

**CENTRE FOR NURSERY DEVELOPMENT AND ERU PROPAGATION  
(CENDEP)**



Samco Qtr. Bonadikombo-Mile 4, C/O P.O Box 742 Limbe, CAMEROON  
Tel: + 237 7776 75 61 Email: [cendep2001@yahoo.com](mailto:cendep2001@yahoo.com)  
Website: [www.cendep.org](http://www.cendep.org)

---

**BASELINE SOCIO-ECONOMIC REPORT FOR WVEM CLUSTER, KITIWUM AND MBIAME  
IN BUI DIVISION**

by

**ACTION FOR LOCAL INITIATIVES AND SUSTAINABLE DEVELOPMENT  
(ALISUD)  
IN  
COLLABORATION WITH CENDEP**

*Study carried out with financial assistance from Ecosystem Grant Programme  
administered by IUCN NL*

JULY 2008

**BASELINE SOCIO-ECONOMIC REPORT FOR WVEM CLUSTER, KITIWUM AND MBIAME  
IN BUI DIVISION**

BY

**ACTION FOR LOCAL INITIATIVES AND SUSTAINABLE DEVELOPMENT  
(ALISUD)**

E-mail: [alisudcameroon@yahoo.com](mailto:alisudcameroon@yahoo.com)

Tel: (237) 77 59 09 81

P.O. Box 1125 Limbe

Southwest province, Cameroon

IN COLLABORATION WITH CENDEP

Authors:

**LINGONDO P. E., F. Y. LAWIR, P. NDZEFEMMEGHO, E. FONBA, G. A. TANDA, E. F.  
JIVIRKA, G. NJODZEKA, P. B. NGAH AND M. FONYUY**

JULY 2008

## **DISCLAIMER**

This product report has been prepared with the financial assistance of the IUCN - Netherlands Committee (IUCN NL). The views expressed, the information and material presented, and the geographical and geopolitical designations used in this report do not imply the expression of any opinion whatsoever on the part of IUCN NL or the institutions and organisations providing IUCN NL with funds.

## TABLE OF CONTENTS

<b>DISCLAIMER</b> .....	<b>3</b>
<b>TABLE OF CONTENTS</b> .....	<b>4</b>
<b>ACRONYMS</b> .....	<b>6</b>
<b>EXECUTIVE SUMMARY</b> .....	<b>7</b>
<b>1. INTRODUCTION</b> .....	<b>9</b>
1.1 PURPOSE OF ASSIGNMENT .....	9
1.2 BACKGROUND AND LOCATION OF STUDY .....	9
1.3 RATIONALE .....	9
1.4 METHOD .....	10
1.5 LIMITATIONS OF SURVEY .....	10
1.6 CHARACTERISTICS OF SAMPLE POPULATION INTERVIEWED .....	10
1.7 LAYOUT OF REPORT.....	11
<b>2. OVERVIEW OF SOCIO-ECONOMIC CHARACTERISTICS OF TARGET VILLAGES</b> .....	<b>12</b>
2.1 DEMOGRAPHY.....	12
2.1.1 Population estimates.....	12
2.1.2 Male female ratio .....	12
2.1.3 Ethnicity .....	13
2.1.4 Family status.....	13
2.1.5 Migration .....	13
2.2 RELIGION: .....	13
2.3 VILLAGE INFRASTRUCTURE .....	14
2.3.1 Health .....	14
2.3.2 Education.....	15
2.3.3 Market .....	15
2.3.4 Electricity.....	15
2.3.5 Access and communication.....	16
2.3.6 Recreational facilities .....	16
2.3.7 Government and private institutions .....	16
2.3.8 Village institutions.....	16
2.4 SETTLEMENT PATTERNS AND HOUSING .....	16
2.5 WEALTH AND WELL BEING INDICES .....	17
2.6 WATER RESOURCE .....	18
2.7 TRADITIONAL ADMINISTRATIVE SET UP .....	19
2.8 ECONOMIC ACTIVITIES.....	21
<b>3. RESOURCE USE</b> .....	<b>21</b>
3.1 LAND USE AND TENURE.....	21
3.2 AGRICULTURE .....	22
3.2.1 Farming systems: .....	23
3.2.2 Crop production and management practices .....	23
3.2.3 Inter / intra household and gender issues .....	26
3.2.4 Livestock.....	26
3.3 FOREST RESOURCES .....	28
3.3.1 Forest foods.....	28
3.3.2 Beekeeping.....	28

3.3.3	Timber and fuelwood collection .....	28
3.3.4	Hunting.....	28
3.3.5	Medicinal plants collection.....	28
3.4	SITUATION OF PAST PROJECT INTERVENTIONS .....	29
<b>ANNEX 1: VILLAGE INFORMATION .....</b>		<b>32</b>
	MBIAME .....	32
	WVEM .....	40
	KITIWUM.....	46
	NGOMRIN .....	50
	SOP .....	53
	KIKAIKELAKI .....	58
	RO-OHKOV .....	62
<b>ANNEX 2: USEFUL PLANTS IN SURVEY AREA .....</b>		<b>63</b>
<b>ANNEX 3: COST OF FARM INPUTS AND MAIN COMMERCIAL CROPS .....</b>		<b>65</b>
<b>ANNEX 4: RESOURCE MAPS .....</b>		<b>66</b>
<b>TABLES</b>		
	Table 1: Characteristics of interviewees.....	10
	Table 2: Demographic parameters .....	12
	Table 3: Health facilities in surveyed villages.....	14
	Table 4: Educational facilities in surveyed villages.....	15
	Table 5: Well being indices - individual.....	17
	Table 6: Well being indices - village.....	18
	Table 7: Number and size of farm plots and distances .....	22
	Table 8: Cropping calendar .....	24
	Table 9: Summary of identified constraints.....	25
	Table 10: Livestock types in surveyed villages .....	26
	Table 11: Livestock prices.....	27
	Table 12: Situation analyses of past projects.....	30
<b>FIGURES</b>		
	Figure 1: Major sources of household income.....	21
	Figure 2: Traditional administrative setup of Mbiame.....	33
	Figure 3: Chief structure of Wvem village.....	41

**ACRONYMS**

<i>CIG</i>	<i>COMMON INITIATIVE GROUP</i>
<i>CPDM</i>	<i>CAMEROON PEOPLE'S DEMOCRATIC PARTY</i>
<i>CWA</i>	<i>CATHOLIC WOMEN'S ASSOCIATION</i>
<i>FSLC</i>	<i>FIRST SCHOOL LEAVING CERTIFICATE</i>
<i>HPI</i>	<i>HEIFER PROJECT INTERNATIONAL</i>
<i>IGAs</i>	<i>INCOME GENERATING ACTIVITIES</i>
<i>KIDA</i>	<i>KIKAIKELAKI DEVELOPMENT ASSOCIATION</i>
<i>KIDU</i>	<i>KITIWUM DEVELOPMENT UNION</i>
<i>NPK</i>	<i>NITROGEN PHOSPHORUS POTASSIUM FERTILIZER</i>
<i>NTFPs</i>	<i>NON TIMBER FOREST PRODUCTS</i>
<i>WADO</i>	<i>WVEM AREA DEVELOPMENT ASSOCIATION</i>
<i>WCPDM</i>	<i>CAMEROON PEOPLE'S DEMOCRATIC MOVEMENT (WOMEN'S WING)</i>
<i>WMC</i>	<i>WATER MANAGEMENT COMMITTEE</i>

## EXECUTIVE SUMMARY

1. The purpose of this report is to document baseline socio-economic and resource use information on three communities earmarked for Analog Forestry introduction by CENDEP. It provides information on the demographic, socio-economic and socio-political environment and resource patterns in the earmarked villages.
2. The estimated population in the five target villages is about 37,800 inhabitants. It is a typically rural population having over 90% of this population of Nso ethnic origin. Generally the female population is said to be higher than male.
3. Over 95% of the population depends on agriculture as a source of livelihood. Farming contributes close to 70% of household income with the main commercial crops produced being beans, potato and maize. Other sources of livelihood are livestock rearing, remittance, apiculture, provision of hired labour and petty trade. Major livestock reared include cattle, sheep, goats, pigs and local chicken. Average annual household incomes are 136,348FCFA for Kitiwum, 286,375FCFA for Wvem cluster and 442,440FCFA for Mbiame.
4. A multi-tier traditional administrative system operates in the area, having distinct traditional structures and functions, highly respected in the communities. These structures elaborate rules which regulate access to land and other resources, although with increasing modernization several aspects have been adapted to Government regulations and policies.
5. Basic social infrastructures are either absent or inadequate. Poor road accessibility, inadequate extension services, inadequate health and education facilities, lack of electricity in some villages, land scarcity, declining soil fertility and crop productivity, degraded water catchments, water shortages, high costs of and low quality agricultural inputs and poor market accessibility are some of the problems contributing to low standards of living.
6. The target villages are land scarce, resulting in fragmentation of farm plots and seasonal migration to other villages in search of agro-business employment opportunities and fertile and additional agricultural land. Although all land belongs to the State land is distributed and owned in these villages through lineage systems based on traditional rules and customs. Lineage membership implied the right to live on and till the land, often with the knowledge of the lineage head or 'land lord' in charge. In the past, non lineage members provided a token comprising a calabash of wine and a local chicken to the lineage head in exchange for a gift of agricultural land and subsequently provided defined measures of maize during harvesting seasons annually. Non lineage members access land either by purchase, gift or rents (paying either cash or farm produce). Women may acquire and inherit land although inheritance is still largely by male children. Grazing land which in the past was common property with open access is increasingly being secured by graziers through the acquisition of title deeds over defined areas.
7. The main local agricultural zones present are forest, home gardens, swamps, hill slopes and lower plain fields where different cropping systems are practiced. Intercropping is common practice in all villages. Cereals, legumes, annual and perennial tree crops are intercropped to diversify food and income sources, minimize risks, optimize land and labour resources and control erosion. The main cropping season is in the rains where a variety of cereals, legumes, fruits and vegetables are produced. Potato, beans and vegetables are relayed in the dry season especially in the swamps. Irrigation is practiced on a small scale to produce dry season crops largely for commercial purposes. Land preparation is labour intensive with bush burning

still in practice. Inorganic fertilizers are in use for the production of maize and to some extent potato and vegetables. Main problems faced by farmers include among others disease and pests, high costs of fertilizers, declining soil fertility, low cost of farm produce and limited knowledge on improved farming techniques.

8. Water availability is critical in the villages and main sources include portable water harnessed by gravity mainly from springs, streams, springs, and to a lesser extent wells. Water related problems include inadequate treatment, shortages in the dry season, long distanced to existing water points, contamination by livestock, lack of finances to renovate existing structures and or exploit additional sources.
9. The most important forest resources are land for agricultural purposes and grazing of livestock, water for domestic and other uses and wild honey. There is high competition for available land by farmers in search for new and more fertile farmlands, cattle graziers in search of natural pastures and the need to maintain natural forests as forests for conservation and other purposes. High altitudes, destruction of forest cover, coupled with the presence of species such as eucalyptus which deplete soil moisture result in reduced water tables. The degradation of forests by anthropogenic, edaphic and natural factors remains a major challenge if not curbed through mitigation methods such as forest restoration, improved agricultural practices and integrated landscape management practices. Other products of less significance include forest foods such as mushroom, medicinal plants, fuelwood and timber.

## 1. INTRODUCTION

### 1.1 *Purpose of assignment*

This survey has been commissioned by the Center for Nursery Development and Eru Propagation (CENDEP) to provide baseline information on the socio-economic environment and resource use necessary to inform decision making for the promotion of Analog Forestry in three communities in Bui Division, NW Province Cameroon.

### 1.2 *Background and location of study*

The survey targeted three main communities located across three sub-divisions in Bui Division of the Northwest province, Cameroon. Bui Division is one of the seven Divisions in the Northwest province. It has five Sub-divisions namely, Kumbo, Jakiri, Mbven, Noni and Oku. The Northwest province is found in the western highlands of Cameroon. It lies between latitudes 5° 40' and 7° N longitudes 9°45' and 11°10' E. It is bordered to the south-west by the Southwest province, to the south by West province, to the east by Adamawa province, and to the north by the Federal Republic of Nigeria.

The target communities are Rifem in Mbiame (Mbven Sub-division), Kitiwum (Kumbo Sub-division) and Wvem cluster comprising Sop, Wvem and Ngomrin villages (Jakiri Sub-division). In addition general information was collected from Kikaikelaki, a settlement close to Kitiwum interested in improving and protecting its degraded water catchment. Basic information was also gathered from the owner of a private water catchment which provides portable water to over 3500 inhabitants in Ro-ohkov and neighbouring quarters in the Jakiri municipality. The vicinity of this catchment also has potential for Analog Forestry. The three degraded water catchments earmarked by CENDEP for restoration using analog forestry techniques are located within the proposed community forest around Bahnsan in Mbiame, Berlem in Kitiwum and Luun in Wvem. Thirteen quarters in Sop village and four families in Ngomrin village make use of portable water from one of the two springs located at Luun catchment in Wvem village. Ten of the fourteen quarters in Mbiame benefit from portable water sourced from the water catchment within the community forest. About 65% of Kitiwum benefits from portable water, with Rookov, Rookitiwum and Shukai not benefiting from the main water supply scheme.

These villages are located in the highland region of Cameroon having sudano-sahelian vegetation. The area has two distinct seasons namely the rainy season which runs from March to October and a dry season which runs from November to February. The dry season is characterized by cold dry hamattan winds, usually colder at night while the rainy season has cold wet monsoon winds. Rains fall heaviest between August and September. The topography is characterized by undulating hills and valleys, with small water courses flowing from hill slopes, many of them seasonal. Larger streams tend to flood their banks during the rainy season, making provision for the cultivation of vegetables and legumes in the swamps. Soil types are diverse, ranging from clayey, sandy, humus, alluvial, granitic to basaltic. These favour diverse activities ranging from agriculture, quarry extraction to livestock rearing.

### 1.3 *Rationale*

In its effort to promote poverty alleviation, biodiversity conservation and the sustainable management of natural resources in the target communities CENDEP is initiating Analog Forestry as a potential mitigation measure to some identified problems. Analog forestry is an innovative concept in Bui Division and in Cameroon as a whole and it is important to establish a platform from which changes, effects and impacts resulting from CENDEP's interventions may be measured.

#### 1.4 Method

Structured and semi structured interviews, resource use maps, rankings, seasonal calendars and direct observations were used to gather individual, household and village based information. Structured questionnaires were used to gather individual and household information from different categories of the social strata while general information on the community was collected from group interviews and triangulated with key informants. Resource maps were drawn by knowledgeable villagers to indicate location of various features in the village such as boundaries, water sources, land use, forests, quarters, institutions, roads, historical features and other infrastructure. These maps gave a quick insight into the layout of the village and an indication of the constraints and opportunities present.

Information on rainfall pattern and intensity, labour peaks, cropping patterns, food and cash supply, competition and complementarities of different farming activities were provided by seasonal calendars.

#### 1.5 Limitations of survey

One of the tasks of the consultant in this assignment was to provide hands-on training on socio-economic data collection tools and techniques during the survey for CENDEP staff involved in data collection, who had little or no prior knowledge on these. Inadequate experience of the team members influenced the data collection process, number of interviews conducted and the quality of information generated. However, the data collected present a fair picture of the communities earmarked for this exercise.

#### 1.6 Characteristics of sample population interviewed

A total of 187 persons were interviewed in Wvem cluster, Mbiame and Kitiwum, of which 95 were interviewed using structured questionnaires and 92 interviewed either in groups using semi structured questions or as key informants to triangulate information gathered. The number and characteristics of interviewees are presented in Table 1 below.

**Table 1: Characteristics of interviewees**

DESCRIPTION		KITIWUM	MBIAME	WVEM CLUSTER	GRAND TOTAL
TOOL	SEX	NUMBER OF PERSONS INTERVIEWED			
STRUCTURED QUESTIONS	MALE	7	19	27	53
	FEMALE	7	17	18	42
<i>SUB-TOTAL (STRUCTURED)</i>		<i>14</i>	<i>36</i>	<i>45</i>	<i>95</i>
GROUP & KEY INFORMANT INTERVIEWS	MALE	31	10	35	76
	FEMALE	7	1	8	16
<i>SUB-TOTAL GROUP / KIs</i>		<i>38</i>	<i>11</i>	<i>43</i>	<i>92</i>
TOTAL (SEX)	MALE	38	29	62	129
	FEMALE	14	18	26	58
GRAND TOTAL		52	47	88	187

DESCRIPTION	KITIWUM	MBIAME	WVEM CLUSTER	GRAND TOTAL
<b>LEVEL OF EDUCATION</b>				
BASIC CERTIFICATE	7	12	25	44
COLLEGE CERTIFICATE	0	3	2	5
DEGREE	1	0	0	1
DIPLOMA	0	0	4	4
NONE	2	10	4	16
PRIMARY SCHOOL	3	5	5	13
SECONDARY SCHOOL	1	4	5	10
UNKNOWN	0	2	0	2
GRAND TOTAL	14	36	45	95
<b>MAIN OCCUPATION</b>				
FARMING	12	32	34	78
GRAZING	0	2	0	2
PETTY TRADE	0	1	2	3
SALARY EARNER	1	0	4	5
SELF EMPLOYED	1	1	5	7
GRAND TOTAL	14	36	45	95
<b>SEX</b>				
FEMALE	7	17	18	42
MALE	7	19	27	53
GRAND TOTAL	14	36	45	95
<b>MARITAL STATUS</b>				
MARRIED MALE	7	18	24	49
MARRIED FEMALE	4	15	15	34
SINGLE FEMALE	1	2	3	6
WIDOW	1	0	0	1
WIDOWER	0	0	3	3
DIVORCED MALE	0	1	0	1
DIVORCED FEMALE	1	0	0	1
TOTAL	14	36	45	95

### 1.7 *Layout of report*

This report is divided into four main sections. Section one is the introduction, describing the purpose of the study, the method and a brief description/overview of the area under consideration. Section two presents a general overview of the socio-economic characteristics of the three areas under study including traditional administrative structures. Section three describes land and resource use. Section four is the annex and presents a summary on individual villages surveyed including some resource maps.

## 2. OVERVIEW OF SOCIO-ECONOMIC CHARACTERISTICS OF TARGET VILLAGES

### 2.1 Demography

Figures on the different demographic parameters presented in this report are rough estimates as perceived by knowledgeable community members and may be as close to reality as possible. We were unable to access recent census figures for the target communities.

**Table 2: Demographic parameters**

Description	Kitiwum	Rifem, Mbiame	Sop	Ngomrin	Wvem	Kikaikelaki
Estimated population	8000	>5000	7000	1800	6000	4000
Average household size	8.5	8.3	6.2	7.8	7.6	
Male female ratio	35% : 65%				42% : 58%	
Ethnic composition	Nso: 98% Nkambe: 1% Oku: 1%	Nso: Other nationals: Non nationals:	Nso: 98% Oku/Nkambe: 1% Non nationals:1%	Nso: 81% Oku: 19%	Nso: 98% Fulani: 2%	Nso: 95% Noni: 3% Others: 2%
<u>Marital status</u>						
Monogamy:	65%	80%	80%	98%	60%	75%
Polygamy:	20%	10%	5%	1%	5%	10%
Single:	15%	10%	15%	1%	15%	15%
<u>Religion</u>						
Roman Catholics:	60%	60	60%	99%	80%	40%
Other Christians:	20%	15	40%	1%	5%	45%
Muslems:	20%	20	0	-	15%	15%
Others:		5				

#### 2.1.1 Population estimates

The estimated population size of the five villages targeted for CENDEP's activities is about 31,800. These figures are rough estimated from key informants in the respective villages. Average household sizes range from 6.2 in Sop to 8.5 in Kitwum. The large household size of Kitwum may result from the high rate of polygamy in the village recorded in both Kitwum and Mbiame, because polygamous families are generally known to have large families. Over 50% of the population is estimated to be less than 21 years of age while those 60 years and above constitute less than 10%. With increasing migration of the active population either for agro-business purposes or for employment in larger towns these villages may be deprived of the labour force needed in the agricultural sector.

