

Potentials of Common Property Resources in a Nigerian Rainforest Ecosystem: An Antidote to Rural Poverty among Women

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Abstract

There is a new and increasing emphasis on poverty alleviation and livelihoods improvement in forestry, representing both a challenge and an opportunity. In Nigeria, it is widely recognised that substantial opportunities exist to enhance livelihoods of marginalised forest dependant communities, through the utilisation of forest resources. This paper briefly reviews the evolution of the livelihoods issue, analyzes the concept of poverty alleviation and discusses means by which forest resources contribute to livelihoods improvement. It focuses on the contributions of forest products to poverty alleviation in a Nigerian rainforest ecosystem. It acknowledges that for poverty reduction to be effective, the many varied and important roles of women, including their contribution to household income generation through the use and management of natural resources, need to be recognised. United Nations estimates indicate that up to 70 % of the world's poor are female, and women in developing countries constitute the majority of the labour force, playing a key role in managing common property resources and helping to protect the environment. This paper shares some of the benefits derived by the rural women from the forest resources and challenges facing them in utilizing these resources.

Keywords: Poverty, livelihoods, women, forest products, Nigeria.

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Introduction:

Common Property Resources are important in addressing poverty issues for marginalised, forest dependant communities, by contributing to livelihood outcomes, including food security, health and well being, and income (FAO, 1995; Falconer, 1996). In many parts of the world these resources are critical, especially for the rural poor and women, and may provide them with the only source of personal income (Falconer, 1996). It is the socially most marginalised people who are the main actors in CPR extraction. They represent an important source of income and employment, particularly to women, encouraging increased production and harvesting for local trade (Marshall and Newton, 2000).

During the past decade Common Property Resources (CPR) have been widely promoted as a potential solution to high rates of tropical deforestation. The

commercial development of these resources , such as fruits, nuts, resins, fibre and medicines derived from biotic species, could increase the value of the resources. As a result, many development agencies and conservation organizations have fostered the commercial development of such products, with the aim of encouraging common property resources conservation while alleviating rural poverty. According to DFID (2000), the lack of access to natural resources was identified as one of the two most important linkages between poverty and the environment. The main limitations to poverty reduction, from an environmental perspective, are identified as social, institutional and natural constraints to sustainable utilisation of the Common Property Resources. Gender discrimination is globally the most widespread form of social exclusion, and this inequality is a key obstacle to development (DFID, 1999). United Nations estimates indicate that up to 70% of the world's poor are female, and women in developing countries constitute the majority of the labour force, playing a key role in managing community resources and helping to protect the environment.

About 80% of the rural women in Nigeria can be classed as poor, with the average household income from all sources being less than US\$1 per person per day¹ (Osemeobo 2004). In rural areas, about 10% of the households are headed by women (World Bank 1996). The majority of the women have no formal education, with about 15-20% and 5% having completed primary and secondary education respectively (UNDP 1998). the rural areas are to a large extent cut off from the benefits of development – such as access roads, safe drinking water, electricity and modern health facilities. The rural women are forced by circumstances to arrange their lifestyles in such a way as to be self-sustaining with little input from urban areas. In addition to poor infrastructure, women face an unfavourable land tenure system that tends to deny them long-term access to land for cultivation and harvesting timber from natural forests, even as members of land-holding communities. Gender discrimination forces poor women to depend almost entirely on the forests to meet household needs and fulfil their marital role of ensuring the welfare of the family. This involves childcare, feeding, maintenance of homes, spiritual welfare and other *ad hoc* socio-cultural duties. The latter include preparation of food for festivals and ceremonies, organisation of women groups for community development such as entertainment (dancing groups), training girls for marriage, harvesting crops and collection of forest products (Osemeobo 1993, Osemeobo 2001).

