

*Full Length Research Paper*

# Cameroonian protected Kilium-Ijim forests for the development of Oku forest fringe community

Zephania N. FOGWE<sup>1\*</sup> and Jude Kwei<sup>2</sup>

<sup>1</sup>Laboratory of Environment, Hazards and Sustainable Development, Department of Geography, Faculty of Letters and Social Sciences, Box 3132, Douala, University of Douala

<sup>2</sup>Department of Geography, Higher Teachers Training College, Box 63, Bambili, The University of Bamenda

Accepted 21 November, 2015

**Rural communities in forest fringes over the world depend on the forest resources for livelihood because forest eco systems are abodes of resources on which social life and economic development is anchored. Oku is such a community in Bui Division, Cameroon, on the edge of the Kilum-Ijim protected forest created as reserve in 1987. Primary and secondary data was used to identify ways people depend on reserves for social benefits and development like water and food resources, abode of the gods, as well as forest income generating activities. It evaluates the threats that the indigenes inflict on the biodiversity triggering degradation, lands capes clarification and related effects. The study identifies socio-cultural institutional setup and role play in the defunct Kilum Mountain Forest Projecting saving the forest from want on exploitation. Results show that the forest is a vital source of social benefits and economic development to the community so suggest that national institutions charged with the protection off rest double their vigilanceontheguardingactivitiesanddevelopalternativesourcesoflivelihoodto the people.**

**Key Words:** Bio diversity, off-reserves, social benefits, community, development, protected forest, reserve

## INTRODUCTION

Bio diversity is the variety of all forms of life on earth that is flora fauna and micro- organisms' (Nagle2000, UN1992b). Forest eco systems are biodiversity hotspots for food, fuel, and local pharmacopeia to the river in communities. Some 1.6billion people worldwide depend on forest resources (PRSP, 2002). Cameroon is rich in its floral biodiversity, making it second in Central Africa and fourth in Africa (UNEP, MINEF 1999; Gei 2008).Cameroon with 92% of African

ecosystems Africa in miniature and yields some 34% of the GDP(CBD2008).In the bid for sustainability of ecological stability and prevent specie decline, the Cameroon Ministry of Environment and Nature Protection has since 2008 created six categories of protected areas (national parks. Zoological gardens, wild life sanctuaries, fauna and florae serves and safari hunting zone) that today cover 13.38% of national space. Of these protected areas is the Kilum-Ijim Mountain Forest Reserve in Bui Division, North West Region, Cameroon created in 1987in collaboration with Birdlife International. It is a bio diversity hotspot with varied species of flora and

\*Corresponding authors: E-mail: [nfogwez@yahoo.co.uk](mailto:nfogwez@yahoo.co.uk)

fauna (especially the endemic *Banner man turraco*).

The inhabitants of the Oku forest periphery depend on it for its social benefits and economic development, mythical citadel of ancestral spirits and gods, portable water supply, source of varied local building materials like Indian bamboos, medicinal plants and products, cadre for bee farming, subsistent hunting, and provision of fuel wood, fruits and grazing land. The increase of population at the margins of the forest negatively impacts on the forest through overgrazing, poaching, forest fires, extension of farm lands into forest reserves, lack of conservation techniques in their exploitation activities and poor implementation of forestry and wild life laws by the local forest users within the indigenous tenure system that Rukuni (2009) associates four sets of rights:

- Use rights – rights to grow crops, trees, graze livestock, make permanent improvements and harvest natural resources as off reserves
- Transfer rights – rights to sell, give, mortgage, lease, rent or bequeath
- Exclusion rights – rights to exclude others from using or transferring
- Enforcement rights – refer to the legal, institutional and administrative provisions to guarantee use, transfer and exclusion rights

