

Indigenous Forest Conservation Methods:

The case of the pygmy forest conservation techniques

Nicasius Achu Check

This policy brief examines local pygmy knowledge and situates it within the wider context of forest conservation in the Congo Basin. The policy brief applies the term indigenous knowledge from a generic standpoint relating to knowledge that is unique to a given culture or society, in this regard, the pygmies. Pygmy local knowledge on medicine, sustainable farming methods, forest conservation and ecosystem preservation are legendary and have been the subject of living debate amongst natural and social scientists. The onus is on the government and international community to harness such local knowledge to compliment conventional forest conservation methods. The fact that the present pygmy generation is being rapidly integrated into the mainstream economic systems begs for an urgent need to document such local treasures.

Introduction

There is a global coalition, especially within the UN system, to effectively and sustainably manage the tropical forests ecosystems in the world. The work of the UN Framework Convention on Climate Change (UNFCCC) and the Intergovernmental Panel on Climate Change (IPCC), have revolutionised the climate change debate and how such changes have impacted on global carbon emissions and its attendant effects on fragile ecosystems. The idea of the concept of reduced emissions from deforestation and forest degradation, which these UN bodies have championed, is to provide financial incentives to help developing countries voluntarily reduce national deforestation rates and associated carbon emissions below a baseline.¹ Despite these

efforts, there are increasing signs that global carbon emissions have tripled since 2000 and fragile forest ecosystems such as the Congo Basin forest are the most affected. This has led to a rapid depletion of resources upon which several million forest dwellers depend for their livelihoods. How have the forest dwelling people, especially the pygmy, adapted to this increasing change in their ecosystem? This paper examines the Baka and Bagyeli pygmy forest conservation methods and how such methods have led to sustainable indigenous forest management paradigm in the Congo Forest.

The UN Millennium Summit in 2000 identified environmental sustainability as the foundation of the natural resources base and ecosystems which must be managed in ways that sustain human populations, meeting their food requirements and

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other environmental, social and economic needs.² In this regard, the environmental sustainability paradigm strives to:

- Integrate the principle of sustainable development into country policies and programmes and reverse the loss of environmental resources.
- Reduce biodiversity loss; achieving by 2010 a significant reduction in the rate of loss.
- Half, by 2015, the proportion of the population without access to safe drinking water and basic sanitation.
- By 2020, to have achieved a significant improvement in the lives of at least 100 million slum dwellers.³

The countries of the Congo Basin, in their poverty alleviation strategic documents, have pencilled the alleviation of the plight of the forest dwellers as one of their strategic objectives. The enforceability of such pronouncement has been a major concern to the international community and development practitioners in the region. But, however, the concept of sustainable forest conservation became a major concern on the international scene after the publication of the Brundtland report in the late 1980s. The report entitled *Our Common Future*, questioned the prevailing concept on forest management which generally was concerned with sustained timber yields only. The Brundtland report diverted strongly from this paradigm and argued for the promotion of 'a type of development that integrates production with resource conservation and enhancement, and that links both to provision of an adequate livelihood base and equitable access to resources'.⁴ The report therefore put forest dwelling people, such as the pygmies, at the centre of the conservation debate. It therefore presupposes that forest resource management and conservation could no longer overlook people's needs and their rights to a stable livelihoods base.⁵

Within the concept of a paradigm shift in forest conservation on the international scene, most of the countries of the Central Africa sub-region embarked on drafting laws that would take these recent developments on board. With regards to Cameroon, the need for the judicious management of forest produce was initiated by the Germans at the end of the 1800s. The German land regulatory framework was the precursor to the 1974 Cameroon Land Ordinance which put the state at the centre of land and forest management in the country. However, it is Law No. 94/01 of 20 January 1994 that has revolutionised forest management in

Cameroon.⁶ The law streamlined the management of forest resources and emphasis on beneficiation of timber production. The 1994 law laid emphasis on four principal areas; management of forest and fauna resources, the manner and nature of issuing forest exploitation licences, sanctions to defaulters and sustainable management.⁷ The law guides forest loggers, conservation agents and government officials on management, exploitation, commercialisation of forests produce and the protection of the environment and the forest ecosystems. It also defined the financial and fiscal responsibilities of loggers towards the government and local communities in areas where the forest is exploited.⁸