#### 2.1.2 Male female ratio

In all the villages surveyed the male population is perceived to be generally lower than female population. This is reflected in number of inhabitants, enrolment in schools and birth records in existing health facilities. The higher proportion of females than males may not only be due to higher number of female births recorded but also attributed to higher number of males migrating to other areas in search of employment, education and or better living standards. The low male

population may have direct repercussions on the existing agricultural practices and outputs which are labour intensive.

### 2.1.3 Ethnicity

The predominant ethnic group inhabiting the surveyed villages is Nso, constituting over 90% of the population. The Nso tribe originates from Tikar plain in Adamawa province, it is the largest tribe in Bui Division and the language spoken is Lamnso. Other minority ethnic groups in the area include Fulani, Oku, Nkambe, other parts of Cameroon as well as very few immigrants from Ethiopia, Nigeria, Benin and Ivory Coast. The Fulanis who are mainly cattle rearers were known to be nomadic in the past but they are gradually engaging in subsistence farming and also residing in settlements with proper housing. The other ethnic groups are mainly farmers; however increasingly farmers of Nso origin are acquiring and rearing cattle and other livestock for economic purposes. Although a fairly homogenous population, there are diversities in perceptions about access and use of the resource base between the inhabitants of Fulani and Nso origin, resulting in farmer - grazier conflicts.

### 2.1.4 Family status

Trends in family status observed in the surveyed villages show close links with the religious inclinations of the villagers as shown in Table 2 above. Monogamous marriage is common in all the villages, each having a correspondingly high Christian population. For instance monogamy is least (60%) with a corresponding 85% Christian population in Wvem and highest in Ngomrin (98%) with a corresponding 100% Christian population. Villages having a high Muslim population such as Kitiwum (20%) also recorded a correspondingly high level (20%) of polygamous marriages. Polygamy is mostly practiced by Muslims, lineage heads and title holders like the Shufais and Fais in the communities. The number of single parents is said to be on the increase in these villages and common among teenage girls. Divorce rate is said to be low and not part of the Nso culture.

### 2.1.5 Migration

Four patterns of migration exist in the surveyed villages namely seasonal migration of farmers from land-scarce areas to access new and fertile farmlands out of their villages, seasonal migration of farmers in search of agro-business job and other business opportunities, transhumance by cattle rearers to the Mbaw, Tikar and Ndop plains as well as migration of youths to larger towns either for educational purposes or in search for job opportunities.

Farming related migratory activities occur during the farming seasons while transhumance occurs between November and March. Activities which attract farm labour include land preparation, weeding, harvesting and transportation of crops from the farm to the village. There are established rates for hired labour based on the duration, type of activity, amount of work to be done, distance to be covered in case of transportation of crops and the size of farming plot. Payments for services hired are either in cash or food crops. For instance, during potato harvesting a hired labourer receives a tin (15 litre bucket equivalent) of potato as the day's wage. The absence of improved pasture and the search for lush pastures by cattle graziers during the dry season are major reasons for transhumance to the wet and fertile plains.

## 2.2 Religion:

The main religions identified in the surveyed villages are traditional religion or ancestral worship, Christianity and Islam. Ancestral worship is the most predominant religion practiced in all the villages, and involves church goers, Muslims and traditionalists. This is evidenced by the frequency

and tenacity with which local holidays (also known as 'contry Sundays') meant for ritual sacrifices are observed weekly in the villages. Ritual sacrifices are carried out at household, lineage and village shrines on specific week days namely Ntangri and Ngoilum in Mbiame and on Reveey and Ngoilum in Wvem, Kitiwum and Sop. Wvem has an additional day named Kiloveey on which ritual sacrifices may also be offered to the gods. Only household heads, lineage heads and persons with special titles and honours are permitted to perform these rituals at the different levels. Occasionally ritual sacrifices are observed at the clan level as in the case of the recently celebrated 'Ngonso' festival that witnessed a visit to the degraded forest shrine where the Nso people first settled before moving to their present site in Kumbo.

Among the modern forms of religion, Roman Catholicism is the most predominant in all the villages possibly because they were the first missionaries into the Nso land, they arrived in 1912. Other Christian institutions like the Presbyterian and Baptist came into Nso land in the early 1930s. Islam was brought into Nso land by Hausas and Fulanis. There is a relatively small Muslim population in the villages, of either Nso or Fulani ethnic origin. These religious institutions are very influential in information dissemination and mobilizing people for various development activities such as road maintenance, tree planting, community manual labour and other information of public interest.

### 2.3 Village infrastructure

#### 2.3.1 Health

Health facilities are available in all villages surveyed except Ngomrin as shown in Table 3 although the quality of the facilities, availability of essential drugs and equipment, and number of adequately trained personnel may be insufficient. Well equipped church-based and public hospitals are found in Kumbo, the Divisional headquarter and difficult cases are referred to any of these. The introduction of portable water and health facilities into these has greatly improved the well being of the local people as disease incidences have reduced significantly. Medical reports indicate that water borne diseases have significantly reduced in number and intensity in these villages with the introduction of portable water. However, cases of diarrhoea and typhoid are reported throughout the year, diarrhea being at its peak at the onset of rains between March and May. Other common diseases include malaria and respiratory diseases. Reports also indicate that none of the water sources is treated chemically. This coupled with poor hygiene and sanitation and the use of water contaminated by other sources may explain the incidence of typhoid and diarrhea throughout the year. Traditional healers and midwives are present in these villages and these make use of medicinal plants both from the wild, home gardens and along water courses.

**Table 3: Health facilities in surveyed villages**

LOCATION	HEALTH FACILITY
Mbiame	Sub-divisional Hospital
Kitiwum	Integrated Health Center
Sop	Integrated Health Center
Wvem	Catholic Health Center
Ngomrin	None, nearest facility is at Sop (about 2.7 km away)
Kumbo	Banso Baptist Hospital
Kumbo	Saint Elisabeth's Catholic Hospital

LOCATION	HEALTH FACILITY
Kumbo	District Hospital

### 2.3.2 Education

The ability to read and write is of great interest to the inhabitants in the surveyed villages evidenced by the number of children who attend school and the fact that wealth and well being is judged by a parent's ability to provide at least basic (primary) education or meet the educational needs of his/her children. Generally the men are said to be more literate than the women over 40 years of age. The younger folks were more exposed to education with increase in the number of schools opened in the area and today most schools have more boys than girls.

There is at least one primary private or public school in all the villages surveyed as shown in Table 4 below, although there is general scarcity in the necessary facilities such as classrooms, desks and teachers. The presence of basic and secondary educational infrastructure in all the villages except Ngomrin which does not have a secondary school improves access to education and reduces the number of youths who must leave the village for educational purposes. Statistics show a lack of technical schools in the target villages, which usually prepare youths for the job market and also self employment. Problems of pregnancy of primary school girls and either outright withdrawal of children from school or irregularities at school to provide child labour or due to inability of some parents to meet school needs such as school fees were vices identified.

**Table 4: Educational facilities in surveyed villages**

School	Kitiwum	Mbiame	Sop	Ngomrin	Wvem	Kikaikelaki
Nursery schools	8	-	5	1	2	
Primary school	8	5	4	1	4	5
Secondary school	4	1	2	0	1	1
Technical school	0	1	0	0	0	1
Post primary vocational schools	2	1	2			

### 2.3.3 Market

Each of the villages has a market irrespective of its state. Most markets in the villages have temporal, poorly constructed stalls, with some of the market transactions taking place in the open. Access to markets is further constrained by lack of market structures, poor roads and lack of local processing facilities. Buyers come from surrounding quarters, villages and towns. A major problem reported is low prices of food stuffs, especially during crop harvesting in the rainy season. Most of the food crops and vegetables are highly perishable therefore the absence of adequate processing and storage facilities and know-how compels farmers to sell their crops at very low prices offered by the buyers since they have no alternatives. There may be need for the creation of food cooperatives to coordinate and promote market structures that may reduce vulnerability of farmers and improve on benefits accrued from farming.

### 2.3.4 Electricity

Wvem, Ngomrin and Mbiame are not connected to the national grid. There are very few generators owned by the "well-to-do" in these villages. Kitwum, Sop and Kikaikelaki are connected to the national grid although not all households have electricity installed. The presence of

electricity is accompanied by presence of electrical gadgets such as television and radio sets, mentioned as well being indicators.

### **2.3.5 Access and communication**

Wvem, Mbiame, Ngomrin and Kitiwum are accessible from Kumbo, the Bui Divisional headquarter either by vehicle or motor cycle. The road condition is generally poor, untarred, muddy or stony, and especially difficult to ply during the rainy season. The Bamenda - Nkambe highway which is tarred in some sections such as hill slopes passes through Sop and Kikaikelaki. Farm to market roads are generally in poor state and goods are transported by vehicles, motor cycles, head load, push trucks. Horses and donkeys are still in use in Mbiame to transport goods and persons. Commercial vehicles which ply the Wvem, Kitiwum and Mbiame roads are specially adapted to withstand the rough terrain. Ngomrin is accessible either by motor cycle or on foot. In some cases messages, letters and parcels are transmitted through drivers of motor cycles and vehicles which commute in these areas.

Mobile telephone network coverage is available in Sop, Kitiwum and Kikaikelaki but signals are received in isolated spots in Wvem, Ngomrin and Mbiame. Television and radio signals are equally poor in the last three villages.

### **2.3.6 Recreational facilities**

Recreation in these villages mostly takes the form of drinking beer, locally brewed corn beer or raffia palm wine for men and thrift and loan (njangi) meetings for the women. Occasionally youths engage in sporting activities as entertainment. Recreational facilities are limited to community halls where meetings and other social functions may be held, drinking parlours and football fields. There are two modest guest houses in Rifem, Mbiame which also have drinking parlours.

### **2.3.7 Government and private institutions**

The most common Government and private institutions in the villages are schools and health facilities. Although agricultural and veterinary extension services are expected to cover these areas their presence at the grassroot still needs to be felt. The presence of Forces of Law and Order on the highway is obvious.

### **2.3.8 Village institutions**

These include among others traditional societies, village development associations, food crop, livestock and bee farming groups, and thrift and loan (njangi) groups. Apart from traditional societies and village development groups which are active, the effectiveness of the other groups depends on the relevance of their objectives and leadership. Issues of capacity development on financial and group management were raised to help development oriented and self help groups improve on their effectiveness in almost all villages.

## **2.4 Settlement patterns and housing**

The settlement pattern in the target area can be broadly classified into two categories namely, small nucleated villages such as Ngomrin and larger linear and or nucleated villages, divided into quarters. Village land is divided among patrilineal kin-groups and each village has developed into quarters, based on the founding patrilineal kin-groups, although where an individual lives in the village or quarter is a matter of personal choice. The layout is either linear and or nucleated, with few clustered 'compounds'. Some lineage also known as compound heads and/or polygamous title

holders construct clustered houses, usually belonging to members of the same household. The streets are clearly demarcated in the villages, often distinguishing one quarter from another.

Over 90% of houses in all the villages have sun-dry mud brick walls and aluminium roofing sheets. Having walls plastered and or painted and floor cemented is an indication of wealth in all the villages. Normal sized houses have three rooms, a living room or parlour, an external kitchen and an external toilet. Thatch roofs, unplastered walls and uncemented floors are marks of poverty. Generally the size of the house, quality of construction materials, level of finishing as well as the quality and quantity of furniture are all indicators of wealth.

### 2.5 Wealth and well being indices

Perceptions on indicators of wealth and well being summarized in Table 5 are largely similar across the villages with focus on the following:

- ability to provide the family's basic need such as medical bills, adequate feeding through out the year, clothing for wife and children, household consumables and other basic utilities;
- quality of construction material, size of house as well as type and quality of furniture;
- ability to meet children's educational needs, including affording post primary education;
- type, quality and quantity of assets (land, car, motor cycle, television, livestock) owned by the family as well as availability of alternative sources of income other than farming; and
- type and number of livestock owned by the family;
- health of the individual.

Although the indicators of the wealth status of a village presented in Table 6 are not quantified, focus is on the availability of basic social amenities.

**Table 5: Well being indices - individual**

<b>POOR PEOPLE</b>	<b>TOTAL</b>	<b>RICH PEOPLE</b>	<b>TOTAL</b>
Cannot meet basic family needs	74	Able to provide basic family needs	41
Small or poorly constructed house	38	Well constructed house with many rooms	32
Irregular schooling for children	37	Owns livestock in large number	31
Lazy	23	Able to sponsor children in school	30
Disabled / dependent	22	Owns assets (car, houses or motor cycle)	28
Sick	21	Operates a business / trader	25
No farmland	9	Generous, not indebted	16
No livestock	3	Healthy	8
Indebted, cannot contribute village levies	2	Has many farms	7
Cannot read and write	1	Does not lack money	7
No electricity	1	Basic utilities at home	6
None is poor	1	Farmer with high crop yields	4
Cannot afford fertilizer	1	Owns electrical or electronic gadgets	4
		Gifted	3
		Educated	2
		Hires labour to work on the farm	2
		Hard working	1
		Manages land well	1

**Table 6: Well being indices - village**

<b>POOR VILLAGE</b>	<b>RICH VILLAGE</b>
No electricity	Has electricity
No roads	Has mobile telephone network
Poorly constructed bridges	Regular portable water supply
No schools	Has a market
No health center	Well constructed, plastered and painted buildings
No portable water	Presence of many stores, bars and restaurants
No mobile telephone network	Good roads
No communication facilities	Many people with television, radios, telephones
Absence or poorly constructed market	United
No forest	Has good health facility
Large eucalyptus forests	Presence of motor cycles and vehicles
Few salary earners	
Not united	

### 2.6 *Water resource*

Water is a very critical resource in all the target villages, hence the cry to protect water catchments. There are a few streams and springs in all the target villages and in wells as in Mbiame but there remains the problem of availability of safe and clean drinking water especially during the dry season, between January and April. Efforts have been made to harness springs to provide portable water in all the communities, but not without major challenges. The challenges include among others:

- none treatment of portable water;
- shortage of water during the dry season due to reduced water tables;
- presence of eucalyptus trees around water catchments and spring sources; how is this a problem? It is important to explain.
- livestock and human beings share drinking water points, leading to contamination of such water sources;
- drying up of several streams and springs during the dry season;
- high cost of improved wells - such that local people are unable to afford them on their own;
- lack of good will among some community members to pay levies to the water management committee, in order to effect timely repairs and renovations;
- insufficient number of public taps;
- lack of money to extend public taps to some areas of the villages causing women and children to travel long distances to fetch portable water;
- need to replace obsolete asbestos water pipes with either galvanized or polyvinyl pipes;
- insufficient number of stop valves along the channels; and
- inadequate training in water management.

In spite of the importance of water to the target population, it is evident that taking responsibility for the maintenance of the water supply systems in terms of payment of token sums levied has not been easy. The water management committee members would require technical and institutional capacity building as well as be equipped with adequate materials and finances to renovate the water supply channels and accessories. Additional efforts are needed to protect existing water sources and exploit more sources to meet demands of the growing populations, especially during the dry season and to put more stringent measures in place to ensure prompt payment of household levies towards the maintenance of the supply scheme and

motivation of the caretakers. Catchment protection requirements include enrichment planting, construction of permanent demarcations and barriers to prevent access to stray animals, securing title deeds for the land and regular fire tracing.

### *2.7 Traditional Administrative Set up*

The target villages are under two distinct dynasties or clans namely the Mbiame and Nso. Wvem, Ngomrin, Sop and Kitiwum are under the Nso dynasty while Mbiame is a separate dynasty, all under the Nso tribe and speaking Lamnso. These clans are run by similar well defined traditional structures with distinct functions and titles, although some of the powers, order and respect are being eroded and replaced by Government administration and policies. A multi-tier system of administration operates in the area. It begins at the clan level and ends at the village which is the basic administrative and political unit in the traditional administrative set up. This multi-tier system is made up of the Fon (king) who heads an agglomeration of villages in the clan, assisted by a number of sacred societies and dignitaries. He is custodian of all traditional authority, overlord of all his territory through de-facto control of large tracts of land vested in lineage heads and also head of all political, legislative, administrative and spiritual functions.

Each village consists of number of small patrilineages generally claiming descent from a common ancestor who founded the village, although members of these patrilineages may not necessarily live together in clearly defined parts of the village. The management of village land is vested by the Fon on lineage heads known locally as 'landlords'. Each village is made up of 'quarters' and each quarter made up of 'compounds' or lineage groups and non-related inhabitants. The village, quarter and compounds are administered by village, quarter and compound heads, respectively. Each village has a traditional council made up of quarter heads, lineage heads, elders and representatives of different social categories and development organizations in the village. Traditional councils are responsible for general village administration, socio-cultural and socio-economic development and depend on traditional societies to enforce sanctions in extreme cases. Each village is represented at the Fon's palace by a title holder who may either be a Fai or Shufai.

Existing sacred or traditional societies at the clan and village levels include Nwerong, Ngiri and Manjong societies, each with distinctive functions in the social, cultural and political life of the community. Dignitaries have titles such as Ya-wong and Ta-wong, Vibai, Ataa-ntoh, Shufai, Fai and Shey. These assist the Fon with legislative, administrative and spiritual functions. Ascendancy into these traditional structures and titled positions is mostly by inheritance, lineage, functions and or relationship to the palace; however the Fon may confer some titles to outstanding individuals in the community. Membership into titled positions is highly honoured and coveted by many an ordinary man, resulting in many financially viable men and women purchasing titles such as Fai and Shey, which in the past were reserved for a privileged few by inheritance and function. Traditional religion still has a very strong hold in the Nso tribe to the extent that special days have been set aside weekly for ritual sacrifices to be made to the ancestors and gods of the land either at the clan, lineage or household levels. Considering its importance, Sheys and Fais who purchased titles are not allowed to perform such rituals. Below is a detailed description of the titles and traditional societies.

*Shey:* Shey is a title normally conferred to male children of royal descent. Sons born to the royal family of the first and second generation acquire the title of Shey by virtue of their royal birth. Sheys of second generation must be sons of princes and are of higher status than Sheys who bought their titles. Generally Sheys are either given responsibility from the palace or from their

respective families. Sheys with responsibility from the palace are of higher rank than Sheys from families.

Fai: Fais are lineage or extended family heads and are of different levels. Only lineage heads are allowed to perform traditional rituals and sacrifices. As mentioned above, titles of Shey and Fai can be bought by community members outside the royal family but such title holders cannot perform traditional rituals in the community and must not necessarily have families under them.