Poor management causes structural and functional decline of ecosystems leading to bio diversity degradation and lands cape scarification. Pre-emptive of this and in the wish to obtain the '3Es' – empowerment, economics, environment (Roe et al. 2009) socio-cultural institutions were set up to protect the forest through sensitization of stakeholders on the virtues of forests, community monitoring system as well as socio-economic implication of communities in forest conservation exploitation. Participatory Forest Management (PFM) program in early 1990s with three policy objectives of improving forest quality, livelihoods and governance at local level (Blomley et al, 2008) which follows two approaches either joint forest management or community based forest management. There is thus a shift to management partnerships with communities as Ngum III (2001) opined that the Kilum-Ijim Forest Reserve is a valuable cultural asset for local deities such as their gods (*lumeto* in Ngashie

village) where annual sacrifices are offered. Aya Kassa (2000) had observed conditionality for proper forest management for the provision of multi-dimensional benefits to local communities as Oku with structured socio-cultural organs to con serve the forest. Despite the social, economic and environmental fall outs of the forest, Enchaw (2009) noted live stock grazing in the Nchii, Mbai and Emfvee-Mill community forest of the Kilum-Ijim Mountain Forest Reserve as a deterrent to forest resources regeneration especially in the dry season.

The aim of this study is to probe into how the Oku community depends on biodiversity off-reserves for its social benefits and economic enhancement as well as examine spatial indicators of un-sustainability. This is on the assumption that forest off-reserves exploitation in the Kilum-Ijim Mountain Forest Reserve has a direct positive ramification on the social and economic enhancement of Oku which inversely relates to the forest conservation strategies whence the emergence of countering socio-cultural institutions that show some limitations.

## METHODS AND TECHNIQUES

The study area falls between latitude 6°5' to 6° 15' North and 10° 20' to 10° 40' East stretching on 232 km<sup>2</sup> of the 36 villages being 87,720 inhabitants as of the 2005 Population and Housing Census. This study covers the 25 year period from 1980 to 2015, covering the years of the 1994 Law on the Environment, the functional period of the KMFP and its decentralization to the community as well as the emergence of socio-cultural institutions for forest protection. Roe et al (2009) established that in Cameroon, revisions to this forestry law have enabled community associations and cooperatives to acquire exclusive rights to manage and exploit up to 5,000 ha of customary forest, under a 15-year contract, resulting in the creation of over 100 new Community Forests.

Forest users were selected along a West-East transect of Okurep resenting the 13villagesextending from Lake Okuto Mbokenng has where the Kumbo Central Sub –Division shares boundary with Kilum-Ijim Mountain Forest Reserve. Data was collected from the field through three complementary techniques

involving questionnaires, informal direct and group interviews and direct observation of the activities of the users. Some 65 questionnaires were administered to forest users being about 5 questionnaires per village. Users were systematically randomly sampling from between hunters, traditional herbalists, wood exploiters, bee farmers, and wood carvers. Primary data collected was complemented secondary data from Elak Council Office, Oku Forest Management institutions, Oku Tourism Board, as well as published and unpublished documents from varied sources. Ethno-botanical surveys were based on the approach of Ndenecho (2006,2007) to establish the ecological role provider of forests for water, food and other activities. From this periodic reconnaissance and field observation was made to determine the social benefits and economic development as human population impact on the biodiversity.

## RESULTS AND INTERPRETATION

The results show that the forest can be valorised into wood and non-wood forest products that could be consumable or non-consumable for social and development direct and indirect benefits. Non-wood direct forest consumable off-reserves for social benefits. Though this may include an inexhaustible list of construction poles, tourism, fences, firewood, medicines, charcoal, crafts, ruminant forage, fencing poles, food supplements, baskets, beverages, pestles and mortars, carvings, ornamental roots, wild foods, drinking water, medicinal herbs, and bush meat, this study shall focus on the following:

- **Source of portable water:** The forest reserve acts as a water shed anchored on the top of volcanic rocks where many streams from Oku take their rise such as Mfee, Mill, Kedzem, Kwawo and Lang. There are also a multitude of springs that have been harnessed by the adjacent villages to supply community drinking water. Villages with community water projects harnessed from the forest catchments are Nguvinkei II, Manchok, Ngashie, Keyon, Jiyane, Simonkoh, Mbockenghas, Tankiy and Kevu. Some villages that are sited much further from the forest have entered into common

community understanding for the common use of this forest given resource and so the portable water has been piped to their own communities. Such harmonious understanding dwells between Nkwi and Nguvinkei II village communities such that portable water from Nguvinkei II forest catchment is extended to Nkwi village that is far from the forest.

