to any cash but if a road is built in any part of the country, these people would benefit by using it whenever they come to that area*"[81]. This reveals official ignorance to the loopholes of the stipulations of the 1996 Prime Ministerial decree.

Most of the contradictions affect the functioning of state agencies that oversee forest management on the ground. According to article 7 of Ordinance 74-2 of 1974, bona fide owners and occupants who hold rights over public property of the state prior to 1974, may

[81] Acting Conservator of Korup; personal communication, 23.07.06

not be dispossessed thereof unless the public interest so requires and subject to compensation calculated as in the case of expropriation. Consequently, until there is convincing proof that their restricted livelihood activities are against the public interest, relocation of inhabitants from a park, is unjustified. Also, the 1983 law requires people to request permits to own a firearm (locally made and imported) at the same time it bans all types of hunting with firearms. This contradiction makes the work of eco guards a daunting task as indigenes cannot understand why "a licensed hunting gun" should be seized. Since permit requests are costly, most Dane gun owners now resort to bribery and corruption when caught by the gendarmes or eco guards and later hunt to recover the money.

The extended colonial policy of community participation through chiefs or headmen reproduces the conceptions that communities are best represented through leaders (Amanor, 2004:10). In this light, community participation is uniquely used in official documents. Instead of rallying the entire community of resource users, appointed "government Chiefs" are employed to work at the Korup Park Service office. These people have all but migrated with their entire nuclear families from their villages of origin to settle in Mundemba Town and are out of touch with the people they are supposed to represent.

However, the current view of many in the administration of Korup National Park is that the difficulties in stating for most wild species, what quantity of harvest is sustainable, is the main justification of state laws to completely ban all extraction activities inside the park. For instance, Chapter 1, article 3 of decree No. 83/170 of the law binding national parks in Cameroon stipulates that livelihood activities like hunting, fishing, industrial activities, extraction of materials, pollution of waters, agriculture, pastoral activities and grazing of domestic animals are prohibited (Malleson, 2000:250). Interestingly, there is not a clear-cut clause in state law that does prohibit human settlement in national parks. It is hard to think of a scenario in which people who legally reside in parks would not carry out livelihood activities in them. However, such laws are the outcome of the fact that donors and ministries that make them are far away from the eco guards who have to implement what they did not participate in drafting. This also explains why the contradictory policy environment further complicates law enforcements on the ground especially by eco guards.

7.4 Management strategies

7.4.1 Management strategies employed by Korup Project

Since 1988, and as an ICDP, Korup Project used a multiplicity of strategies to execute its strict management approach to its field operations. The strategies to ensure "no human activities other than research, tourism and recreation in the national park" include:

- Park policing and surveillance: prohibits extraction activities. This is the only field operation and eco guards are mandated to confiscate weapons and arrest poachers to be sent to jail.
- Relocation: park villages are to be relocated to wipe out their conservation threat. The pilot Ikondo Kondo was finally moved in 2000. The high cost and little conservation benefit dissuaded donors to fund the process any further. Cameroon authorities hope it proceeds.
- Rural infrastructure projects: in support zones via donation of gifts, roads, bridges and culverts construction, providing piped borne water, etc. It encouraged alternative income generating activities by donating cassava grinding mills, piglets and rodents for people to rear and sell.
- Education and sensitization on environmental awareness: was in principle done through providing educational materials to primary schools in the area. Most conspicuously and in practice, a few calendars were distributed annually to selected households in the project area.
- "Participatory" land use plans: were drawn although in 2000 none of the inhabitants of the project area had any knowledge of such plans (Korup Project, 2000: ii).
- Sustainable forest use promotion: this was through capacity building and creating forest management committees only in villages in the support zone of the national park.

The combination of these strategies constitutes the 'carrots and sticks' strategy to achieve protection of the park (Obase and Victor, 1997:11). So, the carrot (rural development) focused on support zone villages while the stick (park surveillance) targeted villages inside the park in order to force them to accept the relocation project. However, the existing literature on ICDPs (Schmidt-Soltau, 2004:94) required Korup Project, in principle to:

(i) establish a support zone [that is five times larger than the size of the park]
(ii) promote agricultural activities as natural resources management alternatives
(iii) replace unproductive income generating resources with those with conservation benefit
(iv) reinforce existing forest management strategies and distribute the benefits accruing directly from sustainable forest use
(v) provide roads, communal infrastructure and social services
(vi) distribute income from tourism and bio-prospecting

These ICDPs principles were ignored in relation to the villages inside the park, and they reacted. In 2006, 10 eco guards at the Korup Park Service revealed that illegal hunting in the former location of Ikondo Kondo I. After eco guards destroyed the wire snares of an unidentified hunter, he retaliated by demolishing the only zinc-roofed house that was ear-marked as a game guard post and a resettlement monument. He also destroyed the school building; a supposed research camp. His style of trapping led eco guards to tell that he was not from within the park villages. Also, the eco guards acknowledge that indigenes from Ikenge, a neighbouring village to Esukutan hired experienced hunters in 2004 and 2005 from Manyemen, a small town located some 300 km away to kill buffalos and elephants that destroy their crops. The guards acknowledged that locals do not have automatic rifles that are best suited for killing such large and dangerous mammals. It proves that outsiders pose much of a conservation threat than locals; an ecological cost of relocation.

There is a curiosity to correlate the amount of money spent throughout the lifespan of Korup Project and its value-added conservation benefits. Document searches reveal that the implementation of the above mentioned strategies was at a high cost for Korup Project which also ran the highest conservation budget of more than 2 Euros per km^2 of forest in West and Central Africa (Obase, 1995:9; Obase and Victor, 1997:13). It spent about 20 Million Euros (about 1.3 million per year) between 1988 and 2002 (Korup Project, 1999; Schmidt-Soltau, 2003). In the same vein, the pilot resettlement project costed 642,037.20 Euros and exceeded the planned budget for the entire relocation of all park villages by 137% such that insufficient funds remained for the displacement of the other five villages (Korup Management Plan, 2002:40; Malleson, 2000:289). During an introductory meeting with the director of an indigenous NGO in Mundemba on May 29, 2006, he made his case that in terms of low economic costs and high conservation benefits, indigenes would be the "most important allies to the best option". In private, local elites note that Korup Project spent far more money on park development and anti-poaching compared with rural development and education. For instance, the Project's 1990 budget of 176,459.5 Euros but only about 4% (7058.40 Euros) was spent on conservation education and rural development, the rest was spent on 'development' activities (Malleson, 2000:290). It is worth noting that data on research expenses as a fraction of the annual budget is lacking.

At that economic cost, conservation achievements were made between 1988 and 2008:

- 31 Forest Management Committees were created
- 40 infrastructure development projects were facilitated (including; water supply, bridges, culverts, rural access roads, rural community halls and schools). A complex headquarter and sub-headquarters, tourist information centers, 115 km of trail, five tourist camps, three game guard posts and upgraded equipment for tourism and security purposes.
- 70 Income Generating and Credit Activities (including; cassava grinding mills, palm oil presses, improved cocoa driers and sprayers, plantations, coffee rejuvenation, cattle, goat and pig rearing projects), were carried out. They instead exacerbated existing inequalities.
- Those with farms and land in areas with easy market access had the opportunity to benefit from the project's agricultural interventions and the Ancistrocladus cultivation trials, whilst youth and female headed households and all villages inside the park that lacked the physical and financial means to clear farm land, generally did not (Malleson, 2000:292).
- 14 indigenes benefited from scholarships for training abroad, meanwhile about 57 nursery, primary and secondary schools were supported with tuition materials, supplemented wages of teachers employed by parents, school buildings, infrastructure and furniture.
- The park surveillance and enforcement unit seized thousands of wire snares, searchlights, tons of guns, GPS instruments and destroyed five hunters' huts. Poachers were arrested in 2001 and 2005 their weapons confiscated and were jailed. An elephant hunter was arrested in October of 2008 and jailed for five years. He possessed an automatic rifle (wind fighter Carabine no. 458), 23 live rifle bullets, and an axe, rifle cleaning tool kit, nine elephant tusks and seven elephant tails. His arrest also led to the seizure of 172 live calibres, 12 cartridges, 09 short guns and 85 wire snares in Esukutan village amidst heavy resistance.

One would ask, why with these achievements, conservation is still failing in the area. An answer lies in a misinformation of locals by state actors that the creation of the national park would result in increased agricultural production, alternative income sources and employment. However, the few rural development activities introduced inappropriate technologies such as butterfly farming, bee-keeping, or snail farming, none of which moved much beyond the demonstration phase. Besides, very little attempt has been made to target settlements whose inhabitants rely heavily on hunting for their livelihoods or who are affected in other ways by park activities (Malleson, 2000:291). So, the limited rural development interventions (carrots) targeted roadsides settlements whose livelihoods activities had little direct impact on the national park. Park enclaves got whipped with the stick as four Ikondo Kondo I members had been arrested and jailed. Besides, the village was relocated to the support zone after village chiefs were told that tangible benefits would

be brought to them. As has been noted by Ruth Malleson, (2000:293), the profound social, political and economic implications of relocation led to the breakdown of the sociopolitical fabric of settlements, as exemplified by the chieftaincy dispute in Ikenge.

Regular cleaning of tracts, trails and tourist camps are avenues for temporal employment. At the time of fieldwork, a 15200 Euro contract was awarded to a contractor to open trails and renovate tourist structures in the southern sector of the park. This contractor did not employ locals to work and earn money; an incentive for them to cooperate. Instead, he employed men from nearby towns to do the job. However, contractors are under no obligation to employ locals who interpret it as a complete appropriation of their forest and so they have to make the most out of the forest at any given opportunity.

Environmental awareness through distribution of environmental magazines, newsletters, pamphlets, posters and calendars to few households and curriculum development for primary schools, was selective. Its impact is not expected to be widespread (Obase, 1995).

7.4.2 Challenges, contests and conflicts

There is a policy failure to target the issue of poverty and permit some level of forest use through innovative policy actions and sustainable economic alternatives. The prohibition of livelihoods activities is locally interpreted as the cause of hunger and starvation. This makes it hard for locals to think of anything good in the conservation of their forest.

> "*We are suffering because for more than 25 years we were told not to carry out any investments since resettlement would bring development. Villages like Bareka Batanga, Bakumba and Bera are extinct or almost extinct because hunger and a wave of death swept entire families. People in the village have become much poor than they were prior to the announcement of relocation. Even in such poverty, Korup (meaning; Korup Project) is sending game guards to arrest any local who hunts. We cannot understand why we have to be punished like this. A hungry and poor man would not listen to or support any government policy that would make him poorer. That is why we have consistently fought with and driven game guards away from this village. We would never have peace with them again*".[82]

[82] This is a general picture of frustration from comments by a group of Esukutan household heads.

Poverty alleviation that is compatible with conservation is not one of goals or long term objectives of Korup Project. Besides being an uphill task, the easiest thing to do was to maintain the illegal status of the park's enclaves (on paper) and threaten them with relocation (Cernea and Schmidt-Soltau, 2006:1809). Lack of funding is also a problem. While questions loom as to what was bought with billions of European taxpayers money, external funding ceased in July 2003 and with just fees from the discerning numbers of different categories of visitors to run the park's activities, Africa's richest rainforest risks losing its biodiversity due to ineffective governance. At the time of fieldwork, the Acting Conservator of the Korup National Park complained that the government of Cameroon is not able to provide one-tenth of the required 2002-2007 budget of about 2,123,040 Euros (Korup Management Plan, 2002:viii). He acknowledges that his service is relying on fees for entrance, camping and research to run its activities. According to available data on visitors of the national park between 1996 and 2004, one could read that as the number of visitors to the park is reducing so too is the income from visitors (Figures 12 and 13).

Figure 12: Yearly number of visitors (1996-2005)

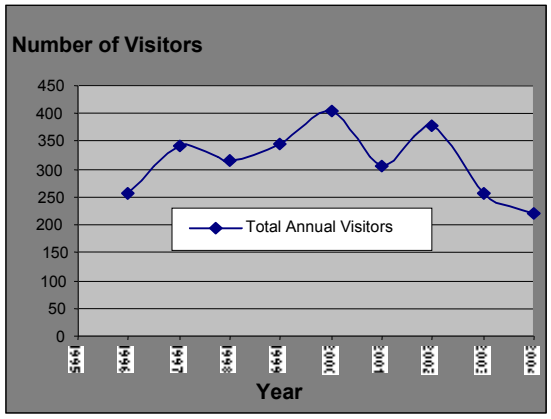
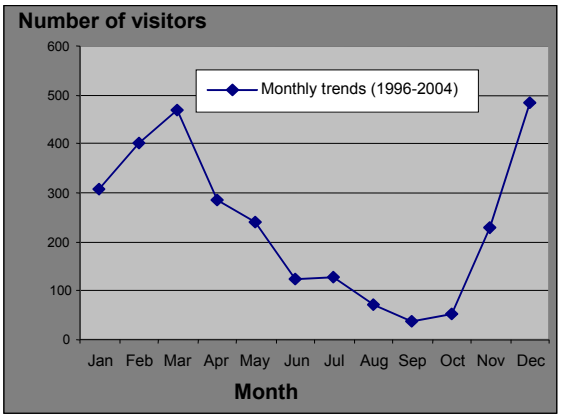


Figure 13: Monthly number of visitors (Jan - Dec)



The peak years of 2000 and 2002 (Figure 12) could be explained by the fact that many researchers visited the area to assess the relocation process of Ikondo Kondo (in 2000) as well as to study the impact of Korup Project on the conservation of the Korup rainforest (in 2002). These figures allay hopes that tourism can generate enough income to run the park. Since the roads are impassable in the rainy season, June to August is the period with the least number of visitors (Figure 13). The seasonal nature of roads discourages first time

visitors from coming back and this is bad for income generation. Also, there is very little information regarding the tourist attractions of the park available on the Internet.

Like other ICDPs, Korup lacks an interdisciplinary strategy to integrate conservation and development (Tutin, 2002:78). The Conservator of the national park, a biologist employs a disciplinary approach to park management, ignoring the erosion of its direct economic and social values. He has been vested with many powers to make all management decisions on behalf of the ministry of wildlife and protected areas. To him, the park should exist as an ecological island. This insular approach treats locals as barriers to conservation instead of integrating them like in the Kibale National Park, Uganda; Colombia; Guinea Bissau; the Krayan Hulu Kayan Mentarang National Park, Indonesia (Borrini-Feyerabend, et al., 2004). This protective of turf approach has resulted in nature conservation being an opportunity cost for most locals, especially the relocated people of Ikondo Kondo I.

Korup Project's operating units function in isolation. For instance, the NRM component is segregated from the Rural Development component allowing staff to concentrate on single roles, which could be confusing to both staff and clients. Separation of extension channels as well as institutional development activities made donors' coordination difficult. It is reported that the GTZ component functioned independently, parallel and insulated from the Korup Project as a whole (Obase and Victor, 1997:7). Project cycles last 4 to 8 years, which is not enough to carry out conservation and development, especially when the right tools and capacity are lacking. Short term donors commitments and withdrawals are not based on goals attainment but poor performance reports, reduced assistance from funding source, better interest elsewhere or bad political climate (*Ibid*:8). For instance, when WWF-UK and ODA withdrew in 1998 after a critical mid-term review, rural development activities in the Support Zone were reduced drastically. This affected other donors whose activities are supposed to be complementary and interdependent. Desired behaviour change by locals is nothing to occur within 8 years. The creation of awareness through revitalizing village natural resources management institutions for community self-reliance on conservation and development requires long commitments and periods of time. This is the experience of the so-called 'village animators' which have been encouraged in the Bayang

Mbo Reserve to maintain traditional knowledge for sustainable agriculture and use of non-timber forest products (Waltert et al, 2002:264). Until 2003, Korup Project spent useful energies and resources trying to recover lost grounds only at the policy level.

The administrative chain of command or the communication system does not allow for any interactions between the law-maker and the enforcement officers. Eco guards reveal that their boss (the Conservator) rarely assembles all of them, consequently, service notes, reprimands, queries and administrative letters sip from the Ministry in Yaounde to the Conservator in Mundemba. The latter (a Francophone) has to pass on the command to eco guards who are almost entirely Anglophones. The translation of the original text (in French) cannot escape the danger of fine details being lost. This system of command and control often suffers a communication dysfunction and backfires on conservation. For instance, a large mammal that was chased by eco guards got confused, threatened and drowned in a river and died. Eco guards reveal that their boss instructed them to chase away the animal, which they did. On their part, eco guards are aware that simply firing gun shots in the air would set the mammal running into the forest and alive.

The local as well as the growing Nigerian populations make the demand for and unsustainable extraction of forest products, high. Nigerians smuggle ammunitions through the park. The same ethnic and language groups (e.g. Korup, Oroko and Ejagham) are found on the other side of the border causing the difficulty of distinguishing a park resident from incoming poachers. These make anti poaching a daunting task for the eco guards. As such, eco-guards poorly applied the 'carrots and sticks' enforcement strategy of ICDPs, which is a 'give and take' conservation strategy. This is typical when rules making does not actively involve those who interpret and enforce them in the field (Ostrom, 2005:199).

The effective enforcement of national park laws in Korup requires adequate financial, human and material resources. Despite the heavy funding provided by international donors that ceased in July 2003, Korup Project for its 15 years lifespan suffered an acute shortage of qualified staff in the administrative services. Since July 2003, there is only one conservator as well as 3 employed and 23 contracted eco guards to run the park. One of the

eco guards resigned, three died and three have been withdrawn to do secretarial duties, leaving 19 to patrol the over 248 km park boundary. This means a guard is responsible for about 6679 hectares of forest, more than double the recommended IUCN standard of 3000 hectares per guard for a closed canopy forest like Korup. Making matters worse, many of them have little knowledge of the park's boundaries they have to protect. Their absorption into the civil service is still uncertain and the lack of incentives hinders commitment on their part. Formerly, a cab would drop them close to the Mana River so that they could cross over and start patrolling. Today, the Korup Park Service is unable to fuel and repair this Land Rover. Ecoguards reveal that they no longer get food supplements, boots, uniforms, guns, sleeping mats and many others. Also, park patrol bikes are all broken down. Making matters worse, none of them is insured and so they complain of having to work in a hostile environment with lots of uncertainty. Also, by December of 2006 salaries of eco guards had not been paid for the past 11 months. Also, a performance allowance; an additional quarter of their normal salaries had long been scrapped. The absence of incentives dissuades eco guards from carrying out voluntary patrols and going to work. The need for survival becomes prior to eco-guards, who now poach to support their livelihoods.

The SDO for Ndian, reveals in his interviews that ecoguards; trained para-militaries to protect the Korup Park now poach and destroy the wildlife in the park. This he attributes to irregular salaries and low status. From time to time, eco guards go on voluntary patrols not because they want to do their job, but mostly because they will get bribes from poachers. Hunters in Ikondo Kondo I recount five occasions in which their game was confiscated by eco guards and sold immediately to their clients. Eco guards are quick to reject these claims when asked. The guards illusively spend their days in front of the Korup Park Service office in Mundemba hoping for when they shall be paid. Illegal poachers are taking advantage of the boon while it lasted. Two French tourists complained in October 2006 that the sound of guns and the fear of stray bullets threaten tourists and researchers who pay fees to visit the park. Even if arrested, the prosecution of poachers is another issue. There has been little support from local judicial services. Cases are pending and some poachers have escaped from custody. In this unsupportive working environment, eco guards have been demonized and are now the centre of conflicts with the local population.

Box 7: Case 1: Unsupportive working environment for eco guards

In 2006, a group of eco guards complained that governmental services such as the gendarmes and the army are not supportive. The said group of eco guards reported an incident that in July of 2006, they arrested five poachers on voluntary patrol. The culprits were handed to the gendarmes and it was highly expected that these poachers would go to jail after court judgment in a fortnight. In the same day, eco guards saw all the freed culprits, two of which came along with family members to issue death threats to them. In the words of eco guards "we are now laughing stocks" and this is dissuading most of them who have started to endorse the indigenous governance system through the Ekpwe which they argue does not gloss over forest related crimes like state agencies do.

7.4.3 Enforcement of state law and conservation related conflicts

The enforcement of national park laws in the Korup forest area is a cause and consequence of many conflicts, some of which are administrative. For instance, a sensitive revelation is that the different administrative officials do not share the same ideas on how to conserve the Korup National Park. While the SDO thinks that indigenous Chiefs should be granted the authority they enjoyed prior to the establishment of the park, the Conservator does not share this opinion from an authority that has to deal with all sorts of conflicts in the area. He instead takes orders from the provincial delegation that is some 300km from the park. The eco guards take orders from the Conservator, who favours enforcement of national park laws, and so continue to face stiff and sometimes lethal resistance from local communities. In 2006, a group of guards disclosed that they are officially barred from complaining about the risks they face since it would be interpreted as 'surrender'.

Since 1986 indigenes have had conflicts with eco guards whom they perceive as enemy. The indigenes think that eco guards are giving more rights to animals and plants than them. This perception has led to violent and sometimes lethal confrontations. A group of eco guards recount 25 fights with local communities that resulted in the death of one guard, several others wounded and in reduced voluntary patrols. In a 2004 incident, the finger of one guard was cut in Ekon and the government did not foot his hospital bills. Crops destruction is found to fuel these conflicts. Large mammals such as elephants and buffalos destroy food crops on farms and cause hunger, poverty and suffering. To the communities, no amount of hard farm work can counter the destructive effects of these animals and so the way out is to face them out rightly. The villagers contribute money and hire

experienced hunters from farther villages to kill the destructive animals. This group of eco guards acknowledges that government does not react when locals complain about animals destroying crops on their farms. Eco guards who do not want animals to be killed detest these people-wildlife conflicts. As stated before, hunting is illegal according to state law, on the other hand, local culture and beliefs prevent killing of large mammals that are believed to be 'doubles' of some elderly men. If killed these humans die.