The 1994 law forbids the export of unprocessed logs and as of 1999, all timber cut in Cameroon must be 60 per cent processed before export. This, however, put tremendous pressure on logging companies, that in some instances, resulted in companies logging outside their legal concession areas.⁹ The new law also distinguishes various forest categories consistent with the Cameroon forest environment. Each forest type was recommended a different forest exploitation permit. Communities in and around forest areas were given the right to apply for community forest permits which would enable the beneficiaries to exploit all the resources of the forests concerned. The government of Cameroon appointed Global Witness and Global Forest Watch (GFW) as the independent forest resource monitor and to monitor illegal logging in Cameroon, respectively.¹⁰

In Gabon, the management of the forest sector has been the prerogative of the state owned firm called *Societe Nationale des Bois du Gabon* (SNBG) which handled the commercialisation and collection of timber taxes on behalf of the government. With the help of regional partners and the World Bank, a new forest law was enacted in 1998. The 1998 law addressed some of the shortcomings experienced by SNBG in forest management and in many respects made government at the centre of the forest debate in Gabon. Several long standing forest exploitation permits were abrogated and forest concession permits were limited to between 20 to 40 years, granted on a public auction system for up to a maximum of 600 000 hectares.¹¹ The equally obliged all forest logging companies to submit management plans for all logging operations and to contribute to the National Forest Fund which was set up to provide funds for maintaining sustainable forest management practices.¹²

By the 1990s, forest conservation in Congo Brazzaville was governed by the 1974 Forestry Code, which to a large extent was a window dressing, as most of the provisions in the law were not respected by government and less by forest loggers. The law indicated that the entire forests of the country would be divided into management units with a precise management and exploitation plan. Neither the government nor lumbering agents respected these important provisions of the 1974 law. As a result, a new forestry code was drafted in 1998 which, amongst others, sought to achieve the objectives of sustainable forest management, decentralisation of the forest management sector, international cooperation and development and diversification of industries based on local transformation of log production.¹³ The 1998 law was enacted in 2000 in very difficult socio-economic conditions in the Congo. The primary concern here is to look at how such laws could be sustainably enforced in the sub-region without negatively impacting on the livelihood of the forest dwelling people.

Contextualising indigenous knowledge within western scientific knowledge paradigm

The term indigenous is an eco-determinant used to define the origin of items or persons in relation to how their belonging to a place is to be temporarily characterised in comparison to other contenders in claiming belonging.¹⁴ Indigene presupposes local as opposed to peripheral, alien or foreign. Thus, indigenous knowledge is concerned with the local philosophical thought of how the local society should function. Masolo further argues that the aim to look into the deeds and philosophical understanding of indigenous people is usually to determine the historical nature and character of the ideas making up schools of thought or theories around specific issues. In most cases such schools of thought would not find their way in western scientific knowledge paradigm but would for instance be considered as old or archaic. This has however put the proponents of indigenous knowledge to argue that such is a sound epistemological endeavour at odds with mainstream western scientific thought. However, it could be argued that the discernment of what is local and foreign is often spurred by a political setting, in which such separation usually serves other goals, some good and some not so good, as it often happen in traditional politics.¹⁵

Africa south of the Sahara is home to thousands of plants and animal species. The people in this part of the world have long used the knowledge of their environment and resources to provide food, medicine and cosmetics, to breed crops and livestock and in general to shape their ecosystems.¹⁶ The indigenous pygmy people who dwell in the Congo forest have been doing just that for centuries and the fear amongst these people in the last decades has been the constant degrading trend the Congo forests have suffered. Most of their local knowledge with regards to medicine, conservation of fresh meat and witchcraft has been poached by the Bantu without compensation of any kind. Even more hotly contested are the claims of bio-piracy. These are claims that indigenous and communal knowledge, innovations and practices about the medicinal, cultural, cosmetic, domestic or other value and use of bio-resources have been widely appropriated¹⁷ by the Bantu and in most cases by western laboratory houses. However, one notes that the growth in interest into indigenous knowledge was experienced in the early periods after independence in the 1960s and was traditionally spurred by the philosophical critique of scientific realism. Self critique in western knowledge has lent a strong supportive voice to the emergent post-colonial text in asserting that most aspects of knowledge, as we know them through disciplines, are significantly local and partly reflect the communally practical contexts of their production.¹⁸