Shufai: Shufais are princes of the royal family, with or without responsibility to manage territories or large tracks of land, as delegated by the Fon or village head. Overseers of territories locally called 'Landlords' may or may not be village or quarter heads while those with responsibilities at the palace are known as Vibais.

Yaa (or Ye-wong): These are women of royal birth and queen mothers who assist in palace administration. In the event of the 'disappearance' (or death) of the Fon a Yaa may sit on the throne until a new Fon is appointed but a female may never become the Fon. A second category of Yaas are enthroned as children but not of royal blood. These participate in the performance of traditional rituals together with the Ta-wongs or Ataa-wongs. This title may also be conferred upon women who have distinguished themselves in the community or 'purchased' for prestige.

Ta-wong (or Ata-wong): These are members of the Nwerong society who perform all traditional sacrifices on behalf of the Fon. They work in collaboration with the Yaas.

Ataa-ntoh (or Taa-ntoh): They are members of the community but not of royal blood. They choose and enthrone the Fon from the first generation offspring of the royal dynasty.

Nwerong: Nwerong, known in other clans as Ngomba or Kwifon are palace servants. In the past they were slaves brought in to serve the Fon. They serve as town criers, carry out varied services in the palace, perform in traditional dances during celebrations and offer sacrifices on behalf of the clan. Such sacrifices are performed on 'Ntangri' in Mbiambe or 'Revey' in Kumbo area, a day set aside for this purpose and observed as a non farming day in the community. Nwerong society is highly disciplined and has severe sanctioning mechanisms. Sacrifices by non Nwerong members may be offered on 'Ngoilum' another traditional holiday set aside by the Fon.

Njilav: These belong to the Nwerong society and perform various duties in the palace, without necessarily getting close to the Fon. Those closest and trustworthy caretakers of the Fon are called Njilav Fais. Occasionally a boy outside the royal family, specifically of the Nwerong class is selected to serve the Fon in the palace for 9 years after which he is given a wife. Those who served the 9 year term in the palace are known as 'Njilav' and could later be conferred the title of Shufai or Taantoh.

Ngiri: Ngiri society is made up of members and descendants of the royal family. Its members do not perform rituals.

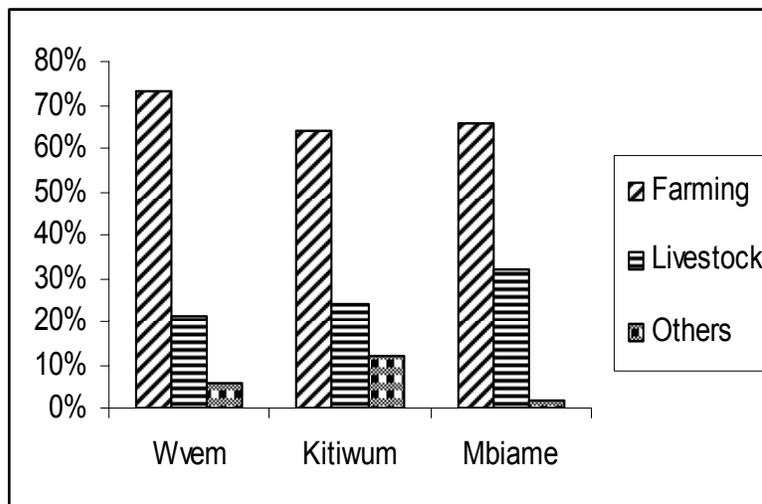
Manjong: The Manjong society is a warlord society meant in the past to defend the clan and lead warriors during wars, and also hunt game for the Fon. Depending on the locality in the Northwest province they are also known as Mfu, Samba, Juim and Nchoro. Today they lead in and also carry out community labour. The Manjong is headed by a 'Taa-mfu'. Members who distinguish themselves in service within the warlord societies are conferred the 'Mformi' by the village head; they coordinate the activities of the manjong, serving as link persons between the palace and the group. They are found in all villages surveyed.

Traditional non-farming days: The Fon of Mbiame has two traditional holidays or rest days, known locally as 'Country Sunday' during which sacrifices and rituals are carried out. 'Ngoilum' is set aside for traditional rituals to be performed and occurs once every 8 days. No hoeing or planting can be done during 'Ngoilum'. 'Ntangri' is set aside for Nwerong society to perform sacrifices on behalf of the clan and to carry out other duties in the palace in Mbiame. Wvem cluster and Kitiwum respect traditional holidays prescribed by the Nso fondom namely 'Ngoilum' and 'Reveey' corresponding to 'Ngoilum' and 'Ntangri' respectively observed in Mbiame. Wvem village observes a third holiday which falls on market days known as 'Kiloveey' instituted by the traditional ruler of the village. Similarly some Shufais may schedule another day for their sacrifices.

## 2.8 Economic activities

Food crop farming constitutes the backbone of the local economy in the target villages. It contributes over 73% in Wvem cluster, 68% in Mbiame and 64% in Kitiwum. Livestock constituted 31% of household income in Mbiame, and 24% in Kitiwum and 21% in Wvem cluster. Other sources of household income included petty trading, beekeeping, tapping, remittance, traditional medicine, salary, wages from hired labour and other forms of service provision and contribute 6%, 12% and 2% to household incomes in Wvem cluster, Kitiwum and Mbiame respectively.

Figure 1: Major sources of household income



Main avenues for expenditure include health, educational needs of children, farm inputs such as labour and fertilizer and household investments. Access to external credits for household and farm investments is scarce in the villages. Credit Union collection centers are the main external financing structures present at village level. However, there are complaints at Wvem about mismanagement of funds resulting in withdrawal of some members. The most common and effective savings and loan structures in the villages are local 'njangi' groups, transacted by both men and women. Funds for household investments are either from personal savings or loans from friends and njangi groups.

## 3. RESOURCE USE

### 3.1 Land use and tenure

Land tenure in Cameroon is regulated by the Ordinance of 5th August 1974. It places all lands not manifesting human presence under National lands, with little or no recognition to land held by

local communities under customary law. Customarily all land is owned by the Fon, while village heads or traditional rulers administer land under their jurisdiction. At the village level control of land is vested with lineage heads. These control issues of access, sharing, succession and litigation. Access to land for farming and construction of houses in the surveyed villages is through one or more of the following ways namely inheritance, gift from the landlord, bought or rented for temporal use. Inherited land is based on patrilineages although exceptional cases where land was owned and inherited by women were recorded. A token comprising a calabash of wine and a local chicken at the onset and subsequently annual donations are presented to the landlord in exchange for land. Usually land obtained as gift may not necessarily be refunded to the landlord however the initial and subsequent tokens presented to the landlord serve to acknowledge him as owner of the land. Increasingly land is being sold both to lineage and non lineage members. Rented land is usually on short term basis for the cultivation of annual crops. Land sale is a recent phenomenon in the area. In Mbiame where vast unoccupied land is available away from the village, villagers may occupy parcels of land and later inform the landlord who may be either the Fon or a lineage head, presenting the token as prescribed culturally.

Access to grazing land is either by inheritance, gift or through government officials. Large expanses of land are said to be demarcated as grazing land for private purposes and title deeds established by government officials. Acquisition of such land through government officials is a recent phenomenon which was said to greatly undermine customary laws and may become a source of conflict in future if not adequately coordinated. So far there are no clearly distinct areas for either grazing or farming. Farmers are in search of fertile lands for farming while graziers are in search of natural pastures and grazing land. One of the greatest causes of farmer grazier conflicts in the target villages has been encroachment of either farmers or graziers into available land perceived as common property.

Fertile farmland is a very important resource in the project villages and scarce in Wvem cluster and Mbiame, evidenced by the fact that some farmers travel over 20 kilometers (km) and 40 km respectively to farm while others migrate to other villages during farming seasons as presented in Table 7. Every available land is optimally utilized and in Wvem, new farms are tending towards encroaching into the Kilum Mountain natural forest once demarcated for protection by the Kilum Ijim Forest Project, an exited donor-funded biodiversity conservation project. In addition, there is fragmentation of farm land, with farmers having more than one farm plot, with an average of 4.4 plots for Kitiwum, 2 for Mbiame and 3.9 for Wvem cluster. Farm sized range from 0.1 to 4 ha, with most farmers having less than 1 ha. Farmers with farm sizes of over 2.5 ha may be close lineage members in the villages.

**Table 7: Number and size of farm plots and distances**

Cluster	Average number of farm plots	Farm sizes (ha)	Distance to furthest farms (average) km
Kitiwum	4.4	0.2 - 2	7 (5.4)
Wvem	3.9	0.1 - 4	20 (4.1)
Mbiame	2	0.3 - 10	40 (4.8)

### 3.2 Agriculture

Agriculture is the main economic activity of the people in the project communities. Much of the area is well suited for agricultural production in spite of the poor soils resulting partly from poor farming practices. Poor road communications limit the export of produce and hence agricultural

production. Lack of trees on farm, slash-and-burn, inappropriate use of fertilizer, coupled with little or no fallow periods are common in the villages surveyed.

### 3.2.1 Farming systems:

Five main local agricultural zones exist in the area namely forest, home gardens, swamps, upper slopes and lower plain fields. Forests serve as reservoir for new and fertile agricultural land. Home gardens are intensively cultivated multi-layered agroforestry systems. They may include multi-purpose tree crops, annual crops and livestock. Agricultural by-products, household and animal wastes are recycled as manure and used on home gardens. In some cases home gardens are a typical example of low-input intensive agriculture which makes optimal use of on-farm low-cost inputs. Home gardens provide easy access to food crops especially during the rainy season and additional household income. Farming along water courses and swamps is practiced, especially for vegetables such as potato, cabbage, carrot, onion, huckleberry and legumes such as beans and cowpea. Farms are usually cultivated on hill slopes, valleys and plains following the undulating landscape characteristic of the area. Most home gardens have one or more trees including coffee, kola nut and or prunus /pygeum but food crop farms are largely void of trees. Reasons advanced for the lack of trees in food crop farms is that productivity of crops is reduced by shade from the trees. The impact of agroforestry introduced by past projects is not fully realized as many food crop farms have little or no trees. It is however not clear how farmers intend to manage trees on farm when they indicate interest to cultivate trees of economic, agroforestry and medicinal values, given existing farming practices in food crop farms.

### 3.2.2 Crop production and management practices

Intercropping is practiced in most farming systems except for dry season cultivation of beans and potatoes which are cultivated as relay monocrops. Intercropping is practiced mainly to diversify food and income sources, minimize risks, optimize land, labour and water resources, control erosion, provide shade and serve as wind breaks. Bush burning is still being practiced by some farmers as a way of improving soil fertility. Inorganic fertilizer is widely used in all the villages in the production of maize and to a lesser extent in the production of potato and vegetables. Increasingly farmers are experimenting with recycled animal and agricultural wastes as manure to improve soil fertility with high rates of success, hence move away from the use of inorganic fertilizers. The main challenge is to be able to have large quantities of animal waste and the cost of transporting bulky animal waste to farms in distant places. Some farmers have also realized that guava has potential to deplete soils of moisture as much as eucalyptus would and are eradicating guava trees from home gardens and farms.

#### *Crop production*

The main food crops cultivated include maize, potatoes, beans, cassava, sweet potatoes, yams, sweet yams, pumpkin, pigeon peas, and a variety of vegetables (huckleberry, cabbage, carrot, tomato, leeks, celery, onion) and fruits (avocado pear, guava, apple, mango, orange, lemon). Food crops, vegetables and fruits serve a dual purpose both as food and commercial crops. Main commercial crops include potatoes and beans. Kola nut may be considered as a commercial crop and also important culturally but is prone to disease and high post harvest losses. The main cash crop produced is coffee, and on a low scale. A lot of coffee stands have been replaced by commercial crops due to age and fallen prices over the years.

Sources of planting materials include stocks from previous harvest, neighbours, markets and friends. Prices of farm inputs, planting materials and main commercial crops are presented in Annex 4. The repeated use of planting materials without selection and improvement results in depression in performance. Yields of both food and commercial crops are poor due particularly to low soil fertility and low yielding crop varieties. Highest crop yields recorded in last year's production for beans was 2.5 bags for Kitiwum, 16 bags for Mbiame and 6 bags for Wvem cluster while potato yields were 6 bags for Kitiwum, 30 bags for Mbiame and 40 bags for Wvem cluster. Wvem is said to be the highest potatoes producer in the Northwest province. Highest yields recorded for maize last year was 12 bags for Kitiwum, 50 bags for Mbiame and 25 bags for Wvem cluster. Maize and huckleberry are the main staple food in the area with most households produce maize mainly for domestic purposes and only sell the surplus. Although some farmers use farm yard manure and or inorganic fertilizers (urea and NKP) in maize, potatoes and vegetable production it is believed that yields are still below optimum due to low soil fertility and low yielding and poor seed materials.

*Cropping season*

The main cropping season is in the rainy season in which potato, beans, maize, fruits, cocoyam, yam, sweet yam, banana and a variety of vegetables are produced as shown in Table 8 below. Maize is planted once a year as it takes about 7 months to mature due to high altitudes and corresponding climatic conditions. Farmers leave maize on farm until December as a storage method. Vegetables like huckleberry are planted throughout the year, with peak production during the main cropping season. Beans and potatoes are planted twice a year, during the main cropping season and in the dry season. Dry season crops are usually kept as planting material for the next planting season in March, because they are less prone to disease attack.

Farming activities are largely labour intensive namely clearing, tilling of ridges with hand hoes, weeding twice before crops are harvested, accompanied by mounding around crop stands during the second harvest and harvesting. With the high costs of labour reported and high costs of fertilizer, it may be important to consider alternative land preparation and farming techniques which are less labour intensive. The cropping calendar shows that labour demands are highest in May when weeding activities peak while there is minimal work in October. Harvesting occurs in the rainy season from June and peaks in August when rains are heaviest. This renders transportation and storage of farm produce difficult.

**Table 8: Cropping calendar**

Honey												
Tobacco												
Huckleberry												
Potatoes												
Beans												
Maize												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Months

**Key: Cropping calendar**

	Land preparation		Fertilizer application
	Planting		Harvesting
	Weeding		

*Marketing of farm produce*

Farm produce are either sold in the village, on farm or in bigger markets in the neighbourhood such as Kumbo, Sop and Mbiame. Traders move to production centers in search of farm produce during harvesting seasons and generally offer low prices on the pretext of poor road conditions, availability in surplus and the need for cash by farmers to meet their basic needs. Farmers who store their produce to sell during off seasons earn higher incomes due to scarcity. It may be necessary to promote the establishment of cooperatives to handle the marketing of main commercial crops namely beans, potato and to some extent maize.

*Constraints in farming*

Farmers reported enormous post harvest losses due to diseases and pests, poor crop management practices, inappropriate inorganic fertilizer application and weeds. Specifically fungal and bacterial attacks on tomato, potato and other vegetables, rotting of beans and other legumes due to poor storage and high moisture content during the rainy season, insect pests such as weevils reduce the quality of crops produced, hence their market value. In addition, poor road accessibility and hence poor market accessibility, land shortage, poor quality planting materials, declining soil fertility, high costs of inorganic fertilizers and pesticides, inadequate knowledge on improved processing and storage techniques are some of the constraints hindering optimal crop production and hence financial benefits to farmers in these villages. Outbreaks of diarrhea in children were reported by health personnel in Mbiame and attributed to inappropriate use of inorganic fertilizers in the cultivation of vegetables. This calls for adequate sensitization of local people on the use of inorganic fertilizers in the cultivation of vegetables.

**Table 9: Summary of identified constraints**

<b>Issue</b>	<b>Problem</b>	<b>Suggestions</b>
Planting materials	Low yields, poor planting materials	Create small enterprises on seed multiplication for commercial crops (beans, potatoes, maize); see SAILD for demonstration and lessons learnt.
Fertilizers and pesticides	Food rot, crop failure, high fertilizer and pesticide cost, poverty	Training on uses and types of inorganic fertilizers and pesticides and method of application. Promote organic farming.
Bare soils	Erosion, low productivity	Introduce improved farming techniques
Food crops	Diseases, pests and crop spoilage	Training on improved farming techniques and control of post harvest losses
Livestock disease	Loss of food and income sources; poverty	Train farmers on livestock management and disease control.
Trees on farm	Poor tree management resulting in low crop yields	Provide training on on-farm-tree management. Provide trees of economic value.

Issue	Problem	Suggestions
Marketing	Low prices, food spoilage	Explore appropriate storage methods and group marketing of foodstuff (co-operatives)
Labour	High labour costs, dependence on external labour force for commercial scale production	Introduce less labour intensive farming practices

### 3.2.3 Inter / intra household and gender issues

Decisions related to household finances, land use and labour input are jointly made by both husband and wife in most cases. In the past, farm labour was gender specific with men involved in clearing, transportation of farm produce, tree crop management and sale of livestock and cash crops while women and children were engaged in weeding, planting, harvesting and selling of farm produce. Increasingly these tasks are shared by both every member of the family, with the men and children still doing much of the transportation by head load. Men and women of all ages collect fuelwood and engage in community manual labour. Beekeeping was traditionally a male affair but increasingly women are getting involved. Cattle, sheep and goats are mostly owned and sold by the husband while the wife owns fowls, however the tending of these animals may be done by both men and women depending on the activities and responsibilities at hand. Cattle are mostly owned and driven by men but women and children may drive cattle in and out to graze when the men are not disposed.

### 3.2.4 Livestock

Livestock reared in the project villages include local chicken (fowls), goats, sheep, cattle, few rabbits and guinea pigs. Livestock are reared mainly for cultural and economic reasons. Culturally local fowls are owned by every typical Nso household and are used for traditional rites ranging from birth, naming and death celebrations as well as various rituals and sacrifices. Fowls are sold occasionally to provide basic needs in the family. Sheep and goats are reared mostly to generate additional household income and also serve as reserve income sources in cases of emergency. Over 90% of interviewees owned at least local fowls and a goat. Those who had none lost them in the last disease outbreak in fowls and goats. Many interviewees reported huge losses due to livestock disease outbreak in February and March 2008. Cattle-rearing is traditionally a Fulani activity but increasingly Nso households are acquiring and rearing cattle in small numbers. Horses are kept mostly by Fulanis who use them to drive cattle. Tables 9 and 10 present a summary of livestock types owned by interviewees and prevalent market prices.

**Table 10: Livestock types in surveyed villages**

Village	Cattle	Dog	Duck	Fowl	Goat	Guinea pig	Horse	None	Not registered	Pig	Rabbits	Sheep	Grand total	No interviewed
Jakiri	0	0	0	1	1	0	0	0	0	0	0	1	3	1
Kitiwum	0	0	0	10	7	0	0	0	0	4	0	4	25	14
Mbiame	11	3	0	23	22	1	2	1	4	4	0	7	74	36

Village	Cattle	Dog	Duck	Fowl	Goat	Guinea pig	Horse	None	Not registered	Pig	Rabbits	Sheep	Grand total	No interviewed
Ngomrin	1	0	0	4	4	1	0	0	1	1	0	2	14	5
Sop	0	0	1	10	9	1	0	3	1	6	2	0	33	19
Wvem	2	0	0	9	11	3	0	3	2	2	2	3	37	20
Grand total	12	3	1	56	53	6	2	7	9	17	4	17	189	95

Local fowls/chicken can be found in the village markets although sheep, goats and cattle are sold in bigger markets such as Sop, Kumbo and Mbiame within enclosures prepared for this purpose. Mbiame has a cattle market which holds on specific days, other than the village market day which holds once in eight days. Current prices of livestock in village markets are as follows:

**Table 11: Livestock prices**

Livestock	Minimum price (FCFA)	Maximum price (FCFA)
Local chicken	1500	4000
Goat	10,000	30,000
Sheep	10,000	35,000
Cattle	70,000	400,000

Problems faced by livestock farmers include diseases, poor management skills, inadequate nutrition and theft (especially cattle and goats during the dry season). Newcastle disease is said to kill large numbers of local fowls annually due to inadequate respect of vaccination schemes, poverty and carelessness on the part of some farmers. On the other hand, the Veterinary staffs are not readily available in all cases to provide services due to their limited numbers and large working areas. Some livestock farmers in Wvem had received training from Heifer Project International (HPI) on improved poultry and rabbit production. In addition some para-vets or auxiliary veterinary assistants were trained in the Wvem and possibly Sop villages, but they are not effective due may be to poverty and or lack of medication. Similarly livestock farmers in Mbiame received training from NOWEBA on livestock production and to an extent pasture management, although very few farmers are applying knowledge gained during thee trainings.