Another reason for conflict is forest ownership. Villagers claim indigenous rights and ownership, but as a national park, the forest is public property of the state. Such 'legal dualism' in the ownership of forests has since the colonial times, kept causing insecurity and conflicts, resulting in serious encroachments and illegal poaching. As long as the national park concept is interpreted as a denial of rights (right of stay and to survive) this conflict will not end. The Acting Conservator explains that the government created village NRM committees in the support zone as part of its participatory strategy to avert conflicts. However, a survey finds that less than a third of the 32 is functional though ineffective (Schmidt-Soltau et *al.*, 2004:3). These committees are not actively involved in decision-making; they serve as channels for donated gifts from Korup Project and are not expected to function now that no one comes with gifts again. Villages are divided due to poor representation and families are fighting each which was not realized this at the onset.

The idea to appoint government chiefs to represent villages as a "participatory strategy" alienates them from their subjects. These appointees are supposed to channel government's communication to the communities from which they do not enjoy loyalty and submission. They lack legitimacy because chieftaincy is hereditary. An intended 'participatory approach' is resulting in an unintended 'alienation' of which effective conservation requires the opposite. So, the NRMCs and appointed Chiefs have not been effective. The denied rights to harvest, hunt and fish in their immediate vicinity has now generated a concern of 'no forest at all for nobody' and a spirit of unsustainable extraction given the slightest opportunity. For instance, chewing stick (*Massularia acuminata*) has become rare in the area because the tree trunks, roots and young trees were harvested.

Some informants perceive the very strict enforcement approach to national park laws amidst no viable alternative income generating sources as the cause of their stress, which prompts them to violently attack eco guards around their settlements. Others (male youth) mention their excessive consumption of alcohol as a way to forget their tragedies with Korup officials. Despite all these conflicts and challenges, a study reports that Korup forest is still having its original species amidst declining populations (Waltert et al, 2002:257). However, eco guards do apply end-of-the-pipe solutions like arresting hunters who have already killed animals or poisoned streams. So, in such circumstances, de facto use and governance of resources rest on communities living inside the park who have devised constraining mechanisms to prevent the destructive extraction of resources.

7.5 Indigenous governance of forest: a promising alternative

This section answers questions like; who does what when a member destructively extracts resources from the village forest? How do these mechanisms function? Are there any cases of success and failures? A series of studies have reported organizations and decision-making structures that control the use of natural resources (Malleson, 1993; 1999; 2000; 2001) under the umbrella of government-appointed administrative chiefs as village heads (Management Plan, 2002:58). One acknowledges that the indigenous 'juju' society Ekpwe, remains the most important social institution and governing body in all villages of Korup National Park and the Peripheral Zone (Malleson, 1999; Management Plan, 2002:58). But, the literature does not discuss in detail how these institutions work and so verifying their existence and functioning is considered based on the working definition of institutions stated in sub section 7.2. Consequently, local rules in the form of precepts are observed to be enforced by crucial indigenous structures like: the family, peer and social groups, sacred forests and rivers, indigenous chief, the village council and the Ekpwe society. These bodies operate within a set of norms and rules usually endorsed under the auspices of Ekpwe. Village Development Associations are non-existent and government-appointed Chiefs are either out-of-touch or completely alienated from their supposed followers in the respective villages. This is in contradiction to official claims mentioned earlier. In effect, a complex of local governance institutions is unfolded as follows:

7.5.1 General rules

Rules are considered to be shared prescriptions like "must/may" or "must/may not". Since their origin, Korup forest indigenes have evolved a set of laws and rules guiding behaviour with respect to community life including ways in which forest resources are exploited. These norms define deviance and are thus embedded in their way of life (culture). However, it is difficult to identify a separate set of rules pertaining only to the way forest resources are harvested. A guess is that what happens on individual farms is not so much of a problem than a cross-boundary situation. For instance, using fish poisons in a river has a definite ban on it because it affects downstream users. Another reason is that resource scarcity is not conspicuous at the moment. Although village members agree that rules are shared, locally formalized or objectified, every enquiry reveal that there is no documented rule. Also, there are no fixed penalties for non-compliance. During a village council meeting 13th November 2006, members were asked to discuss some of their laws with respect to natural resources, but the chairperson said:

> *"Everybody in the village knows that stealing, adultery, illegal extraction on others' lands is criminal. We judge each case and levy a fine. It is not that if someone was fined three bottles of afofo for fishing with Gammalin, subsequent offenders will get the same punishment. All of us here are Ekpwe members and so once Ekpwe says your punishment is this much or that less, you had to pay or be thrashed and later banished from this village"*

Rules have hardly been pronounced except for two instances during which the village elders openly announced a rule. For instance, the rule that no one should poison streams and rivers with inorganic chemicals (like Gammalin 40 or Gammalin 80 intended for spraying cocoa plants) in order to catch fish, existed not long ago although the use of biodegradable natural toxins from macerated fruits of *Strychnos aculeata, Blya supida* and *Massularia acuminata,* have always been the practice in the forest villages. For Esukutan, the first pronouncement of this rule was in 1998 when a Nigerian used gammalin to poison fish in a river. The village/town crier announced, "*no one should use toxic substances including the wild forest climber to kill fish, lest the punishment would be severe*". This ban was broken two years later by an indigene and the Ekpwe mechanism punished him. A village elder explained that before 2000 no indigene would have spelt it out as an explicit

rule. Also, in-comers are obliged to obey rules and to live by them. Coincidentally, the cases of deviance uncovered in this study point to new-comers, which is tempting to generalize that indigenes would not destroy their forest. This in large part confirms Elinor Ostrom's notion that institutions, which evolve as unwritten norms or rules in use, are difficult for outsiders to observe or get recognized. Ekpwe rules as the most respected because they are the outcome of a team of village elders who act on behalf of everyone.

Currently, various village councils are discussing a new proposal to reduce the number of wire snares owned by any individual. Ekpwe endorses its outcome. This law is much subtle than the outright ban proposed in the Memorandum of Understanding (MoU) of indigenous non-governmental organization KREO/KOGAN. According to Ikondo Kondo I elders, forest use related rules are a recent creation with state law being the driver. They disclose some information on the existence and origin of the village's forest laws:

> *"We had many forest laws. One is underway to reduce the number of wire snares one can own. The government recently passed a law against the use of poisons to kill fish. Two indigenes are currently serving jail terms. We the elders are warning against it, even though some stubborn villagers disobey us. So, the law on fishing with poison would be taken seriously only if government's intervention is sincere".*

In response to a follow-up question, the elders reveal that this law was communicated to them through the government appointed Chief in Mundemba. Their 'village crier' (town crier) went round to announce that gammalin should no longer be used to fish. The elders also added their voice "Ekpwe Naka" meaning Ekpwe has endorsed and approved the law. They had laws to protect their forest when they we were at the old site. These laws have been hardened due to multiple threats and scarcity of resources in the new site:

> *"…streams around the village are poisoned by both members of this village and neighbouring villages. We hardened our fish poison laws in 2005 and there is a memo that anyone caught using fish poison would be severely punished. This memo is just to create fear such that people will not pollute waters again".*

People's behaviours are observed to be guided by ethical sensibilities as well as moral norms which to a large extent guide interactions. Although 'rules' are practically observed in social intercourse, they remain entirely implicit. To be able to extract forest resources

successfully and behave acceptably by other villagers, individuals familiarize with the forest boundaries, resource location, land rights and tenure systems, informal rules and the local social milieu. All of which are generally integrated unreflectively in practice (Knudsen, 2008:39). So, forest related rules are also embedded in the local knowledge. The idea that going through the Ekpwe machinery is painful has made many to adopt the attitude to put charity ahead of justice in many of their social intercourse. An example is reported in Esukutan village. A household head disentangled game in another's wire snare in the thick forest (black bush) and brought it home to prevent the game from rotting. The owner of the wire snare with food and drinks appreciated him. On the contrary, game thieving is reported amongst the relocated Ikondo Kondo I people, a phenomenon that the indigenous Chief said did not exist when they were still inside the national park.

Also, the people adopt moral behaviours based on myths and legends surrounding certain acts and this becomes the origin of some norms. A famous myth with respect to rules in regard to forest use is *"The moonlight woman"*. Esukutan village elders reveal how during the time of their ancestors, a woman went into the forest on an indigenous holiday (a day set aside for rest so that ancestors could move about the forest unnoticed) to fetch fuel wood carrying her baby on her back. The ancestors on their forest walks, saw her, got angry and took her to an unknown destination in the moon. So, every time that there is moonlight, she is seen carrying her baby while splitting firewood. To the villagers, the image of the woman in the moon reminds every group member of similar consequences, should they repeat her crime. And this fear dissuades village members from disobeying indigenous holidays. Another myth is related to death ceremonies. There is a belief that when someone dies in the villages, villagers could go to the forest during the first four days in order to stock their homes with enough food. The fifth day is tabooed to go to the forest because it is the people's beliefs that the dead starts wandering in the forest from this day and so could harm anyone who does not want to let it move freely in the forest. Not going into the forest for some days in a way greatly reduces forest disturbance.

Related to myths are beliefs associated with certain wild trees. Such trees are not cut due to existing beliefs that they possess spirits and powers that could harm the individual. The fear to make expensive and heavy sacrifices before felling such trees deters many from

attempting to cut them down. According to Ikondo Kondo I elders, the red stick (camwood or *Baphia nitida*) is revered because it harbours spirits (gods or ancestors). To them, this is a handed down belief, which they are obliged to pass over to their children:

> *"Our parents told us that ill-omen befell those who went to the forest on a traditional Sunday. The innocent had nothing to worry about while they were in the forest. In fact, hunters often met wild animals like gorillas and chimpanzees, which were transformed human beings. These animals ended up killing them, if these hunters tried to shoot them down".*

This belief exists in Esukutan and the people do reveal that in their dreams, ancestors keep in constant touch to remind them to respect such beliefs. Through this connection with the spirit realm, people reduce their pressure on some forest resources. With the changing times, there is no 100% guarantee that people will always still stick to such beliefs.

The communities observe certain taboos that play a conservation function. In a survey of eating habits, household members were randomly asked if they do have preferences for animals they kill to eat and the result is that some may eat a specific animal, while others may not. For Ikondo Kondo I elders, chimpanzees are believed to be humans in the form of an animal and so people do not kill chimpanzees. The belief that eating such large mammals is like eating human flesh makes people not to kill them although they cry foul when the animals destroy their crops. In addition to human-animal relationship, communities do not kill large mammals also because they do not have automatic rifles. Elephants are believed to be humans who have transformed themselves to guide the forest. It is widely believed that normal bullets cannot kill buffalos and leopards and also that when a gorilla is killed in the forest, a notable in the village dies. Generally people are given elderly advice not to kill such animals. A case is reported of one hunter who many years ago tried to kill a Giant Pangolin (locally called waterbeef). A mysterious elephant appeared in front of him and reminded this hunter of the words of the elderly. At this reflection, the hunter ran and returned to the village without killing any animal. These mean that indigenous beliefs, myths and fears still command respect and regulate forest disturbance and this is how many became rules. Hunters make it a matter of conscience not to kill certain types of animals, this repeated habit is now a rule and norm for most peers.

Some select their game and avoid killing female, young and pregnant animals. But this is possible only when hunting is done during the day as hunters could clearly identify the type, sex and reproductive state of the animals. One hunter notes that with night time hunting "you can hardly know which animal is pregnant or not". This type of hunting has caused disillusionment and any night hunter is under voluntary surveillance by peers and other villagers. If a hunter kills a young animal and the matter is reported to the Village Council, a heavy fine involving several bottles of *Afofo*, would be charged. No case has been reported and both villages argue that it is a sign of an effective rule. It could also be possible that people avoid reporting their friends or relatives. However, rules observed at individual or group levels that appeal to the heart (precepts) do not have any societal punishment. So, the desire by individuals and or peer groups (especially hunters) to adopt certain extraction behaviours tends to be a personal drive than a legal obligation. Households reveal that people with good hunting skills and equipment could make it a rule not to kill young and or pregnant animals. Interviews reveal that specialized hunting skills to hunt only large mammals like elephants, gorillas and chimpanzees are acquired from mystical sources. No specialist hunters exist in these communities. However, it is worth concluding that the people's beliefs are embedded in rules that are dominated by precepts.

The issue at stake is local rule enforcement mechanisms. This is because the rules, instructions or principles that guide the actions of member, especially are based on moral standards of *right* or *wrong*, *good* or *bad*. This has the tendency to make rule enforcement bodies docile. However, existing literature and conversational interviews reveal the existence of: sacred groves, Ekpwe, indigenous Chief, indigenous village councils, youth groups, Christian churches, lineages, household heads, women's groups and shamans or spiritual leaders. The information gathered from elders was triangulated during individual and household interviews to confirm how widespread are their existence. Each is discussed keeping in mind that the existence and fear of these structures or bodies largely accounts for a great deal of local compliance. Reported cases are elucidated using the institutional analysis and development framework to show how these bodies have worked to constrain or control resource use and abuse. Each is discussed according to its ascribed position on a social hierarchy of ethical sensibilities, allegiance, fear, respect and loyalty.

7.5.2 The Ekpwe

Ekpwe is an apex organization that exercises power and control over community life. It is a graded, male dominated society, maker and enforcer of laws by way of fines and capital punishments. According to elders, neighbouring villages in the Cameroon territory as well as from Efik villages in Nigeria are the origin of Ekpwe. It has as intention to maintain peace and security and serves as a platform for public participation. Membership is sought individually and in the past, parents usually did it for their sons. Indigenous Chiefs reveal that parents sometimes provided all what was needed to get their son initiated into the prestigious association when the latter come of age. Once these sons had a say in the village governance body, they were now responsible for their own social mobility in it. Also, social reproduction was mostly common with herbalists and shamans who transferred their knowledge discriminatorily to their preferred sons who end up occupying their seats in Ekpwe once these parents had died. Ekpwe has a series of grades into which members are initiated. The higher the grade, the larger the initiation sacrifices or fees. Most members make their payment in kind. The items demanded are usually limbs of bush meat (especially the deer), which most young hunters have easy access to; afofo and tobacco. Village elders acknowledged that new members use income from hunting and trapping to improve on their political standing in Ekpwe. So, cash payment equivalent to the items that are normally demanded is possible and many new initiates use this method of payment.

The lowest level of Ekpwe is that of ordinary membership which grants participation rights in the public aura. The next level is a federation of inner core representatives of collective political units. This sphere could feature older members in terms of longevity. The associative and status conferring level is the space of inclusion by incorporation and low intensity segregation. This level consists of reputed healers and five eldest persons. Segregation is reflected in diurnal, nocturnal or serious religious, ritual, juridical, political and entertainment activities. While the constituted core of elders and specialist shamans conducts hardcore judicial, political and ritual ceremonies, hearings are open to all members of the association. Nocturnal activities are access-free to only Ekpwe members and diurnal activities are also shielded from women and non-members. For instance, if masquerades or jujus are performing in the village, all the women, children and men who

are non-members are fiercely sent into hiding. This is done at the sound of the Ekpwe drum to alert everyone that freedom of movement is restricted. The parading jujus chase and arrest whoever ignores these orders. Jujus have whipping sticks that are believed to have magical spells that could harm generations yet unborn. This fear accounts for why non-members go into hiding when Ekpwe is displaying.

Although there is some secret knowledge, there are general aspects of Ekpwe that are open to all community members. This secret knowledge is the inner functioning of the Ekpwe that is known only to members. The open access knowledge is what to do when Ekpwe is displaying, the consequences of not complying with an Ekpwe rule or how Ekpwe sanctions its rules. This forms part of the general social knowledge and the hierarchies of access to knowledge go with status within Ekpwe since it is an organised knowledge space and each step in its hierarchy from non-membership to the Ekpwe Chief is a gateway to heavily guarded knowledge. In general, Ekpwe is the arena in which the people as a group construct their public sphere and articulate their collective interests (governance role). By settling disputes, it also plays a judicial role. First, everything from investigation and disproving is open and involves mediums. The most reputed shamans are asked to perform magic during investigations. Ekpwe uses coercive investigation procedures and mets tough sanctions. Its diagnostics have hardly been faulty and in all the reported cases the accused pleads guilty. Some young men are still keen to be Ekpwe members for prestige, enjoyment and to have a say in the village government (Malleson, 2000:75).

Women have Ekpwo (Esukutan) and Uwom (Ikondo Kondo I). Their leader is often the eldest woman. This women's society though inferior to the Ekpwe, plays a much more open and active role in community life and resources management. For instance, a male member of Ikondo Kondo I reported women to the village Chief for having fined his wife for not doing community work. During the hearing, elders expressed their dismay at his summons. The matter was pushed to the Uwom society, which found him guilty on two counts; first, having wasted their time, and second, brought shame on to women. He paid a fine of four bottles of afofo, and later begged the women for forgiveness.

The Ekpwe leader is not necessarily the traditional chief. Unlike Ruth Malleson (2000:75) argues, traditional leaders in Esukutan and Ikondo Kondo I do not necessarily represent these prominent traditional societies. For instance, the head of Ekpwe in Esukutan is a young man who used money to pay for what it takes to buy over the leadership of this prestigious organization. Ekpwe halls stand in line with one of the rows of houses in the center of the village. Sketch maps show their relative position in the village layout (Appendix 3a, b & c). The halls serve as male fora for Ekpwe meetings and the forecourt outside them is used for social gatherings and for judging cases.

Ikondo Kondo I informants acknowledge a decline in the influence of Ekpwe. This decline is traced to the colonial era during which "democratic" village traditional councils, elites associations as well as cultural and development associations made Ekpwe to lose its influence (Malleson, 2000:74). Esukutan people had to accommodate this multiple associations with little or no conflicts, however, elite associations no longer in exist in these communities. The indigenous Chief of Ikondo Kondo I laments that young men are no longer interested in Ekpwe membership and show no sign of respect or loyalty. He compares the situation with the good old days when hunters would bring game for elders to share to all villagers based on status. Contemporarily, hunters butcher and smoke all the game in their bush huts and what they take home is for sale. This means that without sacrifices from youth, it would be hard to practice their culture in the new village. Christianity is also a weakening force for Ekpwe as implied by Ikondo Kondo I elders. These show the declining power and charisma of Ekpwe, which could be said to represent the traditional and cultural values in the context of a modernizing community.

Ekpwe resolves cases in a way that the entire community would be unified. Its punishments are heavy with the intention that family members would share in it so as to be discouraged from tolerating such acts from any of their members. Any offence against the norms is punished by a fine and enforced by members (Devitt, 1988:22). Barring interactions with a criminal is by way of a fine. The laws are coercively enforced to avoid subsequent non-compliance. Ekpwe metes out different types of sanctions, like banishment and thrashing in public (capital or corporal punishment) and fines; singly or in combination:

Banishments: This sort of punishment is given to someone for notoriety in a said offense. Village elders still remember that their parents banished individuals from the village not for forest related crimes but for adultery, fornication and thievery. A forest related case happened long ago in Esukutan and this case involves a stranger who got married to one of their daughters. His crime was related to destructive resource extraction through river poisoning. Consequently, banishment is a sanction for only the most unpardonable crimes. Such a decision rests in the hands of the constituted core of elders in the second highest rungs of the Ekpwe ladder and the Ekpwe chief who occupies the highest rank.

Thrashing in public: The idea is to humiliate criminals in public. Thrashing is punishment for stealing of say game. According to elders, the culprit's body would be painted with ash, a bell would be tied around his waist and he would be forced to carry a heavy stone and parade the entire village. The criminal would be forced to pronounce what he stole repeatedly until the thrashing time, which is done by an Ekpwe juju or masquerade.

Fines: These are cash and kind levies in the form of drinks, food, bush meat, money and other items. Ekpwe elders determine the severity as well as the distribution of the collected fines. Fines are relatively heavy and most often family members contribute in the payments and so do well to discourage their brethrens from committing crimes. Collected fines are shared. In reference to an Ekpwe principle, aides in Esukutan village explain that bundles of Ekpwe's magical charms are used to indicate that the home of the defaulter is a no-go zone for all. These charms are removed only after the fine has been paid.

7.5.3 The Indigenous Chiefs

Also known as traditional leaders, they often embody a charisma and lineage alliance, which empowers them with governance rights and obligations. Their function is to ensure peace and harmony within the village. They head or co-chair important cultural groupings of the village involving those that regulate land access, land disputes, crops thefts, divorce and witchcraft. They also mediate misconduct including wife battery, disobedience etc. Their positions are hereditary, their tenure is for an indefinite period of time and so their heirs come from the 'royal family'. The indigenous chiefs rule according to the custom of

the people. Any attempt to claim other rights over the soil than those resulting from their personal use, must be in conformity with the village custom. Their decisions are binding because of their charisma. Indigenous chiefs play a role in Natural Resource Management and have an intimate alliance with their territory. Also, their physical closeness to their 'constituency' allows for the application of a set of rules and norms that will rarely be out of touch with the ecological reality and the management and conservation requirements of the resources in their territory (Marsh, 2003:16). Although household heads and the village councils manage natural resources, reports about community-level problems related to disputes over village resources get to indigenous chiefs first. They could decide to handle it themselves or to refer the matter to either Ekpwe or the village council. Issues relating to tradition, land and other related conflicts fall within the domain of the traditional chiefs because of their local symbolism and legitimacy. However, while indigenous chiefs tend to have a local charisma, there are almost no official provisions regarding their recognition.