The critique of scientific realism was based on the argument by Thomas Kuhn who opined that the history of science displays a certain pattern, and that this pattern may be explained by reference to the institutional structure of science, particularly in the way scientists base their research on object of consensus which Kuhn refers to as paradigms.¹⁹ The consensus on scientific paradigm by scientists would therefore be assumed to adhere to theoretical practices applicable within a particular paradigm. The fact that indigenous knowledge is not written and its transmission from generation to generation could impair its originality cannot in any way compare to western knowledge which has a written consensus theoretical paradigm. With regards to whether a particular scientific idea is indigenous or alien, the paper upholds that knowledge is knowledge no matter where or when it was produced.

This therefore presupposes that all knowledge is local or indigenous no matter where it was procured. However, this policy paper would be based on the assumption that all sciences are local knowledge systems as propagated by

Sandra Harding.²⁰ She argued that good scientific knowledge is characterised by strong objectivity, inclusive rationality and universal validity, but still remains a local knowledge claim.²¹ The local pygmy knowledge with regards to forest conservation has proven to follow all the characteristics indicated by Harding. The pygmies hunting strategies have proven to be rationale, especially with regards to the size of the net holes use in catching antelopes and porcupine. It should equally be noted that knowledge can best be grasped only in practical terms, that is, as part of everyday practices of coping with and managing and transforming the world of everyday experiences.²²

Harding's concept of all knowledge being local knowledge presupposes that all science is ethno-science. The question of indigenous knowledge being contextualised with African philosophical thinking could be attributed to the Marxist scholarship of Africa which uses indigenous knowledge to identify and separate those things that belong in the local political and cultural space from those that were imposed on Africans by colonialism.²³ Over reliance on the term indigenous by some African philosophical analysts is predicated on the assumption that it is meant to change the attitudes of the dominant western thought. The idea is to seek and reclaim the schemes of representation from dominating western thought in order to restore them to themselves as natives.²⁴ This policy brief interrogates such assumptions but reiterates that knowledge, wherever produced, could, if well marketed, be a universal local knowledge.

Pygmy ways of life as sustainable livelihoods

The post-colonial governments in several Central African states adopted policies that aimed at integrating the hunter-gatherer communities into the main fold of the country's economies. In Cameroon, Gabon and Congo Brazzaville, the pygmies were forced to abandon their hunter-gatherer ways of life and adopt a more geographically defined habitat. The campaign was a success in some parts of Cameroon and Gabon where the Baka and Bagyeli pygmy communities have established residential units with geographically defined boundaries. As a result, several pygmy communities have resorted to farming with few out-of-station hunting trips. With the government putting more emphasis on sedentarisation, one is tempted to investigate

how such change in the way of life would impact the environment and the forest around the pygmy communities? One of the pygmy activities that was most affected by the sedentarisation policy of the government was bushmeat harvesting. The establishment of permanent pygmy settlement in the Congo Basin impacted negatively on the amount of bushmeat which the pygmies were able to harvest in one calendar year.²⁵ Though bushmeat harvest increased, it did not impact negatively on long term supply, primarily because the pygmies utilise a method of bushmeat farming called 'net trap'. These traps resemble conventional fishing net, though these are made from backs of trees. During harvesting season, the nets are fastened in the bush and game is directed towards the nets in a war cry process called *Ntap*.²⁶ Antelopes, bush pigs and porcupines find themselves in the nets. To ensure sustainability, only mature animals are harvested. Pregnant game and adolescents are released in the bush.