Veterinary officials in charge of Kitiwum and Wvem cluster maintained occasional presence in the field. The veterinary service based in Mbiame is in close contact with livestock farmers and blamed the high mortality rate of fowls and goats during disease outbreak to carelessness of farmers, non respect of vaccination schedules, acquiring vaccines from unauthorized sources, re-infection from diseased animals bought from local markets or other villages where vaccination is not carried out. Mitigation measures may include among others widespread sensitization and vaccination campaigns, controlled movement of livestock during epidemics, vaccination of all fowls and goats in the community during vaccination activities. It may also be necessary to train and equip village based para-vets to assist local people in sensitization and vaccination exercises prior to epidemics.

### 3.3 Forest resources

Natural forests are scarce to come by in the surveyed villages and where they exist they are not so close to the main settlements, except in Kitiwum and parts of Mbiame. They provide varied services and functions including land for agriculture, water, medicinal plants, fuelwood, ritual sites for traditional and cultural manifestations and forest foods such as honey and mushroom. Interaction between the villagers and existing forests is relatively minimal. A list of wild on farm or forest based tree species is presented in Annex 2. The main forest based activities are described below.

#### 3.3.1 Forest foods

The main forest food collected from the wild mentioned are the survey is mushroom, honey and to a lesser extent kirem. Mushroom is usually collected at the beginning of the rainy season between March and May while honey is harvested twice, between February and April, and in October.

#### 3.3.2 Beekeeping

Beekeeping is practiced in all villages surveyed but on a small scale, with most of the farmers having their hives installed very far away from the village. Most farmers continue to use traditional hives in spite of training on construction of modern received. The highest yield registered during the survey was 200 liters per year, an equivalent of 200,000 FCFA. Although beekeeping has potential to increase household incomes, the following are set backs:

- long distances to cover before getting to the forest
- forest fires
- lack of ready market for honey
- theft
- changes in rainfall patterns, which affects flowering of bee loving plants
- increasing scarcity of grass for the construction of traditional hives

#### 3.3.3 Timber and fuelwood collection

Eucalyptus is the most important and widely used tree species for fuelwood, timber, furniture and other construction works. It is cultivated in home gardens, farms and degraded lands. Eradication of eucalyptus around water courses and catchments is necessary but it is an invaluable resource in the survey villages. Other tree species which may be used as fuelwood include kira (prunus), kijam, sem, korim, yir, kiwuuf.

#### 3.3.4 Hunting

Hunting may be carried out on a small scale in the surveyed villages but it was not obvious in the data generated that it was a very important activity. Rat mole, monkeys and cane rat were reported as farm pests but no information was given whether they were being hunted on a large scale or not. In addition, hunting was not mentioned in the list of economic activities carried out in the communities.

#### 3.3.5 Medicinal plants collection

In all the villages surveyed interaction with the forest was mainly for the collection of medicinal plants and those highly involved were traditional doctors or herbalists. Traditional medicine still has its place in the survey area in spite of the presence of modern medicine in health centers and hospitals. Species collected include among others, ntamir, mboviie, kira (prunus), kitoh, kishoh, liv,

mborfen, ntuhbuun, mahogany, kiwuuf, kidzeen, kidzemm, potocarpus, polysia, kirun, bavra, kisheeikensaiki, kiwarkerum. Some of these plant species are found in home gardens and on farm.

#### *3.4 Situation of past project interventions*

Information on how well farmers (crop, livestock and bee) have utilized skills and knowledge gained through past project interventions reveal that some farmers have continued to put knowledge gained into practice although the proportion that have continued are less than 50% of those trained. Explanations given to this effect include poverty, lack of materials and equipment, and possibly lack of ownership of the processes by local people.

**Table 12: Situation analyses of past projects**

No.	Institution	Group assisted	Activities carried out	Progress/ Problems/ Present situation	Location
1	Kilum Ijim Forest Project	Sharon Farmers, Bonglim Women	Agroforestry, Beekeeping		Wvem
2	Heifer Project International	Bonglim Women	Trained on improved poultry, sheep, goat and rabbit production and agroforestry. Assistance began in 1996.	About 65% of women trained still practicing to an extent. Source of improved chicks not known, lack space to rear animals, cages, feed and high disease incidence in animals. No market for rabbits. Need improved pasture, source of day old chicks and medication for poultry.	Wvem
3	Green Care	Beekeepers	Beekeeping training at Sop		Sop
4	Inland Valley Project	Bonglim Women	Construction of irrigation tanks and purchase of motor pumps, started in 2004. Own a group farm, cultivate potatoes and maize. Use farm proceeds to buy palm oil and distribute to members.	85 women trained and assistance given for off season farming (dry season). Last year produced 140 bags of potatoes and 22 bags of maize. Need pipes to extend water inland and lack improved seeds. More training needed on sustainable farming practices.	Wvem
5	HELVETAS / Wvem Area Development Organization (WADO)	Wvem Village	Water supply project. Project started in 1992.	Portable water installed in some quarters in the village. Not all villagers contribute financially and technically. 4 persons trained on water management, 2 still working. Training needed on water and catchment maintenance. Need to plant trees around the catchment.	Wvem
6	Wvem Area Development Organization (WADO)	Wvem village	Hydroelectricity project (2005 - 2007).	Dam constructed at River Ngiy and 2 generators purchased. Need more money to purchase and install cables to complete the project.	Wvem
7	Northwest Beefarmer Association (NOWEBA)	Community Forest Management Committee	-Field visits to Vekovi, Presbyterian Training Center- Mfonta, Rock Farm - Santa and Small Babanki to learn about HIV/AIDS,	Very few farmers are implementing what was learnt during these visits. Many persons participated in project	Mbiame

No.	Institution	Group assisted	Activities carried out	Progress/ Problems/ Present situation	Location
		Mbiame and some graziers	farming, pasture management and grazing, forest issues including night paddock farming, nursery management, beekeeping, potato cultivation and seed management, improved pasture management and cultivation of Bracharia and Guatamala, and zero transhumance. -Demarcated external boundaries of proposed community forest (CF). -Resettled two graziers out of the CF	activities hoping to be paid but were discouraged when they realized only material support was to be given to the community members.	
8	NOWEBA	Mbiame Community forest management committee	-Eradication of eucalyptus around water catchment and enrichment planting -Replanted several trees in degraded areas of the proposed CF	-Several eucalyptus stands have sprouted and need to be cut again -Proceeds from sale of sawn eucalyptus timber did not get back to the community, leading to discouragement and discontinuity of eradication exercise by villagers.	Mbiame
9	NOWEBA	Mbiame Livestock farmers	-Trained on livestock management and treatment using local herbs	-Few farmers are interested in pasture management because grazing land is common property with open access	Mbiame
10	NOWEBA	Mbiame Crop farmers	-Trained on agroforestry techniques -Trained farmers on food storage techniques	-	Mbiame
11	NOWEBA	Beefarmers	-Trained bee farmers on modern bee keeping techniques	-Six male and one female continue to practice beekeeping among the lot trained	Mbiame

## ANNEX 1: VILLAGE INFORMATION

### ***MBIAME***

1. Village name: Rifem, Mbiame
2. Administrative location: Mbven Sub-division
3. Project area: Mbiame
4. Estimated population size: 5000 inhabitants
5. Average household size: 8.25
6. Family structure:
7. Male-female ratio: females are generally more populated than males.
8. Ethnic composition: Nso
9. Religions: Roman Catholics - 60%, Muslims - 20%, Presbyterians - 12%, Baptists - 3%, others - 5%.
10. Settlement pattern: Linear, nucleated with well mapped out streets.
11. Housing: Most houses are constructed with sun-dry mud bricks and aluminium roofing sheets. Few are constructed with concrete blocks. Most houses have three rooms, parlour, external kitchen and toilet.
12. Inheritance: Inheritance is patrilineal, with or without a will.
13. Migration:  
Seasonal migrants from neighbouring communities like Oku move to Mbiame during farming seasons to provide farm labour on hire. Such movements are common between October and November during the cultivation of dry season beans and potatoes.

Cattle grazers and some farmers engage in seasonal migration during transhumance and farming seasons, respectively. Mbven Sub-division is endowed with rich alluvial soils at Lip and Mbawonso in the Mbaw and Tikar plains which favour agriculture and lush pastures. Graziers migrate from Mbiame, Adamawa and West provinces, Donga and Mantung division, and neighbouring Nigeria into the Mbaw and Tikar plains during the dry season. In addition some farmers from Mbiame migrate to Mbaw plains at the onset of farming season between February and April to cultivate commercial crops such as groundnut, soya beans, maize, pineapples, cabbage, onions and other vegetables.

14. Village head: Fon Shudzev III
15. Number of quarters: 14
16. Quarters and quarter heads:  
**Quarter in Mbiame include** Bahnsan, Bamkov, Shukov, Woh- wailun, Kintang, Kintsen, Bimekpu, Mumyu, Kunkov, Mantung, Taa-mborong, Saar-ntoh, Njavnin, Rifem as presented in the resource map in Annex 2.

17. Traditional administrative setup:

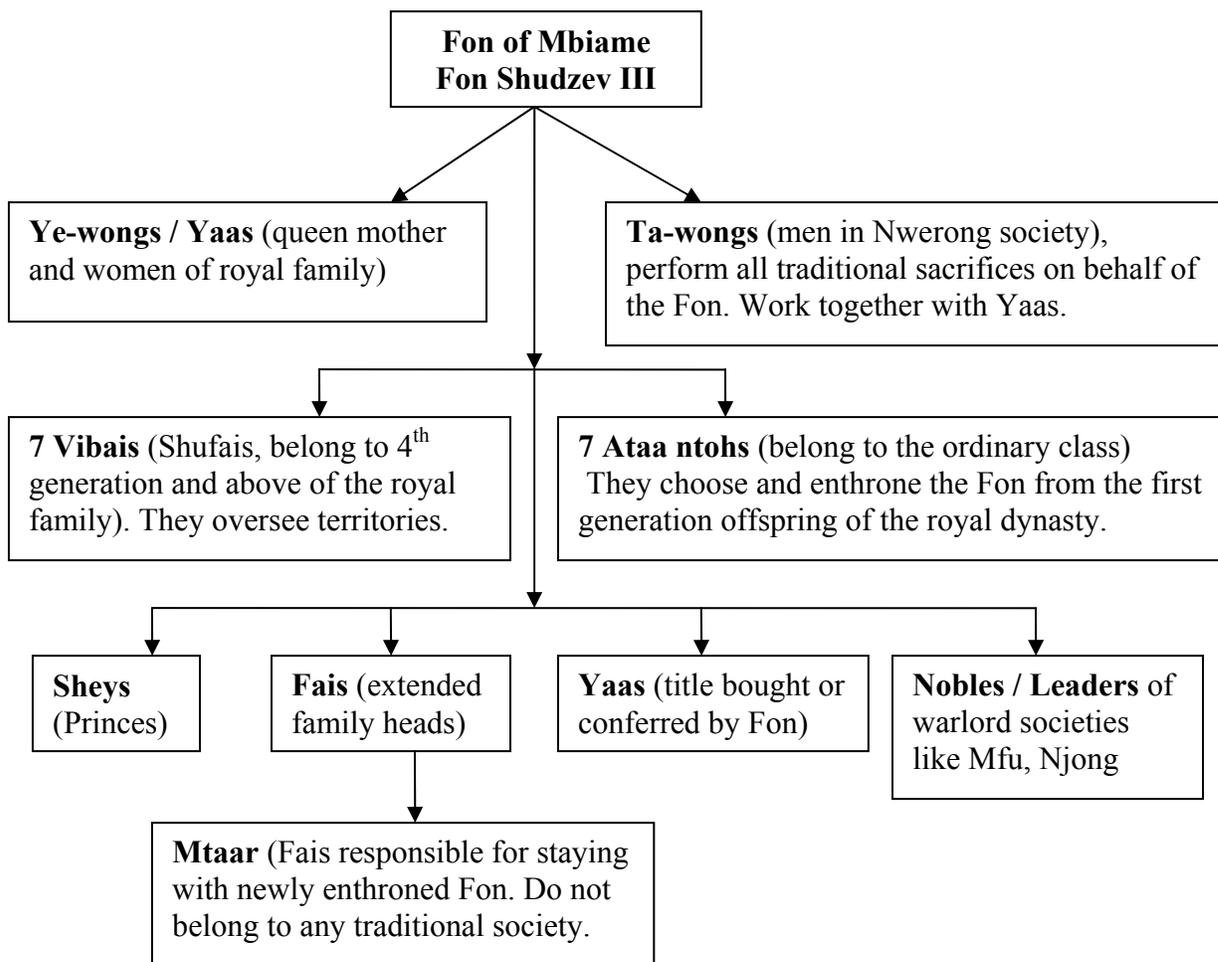


Figure 2: Traditional administrative setup of Mbiame

18. Village administration

The Fon of Mbiame, Fon Shudzev III is the highest authority in the Mbiame clan, he was enthroned in 1999. Decision making and clan / village administration is carried out by the Fon in collaboration with other princes and palace officials, representatives of traditional councils, village development committees and traditional societies. The central traditional council has representatives drawn from the 14 villages and their quarters in Mbiame, headed by the Fon. At the village level the traditional council is headed by the village or quarter head, with membership drawn from the respective families and the entire village. The traditional councils oversee cultural, development and social issues in the community at different levels on the hierarchy. Conflicts and issues that can not be resolved by the traditional councils are referred to the traditional societies, whose sanctioning mechanisms are more severe and highly respected in the community.

Ongoing development projects include road maintenance from Rifem to Lip and from Rifem to Mbawonso and tapping water from the catchment at Bimekpu to Mumyu and Rey.

**Traditional non-farming days:** The Fon of Mbiame has two traditional holidays or rest days, known locally as 'Country Sunday' during which sacrifices and rituals are carried out. 'Ngoilum' is set aside for traditional rituals to be performed and occurs once every 8 days. No hoeing or planting can be done during Ngoilum. 'Ntangri' is set aside for Nwerong to perform sacrifices on behalf of the clan and to carry out other duties

in the palace. A third traditional non working day is the market day known as Reveey, this can coincide with any of the above mentioned 'country Sunday'. Some Shufais can schedule another day for their sacrifices.

19. Village infrastructure:

a) Health:

Rifem has a Sub-divisional hospital which serves an estimated 35000 inhabitants in the Sub-division. It is poorly staff and not well equipped. At the time of the survey there was no resident Doctor, the hospital was being run by a trained midwife. The hospital has 5 poorly equipped wards for the sick with 13 beds, a maternity having 7 beds and 6 baby cots with no mattresses on the cots, no drip stands, no mosquito nets, no blankets, and no chairs. New born babies sleep with their mothers on the same bed. The hospital has no electricity and no portable water. Water is carried from a broken pipe in a dilapidated water catchment source constructed close to the hospital in 1975. The laboratory is poorly equipped. Serious medical cases are transferred to Kumbo, about 38 km away for better medical attention.

Water related diseases are a nuisance to the people in Mbiame municipality. Statistics show that diarrhea and typhoid occur through out the year. Specifically, about 30% of children less than 5 years old consulted monthly suffer from diarrhea and about 5% have typhoid, with the highest disease incidences recorded between March and May, at the onset of the rainy season. About 25% of adults consulted monthly suffer from typhoid. High incidences of diarrhea in children are also common between November and December corresponding to the end of the rainy season. This may be attributed to consumption of vegetables such as huckleberry prepared from nitrogen fertilizers, hence the need to discourage the cultivation of vegetables with nitrogen fertilizers and promote organic vegetable farming in the area. Respiratory diseases are common among adults and children in the dry season.

b) Education:

Rifem has 5 primary schools, a government secondary school, a technical college and a rural artisan center. The literacy level of Rifem has improved over the years with the proliferation of schools. About 75% of pupils complete primary school and 35% of these go beyond secondary school and less than 10% proceed to higher education. Generally more girls enroll in schools than boys as shown in the table below. However in remote areas of the Sub-division school drop out rates are much higher as children are withdraw for various reasons including child labour, teenage pregnancy and poverty.

Relative ability to read and write at Rifem

Age group	Men	Women
60 years +	20%	10%
45 - 60 years	35%	20%
21 - 44 years	50%	60%
< 21years	50	60%

Enrolment in Primary School, in Mbiame

School	Male	Female	Total	Staff	PTA
Government School Rifem	202	224	446	5	2
Government School Mboshong	240	164	304	4	2
Cameroon Baptist School Kintsen	34	28	62	3	3
Islamic Primary School Rifem	131	135	266	6	0
Presbyterian School Rifem	122	136	258	6	0

*Source: Inspectorate of Basic Education, Mbiame*

c) Market

Rifem has the most developed of the three main markets in the Mbiame council area. The market holds once every 8 days on Reveey. It is constructed with semi permanent and temporary stalls and is located close to the Mbiame motor park. In addition, there is an enclosure which serves as a small ruminant market on weekly market days and a cattle market every Wednesday.

Items sold in the market include agricultural food stuff (maize, beans, potatoes, fruits, cassava, kola nuts, coffee, groundnuts, banana, and vegetables), livestock (goats, sheep, and local chicken), processed food and local drinks (raffia wine, corn beer) and condiments, honey and honey by-products from Rifem and neighbouring communities. Being a largely farm-based livelihood dependent community, food stuffs are sold at home or in the market. Buyers are either resident wholesale traders or non residents from Kumbo, Bamenda, and other towns and villages. They generally offer low prices to farmers, reasons being high transport fares that need to be paid to transport food stuff to the larger commercial centers as a result of the poor road conditions both in the dry and rainy seasons. Non agricultural items such as household consumer goods, clothing and other wears, electronic gadgets and accessories, building materials, farm inputs and implements are brought in from Kumbo, Bamenda and Nigeria and sold by both resident and non-resident traders. Livestock buyers and sellers come from Rifem and neighbouring quarters, villages and towns. There is no market for improved chicken in Mbiame, farmers who had poultry farms in the sold their stocks at Kumbo.

Languages spoken in the market include Lamnso, Pidgin English and Ffulde.