7.5.4 The Village Council

Village Councils are a constituted body comprising of representatives of the founding families of the village or lineage heads. The chair rotates and forest use and abuse are discussed during meetings. It is the law-making body of any village and through the village council laws are repealed or strengthened. This body is reported by villagers to be very effective in Esukutan unlike in the relocated Ikondo Kondo I. These councils are a creation of the British colonial administration, which has been adopted by respective postcolonial governments as a means to silence indigenous leadership claims to authority over the forest. They are not synonymous to village natural resources management committees (See Schmidt-Soltau et al, 2004:18). Contemporary Village councils are officially recognized by the government but have not had much significant influence due to resentment from villagers that it has not fairly represented their views. Although its members are elderly, some of the youth in Esukutan had membership in the village council. No woman has ever gained membership in this body. However, its meetings are open to all village members, regardless of gender but young men, women and strangers, may not speak freely during these meetings. In principle, all disputes in the village are reported to the village council and those that are too serious are referred to the customary court of the area or to the

nearest gendarmerie (Malleson, 2000:74). Conversational interviews reveal that in practice, people report their matters to the indigenous Chief who then refers them to the respective quotas, village council and Ekpwe. The village council is entrusted with the powers to preside over all land tenure cases of the village, including: land allocation for farming and house construction plots. To an extent, it has the mandate to settles land disputes between individuals and neighbouring villages. Other tasks include: organizing voting during government elections, entertaining visitors and government officials and other notables from neighbouring communities, and ensuring community members carry out village 'sanitation' exercises, such as path-clearing (*Ibid*). The powers of Ikondo Kondo I village council are declining and the reasons are numerous (See Chapter 3). For instance, before relocation, the village council had strong laws and powers to seize some of the belongings of criminals who do not pay their fines like; pots, chairs and gun. They were taken to the chief's house for impoundment. Currently, village members prefer the gendarmes to handle criminal matters mostly as a sign of dissatisfaction with the autocratic governance of the village leadership. This renders the village council politically weak and poor because fines are being paid to the gendarmes and no longer to the village council.

7.5.5 Government chiefs

Just like in other villages of the area, Esukutan and Ikondo Kondo I have a government-appointed chief who in principle has to work closely with the village councils. They are third grades, younger, formally educated urban-based men who could attract development, in the form of roads, water and health facilities (Malleson, 2000:75). They represent and mediate between their villages, the government, extension workers, timber companies, etc. This dual role is criticized on grounds that it is often hard to reconcile the wishes of the Government and those of the people (Devitt, 1988:21). However, this study finds that all the government chiefs have migrated with their entire families out of the villages they are supposed to represent. They work Korup Project Service but for a long while now, they have not returned to their respective villages. That of Esukutan does not even own a house in the village. For this reason, government chiefs are not regarded in this study as key players of the law enforcement mechanisms of the indigenous communities.

7.5.6 Lineages

The lineage (founding family) is one of the main units of primary socialization. Villages have a number of lineages with an heir each, to whom the rest of the kith and kin are answerable. Table 13 is a list of the main lineages in Esukutan and Ikondo Kondo I. At that level, it is a man and never a woman who acts as divergence manager (conflict manager), exercising leadership and power. He represents the lineage in the village council and shares responsibility for the mishaps of members. In Esukutan, the head of the Bositos and Bonangiri acknowledged that they were openly reprimanded in 2005 when members of their lineages poisoned streams to catch fish. They forced their members to pay their fine to the village council. Additionally, every lineage member reports mal behaviors to heads for immediate action before consulting higher authorities. Esukutan villagers consider more knowledge to imply more powers, which is why they report cases first to lineage heads before taking them to the chief who knows best about the forest than any other person.

Table 17: Lineage names in Ikondo Kondo I and Esukutan (Field notes, 2006)

No	Esukutan	Ikondo Kondo I
1	Bakumba	Bachouk
2	Biki	Barome
3	Bonakanda	Batanga
4	Bonambere	Besiwan
5	Bonangiri	Bokom
6	Bongwanamba	Borona
7	Bonokongo	Buyen
8	Bosango	Ntui
9	Bosito	-

7.5.7 Youth and Women's Groups

Youths and women constitute themselves into social groups based on loyalty, trust and respect. These constituents uphold social norms like solidarity and reciprocity; a social safety net, for group survival and relative harmony. Membership is voluntary but the fear of being the "odd" youth or woman acts as a social pressure for individual participation in age and gender groups. The behaviours of members are monitored in each grouping, which also has the right to met out sanctions including expulsion from the group. There was no report of any cases but the principles are said to be understood by group members.

Rotating work groups are based on an orally drafted and well-understood calendar for collective but rotating work on each other's farm or to build houses. The hosting member is obliged to provide food and drinks of a minimum quality and quantity. These are provided after work. Members could provide more than is required but anything less than the benchmark is sanctioned with a fine. Groups also elect leaders. During two months of stay in Esukutan, we observed a house that was being constructed by group mates of one youth. Depending on the distance members have to trek, house construction work could last as long as seven hours, while farm work could last for three hours. It is also common that a member could use his or her turn for any activity. In some rare cases, households could cooperate with others and expect to receive the same kind of help when their turn comes.

Youth groups exist in all villages. Membership is limited to males and the age limit seems to be elastic as men of about 39 years still identify themselves as youth. Some youth are married and have one or two children. People cancel their membership not because they are above the 35 years. These imply that in the communities, the concept of youth is culturally defined and does confirms the claim that" in most African societies, the concept of youth is not tied to fixed notions but shaped by context and time" (Fokwang, 1999; 2003). Individuals define themselves as 'youth in relation to their perception of others. Youth groups include: *Esukutan Youth Association* and the *Korup Youth Task Force for Ikondo Kondo I Resettlement*. The latter was formed by Korup Project to help assist with the construction works and was dissolved in 2000 when the resettlement process ended. Ikondo Kondo I has an active age grade, the Ekhan. These males engage in mutual assistance works and provide vigilante services to the village upon request. If a member of the Ekhan commits a crime, he will be fined food, drinks and money. While the food and drinks would be consumed on the spot, the money from fines is saved with the treasurer. At the end of the year, these savings are invested in farm in-puts for all members. The aim of the Ekhan is to; enable youths to know each other; help them know their age mates; fight with and punish law breakers, and to have many youths to join in feasting on any animal that is killed by any member. If someone steals something from the village forest, the village council alerts youths who will go after her/him. Members of the Ekhan are chosen at random, because they are always available, strong and able-bodied.

Interestingly the village leadership formerly recognized age grades but after relocation, things have changed. Ekhan members acknowledge that only few elders do recognize its existence. But despite the odds, members marginally carry out-group activities. In 2004 it was reported, a member killed a bush pig and shared it with his Ekhan. However, the head of Esukutan village council confirms that youths play the role of the village police. They take instructions from the chief to arrest intruders and to equally seize their tools like; guns, bullets, cutlasses and so on. Village youths are given a share of the fines (usually drinks and money paid to the chief or the village council) in appreciation or as an incentive.

Identified women's groups include: Ka Changa Korup meaning "women of Korup" in Ikondo Kondo I and the "Married or Women's Meeting" in Esukutan. These are also social self-help groups (called *njangi* groups) that function like banks where weekly contributions and or savings are made. Njangis are informal savings and credit arrangements based on mutual trust. A fixed contribution of 500 frs CFA each is paid by members who are bonded by informal contracts between persons who have and strive to maintain a good [communal] reputation. This is also social collateral that guarantees continued membership. Similar to the mutual assistance groups, njangis function as joint liability groups and are based on social relations of trust, reciprocity, and obligation (Marsh, 2003:17). These women's groups have an executive composed of the treasurer, president and chief whips. It should be noted that during meetings, women discuss issues relating to all aspects of life including village laws. Such a socialization forum increases their understanding of village norms.

7.5.8 Sacred Groves

These are also well demarcated places (protected forest and sections of rivers or streams), which are culturally treated as a symbol of identity and often feature sanctuaries, shrines, sculptures and art works in honour of deities. No extractive activities are allowed in these sacred groves without the expressed authorization of the Ekpwe. These indigenous protected hot-spots are found in Esukutan but not in the relocated Ikondo Kondo I. In Esukutan protected parts of rivers called "*Itika"* are named after gods. Only two exist; *Itika Bekundi* and *Itika Nkanda* (Appendix 3a). Village elders explain that the idea of sacred groves is to prevent fishing at such points so as to ensure that the village has fish to give

strangers who pay them a visit. They are hesitant to disclose the cultural significance of these revered places. Also, they have prohibited extraction in patches of up to 2 hectares of forest, which is locally called *Ekpwe forest or Mouriki Mwa Boutame* (meaning the residence of the god of the forest). The fear of divine retribution (punishment from the gods) keeps away people from exploiting in such sacred groves. It is this way that these *spiritual natural sites* help to reduce pressures on resources. Accoding to Esukutan elders, sacred groves also serve as a source of power for the daily running of the village and that only rules endorsed by Ekpwe are applicable in these hot-spots.

There are cases of how the local rule enforcement bodies have jointly functioned to constrain abusive extraction of forest resources. In discussing the cases, attention is paid on who are the actors, what are the rules in use and what are the interests to be balanced.

7.6 Reported cases and power bases of identified enforcement mechanisms

Box 8: Case of river poisoning (Esukutan)

This case is about a river that flows about 3km from the Esukutan settlement. The over 200 villagers depend on this river including others for fish and so it is a common pool resource. People normally fish individually or as a group. Group fishing could involve the use of wild biodegradable fish poison climbers explained in Chapter 4. Locals are aware that the fish poison from this forest plant does not have an effect in the human body and smaller fishes are resistant to it. There is so far no complaint from community members about anyone that fell sick after eating fish caught with this poison. However, the entire village has to be informed that a certain part of a named stream or river would be poisoned using macerated fruits of these wild vegetable toxins. So, every household would postpone farming and prepare to make long walks through the meanders of the river to pick dead but floating fish. Informing other village members as to when one intends to use fish poisons has become a precept and denotes respect for others; a precondition for good relationships.

In 2000, a Nigerian called Okoro, who was married to an Esukutan woman, poisoned the river with Calisulfan 350 EC and caught large quantities of fish. He mixed cassava powder (garri) with a small quantity of this non-biodegradable inorganic substance and spread in the river. He did not inform anyone that he was going to use a fish poison. Also, the synthetic chemical used as fish poison was unknown to other indigenes. On their way to fetch water, his child leaked the news to a friend that Okoro came home with large quantities of fish. This incident happened at about 10 am in the day when most households were off to their farms. However, since the poisoned river is along the way to many farms located, both up and downstream, downstream farmers saw dead fish floating on the river. A woman who first saw the floating fishes, shouted to alert other nearby farmers. In 15 minutes, seven people came to see for themselves. The alert was intended to ensure that no

one suspects this woman in the course of any investigations. The eight witnesses went home that day together and immediately reported the matter to the indigenous chief (or village chief). He convened an emergency village council meeting. The village council members convoked Mr. Okoro for detailed explanations who refuted the allegations that he used poison but said he also saw floating fish and had to pick for his family. At this point five eldest men in Ekpwe met behind closed doors to discuss the next step. They resolved to make it to be an Ekpwe issue and so the investigations had to start afresh.

The Ekpwe drum was beaten signaling that non-Ekpwe members should go into their houses and hide because the coming three hours were holy hours. In this case, Mr. Okoro was the only one being investigated. A village shaman came up with a magical drum and hung on the neck of Mr. Okoro such that the part that is beaten lay on his stomach as he stood upright. The shaman presented an oath[83] to Mr. Okoro who had to swear that he did not poison that river but only collected dead fish. Mr. Okoro swore by the oath that he did not poison the river. The shaman explained his next logic that if Mr. Okoro is innocent, then when the drum is beaten, nothing bad would happen to him. On the other hand, if Mr. Okoro lied by that oath, when the drum is beaten, his stomach will swell. After all the painful Ekpwe investigation process, Mr. Okoro acknowledged, he intentionally poisoned the river with Calisulfan and not even the wild climbers. He was found guilty on four counts; secretive fishing, use of poison, public disrespect and crime against the village.

To punish Mr. Okoro, the five eldest villagers, converged behind closed doors and came back to the Ekpwe hall. The village crier went across the village announcing that the culprit has been found and that everyone should come and participate in the punishment phase. Village youths were asked to tie Mr. Okoro's hands with ropes and rub his body with charcoal. A metal bell was tied around Mr. Okoro's waist. A 10 kg stone was forced on his head and Mr. Okoro paraded the entire 650 meters village, five times. He had to repeat the following words "I am suffering because I have committed a crime against the Esukutan people. I promise not to do it again in my lifetime". During the parade, women and youth who kept booing and saying, "shame on you Okoro trailed him". After the five rounds with the stone on his head, Mr. Okoro was then subject to 25 strokes of the cane in public and to pay a fine of 12 bottles of *Afofo* liquor and about 35 Euros. After paying this fine, he was banished by a joint order from the chief, the village council and Ekpwe elders.

The punishment levied on Okoro was harsher than what was given to Mr. Moki Bernard an indigene who also used Gammalin 80 to poison fish in 1998. Prior to this incident, Mr. Bernard had lived most of the time in a nearby town until 1986 when the economic crises sent many urban poor returning to their rural bases. He secretly used garri powder mixed with Gammalin 80 to poison fish in another stream that was used as a drinking water source. School children who went to fetch water for their classroom saw floating fish and

[83] Oaths are usually a magical bundle that is put at both entrances of each village and it believed to offer protection for all members. Oaths are bought from neighbouring villages with donations from all villagers.

started collecting. The catch was so huge that it raised an alarm. Mr. Benard went and hid the catch in his forest hut and instead of bringing it home. During Ekpwe investigations, the only primary school teacher in the village was accused because villagers thought that he might have poisoned the stream so that school children could collect fish and take home. He declined. Two others were accused because of their suspicious absence from the village the previous day and they declined. The village council invoked Ekpwe powers and a reputed resident soothsayer performed magic and it did not recognize any of the accused as the criminal. At this point Mr Moki Benard who was hiding in the forest, was searched by two youth members. When these youths arrived at his forest hut, he was surprised and so they arrested him and brought to the Ekpwe hall where he pleaded guilty. He was seriously warned, thrashed and fined four limps of bush meat, eight bottles of *Afofo* and about 15 Euros. His case was an example to others. On that same day at about 8pm, three children in Mr. Bernard's household started vomiting. It was immediately attributed to the fact that they ate the fish killed using Gammalin. The children were each given a teaspoonful of palm oil and they got well, while other villagers were warned not to eat the fish unless it is cooked with plenty of palm oil. From this date onwards, the indigenous chief asked his town crier to announce that anybody who smuggles himself into the village forest and catches fish even with the biodegradable poison would be banished from the village. This, the announcer explained is because killing fish using synthetic chemicals almost took the lives of two children. Since killing is a crime against the entire village, killers are banished.

Box 9: Case of fishing in Ndekedekpwe – Sacred Grove (Ikondo Kondo 1)

This case is related to a protected part of a river (Ndekedekpwe) in Ikondo Kondo, decades ago. Ordinary villagers and Ikondo Kondo I elders are unable to mention the name of the river and the exact year but this handed down story spans generations. The case is important for the alarm it created in the entire region. Sacred parts of rivers are identified with totems (bundles of dead plant, animal and earthen materials). They are placed on taller trees to clearly demarcate and identify the protected part of the river. In this part, no one is supposed to fish even without using a fish poison. As noted earlier, the secrets of Ekpwe are bought from other villages and a crime against Ekpwe in one village is equally perceived as a crime against Ekpwe in many other villages.

Conversational interviews with reveal that a certain village member and an indigene, Nchung Itung unlawfully fished in Ndekedekpwe. Women who were also fishing (Cray fish) in other unprotected parts of the same river, saw him. When Mr. Itung was casting his net, the women hid and watched to be sure that he was actually fishing in Ndekedekpwe. Later, the women reported the matter to the village chief. The town crier went round the

village, summoning people to the chief's house. Mr. Itung was later arrested by young men and brought for questioning. He pleaded guilty and promised not to do it again. His case was serious for the fact that it sought to dispel some myths about the mysterious powers vested in Ndekedekpwe. Before this event, it was widely believed that if one attempted to fish in Ndekedekpwe his fishing apparatus would disappear; that individual drown; and his remains would never be found. All of these did not happen to Mr. Itung and so the village chief who doubled as the head of Ekpwe in his village sought advice from his council of elders on what to do about this potential disaster. They resolved to let Nchung Itung pay a huge fine together with some bottles of drinks (*Afofo*). The idea of the huge cash payment was to acquire stronger Ekpwe powers from another source because it was then said that the previous powers were no longer working well.

When the news spread to other villages in the area that someone had defied Ekpwe ban to fish in Ndekedekpwe, there was a rush to fortify the mystics of Ekpwe. It also led to a prejudice on Ikondo Kondo I people; for hosting someone who has broken the laws of the gods of the area. This prejudice provoked a re-examination of the case and Mr. Nchung Itung is said to have been affected by divine powers and he mysteriously disappeared. The news of his mystery became the anti-thesis of the prejudice and since then no one has dared to fish in Ndekedekpwe. Esukutan elders argue that fear of divine retribution is behind the reason why no individual would fish in *Itika Bekundi* and *Itika Nkanda*. There is no report of someone that did hunt in Ekpwe forest *(Mouriki Mwa Boutame)* in Esukutan where this forest exists. However, its small size of about 2 hectares and the continuous disturbance by Ekpwe members may not make it a good habitat for animals.

Box 10: Case of how village council regulates foreign exploiters (Esukutan)

This case is related to how indigenous institutions control the local harvesting and marketing of plant NTFPs. The lead enforcement bodies are the indigenous chief and the village council. It should be noted that as a sign of brotherliness, peace and harmony, village leaderships formerly granted permission to foreign exploiters who pay a token fee (cola nuts, drinks and cash) to gain entry rights. Nigerian exploiters took advantage of this act, contacted respective village councils, paid a token fee and extracted resources themselves. In the early 1980s there was a turning point in these accomplices. Esukutan elders explain how village youths discovered that when exploiters pay to exploit an authorized quantity, they take advantage of no strict monitoring to exceed limits. The market-minded exploiters often breached local trust and respect by not caring very much about resource degradation.

The 1980s incident involves a Nigerian who paid 2500 frs CFA to obtain permission to hunt in Oroko forest of Esukutan. The entry rights were granted and he killed many animals, smoked them in the thick forest and after two weeks he came to the settlement

with a handful of the game to report his return and experience in the forest. He complained that his expedition was not successful. Just when the village council was feasting over a game he offered them, a report came from another village hunter who found a pile of smoked meat close to a footpath to Nigeria. The Nigerian exploiter was prevented from leaving the village and youths were sent to go for the pile of smoked game. It was seized and the Nigerian was expelled and barred from coming again. From thence, a law was passed banning the granting of permission to any foreigner to personally hunt or harvest and collect wild plants in the village forest and Ekpwe endorsed this law. This law makes for indigenes to extract the demanded quantity and then sell to the buyers who are obliged to compensate the village through its council before taking goods out.

This law is hailed by many women and school children who have been victims of the market tricks of dumping. Women reveal that their suffering is two pronged. First, the resource degrades faster if the foreign exploiters extract by themselves. Second, when villagers do the harvesting, the buyers would say the supply is too much and so the price should fall. In most instances, local harvesters would dump the harvested wild eru and lament for having wasted their time. When next the buyers come (in a group or singly) the villagers would harvest less than the needed quantity. In this case, the buyers would ask for permission to go and harvest for themselves. If allowed, some end up hunting even though they were permitted only to harvest eru. The ban organized extraction and sale of eru such that the quantity harvested no longer exceeds the quantity demanded. Besides, those whose continuous survival depends on the sustained yields of the resources they sell do the harvesting. Since eru is mostly harvested by young girls and women, this culturally condemned powerless group is assured of a sustained income generating activity and make sure their resource extraction is careful. The ban has been effective and this case confirms the effectiveness of indigenous institutions in this particular resource and village.

This case shows that since the 1980s local have realized that foreign poachers pose a threat to their long term security and have used their institutions to control the harvesting and marketing of NTFPs. Learning from their past mistakes, Esukutan villagers no longer grant access to foreigners but ask villagers to do the extraction and sell to buyers who must identify themselves to the village leadership in the first place. This case is one example to demonstrate how with the micro level management, the monitoring process is easier and more effective than the macro level monitoring services that are provided by eco guards.

7.7 Sanctioning ability and power of local decision-making bodies

7.7.1 Rule emergence and practice guidance

How rules emerge to guide future practice is a good subject for enquiry. This is because the emergence of rules and management practices are easily understood if our analysis includes the ethical know-how and people's dynamic adaptation to changing contexts (Knudsen, 2008:40). Interviews with elders and household heads reveal that rules emerge from ethical practices that appeal to the heart. Also, they are aware that rules created by their predecessors need no harsh enforcements because morality (ethical sensibilities) tends to guide their social interactions. Consequently, village elders were asked to explain how members get socialized into the norms of the village. In both villages, the response is that the family has to make sure its members grow up knowing the "rights and wrongs" as well as respect for the elderly. This practice begins with the acquisition of knowledge, which has its starting point or pre-objective in personal experience. For locals, this pre-objective is to learn to grow up in interactions guided by ethical sensibilities, which are largely unarticulated values and norms (*Ibid*: 38). Ikondo Kondo I elders disclose that each parent educates his children about the forest at any time he thinks is convenient and suitable for them to know about it. There is some observable evidence that ethical behaviour is embedded in the social organization of the village. For instance, when village members interact in the forest, they usually consider the fact that they also mingle at other times and in other situations and capacities. So, a villager would avoid encroaching into another's land even if that neighbour is not in the village for fear of being isolated. The moral standing of any individual defines her/his ability to find partners and to acquire information from other community members. Also, the manner in which deviance is handled in the villages reflects an individual's moral standing to that of the family. So, locals consider the family as the moral unit and an individual's behaviour is said to also reflect upon other close kin such as the brothers or cousins of the household head (Knudsen, 2008:38-39).