Such harmony around a common property forest resource therefore contributes to common understanding and that cements rural community bonds of peaceful coexistence which becomes an overall social benefit.

These village community water projects are harnessed with funds from community member contributions and levies, as well as from external donations by community social welfare institutions belonging to the Kumbo Diocese through the Elak parish that has been providing frantic financial assistance to these water projects. In the year 2000 the Jike jim Water Project was supported with the sum of 16million FCFA and in 2002 the Nguinkei II Water Project was assisted with 4 million FCFA according to records of the Elak parish office consulted in August 2015. This church donor and others are examples of assisting the communities valorise the forest water for good drinking water reducing risk of water borne diseases that could emerge in these communities.

- **Source of traditional pharmacopeia:** The Kilum - Ijim mountain forest reserve is a paradise of medicinal flora and fauna exploited by 245 registered traditional herbalists who in operate in Oku under the banner of Oku Traditional Herbalists Association. This does not include those operating as apprentices and not registered. Clandestinely. A declared annual income of 7,350,000FCFA by this activity is generated into Oku (not considering erroneous reporting by healers and healing activities rendered to relatives and friends that are not paid for). This revenue generated serves for the construction of private infrastructure houses, and improves of the general welfare and living standards of the herbalists. This boosts the social and economic development of Oku.
- **Hunting:** The reserve harbours many

**Table 1:** Distribution of rodent hunters and monthly income in Oku

Village	Average number of hunters	Average income	Total (FCFA)
Nguvinke II	3	10,000	30,000
Mbockenghas	2	7,500	15,000
Tankiy	1	6,000	6,000
Simonkoh	4	8,000	32,000
Manchok	9	12,000	108,000
Elak	7	12,000	84,000
Keyon	6	10,000	60,000
Lui	5	10,000	50,000
Jiyane	4	10,000	40,000
Jikejem	3	9,000	27,000
Mbockenghas	4	9,000	36,000
Mboh	5	10,000	50,000
<b>Total</b>	<b>54</b>		<b>538,000</b>

Source: Fieldwork, August 2015

types of animals and birds used as food and cultural marriage rituals as bride price is includes smoked animals from the forest. This went on until the forest was declared a reserve in 1987, and hunting in the reserve was prohibited from 1994 when the Kilum Mountain Forest Project was created and this decision was reinforced by forest patrollers of the forest project that Bird Life International instituted to track down culprits hunting the culturally cherished bird, *Bannerman tourraco*. In recognition of the shortcomings of these “command and control” approaches (for both people and forests), new, more people-centred approaches towards the management of forests (and natural resources more widely) became increasingly adapted (Blomley, 2013). In line the trapping of rodents and giant rats in the forest was not restricted. This compromise offered a source of employment to many forest hunters in Oku who specialized in trapping and selling the giant rats at between 700 to 1200 FCFA depending on the size. These rodents are tied in bundles of 10 commonly call Oku sardine are a protein delicacy in sold at prices varying from 700 to 1500 FCFA per bundle and per village (Table 1).

Forest hunting of rodents alone fetches the Oku community some 538000 FCFA each month not considering the catch offered as gifts or consumed by the hunters themselves. The villages of Manchok, Elak, Keyon and Ngashie have the highest concentration of hunters understandable by the high number of visitors in these villages that are in quest of fuel wood.

- **Source of food:** The reserve is a typical source of rural alternative food supplements inhabitants of the neighbouring villages (Table 2).