Transportation of goods and persons to and from the market is by vehicles, motor cycles, horses and donkeys. Horses are used more by the Fulanis from surrounding communities. Donkeys are mostly used to transport farm produce. In addition, transportation by head load is common for short distances and less heavy loads especially transportation of farm produce.

d) Electricity

Mbiame is not connected to the national grid. There are a few private generators in Rifem.

e) Communication

Telephone coverage is poor, with signals in isolated spots. Radio and television signals are weak and reception is generally poor.

f) Access

Access to Mbiame is by motorable stony earth roads which are usually difficult to use during the rainy season. Goods and persons are transported in clandestine vehicles, motor cycles and horses. Horses are used mainly by Fulanis to travel and also to drive cattle.

g) Social and recreational facilities

Mbiame does not have a community hall. Outdoor public events are held in the municipal field having a semi-permanent grandstand.

h) Informal employment:

Services such as tailoring, hair dressing, sand and stone quarrying, shoe mending, grinding mill operators, vehicle loading, commercial motor cycling, sun-dry mud brick production, building and construction are available in Rifem.

20. Government and private institutions

Mbiame is headquarter of Mbven Sub-division. It has a Sub-divisional office, a council office, a gendarmerie post, sub-divisional delegations for livestock, fisheries and animal industries and agriculture and an inspectorate of basic education.

## 21. Wealth and well being indices

### Well being indices in Mbiame

Poor	Tally	Rich	
Cannot meet basic needs	27	Owens many livestock	15
Lazy	18	Operates a business	10
Sick	17	Able to provide basic family needs	8
Disabled	7	Has a lot of investments in agriculture (land, commercial and cash crops)	7
Poor housing	7	Generous (contributes to village development and helps others)	6
Unable to meet children's school needs	3	Healthy	5
Has no livestock	1	Able to provide for children's education	4
Lacks land to farm	1	Well constructed house	2
No crops to market	1	Does not lack money	1

## 22. Economic activities

Main economic activities in Mbiame are farming and livestock rearing, contributing 52% and 35% to household income respectively. Other livelihood sources include petty trade, informal employment (**jobs, beekeeping, quarrying, hair dressing, tailoring, remittance, fuelwood**).

## 23. Agriculture

Over 85% of the population in Mbiame depends on agriculture for livelihood. Food crop production is the most important single income earner in the community.

- Food crops: Main food crops cultivated include maize, beans, potato, yam, cassava, cocoyam, pumpkin, huckleberry, sweet potato, onion, egusi, groundnut, cabbage, cow pea, pepper, bitter leaf, tomato and leaks.
- Cash crop: Coffee is the main cash crop in the area.
- Commercial crops: They are beans, potato, maize, huckleberry, plantain, banana, castor oil, groundnut, tomato and onion.
- Fruits: These include pear, guava, orange, banana, sugar cane, lemon, mango, pawpaw,
- Other tree crops: Kola nut, prunus, raffia palm, Tephrosia, saringang, kindzeng, kiwuuf, kibai, ntov, sem, kiru are present on farms.

## 24. Farming systems

The main farming systems in Mbiame are home gardens, swamp farming, crop farming on plains, slopes. There are two farming seasons namely the main farming season which runs through the rainy season and dry season farming which occurs between November and February. Intercropping takes place during the main farming season but potato is cultivated as a monocrop during the dry season. Maize is cultivated once a year during the rainy season and harvested between September and December. Beans and potatoes are cultivated twice a year in the normal planting season and in the cry season while huckleberry is cultivated all year round but production is highest during the rainy season. Beans planted in the dry season are always attacked by caterpillars and at times their performance is negatively affected by rains hence yields are lower than in the rainy season. Pesticides are needed to destroy the caterpillars. Common diseases that affect potato are blight and rotting. Farm labour is mostly provided by the family however supplemental labour is hired and payments are either made in cash and in case of harvesting, in kind using food crops. Transportation of farm produce is done either by vehicle, motor cycle, donkey or head load by the men and children. Increasingly there are no gender barriers differences in executing farming activities. Men and women participate in the different tasks almost equally, considering the fact that commercial crops provide most of the household income. Some farmers still practice bush burning as a means of improving soil fertility. Most farmers apply fertilizer to the soil to improve fertility but few make use of animal waste and wood ash. The night paddock system of farming is practiced by some farmers but the practice is not

yet widespread. Also some cattle graziers who in time past concentrated on livestock rearing are now cultivating food crops solely for home consumption.

Most farmers interviewed had more than one farm plot. Farm sizes range from 0.3 - 10 ha, average distance to furthest farms was 4.8, with a range of 1 - 18 km and an exceptional case of 40 km. with most main farm sizes being more than 1 ha. Some farmers practice fallow but others do not. Some leave part of their farm uncultivated for a season as a form of fallow. Highest yields per farmer recorded in last year's harvest was 30 bags for potatoes, 50 bags for maize and 16 bags for beans.

Problems faced by farmers include inappropriate use of fertilizer resulting in crop failure, crop pests and diseases, inadequate market access, low prices of crops, crop destruction by stray animals, lack of farm manure to increase soil fertility, insufficient fertilizer to apply on farm, high cost of fertilizers, inability to have enough animal dung for the farms, yellowing of potato, maize and bean leaves.

#### f) Livestock

Livestock rearing is the second most important income earner after crop production in Mbiame area. Livestock rearing is regarded as a cultural activity for both Nso and Fulani people. Traditionally cattle and horses are characteristic of Fulanis while sheep and goat rearing is characteristic of Nso people in Mbiame. Fulanis own and graze large herds of cattle in open fields, in some cases including sheep. Some households of Nso origin also own few herds of cattle which are either tethered around homesteads or grazed in open fields. Every indigenous household owns one or more types of livestock for commercial and cultural purposes, the most common being local chicken (fowls) and goats. Fowl are kept in free range while goats and sheep are tethered during the rainy season and left on free range during the dry season. Pigs are kept in pens or tethered. Consumption of livestock is mostly during ceremonies (sacrifices, birth or death celebrations).

Livestock rearing is facing serious threats from disease outbreaks with huge economic losses registered, largely due to negligence of farmers and to some extent the veterinary staff. Newcastle disease affects fowls throughout out the year and peaks between April and May and between September and October due to seasonal changes. Pneumonia is common among young chicks between October and December. Small ruminant pest is a major problem for sheep and goats between March and May. The main diseases affecting cattle include black water and contagious bovine pleuro-pneumonia. A major constraint to grazing is lack of clean water during the dry season. Pigs suffer more from lack of feed than disease. Common diseases affecting pigs include ecto- and endo-parasites. Preventive measures to these diseases include timely and regular vaccination and de-worming. Stealing of livestock is increasingly posing serious problems to livestock owners especially during the dry season when animals are on free range.

The divisional delegation for livestock works in close collaboration with livestock owners, carrying out vaccination and treatment of livestock at minimal fees and sensitization on pasture improvement. There exist about 6 ha of *Guatemala sp.* and 3 ha of *Bracharia sp.* at Rifem. Grazing land in Rifem has been communal over the years although increasingly individuals are obtaining title deeds for large expanses from Government officials. Most livestock owners depend on natural pastures, only a few graziers are engaged in paddock management.

The absence of clearly defined boundaries between grazing lands and farm lands has been a source of conflicts over the years. Farmers in search for new and more fertile farmlands encroach into grazing lands while graziers allow their livestock to graze on farmers' fields because they have encroached into their grazing lands. There are also conflicts between farmers in settlements resulting from crop destruction by stray animals. However there is increasing mutual understanding between farmers and graziers as some embark of 'night paddock' systems to derive mutual benefits.

### Livestock groups in Mbiame

Name	Focus	Location
Rifem Pig Farmers	Pig farming	Rifem
Tomdzem mixed farming group	Pig and small ruminants farming	Taa-mborong
Momyenlia Young Farmers	Pig farming	Mbiame
Mbiame Cattle Development CIG	Cattle, milk production	
Bandzeka CIG	Small ruminant farming	Mbiame
Mbawnsso Cattle Graziers CIG	Cattle	Mbawnsso

### Livestock population in Mbiame & Prices at Cattle and Local Market

	Cattle	Goat	Sheep	Pig	Local chicken	Improved chicken	Horse	Rabbits
<b>Livestock population</b>	10280	12210	8890	500	10200	28	239	16
<b>Quantity sold in livestock market</b>	288	340	140	78				
<b>Minimum price (FCFA)</b>	80000	10000	10000	10000	1500			
<b>Maximum price (FCFA)</b>	400000	30000	35000	72000	4500			

*Source: Quarterly report, October - December 2007, Sub-divisional Delegation for livestock, Mbven.*

#### 25. Forest based activities

Forest based activities do not have very significant contributions to household economies in Mbiame, partly because there is very little forest and it is under protection due to its cultural, biodiversity and ecological values.

#### 26. Land tenure:

All land in Mbiame is owned customarily owned by the Fon. Part of the land has been distributed to some Shufais to oversee. Land can be accessed through inheritance, gift, purchased or allocated by Government officials. In the past land was inherited only by male children. Today land can either be inherited or bought by women.

#### 27. Water sources

Mbiame is known to have acute water problems especially in the dry season, having as sources stand taps, springs, streams and wells. The safest source of water at Rifem is tap water captured from a spring within the proposed community forest at Bahnsan (see Annex 4) flowing in 20 stand taps with only 5 flowing during the dry season. Other sources include 2 modern public wells and a number of local private wells, 10 springs, 7 of which flow during the dry season and a number of small streams. Most of these water sources dry up during the dry season and where they do not, the quality is poor and quite often the source is shared with both domestic and wild animals, making it most unhealthy for human consumption. The inadequate water flows in stand taps is attributed to destruction of forest cover around the catchment, the presence of eucalyptus trees at the watershed and inappropriate construction of the catchment at Bahnsan. Another catchment is under construction at Bimekpu to supply water to Mumyu and Rey.

28. Youth employment:

Male youths are engaged in riding motor bikes, farming, tapping of raffia palms, hunting, petty trade, quarrying, and cattle rearing. Female youths are engaged in farming, petty trade, marriage and prostitution.

## **WVEM**

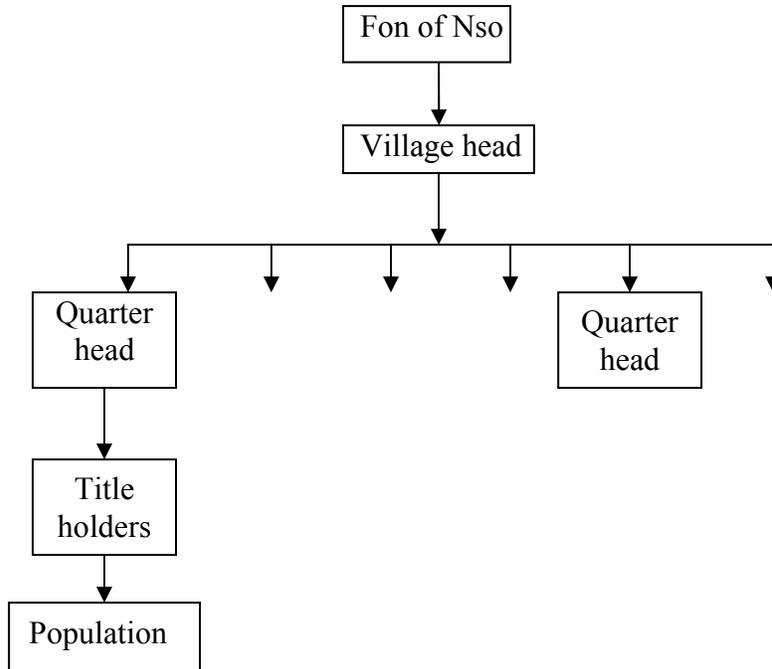
1. Village name: **Wvem**
2. **Administrative location:** Jakiri Sub-division
3. Project area: Wvem cluster
4. Estimated population size: 6000
5. Average household size: 7.6
6. Age structure: 0 -1- 21 years: 40%, 22 - 50 years: 30%, > 50 years: 30%
7. Male-female ratio: 48% : 52%
8. Family structure: Monogamy: 60%, polygamy: 5%, single parents: 15%. Polygamy is practiced mostly by traditional rulers and Muslims.
9. Ethnic composition: Nso: 98%, Fulani: 2%
10. Religions: Roman Catholic - 80%, Presbyterian - 5%, Islam - 15% of population. As in most parts of Nso tribe, traditional religion or ancestral worship is prevalent irrespective of religious inclinations. Sacrificial rituals are expected to be celebrated regularly on a weekly basis, given that a day has been set aside weekly for sacrifices throughout the village and farming activities are not allowed on such days. These sacrifices are carried out by family (household) heads, compound (extended family) heads and at the village level. Clan level sacrifices are held less frequently.
11. Settlement pattern: Linear, nucleated, clustered patterns are present. Clusters are mainly constructed by compound heads and Muslims, most of whom are polygamous.
12. Housing: Sun-dry mud brick walls and roofed with aluminium sheets. Generally houses have on the average three sleeping rooms, a living room, an external kitchen and an external toilet.
13. Inheritance: Traditionally male children inherit land and other property from their parents but there are isolated cases of females inheriting property especially land bought by the women.
14. Migration: There is seasonal migration of labourers into Wvem from Oku, Jakiri, Sop, Yer, Kalkui and other neighbouring villages during farming seasons to weed and or harvest potatoes, especially in the swamp areas.
15. Village head: Fai Doh
16. Number of quarters: 18

Quarters and quarter heads in Wvem village:

No.	Quarter	Quarter head	Status of Quarter head
1	Doh (Central)	Fai Doh	Landlord, Village head
2	Faakui	Joro	
3	Ndzenla	Ngaiwir	Traditional ruler
4	Taashem	Daanda Wirsiy	
5	Dui	Fai Dui	Traditional ruler
6	Ro-oyai	Fai Ro-oyai	Traditional ruler
7	Kuila	Ngaiwir	Traditional ruler
8	Shukov	Fai Kih	Traditional ruler
9	Tabah	Fai Tabah	Traditional ruler
10	Ngwarbir	Fai Ngwarbir	Traditional ruler

No.	Quarter	Quarter head	Status of Quarter head
11	Kong	Fai Kong	Traditional ruler
12	Trenkui	Fai Trenkui	Traditional ruler
13	Ngum	Fai Ngum	Traditional ruler
14	Kiyoo	Ngaiwir	Traditional ruler
15	Takuv	Shufai Takuv	Traditional ruler
16	Woh	Fai Woh Ngang	Leader, traditional society
17	Kitcho	Shufai	Traditional ruler
18	Dzevsha	Alagi Kongo	

17. Chief structure:



**Figure 3: Chief structure of Wvem village**

18. Village administration

The village is headed by Fai Doh and ascendancy into this throne is by patrilineal succession, chosen by men and women of royal descent. Fai Doh a third class chief succeeded Wassi Fai in 2002. Wvem village has 18 quarters each headed by a quarter head, usually a close kin to the village head. It has a traditional council comprising the Village and quarter heads, village elders, leaders of all groups (traditional societies, social groups, njangi groups, farming groups, common initiative groups, etc.) and Wvem Area Development Organization (WADO). WADO is an umbrella organization comprising all development organizations in the village. Most of the quarter heads are traditional rulers, men with authority to perform rituals either at compound or village levels. The traditional council ensures the political, social and economic development of the village. The secretary of the council is usually a literate Fai. Women role in development is highly recognized and encouraged in this village, evidenced by their active presence in the traditional council and development activities.

19. Village infrastructure:

- a. Health: A Catholic Health Center established in 1981 as an AID post and upgraded to a health center in 2002 is present in Wvem. It has 7 staff of the health center and a Mutual Health attendant affiliated to the health center. There are some traditional medicine practitioners and a traditional birth

attendant in the village. The presence of the health center and portable water have greatly improved the health of the local people who prior to these suffered from water borne and other diseases. Common diseases in the village include malaria and cough.

b. Education

Schools in Wvem village

No.	Name of School	Year of creation	Enrolment			Staffing	
			Boys	Girls	Total	Full time	P.T.A
1	Government School Faakui	1996	55	49	104	1	3
2	Islamic Primary School Faakui	1979	54	61	115	4	
3	Government Nursery School Faakui	2004	16	21	37	2	
4	Government School Wvem	1996	62	78	140	3	3
5	Catholic School Wvem	1950s	138	107	245	6	
6	Catholic Nursery Wvem	2002	27	29	56	2	
7	Government Secondary School Wvem	2006					

*Source: Inspectorate of Basic Education, Jakiri*

Literacy rates: The Roman Catholic School was opened in the 1950s while the Government primary school was opened in 1996. The presence of these schools has positively impacted the level of literacy in this village, especially among the women folk and today there are on the average more girls than boys in the schools. Estimated statistics are as follows:

- Male above 50 years: 30% can read and write.
- Males less than 50 years: 95% are primary school leavers
- Female above 45 years: 30% can read and write
- Females 30 - 45 years: 95% can read and write
- Most young males and females have at least attended primary school.

c. Market: nearest market is at Sop, about 5.5km away. Market hold every 8 days on Kiloveey. A small open air market holds in the village, usually with poor attendance on Kiloveey.

d. Electricity: There is no electricity in Wvem village. There is an ongoing rural electrification project installed at the Ngiy River. A dam has been constructed on the river but due to limited finances efforts are being made to raise additional funds needed to complete the project. There exist about 3 generators in Wvem Central.

e. Communication: Mobile telephone network coverage is poor, reception possible only at specific spots. Radio and television reception are poor.

f. Access: vehicular access is by very poor and stony earth roads, usually difficult to ply during the rainy season. Common modes of transport are vehicle, motor cycle and on foot. There are about 3 vehicles and 5 motor cycles that transact commercial activities in Wvem.

g. Community hall: Village hall constructed with sun dry mud bricks and aluminium roofing sheets.

h. Toilet: No public toilet in the village. Individual households construct pit toilets within their premises.

i. Bars / restaurants / stores: Wvem Central has 7 provision stores, few eating houses and drinking parlours.

20. Government and private institutions

- a. Government primary and secondary schools
- b. Credit Union collection center
- c. Civil status registry
- d. Mutual Health Organization
- e. \*Youth Day Center\*

21. Village institutions:

- Rural Transformation Center (RTC) Sharon group
- Njangi houses ( most common savings and loan structures in the village)
- Farming groups including Bonglim CIG, Nkitahke sumnguy, etc.

22. Wealth and well being indices

Poor	Rich	Very rich
Thatch / grass roof	High yields in potatoes	Owens car or motor cycle
Cannot educate children beyond primary school	Educate children	Owens television and generator
Poor and dirty clothing	Good house with cement floor and aluminium sheet roofing	Well constructed house
Children always driven out for school fees	Affords at least 2 meals a day	Owens a business
Spend much of their day in drinking places	Enough farmland, having 5 or 6 farm plots	
Landless, small farm producing less than 1 bag of potatoes		
Jobber		

23. Social life:

Social activities in Wvem include meetings of traditional societies and farming groups, drinking raffia wine and locally brewed corn beer, drinking in off licenses and drinking parlours and meeting in Njangi (village based savings and loan schemes) groups. Meetings generally hold on "Ngoilum", a traditional non-farming holiday which holds after every eight days.

24. Economic activities

The main economic activities and their relative contribution to household income are farming - 88%, livestock - 5% and others such as petty trade, beekeeping, wages and salaries, timber and fuelwood extraction - 7%. Source of expenditure include health, educational needs of children, household needs, farm inputs (labour, fertilizer) and savings. There is a quarry at Wvem but it is not certain how it contributes to village development.