For the most part, Baka and Bagyeli pygmies depend solely on hunting and gathering from the vast forest for their day to day subsistence. Bush mango and edible wild grass are harvested and consumed on a regular basis. Most of the time, the bush mango and other edible produce are harvested during hunting expeditions. While men are preoccupied with preserving the meat, young boys and women carry the perishable food items to the dwelling huts. To ensure sustainability in the harvesting process, only mature and ripe bush mangoes are harvested and in most cases, only mature and fresh edible grass are harvested.²⁷ In areas where sedentarisation has taken roots, the slash and burn method is usually the preferred farming method. But because the 1994 Land Law in Cameroon forbids burning, the various pygmy communities in the country have established community forests as stipulated by the law.²⁸ Though the size required by government is too small for any pygmy community in the forest zones of Central Africa, the fact that once such a community forest is approved, the proceeds accruing from the management of the forests are those of the community. Thus, several pygmy communities have applied for community forest, with the help of their Bantu neighbours. In most cases, the government usually gives them exploitation permits. In such forest units, the forest conservation agents are not allowed to interfere in the management process of the forest until the permit expires in about 10 years or so. In most cases, community forest, administered by the pygmies, have also shown signs of renewal and sustainability.

In the community forest, the pygmies practise crop rotation and shifting cultivation. Rotating crop is when different types of food and animals are cultivated at different intervals on a particular piece of land. In addition to income in which some of the food items would generate, the livestock provides food and organic matter for soil enrichment.²⁹ Bush fallowing is also generally practised and the process usually allows a piece of land to fallow for a number of years and regain its nutrients before another farming exercise is carried out on the same piece of land. This method has generally enhanced the soil quality in the sedentary areas and has equally played a major role in reducing soil erosion and chemical imbalances in the soil.³⁰

Several pygmy communities in the Central African sub-region are not skilled fishermen. In areas where fishing is practised, dam walling and poison are some of the commonly used methods. With regards to the dam walling methods, an embankment is usually erected at the mouth of the river. Usually a small dam is formed and the pygmies would then use baskets and in some places nets are used to catch the trapped fishes. Usually, small ones and certain exotic tropical fish species are not retained in the home bound basket, thereby ensuring the sustainability of the fishing process. In some pygmy communities, the river is poisoned with a concoction of leaves and animal bile. Usually, the fish are weakened and their breathing is disrupted. The fish dash to the surface to gasp for air. In the course of that, the mature fish are harvested. Small and unwanted species are released and within an hour, the poison is no longer effective.³¹ A single river cannot be poisoned twice in a farming season, thereby ensuring that a healthy and plentiful harvest is guaranteed each farming season.

The forest is the home of the pygmy and in every pygmy community, whether hunter-gatherers or sedentary, the forest is at the centre of their existence. In establishment a pygmy community in any given area, the chief usually calls on the ancestors to protect the area from evil spirits and to provide the power and will to harvest more game for the families. Usually, women are entrusted with the task of building the huts while men hunt for game. Pygmy huts are made of stems of forest undergrowth and covered with leaves. In some areas, the stems are plastered with mud. Fewer trees are affected by this building exercise thereby posing no danger to the survival of the forests in the nearest future. Honey is an important delicacy in the pygmy community and honey harvesting is a very skilled affair. It should

be noted that honey bees are not killed and that honey holes are preserved and protected from rain and other natural elements. Honey juice and honey combs are use in food and in several medicinal mixtures by the pygmies. Honey harvesting is usually done during the drier periods of the year where there is minimal hunting and farming activities.³²

Challenges to indigenous forest conservation methods

The failure by the governments of the countries of the Central Africa sub-region to document pygmies' indigenous knowledge is perhaps a major setback for local forest conservation methods. Most of what the pygmies are practising is not documented and the sub-region runs the risk of losing this important traditional know-how if urgent measures are not put in place to document it. With the expansion of the western system of trade into traditional African societies, the traditional pygmy ways of life is fast eroding.³³ There is therefore need to document what we know today about the pygmy ways of life as it pertains to the preservation of the environment.

