INFORMATION NOTE

GENDER AND FORESTS

The role of women as local indigenous knowledge holders in sustainable management of forests

REDD+ NIGERIA WITH A FOCUS ON CROSS RIVER STATE

Contents

EXECUTIVE SUMMARY

Gender dimensions are particularly relevant on forest issues at community level and whilst women play a key role in forest management, shortages of timber and non-timber forest products are known to particularly affect women's lives and livelihood, increasing marginalization and poverty. Failure to integrate gender considerations may lead to long-term political and ecological dynamics that have profound implications for women's involvement in environmental management and sustainable forest management. This, in turn, may jeopardize the long term success of efforts to reduce emissions from deforestation and forest degradation, and hinder efforts to conserve and sustainably manage forest stocks.

For Nigeria to contribute to climate change mitigation through improved forest conservation and enhancing sustainable community livelihoods, the REDD+ mechanism has been activated using Cross River State (CRS) as a demonstration model. Aside from having a relatively high forest cover, CRS has demonstrated the political will for REDD+ as well as has a track record in community forest management and an engagement in forest conservation,. Additionally, one of the priorities of REDD+ readiness in Nigeria and CRS has been identified as gender equality and social inclusion and thus steps have been taken to address gender issues by promoting a gender approach within REDD+ projects programmes. Such efforts have included recognizing women as full and valuable members of society, or as stakeholders in forest management and REDD+ initiatives. However, within these programmes, the critical role women play as holders of local and indigenous knowledge and as agents of change and community cohesion at the local level has been one key element that has been neglected.

Nigeria, for instance, is a country rich in indigenous knowledge and values practices which have helped women to thrive in isolated yet self-sufficient communities and promote forest sustainability. These local indigenous knowledge systems among women have promoted sustainable management of forests as expressed in their respect to customary laws pertaining to land rights and biodiversity protection. However, these knowledge systems are slowly disappearing due to the changing needs and interests of the indigenous peoples as well as a lack of advocacy efforts to making them known. This Information Note attempts to address this issue by acknowledging and recognizing women's critical efforts around sustainable management of forests. In this process, it highlights women's use of indigenous knowledge systems to address climate change and its effect on communities and the vital role women play in forest conservation. Through this discussion, the importance of and need to continuously support programmes that protect the traditional value of indigenous knowledge in Nigeria and women's role in ensuring the sustainable use of forest resources will be illustrated.

BACKGROUND

Gender and REDD+

Women and men have differentiated, but valuable knowledge, skills and roles in forest resources and management. These varying roles and experiences must be carefully considered when developing national strategies for REDD+ programmes. While both are involved in planting, protecting or caring for seedlings and small trees, as well as in planting and maintaining homestead woodlots and plantations on public lands, the roles and tasks they undertake in this work vary. For example, men are often more likely to be involved in extracting timber and non-timber forest products (NTFPs) for commercial purposes, whilst women typically gather forest products for fuel, fencing, food for the family, fodder for livestock and raw materials to produce natural medicines, all of which help to increase family income[i].

In spite of the critical role they play, women (and often other marginalized groups, such as indigenous people, the poor, girls, youth, etc.) – given various socio-economic and cultural inequalities and legal impediments, particularly within the forest sector – continue to experience ongoing exclusion that limit their ability to fully participate in, contribute to, and benefit from forest conservation and REDD+ efforts.[ii] Given these dynamics, it is critical that deliberate efforts are taken to ensure REDD+ integrates a gender perspective, wherein the concerns and experiences of both women and men are an equitable and integral part of design, implementation, monitoring and evaluation, so that women and men benefit equally, inequality is not perpetuated, and 'business as usual' outcomes are avoided. Thus, the incorporation of a gender perspective in REDD+ helps to ensure the equitable integration of the wealth of unique knowledge, skills and experiences of both women and men, both of which are vital to successful REDD-related initiatives.

Box 1: Gender terms

Gender equality: The achievement of women and men enjoying equal rights, responsibilities and opportunities. The interests, needs and priorities of both women and men are taken into consideration, while also recognizing the diversity of different groups of women and men. Gender equality is not a women's issue but should concern and fully engage men as well as women. It does not mean that women and men will become the same but that a person's responsibilities and opportunities will not depend on whether they are born male or female.[1]

Women's empowerment: The ability and agency of every woman to shape her own destiny, exercise her rights and make her own choices. Women's empowerment has five components: women's sense of self-worth; their right to have and to determine choices; their right to have access to opportunities and resources; their right to have the power to control their own lives, both within and outside the home; and their ability to influence the direction of social change to create a more just social and economic order, nationally and internationally.[2]

Gender mainstreaming (also referred to as "integrating a gender perspective/approach"): The process of assessing and integrating the implications of any planned action on women and men, as well as including specific provisions for gender equality, including in legislation, policies or programmes. It is a systematic approach for ensuring the concerns and experiences of women and men are an integral part of the design, implementation, monitoring and evaluation of policies and programmes in all political, economic and societal spheres, so that women and men benefit equally, and inequality is not perpetuated. The ultimate goal of gender mainstreaming is to achieve gender equality.[3]

[1]UN Women Concepts and Definitions on Gender Mainstreaming, available at: http://bit.ly/1KRudf5
[2]UN Secretariat, Inter-agency Task Force on the Implementation of the International Conference on Population and Development's Programme of Action, 'Guidelines on Women's Empowerment', available at: http://bit.ly/16IzORz
[3]*United Nations Economic and Social Council Agreed Conclusions, 1997/2*, available at: http://bit.ly/1TiO3kU