In the Nigerian rainforest zone, agriculture is the mainstay of the rural economy. In periods of famine, there are limited sources of income to sustain the households. At these times, rural women depend almost entirely on natural forests to sustain the households while the men are engaged in cultural festivals, including masquerades and dancing troupes, which often attract tourists to rural areas. The women engage in harvesting biotic resources, including collection and marketing of non-timber products to generate income for households. Gender strongly determines vulnerability to poverty and women are more vulnerable to fall into, and remain entrapped within poverty, than men Rural women have many varied roles and responsibilities, but much of their contribution to local economy is undervalued and as such can result in invisibility of women workers in their own rights. In Nigeria, it is already known that harvesting and management of the common property resources is undertaken primarily by women, who face a specific set of opportunities and constraints in relation the utilisation of theses resources. Nigerian women have a

strong working knowledge of CPR and are the main transmitters of this knowledge to other generations.

¹ US\$1 equals approximately 132.5 Naira, as at December 2004

However, the rural women suffer from lack of access to health and education services, social norms limit their participation in public life and restrict opportunities, and their low levels of educational attainment result in occupational segregation and inequality. The UK Government's 1997 White Paper reflects this international instance, recognising that a commitment to gender equality is essential in addressing poverty elimination, based on principles of human rights and social justice: "Until men and women have equal access to the resources and services necessary to achieve their individual potential and fulfil their obligation to household, community and more broadly to society, poverty cannot be eliminated" (DFID, 1999).

This paper acknowledges that for poverty reduction to be effective, the many varied and important roles of women, including their contribution to household income generation through the use and management of Common Property Resources need to be recognised. Therefore, this paper examines how Nigerian rural women within the rainforest zone sustain their household livelihoods from the common property resources during agricultural production. The specific objectives are to:

1. identify the common property resources rural women utilise to meet the immediate household requirements;
2. assess the economic value of biotic resources collected by women from the forests at household levels; and
3. examine the occupations derived from the use of forest products in rural areas.

Methodology

The Study Area

The study was carried out in Ondo state in the lowland rainforest of Nigeria. The state is located in the southwestern part and lies between longitudes 4.00⁰ E and 6.00⁰E and latitudes 5.45⁰N and 8.15⁰N. It covers an area of over 15,595 square kilometers. The climate of the state is tropical with two sharp seasons that is the dry and the rainy seasons. The rainy season commences in March and ends in October with a peak in July/August while the dry season which and dry occurs between October and March. During the rainy season, up to 2000mm of rainfall may be experienced in the coastal areas of the south, diminishing to 1500mm in the hinterland. The temperature varies from 21⁰C to 29⁰C throughout the year with an average value of 25⁰C. The state is blessed with a near perfect 12-hour diurnal range. The vegetation pattern across the state varies in accordance with the climate and rainfall.. Due to the climatic influence of the region, the people of the state are predominantly farmers producing different kinds of crops ranging from crops to cash crop. (FOS, 2001).

Sampling Techniques

Multistage sampling technique was used for this study. Four local government areas (LGAs) in the rainforest zone of Ondo State were used. Three rural communities were randomly selected from the list of communities in the selected LGA as shown in Table 1. Twenty female respondents were purposively selected from each of the communities.

Data Collection and Analysis

Twelve communities were selected by multistage sampling, and then households were selected at random from these communities. This selection process involved the use of an ecological map of Ondo state, from which the LGAs occupying the rainforest zone were identified and listed. Four LGAs within the rainforest zone were selected for data collection. In each of the selected LGAs, three rural communities were selected. A pilot visit was conducted in the 12 selected communities to gain an understanding of the level of exploitation and use of wild bio-resources. Selection of respondents for the interviews involved a purposive sampling procedure. One adult woman involved in the collection of common property resources in each of the selected houses was interviewed. A total of 240 rural women were interviewed from the 12 communities in the study area as presented in Table 1. Data were collected through: (1) interviews with a set of questions on common property resources utilisation and tenure issues; (2) group discussions with market women and (3) visual observations of women's activities to validate the information on CPRs utilisation and employment generation for women, and to identify the species of flora and fauna collected. A questionnaire was developed, and tested through a pilot survey, and questions not adequately understood were adjusted to provide greater clarity for respondents. The data collected was subjected to descriptive statistics in form of frequency and percentage distribution.