An aspect which has been overlooked by several analysts on the pygmies in recent years is the fact that a greater number of them, especially the youths, are emigrating to towns and cities. A small minority of young pygmies are employed in the industrial logging endeavours of several logging companies in the Congo Basin. A noted phenomenon within pygmy society is that their young girls are migrating to towns to look for work. Because of the discriminatory practises in most work places against pygmies, a greater number of them have turned to prostitution to make ends meet in the large conglomerates of Yaounde, Kribi and Djoum.³⁴ This vast migration of pygmy may lead to a situation where entire pygmy holdings would be emptied of its youths and the old would have no generation to transmit their local knowledge to.

One major challenge of forest conservation in the Congo Basin is a complete lack of sensitisation of the danger of non compliance to set down conservation principles. It is even more difficult to tutor the pygmies on how to behave in the forests, as they consider the forest their tradition and their way of life. It is therefore difficult to convince the pygmies to change their ways of life to suit a particular conservation approach. Equally, the fact that pygmy communities are situated thousands of kilometres away from the urban cities has

made it difficult for conservation agents to reach them and educate them on conventional methods of conservation or better still to reinforce and document the indigenous knowledge which they already possess.³⁵

Conclusion and recommendations

It has been argued in several circles that indigenous knowledge has an important role to play in the development and emancipation of the African populace. This would be an illusion if this knowledge is not captured, processed and disseminated to the relevant stakeholders. In the Congo Basin, the pygmies are playing an important role in protecting and preserving the ecosystem by chasing out mining and logging companies in areas they consider secret to their ancestors. In most cases these areas are river sources which are important areas where the forest ecosystem is maintained. Pygmy knowledge in medicine and witchcraft has been a sort after issues in semi-urban and urban centres in the Central Africa sub-region. Their knowledge on impotence, infertility and the treatment of STDs is legendary. These are critical know-how which the governments in the sub-region should harness and develop. This is not to indicate, by any stretch of the imagination, that conventional drugs to treat such ailments should be disregarded but rather that such local knowledge should compliment conventional drug intake.

The Congo Basin is the only remaining tropical rainforest on the continent and the local knowledge of the indigenous people of this area is therefore of critical importance in understanding and preserving the ecosystem of the area. In order to do this, the governments of the sub-region should embark on the following:

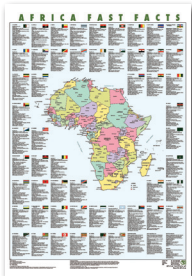
- Ensure that the local knowledge of the pygmies are documented and preserved for future generations.
- Carry out a sensitisation endeavour to educate the local people on the need to preserve their culture and ensure that such culture is transmitted to the next generation.
- Set up schools and hospitals in the pygmy communities so as to help tackle the usual outbreak of measles and other contagious diseases which have threatened to wipe out the pygmy population in the past.
- Ensure that logging and mining companies operating in the Congo Basin employ pygmies

and that part of their social investment should be in the form of building schools and pipe-borne water in pygmy communities in their area of operations.