REDD+ Action in Nigeria

The UN-REDD Programme (UN-REDD), a UN Collaborative Initiative on REDD+ between FAO, UNDP and UNEP, has been a key player in the field of REDD+, building a knowledge base and supporting countries in the phases of REDD+ readiness and implementation. The key to the success of UN-REDD knowledge management strategy has been that it ensures that the information provided is reliable, up-to-date and comprehensive[iii]. Additionally, UN-REDD has been taking active steps to systematically promote gender equality and women's empowerment in its support to countries, placing strong emphasis on utilizing a proactive and integrated approach on gender. Cross River State was the pioneer of REDD+ in Nigeria, and in 2016, with support from UN-REDD, it entered into the REDD+ Readiness Phase, with national and international teams working to develop REDD+ strategies for implementation. UNDP/UN-REDD provided technical assistance for analytical studies in five thematic areas[iv] which were integrated into an Issues and Options report that informed the State and ultimately, National REDD+ Strategies at federal and state levels. Each of these studies add significant information and bring new knowledge that should be captured, codified and disseminated to relevant stakeholders. Thus, to help promote such knowledge exchange, a knowledge management strategy for Cross Rivers State was also created, wherein emphasis was placed on addressing country needs through the development of knowledge management products.[v]

It is becoming increasingly clear that more strategic and targeted interventions need to be designed in the REDD+ readiness process in Nigeria, which explicitly and meaningfully consider the critical role that women, in addition to men, play in forest communitiesvi. In this vein, this Information Note suggests a process to translate indigenous local knowledge into knowledge management activities and productsvii that can ultimately empower women to contribute to REDD+ related decisions. This Note will attempt to offer unique insights about the economic, social and cultural dimensions affecting women in forest

dependent communities in Cross Rivers State and propose specific recommendations to address gender gaps.

INTRODUCTION

Nigeria is the most populous nation in Africa, with over 160 million population, living in an expanse of 923,768 km², covering over nine[viii] ecological zones. The diversity and contrasts shown in the landscape are also visible in the people themselves, with over 250 ethnic groups, languages and cultures.

Over 90 per cent of Nigeria's forests have already been cleared, and more than 50% of forested areas that remain in the country are found in Cross River State. Approximately 75% of Nigeria's endangered tree species are only found in Cross River State. The State is considered one of the richest biodiversity reserves in all of Africa and is part of the "Gulf of Guinea" forests, a global biodiversity hotspot, with a rich diversity of primates, birds, butterflies, plants, reptiles, amphibians and other species.

The economy of Cross River State is heavily reliant on both timber and non-timber forest products (NTFPs) for revenue generation. Several key NTFP resources are identified as having an especially important economic role within the state and are major sources of revenue both to indigenes and non-indigenes alike. These resources include bush mango, Afang, *Carpolobia* cattle sticks, *Randia* and *Garcinia* chewsticks, rattan canes and bushmeat. Since the ban on timber in Cross River State in 2012, the NTFPs have become even more important to the livelihoods of forest communities.

Cross River States has a population of 2.89 million comprised of mostly rural communities from eight major ethnic groups (see Table 1 below), who live around upland dense humid forests, commercial plantations, floodplain forests, wetlands, savannah, woodlands and mangroves in the south. Women from these communities heavily rely on the forest for their livelihoods and share many commonalities, in terms of livelihood options and cultural practices that relate to their identity as people of the forest.

Table 1: Major Ethnic groups in Cross Rivers State.

Ethnic Group	Efik	Ekoi	Ejagham	Bako	Bete	Boki	Mbembe	Other
%	28.0	16.0	15.5	13.7	12.0	7.0	6.9	0.9

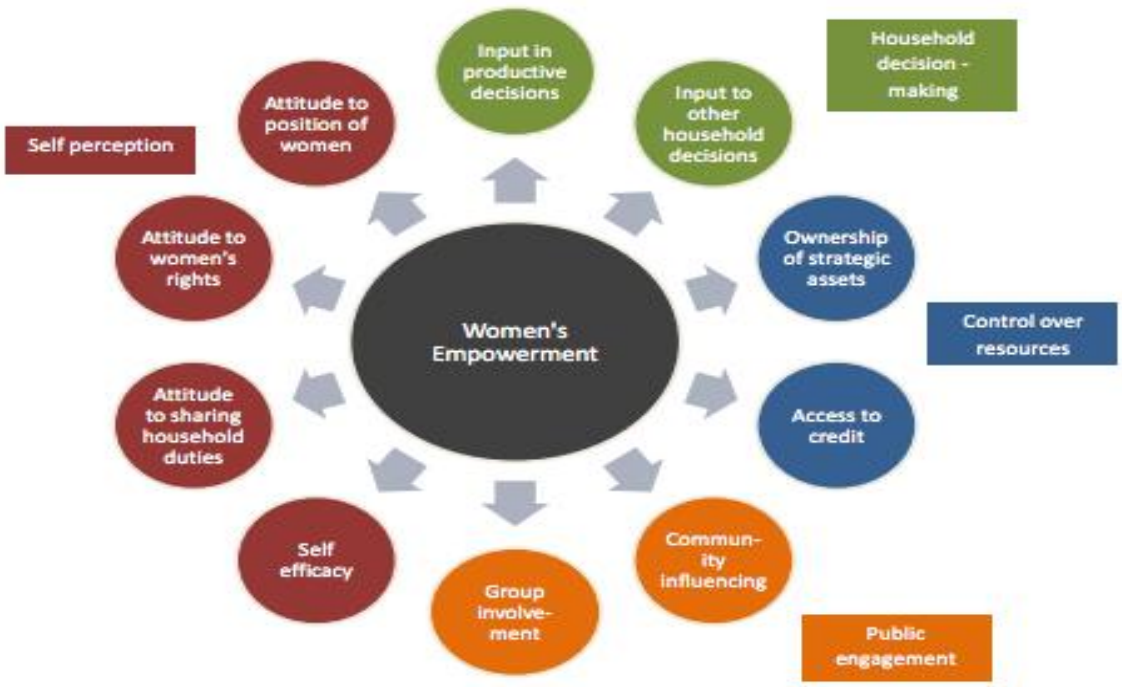
In Nigeria, women and youth, given various political, socio-economic and cultural barriers they face, are often marginalized in traditional, customary and formal processes, which can lead to them having unequal access to information and legal processes and not being involved in decision-making processes on REDD+. Rural women not only make up a disproportionate number of rural poor, which would account