The onset of the rainy season comes with the abundance of some alternative food species in the Kilum- Ijim forest such as the climber *Rubus pinates* (*Bakoh*), shrub *Cunera longitilia* (*Kelylum*), herb *P. eoculenthus* (*Ndonkenkeir*),fungi or mushroom called *kelem* growing ideally on dead stems of wood species such as *prunus Africana* and *syzeum standi*. The mushroom harvesters are many because in addition to the villagers, students on holidays join the hunt from late March to late April. This is delicacy with outstanding medicinal and immune system virtues sold or consumed fresh and dry in Oku. Another supplement is the wild vegetable fruit called *Risbus piñatas* called *bakohin* Oku that ripens at this time in the forest. There is also the harvesting of an endemic vegetable in the forest known as *W. Hockeberies* called *kefom* in Oku. This forest vegetable is cooked and eaten by the Oku

**Table 2:** Categories of pro-poor community eco-tourism ramification in Oku

No	Direct effects Tourism activity	Tourism sector	Leakage	Oku community ramification
1	Game drivers, photographic safari	Wild life viewing	Yes	Employment with multiplier effect on Oku, Transfer of business skills, improved livelihood and human capital development
2	Privately run lodge and inns	Accommodation and heritage tourism	Yes	Supply labour and outscore some functions like agricultural produce
3	Camp sites run by villages or bodies	Accommodation	Yes	Job creation and empowerment
4	Community run accommodation facilities (camps, lodges and inns)	Accommodation	No	Use of local materials, capacity building and empowerment
5	Mobile safaris, camp sites through public-private partnership with the Oku community	Accommodation and wild life viewing	Yes	Job creation and empowerment
6	Camp sites, private public partnership with Oku community run accommodation with a heritage site to provide interpretation	Accommodation and Heritage tourism	No	Job creation through outsourcing to Oku, employment opportunities in heritage tourism activities, use of resources from Oku
7	Small and Medium Sized Enterprises in the craft, artefacts and souvenirs	Small and Medium Sized Enterprises	No	Quality issue, lack of business skills like accounting and marketing in the structures
<b>Secondary effects</b>				
1	Sourcing food supply from local community	Hotels and restaurants	No	Promote self-sufficiency and increase in food production ensuring sustainable livelihood
2	Village tour, selling of artefacts, souvenirs, local cuisine, dance troupes and groups	Cultural and heritage tourism	Yes	Promote cultural awareness, job creation, trade fair, lacking in administrative skills and access to tourists
<b>Dynamic effects</b>				
1	Community related activities like schools	Educational support	No	Empowerment of the community
2	Community related activities like clinics	Medical support	Yes	Improved livelihoods and productivity
3	Infrastructure development	Roads and infrastructure	Yes	Additional employment

community during the special annual ceremony Oku Fon's palace between the months of March and April known as "the cutting of palace grass" during which inhabitants of Oku turn out to cut grass used by the Queen Mothers in lighting of fire and other rituals in the palace. Information from Oku Fon's palace during fieldwork in August 2015 stated that the exhaustion of this forest vegetable due to over exploitation makes it to be now substituted with huckleberry. These forest products are source of vitamins and revenue to the forest users and to the people of Oku Non

wood direct forest space as an income generating resource

- Bee farming Oku is reputed for the production of white creamy honey from the the forest Reserve because of the endemic plants species it has like *Nuxia congesta*, *Capa procena* and *Eugenia gilgils* from which collected nectar is used in the production of white creamy honey with high medicinal and nutritive value. This honey business has attracted so many farmers into apiculture for their

livelihood (Fornkwa, 2013). A tin about (20 litres) of raw honey in Oku sells at 40,000 FRS as of August 2015. This overall sale by affiliates of the Oku Bee Farmers Association is a significant income injection into the economy of the Oku community apart of honey being used in concoctions for traditional healing. Bee farming also yields other bi-products that are raw materials for artisanal industrial products.