25. Agricultural production

- a) Food crops: Main food crops grown on farms include maize, beans, potato, cocoyam, sweet yams, sweet potatoes, cassava, huckleberry, pumpkin, yams, plantains, banana, sugar cane, tomatoes, cow pea, ground nut, garden egg and other vegetables.

Bonglim Women group has received a lot of training and assistance on food crop production and actively participates in agricultural events nationally. They are currently working with Inland Valley Development Program and Grassfield Participatory and Decentralized Rural Development Project (GPDERUDEP) on agro-forestry and potato seed multiplication projects respectively.

- b) Cash crops: Coffee is the main cash crop cultivated in the area. It is grown mostly in home gardens for easy management and processing. A tin of coffee sells for 5000 FCFA and purchases are coordinated by the Nso Coffee Cooperative. Most farmers are shifting from coffee production to production of commercial crops, due to the low prices of coffee, most coffee stands are old and need replacement therefore productivity is very low. In addition, home gardens not only provide easy access to food for home consumption but sale of food stuffs from there provides additional household income. Tobacco is grown by a few farmers

- c) Commercial crops: potatoes, beans, maize, kola nuts, huckleberry, other vegetables (cabbage, carrots, leeks, tomatoes, etc.), tobacco. Wvem is said to be the largest potatoes producer in the Northwest province.
- d) Fruits: These include pear, guava, mango, banana, orange, apple, lemon, Adam fruit, sour sop, star apple and kola nut. They are grown both in home gardens and on farms.
- e) Other trees on farm: These include kira, kilulong, kijam, small leaf, used for food, income, soil improvement, medicine, building and construction, shade, carving, wind break and fuelwood. Other trees farmers would like to plant include Lucaena, Tephrosia, Calliandra, Cordia, chiico, yir, kohren, eucalyptus.
- f) Beekeeping: Beekeeping is practiced on a low scale and by few farmers using local hives. Problems faced by beekeepers include among others,
  - far distances to get to forests where hives can be kept, some farmers keeping hives over 20 km away from the village while others travel to distant villages to keep their hives in the forest;
  - difficulty in getting traditional hives which are mostly used in the village due to scarcity of grass used in constructing traditional hives;
  - stealing of honey from hives in the forest
  - abnormalities in flowering of bee loving trees due to irregular rainfall and changes in rainfall patterns;
  - lack markets;
  - lack beekeeping techniques and materials
  - destruction of hives and honey by forest fires.

Training on modern beekeeping has been provided by Green Care, Northwest Bee farmers Association (NOWEBA) and the exited Kilum Ijim Forest Project but some bee farmers still use traditional hives. Groups practicing bee farming include Sharon group and BIKOV beekeeping group established by Kilum Ijim Mountain Forest Project. Few traditional hive builders exist in the village. A liter of filtered honey is sold at 1000 FCFA while 10 liters of unfiltered honey is sold for 8000 FCFA. One farmer harvested over 80 liters of honey from 15 colonized hives in a good year but harvested only 40 liters from 28 colonized hives in a poor year. Honey is normally harvested between March and April.

#### g) Livestock

Livestock kept in Wvem include local chicken (fowls), goats, sheep, pigs, cattle, guinea pigs and rabbit. There are a few cattle owners in Wvem. Sheep and goat are reared mainly for economic purposes and occasionally goats are used for ritual sacrifices. Fowls are owned by virtually every household as they are used for ritual sacrifices, food and revenue to meet urgent subsistence needs although some farmers had lost their stock in the Newcastle epidemic of March 2008. Some farmers lost over 30 fowls during the last epidemic. Livestock are kept mainly as reserve capital to meet emergency needs.

Sheep and goats are confined during the rainy season and left on free range during the dry season. Fowls are on free range while pigs are generally confined in pens. Cattle are grazed in open fields. Community members received training from Heifer Project International on livestock management (pigs, rabbits, chicken) however there are still several management problems with livestock that need external intervention. For example, Newcastle ravages large numbers of local fowls annually creating huge losses of up to 30 and more fowls per household as in the last outbreak.

#### 26. Farming systems:

Mixed cropping is practiced by most households. Home garden crops include food crops (banana, beans, maize, cocoyam, yam, potato, etc), vegetables (bitter leaf, pumpkin, leeks, onion, parsley, currie, tomato, cotimanjo, celery, garden egg, pepper, cabbage and other spices ), fruits (pawpaw, guava, pear, plum, sour sop, mango, orange, strawberry, apple, sugar cane, etc.), medicinal plants (prunus, aloe vera, fever grass), fuelwood (eucalyptus), agroforestry plants (*Glyceridia*) and others such as coffee, kola nut and macademia.

#### 27. Forest based activities

Forest based activities are not prominent in Wvem village, because natural forest is about 6 km from the village. This forest had been demarcated by the exited Kilum Ijim forest Project for protection but it is under threat from farm encroachment

## 28. Land tenure

The landlord of Wvem is Fai Doh. Land is acquired through one or more of the following ways, namely gift, inheritance, bought or begged. Land given out as gift may not be retrieved from the user. S/he presents a token of wine and fowl to the landlord to acknowledge his authority over the land and is expected to give a tin of maize or more depending on the size of land offered to the landlord annually. Land begged from the landlord may be returned after a specified period.

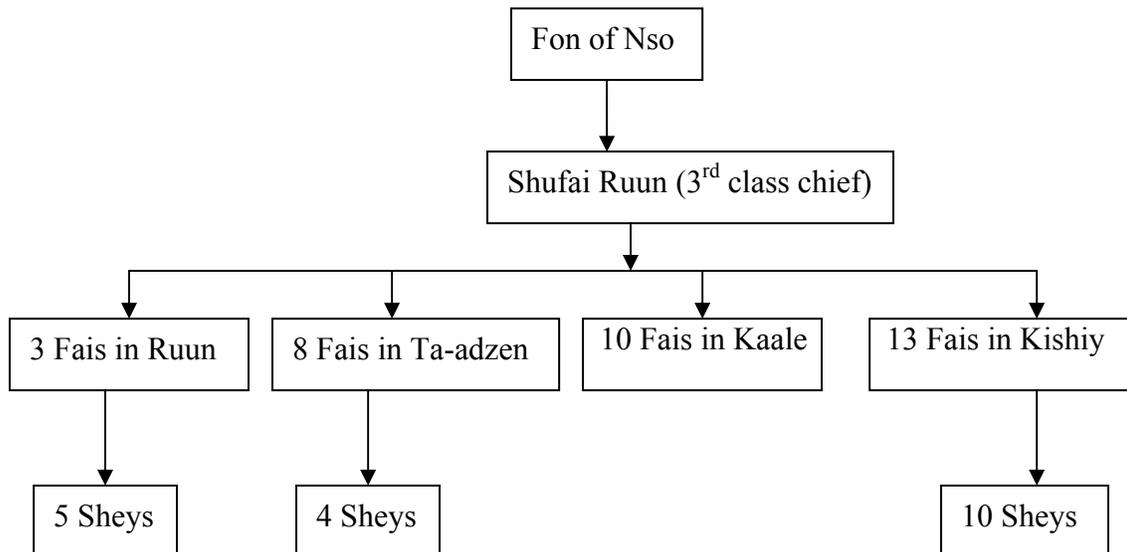
## 29. Water

Main sources are stand tap and streams. There are 20 public taps and 40 private taps in Wvem. Other important water sources include streams such as Kidzemin, Kimahkong, Luun, Ndzevnkong and Ngiy. Kidzemin, Ngiy and Kimahkong flood their banks during the rainy season permitting a lot of dry season farming to take place in the swamps along these rivers. Besides the catchments at Luun, there are other springs at Ndzevsha and in the Kilum Forest which can be harnessed to provide portable water as shown in the resource map in Annex 4.

Water was connected in 1995 with assistance from HELVETAS and community efforts from the catchment at Luun. The first phase of connections provided water to Wvem Central, Kidzemin, Ngiy and Kiyoo. The second phase involved Ngum, Shukai and Kicho-o. Taashem receives water from another catchment source by gravity although the flow is not regular and there are only about 2 or 3 public taps. Faakui also uses water from another catchment source. There is no portable water at Shukov. Although these quarters have portable water distances between stand taps are far apart. Each household using public taps is levied an annual maintenance fee of 500 FCFA while those having private installations pay 1500 FCFA. The water is not treated. Problems faced in relation to water include broken pipes and broken heads of public taps. In addition the Wvem catchment is not adequately protected from stray animals, farm encroachment and forest fires. Efforts are being made to plant trees at the catchment, demarcate the area with pillars and provide more secured fencing and protection from forest fires. Water shortage is foreseen at Wvem in the next 5 years due to the growing population.

## KITIWUM

1. Village name: Kitiwum
2. Project area: Kitiwum
3. Estimated population size: 8000
4. Average household size: 8.5
5. Age structure:
6. Male-female ratio:
7. Ethnic composition: Nso - %
8. Family structure:
9. Inheritance: Inheritance is patrilineal, and only male children inherit the father's property.
10. Migration: Farmers leave Kitiwum to farm in other villages such as Leidzev, Nkuv, Kovdzei, Mbam, Nso, Mbukov, Dirri, Mbokpu and Mbamtii during farming season.
11. Religions: Roman Catholic, Baptist, Presbyterian, Islam
12. Settlement pattern: Linear, nucleated, dispersed
13. Housing: Constructed in most cases with sun dry mud bricks and aluminium roofing sheets.
14. Village head: Shufai Ruun
15. Number of quarters: Ruun, Ta-adzen, Kishiy, Kaale, Mbowen, Mokoo.
16. Quarters and quarter heads:
17. Chief structure in Kitiwum:



18. Village Administration

Kitiwum has a village council made up of 14 members who are representatives from the different quarters. In each quarter there is a traditional council which meets on 'Ngoilum' to discuss village development and conflict resolution issues. In addition, there exists a council of elders which meets on 'Reveey' to discuss more serious village matters.

19. Village infrastructure:

- a) Health: Integrated Health Center with trained staff, laboratory and pharmacy. There is still dependence on traditional medicine by local people in Kitiwum in spite of the presence of modern medical facilities.
- b) Education:

Level	Name
Primary	Cameroon Baptist Convention Kishiy
	Catholic School Bamkikaai
	Government School Kaale
	Government School Kitwum
	Government School Kishiy
	Navti Primary School Shukay
	Government School Bamkikaai
	Anglo Arabic Primary School Bamkikaai
Post Primary	Government High School Kitwum
	Christian Academy
	Islamic High School
	St. Augustine College
	RIBA Agro-forestry Training Center, Kishiy

- c) Literacy rate:
  - d) Market: Main market is at Ruun
  - e) Electricity: Kitwum is connected to the national grid run by AES SONEL but not all quarters and households have electricity installed.
  - f) Communication: Mobile telephone network coverage is good, television and radio signals are moderate although many villagers do not possess these.
  - g) Access: Accessible from Kumbo town by vehicle or motor cycles on earth road. Road is slippery during the rainy season and dusty in the dry season.
  - h) Community hall: One community hall exists in the village
  - i) Toilet: There is a public toilet at the market square.
  - j) Bars / restaurants / stores: 7 provision stores at Ruun, 3 beer parlours, numerous palm wine and corn beer drinking spots.
20. Government and private institutions: These include primary and secondary schools, integrated health center, agricultural post, minor seminary for Roman Catholics.

## 21. Village institutions

No.	Name of group	Location	Date of creation	Head
1	Bih-shang		1963	Fai-Ngang
2	Shoh-nyuy		1998	Shafee Stephen
3	No-complain	Kaale	2004	Dauda Keeri
4	Women socialist	Kaale	2006	Emma Shuha
5	Ngwah-a-taalah (village elders or traditional rulers)	Kaale	1951	Fai Ran
6	Samba	Kaale		
7	Chong	Kaale		
8	Tum-bu	Kaale		
9	Jovri	Sangiri		
10	Salama	Sangiri		
11	Young Muslims	Sangiri		
12	KIDU	Kitiwum		

## 22. Wealth and well being indices

Poor	Tally	Rich	Tally
Unable to meet children's school needs	7	Able to provide basic family needs	8
Cannot meet basic family needs	6	Has money	4
Poor housing	6	Livestock owner	4
Disabled	5	Owens assets	4
Sick	5	Provides children's school needs	4
Lazy	3	Operates a business	3
		Good house	2
		Generous	1
		Happy	1
		Healthy	1

## 23. Economic activities

The main economic activity is farming, contributing about 64% to household income while livestock contributes about 24%. Other sources of income include remittance, petty trade, traditional medicine, tapping, salaried and unskilled employments. Average annual household income is 136,318 FCFA. Main sources of expenditure include basic household needs, health, school needs of children, entertainment, contribution towards village development and farm inputs.

## 24. Agricultural production

- Food crops: Maize, onion, potato, cabbage, beans, carrot, sweet potato, cocoyam, huckleberry, garden eggs, tomato. Maximum yields recorded for 2007 are 2.5 bags for beans, 6 bags for potatoes and 12 bags for maize. Average prices for beans, potato and maize are 3000 FCFA, 1000 FCFA and 1500 FCFA. Cash crop: Coffee is the main cash crop cultivated. It is found mostly in home gardens and is increasingly being replaced by commercial crops which give higher financial returns. A tin of coffee costs about 5000 FCFA.
- Commercial crops: maize, beans, potato, huckleberry, celery, beetroot, parsley and cabbage.
- Fruits: Orange, pear, banana, pawpaw, lemon, mango, mostly grown in home gardens.

- d) Other trees on farm: kola nut, raffia palm, eucalyptus, prunus, tephrosia, sesbania, bushmango. Possible trees to be planted include kidjo (timber). Trees are often planted in home gardens; they serve as wind breaks, provide shade, stabilize soils against erosion and stabilize the water table.
- e) Livestock: Main livestock reared in the village are cattle, sheep, goats, rabbits, guinea pigs and local chicken or fowls. These suffer from diseases and assistance is got from the veterinary service in Kumbo.

#### 25. Farming systems

Intercropping is practiced by most farmers during the main farming season. Farming is mostly on hill slopes due to the undulating topography and farm sizes range from 0.2 - 1ha. Number of farm plots range from 1 - 5 and above, with the majority of farmers having active 3 farm plots. Seed sources include previous harvests, friends, neighbours, village stores and markets. Soil degradation may be caused by prolonged farming on the same piece of land. Some farmers apply wood ash on farms to improve soil fertility while others use fertilizers and animal wastes. Fallow lengths of 1 - 4 years are recorded and some farmers have up to 4 inactive farm plot left to fallow. Apart from home gardens created around residential areas the distance to the nearest farms is about 2 km while farthest farms are about 7 km. Problems faced in farming include crop pests and diseases such as blight, bacteria wilt, stem borers, ants, rat mole, post harvest losses, high costs of fertilizer, low market prices of farm produce. No credit modern facilities exist in the village, except njangi groups. Storage of farm produce is mostly at home, either on the floor, in barns, bags or on the roof.

26. Forest based activities: Forests are scarce in Kitiwum and beekeeping is carried out on a reduced scale because of the insufficient nectar producing trees.

27. Land tenure: land and other property are inherited mainly by male children only.

#### 28. Water sources

Kitiwum has portable water harnessed from springs at Berlem and Ntolav. Mbudarang, Maan, Taakov and Roomdzev springs are potential catchment sources to the community but have not been exploited to provide portable water. The location of these water sources are presented in the resource map in Annex 4. Main problems faced include shortage of water during the dry season due to reduced water volumes, bush fires in the catchment areas, long distances to get to springs and not all quarters have portable water connected. Kishiy, Mokoo and Mbowen are still to be connected. Catchment management is by a water management committee, with a caretaker in charge of day to day management. Problems faced by the water management committee include among others difficulties in raising funds to motivate the caretaker, presence of eucalyptus around spring sources, bush fires at the catchment and the need to exploit other water sources for local consumption. Possible solutions to these problems include destruction of eucalyptus around water sources, enrichment planting, fire tracing and exploit other catchments.

## NGOMRIN

- 1) Village name: Ngomrin
- 2) Administrative location: Upper Dzekwa, Jakiri Sub-division. Bounded to the north by Vekovi, west by Nkar, east by Nkartsen, south by Sop and northeast by Wvem.
- 3) Project area: Wvem cluster
- 4) Population size: 1800 inhabitants, in 9 families
- 5) Average household size: 7.8  
Age structure: 0 - 21years: 40%, 22 - 55 years: 36%, 56 - 60 years: 22%, > 60 years: 2%
- 6) Male-female ratio: - 41% : 59%
- 7) Family structure: Monogamy: 98%, Polygamy: 1%, Single parents: 1%. Polygamists are mostly title holders namely Fais and Sheys.
- 8) Ethnic composition: Nso: 81%, Oku: 19%
- 9) Religions: Roman Catholic - 99%, Presbyterian - 1%
- 10) Settlement pattern: linear and clustered.
- 11) Housing: Over 95% are constructed with sun-dry mud bricks and roofed with either thatch or corrugated aluminium sheets. Very few are constructed with concrete blocks and few are plastered with cement.
- 12) Inheritance: Property is inherited by sons and in most cases shared among the male children by the father. In case the father dies without sharing his property among his children the first son inherits all the property and shares them with his brothers.
- 13) Migration:  
Villagers migrate between February and May to other villages, especially in the plains to provide hired labour. Youths also travel out to other parts of the country in search for jobs.
- 14) Village head: Fai Mbiim
- 15) Number of quarters:
- 16) Chief structure and Village administration:  
The Fai of Mbiim is the founder of Ngomrin village, he came from Kitiwum village. Fai Mbiim is the 8<sup>th</sup> ruler and head of the Mbiim family in Ngomrin. The following 9 families constitute Ngomrin village:

No.	Name of Family	Origin of family	Proportion in village (%)
1	Nkim	Kitiwum	11
2	Kiih	Kifem-Mbiame	11
3	Ntam	Oku	09
4	Vikubam	Oku	10
5	Doh-Takong	Kitiwum	11
6	Mbisha	Kitiwum	12
7	Dui	Kumbo	09
8	Dzenkov	Sop	09
9	Mbiim	Kitiwum	14

The village traditional council is made up of Shufais, Fais and Sheys, members of traditional societies such as Mfuh and Jwem including some village elders. The Shufais are village advisers and representatives at the level of the Fon. Fais are heads of the 9 extended families that constitute Ngomrin. They are sub-

ordinates to the Shufais. Mfuh is a traditional society common in Nso land. In the past members of the Mfuh warlord society were warriors and led the community in wars and raids. Today they serve to disseminate information of common interest in and out of the village.

17) Village infrastructure:

- a) Health: the nearest health facility is the Integrated Health Center at Sop.
- b) Education: There is a Catholic Primary school and a Community primary school at Ngomrin.
- c) Market: There is no market at Ngomrin. The nearest market is at Sop.
- d) Electricity: None
- e) Communication: Telephone, radio and television coverage is quite poor in Ngomrin. There are however a few radio, mobile telephone and television sets present in the village.
- f) Access: Ngomrin is presently accessible by motor cycle, due to the very poor state of the road.
- g) Community hall: None
- h) Toilet: No public toilets however individual households have toilets within their premises.
- i) Bars / stores / restaurants

18) Government and private institutions

No government institution. Private institutions are mainly schools.