for 60% of the Nigerian population, but are more vulnerable than rural men to economic shocks and the deterioration of natural resources. Additionally, the role of women who earn their living from forest products (FPs) enterprises is usually ignored in sustainable forest management and private sector initiatives. And while rural women largely sustain the Nigerian rural economy and its urban food security, they are also generally marginalized in terms of access to land for farming, face inequalities around customary systems with tenure rights predominantly skewed in favour of male members of the communities, have little involvement in management of financial resources and fewer opportunities to build their capacities to alter these trends. This situation makes it difficult for women to contribute effectively to food security and sustainable natural resources management, including around REDD+ action. Young unmarried women are particularly marginalized, as they neither belong to the women's groups, nor are actively involved in the male dominated youth group in which society classifies them, although they provide a large portion of local communities' labour force and are as dependent on forest resources as their male and/or older female counterparts.[ix] It has also been reported that discriminatory customary and cultural practices in the country can deny women and poor men access to land, wherein only 7.2% of land is owned by women in Nigeria.[x]

However, by examining the opportunities women have in accessing resources and markets for their products, the REDD+ readiness process at the federal and state levels p could support the development of strategies, which in turn can help address some of these gender inequalities and offer women a better chance to improve their livelihoods.

In this regard, researchers (Oxfam 2012/2013)[xi] have recognized that there are several factors, which can play a role and affect the empowerment of women within Nigeria, as shown in figure 1 below.

Figure 1: Different dimensions and characteristics of women's empowerment in the local context



Source: Oxfam 2012/2013

Based on these factors, these researchers also identified the following four key outcomes in leadership programmes for women, which were also are useful to consider and address when promoting women's empowerment.

1. **Improving self-perception**: This involves shifts in attitudes to the position women, women's rights and sharing household duties.
2. **Improving public engagement**: This involves an increase in the power of women to influence communities and encourages them to take part in more group activities.
3. **Increasing control over resources:** This involves improved access to credit and ownership of strategic assets.
4. **Household decision-making**: This involves the ability to make more inputs to household and productive decisions.

These factors and outcomes provide a constructive framework to analyze if and how activities around the sustainable management of forests and REDD+ are addressing inequalities between women and men and whether and where gaps continue to exist. This framework further illustrates that excluding women from public engagement and household decisions can affect their lives and livelihoods, and may in turn reinforce existing societal and institutional structures that marginalize women. Therefore, engagement

of women in REDD+ is critical as it helps to increase their access to and entitlements over forest resources that they are dependent on, as well as increases their access to potential benefits that would be accrued from REDD+.

To first understand the current situation of women in Cross River State around forests and forest use, this Information Note assesses indigenous women's local knowledge related to the impact of harvesting of bush mango, afang leaves, palm oil production and the use of fuelwood and highlights women's vital role in forest conservation. Then using the factors above as a guide, it evaluates existing cultural/traditional practices of the women of Cross River State (which helps create a solid knowledge base for generations to come), as well as proposes specific recommendations to address any gender gaps and barriers in women's empowerment. Such recommendations can then be applied in the REDD+ readiness process at the federal and state levels moving forward.

I. BUSH MANGO CULTIVATION

Box 1: Common Names for the Bush Mango
Irvingia gabonensis & I. wombolu **(Irvingiaceae)**
bush mango (vern.); **bojep** (Boki); **ogbono** (Igbo); **uyo** (Efik); **uyo** (Ibibio)

Head portering kernels of bush mango (*Irvingia gabonensis*), Ekuri, Nigeria. Photographer: Terry Sunderland

Women and youth are particularly involved in harvesting bush mangos in Cross Rivers State. Most fruits are collected from the forest or from farm and farm-fallow and local families have been known to move to temporary "bush houses" deep in the forest, where they may live for a week or longer[xii]. They also process the fruits collected in compounds farms.

Kernels of the fruits of Bush mango, called 'ugiri' in Igbo or 'apon' in Yoruba, yield an important food additive popular in southern Nigeria. They are processed by grinding and crushing, and then used to thicken soups and stews. The kernels are also made into a cake for year-round preservation and easy use. Edible oil is extracted from the seed that is used in cooking. In its solid states, it is being used as a substitute for cocoa butter, and for soap-making. Unlike the fruit pulp of most other Irvingia species, which is bitter, the pulp of the fruit of *I. gabonensis* is juicy, sweet and eaten fresh.

The harvest and sale of bush mango is a major source of income for rural communities, not only in Cross River State but throughout the geographic range of the species[xiii]. Households are reported to devote, on average, between 2% and 5% of their annual expenditure on Irvingia products. It is estimated that there is a demand for 78.8 million kilogrammes of bush mango per year; and 80% of this demand is in the southern parts of Nigeria. Its consumption is limited by supply and high prices. A socio-economic survey undertaken in the Abu-Bashu group of communities of Cross Rivers State determined that 91% of households were involved in the collection and sale of bush mango. This represents a mean annual income of N33,750; or 50% of the total household income[xiv].

It is estimated that an investment in Bush mango plantation per hectare of land could raise profits of around Naira 2,054,188.32 ($12838.67), however this would require strengthening the capabilities of the smallholders to access small and medium scale forms of capital from cooperative societies, micro-finance houses, agricultural finance institutions as well as government credit facilities at local, state and federal levels.