Rule monitoring and sanctioning is observed to occur at different levels within and between the villages. At the household level, every family member is under obligation to protect the family forest, which also has clear boundaries and well-known neighbours. The owners

sanction unauthorized exploitation, and if unsuccessful a referral is made to higher authorities. Usually, the lineage head is first contacted. The indigenous chief could be contacted directly who may on his discretion transfer matter to the village council for public hearing. Trespass in the "open access but limited to village members forest", by a non-member is an inter-village affair. Esukutan elders explain that the culprit will be arrested and or reported to his or her village of origin. A date will be set for hearing in a third party village. The sanctions are usually heavy for such crimes since fines have to be distributed to all three villages concerned. The village of origin of the defaulter is responsible to make sure the fine is paid and to impose harsher sanctions on the culprit for the disgrace and shame brought to it and for the past 15 years no such crimes have been reported. Fines at inter-village level are calculated at about 43 euros and locals consider this amount to be too high for them to pay. Their indicators for measuring success and effectiveness of governance are that illegal exploiters no longer encroach, villagers no longer fish using poisons, and above all there have not been many reports of rule breaking.

Rule breaking is a social phenomenon associated with so many stigmas. If a member of any household commits an offense, a chain of people would be blamed. For instance, when Mr. Bernard was caught for fishing with poisons and even after the matter has been resolved, his relatives complain that other village members still shy away from them for having had a deviant family member. The indigenous Chief also recalls that the head of the lineage to which Mr. Bernard belongs, is often blamed for not being able to control his lineage. The said lineage head finds his influence and powers declining, as he is no longer able to convince other council members to buy in his point of view. In reaction, close relatives distance themselves from such deviants for fear of being tainted by the bad reputation that Mr. Bernard has acquired. Our interactions in the communities observed locals referring to someone by the crime that a relative committed and on two occasions, Mr. Bernard's wife was referenced as "the wife of the man who was punished by the village for fishing with poisons". In the same popular slander, four poachers that have been arrested in Ikondo Kondo I are referred to as "prisoners" by women as well as members of their families. As observed and in the views of the locals, these socially stigmatizing labels tend to dissuade former delinquents from commiting crimes in the future.

However, there was a curiosity to investigate rule change amongst the relocated Ikondo Kondo I because the intention of relocation is to stamp out local hunting pressures in the national park. Officially, eco guards are thought would better police the area if no one lives there. So, chitchats were held with willing hunter houeholds on how freely they hunt in the national park and if they still respect precepts like selecting game, etc. Ikondo Kondo I hunters note that back in the old village, things were quite free of charge. Now hunting is illegal and so they enter the park at night when no eco guards are sleeping. To maximize the slightest opportunity, animal killing has no regard for sex, size and the reproductive state of animals. In their present location, they trek more than 20 km into the forest to be able to see an animal. To them, hunting is tiring and wasteful and one must count himself lucky to kill a bush baby, an animal they never hunted in the past due to its small size.

The need to survive amidst resource scarcity in the relocation site largely explains the non-compliance with national park laws by locals. So, outright protection is a conservation disincentive. On the other hand, these are the incentives or the driving forces behind local constraint of resource abuse in Esukutan. Korup National Park Service officials are aware that for 25 years their management has been concentrated in the southwestern sector of the park. As such, villages in other sectors have managed three quarters of the national park. In this context of limited property right, livelihoods security is an incentive for communities to use their institutions to prevent foreigners from entering and extracting from their forest. *"We do so because the forest belongs to us"*, *"if people extract everything from our forest then we will not survive"* are some of the statements recorded in our fieldwork notebooks. But if livelihoods concerns have led to a controlled eru market, bush meat hunting is still going on uncontrolled. So, locals have not offered a complete solution to illegal hunting.

18 and 5 households in Esukutan and Ikondo Kondo I, respectively are found to be major hunting households. They report earnings of more than 100,000 frs CFA and hunting is their major source of income. None of them own a cocoa farm. This amount is judged to be high enough to cause resource scarcity. Entire villages suffer the brunt of the activities of these households. People are aware that full time night hunting is deleterious to the wildlife population because it is hard to select the game in the night. Besides this fear, full-scale

hunters sell all what they hunt and spend the money on wasteful investments like drinks, cigarettes and keeping many concubines. The village leadership perceives hunting as a way of life and so it goes on unconstrained. The culprits in Esukutan are identified former city dwellers who have just settled in the village for not up to 7 years. Esukutan elders are aware that hunters are spending several months in the forest and that relocation is premised on unsustainable hunting. The fact that these full time hunters have not taken up membership in Ekpwe is a hindrance and also buyers come from Nigeria. It is hard to stop people from earning money that has come right into the village.

7.7.2 Whose law is effective in the Korup National Park area?

To answer this question, the institutional analysis and development (IAD) framework of Elinor Ostrom is used. Here are some guides to this analysis of whose rule is effective; First, It is not necessarily having rules that matter, their effective enforcement by credible structures is foremost important. A rule is effective if its proper implementation results in the desired behaviour. For instance, if the 1983 forest law actually stops hunting inside the Korup National Park then one could say it is effective. A rule is not effective if it is not properly enforced, observed or obeyed. Second, rule recognition and observance is based on the degree of understanding. Third, rules that prevent destructive extraction behaviour are better. If all wild animals are killed and the poachers are arrested afterwards, it makes little conservation good for that particular area. Arrests could be a deterrent to others in other areas but, effective conservation requires preventing the problem.

According to the IAD framework, the proximity to the resource is important. In the Korup case, state laws are initiated from the donor community (as a green forestry legislation drive), the state authorities pass national legislation based on doctored and untutored reports from the field and then eco guards enforce them through seizures and arrests. State laws are drawn in the city and are supposed to be enforced by eco guards in the remote forest villages. On the other hand indigenous rules are crafted and enforced by the indigenes themselves. The indigenes, who are the resources users, have a daily experience in the park and so enforce their rules based on first hand assessments and knowledge.

The attributes of the communities: The macro level conservation community in Cameroon is too bureaucratic and fraught with many bottlenecks. First, the Conservator of the park takes instructions from the provincial level instead of reports from ground staff like eco guards and the SDO of the area. The latter undertakes meet-the-people tours to enlighten communities on why hunting has to be greatly reduced but his administration is in conflict with the forestry department for fueling illegal forestry activities in the area. Besides, the forest management committees created by the government are non-functional; there has been no meeting or report from any of these committees. Although conventional wisdom holds it that macro level rule enforcement bodies are important for national parks, de facto resource use and rule enforcement is with the community of users who live close to the resource and whose interest is shaped by long term security of their livelihoods.

Table 18: Macro levels of decision-making bodies

LEVEL	BODIES	ROLES
International	IUCN, UNEP, GEF, WWF, GTZ, USDoD, KfW, DfID,	Finance, research, fund other conservation activities
National	Ministry of Wildlife and Protected Areas, Ministry of Environment and Forests	Make national parks laws and look for funding partners
Regional	Delegations of all Ministries	Supervise Park management
Divisional	Delegations of concerned Ministries	Resolve conflicts
Sub divisional	Forest Management Committees	Marketing of NTFPs, forest use issues
Korup Region	Korup Park Service VNRMCs, eco guards	Oversee conservation in the Park

The state's decision-making bodies (Table 18) are located far away from the park and do communicate via administrative or service notes, exhortations, instructions, telephone, radio, query letters and reprimands. These impersonal modes of communication are prone to misconceptions especially as laws are written in French and by the time their translation into English is complete, most of the fine details are lost. Also, as instructions go down the command hierarchy, some details are lost. Again, state laws do contradict. For example, the 1983 law states that all forms of hunting is banned but a 1998 Prime Ministerial decree allows indigenes to continue to carry out their livelihoods activities until they are relocated. Eco guards implementing this hunting ban are faced with the problem of identifying who is a genuine park indigene. In the face of this confusion, all hunters are arrested.

The design principles for sustainable governance of the commons hold for these villages (Agrawal, 2003:247; Ostrom, 1990:90). Local collective action to deal with defaulters has

been possible due to the small group size (Esukutan: 202 inhabitants; Ikondo Kondo I: 222 inhabitants). Forest boundaries are clearly defined and every village member knows the boundaries of not only the family land but that of the village forest with neighbouring villages. The communities are close-knit; everybody knows their neighbour. The degree of in-migration from other ethnic groups is low and so high homogeneity could mean a higher chance of common understanding of rules. Lawmakers live with the community and are themselves subject to these laws. Embeddings into the network of village association is high as a single individual could be a member of all the existing village decision-making bodies on Table 19. For instance, some household heads are also lineage heads who sit on the village council and who also have a strong membership in Ekpwe. Tenancy in these bodies last as long as one maintains good relationship with the entire village.

Table 19: Micro levels of decision-making bodies

LEVEL	BODIES	ROLES
Park Villages	Indigenous associations like: Ekpwe, Chief, Village Councils, Age grades (Ekhan)	Micro-level decision-making and social control
Peer Groups	Work & Savings Groups, Ka Chang Ka Korup, etc	Solidarity, cooperation, knowledge sharing
Lineages	Lineage Heads	Guardian of lineage members
Household	Household heads	Household governance

Generally, parents socialize the young into the accepted behaviours and the rule that rivers poisoning is a crime against the entire village, puts community interests above individual wellbeing. Esukutan village council charges foreigners for extracting from their forest; youths provide effective monitoring; Ekpwe metes out harsh sanctions, and the indigenous chief provides a conflict resolution mechanism. Relocation is weakening this structure.

Relocation, a practice of the past has exhausted its credibility and has compromised the cause of biodiversity conservation by inflicting aggravated impoverishment on very large numbers of people (Cernea and Schmidt-Soltau, 2006:1830). Despite this, locals continue to protect their livelihood resources. The rules in use or the rules enforced have a hallmark on two levels; inside of and outside of the park. State laws prohibit all forms of human life inside parks but when eco guards succeed in arresting a few poachers outside of the park, they argue that the game is not from inside the park and there seems to be no proof to the contrary. Most arrests are made in the support zone of the park where hunting is allowed.

7.7.3 Local rule enforcements and power bases

Having abundant animals in the forest is a local collective interest that can be protected by the application of socially constructed rules of law (Wana, 2008:96). This implies some power base. The power bases of local enforcement mechanisms are explored based on the classical framework of John French and Bertram Raven, (1959). How the government-appointed administrative and indigenous chiefs exercise power and how this affects the solidarity of the village, is discussed. In the course of the fieldwork, it became obvious that the government chief has power over official and state matters and had almost negligible influence in the villages because indigenes think that he supports the draconian conservation policies of the state. His *legitimate power* is symbolized by his appointment as a worker in the lower ranks of the management structure of Korup National Park Service. The indigenous chief is observed to control and enjoy the support of most subjects. His *legitimate power* conferred on him by village elders and his house is often referred to as the "chief's house". His *referent power* is based on his charisma and interpersonal skills to attract support and loyalty of most subjects especially in Esukutan where all the households think he is their choice and he does his work well. For the relocated Ikondo Kondo I, the power of the indigenous chief and Ekpwe has warned away since villagers now turn to the gendarmes to settle disputes as explained earlier.

Ekpwe accumulates *legitimate, referent* and *coercive powers* in Esukutan where it is still functioning properly and undisputedly makes and enforce rules. First, its halls and signs are visible to everyone, all cases are referred to it for sanctioning and its ruling is final. Ikondo Kondo I's ultra modern Ekpwe hall constructed at the time of relocation is being used to welcome foreign researchers and not for Ekpwe activities. Youths are not willing to get initiated or fulfill their obligations in Ekpwe. The handling of the river poisoning cases shows Ekpwe's coercive power, which remains the most important social institution and governing body in the communities (Devitt, 1988; Malleson, 1999). Ekpwe forests and Ekpwe Rivers enjoy *symbolic power* bases as people avoid extracting in them for fear of divine retribution. Everyone including the chief is subject to Ekpwe laws. There might be slight differences in preferences but this could not be verified as there is no reported case of an indigenous chief or elder that has ever been sanctioned by Ekpwe.

The core of elders in Esukutan and spiritualists in Ekpwe enjoy *informational power* based on their expertise and knowledge of the internal workings of the system and are highly rewarded through gifts of bitter cola, drinks, food items or other NTFPs. They dominate fact finding procedures; dictate what punishment a culprit should get, and the magnitude of the fines. Sessions held by this group are mostly covert and nocturnal. Also when it comes to entertainments, they get special treats like the larger pieces of meat, more cups of palm wine or imported red wines from Nigeria. Villagers refer to members of this core as the "big men in nyampkwe". Hence, they are a strategic group (See Evers and Gerke, 2009:2).

Lineage heads have a *delegational power* base in the village council since they represent lineages. Some lineage heads reveal that they have a strong interest in their brethren, whom are observed to have happily identified with their personal qualities and are satisfied to be followers, especially in Esukutan. The question, how would you feel if you were made the lineage head today, generated quite similar answers: *"I am satisfied being a follower in my family (lineage), leaders have so much work and I am not fit for that position"*. There is no response challenging the authority of lineage heads except for homage and loyalty.

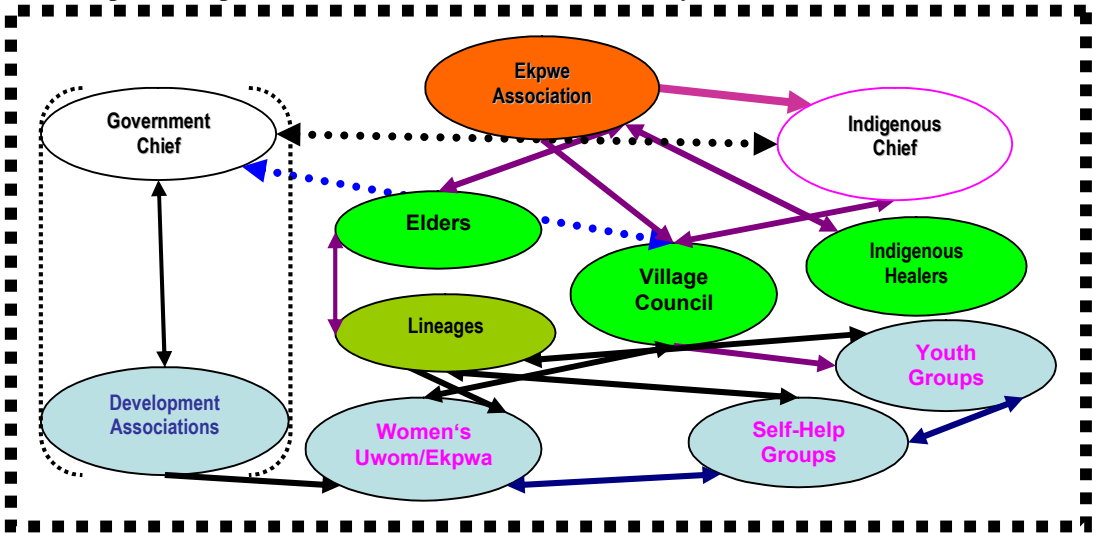
The village council enjoys *constitutional power* and it is legitimized by the fact that its members are the representatives of the people. This is the most democratic body, which changes its chairperson every two years. Village council debates are open to the public; they could be long and windy if the self-interest of members does not dominate. Two cases witnessed in Esukutan were brief as the chairperson coerced everyone to his views.

The youths who play the role of the village police also have a *legitimate power* base. They are rewarded after executing their functions with a share of the fines. The river poisoning incidences are instances where youths worked real hard and effectively too. Women's groups may punish at their level but serious crimes are referred to the village council that puts the matter before Ekpwe. Women leaders in their juju group sanction gossips and insults by women. Women too also have a right to share in any rewards, which may be symbolic but not commensurate to what men get.

7.8 Conclusion

Korup National Park is in a remote area where property rights have passed from locals to the state, whose NRM strategy disregards the interests of the traditional owners of the forest. The carrot and stick approach to ICD is poorly implemented as carrots (rural development projects) go to far away villages, while villages inside the park that bear the brunt of conservation are whipped with the stick (park surveillance). This protective of turf approach has led to incessant fights between locals and eco guards for whom most villages, 'no-go areas'. The macro-level strategy is an end-of-the-pipe solution and the structural outcome has not been good for conservation; hunters are arrested outside of the park and after animals have been killed or rivers have been poisoned; relocation has instead created a conservation vacuum and eco guards are fighting with both local and foreign poachers when in effect, they need locals as their important allies in combating illegal poaching.

Box 11: Spheres of power as described and observed in study communities in 2006



The broken arrows indicate almost negligible interaction; single headed arrows indicate unidirectional and double-headed arrows indicate very strong interactions. The Government Chiefs and Elite Associations as explained earlier, do not exist in the two villages and so are separated. The most powerful institution is Ekpwe. Together with the Indigenous Chiefs, they are the most influential in guiding daily behaviours. Their decisions are final, binding and command respect. The Elders, village council, healers and lineages occupy the second layer do have a numeric strength. Youth, women and self-help groups fall on the lower rungs of the command hierarchy of the communities.

In terms of constraining mechanisms, KNP represents a legal duality; state laws and a set of community institutions. Resource users (locals) obey their own socially crafted rules

(laws of the indigenes) than the highly unknown law of the state. Local institutions are effective at grassroots levels, and have constrained unauthorized entrants as well as destructive resource extraction behaviours as the analyzed cases show. The coercing powers of Ekpwe and the interconnectedness of the local rule enforcement bodies that usually function in combination (Box 10) make non-compliance, an unimagined reality. Ekpwe's multiple power bases and linkages to every aspect of community life prove efficient in the local resource management arena than state laws. This raises doubt as to why indigenous institutions are being ignored if Ekpwe rules are effective.

Locals' rules are embedded in their knowledge, culture and social interactions and in such bundles; they are transferred to other generations. Local institutions determine the scope, configuration and social morphology of tenure regimes and everyone grows to understand the rules and the consequences of non-compliance. This suggests that exclusivity rights or similar arrangements are an incentive for common local action to constrain unauthorized entrants and destructive extractions, but there is a local common action problem; local rules do not constrain longer stays in the forest and night hunting and hunting with many wire snares because the elders think this is the way of life for their fellow brethren. The local governance strategies have also not dealt with all the challenges that eco guards still face today; it condones the [unsustainable] hunting by some members. This makes it hard to enough to convince the current Conservator of the national park who is a conservation biologist and whose main concern is, pristine forests. He remains the only one who still talks about further relocation, despite lack of funds and the absence of a plan on the table. More action is necessary in Esukutan village if hunters' threats to species are to be kept to the barest minimum. The prospects are high that this could work because responsibility and authority are critical success factors that are imbedded in the norms and rules of the local governance framework. Coincidentally, while this seems to work for conservation in Korup, it is not always an optimistic option because it is very coercive than democratic.

In all, this chapter argues that the communities do not only exhibit the Boserupian rural strategies, they constrain deviant behavious through effective local common action. These are important and necessary for transforming conservation dilemmas in Korup rainforest.

Chapter 8: General conclusions and lessons learnt

8.0 Introduction

This case study just like others expose the inherent dilemmas associated with the currently favoured ICDPs approach to tropical rainforest national parks. Unlike other studies have argued, the dilemma in Korup is by far driven by the neo-Malthusian or parks versus people arguments that local population growth, markets, and unsustainable extraction technologies; degrade national parks. These claims are validated by the existing global theory (Chapter 2), which arguably, may not reflect every local reality. With an interest in foreign exchange earnings, implementing global forest treaties and protecting Africa's richest rainforest, Cameroon's strict enforcement approach limits conservation to the protection of biological diversity. The crafted national laws that are contradictorily enforced by eco guards ban livelihood activities but not settlements inside parks. It generates conflicts and communities who wonder if conservation grants more rights to animals than to people. The poor conditions of the relocated Ikondo Kondo makes other villagers to think that their traditional rights over the forest have moved over to the state, dissuading them from supporting conservation. Their reactions lead state actors to blame them for the current dilemma, when in effect, it is largely state policy and actions.

This critical assessment of the evidence of the official claims (Chapter 6) and from interactions with locals and findings of how they perceive the challenges of the park proves the discourse that human occupation of Korup National Park is problematic as a myth. Instead, local communities are an integral part of the key solution. As argued in Chapters 4, 5 and 7, the communities have coping strategies such as soft management and careful harvesting of NTFPs and extensive experience-based ecological knowledge. They have socially crafted rules to check unauthorized entrants as well as destructive extraction. These fall in line with the Boserupian rural strategies to counter environmental change (Chapter 2) as well as Elinor Ostroms conditions for effective local common action. This strengthens calls for participatory approach to national park management through recognition and accommodation of local peoples needs to overcome a local common action problem.

8.1 Lessons learned

In understanding social dilemma in external interventions, an actor-oriented perspective seems good, because it advocates a balanced identification and characterization of actor strategies and rationales, their effectiveness for solving problems and their structural outcomes. Using this approach, six lessons could be learned from the analyses:

First, the social actors have a common interest; forest resources. The local perception of the relocation policy as usurping their rights, accounts for the dilemma. The relocation activity is little more than a tactical manoeuvre that is not based on context bound research-based evidence. Like Phil Burnham (2000:51) argues, most of the powerful and persuasive cultural logics at work in this discourse operate in an abstract, myth-like domain.

Second, there is a clash of the different perspectives due to ideological oppositions. Locals base their idea oc conservation on what they were told at the onset that conservation would bring development to them. Korup officials think that conservation would not succeed if local people people's interest were put at the forefront. In all, there are internal inconsistencies on the arguments within each camp and not everyone holds the same view.

Third, the knowledge processes are entangled with power relations. Korup officials think their knowledge sources are expert while those of locals are lay forms of knowledge. They claim that locals are using beliefs and values in their struggles over legitimating their *rights of stay*, which is against the public interest. The use of documented evidence from other cases validates the dominant discourse but its rejection by locals depicts 'an encounter of horizons' about the reality in Korup forest area. Rather than using the law to evict locals, through effective interaction, dialogue, reflexivity, and contests of meaning between actors, local conservation knowledge could emerge, which would help to transform this dilemma.