Table 1. Sample size by communities

	Local Government Area	communities for interview	respondents in each community
	Ifedore	Ikota Aye camp kajola	20 20 20
	Akure south	Ipinsa Oda Olokuta	20 20 20
	Ondo west	Asantan-oja Bagbe Igbado	20 20 20
	Idanre	Tejugbola Aponmu lona Gberiwajo	20 20 20
Total	4	12	240
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Results and Discussion

Access to Common Property Resources

Common Property Resources (CPR) are usually in their natural forms and exist in the wild or in agro-ecosystems. The resources are collectively owned and managed by a defined group of users. In this study, access to common property resources was seen in line with the communal land tenure system but with local variations among the rural dwellers. It was discovered that the control of resources utilization diminished due to differences in the population of resource users, differences in the strata of rural communities and the size of natural forests within the jurisdiction of communities. The CPR formed the main thrust of the rural women economies and the absence of these resources could mean the difference between life and death to members of the rural communities. This is because CPR were used on a daily basis for food, medicine, shelter and financial income. The exploitation of the CPR outside forest reserves are based on mutual understanding between landowners and government. The findings from this study revealed that at the local level, access to CPR lacked equity. According to International Labour Office (1995), women face unequal access to productive resources and services although they are largely dependent on self-employment for which land, capital, technology and labour are critical. The unmarried woman holds inferior rights to her father's farmland, which are lost on marriage. A married woman has no right to land inheritance from either the father or the husband. Only her male children have the right to cultivate the land allocated to their father when the elders of the family give their consent, otherwise, the land reverts back to the husband's family. The only way a woman can own land is through erecting a building, and it is on this basis that land can be absolutely owned and hence can be sold or inherited on a permanent ownership basis. It was found out that most of the women in this study area had no daily access to resource exploitation. However, some were found of visiting the CRPs during leisure/ vacations to take advantage of the rich heritage. Dankelman and Davidson (1988), reported that the main constraints to women's participation in forest management are land tenure and cultural taboos. Traditional institutions (comprising the council of elders, traditional priests and the village head) do not allow women to have their say in proffering solutions to forest management problems on which their welfare is based. Because women's views are often neglected, the traditional and sectoral land-use policies conflict with the options of women in forest resource utilisation and this has led to breakdown of forest protection and of sustainable yield (Osemeobo 2001).

Utilization Potentials of Common Property Resources

Utilization of CPR across the social strata, they were utilized for construction, farming tools and household utilities. The main activities carried out in the forests by women were found to be harvesting of non-timber forest products, including firewood, fruits, nuts, leaves, mushrooms. According to Osemeobo (2005), gathering of NTFP by women is a specialist occupation, the techniques for which are based on traditional knowledge in terms of understanding the ecology of the forests. These traditions are often based on myths, rituals, and taboos which manifest particularly in the collection of medicinal plants. Collection of snails is a wet season activity for rural women. In the study area, snail collection was carried out at night (midnight to 4 am). There is high demand for snails in the rainforest zone for food, cash, traditional medicine and rituals. Most times, the CPRs were exported to urban areas from the rural areas. Habitat destruction has reduced the snail population in natural ecosystems in the last decade. The common species that meet the economic and