BOX 2: Uses of the Bush Mango - Irvingia

1) Food
   - Fruit pulp -Fresh Consumption
   - Kernel -Soup condiment
2) Traditional/Cultural
   - Split seed shell - Prediction
3) Environmental
   - Windbreak
4) Medicine
   - Leaf for dysentery and wound dressing
5) Other uses
   - Mature fruits for ripening bananas and plantains.

There is no evidence of the full economic value of bush mango and the potential benefits it could offer to women in the state. Therefore, this is an opportunity to engage the private sector in exploring opportunities for enhancing the cultivation leading to stronger supply chain. The marketing structure for

the Bush mango shows that women are predominantly involved at the collector level and their level of participation diminishes as the product moves up the trade chain. In general, processing and transformation of most forest products, the activity that often adds the greatest value at that point in the marketing chain, is undertaken and controlled predominantly by men and business people from outside the state. Igbo and Ibibio traders who transport large quantities to warehouse facilities outside of Cross River State, buy most the bush mango that is harvested. Many of these same buyers also travel to Cameroon where significant amounts of bush mango are purchased and transported across the border.

Recommendations

The lack of tangible and equitable benefits for women farmers and communities in general in Cross River State from the harvest and sale of NTFPs, such as the bush mango, is a significant constraint to their sustainable management. Developing value chains for bush mango, which are also focused on increasing and diversifying incomes equitably for women and men and male and female youth, can not only help to reduce pressure on forest timber products, but can also provide sustainable livelihood alternatives for all involved.

Below are suggested activities to address this challenge and empower and involve women and youth (in addition to men) in the forest products supply chain:

- Undertake gender responsive analytical studies and value chain analysis for the Bush Mango in Cross River state.
- Undertake household studies documenting the hurdles and challenges women, men and female and male youth farmers across the state face in engaging in value chains for bush mango.
- Hold private sector workshops to explore opportunities for value chain enhancement and to assess options to involve women, men and youth farmers more effectively in these processes.
- Undertake capacity building workshops to train experts, and women and men extension workers and community members on more efficient processing and storage techniques and cultivation.
- Government to provide support and guidance to strengthen producer associations and enterprises, with a focus on marginalized groups in remote communities (e.g. women, youth, ethnic communities, etc.).
- Collect portfolio of data and information on the bush mango to be stored on the Nigeria REDD+ website, as a key resource for researchers.
- Develop long-term ecological studies of both species of bush mango to determine the sustainability of the bush mango.

II. AFANG CULTIVATION

Box 2: Common Names for Afang
Gnetum africanum & Gnetum buchholzianum (Gnetaceae)
afang *(Efik);* **afang** *(Ibibio);* **ukasi** *(Igbo);* **eruru** *(Yala)*

Credit: Bioversity International/M.Elias

The second most important NTFP from Cross River State is the edible leaves called afang that grow on the forest liana trees, which are a staple food product throughout West and Central Africa and provide a significant source of protein, amino acids and mineral elements. Since most stakeholders are female (69%), and use afang leaf revenues to meet basic needs for their households, the gender and development aspects of this trade are significant. The harvest and sale of afang represents an important economic activity for many rural people in Cross River State and provide benefits to an estimated 11,000 plus people in Cameroon and Nigeria. It is estimated that it represents about 33.5% of the total household income of the Abu Bashu communities of Cross River State and brought in a mean annual revenue of N22,360. It is also estimated that 530 metric tons of afang is collected and traded within Cross River State or is exported to other consumer regions. A further 800 metric tons crosses the border from Cameroon, however, a good proportion of this imported material is shipped directly to Oron in Akwa-Ibom State. A conservative estimate as to the annual value of the trade of afang is N53 million.

Value chain analysis has been used to gather information on stakeholders involved in the value chain from forest to consumer (small scale harvesters, traders, transporters, exporters and consumers), and on the socioeconomic values, volumes, sustainability and governance in major production areas and markets in Cameroon and Nigeria[xv]. The results show that at least 2,550 people work across the chain, which has seven main routes from forest to consumers. Afang contributes on average to 62% of a harvester's annual income (1,125 US$). Dependence upon afang-based incomes increases for those further from the forest, providing an average of 75% of retailer's (1,268 US$) and 58% of exporter's annual incomes (7,000 US$). The better-organised Nigerian wholesalers earn almost double their Cameroonian counterparts.

The afang leaves are eaten cooked or fresh by almost all social classes and communities across Nigeria, occasionally distilled into alcohol, and served at culturally important ceremonies. The leaves are traditionally used to treat enlarged spleen, herpes, to ease childbirth, sore throats and hangovers.

Increasingly, however, this commerce has become unsustainable, and afang is increasingly vulnerable in the Southwest and Littoral regions, due to a combination of the vulnerable ecological characteristics of the species, high harvest levels, unsustainable harvest techniques and a lack of regulatory control and enforcement. Currently the value chains are almost completely dependent upon wild sourced afang.

The majority of afang leaves are collected from primary or secondary forest and about 21% from customary village-owned forest, with free and open access for the community. Although, *G. buchholzianum* is preferred by many buyers, it is now less abundant and most prone to habitat loss, due to its primary forest preference. The quality of *G. africanum* has also been reported to diminish when forest cover is removed. It has been reported that the leaves, which are stronger, darker and larger, are obtained from primary forests, whilst the lower quality leaves are associated with secondary forests, plantations or farmland origin. These threats together with rising population density, deforestation and degradation make the species vulnerable to over-exploitation.