Fourth, there are multiple discourses endorsing, transforming or challenging the official claims. While the emerging indigenous KREO/KOGAN NGO headed by elites who live permanently out of the village, endorses the dominant discourse, the resident community

members reject it. They deploy and defend countervailing perspectives that offer alternative, more locally verifiable points of view based on daily interactions with the resources inside the national park. So, the dominant discourse is replete with naturalistic reifications, which assume that locals are always a threat. This finding confirms the arguments of Tchouto and colleagues (2006:1219) and Malleson (2002:94) that the macro level perceptions are based on intuitive interpretation of distribution maps and assumptions.

Five, networks form the basis of power to promote particular discourses with political, cultural or moral standpoints, often mobilized in struggles over social meanings. Project Directors in a bid to convince the international donors dismiss even the "indigenousness" of communities by asserting that they are 20th century folks with automatic rifles even though locals cannot afford such weapons. Such made-up claims to justify relocation at the behest of a higher social good are one of the defining powers of states. Contradictorily, Cameroon's forestry laws do not out-rightly prohibit human settlements in national parks.

Six, negotiation platforms or workshops have often been used by state actors to dictate their positions instead of dialogue which has not helped to reduce the negative local perception of conservation as a "white man's plot to take away their source of livelihoods" through the government of Cameroon and that they are being treated as if they were inferior to animals. This shows how national and international conservation policies and actions are incoherent with the perceived needs of the locals whose reactions and the interplay of foreign poachers have resulted in the conservation dilemma. Communication; information gathering and shaing, trust, explicit promises, persuasion and the encouragment of group identity will increase the likelihood of cooperation and a better chance of transforming this dilemma.

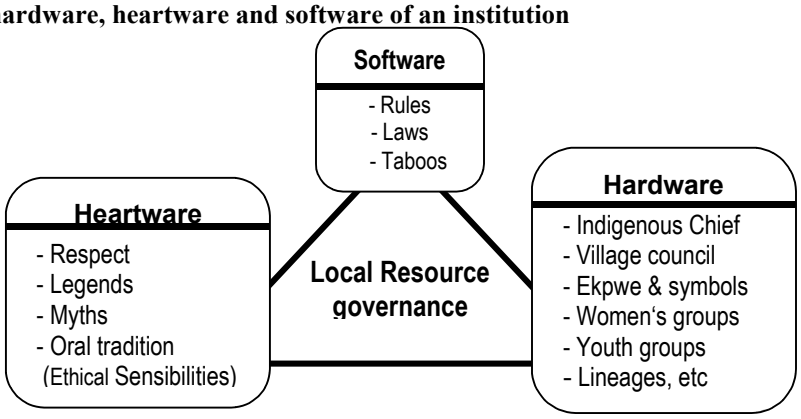
8.2 Local institutions and ecological knowledge as embedded realities

Much of the literatures limit the concept of institutions to rules, which is tempting for one to think that where there are no verbal or written rules, institutions are absent. Answers like "we have forest rules", "did you see the symbol of Ekpwe at the entrance of the village", and "a child cannot commit a crime in front of an elder" and so on, lead to a conclusion that locals do not treat rules in isolation from their enforcement bodies. Institutions

therefore include; cultural sites, processes and regulations put in place by groups with a strong identity and leadership. Traditional norms or what are known as customs for acceptable patterns of resource extraction, set the rules of the game of social interaction and fashion how individual behaviour meets group expectations of forest use, long term security of resources and hence, forest condition. Just like Knudsen (2008:40) found among fishermen in rural Turkey, institutions are part of the culture and history of the Korup forest area and are passed on to other generations during the knowledge exchange process.

In the communities, rules in use are not written but they exist as moral norms or ethical sensibilities which may be why outsiders probably do not observe or easily recognize them. They disrespect existing ethical norms and are punished. Hence, communities' role in national resources management should be judged on the basis of a demonstrated history of successes or failures of rules and their enforcements. The three cases in Chapter 7 show that in these communities, local institutions embody rules and the enforcement agents and usually function in combination. So, the concept of institutions is multi-dimensional, comprising three interconnected parts; hardware, heartware and software (Figure 14).

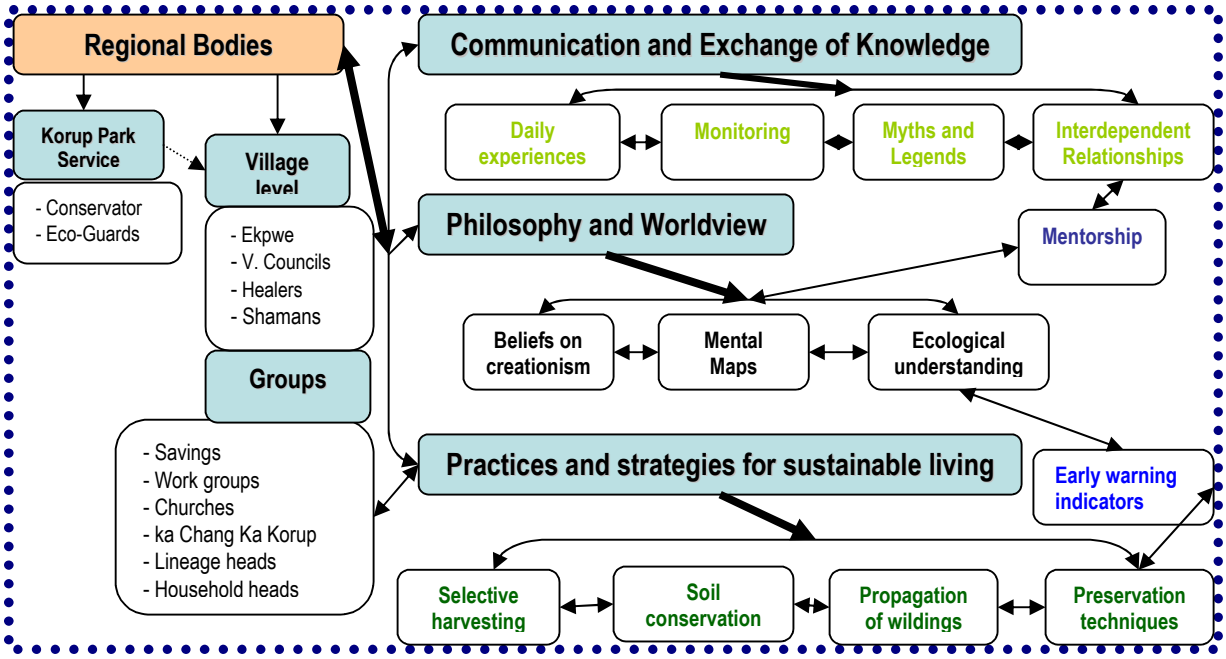
Figure 14: The hardware, heartware and software of an institution



The software or operating system is made up of laws, taboos and rules in use; the heartware (applications) or ethical sensibilities include; legends, myths and stories); and the hardware or enforcement bodies could be an individual or group vested with an enforceable authority like Ekpwe, youth groups, village councils, indigenous chiefs, and sign posts. The heartware still forms the basis on which the software and hardware survive. This complex of local governance has been orally passed down from generation to generation through the

ecological knowledge exchange process (Figure 15). Community elders influence the social processes in knowledge construction and discriminatorily transfer it as 'tradition'. These embedded realities are found to be reproduced via the moral social unit of socialization; the family. Chapter 4 provides details of how knowledge is learned and shared. But external forces of change as described in Chapter 3 are weakening this structure.

Figure 15: Embedded realities of indigenous ecological knowledge exchange in Korup communities



Regional bodies influence the process of indigenous ecological knowledge exchange. Strategies for sustainable living are in almost all circumstances based on the effective enforcement of rules and regulations. For instance, if Ekpwe was not too powerful to stoke fear, then over 26 years of lost rights of forests ownership would have provoked much degradation of the forest. Also, socio-economic changes taking place in nearby towns in Cameroon and Nigeria force people not to selectively harvest forest resources that have a high market value. State laws, in principle, ban commercial extraction but this ban is not respected. A case described in Chapter 7 show how local governance has practically controlled the marketing of NTFPs in the communities. All these embedded realities are not reflected in the Turner et al. (2000) model. Figure 15 represents these embedded realities that are relevant to Korup context. Double headed arrows link the different parts,

while single headed arrows link the different categories of a component. The thick black arrows link themes and components and indicate the influence of regional bodies.

8.2 Policy recommendations

Overall, it could be recommended that the ICDP dilemma in Korup could be transformed if communities are empowered through a difficult sharing of authority, benefits and responsibility. Stakeholders can no longer afford to waste useful energies and resources fighting their most promising allies based on three key explanations:

First, the concepts of "conservation" and "protection" in relation to the IUCN definition of a national park (See Chapter 1) must be clarified (See section 4.0). Conservation should mean proper management of forests for the sustained yield of forest products or services or both. Protection paints a pristine picture when in practice some management of fire and invasive exotic species is likely required to conserve the structure and composition of forests. Also, locals are more than a social filter of protected resources and would interact with them, regardless of whether it is to fulfil social, cultural, political, economic, or ecological objectives. National parks managements should shift focus from the ecologists' idea of pristine forests ecosystems because 'pristine' conveys a static picture while local regeneration of forests paints the 'dynamic' property of an ecosystem. Excluding human settlements must only be justified in cases where field based and actor-oriented analyses prove occupation to be inimical to the purposes of designation of the national park.

Second, the need for long-term security of livelihoods has provoked households to create and enforce institutions for the management of the forest as a common-pool resource. These rules as well as their enforcement bodies constrain resource abuse in the Korup National Park. This does not mean eco guards are not functional, but the myriad of problems they face has only limited their effectiveness within the outer circles of the park's boundaries with a somewhat discouraging success history. The harsh enforcement of state law has instead helped hunters develop secure poaching tricks leading to social dilemmas. So far, those who poison in Esukutan and have been sanctioned have settled there for not

up to seven years. Hence, indigenes are not the sole cause of the conservation challenges in the area; they have been a part of the solution. These findings are similar to those of previous studies on social dilemmas of common property resources (Bouas and Komorita, 1996:1144; Carpenter, 2000; Sally, 1995; Fehr and Gächter, 2000; Gürerk et *al.*, 2006; Henrich et *al.*, 2006; Kosfeld et *al.*, 2006; Janssen et *al.*, 2008:291 Ostrom and Walker, 1991; Ostrom et *al.*, 1992). The communication dysfunction between actors is typical because meaningful dialogue would convince locals on the need to effect a rule change to keep hunters' threats at the barest minimum. The prospects are high that this will work better given that responsibility and authority are critical success factors imbedded in the norms and rules of the Ekpwe. Ekpwe in Esukutan functions well based on its accumulation of many types of power including coercive power, loyalty, a strong leadership, overall societal respect, communication and sanctions that instead foster higher levels of cooperation. Ekpwe has weakened for Ikondo Kondo I due to; the relocation policy in general and in particular, the; lack of witchdoctors, dwindling membership, and the idea that secrecy of its internal workings or the secret/sacred lore, hypnotism, clairvoyance, spiritualism and the powers of nature that use to be taught to and utilized by members as 'top secrets', have become common knowledge to non-members.

Third, community involvement is currently an essential component of forest conservation projects and the 'community' itself is critical for sustaining institutions, which expose its potential to demonstrate a conservation authority. State officials should cease to rely on the classical conservation theory that does not reconcile natural ecosystems and existing politico-economic arrangements, because their reconciliation could lead to sustainability. While the call for local or community management is good but not unquestionable, the Korup case is complex in that the relocation policy has caused untold hardship and so people have lost trust in conservation. However, the relocated community should not be encouraged to go back inside the park. In their current settlement sites, communities could be encouraged to participate in park management since their livelihood activities fall in line with current conservation ideology that allows human occupation of national parks that remains compatible with conservation objectives. Some devolution of rights has to take place to give locals a sense of ownership; an incentive to show greater responsibility.

8.3 Communities, TUZs and multi-level management of Korup National Park

The management plan of the park that existed at the time of the field research talks of an in situ arrangement that accommodates the usufruct rights of communities through TUZs; a short term measure designed to legalise their activities. In principle, TUZs are expected to confine farming activities within a reasonably small area, while hunting should exempt endangered species such as drill, chimpanzee, red colobus, leopard, elephant and buffalo etc. This is reminiscent of the Ba'Aka example described in Chapter 2. However, TUZs may not succeed if locals are not assured that their interests would be protected and show responsibility in constraining deviants. The cases in Chapter 7 show how a network entity; Ekpwe, commands compliance. In collapsing the private – public domain by constructing the civil aspects of the public domain in a contractual manner, Ekpwe stands out as a force to reckon with. Ekpwe is thus in a civil society situation via the role it plays in the public sphere and the intermediary positions that it occupies. However, TUZs represent a scenario of "natural resource use with limited tenure-property rights" as discussed by Castello and Kaffine (2008) that is not different from the insular approach that has so far induced the local social dilemmas described in previous chapters. Kinship, indigenous associations, cosmologies and strong political legitimacy of local actions would create the extraction and stewardship incentives for inhabitants of national parks to adopt the desired behaviour.

It is here advised that a multi-level adaptive management has a better chance of making conservation hold even for ecologists and local people. On the ground level, locals would use Ekpwe to reduce destructive extraction, provide regular monitoring of the resources, set extraction limits and device appropriate management interventions. For Esukutan, which is still inside the park, compliance is not just voluntary; the capital punishment from Ekpwe makes it hard for people to go against its rules. Besides, ethical sensibilities still strongly guide interactions between members and deviance is socially stigmatized. All these help to force compliance. Although, their rules do evolve as unwritten norms, locals understand and respect them more than they do with national park laws that are largely unknown to them. So, institutions created by households to ensure the long-term security of livelihoods resources are what actually constrain resource abuse in the Korup area. By comparing the situation in Esukutan village and the relocated Ikondo Kondo I, it is argued that not all

villages in the same region could have effective indigenous governance. Social change in many communities signals that locals would not be able to unilaterally handle deviants. So, the state as the main regulator must play a part in resource management. Its current insufficient eco guards could focus on and re-enforce policing in roadside settlements. Simultaneously, economic incentives (a good market for extracted NTFPs and fees from researchers and tourists and donations properly allocated in village development funds) would induce local participation. Households are aware that crops' farming has good incomes prospects than hunting which to most, is tedious and unsuccessful these days. A good market in Mundemba town for the currently domesticated animals would be an additional incentive. But, a follow-up study is necessary to find out if crops' farming has sufficiently diverted attention from the current high dependence on wild forest resources. That is if the incentives discussed above are enough for people to adopt the desired behaviour in this same context of limited property rights.

8.4 Given the current situation, where do we go from here?

This study might not be in a position to state a way forward because only two out of the six communities that originally inhabit the national park are studied. State management of the Korup National Park generally ignores and de-motivates locals. The reason is that the over-seer forestry departments perceive of local or customary rules as 'weak'. No scientific evidence currently exists confirming that the pilot relocation scheme has brought conservation benefits. So, most of the accusations levied as the driving forces behind the official relocation discourse lack a grounded research base. Without detail ecological, socio-economic and legal studies, official claims on which forced relocation is premised are intuitive. The energies of the locals needs to be mobilized in any successful forest management efforts. This is only possible when the perspectives of all the stakeholders are taken on board because this is what determines the outcome of an external intervention. However, an extensive community based research into an approach that balances the felt needs of locals in the four remaining communities and the conservation interests of the state actors is important. This is possible through a thick description of local livelihoods activities; an assessment of the local perspectives on human settlements inside the national

park and the local ecological knowledge; and finally local governance or law enforcement; on a village-by-village basis. Once these are done, quantification of claims then takes precedence based on a harmonized standard of local and globally accepted indicators of forest change. The reason is that policy-makers would easily be convinced when figures are matched with qualitative data. Besides, experience shows that Cameroon bureaucrats easily read brief reports with charts and figues. The proposed policy oriented research could also focus on the possibilities of not building roads in the area although this is contrary to the contemporary rural development discourse. It should also explore population self-regulating mechanisms like; free and extended education for girls, youths and elders. The reasoning behind this argument is that people across the population structure of the communities would be pre-occupied with schooling during weekdays and this would at least reduce their rotations inside the national park. This is good for conservationists as forest disturbance would atleast reduce, although it might have to take a little longer time than expected.

Ways should be sought for communicating to locals to effect a rule change to constrain the few hunters who hunt in an unsustainable way. Locals should explicitly be informed that the incentive for this rule change is not only to have many animals inside the national park (ecologists' interest) but that it also serves community interests; secured source of animal protein and incomes for their livelihood. Such a trustworthy communication would help to change the current local perception that "animals have more rights than people" and that they have not lost control and ownership of their forest.

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Appendix 1a: Research design, methods and field conditions

1. Introduction and study design

This appendix explains the different methods employed in collecting and analyzing the data. The naturalistic paradigm guided the design for this study because there are multiple interpretations of the reality (Long, 1992). To provide a balanced account, this work combines the *Emic perspective* or the *villager's* and the *Etic perspective* or the *outsider's view* of the forest conservation experiences in the respective villages[84].

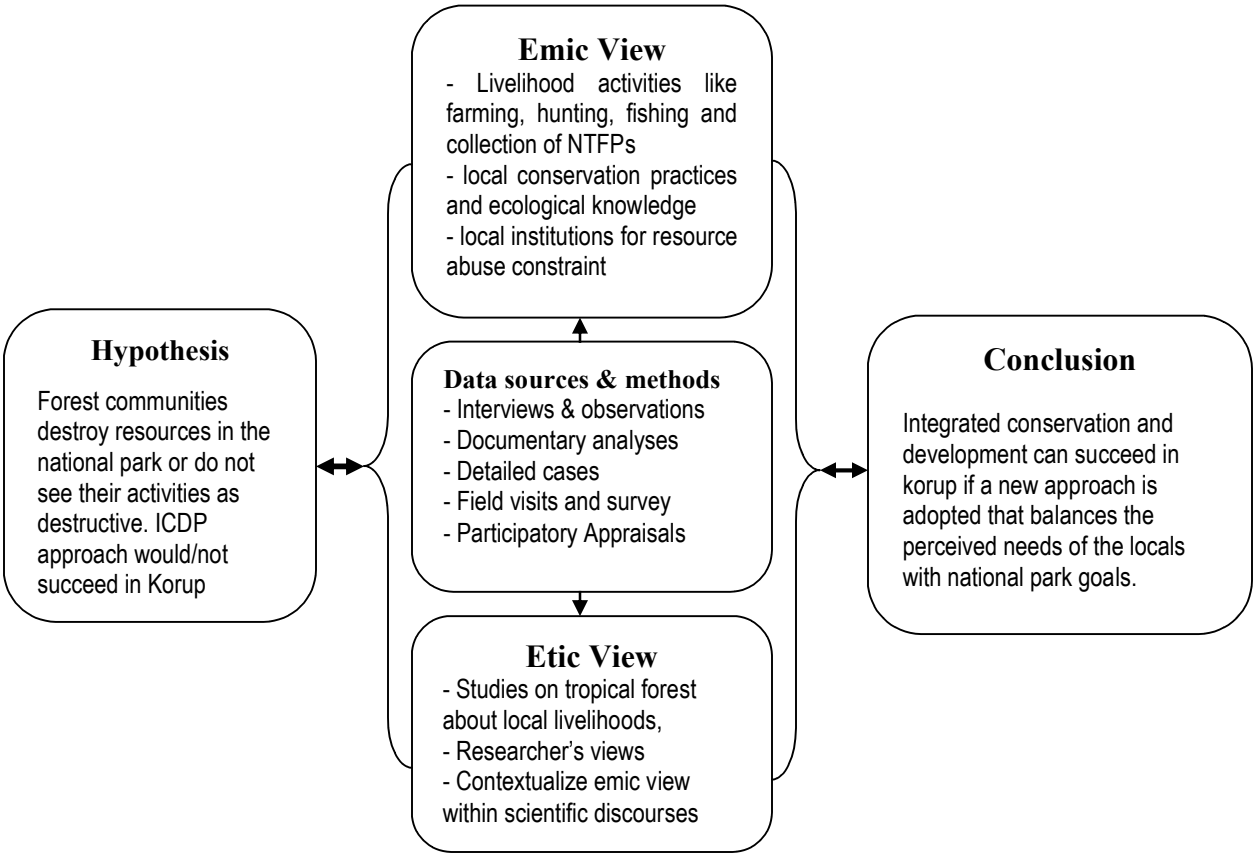


Figure I: Diagrammatic representation of research design (Source: author's creation)

The emic constructs include meaningful and appropriate; accounts, descriptions, and analyses villagers perceptions on how natural resources governance is carried out. The validity of this information is based on trust in that informants actually reported what they do in practice. Interviews elicited this knowledge but were however complemented with objective observations to validate claims made by the *insiders* or villagers. The etic perspective dwells upon the extrinsic concepts and categories in the communities that have been noted in scientific discussions. However, scientific claims do not solely judge the

[84] In-depth accounts of the emic and etic perspectives as developed by Kenneth Pike (1954) and other arguments are summarized on Professor James Lett's Faculty Webpage of the Indiana River Community College: http://faculty.ircc.edu/faculty/jlett/Article%20on%20Emics%20and%20Etics.htm

validity of such an outsider perspective because development is not only about theories but also about contextualized practicalities. Also, local actors possess scientific knowledge that is valid. In this report, the etic perspective is in the form of briefly described cases, which are documented by other scholarly works that confirm or antagonize the observations and assertions of the indigenes. The research design is summarized in Figure 1.

2. Data sources and instrumentation

This study was designed to collect qualitative and quantitative data from both empirical and secondary sources. Empirical data were generated through participatory approaches, while secondary data were sourced from journal articles, books, project reports, newspapers, websites, memoranda, transcripts of personal communications. Questionnaires were used to generate quantifiable data while recorded conversational interviews using interview guides generated qualitative data. More than one instrument was used and instruments were designed to collect data on more than one variable (data collection schedule).