- **Animal grazing:** The summit of the Kilum mountain Forest Reserve is pasture land for the Oku Grazers Association that by August 2015 owned over 3000 cattle, sheep and goats. Mixed farming runs alongside with grazers running small gardens of vegetables like cabbages by applying animal droppings. On Oku weekly market days some 15 goats from the forest rangeland are sold at between 20,000 to 40,000FCFA permitting a weekly income injection of about of 450,000FCFA into Oku from the sales of reared on forest pastures. Cattle sale (especially goats) and supply is particularly high in September when parents are in need of money for children's' school reopening, in December for Christmas preparations while rams are abundant during the Muslim feast of the ram (*tabaski*). Demand at this time soars up as wholesale buyers from Kumbo and other areas flock into Oku to acquire for bigger urban markets Bamenda, Yaounde and Douala.
- **Tourism and research activities:** Oku is blessed with a myriad of natural and human touristic and research potentials. The most prominent are the picturesque volcanic Lake Oku, the mountain itself (3011m) and volcanic scenery some waterfalls, the forest reserve laden with animal and plant species (some of which are found nowhere else in West Africa), a biodiversity with countless options of modern and traditional research as well as endemic plant and bird species. Records of the Oku Tourism Board examined during fieldwork in August 2015 reveal tourist coming from 29 different country and 5 different continent

destinations even from as far as Australia. Most African, European and American tourists and visitors do carry out research in the forest amongst with emphasis on its botany, geography and zoology. The researchers and tourists pay to the Oku Tourism Board for forest guides to accompany them into the forest not neglecting other expenditure in the form of hotel bills, transport fares and feeding in Oku with direct, secondary and dynamic effects (Table 2).

This income has a spread effect on the economy of Oku and can be harnessed to effectively alleviate poverty among the disadvantaged groups living adjacent to this forest reserve through direct (employment, small- and medium-sized enterprises, secondary: linkages/partnerships and dynamic effects: sustainable livelihoods (Haretsebe Manwa and Farai Manwa, 2014). Such ecotourism has become popular since the 1980s, both with conservation and development organisations looking for means of generating an income from protected areas, and with tourists from the richer countries looking for new experiences. Most significantly, ecotourism is seen as an opportunity for local people living in tourism destinations to gain positive benefits from tourism development and the conservation of forests and protected areas (Langoya and Long, 1998).

#### **Forest wood related off-reserves for development benefits**

- **Forest wood for fuel and building material purposes:** Over 90% of the people of Oku use firewood as a source of fuel. The 13 villages that surround the forest naturally are forest-dependent for fuel wood. In the villages surrounding the forest, some household members harvest forest wood mainly for domestic use whereas others harvest the forest wood for commercial purposes. On the contrary, fieldwork noted that villages located further away from the forest like those in Mbam zone and lower Shingah depend on dry palm bamboos, eucalyptus and other tree species as a source of fuel. Indian bamboo are also harvested and

**Table 3:** Distribution of forest wood vendors on Oku and income generated

Village	Number of vendors	Average monthly income per vendor (FCFA)	Total
Nguvinkei II	5	30,000	150,000
Mbockenghas	3	15,000	45,000
Tankiy	2	10,000	20,000
Simonkoh	4	20,000	80,000
Manchok	15	50,000	75,0000
Elak	10	50,000	500,000
Keyon	12	50,000	600,000
Ngashie	13	40,000	520,000
Lui	12	40,000	480,000
Jikejem	7	30,000	210,000
Jiyane	8	30,000	240,000
Mbocjikejem	6	25,000	150,000
Mboh	7	20,000	14,0000
<b>Total</b>	<b>104</b>		<b>5,235,000</b>

Source: Fieldwork, August 2015



Source: Fieldwork, August 2015

**Plate 1:** Firewood of a vendor Manchok, Oku

sold alongside firewood because it is used for the roofing of grass houses. Though the number of grass houses in Oku has declined drastically in recent times, Indian bamboos are used as ceilings in modern houses where they are placed and mortared before the real plywood ceiling is used. The cost of a bundle of Indian bamboo sells at 700 FCFA while a bundle of wood in Oku varies between 700 to 1500 FCFA in the dry and rainy seasons respectively. There is a variation in the demand and supply of firewood in Oku which is directly a function of economic activities in Manchok, Keyon and Elak villages and even Kumbo town that harbours the highest number of civil servants, restaurants and bakeries.