socio-cultural needs of the people are *Archachatina marginata*, *Helix pomatia* and *Limicolaria aurora*. are used as delicacies in soups and in traditional medicines. Gathering also involves harvesting of leaves for wrapping food (*Thaumatococcus daniellii*), soup condiment (*Parkia biglobosa*), fruits for spices (*Piper guineense*) and flowers of plants for soap making (*Elaeis guineensis*). These activities greatly affect the productivity of the species because intensive pruning limits regeneration due to reduced seed production. These activities are widespread in the forests because the species used for soup condiments occur in low densities of an average of between 0.1 – 1.6/ha (Okafor 1981). In addition, most of the species are known to occupy narrow ecological sites (except *Elaeis guineensis*) and are thereby adversely affected when the natural forests are destroyed for agricultural production. CPR exploitation was found to be a part-time occupation for 74.3% of the respondents (Table 2). The three common activities (20.5%), gathering of leaves, ropes, mushroom etc (15.5%) and collection of snails (11.4%). While, production of soap (10.5%), collection of medicinal plants (10.3%), and production of oils from seeds/nuts (6.1%) were part of the prominent activities.

Table 2. Women’s activities in common property resources

Activity	Proportion of respondents (%)	Proportion of part-time resource users (%)	Proportion of full-time resource users (%)
Gathering of leaves, ropes, mushrooms, fruits and nuts	16.8	15.5	1.3
Fuelwood production	25.7	20.5	5.2
Collection of snails	11.4	11.4	0.0
Medicinal plant collection	15.8	10.3	5.5
Production of oils from seeds/nut	19.5	06.1	13.4
Production of soap/body decorations	10.8	10.5	0.3
Total	100	74.3	25.7

This study confirmed that traditional medicine was second to food in CPR utilization. Over 80 percent of the women interviewed depend entirely or partly on traditional medicine for primary health care delivery. The raw materials were derived from wild biotic resources, indigenous plants and animals and non-living materials. All plants parts were utilized for traditional medicine, from leaf buds to stem, leaves, roots, bark, flowers, fruits, nuts, exudates, seeds and dry matter in the litter form. The respondents explained the reasons for the wide spectrum of usage. However, it is known that differences exist in drug components of plants, parts of plants utilized and season of collection. The common wild animal parts used for traditional medicine were; claws, hoofs, bones, scales, feathers, skins and hairs. Occasionally, whole live or dead animals such as snail, rodents, fish and reptiles were used. The use can be classified as curative, spiritual/culture and dispol. The curative medicine relates to conception and delivery, fertility, general diseases etc. while the spiritual

uses were to protect people against witches, evil spirits and worshipping of deities. The cultural uses were for installation of chiefs, priests, burial ceremonies etc. The plants used in dispol medicine were not revealed by the respondents. It was found out that the reason to caused dispoil to others was to instill discipline in the community. The major species used for various purposes are presented in Table 3.

Assessment of the Socio-Economic benefits of Common Property Resources.

Generally, CPRs respond to market failures because of problems posed by assigning values to intangibles. However, CPR had significant roles to plant in market economy. At the local level, access to CRP lacked equity but he majority of individuals with limited income opportunities were more dependent on CPR. The level of dependence on CPR by the rural women in the study area for food (30.5%), fuelwood (20.2%), income generation (15.8%) and traditional medicine (15.5%). Other uses such as cultural advancement, household utilities, farming tools accounted for 18%. The use of CPR for cultural advancement is one of the main under unifying force for the preservation of CPR. The household utilized and farming tools include: brooms, baskets, mortal and pestle, farm implement handles etc. These items were in daily use by the rural dwellers. Table 4 present the financial benefits realised from the sale of some CPR by the women in the study area.