Questionnaires (paper and pen or pencil instruments) composed of questions and or statements for respondents to fill. The advantage with using questionnaires is that they are a better way to quantify conservation attitudes and to elicit other content from respondents. They are easier to analyze and are resourceful for such an exploratory and confirmatory study. Open-ended questions provided detailed data in respondents' own words.

A three paged document containing pre-coded and open ended questions was used to collect data from individuals. It was titled "Individuals' questionnaire". The questions were designed to verify from individual responses if the claims made by experts during focus group interviews were really universal or at least if anybody chosen at random from a particular village would say and do what elders described as common practice. This instrument had 54 questions divided into five parts, each measuring different variables.

The first part of this questionnaire solicited demographic data about the interviewee (age, sex, level of education and main economic activities). The second part focused on the indigenous ecological knowledge of important forest plants, the source of this knowledge and its acquisition process. There were questions on methods used in teaching indigenous ecological knowledge. The third part focused on the power structure of the village in relation to resource abuse constraint mechanisms. It measured who, how and why locals are being controlled when they use forest resources. A wide understanding of the control mechanisms is necessary if they are to be respected by community members. Also, there were questions on self control mechanisms like the observance of a food taboo or taboos in general that might prevent some people from killing a type of animal believed to have a "human connection". Another variable of importance was land tenure; who distributes land and how land is distributed and who has rights to own land. The idea was that people would take great care of privately owned land than if it were an open access land. The fourth part had questions related to forest governance when there was no national or international intervention in the governance of the commons in that area. The fifth part required respondents to compare forest control of the present times with what obtained

before the 1980s; and to explain why they would recommend either governmental agencies or indigenous institutions for protecting the resources in the Park.

At the household level, a 6 pages semi-structured questionnaire containing 69 main and 15 follow-up questions was designed to measure variables related to household dynamics like; household composition, assets, income sources, wellbeing as well as some forest related questions. This instrument comprised six parts. The first part contained questions relation to household composition, the second dealt with household assets, the third social networks and patterns of cooperation and reciprocity and the fourth had questions on household wellbeing. The fifth section solicited data on village power structure before 1986, while the sixth had some question on village power structure 1986 and thereafter (when Korup National Park -KNP- was established). In the last part, respondents were asked to answer questions related to changes in forest condition over the past years, how these changes are affecting households and to state how they think these challenges could be overcome.

Interview and observation guides were used for qualitative interviews, and the open-ended questions were directly asked to the informants. As such, informants were required to explain and not merely saying a "yes" or "no" in any circumstance. This cautious flexibility was to get as much information as possible on the issues concerned. Probing was used as an interview tool to reach clarity or gain additional information. These were questions such as; is there anything else you would like to add? Are there any other reasons? What do you mean when you said...? Interviews were flexible and provided in-depth information considered very resourceful to such an exploratory and confirmatory study. The response rates were high as all selected informants willfully cooperated. Two interview types were employed: informal conversations and the interview guide approach. Informal conversational interviews were spontaneous and loosely structured and no interview protocol was used. The first was an unsolicited interview granted by the SDO for Ndian, Division where the research area lies upon our request for a research permit. After reading our application for the permit, he invited and briefed us on many issues that were relevant to the study. This interview gave the impression that some state officials accept the idea of empowering indigenous institutions as an effective park protection strategy. There was another informal conversation with a group of 14 eco guards in front of the Korup National Park Service office in Mundemba. This was done without an interview guide especially as guards complained that they would not like their responses to be recorded. In this way they felt free to confess that excluding locals and not wining their support is hindering their job.

The interview guide aided approach was the second interview type used. It was structured and made use of protocols containing a list of open-ended questions. There were different interview guides for different categories of informants so as to be able to capture rich information from different categories of informants. Interviews with village elders and notables made use of a guide which included questions about art objects, myths, beliefs, tales, taboos, rituals, totems directly linked to forest use control. Some questions required interviewees to provide examples and a detailed history behind identified rules. Elders also had questions on how forest use was monitored and sanctioned at the village level before 1986 and the evolution of rules thereafter. The idea was to get an assessment of the effectiveness of their rules based on the evaluation of those concerned and affected. A

number of questions in the interview guide were posed to groups of village elders (men and women) as well as individually to find out how knowledge of forest resources is segmented and its consequences on conservation. These same questions were posed to indigenous healers, children, men and women on an individual basis to establish the general trend in indigenous ecological knowledge exchange in the communities.

The interview guide had questions to hunters who volunteered to be interviewed. These questions were very important and the most sensitive, since the relocation discourse was centered on local hunting activities. Some questions were meant to get information on how hunting is carried out, how the bush meat is commercialized as well as how much income is derived from this trade. It also found out if locals kill endangered species in the area.

A careful look at the different research instruments[85] reveals that many questions appeared in the same instrument in different wordings. Also, the same question appeared in all the different data collection instruments. It was intentionally done to reduce the effect of the emic perspective that may sometimes elicit revelations of what people think and not what they think and do in real life situations. Consequently, having these questions in all the quantitative and qualitative instruments was a kind of reality check. In a relatively short order, we could find out how well respondents conceptualize problems and solutions and how these conceptual frames match with their daily practical experiences.

Direct observation was another method designed to collect qualitative data especially on animal hunting because at first, Ikondo Kondo I hunters were not willing to accept that they carryout hunting inside the Korup National Park. These unstructured observations were to directly record hunters' behaviours as they occur as opposed to preconceived ideas of what will be observed. However, an observation guide was produced to sketch village maps, resource maps, land tenure and land rights claims and institutional maps.

3. Interviewers' training

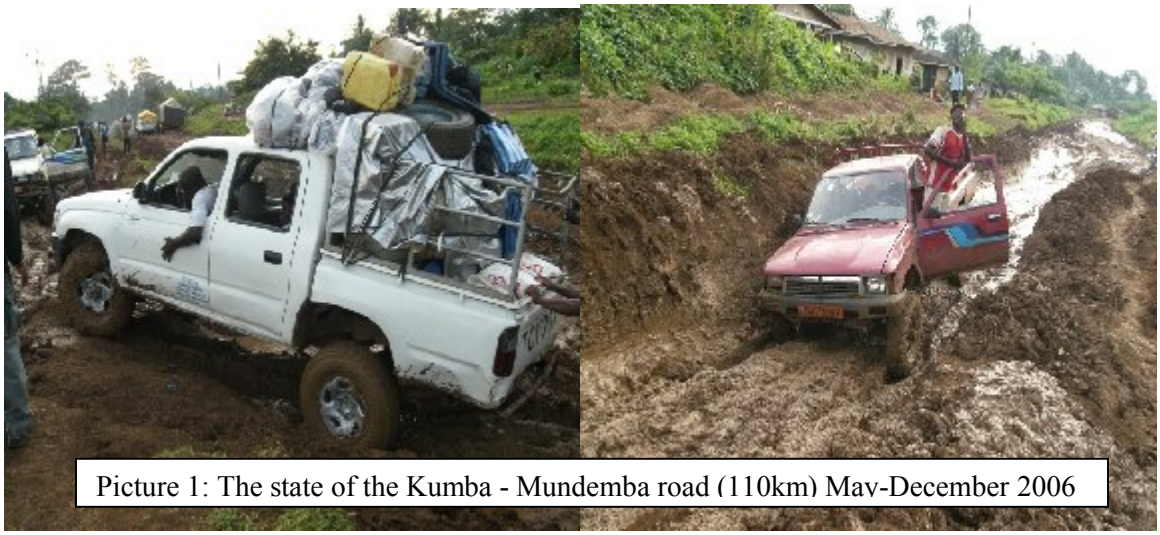
The above mentioned research instruments were constructed by the principal researcher and were then used to train assistants and to test their validity (degree to which the instruments accurately measure the variables) and reliability (consistency in the measurements). Hence, four postgraduate students from the departments of Sociology and Anthropology and Gender and Women's Studies, University of Buea, Cameroon, were recruited. They initially attended a two days training workshop to level their understanding of the research objectives and their performance expectations. Copies of the questionnaires were distributed and the rationale behind each question explained. 75 per cent reported that this exercise was intellectually rewarding and performance improving and this has been demonstrated by other studies (Lamb et al., 2002:114; Gilstrap and Ceci, 2005:42; Powell, 2002:47; Warren et al, 1999:128). Another two days session was designed to transform the theories into practice to reduce interviewers' bias in the sense that everyone had a different interpretation of questions and did not uniformly understand the entire project. Hence, the four trainees paired up; one posed as the interviewer while the other as the interviewee. The principal researcher listened diligently and interrupted to clarify intentions of problematic

[85] See appendix for samples of the instruments that were used to collect data for this project

questions. At the end, three qualified assistants were selected based on a satisfactory performance in the training workshop to take part in the practical phase (field testing).

4. Field Trips: communities' studies

With the research instruments at hand and after the training of interviewers, three field trips enabled the research team to immerse in the communities because the problem under investigation has both theoretical and practical relevance. The first trip to Mundemba town on 21.05.06 was meant to obtain a research permit and the pilot study, of Ituka village. This option was dropped when the Chief of Ituka, a Physics teacher of a local secondary school who resides in that town disclosed that Ituka faced a massive out migration during the 1990s and only about 13 people (hunters) live in six huts in the village. Chief Orume Peter stressed that all these hunters are skeptical of any stranger and might not cooperate with our research. He advised us to go to a village called Meka Ngolo, located some five minutes walk from the boundaries of the Rumpi Hills Reserve. We visited this village on 24.05.06 and held an introductory meeting with the villagers to explain the purpose of our visit. The visit coincided with a funeral ceremony and so houses were empty during the day and people returned to sleep late at night. As noted, the norm in most ethnic groups in the study area is that if someone dies, the burial and other ceremonies must last for 20 days. Interviews went on despite the inebriated condition of most men. Village elders answered question on how forest use is controlled. We gathered that the chief, village council, Ekpwe and families regulate human actions and behaviour in the village. But these bodies are weakened since state agencies now own and control forest that was formerly under their control. No details were released on how these bodies controlled forest use but these gave clues as to what is expected in other villages. The team left the village after the 24th day (that is after three weeks of stay in that village) to analyze the findings of the pilot study.



Picture 1: The state of the Kumba - Mundemba road (110km) May-December 2006

The pilot test proved useful and some lessons were learnt from the results. It was clear that questions on NTFPs collection were best answered by women; men could best take questions on hunting and sale of bush meat whose relevance was limited to households

which declared that they do hunt. Inter-households dependence was glaring and the most important items exchanged in that community included; kerosene, salt and magi cubes. Items exchanged were observed to be things that are not locally produced. This meant kin networks were a safety net. It was also found that sharing, reciprocity and obligation were norms that bind villagers. Households made such gifts to others. However, the outcomes of the pilot test enabled a refinement of the research instruments and the research assistants gained some practical skills. These set the pace for visits to the real research communities in mid July and early November, respectively, amidst poor state of roads (Picture 1).

5. Sampling procedures

In each community, the same sampling procedures were followed. The sampling units were individuals and households and the units of analysis included: livelihood activities, conservation attitudes and actions as well as institutions that constrain resources abuse.

After an introductory meeting with the entire village members to make known the purpose of our visits and build rapport, a complete enumeration of the community is carried out using the household questionnaire. It generated data household dynamics from a total of 84 out of the 89 households in the two villages. Three households in Ikondo Kondo I refused to cooperate with the research team because of a feeling that they are not treated as village members by the chief and village council. An attempt to tip them to cooperate only caused many other villagers to demand pay before granting any interviews. However, these three households were made of 5 persons; one household comprised three persons: one old and blind woman who was taken care of by her two young daughters. The other household lived just opposite the road to this household and comprised two men; one old and blind father taken care of by his son. In Esukutan, two individuals in one house were dumb and so could not talk. In both villages, they were all counted in the population census. We enumerated 365 inhabitants that were present in 84 of the 89 households. Of this number, 151 were children of ages below 10. A lesson learnt from the pilot study was that children of these ages were not knowledgeable enough to be resourceful for a study on indigenous knowledge because elders had shown a high command of such knowledge. Also, talking about resource abuse constraints and their mechanism is beyond their comprehension. Consequently, the 151 children (85 from Ikondo Kondo I and 66 from Esukutan) were deducted from the total population of 365. Hence, there were 214 eligible interviewees.

A sampling frame drawn up in Bonn based on population statistics from previous studies came out to be faulty. For instance, in 1999 two studies by Emmanuel Ebune and Michael Vabi “imagined” that Esukutan had a population of 340 inhabitants. This guided an original plan to sample 20% of the eligible individuals, which should have meant a sample size of about 64 individuals. However, this original plan did not take age and knowledgeability into consideration, which are critical for a study on knowledge, resource abuse constraint mechanisms and extraction activities. The desire to have a fair representation of the different age groups within the eligible population, the willingness to be interviewed and the availability of extra copies of the questionnaires led to an on-site decision to: conduct a complete enumeration of households and to increase the sample size to about 29%. The sample was drawn using a sample frame; list of names and ages of eligible interview

partners. Hence, 62 individuals were randomly selected from the 214 eligible persons for interview; 21 from Ikondo Kondo I and 41 from Esukutan. The main selection (inclusion and exclusion) criterion relevant for this case was age because parents also agreed that at 10 and above, children were ready to accompany them and help on farms and in the forest. Also, school children who were observed harvesting eru to sell were not below 10 years.

Table 4 shows that the 62 individual interviewees composed of 40 females (64.5%) and 22 males (35.5%), in both villages; showing a female bias. Although the original plan was to have an equal representation of males and females in each age group, this could not be possible since most of the males were already interviewed as household heads, and were refusing to be confronted again for individual interviews. This refusal for a second interview forced a new idea to interview as many females as possible in the different age categories who were willing to be interviewed (Table 1). Therefore the sampling procedure combined the probability method of simple random sampling and the non-probability technique of accidental sampling. Generally, this method is based on availability or ease of inclusion. The idea was to get a sizeable sample to enable generalizations. Also, quantitative measures were perceived to be good enough to spice the qualitative data.

Table 1: Frequency distribution of the respondents based on sex and age category

Sex Category	Age intervals and frequencies						
	10-19	**20-29**	**30-39**	**40-49**	**50-59**	**>60**	**Total**
Female	17	5	7	7	1	3	40
Male	7	5	2	5	2	1	22
Total	24	10	9	12	3	4	62

Purposive sampling or criterion-based sampling was used to choose interview partners on issues of how resource abuse constraint, indigenous knowledge and also household issues. Consequently, membership in village political organization, position in household (head), and recognition by many as being knowledgeable on the issues being investigated were established criteria necessary for being included in the study. These key informants included; prominent hunters, household heads and spouses, village chiefs, Korup National Park officials, eco guards and other government officials. Although, one weakness with data gathered using this technique is that though it provides internal validity, the power to generalize the findings to other places or people is weak. Hence, a random sample obtained a representative data of the larger population. The quantitative results were used to explain differences and similarities in what was observed, described by the key informants.

6. Administration of the data collection instruments

After determining interview partners, the refined data instruments were administered. The trust and rapport necessary to gain an enabling research environment created through introductory meetings with as many village members as possible on the day of arrival by the research team facilitated the interview processes. The first out put in every village was a participatory village map or layout that was produced with the help of at least two

villagers. The map sketched houses and structures belonging to respective villages. Natural helping resources like drinking water sources were indicated on such maps as well as community buildings, farms and school buildings. Based on the sketch map, helpers from provided the name of at least one elderly person in each house. These names were used as identifiers for each house because household interviews did not follow any particular numbering order. Availability determined who was interviewed first. Once everyone in a particular house has been counted, that house was later visited for other questions.

Interview appointments were made with informants and many accepted to be interviewed on the spot. Two women postponed going to the forest just to grant an interview. The household schedule was administered in a preferable context involving at least two key household members; the father or mother in the presence of the eldest child. A household was considered to be *a unit that is not only economically dependent on but controlled by an accepted and recognized head*. A total of 84 household interviews were conducted and it took an average of five visits to completely administer one household questionnaire.

62 individuals' interviews were conducted in the two villages using the three paged interview schedule. Individuals' interviews lasted less than an hour but later visits were made to clarify certain points or to ensure that as many questions are answered as possible.

About 30 complete conversational interviews were held by the principal researcher with selected groups of "influential people" (those believed to be knowledge holders in the communities[86]) as well as individuals selected on the basis of their knowledge of the issues under investigation. These comprised 6 focus group discussions with elderly males and females as well as few youths of both sexes as interview partners in both villages. The idea to combine the old and young in one discussion group is that such fora could be best for having a shared understanding which is not the case with individual interviews. These in-depth interviews sought to explore ideas on village history, governance and land tenure. Probes were used to clarify interesting phenomena raised by informants. 2 interviews were held with indigenous healers in Ikondo Kondo I in order to find out if specialist healers also have a different way of exchanging/transferring their knowledge to younger generations. 2 primary school teachers were interviewed to find out if the school curricula contain issues on environment; farming, harvesting of forest products and so on. This information would have determined if it "local" and not "indigenous" ecological knowledge. 6 interviews with hunters in Ikondo Kondo I elicited information on their new hunting ground if it is not inside the national park. 5 key or strategic informants were interviewed on the dynamics of Ekpwe. A series of spontaneous interviews with men, women and children focused on related issues but these were not lengthy or did not strictly adhere to any interview instrument. The discussions were recorded using tape recorders and the tapes were later transcribed. Also, extensive notes were taken down as the informants spoke so as to be able to identify which aspects need probes as well as to aid transcriptions later on. Although not originally planned, there were spontaneous interviews with a group of eco guards, and the SDO for Ndian division. Eco guards gave insights on surveillance activities and the

[86] A community as used here is a; polity, village or group of villages. It is a close-nit association of people living within a given space and time, sharing common norms and values as well as being almost homogenous. However, power relations reflect different interests and actors influence decision-making.

challenges they face. The latter eco guards who poach instead of guarding the park from illegal poachers due to more than a year of unpaid salaries.

There was a general approach to questioning as the researcher and assistants read out the questions and the informants and respondents provided answers that were recorded using tape recorders or written on the questionnaire. Questions were posed in Pidgin English but the information was instantly translated into English. The questions were asked in any order as deemed appropriate by the questor. Probes were also used and new information written on empty spaces on the questionnaire or in a research notebook.

The observation guide for producing the village map was discussed with 2 or 4 village helpers temporarily employed for this purpose. They validated most of what was observed in all the villages and expressed happiness to have been part of the research work. Photographs recorded observational data. The sketched village layout maps were presented to interested villagers two days to the end of our visit. Paper representation of village infrastructure drew excitement from village elders who requested free copies.

Institutional maps located sacred parts of the forest, rivers and streams within the jurisdiction of a community. These sites, structures or places wield some form of behaviour control in the communities. The maps also located Ekpwe halls, churches and the Chief's house. Such maps were sketched with groups of village elders during the focus group discussions and later used to find out from randomly selected individuals if they are aware of their existence, location and the importance as members of that community.

Towards the end of the second month in every village, institutional maps as well as resource maps were produced because they involved sensitive issues. The fact that people fear to take blames for over-harvesting forest resources explains the sensitivity in establishing such maps at the onset of the study. Resource maps located areas of the village land where certain resources of utmost importance to village livelihoods are either harvested or collected. Resource maps were drawn with separate groups of men and women in each community to find out if there are gender differences. The rationale behind resource maps was that people in villages have a mental map of where to find what resource in the forest. These maps reveal the distribution, abundance or scarcity of that type of resource which could also serve as a resource monitoring approach at the village level.

Field notes, *log book or research diary* recorded unstructured observations made in the field as well as their interpretations. Sources of drinking water, crops on farms and nature of houses were some of the things noted. Important dates, events and spontaneous interviews were also recorded in these note books. Their transcription provided useful data for describing the characteristics of the research villages.

Consequently, 2 informal interviews with the village council chairman and the wife of the chief of Esukutan revealed information that was used to establish a yearly calendar for men and women. The gendered yearly calendars revealed important information on what the schedule of a typical korup forest woman and a man looks like. Such a decision-making aiding tool is very important for this project because of its policy implications.

Documentary research reviewed numeric and qualitative data that have been used to contextualize the primary data as demonstrated in various chapters of this report.

7. Methods of Analyses

Quantitative data was analyzed with statistical packages like SPSS and MS Excel. A team of four hired coders comprising; two males and two females with post secondary and university education coded the questionnaires. They were briefed on the entire research and then tested on their coding skills. Three of the four were consistent in their coding and so the inter-coder reliability was high (75%). Based on this, each coder was given about 12 Individuals' Questionnaires to code. To ease data entry, the codes or numbers were written on the left hand side of the page against respective questions. A code guide was developed as the coding proceeded. This guide was later used by another independent 'coding inspector' to validate the process. For instance, some coders did not print the codes legibly, others omitted questions, while others assigned wrong codes. The same was done for the 'Households Questionnaire'. The codes were keyed into the SPSS spreadsheet. The data was cleaned through detection and deletion of errors in the data set. These errors originated from coding mistakes, typing errors or data entry errors.

Descriptive statistics were calculated on the cleaned data and the results displayed in frequency tables, crosstabs, charts, histograms and graphs. In few instances, the confidence level or probability associated with the accuracy of an inferential statistic is established since we are not sure of what is, and might not have been included in the study population. In some cases, absolute numbers did not show any big difference and so a significance test was calculated using SPSS to show how true the finding is. For instance a significance level of 0.05 indicates the probability that an observed difference is true for 95% of the population. It indicates a 5% risk of saying that the observed difference is not true.

Data collected through conversational interviews was transcribed and written out in passages based on the topics of the research. These passages included phrases, sentences, and statements made by informants. In the ensuing discussions of the key issues of this report, illustrations like maps, pictures, and photographs are used in the entire report to illuminate certain points of interest. Also, "thick description" of cases provided deeper meanings (Geertz, 1973). The importance of cases is to try to illuminate scenarios; why they happened, how they developed and the results. For details on case study research; its design, application, strengths and weaknesses, see Robert Yin (1994:12-152).