As much as 75% of the afang harvested is exported from Cross River State is transported to central markets in the major cities of the eastern states of Nigeria (Aba, Abakaliki, Ikot Ekpene, Enugu, Owerri, Uyo) and further afield to Lagos. The dealers concerned with the export trade are usually Igbo and Ibibio. However, the domestic market is dominated by indigenes of Cross River State and collectors themselves may often sell directly to consumers at roadsides and in market places. A greater amount of afang is consumed at the rural level without entering the market system at any point.

The typical harvester is middle-aged female, married with a household of five, primary school educated, travelling on average 5 km into the forest for a full days' collecting twice a week. Some take their children along. School children and students also harvest during holiday periods. Many women are reluctant to travel to markets, due the lack of transport, high travel costs, long distances, and unwillingness to leave farm and family. However, the typical traders, retailers, processors, exporters, buyers and restaurant owners and even importers are also female. It is therefore a predominantly female value chain, with better-educated women secondary school or above) appearing further up the value chain. Men who are involved in the trade include knife and cutlass sharpeners, transporters, traditional authorities, police, gendarmes, quarantine and customs officials, staff of the Ministry of Commerce and Ministry of Forestry and Wildlife (MinFoF) and Councils collecting local market taxes.

Recommendations

The value chain analysis of afang indicates that there are ample opportunities for market structure interventions to improve profitability and sustainability of the trade.

Since existing governance structures are weak and poorly enforced, over 50% of the crop is collected in ways which are unsustainable. Therefore, new governance structures should also be developed as part of the REDD+ strategy for Cross River State, to balance conservation needs with development imperatives. Further, more knowledge transfer initiatives should be encouraged within the country to support on-going conservation efforts. For instance, in Akwa Ibom State, there are good practice initiatives in the form of afang cultivation on compound gardens (community gardens), which is a tradition that could relieve the pressure on the forest.

Below are additional suggested activities which can simultaneously help to promote the more sustainable production of afang while also building capacity and strengthening the roles of women in the afang value chain:

- Reduce pressure on existing afang forest supplies through introduction of innovations to improve storage and reduce perishability of the crop, which in turn could also enhance the export value, reduce post-harvest losses, and reduce unsustainable harvest techniques.

- Learning from established good practices (e.g. Akwa Ibom State, Limbe Botanic Garden in Cameroon [xvi]), explore options to domesticate afang, thereby helping to address its over-exploitation and erosion of habitat in the wild.
- Through south-south knowledge, build capacity among women involved in the afang value chain on good practices around sustainable afang production.
- Develop and implement a communication campaign among women and men within the afang value chain to highlight the conservation and sustainability issues regarding afang cultivation and trade.
- Provide women entrepreneurs within the afang value chain with viable and accessible finance options to help support them in investing and undertaking more sustainable afang production methods.
- Undertake capacity building workshops and training among women and men within the afang value chain on community based cultivation of afang.
- Develop gender-responsive analytical studies and value chain analysis for afang in Cross River State.
- Collect and disseminate knowledge on women across the entire value chain, using video documentaries and in depth investigative stories to gain a unique insight into this trade.

III. PALM OIL PRODUCTION

http://thenationonlineng.net/wp-content/uploads/2015/07/Oil-production.jpg

PEOPLE PRODUCING PALM OIL IN OKUBUCHI-IRRUAN, BOKI LOCAL GOVERNMENT AREA OF CROSS RIVER ON SUNDAY

For millions of women in Nigeria, oil palm cultivation is a way of life, but the industry has been through a long difficult downturn, starting from the 1960's when Nigeria accounted for 43% of the world's production, which has now fallen to 7% of the total global output.

Over 80% of production comes from dispersed smallholders who harvest semi-wild plants and use manual processing techniques. Women carry out the processing of the fruits into vegetable oil, starting with the harvesting of ripe fruits, which grow in clusters weighing between 20-30 kilos. The women work communally in small groups. The harvested fruits are cut into smaller clusters and sprinkled with water, and then, covered with thick jute bags or banana leaves to aid fermentation and make it easy for the seeds to be picked easily from its spiky stalks.

Two or three days after, the seeds are picked, washed and packed into iron drums and boiled. Fire kindled from gathered fire-wood is usually prepared a night before and at intervals, rekindled to keep the fire cooking constantly hot. As early as 4 or 5 a.m. the boiled seeds whose fleshy pericarp has become soft and tender are scooped with a small basket or sieve bowl into an earth dug-out mortar, which has been

fitted with a metal drum. The boiled seeds are then pounded with a wooden pestle to separate the fleshy pericarp from its hard kernel seeds.

The finished product may be further stored in larger metal drums awaiting buyers who come to buy them from the women and transported to other towns. Smaller quantities are then taken to the local market for sale. Many women in Cross River State have earned substantial income from this trade at a commercial level, but the majority in forest dependent communities have simply supplemented their subsistence level incomes with palm oil production or just made enough for personal use. Studies[xvii] have shown that women use almost all their earnings from marketing agricultural products to meet household needs. Men, on the other hand, use at least 25 % of their earnings for other purposes.

The palm trees are often found on small pockets of land rather than plantations and most parts of eastern Nigeria bear secondary regrowth forests, with the oil palm tree being the dominant tree species. Nevertheless, large-scale commercial plantations of palm oil do also exist, and growing international demand for this product has contributed significantly to deforestation and forest degradation. However, many large-scale plantations in Cross River State have been largely unsuccessful and attempts to privatize these abandoned plantations have led to significant local opposition and suggestions of elite capture of national assets. And in terms of efforts around REDD+ action in Cross River State, there could be economic competitiveness in integrating palm oil production in agroforestry systems, which in turn could also help to address deforestation and forest degradation and provide options for carbon sequestration.