19) Village institutions: The following groups are found in Ngomrin village:

- a) Ngomrin Development Association (NGOMDA)
- b) Ngomrin Water Project Committee
- c) Wirdzelii Farming Group
- d) Bonghatari Women's Group (farming)
- e) Mfuh (men from Ngomrin and beyond)
- f) Jwem (Ngomrin men)
- g) Kwebiri (women and men in Mbiim family)
- h) Tanlaka (Women of Dui family)
- i) La-ah Binin Ghan Lansai (Women of Kiih family)
- j) Bime (women of Vikubam family)
- k) Chong (women of Nkim family)

20) Wealth and well being indices

Poor	Very rich
Thatch roof	Water and electricity in their homes
Depend on external assistance	Owns a car or motor cycle
Not married due of lack of money	Educate children in private schools
Mentally deranged	Donates towards village development
	Owns a good and house
	Able to pay school fees for children
	Owns livestock
	Pays community contribution

21) Economic activities

The main economic activity in Ngomrin is farming. Main sources of expenditure include health, household needs and entertainment.

No.	Activity	% Relative importance
1	Farming	83
2	Tapping	10
3	Livestock	05
4	Forest exploitation & unskilled jobs	03

22) Agricultural production

- a) Food crops: Maize, beans, potato, cassava, yam, cocoyam, sugar cane, huckleberry, banana
- b) Cash crop: coffee
- c) Commercial crops: potato, beans, maize
- d) Fruits: pear, orange, plum, pawpaw, mango, guava
- e) Home gardens: coffee, pear, mango, huckleberry, tomato, maize, potato, banana
- f) Other trees on farm: Raffia palm, kola nut
- g) Livestock: Livestock types reared in this village include local chicken, goats, sheep, a few cattle, and a few guinea pigs. Livestock are reared mainly for cultural and economic reasons. They are consumed on very rare and special occasions.

23) Farming systems:

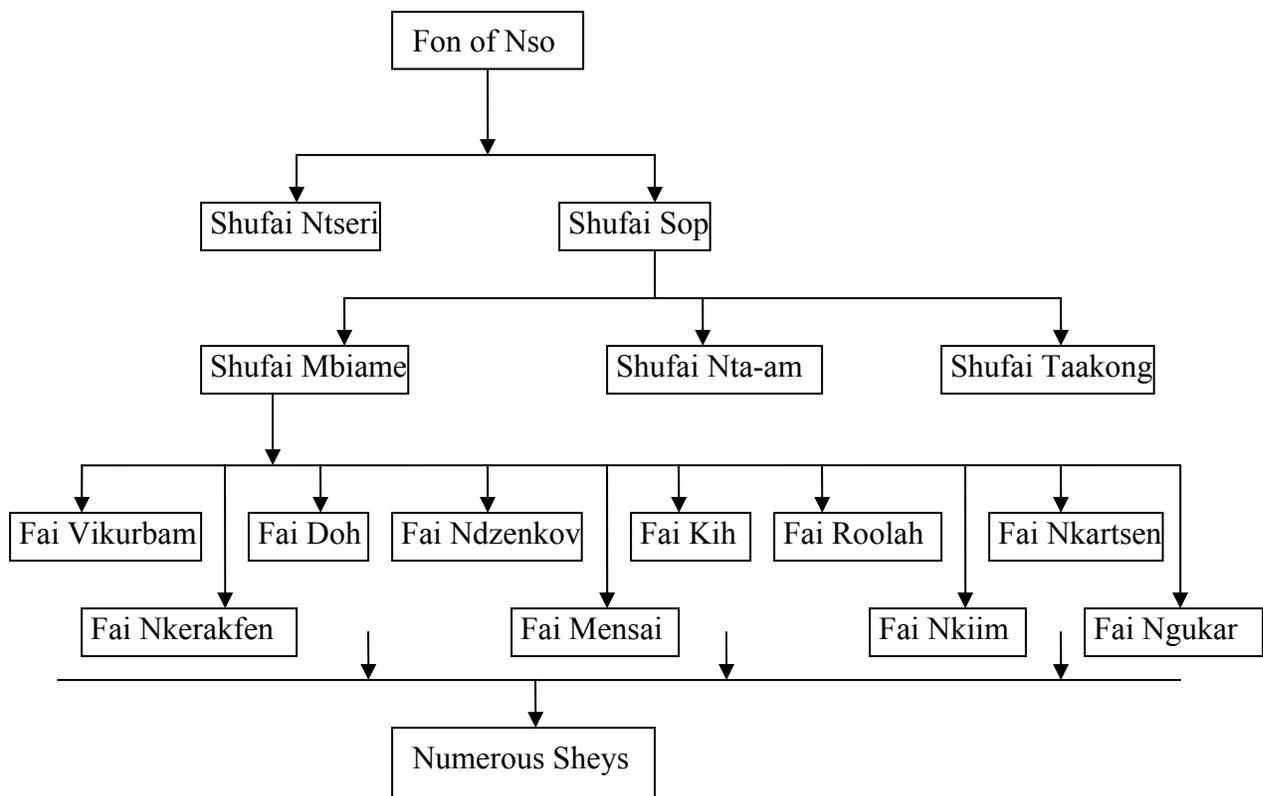
Problems related to farming include among others, lack of farming tools, limited fertile lands, lack of storage facilities, inadequate farm labour, low prices of food crops, limited knowledge of improved farming techniques and poor accessibility into the village due to poor roads. Over 90% of the farmers cultivate maize, the staple food with nitrogen-based fertilizers. Prices of fertilizers have increased greatly and almost outside the reach of the common man. In addition, most farmers are not familiar with application fertilizer techniques.

24) Forest based activities: Very few persons in the village practice bee farming.

25) Water sources

Four of the nine families in Ngomrin receive portable water from the Sop catchment at Wvem through Sop Water Management Committee. The other families obtain portable water from a different catchment source. During the dry season when there is water shortage, villagers get water for domestic use and market gardening from the stream which runs through the village. The main problem faced is related to the ageing asbestos pipes which are frequently damaged and need replacement by either plastic or galvanized pipes. Every household contributes 1000 FCFA towards maintenance of the water supply system.

- 2) Village name: Sop
- 3) Administrative location: Jakiri Sub-division
- 4) Project area: Wvem cluster
- 5) Estimated population size: 7000
- 6) Average household size: 6.2
- 7) Age structure: 0 - 21 years = 58%  
22 - 50 years = 31%  
50+ years = 11%
- 8) Male-female ratio: Male population is markedly less than females
- 9) Family structure: Monogamy - 80%, Polygamy - 5%, Single parents - 15%
- 10) Ethnic composition: Nso - 95%, Other North westerners - 3%, Non Cameroonians - 2%. Most of the non natives are workers in the private and public sectors.
- 11) Religions: Roman Catholic - 60%, Presbyterian - 30, Baptist - 10%. The Roman Catholic Church was the village. As in most villages in Nso land, ancestral worship is widely practiced both by church and non church goers.
- 12) Settlement pattern: Linear, nucleated and clustered. Clustered housing is constructed mostly by heads of extended families, in most cases having a single polygamous household.
- 13) Housing: Sun-dry mud bricks not plastered - 95%, cement concrete or plastered mud bricks - 5%. Most houses have a living room, three sleeping rooms, an external kitchen and toilet.
- 14) Inheritance: Male children generally inherit their father's property. In the absence of a will and in case of sudden death of the father the extended family head may entrust the property to the first child who may be a male or female. Land is generally inherited by male children but in the absence of a male child the head of the extended family may entrust the land to the father's brother.
- 15) Migration: There is seasonal migration by inhabitants of Sop to farm in other communities such Ber, Limboh, Wahsi, Gwarrkang, Bui and Nkuh due to scarcity of land in Sop. Others migrate to towns in search for jobs.
- 16) Village head: Shufai Sop
- 17) Number of quarters:
- 18) Quarters and quarter heads:
  
- 19) Chief structure in Sop village:



- 20) Village administration: Sop has a traditional council made up of 25 members appointed from the different quarters in the village headed by Shufai Sop. Other members of the executive of the traditional council include Ghamogha Patrick (Vice President), Edward Banakeng (Financial secretary), Tangwa Romanus (Secretary), Fais and Sheys as advisers. The traditional council oversees general village administration.
- 21) Village infrastructure:
- Health: An integrated health center is present in Sop which serves the inhabitants of Sop and neighbouring villages like Ngomrin. There are better equipped government and church-based hospitals in Kumbo which serve the population in Bui Division and beyond. Traditional medicine is practiced in this village and inhabitants use both modern and traditional medicine depending on their level of awareness and type of disease.
  - Education: 5 nursery schools, 4 primary schools, 4 secondary schools

Nursery Schools	Primary Schools	Post Primary Schools
Community Nursery School Nkartsen	Catholic Primary School Sop	Government High School Sop
Catholic Nursery School Sop	Government Primary School Sop	Sar SM Sop
Community Nursery School Kinkardze	Government Primary School Kimaar	Saint Sylvester Catholic Comprehensive College
Community Nursery School Kimaar	Community Primary School Nkartsen	CEAC
Private Nursery School Taavisa		

- Market: There exists a market in Sop which holds once every 8 days on Kiloveey. It is poorly constructed, with few temporal stalls and several traders selling in the open on both sides of the Bamenda - Kumbo highway. There are also women who sell various foodstuffs along the road at the village square on a daily basis.

- d) Electricity: Sop is connected to the national grid but not all quarters and households have been installed.
- e) Communication: There is mobile telephone network coverage, television and radio signals are moderate.
- f) Access: Sop village is located along the Bamenda - Kumbo highway. Its quarters are well defined and easily accessible by earth roads.
- g) Community hall:
- h) Bars / stores / restaurants:
- i) Government and private institutions: these include schools and Integrated health center.

22) Village institutions:

Apart from traditional societies there exist farming groups which include among others, Kira (Liy won tse), Bees and mixed farming group (Taavisa), Wiratur Farming Group (Nkartzen), Coffee Farming Group, Nkfei Farming Group (Ndzelah), Litingeh Farming group, Bongtati (Taavisa)

23) Wealth and well being indices

Wealth and well being indicators of greatest importance include the ability to meet basic household needs, the size of houses and quality of construction material and the ability to meet children's educational needs at least in primary school, as presented in the Table below. Other indicators of well being include ownership of large numbers of livestock especially cattle, sheep and goats, possession of income generating enterprises, assets and basic utilities such as water and electricity. Human health is also quite important and a sick or disabled person is said to be poor. Villages are said to be rich or poor depending on the availability of basic social amenities such as good roads, safe drinking water, markets, electricity and health, communication and educational facilities.

Well being indicators in Sop

Poor people	Tally	Rich people	Tally
Cannot provide basic family needs (health, food, clothing)	23	Well constructed house, plastered, with many rooms	13
House is either small or in poor condition, with rudimentary furniture	16	Able to meet basic family needs	10
Cannot provide children's school needs regularly or educate them beyond primary school	13	Owens assets (car, motor cycle or television)	6
Little or no farmland or cannot afford fertilizer for his farm	8	Has money or salary earner	6
Sick, aged or disabled	6	Operates a business	5
Lazy, beggarly	5	Educates children as far as possible	5
No livestock	1	Land owner, has many farms or hires labourers to work on farm	4
		Owens livestock in large numbers	3
		Healthy	1
<b>Poor village</b>		<b>Rich village</b>	
No electricity, portable water (stand taps), road, poor bridges, school and health facilities.		Has electricity, road, good bridges, portable water, health services and mobile telephone network.	

24) Economic activities in Sop

Activity	% Relative importance
Farming	50
Livestock	8
Petty trade	25
Unskilled labour (jobs, bricklaying, etc.), carving, tapping, beekeeping	17

25) Agricultural production

- a. Food crops: Maize, beans, potatoes, banana, sweet potatoes, yams, cocoyams, plantain, cassava, bitter leaf, cabbage, huckleberry, groundnut, pumpkin, okro, cow pea.
- b. Cash crops: Coffee
- c. Commercial crops: beans (40%), maize (30%), potatoes (5%), other crops (25%)
- d. Trees on farm: Farmers believe that the food crops planted do not need shade and because most of them do not have enough land they maximize every available space and keep trees away. Although they believe trees may improve soil fertility they have to make a choice as to what type of trees to plant and what quantity. A few trees are grown either in home gardens or on farms to control erosion, serve as wind break and to provide shade, food, litter to improve soil fertility, cash income and medicine. Examples of common trees on farm include kira (*Prunus africana*), pear, guava, tephrosia, caliandra, kola nut and eucalyptus. Eucalyptus is mainly cultivated to provide timber for construction and firewood. Increasingly pear is grown for income. Other trees farmers would like to plant in their farms include mbaashiv, kijam, kidzeen, linnjang, sem, korin, yir, toof, mango, pawpaw, tzem, kiwuv, kindzeng, fang, mahogany, lunjang, njangsang, liv, nkuv, aloe vera, eucalyptus, bush mango, leucaena and acacia.

A Non Governmental Organization (NGO) called Africa 2000 established a nursery having tree species like prunus, fang, jaay, mysopsid, and polysia in Sop. Trees for the Future, another NGO also established a tree nursery at Sop and donated the trees to be planted on individual farms and at the water catchment at Wvem. The trees included among others bee loving species, and species that could prevent drought. Some farmers still plant trees either on their farms or in home gardens and common species planted are kola nut and prunus.

- e. Livestock: Livestock types found in Sop include goats, local chicken (fowl), pigs, cattle, ducks, rabbits and guinea pigs. About 90% of the interviewees had one or more livestock types and those who do not have at least fowls may have lost some during the epidemic of February and March 2008. HPI trained farmers on rabbit and improved poultry production but activities did not continue especially after the end of the project due to disease outbreaks and lack of ready market for the improved poultry. Livestock buyers attend the Sop market which holds once every eight days on Reveey.
- f. Farming systems  
Home garden: Crops grown in home gardens include maize, beans, potato, tomatoes, onions, water leaf, pawpaw, guava, garden eggs, kola nut, orange, pear, spices and coffee.  
Mixed crop farms: crops grown include potato, maize, beans, yam, vegetables, cocoyam, banana, pear, pineapple, cassava, groundnut, aloe vera and coffee.

26) Forest based activities: beekeeping.

27) Land tenure: land is acquired through inheritance, purchase, borrowed and gift. Land borrowed or received as a gift is compensated for by an initial token of a calabash of palm wine and a local chicken, and later annual gifts of defined measures of maize, usually one tin.

28) Water sources

The main water sources in Sop are portable water distributed through stand taps, streams and springs. Of these sources, tap water is most widely used in the community. Streams are used especially during the dry season where water shortage is common and much more by inhabitants in quarters which do not have stand tap installations. Rain water is mostly used during the rainy season.

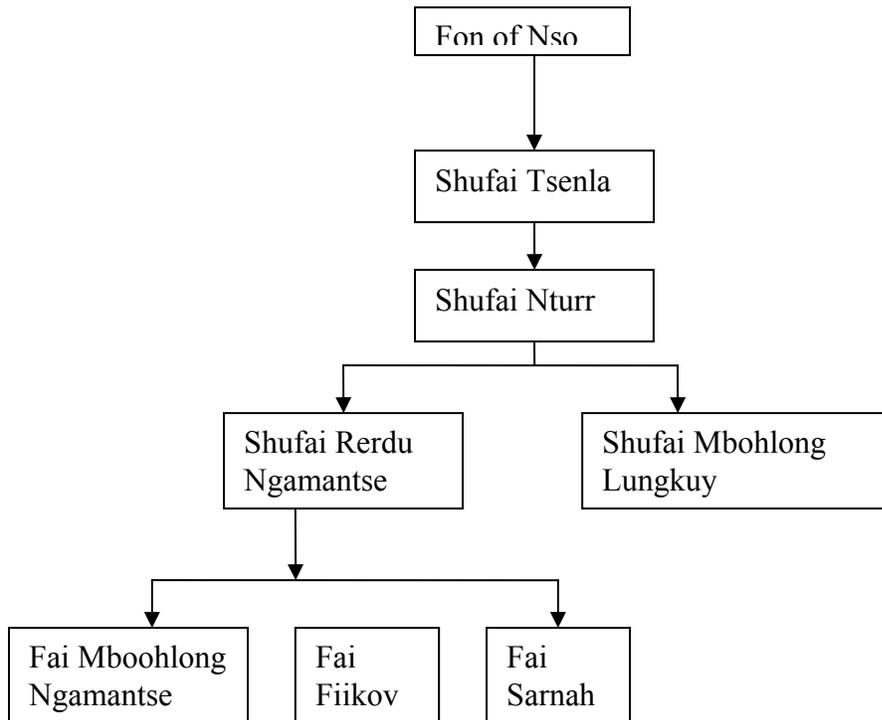
Sop's tap water is captured from the Luun catchment in Wvem village and water related activities are coordinated by the Sop Area Water Management Committee. The committee has 15 members comprising 8 executive officers headed by Mr. Lontum Felix and delegates (representatives) from the different quarters. They meet monthly to review water situation in the community and coordinate activities related to water supply and catchment management. It has extended water to some parts of Ngomrin village. Generally villagers are levied a minimal annual fee of 400FCFA for women and 600 FCFA for the maintenance of the water supply system.

Problems related to water supply include shortage of water during the dry season, broken asbestos pipes that are badly in need of replacement and which causing intermittent water supply, insufficient number of control valves and stand taps, the need for demarcation and protection of catchment, insufficient materials to extend stand taps to all quarters in the village and lack of finances to effectively manage the water supply scheme.

## **KIKAIKELAKI**

- 1) **Village name: Kikaikelaki**
- 2) **Administrative location: Kumbo Sub-division**
- 3) **Project area: Kitiwum**
- 4) **Estimated population size: 4000**
- 5) **Average household size:**
- 6) **Male-female ratio:**
- 7) **Age structure: 1 - 20 years: 40%**  
21 - 60 years: 55%  
> 60 years: 5%
- 8) **Ethnic composition: Nso: 95%**  
Noni: 3%  
Others: 2%
- 9) **Family structure: Monogamy: 75%**  
Polygamy: 10%  
Singles: 15%
- 10) **Inheritance: Inheritance is patrilineal.**
- 11) **Religions: Roman Catholic - 40%, Presbyterian - 25%, Islam - 15, Baptist - 15, Christian Believers - 5%.**
- 12) **Settlement pattern: Linear, dispersed, nucleated and clustered patterns can be observed in the village.**
- 13) **Housing: most houses are constructed with sun-dry mud bricks and corrugated aluminium roofing sheets. The quality of finishing of a building often is an indication of the wealth status of the house owner. Wealthy house owners plaster the floor and walls with concrete and in some cases paint the walls. Others use cement blocks to construct the walls of their houses.**
- 14) **Migration: Farmers migrate to farm in Mbaw, Nkuv, Dihri and Tarkijah at the start of the farming season. Migrant workers come to Kikaikelaki from Kiyan, Bamkikaai, Mba'a to provide labour during farming seasons.**
- 15) **Village head: Shufai Tsenla**
- 16) **Number of quarters:**
- 17) **Quarters and quarter heads: Quarter names are Bevyai, Ta-aviban, Kcast, Waingolum**

18) Chief structure:



Fai Kihkuy, Fai Kihtsen, Fai Mbingiy, Fai Kah, Fai Tang, Fai Nkoobii, Fai Shuinsa-an, Fai Ngamantse, Fai Kuylah, Fai Kitoo, Fai Minjeng, Fai Sarbiy, Fai Vingom, Fai Jah, Fai Kintseh Kenjam, Fai Kintseh Kegwan, Fai Mbiim.