The collected data enabled the actor perspective analyses to enable a lucid judgment on the degree of knowledge flows between actors and how actors interpret meanings, actions and intentions. As Norman Long (1992) argues, actor oriented research should identify and characterize differing actor strategies and rationales, their effectiveness for solving conservation problems and their structural outcomes. Documented sources legitimized the official claims and discourses and did not present the voices of the less powerful actors. The researcher's role is reflected in interpretation of perspectives based on ethnographic data. The highly qualitative nature of this report is reflected by the almost entirely qualitative data that was collected.

8. Shortcomings of the methodology

The field research was interactive but some challenges originated from the methods and instruments used, accessibility of the study area and initial acceptability by villagers based on what could be termed "research fatigue". Since the 1970s, many researchers from national and international institutions have conducted community studies in the Korup forest area[87]. Records of the profiles indicate that anthropologists, ecologists, ethno-botanists, economists, sociologists and soil scientists relied heavily on local people for information. Locals contended that the number of visits by researchers has been excessive but nothing transpired from the research results that could help to improve their lives. This explains the research fatigue. There was also widespread frustration in the faces and voices of most villagers on the manner in which they are being treated by governmental agencies carrying out conservation in the area. Below are quotations from village spokespersons:

Meka Ngolo (pilot research village) spokesperson: *"People come to do research in the village just like you and so whatever you have come to do is not new to us. Let me remind you that we are the real PhD makers, we provide information and people get PhDs while we stay here and no development that researchers promise us comes. We are tired of talking and so do not be angry if some people refuse to cooperate with your research"*.

Ikondo Kondo I (relocated village) spokesperson: "*White people come here and give us something to eat and drink before asking questions. Now you people are sitting and looking at us with empty hands. We have been talking to blacks who come for research in this village and nothing is happening to us. We now prefer whites who can bring us the development we were promised would come after resettlement. Look at the roof of our houses, they are leaking, no pipe-borne water, no electricity …"*

Esukutan (still inside the park): A primary school teacher and village spokesman said: *For the past years researchers came and gone and nothing is happening to us. So this time around have you noticed any changes? What makes you feel that even if we cooperate with you, your research would benefit us? Go and tell the government that we do not want to see any of their staff in this village. If timber companies come we would welcome them because we have enough timber and are ready to sell to whoever would provide needed infrastructures like: roads, hospitals, schools and bridges, so as to improve on our living conditions. We accept whites to come directly to the village, dialogue with us and make decisions based on the dialogue. We are the ones that have conserved this forest for years, protected it from foreigners e.g. Nigerians and have also used Epkwe laws to control it. If we were destructive would you people have met it like it is today? Now you want to expel us from it, is this how other governments treat their people? We best know the forest, we managed it, but are animals more important than humans? We had a big fight with eco*

[87] For instance, Korup Project had research links with the Universities of Buea and of Yaounde, in Cameroon. Internationally, the Royal Botanical Garden Kew (UK), Missouri Botanical Garden (USA) and Agricultural University Wageningen (Netherlands) do research in the park. The National Cancer Institute in 1993 researched on the botany and domestication of the medicinal vine, *Ancistrocladus korupensis* found in the park. The EU sponsored Sterling University in 1986 and the Smithsonian sponsored Biodiversity Conservation Programme of 1996, worked with the Project.

guards some years ago and none has ever come here since then. Who do you think manages this forest in effect? Write down all these questions and give to the government…

These complaints gave the impression that the villagers would appreciate it if research results are fed back on to them. When granted the opportunity to react, the research team usually assured the villagers of the academic and apolitical aim of the visit and these gained our acceptance. The team usually arranged for sleeping places for the duration of stay in that particular village and worked everyday. Based on the lessons learnt, preliminary findings were discussed two days before our exit from each village. Copies of village maps, seasonal calendars, institutional maps and resource maps were handed to the village. Esukutan had a copy of a consultancy report because it was one of those surveyed.

Another research challenge was access to the research villages. Meka Ngolo and Ikondo Kondo I have a motorable road which is seasonal. Motorbike transporters generally perceive researchers (black or white) to be rich and so must pay more; double the fares that locals pay. We were once delayed for 7 hours until after a tip offered. On our visit to Esukutan, the hanging bridge on River Bake was bad. Bakut people decided not to repair it. Two fishing canoes which were not equipped with life vests, or floating devices, were now the only option to cross over the over 90 meters wide river. Our canoe capsized some 10 meters away from its destination point. Our tools were placed on a band in a kitchen and dried with smoked heat. The villagers came with mixtures of portions to help fight the fever that was affecting two of the three researchers. However, during the last week of the research, the digital camera started functioning properly and photographs were taken then.

Picture 2: *Research assistant resting at former Ekogate (left photo) and watching how a hunter smoking bush meat (right photo: duiker) in an abandoned kitchen.*

The household questionnaire was too long and so was administered completely after about five visits to the same household. Also reactive effects occurred whereby many hunting households did not want to indicate that they carryout hunting because this activity is the main reason for relocation. Some particular questions got ‘no’ responses from many respondents. Once the first answer is ‘no’ then there were no answers for sub questions. Issues of recall were noted especially when it came to cases that shows the effectiveness of Ekpwe. In this regards, the interviewer did a ‘lead-in’ like what about the Okoro case of 1998 etc? Data analysis was time consuming for open-ended items in the questionnaires.

The investigator effect occurred as an assistant tried to distort data because of personal biases and poor interviewing skills. He inflated by six folds the income of a certain households. The assistant was replaced in the next data collection phase.

One or two participants, especially the Village Chiefs, sometimes dominated focus group discussions. Once noticed, the attention of the group is raised and so women, and youths could also have their voice. The taped interviews included large amount of extra or unnecessary information and so transcription was tedious and time consuming. Although observation provided good data for description, it was not possible to observe dispersed individuals like hunters at the same time in a particular village. We were forced to "go native" as we bought bush meat from hunters just to establish level some of trust.

9. Conclusion

The multiplicity of ethnographic and standardized research methods used was judged to suit the characteristics of the population. Conversational interviews are better because it is almost impossible for people with low levels of formal education to fill in questionnaires without external help. The interviewer should ask the questions and writes down the response on the questionnaire. Also, the use of tape recorders is highly adviced given that informants give very long answers to questions and they carry fine details that would be lost if summarized on the limited space in a questionnaire. To reduce the translator effect, questions should be asked in Pidgin English; a lingua franca in most parts of Cameroon. On the whole, this study combined participatory and small-scale survey approach to investigate rural livelihood activities of forest peoples, as endorsed lately by Malleson and colleagues (2008). But the communities suffer from research fatigue.

Appendix 1b: Observation guide and participatory mapping

Generally draw a *village map* indicating; who lives where in the village, natural helping resources (streams, farms etc), economic structures like market and access roads, etc. Social services like school, hospital, church, secret society houses, sacred forests and other ritual sites found within a one kilometre radius of the village. This is to understand the availability and accessibility of institutions that impact on forest condition. This is done on the following day with help from a male and a female village member.

Resource Maps: collate and plot information on hunting and NTFPs extracting areas within the village to enable an understanding of local knowledge of their distribution. Transect walks with groups of men and women and make gendered resources maps. Since resource distribution, access and use could be very sensitive in the area, take care not to attempt resources mapping at the onset of the community visit.

Seasonal calendars: solicit information on what men and women are doing in the different seasons or the farming year. That is, who mostly exploits a particular resource; or engage in what activity. Discuss with separate groups of middle-aged men and women.

Weekly calendar (men and women) will give an idea of peoples participation in village meetings also highly regarded here as knowledge sharing networks.

Map interconnectivity of village associations or rules enforcement bodies whereby individuals have membership in more than one group. Do these groups share more or less common bonds that guide behaviour that can positively or negatively impact on the forest. Listed them and ask households to indicate their participation in them. Generally, detail discussions on the common understanding of the rules-in-use.

Observe and write down copious notes on:

- how people farm; accompany some to farms on request
- how people hunt, types of animals killed and the end-points
- how NTFPs are extracted and sold
-

Apendix 1c: Interview Guide

Ask questions to a group of people above 40 years old in the selected villages on examples and a detailed history behind identified rules. Tape record answers and write notes.

1- Village history

What is the name of this village? What does it mean in your culture?
Who was the founder? Its migration history and how is chieftaincy organized?
With which other villages do you share boundaries?
Political organisation or who they go for in case of a type of conflict?

2- Institutions for forest management

a) How forest use was monitored and sanctioned at the village level before 1986

Let us discuss important forest related: Taboos, Myths, Beliefs, Tales, and Totems: For each case tell us what happened to someone who ignored these knowledge systems

From interviews find out:

- What proportion of people in the village still adhere beliefs and why?
- If these knowledge systems continually transmitted to younger generations
- Which segment of the village still holds these knowledge systems?

Did this village have rules for forest resources use (rivers, flora and fauna)?
What were these rules? Who set them and why?
Who enforced them and how were they enforced?
Do member share a common understanding: how they were monitored and enforced?
Describe how people are socialised into these rules
Describe instances where these rules were applied in this village due to non-compliance

Guiding questions for cases

(1) Description of the case: the time and connected forest resource;
(2) Who took part: complete list of all participants (origin of the defaulter)
(3) Who the key actors were: their interrelationships and interests

b) Evolution of institutions after 1986

Do these rules still hold today?
What are some of the changes or modifications? Who made them?
Why were they made? Is there a common understanding of these new rules? Why?
Describe the process of how they were made known to you?
Describe instances where these rules are applied in this village due to non-compliance

c) To groups that monitor forest use

Name and describe groups that manage forest resources in this village?
Why were these groups created? How were they organised?
How effective were they before 1986? How effective have they been after 1986?
Do they still perform their duties? Explain why? (**Ask directly to group members**)
How can you improve on the current efforts to protect the forest around this village?

3- Knowledge of forest and its resources

Questions to separate village groups (elders, specialist, children, men and women)

What do you use to demarcate forest boundaries with other villages?
Which names are assigned to certain places of the forest and what is their significance?
Have you ever had conflicts over forest boundaries? Explain why?
Do you cultivate some forest plants? Why and what are the motives behind this cultivation?
What do you think about having this forest as it is? Explain
How is this knowledge transmitted in this community?

Kindly provide some detailed knowledge of five most exploited forest resources by:

Men

Resource	use	Location, how it grows etc	How it is harvested	Conservation techniques

Women

Resource	use	Location , how it grows etc	How it is harvested	Conservation techniques

4. Village land tenure (Ask to selected group of village elders)

Who is responsible for land distribution in this village?
What criteria are used in land distribution? Could individuals own full rights over land?
What do village members do in order to have more farm land?
What do strangers have to do in order to have farm land?
Do strangers own full rights over land?

Kindly discuss instances of conflicts over land distribution

5. Questions on livelihoods activities

What are the main occupations of people in this village?
Which of these activities are gender-specific? What has changed since 1980s?
What accounts for differentiation in livelihoods activities in this village?
a) Questions to hunters

Describe the different hunting types and techniques used in this village?
What has changed over the past ten years?
What types of weapons do you use? What types of animals do you generally hunt?
What hunting challenges have you noticed in the past years?
Do you think animals are reducing in the forest? What is the reason?
What have you been doing as well as can be done to remedy the situation?

b) Questions on farming and fishing (To groups of older men and women farmers)

Kindly discuss the various farming practices in this village?
State tools, techniques and crops grown (*ask probing questions on issues raised*)
How is fishing done in this village?
State tools, techniques and types caught (*ask probing questions on issues raised*)

c) Questions on NTFPs extraction

Kindly discuss the various plant NTFPs extraction related practices in this village?
State tools and techniques used (*ask probing questions on issues raised*)
Discuss who in terms of age and gender extract which particular resource the most
State any reported cases of malpractices and how they were sanctioned

6. Community life (Observe and ask to households and elders)

What are their material possessions or resources they depend on for livelihood?
Stratification of their estimated of monthly expenses
Accessibility of churches, schools, media, other channels of information and communication
Who do they consider as being skilful in hunting, farming, collecting NTFPs, fishing etc?
How do community members build the skills of their young?
What are the fields and patterns of cooperation among the relocated people?
What are the patterns of reciprocity among villagers?

7. Village opinions on claims about their livelihoods activities

What do you have to say about official claims that you:

- National park laws forbid human extraction activities inside the national park

- Farm and clear forest inside the park
- Practice slash and burn agriculture that leads to wild fires
- Fish using poisons
- Intensively collect fruits and seeds that are food for animals
- Hunt too much and animals are getting extinct
- Are poor because you depend too much on the forest
- Are cutting trees to make planks
- Would be relocated out of this forest like Ikondo Kondo I

8. Relocation and conservation attitudes (only in Ikondo Kondo I)

Questions to members of former village groups

Who manages your forest in this new location?
When was the last time that the village punished an illegal exploiter?
Is forest resources conservation the most important priority of this village today?
Do parents still tell tales about ancestral relations with respect to forest resources?
Who teaches environmental education in the relocation site?

Questions to members of former village groups

Do you still perform their functions? What changes have you noticed and why?
Questions to Healers at the relocation site

Questions to healers in the relocated Ikondo Kondo I

Explain the ecology of 5 medicinal plants you use now in this new village
What do you do to transmit the knowledge of these plants?
Which is the preferred direction of transmission? (Family or anybody in the village)
Is it gendered? Are males teaching males and females teaching females?
What are the reasons behind these preferred practices?

9. Policy recommendation

List of institutions for forest management till 1987 when relocation was announced
List of institutions for forest management that operate in the new location
How effective they are from the opinion of the people in the different periods
Law enforcements (ask village leaders who currently enforces the law in the new location)
Effectiveness of institutions for forest management till 1987 and those in the relocation site
Opinions on how to improve management of the national park
Willingness to revive their institutions
How this revival can be done

Appendix 1d: Individual Questionnaire

Questions to be asked to 20 percent of individuals of grandparent, parent and children generations

Dear informant, as part of this doctoral research you have been selected to answer some questions on local institutions for forest control as well as their efficiency, resources on which you depend for livelihood, knowledge of their exploitation and conservation methods, and how these knowledge is transmitted within and to generations. Your responses will be used exclusively for research purposes and shall not be disclosed to third parties.

Interviewee ID: Village …….House No…… Household No…… **Codes**

A) Demographics

1. Name of interviewee? ……

2. Marital status 1= Married; 2= Single; 3= Separated; 4= Divorced (___)

3. Sex: female = 1; male = 2 (___)

4. Age: 0 - 9 = **1**; 10 - 19 = **2**; 20 - 29 = **3**; 30 - 39 = **4**; 40 - 49 = **5**; 50 – 59 = **6**; > 60 = **7** (___)

5. Level of Education: 1= University, 2= High, 3= Secondary, 4= Primary, 5= No formal schooling (___)

6. Main occupation: 1= Farming, 2= Hunting and trapping, 3= Fishing, 4= Collecting NTFP, 5= Healer, 6= 1+2; 7= 1+4; 8= 1+2+4; 9= Other ……. (___)

7. How long have you been living in this village?
From birth= 1; less than 5 years= 2; 10 years =3; More than 10 years= 4 (___)

B) Knowledge of forest resources most exploited

8. Kindly rank five most important NTFPs to, state how you harvest, use and conserve them

Name	**Rank**	**Use 1**	**Use 2**	**Use 3**	**Method of harvest**	**Conservation method**
Bush Mango						
Eru						
Njansang						
Bush onion						
Mushroom						
Rattan						
Bitter Kola						
Bush pepper						
Alligator pepper						
Akpa						
Eweya						
Essok						

Ngongo leaves						
Bush Plum						
Palm Nuts						
Njabe						
Hausa stick						
Other						

9. How did you acquire knowledge about these plants and their uses?
Observation=1; Repeated use=2; was told=3; Legends=4; Tales=5, other……. =9 (___)
10. From whom did you get the knowledge?
From my grandparents= 1; my parents= 2; Herbalist= 3; other specify…… = 9 (___)

11. Did you compensate the person who gave you that knowledge? 1=Yes 2=No (___)

12. What type of compensation and why? ….. ……
……
……

13. Which methods were used to teach you? ……

14. How long did it take for you to acquire this knowledge? …… …… (___)

C) Village Power structure and institutions for forest use control

15. When did you last use what resource and for what purpose?

Resource	**Time last used**	**Purpose**
1. ……		
2. ……		
3. ……		
4. ……		
5. ……		

16. Have you ever been restricted from using these resources? 1= Yes; 2= No (___)

17. If yes, who is restricting you? ……

18. When was the last time you were restricted? …….

19. Do you think someone should restrict you from using forest resources? 1= Yes; 2= No (___)

20. Give reasons for your answer ……
……
21. Do you know why you are being restricted? 1= Yes; 2= No (___)

If yes, kindly explain why? ……..
……

22. What are they using to restrict you? ……

23. Do you fully understand this restriction mechanism? …….

24. Have you ever had problems of forest use with users from other areas? 1-Yes; 2-No (___)

25. When was the last time you had such a problem? ……

26. Briefly describe the incident ……...
……

27. Did you have any encounters with foreign forest users until now? 1=Yes; 2=No (___)

If yes: Where did this people come from? …….

28. Do you observe any food taboos? 1=Yes; 2=No (___)

29. Describe them …….
……
……

30. Who was responsible for land distribution in this village?
1= Traditional Chief, 2= Village Council, 3= Government (___)

31. What did you do if you need more land? ……

D) Forest Control before Korup National Park was created

32. Did people need permission to harvest from the forest? 1=Yes; 2=No (___)

If Yes, from whom? ……..

33. What did you have to do/pay for the granting of this permission? …….

34. Were there laws controlling the use of forest resources? 1= Yes; 2= No (___)

35. Did people fully understand these laws? 1= Yes; 2= No (___)

Why? .....

36. Was any member of your family member punished for forest use related offences?
1= Yes; 2= No (___)

37. If yes, when was the last time this happened and what was the offence? ……
……

38. Who punished the person(s) and what was the charge? ……

39. Explain whether these forest laws and enforcement bodies were fair to everyone? ……..
……

E) Comparison of forest control before and after 1986

Effectiveness of institutions for forest management till 1987 and those in the relocation site

Institution	Rank	Effectiveness before 1987	Effectiveness after 1987

40. In your opinion which institutions protect the forest best? 1= Governmental 2= Indigenous (___)

Explain why……

41. Explain why you would readily recommend which institution to regulate forest use ……
……

42. What role are you willing to play in managing this forest? ……
……

Thank you for your cooperation

Appendix 1e: Household Questionnaire

Questions to be asked to the Head of Household or anyone knowledgeable

Dear respondent, as part of a doctoral research project on indigenous institutions for forest management you have been selected to answer some questions on your household composition, its assets, income sources, wellbeing as well as forest related questions. Your responses will be used exclusively for research purposes and shall not be disclosed to third parties. Thanks.

Village name: …… **Household ID**: House No…… Household No……

A) Household Composition

1. Name of interviewee? ……
2. How many people are living permanently in your household? ……
3. How many people of your household do not live with you at the moment? ……...

4. **Def. of household**

a) Who is considered as the head of this household? .....

b) Why?

…….

5. Some details about permanent members of the household

Name	Sex	Age	Educ	Main Occupation	F. Position	V. Position

Sex: female = **1**; male = **2**
Age: 0 - 15 = **1**; 16 - 30 = **2**; 31 - 45 = **3**; 46 - 60 = **4**; > 60 = **5**
Level of Education: **1**= University, **2**= High, **3**= Secondary, **4**= Primary, **5**= No formal schooling
Main occupation: **1**= Farming, **2**= Hunting and trapping, **3**= Fishing, **4**= Collecting NTFP, **5**= Healer, **6**= Schooling

6. Please provide details about those members of your household not living with you at moment

Name	Sex	Age	Educ	F. Position	Place of stay	Reason	How Long?	Coming back when

Sex: female = **1**; male = **2**
Age: 0 - 15 = **1**; 16 - 30 = **2**; 31 - 45 = **3**; 46 - 60 = **4**; > 60 = **5**

Level of Education: **1**= University, **2**= High, **3**= Secondary, **4**= Primary, **5**= No formal schooling
Place of stay: In the area= **1**; SW = **2**, NW = **3**; W = **4**, Littoral = **5**, Central Prov. = **6**, Nigeria = **7**, other…… = **9**
Reason: Schooling = **1**, University = **2**, unskilled labour = **3**, training = **4**, civil servant = **5** Hospital=**6**; other …….. =**9**

7. Who do you consider as the main income earner(s) in the household? ……..

8. Give reasons for your answer ……..
…….

B) Household assets

9. Does your household own a radio/or TV set? **1**= Yes; **2**= No

10. Why did you buy the radio or TV set?
…….

a) If yes: How often do you listen to the radio? **1**=Once a week, **2**=Twice, **3**=Often

b) Which stations do you listening to (In order of priority)? …….
…….