Thus, moving forward, it is important to ensure, that if efforts are undertaken under REDD+ to promote palm oil production in agroforestry systems (as one an example), attempts to also support, involve and empower women within this work and industry should also be pursued. Research has indicated that there was a significant difference between income of women engaged in palm oil processing and the income of women engaged in other businesses; implying an improvement in the living conditions of rural women engaged in palm oil, processing, compared with the living conditions of women in other businesses.

To note, some key challenges which rural women farmers face in palm oil processing includes a lack of access to credit, lack of modern farm processing technologies, denial of ownership over palm oil trees and farm lands, high cost of palm oil fruits as well as scarcity of labour and fluctuation in price of palm oil produce.

Recommendations

When developing the REDD+ Strategy for Cross Rivers State and exploring options to promote palm oil production in agroforestry systems, addressing these challenges faced by women around palm oil processing can help to promote that REDD+ measures established not only help to address drivers of deforestation and forest degradation, but also provide adequate livelihoods options and support

equitably to women and men. For example, such efforts could include innovations to modernize the processing machinery, as well as improvements in infrastructure in rural areas such as water, electricity and improved road networks. This can improve the potential for small-scale women farmers to continue to earn a living through palm oil processing.

Additional steps that can be taken in this regard, include the following:

- Undertake a gender responsive value chain analyses of the palm oil industry in Nigeria,.
- Develop appropriate KM products to facilitate discussions and enhance understanding about the lives of rural women and their contribution to the palm oil industry in Nigeria.
- Undertake analysis to identify good practice examples in involving women in sustainable palm oil production to replicate within Cross River State.
- Facilitate Public Private Dialogue (PPD) meetings and focus group discussions with women to discuss their role in the oil palm industry in Cross Rivers State
- Undertake capacity building workshops to equitably train women and men involved in palm oil production on modern and more sustainable farm processing technologies.
- Brochures with data of economic value of the oil palm industry in Cross River State and women's contribution to the resilience of the sector.
- Promote women's equitable access to finance incentives, in which they can also qualify and meet loan collateral requirements around sustainable palm oil production.
- Undertake gender equitable land titling processes and government-facilitated land tenure clarification, to promote equity among women and men in land ownership and control. +

IV. FUELWOOD

Photo by Olivier Girard for Center for International Forestry Research (CIFOR)

Fuelwood is the main fuel used for cooking in Nigeria, forming about 70.64% of the energy mix (see table 2 below). However, in 2016, the International Centre for Energy, Environment and Development (ICEED)[xviii] estimated that 93,000 Nigerians, mostly women and children, die annually because of smoke inhaled while cooking with firewood. Deaths from firewood smoke are the third highest killer in the country after malaria (225,000) and HIV (192,000), and this can be attributed to lack of access to cooking gas and kerosene. Firewood is mostly consumed in rural areas while charcoal is predominantly consumed in peri-urban and urban areas as the main fuel for cooking at roadside food outlets, in formal restaurants and at the household level. About 56 percent of households in Nigerian urban cities still use firewood to cook and around 30 million households depend solely on wood as a source of fuel for their daily cooking. The unregulated nature of the firewood and charcoal industry is an important issue for the REDD+ programme, as it is a driver of deforestation and forest degradation in Cross River State's . However, the threat it poses to lives and wellbeing of women and children is even greater.

Coastal communities are of concern, as they regularly harvest mangroves to meet their daily fuel needs. The Cross-River Mangrove is over 258,000 sq. km in size and contains one of the important segments of the Nigerian coastal mangrove ecosystem. (Nigeria has the largest mangrove ecosystem in Africa.)

Mangroves support local fisheries and provide domestic and commercial source of energy for rural inhabitants of communities in estuary areas.

Table 2: Main sources of fuel for cooking in Nigeria

Source	Percentage
Firewood	69.8
Kerosene	26.6
Gas	1.11
Charcoal	0.84
Electricity	0.52
Crop residual/saw dust	0.09
Animal waste	0.07
Others	0.84
Total	**100.0**

Source: FMENV, 2014, quoted from National Bureau of Statistics

However, indigenous fishing communities in coastal Nigeria harvest mangrove wood mainly for household domestic energy purposes especially cooking and fish smoking. These have put severe pressure on the mangrove forests leading to steady coastal degradation and deforestation which has limited the ability of the mangrove vegetation to fulfil its numerous functions. The wood is not only used for charcoal and firewood, but also for wood distillation, poles making, building and flooring of houses, foundation piling, scaffolding, fishing stakes and pit-props and more. The increasing demand for mangrove forest wood and the gradual but steady encroachment and spread of the Nypa palm (an invasive mangrove forest plant) has exposed the mangrove forests of Nigeria's coastal States to gradual but further degradation and consequent depletion. Around 2604 km^2 of mangrove forest has been lost between 1980 and 2006.

Women in these communities generally carry out indigenous methods of fish smoking, which exposes them to a variety of irritant pollutants, some of which are carcinogens. When firewood is burned inside the home; toxic fumes fill the lungs of children and threaten the health of the entire family[xix]. Women spend an average of three to seven hours per day near stove preparing food. Young children are often carried on their mothers back or kept close to the warm hearth. Consequently, infants spend many hours breathing indoor smoke during their first year of life when their still-developing lungs make them particularly vulnerable to hazardous pollutants. According to the World Health Organization (WHO), fifty-six percent of all indoor air pollution attributable deaths occur in children under five years of age. The inefficient burning of solid fuels on an open fire or traditional stove indoors creates a dangerous cocktail of hundreds of pollutants, primarily carbon monoxide and small particles, but also nitrogen oxides, benzene, butadiene, formaldehyde, polyaromatic hydrocarbons and many other health-damaging

chemicals. Each day, and for hours at a time, women and their small children breathe in amounts of smoke equivalent to consuming two packs of cigarettes per day. (WHO, 2006)

Recommendations

The challenge of finding alternative energy solutions that are sustainable, efficient and pro-poor is an important investment priority for the REDD+ programme in Cross River State. It is suggested to adapt a twin track approach and focus on sharing knowledge about improving the management and restoration of the mangrove ecosystem in Cross River State whilst also focusing on reducing smoke inhalation during cooking with fuelwood, through the introduction of low cost and energy efficient fish smoking ovens.