These are therefore the great pools of fuel wood consumption keeping prices permanently high

(the price per bundle of firewood in Elak, Sub-Divisional headquarter is never less than 1,000 FCFA. This has attracted the highest number of commercial firewood dealers to these villages. During the holidays primary school pupils and secondary school students join the race so as to provide for some school needs when the academic year reopens. Field inquiry in August 2015 revealed much variation in the number of commercial wood exploiters in the 13 villages that surround the forest (Table 3). Manchok, Elak and Keyon villages are the Oku central business districts as fuel wood is concerned because the demand at all times and seasons exceed supply (Plate 1).

The Lui, Ngashie and Keyon villages that are close to Elak have the highest demand for wood and so most vendors use two-wheel trucks to



Source: Field work, August 2015

**Plate 2:** Carved objects displayed in Oku Fon's Palace Museum

supply firewood to some bakeries, restaurants and households. Villages like Manchok, Nguvikei II and Simonkoh along the Oku-Kumbo road axis have sales points where firewood is bought and transported to Kumbo. Villages like Mbockeng has and Tankiy have the least number of commercial exploiters of forest wood because they have an abundance of eucalyptus. Revenue from the sales of firewood is used in the construction of houses, payment of school fees and other development related activities. Though community-based forestry has taken multiple forms, depending on the assortment of land-tenure systems, forest-use norms, wood demand, and social organization, among others factors in Africa (Raik and Decker, 2007), this forest in Oku brings development benefits anchored on people, nature, wealth, and power in its forest management initiatives.

- **Carving, works of art and decoration:** Carving is one of the ancient activities anchored on statutes, marks, wall frames, stall and other objects. The forest tree species that are used for carving are *Allopyllus bullatus* and *Foganrubescen*. The villages that champion carving artisanal industry in Oku are Manchok, Keyon, Lui, Jiyane, Mboh and Ngashie. This is because of their proximity to the forest which is the source of wood used for carving. (Plate 2) These carved objects in Oku are sold in Oku and some sold in Fouban. This activity has received a new impetus in Oku with the establishment of Oku Fon's Palace

Museum where carved objects are not only exhibited but there is a section where some of the objects are sold.

However, with an increase in the numbers of carvers in Oku and the need to protect the forest there is diversification from the use of forest species to the use of domestic species such as Eucalyptus, cypress, pear tree and kola nut trees. The objects also contribute to the growth of the tourist industry as Oku now has two museums being the Man chok Cultural Centre and the Oku Fon's Palace Museum Forest space signatures and socio-cultural responses of misguided exploitation Ijim-Kilum Forest has been subject to four clear phases of management over time that provide the context within which community-based forms of forest conservation are now being initiated. Since the early years of the last century state regulation of the forest gradually increased while community rights to manage and utilise forest off-reserves have progressively decreased. Simultaneously both commercial and local demand for forest resources have grown, resulting in rapid and severe forest degradation. In response to the perceived need to halt processes of forest loss and to conserve forest off-reserves in a way which both involves and benefits the forest-adjacent human population, the 1990s have seen the beginnings of a shift towards community based forms of forest management. There have been changing forest management regimes from high, mainly local, subsistence values, through rising commercial value, but increasing local opportunity cost of forest conservation and



gradual erosion of legitimate local economic benefit to the present effort to generate local economic benefits. This is a clear shift to community conservation paradigm

- **Established negative indicators:** The different activities aimed at giving the population that is forest dependent common social benefit and economic development has come along with some negative indicators. There exist poor exploitation techniques of wood from the forest, disregard of forestry regulatory laws hassled to over grazing at the summit of Mount Oku, illicit hunting of protected species like *Banner mans Touraco* because of high prices of its feathers, extension of farm land beyond their confines with the forest, harvesting of fresh wood of *Prunus African*, frequent forest fires breaking from activities of apiculturists or graziers and even rivalling communities which retard forest regeneration.
- **Socio-cultural perception response institutions in the conservation:** When the Kilum Mountain Forest Project was created and charged with the conservation closed down in 2004, the forest was divided up into sections of community forests and handed to communities to run using their socio-cultural institutions through the existing government and traditional institutions. This was a form of devolution of resource governance being such creation of autonomous realms of authority, responsibility and entitlement, with a primary accountability to the Oku constituency. In response Oku saw the creation Man chok of the Cameroon Gender and Environmental Watch (CAMGE) in 2007 to improve on the living conditions of the forest based children and women through a combination of strategies that would help the Oku community protect the forest at the same time as fight rural poverty, promote good environmental management, gender balance, as well as economic and sustainable development. In Oku, women and men have made use of different off-reserves in the forest, and thus had