Notes & References

- 1 Nasi R. et al, 2009. *A First look at Carbon Stocks and their variation in Congo Basin Forests*. In: C. De Wasseige & D. Devers, 2008. eds. *The forest of the Congo Basin – State of the Forest*. Luxembourg: Publications office of the European Union. p. 191.
- 2 FAO and the eight millennium development goals <http://www.fao.org/mdg/22289-1-0.pdf>. [Accessed on 21 August 2010].
- 3 Ibid
- 4 Ros-Tonen, M., F. Zaai and T. Dietz. 2005. *Reconciling Conservation and Livelihood Needs: New Forest Management Perspectives in the 21st Century*. In: *African Forests Between Nature and Livelihood Resources*,. Queenstown: Edwin Mellen Press. p. 8.
- 5 Ibid.
- 6 Legislation forestere au Cameroun: Une relecture oblige de la loi de 1994. In: *Le Droit*. No08, May. June 2010.
- 7 Ibid
- 8 Ibid
- 9 Nwonwu, F. 2005. *The Congo Basin at the Crossroads: Managing or Mining the Forests?* In: Ros-Tonen, M. et al. 2005 Eds. *African Forests Between Nature and Livelihood Resources, New Forest Management Perspectives in the 21st Century*. Queenstown: Edwin Mellen Press. p. 35.
- 10 Ibid. p. 53.
- 11 Ibid. p. 56.
- 12 Ibid
- 13 Ibid. p. 57.
- 14 Masolo, D. 2003. Philosophy and Indigenous Knowledge: An African Perspective. *Africa Today*. 50(2): p. 22.
- 15 Ibid.
- 16 Feris, L. 2004. Protecting traditional knowledge in Africa: Considering African approaches. *African Human Rights Law Journal*. 4(2): p. 244.
- 17 Ibid
- 18 Masolo, D. 2003. p. 24.
- 19 Ibid. p. 22.
- 20 Ibid. p. 23.
- 21 Ibid.
- 22 Ibid. p.24.
- 23 Ibid. p. 25.
- 24 Ibid.
- 25 Etienne Mananga Bipoupout, Chief of Service for Forest and Conservation in the East Province of Cameroon, 2010. Interview with the author on 12 July 2010. Lomie [Author's handwritten notes]
- 26 Yo'tang, a pygmy elder, 2010. Interview with the author on 6 July 2010. Ngoyla, [Author's handwritten notes].
- 27 Yo'tang, a pygmy elder, 2010. Interview with the author on 6 July 2010. Ngoyla, [Author's handwritten notes]
- 28 Jackson, D. 2004. *Implementation of International commitments on traditional forest related Knowledge: Indigenous people experiences in Central Africa*. Gloucestershire: Forest Peoples Programme.

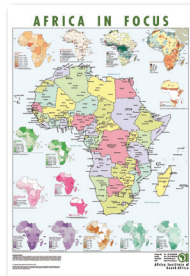
- 29 Nwonwu, F. 2008. Using indigenous knowledge in traditional agricultural systems for poverty and hunger eradication: Reflections on prospects in South Africa. *Africa Insight*. 37(4): p. 51.
- 30 Ibid
- 31 Yo'tang, a pygmy elder, 2010. Interview with the author on 6 July 2010. Ngoyla, [Author's handwritten notes]
- 32 Yo'tang, a pygmy elder, 2010. Interview with the author on 6 July 2010. Ngoyla, [Author's handwritten notes]
- 33 Mboh Dandjouma, the Chief Conservator of the Nki National Park. 2010. Interview with the author on 13 July 2010. Ngoyla, [Author's handwritten notes]
- 34 Mindoum Menom Pascal, Chief Conservationist of the Dja Forest Reserve, 2010. Interview with the author on 7 July 2010, Lomie, [Author's handwritten notes]
- 35 Raymond Mbitikon, the Executive Secretary of the Central African Forests Commission, 2010 Interview with author on 26 July 2010, Yaounde, [Author's handwritten notes]



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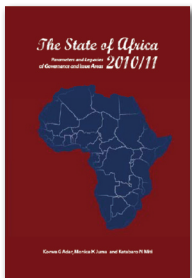
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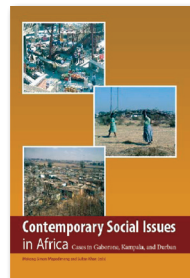


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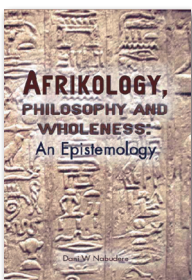


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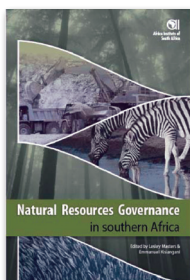


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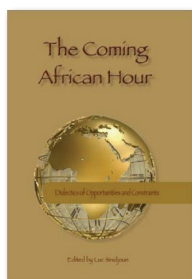
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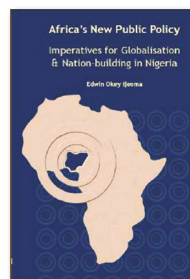


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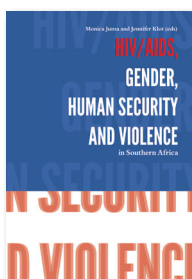


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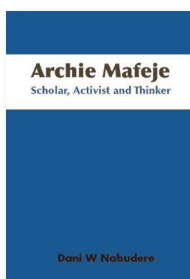
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