There are currently very few accessible or affordable alternatives to biomass energy because obvious candidates such as solar-, wind- and hydro-based electricity generation are either unavailable or too expensive. There is also a knowledge gap about what works for rural communities to reduce use of fuelwood and this must be filled quickly to tackle a critical driver of deforestation and forest degradation and to improve women's lives and health. More specific activities can also include:

- Building on existing studies (e.g. Studies and market assessments undertaken on Nigeria by the Global Alliance of Clean Cookstoves)[xx], undertake gender responsive analytical studies on fuelwood use in Cross River State, which include assessing health impact of using fuelwood on women and children as well as impact of carrying and searching for fuelwood for long distances every day.
- Drawing from current initiatives, such as those on energy efficient cooking stoves within the country (e.g. Solar Sisters, Envirofit International, etc.[xxi]), undertake analysis to identify good practice examples for replication in promoting women's empowerment within the design, finance, and implementation of alternative solutions for fuelwood use for households, including improved cooking stoves and alternative energy sources (e.g., solar, biogas, liquefied petroleum gas, mini-hydro, wind, etc.)
- Facilitate Public Private Dialogue (PPD) workshops to explore opportunities for financing and supporting alternative energy sources for cooking (e.g. production and use of energy efficient cooking stoves advancement, amongst others) in Cross River State.
- Working closely with the current government initiative of developing a 30-year Growth and Development Strategy, consult with both state (including the Ministry of Women Affairs and Social Development) and non-state stakeholders (e.g. women, men and youth stakeholders from local communities, CSOs, etc.) to ensure that the weaknesses outlined by the Nigeria Alliance of Clean Cookstoves (NACC) are validated as well as are taken into account and addressed within the narrative on energy and infrastructure section of the Strategy.. Similarly, ensure such

findings and actions are then incorporated and supported within the REDD+ Strategy within Cross River State.

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V. Ancient Traditions and Forest Conservation

***Photo Caption**: Africa, Benin, Ouidah. Local women performing traditional spiritual dance in front of iroko tree in Kpasse Sacred Forest*

Many forest dependent communities have developed cultural practices that are an integral part of their lives and often these have encouraged community driven conservation attitudes and practices. These traditions have shaped how communities recognize native biodiversity, how they harvest non-timber forest products, source medicinal plants and support ecological, and religious, cultural and socio-economic functions.

These long-standing traditions are now on the decline because of modernization, urban development, population pressure and changes in religious beliefs. In the past, the indigenous people of Cross River State developed a variety of useful resource management practices including sacred forests, where many traditional rituals and ceremonies were performed, such as the burying of a child's umbilical cord beneath a tree near close to the stream in a forest (Boki); age group rituals of circumcision for men and women (Moninkim and Leboku) and the extraction of red and yellow sap from the bark of the iroko[xxii] tree for ceremonial body markings.

Indigenous Belief Systems

The indigenous belief systems, which inform these practices, are now changing as socio-economic conditions and land use practices change. The concept of establishing sacred forests and groves has long been interlinked through a traditional knowledge system of biodiversity protection with traditional fetish beliefs and taboos serving as incentives to conserve natural resources[xxiii]. Many traditional people believe that rocks, trees streams, ponds and forests are the manifestation of the power of the Supreme Being. Therefore, there are often shrines associated with big trees such as mimosop, fig trees and baobabs, iroko, mahogany among others. This led to the conclusion that these trees together with the vegetation around were preserved as sacred places for worship. Trees, herbs and plants in general were also seen as useful in enhancing human life. Leaves, bark, roots and grasses provided herbal medicines to human beings.

The Ejagham people of Cross River State have a traditional religion which revolves around ancestors and natural forces. They live in the tropical rainforest regions of northern Cross River State and southwestern Cameroon. Theirs is a subsistence economy; women fish and grow crops; men hunt and are owners of most of the fruit trees and the small number of domestic animals. Patrilineal in social organization, the Ejagham account for approximately 150 villages of rather small size (usually 100-500 people, rarely more than 5,000). For the Ejagham people, the whole bush is peopled with these supernatural beings and every small town has its "juju" tree with weaverbirds inhabiting the tree.

In almost every community in Cross River State, there is hardly any community that exists without a sacred groove, evil forest, sacred pond, evil stream, or forbidden forest. Where some part of the environment is delineated for the worship of the gods.

In Etung local government, the god of "Ogbogoro" is believed to be the god of fruitfulness and the gift of children. When there is poor harvest in Ejaghamland (Etung and Akamkpa), the people make sacrifices to this god. When a woman after marriage cannot have children, the god of Ogbogoro is appeased with a sacrifice, thereby making request for children from such gods.

The Ogolobi pond located in Adihe village, Otukpuru ward, Bekwarra, is a mysterious pond harvested by the entire Bekwarra kingdom once every seven years. Mudfish is the only species of fish harvested and shared together by everybody present; any other species of fish caught during this day is owned by whoever catches it during the harvesting period. It is a taboo and completely forbidden for anyone to go fishing in the pond on his/her own; therefore, fish stocks in the pond have been maintained. In Alifokpa in Yache, in the Yala local government area, there is also a sacred grove where the remains of the ancestral fathers of the Alifokpa people were buried hundreds of years ago, wherein no farming, felling of trees or harvesting of vegetables is undertaken in this area.