Correspondingly different knowledge of forest off-reserves and dynamics, and different interests in the forest. Household procurement of firewood has been the responsibility of women, assisted by their children. When firewood is collected for sale, requires tools, is transported long distances, or becomes scarce, men increasingly become involved. These gender dynamics vary in Oku over time. The CAMGE is involved in forest regeneration by planting trees in the forest areas where there are no trees, of *prunus Africana*, training of bee farmers on methods of honey harvesting without out breaks of forest fires. Neom and Nick (2000) pointed out that *prunus Africa* is one of the most popular medicinal plants used by traditional herbalists in Oku and it is gotten from the forest.

There is environmental education activities targeting primary and secondary schools to build in them knowledge on importance of forest conservation. Non forest based income generating activities and skills are imparted into youths like tailoring, shoe mending, hair dressing, weaving and others with a long term effect to deviate their attention from the forest exploitation as a source of individual and community livelihood (Figure.1).

### **Total economic fallouts of natural off-reserves**

#### **Valorized resources**

#### **Non-valorized resources**

**Indirect:** Ecological and Environmental Carbon sequestration, climatic control, power (governance, structures, processes, rules, traditions, role distribution, decision making, and actor involvement

**Existence values:** Nature Values of wildlife for cultural, aesthetic and bequest significance, values of land, water, forest wildlife that are dynamic, socially embedded. Resources of economic, cultural, existence, aesthetic, biodiversity and other values. Forest stand density, stand volume, tree species richness and



**Figure 1:** Nguvinkei II Water Supply collection tank

diversity, tree regeneration and ground cover = sustainable forest management

**Option values:** Future as touristic, medicinal plants, agricultural, industrial, rural production basis, economic development

**Direct:** Community attributes

- Natural product consumed directly, live sales, meat, animal skin, bird feathers, education, tourism, research, health, portable water, guaranteeing food security household income, means to reduce wood use, availability, accessibility and use of timber and non-timber products = improved livelihood

Figure 1: Sustainable Management of Kilum Ijim forest for improved livelihood Another institution is the Oku Reserve Protection (OREP) created in 2012 to protect the natural heritages tie-in Oku including the Kilum –Ijim Forest Reserve. The Society for the Promotion of Initiatives of Sustainable Development and Welfare was created in 2011 to ensure environmental protection as well as take measures aimed at sustainable development and welfare like those of CAMGEW though with a computer training programme for the youths. Then the Association of Oku Forest Management Institution (ASSOFOMI), Oku Wood Carvers Association and Oku Honey Co-operative Society are community created bodies in the awareness of the negative impact of individual exploitation of the forest effects that are largely

negative and have an overall long term tragedy for the community. It can be observed that in this Oku Community-based forest governance there exist regulations and practices used by the indigenes for the conservation and sustainable use of the forest with which they coexist. This type of governance is collective-communal, and by tradition identifies with the protection of the forests with regard to their medicinal and commercial use. The traditional knowledge appears as an alternative to the classic forest science that is based on simplified models, assuming that destruction is reversible, and has facilitated multiple cases of forest devastation as well as severe social injustice. These associations and cooperatives work in collaboration with the Fon and the *Kwifon* as well as with the government institutions in Oku like the Sub-Divisional Delegation of Agriculture and the Sub-Divisional Delegations of Forestry and Wildlife who each strives to ensure survival of the forest through sensitization, punishment of defaulters, and the development of alternative livelihood activities to the villages especially those surrounding the forest.