19) Village administration: Village has a traditional council headed by Fai Mbohlong Lungkuy and it is responsible for the political, social and economic development of the village. All the Fais are members of the traditional council. Ongoing development projects include construction of village market, opening of road to Government Secondary school Kikaikelaki, construction of bridge linking Mbohlong and Ngamantse. Traditional societies include Mfuh, Jusin, Meshev, Mikuv

20) Village infrastructure:

- a. Health: Baptist Health Center at Tsenla, with resident Doctor, 6 nurses, laboratory and pharmacy. Another Health Center is under construction at Ntonghie.
- b. Education: 5 primary schools and 1 Government secondary school are present. Secondary school in its second year and undergoing construction works. Government technical college approved for Kikaikelaki but not operational. The buildings of the different primary schools are in need of either renovation or proper construction. Primary schools are:
  - Government Primary School Bevyay
  - Catholic School Waih Ngulum
  - Presbyterian School Tarkibari
  - Cameroon Baptist Convention Tsenla
  - Islamic Primary School Taviban.
- c. Market: A market exists at the main junction of the village and under construction. Traders come mainly from the village and from Kumbo. Main items sold are food crops such as potatoes, beans, vegetables and occasionally maize.
- d. Electricity: Over 75% of the population use electricity from the national grid; about 7 private generators.
- e. Communication: Mobile network signals are received. Orange has full coverage while MTN has partial coverage, received in specific areas.

- f. Access: all roads within the village are earth roads, dusty during the dry season, muddy and slippery during the rainy season.
  - g. Community hall: Well constructed hall
  - h. Toilet: No public toilet. Individual households own fairly well constructed private pit toilets
  - i. Bar / restaurant / store: there are at least 10 bars, 9 restaurants, 22 provision stores and numerous palm wine drinking houses in Kikaikelaki.
- 21) Government and private institutions  
The main government institutions include schools and health facilities.
- 22) Village institutions  
These include traditional societies, njamgi groups, Coffee cooperative union, Credit union collection office and farming groups such as Momngeh (Taaviban), Sosum (Bevya-ai), Liynggeh (Bevya-ai), Bongatar (Tsenla).
- 23) Wealth and well being indices  
Poor people are described as disabled, lazy, does not reason properly, people with no formal education and single parents.  
Rich people are said to be cattle owners, hardworking, positive thinking person, and also traders in various articles.
- 24) Economic activities  
Sources of income include farming (40%), professional skills (20%), carpentry, bricklaying, palm wine, unskilled labour such as splitting of wood and providing farm labour, beekeeping, petty trade (8%) and animal husbandry (30%). Over 95% of the population is involved in farming.
- 25) Agricultural production
- a) Food crops: Main crops cultivated for food and commercial purposes include maize, beans, potato, yam, sweet potato, cabbage, cowpea and huckleberry.
  - b) Cash crop: The main cash crop produced in the area is coffee, and is often found in home gardens. It is sold at the coffee cooperative based in the village.
  - c) Commercial crops: These are beans, potatoes and maize.
  - d) Trees on farm: few stands of kolanut trees are found in most home gardens, for cultural and economic reasons. Other tree species that may be preferred on farm include shebang, prunus sp., tephrosia sp. and korin.
  - e) Fruits: Fruits grown include pear, kola nut, orange, guava
  - f) Livestock: Livestock types include goats, pigs, fowls, rabbits, cows, sheep, guinea pig. As in other villages there are periodic disease outbreaks affecting goats and fowls at the onset of rainy season.
- 26) Farming systems: mixed crop farming and home gardens. Home gardens are mostly for subsistence. Average farm size is about one hectare. Common problems faced by farmers include low food and cash crop prices, high costs of inorganic fertilizers, farm pests, post harvest losses from weevils and food rot. Farmers trek long distances in search of fertile soils. Home gardens are an important part of household food security. Trees on farm include kira, kuuf, kilulong, femnim, wuuf, saringang, kidzemm and kijam.
- 27) Forest based activities: beekeeping is practised
- 28) Land tenure and land use  
Land use at the catchment: The area set apart and fenced for the catchment is about 2 hectares. Farming is going on around within the catchment area in preparation for tree planting. The catchment is surrounded by grazing land although their effect on the catchment is minimal. Problems related to catchment management include presence of eucalyptus around the catchment, no live fences and bush fires. The catchment is managed by Kikaikelaki Development Association (KIDA). KIDA organizes fire tracing, digging of trenches, routine patrols and manual labour for

specific tasks to be carried out by the community, such as digging of trenches for pipes, construction of public buildings and road maintenance.

29) Water:

Main water source is spring captured from Ntonghie and distributed to various quarters through stand taps. Water shortage is recorded between January and April in Ta-aviban, Taakibahri, Tsenla, Waingoilum. Water is rationed during shortages to flow during morning and evening periods from two existing tanks. Another spring at Ntor has been earmarked for capture to improve water availability in the community. Stream sources include Njii and Kinsa-an.

## *RO-OHKOV*

1. Quarter / Village name: **Ro-ohkov quarter**, Jakiri
2. Administrative location: Jakiri Sub-division
3. Project area: Wvem cluster
4. Population size (quarter): 1500
5. Ethnic composition: Nso - 75%, Nkambe - 10%, Oku - 6%, Santa - 4%, Hausa - 3%, Metta - 2%
6. Religions: Traditional religion, Roman Catholic, Presbyterian, Baptist, Islam, Deeper life, Full Gospel Mission.
7. Settlement pattern: Linear, nucleated
8. Quarter/ Village head / Sub-chief Jakiri: Fai Ro-ohkov (took office in 1970)
9. Landlord: Fai Ro-ohkov
10. Income sources: Traditional medicine: 50%, business: 20%, raffia palm: 25%, farming: 5%.
11. Village infrastructure:
  - a. Health: Traditional medicine is practiced. Fai Ro-ohkov is a prominent traditional healer, with wards for patients within his premises. Storey building under construction to house patients from distant places. Health Center situated about 1.5km from Ro-ohkov quarter.
  - b. Education: Presbyterian School Jakiri, having about 450 pupils studying in well constructed classrooms and good furniture.
  - c. Market: Main market center is in Jakiri town
  - d. Electricity: Jakiri is connected to the national grid. Households subscribe and pay monthly based on consumption.
  - e. Communication: Full telephone network, television and radio coverage
  - f. Access: Earth roads
12. Agriculture: Fai Ro-ohkov has an extensive home garden with food crops, livestock and trees. The home garden extends into a small tree plantation, raffia bush and natural forest. Food crops are intercropped and livestock are either tethered in fallow plots or left on free range.
13. Water:

Fai Ro-ohkov has a small private catchment which supplies water to about 3500 inhabitants in Ro-ohkov and neighbouring quarters in Jakiri. Water shortage is experienced between January and April. Water flow is regulated, supplied mostly in the mornings and evenings during this period to prevent overcrowding. The tank and pipes used in this installation are small. There is need for a larger tank and bigger pipes to facilitate water flow and also for a second catchment to be exploited. In addition, more trees need to be planted around the catchment to improve on the water table. The catchment owner had contact with Africa 2000 Network in 1988 and was trained on tree planting techniques. He has planted several trees species in his home garden for medicinal, agro-forestry, food, fuelwood and construction purposes.

## ANNEX 2: USEFUL PLANTS IN SURVEY AREA

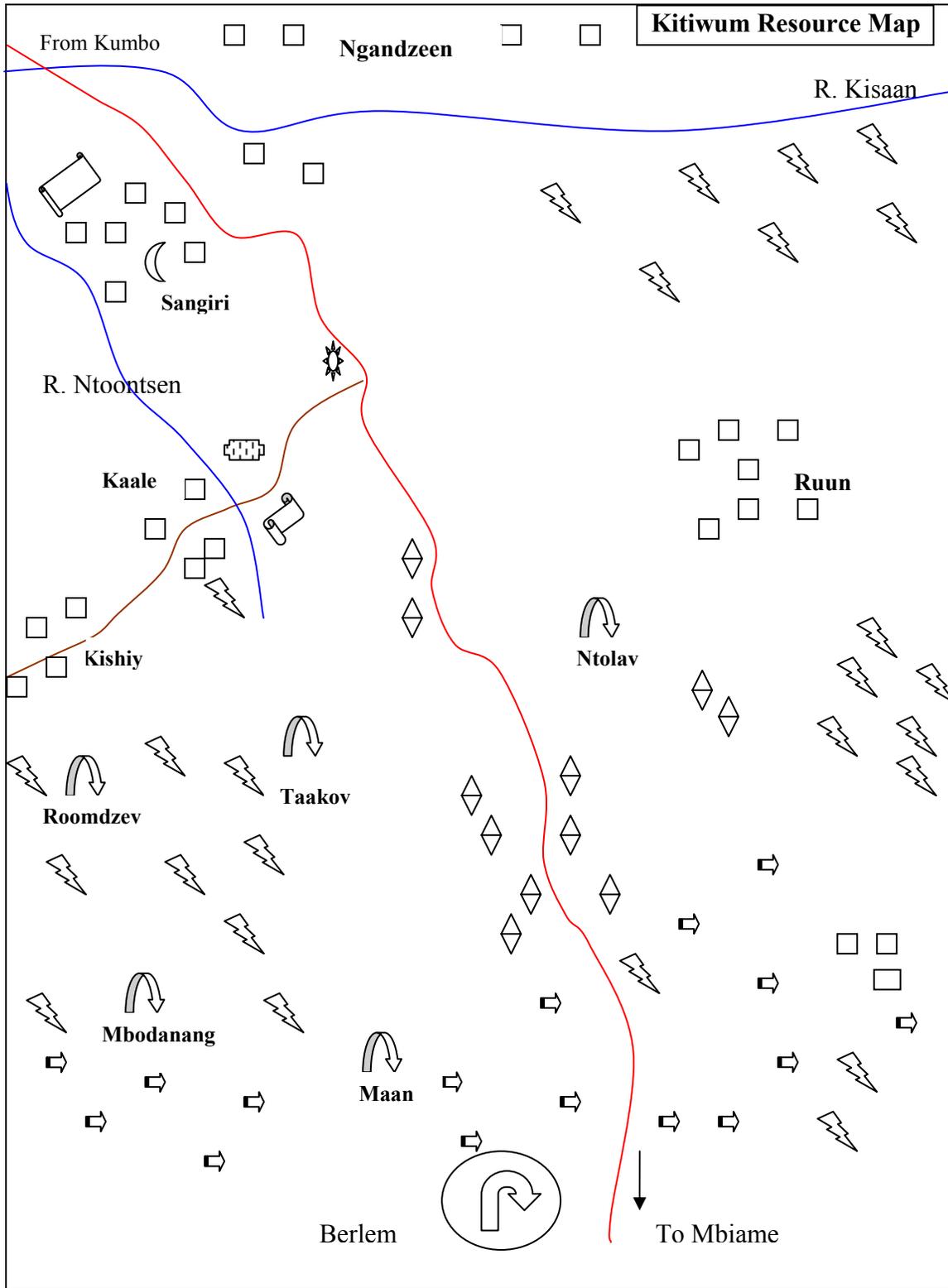
No.	LOCAL NAME	COMMON NAME	SCIENTIFIC NAME	USE
1	BAVRA			MEDICINE
2	CHIICO	TREE TOMATO		SOIL FERTILITY
3	COBAKORIE			
4	DOGOYARO			MEDICINE
5	DOKOJE			
6	DZENG			
7	FAH	RED MAHOGANY	<i>ENTANDOPHRAGMA UTILIS</i>	TIMBER, MEDICINE
8	FANG	CHARCOAL TREE	<i>TREMA GUININSIS</i>	
9	FEMNIN	MILLITIA	<i>MILLITIA PINNERTA</i>	
10	FOPTAH	BLACK JACK	<i>BIDENS PILOSA</i>	
11	FRIGHAI			
12	GUATAMALA	GUATAMALA		FODDER
13	JAAI	STAR APPLE		BEE LOVING
14	JAAI		<i>ILEXMITIS</i>	BEE LOVING
15	KIBAI		<i>DOMBEYA LEDERMANNII</i>	
16	KIDZEEN	ANTADA	<i>ANTADA ABYSSINICA</i>	MEDICINE
17	KIDZEMM	FIG TREE	<i>FICUS SP.</i>	MEDICINE
18	KIGAN			
19	KIGHAVIR	AFRICAN IODINE	<i>SELEROCARPUS AFRICANUS</i>	
20	KIGHWEN	CARAPA		
21	KIJAM	CROTON	<i>CROTON MACHROSTYCHUS</i>	MEDICINE
	KIJOOR			INCOME
22	KILULONG	POLYSIA	<i>POLYSIA FULVA</i>	
23	KIMBUHNCHUM		<i>CRYSOCEPHALLUM MANNII</i>	
24	KIMVEVRE			
25	KINDZENG	STRANGLER TREE	<i>FICUS THORNINGII</i>	
26	KINKILIBA		<i>CASSIA SIAMAE</i>	
27	KIRA	PYGEUM	<i>PRUNUS AFRICANA</i>	BEE LOVING, MEDICINE, SOIL FERTILITY, SHADE
28	KIRARA	VITEX	<i>VITEX GRANDIFLORA</i>	INCOME
29	KIREM		<i>BRIDELIA SPECIOSA</i>	FOOD
30	KIRUN		<i>EMBELIA SCHMPERI</i>	MEDICINE
31	KISHEEIKENSAI KI			MEDICINE
32	KISHOH	NGO-NGO LEAF	<i>AFRAMOMUM SP.</i>	MEDICINE
33	KITOH		<i>IMPARCIEN SAKARIANA</i>	MEDICINE
34	KITSEI		<i>PROTIOIDES SP.</i>	
35	KIWAAI			
36	KIWARKERUM			MEDICINE
37	KIWOVI			
38	KIWUUF			MEDICINE, FUELWOOD
39	KIYATUUH			
40	KOHREN		<i>SESBANIA SESBAN</i>	
41	KORIM			SOIL FERTILITY
42	KORIN	NEEM	<i>AZARDIRACHTA INDICA</i>	

No.	LOCAL NAME	COMMON NAME	SCIENTIFIC NAME	USE
43	KUUF			
44	KWASEMIN			
45	LICCOT			
46	LIV		<i>PITOSPORUM MANII</i>	BEE LOVING, MEDICINE
47	LONGKINGHA			
48	LUUNJANG		<i>POLYSIA FULVA</i>	CARVING, BEE LOVING
49	MBAASHIV		<i>CANTIUM DUNLAPII</i>	MEDICINE
50	MBORFEN			MEDICINE
51	MBOVIIE			MEDICINE
52	MEHL			
53	NGAR	CASHEW NUT		FOOD
54	NKUV			
55	NSAIKI			MEDICINE
56	NTARMIR			
57	NTOV	FIG TREE	<i>FICUS SP.</i>	
58	NTUHBUN			MEDICINE
59	ROSEMARY			
60	SARNKAM		<i>ERITHRINA SP.</i>	
61	SEM		<i>MAESSA LANCEOTA</i>	
62	SHALLOT			
63	SHENJAN			
64	SHIBANG			
65	SHINJAANG	CASTOR OIL	<i>RICINUS COMMUNIS</i>	
66	SHINYUY			
67	TAMBAV			
68	TAMIEL			
69	VIKIVIR			
70	WIR	POTOCARPUS	<i>POTOCARPUS LATIFORLIUS</i>	
71	WNIVIWAN			
72	WUUF			
73	YIR			SOIL FERTILITY
74	YUWAH			
75		ACACIA	<i>ACACIA ANGUSTISSIMA</i>	SOIL FERTILITY
76		ARTEMISIA	<i>ARTEMISIA ANNUO</i>	
77		CALLIANDRA	<i>CALLIANDRA CALOTHRYBUS</i>	SOIL FERTILITY
78		CORDIA	<i>CORDIA DICHOTOMA</i>	CARVING
79		LUCAENA	<i>LUCAENA GLAUCA</i>	SOIL FERTILITY
80		TEPHROSIA	<i>TEPHROSIA VOGELLI</i>	SOIL FERTILITY, FUELWOOD
81		BRACHARIA		FODDER
82		SMALL LEAF		
83	MAJEEH			
84	SHWAAI			FUELWOOD
85	KIWVEN			FUELWOOD
86	KIJOOR			INCOME
87	KIJING			AGROFRESTRY
88	SESBANIA			
89		BUSHMANGO		
90		EUCALYPTUS		
91		NJANGSANG		

**ANNEX 3: COST OF FARM INPUTS AND MAIN COMMERCIAL CROPS**

ITEMS	QUANTITY	UNIT OF MEASUREMENT	UNIT COST	MINIMUM PRICE	MAXIMUM PRICE
<b>PLANTING MATERIAL</b>					
BEANS	1	TIN	5000		
MAIZE	1	TIN	2500		
POTATO	6	TIN	2,000	1,500	
<b>LABOUR</b>					
LAND PREPARATION	1		15,000		
PLANTING MIDENO BEANS	1	TIN	2,000		
PLANTING RED BEANS	1	TIN	3,000		
PLANTING MAIZE	1	TIN	1,000		
PLANTING POTATO	1	BAG	1,000		
RIDGING	1	HA	8,000		
WEEDING	1	HA	23,000	15,000	
HARVESTING BEANS	1	BAG	1,000		
HARVESTING MAIZE	3	BAG	1,000		
HARVESTING POTATO	1	TIN	500	500	1,500
<b>INPUTS</b>					
UREA				18,000	20,000
20.10.10				12,000	
COW DUNG				500	
<b>FOOD STUFF</b>					
MAIZE	TIN	1,200	2,000	1200	3,000
MAIZE	BAG			7000	14,000
BEANS	TIN			2500	5,000
BEANS	BAG			13000	30,000
POTATO	TIN	500	1,500	500	2,000
POTATO	BAG			3,000	8,000
I BAG = 6 OR 7 TINS					

**ANNEX 4: RESOURCE MAPS**



Key: Kitiwum Resource Map					
	Road		School		Integrated Health Center
	Stream		Farming area		Eucalytus forest
	Street		Settlement		Mosque
	Grazing land		Market		Kitiwum Catchment
					Potential catchment sources

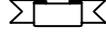


## Key: Wvem Resource Map

	Earth road
	Street
	Stream
	Settlement
	Farm land
	Luun Water catchment
	Kilum Forest
	Grazing land
	Eucalyptus forest
	Government Secondary School Wvem
	Government Primary School
	Islamic Primary School
	Catholic Nursery School
	Catholic Primary School
	Catholic Health Center
	Mfuh House
	Presbyterian Church
	Mosque
	Catholic Church
	Ardorate
	Quary
	Community hall
	Spring, Potential Catchment Source
	Cow fence



### Key: Mbiame Resource Map

	Main earth road
	River
	Street
	Modern well
	Proposed Community Forest
	Grazing land
	Fon's Palace
	Presbyterian School
	Government High School
	Guest House
	Government Technical College
	Catholic church
	Settlement
	Mosque
	Sub-divisional Office
	Catholic Agricultural Training School
	Water Catchment
	Sub-divisional Hospital
	Baptist Church
	Baptist School
	Agricultural Post
	Gendarmerie Brigade
	Farmland
	Eucalyptus Forest
	Market