11. Does your household keep domestic animals and birds? **1**= Yes; **2**= No

a) If yes: name types and their numbers

Animal Type	No	Why they are kept **1**=home cons. ; **2**=sell; **3**= ritual
Goats		
Pigs		
Sheep		
Dogs		
Chicken		
Ducks		
Other……		

12. Does your household own a family farm plot? **1**= Yes; **2**= No

a) If yes, how large is it? ..... hectares

b) Kindly provide some information on the types of crops grown by your household

Type of Crop	Last harvest (tons)	Q. consumed at home	Quantity sold	Amount/ton
Beans				
Groundnuts				
Plantain				
Banana				
Coffee				
Cocoa				
Orange				
Pears				
Plums				

Other				
Total income from sale of crops				

c) Where did you sell the coffee and cocoa products of last year? ……..

d) What was the means of transport? **1**= car; **2**= hired human labour; **3**= family labour
e) Which other market do you know? ..……

13. Forest resources most exploited

Name	**Quantity**	**Q. consumed**	**Q. sold**	**Price/unit**	**Total amount**	**Place sold**
Bush Mango						
Eru						
Njansang						
Bush onion						
Mushroom						
Rattan						
Bitter Kola						
Bush pepper						
Alligator pepper						
Akpa						
Eweya						
Essok						
Ngongo leaves						
Bush Plum						
Palm Nuts						
Njabe						
Hausa stick						
Other						
Total amount of money got from the sale of NTFPs						

14. Is there any hunter in this household? **1**= Yes; **2**= No

15 What types of animals do you kill? ……
…….

16. When was the last hunting expedition? ……

17. Explain its success ……..……
…….

19. How much money did your household get last year from bushmeat sale? ……Frs CFA

20. What was the average income of this household in 2005? …….. Frs CFA

21. Is this income enough to meet your household needs? **1**= Yes; **2**= No

22. Explain your answer ……..……

23. Rank the most important items your household spent money on last year and the amount:

Item	Rank	Amount spent last year
School fees		
Feeding		
Farming (agric inputs)		
Medical bills		
Loan repayment		
Bride wealth or Dowry		
Other specify		
Total Household expenditure		

C) Social Networks and patterns of cooperation and reciprocity

24. Which associations/secret societies in the village do members of your household belong to?

_____/
_____/
_____/
_____/

25. With which households do you commonly exchange which three important items?

Household number/name	Item exchanged
1……	…….
2……...	…….
3……..	…….

26. Rank the five richest households in this village and give a reason for your ranking

1……. Reason …….
2……. Reason……
3……. Reason ……
4……. Reason ……
5……. Reason ……

27. From whom has your household received support in the past year?

Source	Time or period	Type of support	Satisfaction
Traditional Chief			
Korup Project			
Cameroon Government			
International Donors			
NGOs			

28. With which households do you have common forest boundaries? …….
What is used to demarcate the boundaries? ……

29. Have you ever had problems concerning forest use with users from other areas? **1**= Yes; **2**= No If yes: Where did this people come from? ……

30. When was the last time you had such a problem? ……..

31. Briefly describe the incidence ……
……

32. Did foreigners give compensation for extracting in your forest? **1**= Yes **2**= No

33. Who received this compensation? **1**= Traditional Chief, **2**= Village Council, **3**= Government

34. Do you know if this still happens and why? ……..

D) Household Wellbeing

35. What is the staple food of this household? ……

36. What is the main source of protein?…… .

37. Does your household observe any food taboos? **1**=Yes, **2**= No

Describe them ……
……
……

38. What are the common diseases that members of your household suffer from? ……
……

39. When was the last time someone in your household suffered from this disease?...……

40. Who is the preferred healer for most members of this household? ……

41. Which major disasters struck this village in the past five years? ……

42. How did your household respond to the shocks? ……...
……

E) Some question on village Power Structure before 1986

43. Who distributed land in this village? 1= Traditional Chief, 2= Village Council, 3= Other

44. What did you do if you need more land? ……..

45. Did you need permission to enter the forest? 1=Yes 2=No;
If Yes, from whom? ……..

46. What did you have to do/pay for the granting of this permission? …….

47. In case of a conflict, whom did you go for a solution? …….

48. Were there laws controlling the use of forest resources? **1**= Yes **2**= No

49. Do you and other members of your family fully understand these laws? **1**= Yes **2**= No

50. Had any member of this household broke these laws? **1**= Yes **2**= No

a) If yes, when was the last time this happened and what was the offence? ……...
……

51. Who punished this person(s) and what was the charge? ……

52. Were these forest laws and enforcement bodies being fair to everyone? Explain …….
……

53. Do you consider these forest laws and enforcement bodies as meeting their objectives? Explain……
……

F) Some question on village Power Structure after 1986 (when KNP was created)

54. Who distributes land in this village? 1= Traditional Chief, 2= Village Council, 3= Other ….

55. What do you do if you need more land? ……

56. Do you need permission to harvest in the Park? 1=Yes 2=No; If yes, from whom?…...

57. What do you have to do/pay for the granting of this permission? ……

58. In case of a conflict, whom do you go for a solution? ……..…

59. Are there new laws controlling the use of forest resources in the Park? **1**= Yes; **2**= No

60. Do you and other members of your family fully understand these new laws? **1**= Yes; **2**= No

61. Has any member of this household broken these laws? **1**= Yes; **2**= No
If yes, when was the last time this happened and what was the offence? ……
……
……...……

62. Who punished this person(s) and what was the charge? ……

63. Do you consider these forest laws and enforcement bodies to be doing a better job? Explain ……
……

64. Which medicines to protect the village do you know?

G) Forest condition/ official claims

65. What changes have you noticed in this forest

66. How would you respond to each of these claims?

- National park laws forbid extraction activities inside the national park
- Clear forest and cutting trees inside the park
- Slash and burn agriculture that leads to wild fires
- Fish using poisons
- Intensively collect fruits and seeds that are food for animals
- Hunt too much and animals are getting extinct
- Are poor because you depend too much on the forest
- Would be relocated out of this forest like Ikondo Kondo I

67. Briefly describe how your household is carrying out these activities and explain why

68. Discuss any cases of misbehaviours and how you dealt with them

Thank you for your cooperation

Appendix 2a: Estimated Household income[88] by sex of HH head, Ikondo Kondo I, 2006

Sex of HH	Est. income	Expenditure	Savings	Sale of Crops	Sale of NTFPs	Sale of bushmeat	Other sources
M	0	0	0	0	0	0	0
F	79000	30500	48500	24000	55000	0	0
F	65300	86000	-20700	45300	20000	0	0
F	32500	38500	-6000	12500	15000	0	5000
M	0	0	0	0	0	0	0
M	310000	404000	-94000	60000	100000	150000	0
M	87000	55000	32000	37000	50000	0	0
F	390000	315000	75000	150000	115000	125000	0
M	884000	650000	234000	59000	105000	0	720000
F	78000	40000	38000	8000	55000	0	15000
M	70000	60000	10000	10000	0	60000	0
M	180000	115000	65000	50000	80000	50000	0
F	62000	35000	27000	12000	50000	0	0
F	99000	73500	25500	34000	65000	0	0
M	42000	20000	22000	17000	25000	0	0
M	41000	15000	26000	16000	25000	0	0
M	57000	83000	-26000	37000	20000	0	0
F	109000	83000	26000	49000	60000	0	0
M	75000	74000	1000	40000	25000	10000	0
M	150000	108500	41500	45000	0	0	105000
M	650000	157500	492500	0	0	200000	450000
M	105000	164000	-59000	45000	0	60000	0
M	15000	10000	5000	0	15000	0	0
M	350000	40000	310000	0	0	350000	0
M	155000	10000	145000	60000	75000	20000	0
M	69500	67100	2400	16500	50000	3000	0
M	230000	331000	-101000	120000	110000	0	0
M	92500	105000	-12500	47500	45000	0	0
F	63000	55000	8000	51000	12000	0	0
M	109500	41000	68500	4500	0	0	105000
M	118000	109500	8500	20000	0	98000	0
M	125000	128000	-3000	10000	0	115000	0
F	0	0	0	0	0	0	0
M	60000	50000	10000	0	60000	0	0
F	127800	117800	10000	107800	10000	0	10000
M	66500	61500	5000	53500	13000	0	0
F	25650	23000	2650	5400	15000	0	5250
M	350000	460000	-110000	110000	240000	0	0
M	45000	23000	22000	0	45000	0	0
M	53000	38000	15000	3000	45000	5000	0
M	64000	60000	4000	0	0	64000	0
M	59000	81500	-22500	27000	32000	0	0
M	95000	88000	7000	40000	5000	0	50000
Total	**5839250**	**4506900**	**1332350**	**1427000**	**1637000**	**1310000**	**1465250**

[88] The bio-data of households not present in the village was provided by the village council head.

Appendix 2b: Estimated household income by sex of household head, Esukutan 2006

Sex of HH	Estimated income	Expenditure	Savings	Sale of Crops	Sale of NTFPs	Sale of bush meat	Other activities
M	427815	310400	117415	336315	91500	0	0
F	337000	550000	-213000	172000	165000	0	0
M	200000	230000	-30000	60000	75000	65000	0
F	174800	70000	104800	77000	97800	0	0
M	713000	696000	17000	283000	220000	0	210000
M	470000	152000	318000	230000	240000	0	0
M	708000	496100	211900	306000	92000	310000	0
M	742500	255000	487500	220000	472500	50000	0
M	342600	1545000	-1202400	50000	292600	0	0
M	174000	87000	87000	5000	44000	0	125000
M	441500	350000	91500	80000	241500	120000	0
M	1381000	1350000	31000	536000	185000	660000	0
F	492000	360000	132000	250000	242000	0	0
M	280000	141200	138800	0	80000	0	200000
F	0	0	0	0	0	0	0
M	987000	420000	567000	662000	25000	300000	0
M	500750	574000	-73250	206750	214000	80000	0
M	1507500	520000	987500	810000	247500	450000	0
M	0	0	0	0	0	0	0
M	1432000	1416000	16000	640000	252000	540000	0
F	245500	290000	-44500	18000	127500	100000	0
M	540000	456000	84000	180000	160000	200000	0
M	841600	840000	1600	327600	474000	40000	0
M	541000	500000	41000	200000	91000	250000	0
M	191000	185000	6000	36000	55000	100000	0
M	577000	178200	398800	150000	217000	210000	0
F	132000	169500	-37500	60000	72000	0	0
M	549000	170000	379000	214000	85000	250000	0
M	0	0	0	0	0	0	0
M	698000	790000	-92000	546000	152000	0	0
M	197500	194500	3000	23500	21000	20000	133000
M	659000	1005000	-346000	275000	144000	240000	0
M	424500	385650	38850	101500	28000	250000	45000
F	29000	41000	-12000	12000	17000	0	0
M	993000	576500	416500	149000	244000	600000	0
F	59000	29500	29500	29000	30000	0	0
M	391000	261500	129500	189000	72000	40000	90000
F	454900	118900	336000	33000	10000	0	411900
M	255000	200000	55000	150000	105000	0	0
F	340500	254000	86500	109500	231000	0	0
F	111000	97000	14000	40400	70600	0	0
M	522000	80000	442000	4000	298000	220000	0
M	319000	245000	74000	150000	49000	120000	0
M	221500	284000	-62500	50000	51500	120000	0
Total	**20603465**	**16873950**	**3729515**	**7971565**	**6082000**	**5335000**	**1214900**

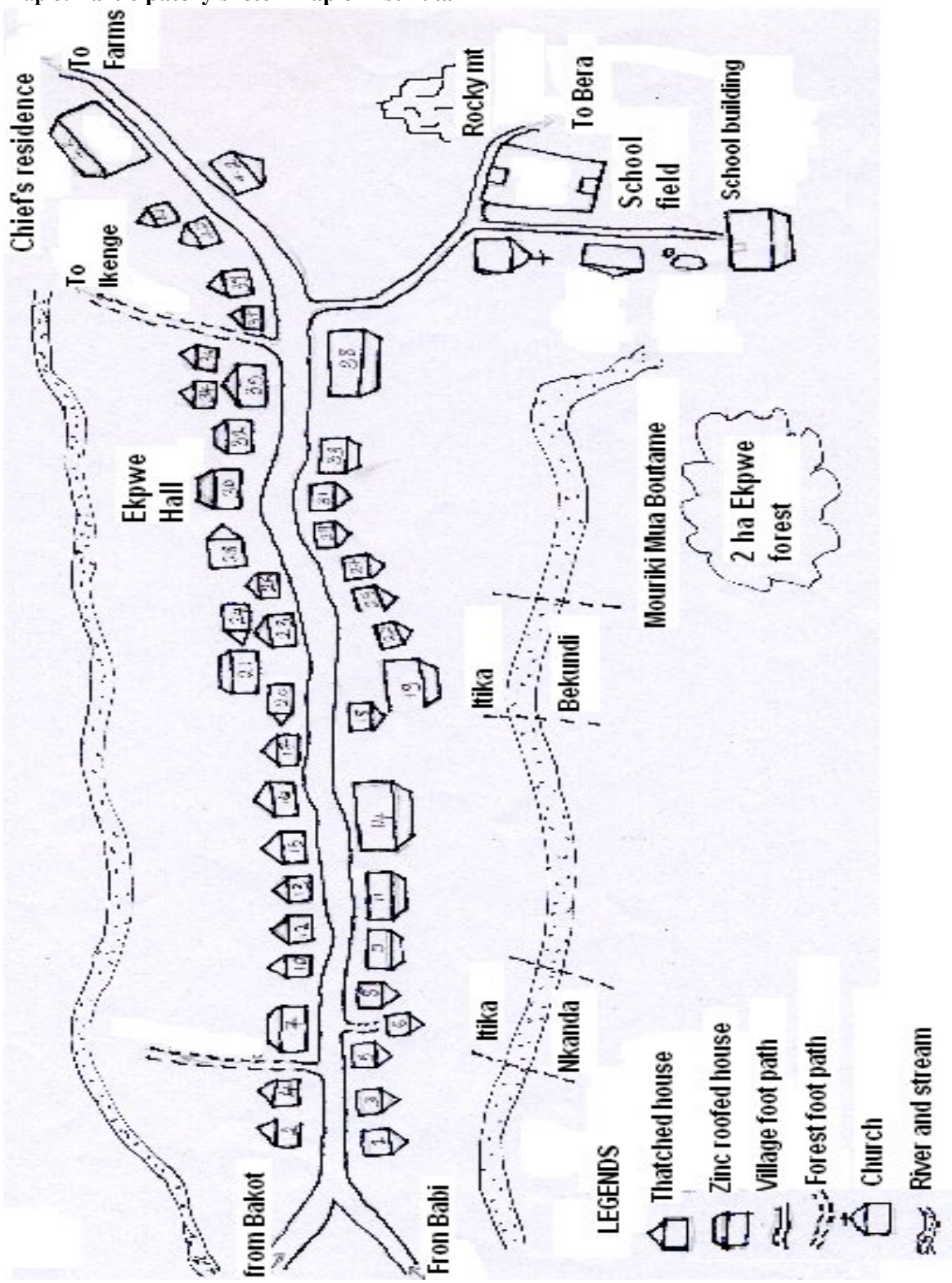
Appendix 3: Endangered animal species (Korup Management Plan, 2002)

List of vulnerable, endangered, curiously absent and endangered but not recorded animal species in the Korup National Park rainforest in South West Cameroon		
Vulnerable species	**Endangered species**	**Endangered but unrecorded**
Chimpanzee *Pan troglodytes*	Drill *Mandrillus leucophaeus*	Preuss's monkey *Cercopithecus preussi*
Forest Leopard *Panthera pardus*	Red-capped Mangabey *Cercocebus torquatus*	Clawless Otter Aonyx *Congica microdon*
Forest Elephant *Loxodonta africana cyclotis*	red-eared monkey Cercopithecus erythrotis	
	Red colobus monkey Piliocolobus preussi	

Species Curiously Absent from the Korup Rain Forest	
Ratel Mellivora capensis	Dwarf antelope *Neotragus batesi*
Giant forest Hog *Hylochoerus meinertzhageni*	Bongo *Tragelaphus euryceros*
Endangered or Vulnerable Amphibians	**Endangered or Vulnerable Avifauna**
Bufo superciliaris	Green-breasted Bush-Shrike *Malaconotus gladiator*
Nectophryne afra	White-throated Mountain-Babbler *Lioptilis gilberti*
Nile Crocodile *Crocodylus niloticus*	Red-headed Rockfowl *Picathartes oreas*
Pygmy African Crocodile *Osteolaemus tetraspis*	Yellow-footed Honeyguide *Melignomon eisentrauti*
Two species of forest tortoise *Kinixys erosa and Kinixys homeana*	African Grey Parrot *Psittacus erithacus*

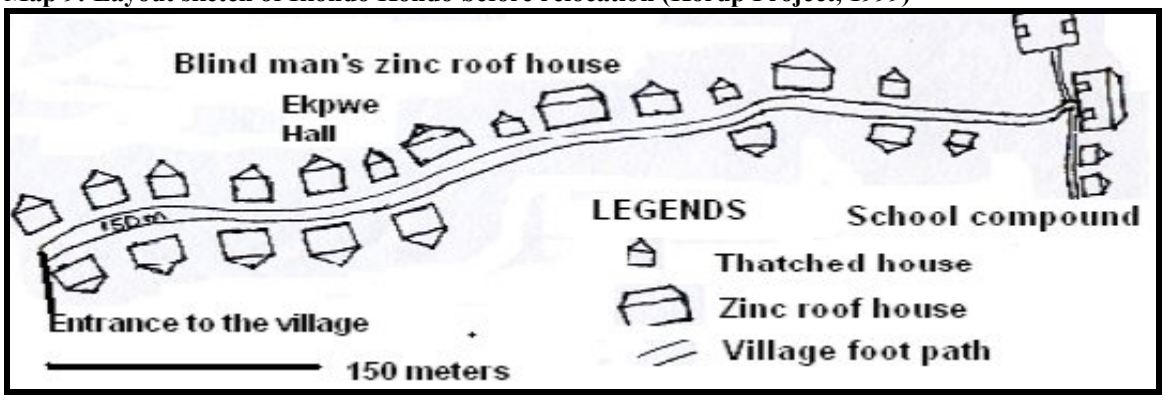
Appendix 4a: Esukutan village layout

Map 8: Participatory sketch map of Esukutan

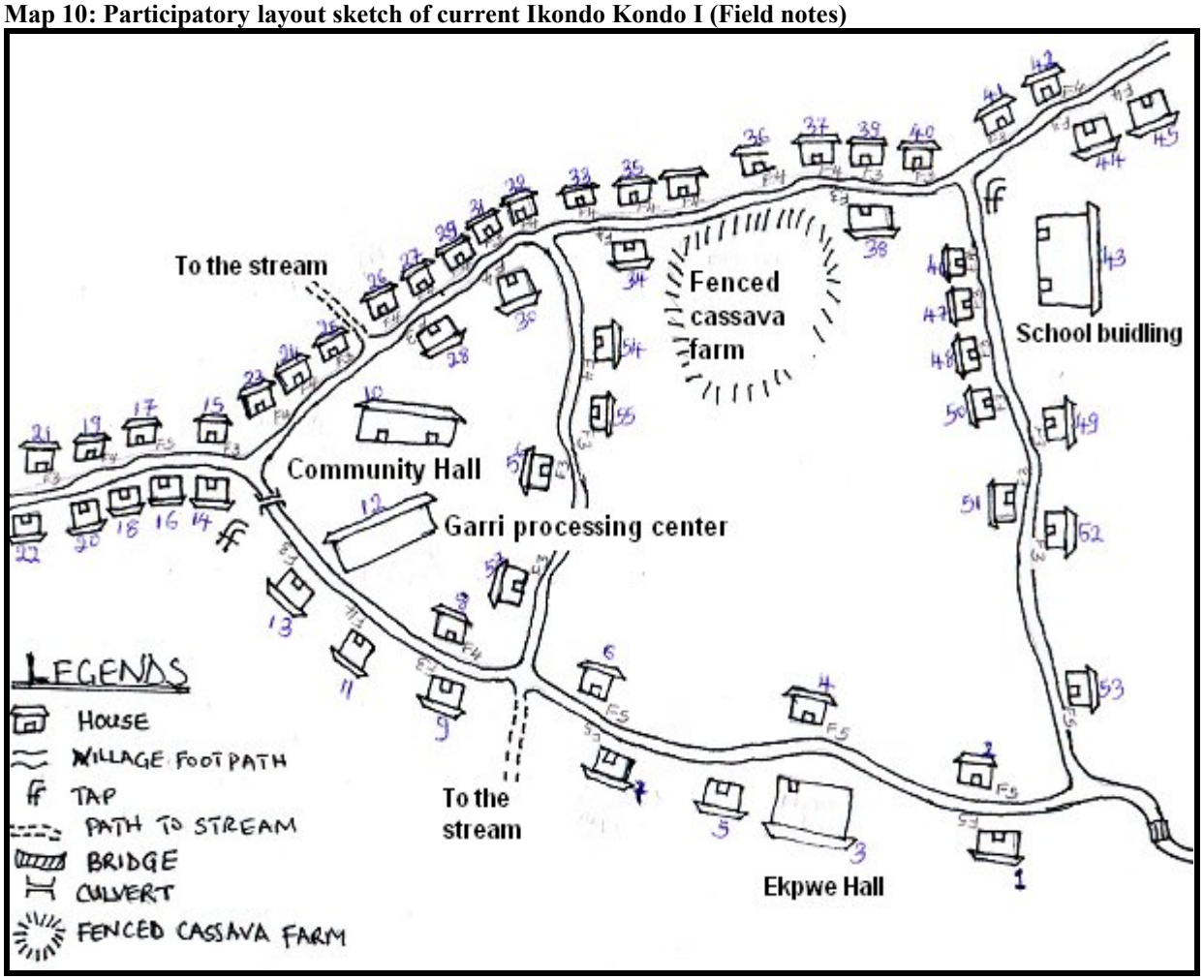


Appendix 4b: Ikondo Kondo and Ikondo Kondo I village layouts

Map 9: Layout sketch of Ikondo Kondo before relocation (Korup Project, 1999)



Map 10: Participatory layout sketch of current Ikondo Kondo I (Field notes)



Appendix 5: Selected field research photos

Esukutan woman prepares hunted game for smoking. The dissected mammal is rendered flat with the use of sticks and shown on the second photo.

Bush meat porter

Giant Pangoline and duikers on a smoke barn in Ekogate

Ekpwe Hall in Esukutan

Modern Ekpwe Hall in Ikondo Kondo I

Villager critiquing our research results

Group interview with Ikondo Kondo I elders

Team of four coders being trained

Ikondo Kondo I Chief becomes a logger

Dining with informants on their invitation

Interviewing a woman in her kitchen (Meka)