## CONCLUSION

The rich Kilum-Ijim Forest Reserve is a natural patrimony with abundant biodiversity resources for

the Oku people especially those around the forest buffers for social benefits and economic development. Making the people living in the fringes to forests the guardians of the forest resources in the neighbourhood appears to be the most viable, effective, cheaper and long lasting way to manage natural forest resources. Under right conditions these people are likely to become the strongest and most effective managers of natural forests at low cost. The burden of policing by the government would fall out and the foresters would become technical advisers and not policemen out-beating the often described "fortress conservation" or "the fines and fences" (Wells and Brandon, 1992).

The social benefits from the forest are individual and collective as well as a source of income generating activities which leads to forest degradation as well as loss of biodiversity. The forest is a common property that can reasonably be harnessed to achieve poverty alleviation especially with the end of the KMFP in 1994 and the rise of socio-cultural institutions joining to government institutions protecting this reserve. The gradually alternative income generating activities at local village level do not seem to provide a panacea enough for the forest survival as compared to if the Cameroon government were to take back the forest management from communities and bring back forest guards who will ensure effective control and patrol of the forest.

## REFERENCES

- Blomley T, Kerstin P, Isango J, Zahabu E, Ahrends A, Burgess N (2008). Seeing the wood for trees: an assessment of the impact of participatory forest management on forest condition in Tanzania. *Oryx*, Vol 42 No 3, pp. 380-391.
- Blomley Tom (2013). Lessons Learned from Community Forestry in Africa and Their Relevance for REDD+. USAID-supported Forest Carbon, Markets and Communities (FCMC) Program. Washington, DC, USA, 49p. Cameroon 4<sup>th</sup> National Report on the Convention on Biological Diversity (2008)
- Enchaw, Gabriel B (2009) An Assessment of Conservation Strategies in the Management of Natural Resources in the Kilum-Ijim Forest Project Area (North of Cameroon), Unpublished Ph.D Thesis, Department of Geography, Faculty of Arts, Letters and Social Sciences, University of Yaounde 1, Cameroon.
- Fornkwa, Colette (2013): An Assessment of the Role of the Kilum-Ijim Community Forest Reserve as a Source of Livelihood to the Adjoining Communities. DIPES II Dissertation, Geography Department HTTC University of Bamenda, North West Region of Cameroon.
- Haretsebe Manwa, Farai Manwa (2014). Poverty Alleviation through Pro-Poor Tourism: The Role of Botswana Forest Reserves, *Sustainability*, No. 6, pp. 5697-5713
- Langoya, C.D. and Long, Catherine (1997/98) Local Communities and Ecotourism Development in Budongo Forest Reserve, Uganda, in *Rural Development Forestry Network*, Paper 22e, Winter, ODI, Portland House, Stag Place, London SW1E 5DP, 17p.
- Ndenecho EN (2008) Developing rural tourism as an alternative strategy for poverty alleviation in protected areas: Example of Oku, Cameroon Department of Geography, University of Yaounde 1, E. N. S. Annex Bambili Bamenda, North West Region, Cameroon. Cite in the study
- Ngum III, Oku Forest-Our Life and Our Future. In *Forest, Trees and People, Newsletter*, No 45 <http://www.trees.slu.se/news/45/pdf/45oku>.
- Raik DB, Decker DJ (2007). A multisector framework for assessing community-based forest management: lessons from Madagascar. *Ecology and Society* 12(1): 14. [online] URL: <http://www.ecologyandsociety.org/vol12/iss1/art14>
- Roe D, Nelson F, Sand brook C (eds.) (2009) Community management of natural resources in Africa: Impacts, experiences and future directions, *Natural Resource Issues*, No. 18, International Institute for Environment and Development, London, UK, 207p.
- Rukuni M (2009). Land, tenure, property rights, governance and prospects for sustainable development in Africa. In *Conference Proceedings on Zimbabwe's Natural Heritage as a National and World Asset: Status, future and role as a binding force for national unity*, European Commission Delegation in Zimbabwe
- Wells M, Brandon K (1992). *People and parks: linking protected areas management with local communities*. Washington, DC: World Bank/World Wildlife Fund/ U.S. Agency for International Development.