Table 3. Major species used by rural women

Uses	Major species
Firewood	<i>Anogiessus leiocarpus, Anogiessus latifolia, Afzelia africana, Moringa oleifera, Parkia biglobosa, Nauclea diderrichii, Trichilia hirta, Trema guineensis, Trema orientalis, Burkea africana, Terminalia glaucesscens, Mitragyna africana, Parkinsonia aculeate, Daniella oliveri and Dialium guineensis</i>
Medicines	<i>Alchornea cordifolia, Spondias mombin, Combretum racemosun, Acanthospermum hispidum, Vernonia amygdalina, Byrsocarpus coccineus, Phyllantus muellerianus, Sansevieria liberica, Cissus aralioides, Acanthus montanus, Desmodium Scopiurus, Nauclea latifolia, Sida urens, Triclisia patens, Desmodium velutium, Aphania senegalensis, Gloriosa superba, Psychotria vogelii, Aldornea cordifolia, Cissus arabides, Costus afer, Cyclosonus afer, Hannoe undulata and Cassia rotundifolia</i>
Food and Soup Condiments	<p data-bbox="177 1671 480 1704">(1) Leaves/fruits <i>Genetun africana, Ceiba pentandra, Moringa oleifera, Adasonia digitata, Vernonia amygdalis and Pterocarpus aerenasious, Prosopis africana, Dialium guineense, Tamarindus indica and</i></p> <p data-bbox="177 1783 480 1816">(2) Nuts/seeds <i>Monodora myristica, Irvingia gabonesis, Afzelia africana, Parkia biglobosa, Parkia bicolour, Pentaclethra macrophylla and Irvingia gradifolia</i></p> <p data-bbox="177 1895 480 1928">(3) Oils <i>Elaeis guineensis, Baillonella toxisperma and Ricinus communis</i></p> <p data-bbox="177 1962 480 1995">(4) Spices <i>Afromomum melagueta, Pipper guineense and Xylopia ethiopica</i></p>

(5) Mushrooms	<i>Agaricus campestris, Aleuria aurantia, Cookenia suisipes, Mycena prolifera, Ramaria moelleriana, Termitomyces globules, Termitomyces microcarpus, Volvariella esculenta, Polyporus dermoporus, Chlorophyllum molybditis, Phlebopus silvaticus, Coprinus micaceus and Lentitus tuberrigium</i>
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Table 4. Percentage of Respondents and annual income realised from CPR

Income from the sale of	< ₦60,000	₦60,000- ₦80,000	₦80,000- ₦100,000	₦100,000- ₦120,000	> ₦120,000
Forest fruit	14%	36%	43%	7%	0%
Mushroom	100%	0	0	0	0
Palm products	8%	35%	31%	11%	15%
Firewood	18%	10%	36%	18%	18%

The table revealed that many of the women in the study area derived reasonable income from the utilisation of the resources. It shows that none of the respondents earn more than ₦60,000.00 per annum from the sale of mushroom this is due to the fact that most households gather mushroom for household consumption as meat substitutes. It has therefore helped them out nutritional deficiencies and hunger as observed by Adedayo and Akindele (2003). While 35% of them earn between ₦60,000 - ₦80,000 per annum from the sale of palm products this is because palm trees are in abundance in this rainforest zone. About 43% of the women earn between ₦80,000 - ₦100,000 per annum from the sale of forest fruits. This is due to the fact that indigenous fruit trees are in abundance within the study area as confirmed by Adekunle and Oyerinde, (2004).

Challenges facing Common Property Resources utilisation

CPR have been neglected in natural development planning in Nigeria despite their valuable contributions to rural economy and poverty reduction. For CPR market to be well developed, the management and control should be properly addressed. This study highlights the opinion of the respondents on the causes of decline in CPR. The causes identified were; land tenure changes, commercialization of resources and habitat loss. These factors have led to over-use and abuse of resources, deforestation, a breakdown in traditional control and management of the common property resources in Nigeria.

Conclusion

The study has shown that common property resources play important roles in rural household poverty reduction through the provision of income, fuelwood, and medicinal materials in the study area. However, in order to save the CPR from extinction, land use systems in Nigeria must accommodate modern trends in resource utilization and conservation. The resources must improve the quality of human life and be readily integrated into the existing land use forms. Domestication of the CPRs should be encouraged through financial incentives and extension programmes specifically addressed to women folk. Government policies that are based on social institutions with full participation of women and the poor should be among the priorities of forest management at community level.

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