The Iroko Tree

The Iroko tree *Milicia excelsa* is one of the trees held in high esteem in Nigeria due to its socio-cultural potentials. The economic value of the tree is also high, as it produces one of the world's most valuable commercial timbers; the timber is strong, moderately hard, and very durable with interlocked and sometimes irregular grain. The wood is also used as firewood and for making charcoal[xxiv]. The mature tree of *M. Excelsa* has a relatively large crown with many leaves. It often occurs in gallery forest and in forest islands or as lone trees in savanna regions, and is sometimes left as a lone tree in old cultivated areas. However, *M. Excelsa* is classified as 'lower risk but near threatened' in the International Union for Conservation of Nature (IUCN) Red list of threatened species due to habitat loss and degradation caused by expanding agriculture, overexploitation of the wood, and Phytolyma fusca attacks.

In Cross River State, it is usually women in the community who are charged as the custodians of knowledge regarding the medicinal and spiritual benefits of the Iroko trees. The root of the tree is believed to treat female sterility and the stem bark is taken as an aphrodisiac. Herb sellers visit the standing trees to peel the bark, which is used for the preparation of local herbal medicines used for treating various ailments. The milky sap from the tree trunks and branches is used to treat arthritis, body pains and rheumatism, and dressing of wounds; while the boiled leaves, mixed with the leaves of Physalis angulata, are used to treat malaria.

The red or yellow sap of the tree is also used as a key ingredient in cosmetics such as body paints for ceremonial adornment. This happens for the coming of age ceremony called Moninkim and the Fattening Room to prepare women for marriage in Efik communities.

Moninkim

Moninkim is a coming of age ceremony practised by the Ejagham community of Nigeria and Cameroon, which involves a period of seclusion in the deep forest as part of an initiation process, where a young girl is "prepared" for marriage. It usually involves female circumcision since the seclusion begins with a clitoridectomy, and the girl remains in the forest camp or compound up to three months. Although there is a worldwide ban on female genital mutilation (FGM), these cultural practices are still prevalent in Cross River State. This ceremony also involves special dances and women receive guidance and instructions on preparing ritual food, marital life and Ejagham art traditions. During this entire period, known as the "Moninkit", a woman is not separated from her immediate family, because she is entering a wider family, which is her age group of women. This new network is supposed to provide female kinship and support for the rest of her life.

At the end of her seclusion, there is the Moninkim's coming-out ceremony, when she performs at the centre of the village to confirm her new status as a woman ready for marriage (Fig. 2). Her costume includes a skirt of bells, a decorated fan and a flywhisk, and white ornaments on her face and body. In contemporary times the Moninkim also used the sap from the Iroko tree to draw signs called nsibiri (from the ancient Nsibidi secret script)[xxv] on her cheeks and forehead.

Theses rituals have helped to develop communal value systems, which in turn, hold and mould women's sense of stewardship within these forest ecosystems and communities.

Leboku

Leboku is the annual New Yam Festival of the Yakurr people of Cross River State, which comprises Ugep, Idomi, Ekori, Mkpani, Nko, Nyima, Agoi and Asiga communities. This is celebrated to honour the earth goddess and the ancestral spirits of the land in Ugep, one of the five settlements of Yakurr. The three-week festival is the culmination of many events: the beginning of the yam harvest, a time to appease the gods and ancestors, a public parade of engaged maidens, a commemoration of events that led to the migration from the Yakurr ancestral home to the present site, and a period of holiday in the Yakurr traditional calendar (mid-August through mid-September). The Leboku festival is crucial to the identity and existence of the Yakurr people[xxvi] and it is the season which commemorates female leaders. The most celebrated female ancestor is a legendary leader known as Mna Esekpa. She is said to have been the first town leader of Ugep and is believed to have pronounced a blessing of prosperity, fertility and increase upon the people.

Recommendations

African traditions, religious beliefs, rituals and cultures are immensely important to rural communities in Cross River State despite the widespread practice of Christianity and Islam. Therefore, any knowledge systems and communication strategies that seek to foster behaviour must take these underlying beliefs into account.

As noted above, cultural practices, which are often an integral part of forest dependent communities' lives have encouraged community driven forest and nature resource conservation attitudes and practices. However, these slong-standing traditions are now on the decline, given modernization, urban development, population pressure and the like. As such, the underlying drivers or assumptions, upon which myths, legends and cultural practices have been built, are being forgotten.

With the exception of practices around FGM, the cultural practices discussed here can be an effective option to promote forest preservation within REDD+ efforts in Cross River State. To help support such efforts and promote the continuation of cultural and local practices and knowledge exchange, behaviour change is needed. An effective good knowledge management strategy, which mainstreams gender, can help to promote such efforts and make implicit knowledge explicit through research, interviews, observation and recording of community practices. New learning and scientific knowledge about the herbal extracts or traditional medicines used by forest communities could also help update practices in ways that help more people as well.

Women in Cross River State evidently have some power and status that is conferred to them by their cultural belief systems and traditions. Therefore, when seeking pathways to engage communities on issues of women's empowerment, starting with existing traditions where they already have voice and power improves the chances of success. Additional, specific activities can also include:

- Develop and then disseminate a video documentary on women and forests in Cross River State, as it is a visually engaging way to capture indigenous knowledge and cultural practices.
- Conduct a short study of belief systems and practices in Cross River State, which documents actions that both may support as well as impede progress on sustainable forest management practices.
- Map the value of creative and cultural economy of Cross River State (the Calabar, Carnival, leboku festival, New Yam Festival etc).
- Hold a public private dialogue (PPD) meeting to assess opportunities for developing the eco-tourism industry in the state, as eco-tourism has proven to be a way to help conserve cultural traditions in areas that are at risk of loosing touch with their ancestral customs and cultural roots.

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