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Conservation and Biodiversity Erosion in Ondo State, Nigeria: (3). Survey of Plant Barks Used in Native Pharmaceutical Extraction in Akoko Region

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Abstract

Survey of plant barks used in native pharmaceutical extraction in Akoko region of Ondo State, Nigeria was carried out. All the species identified were local and the harvesting methods employed were inhibitory. Only about 26% of the species were cultivated and these were cultivated for purposes other than medicine. Sustainable strategies for the continuous supply of the species were identified.

Key words: Conservation, biodiversity, plant barks, native pharmaceuticals.

Introduction

The indiscriminate harvesting of plant barks is now a common occurrence in the southwestern parts of Nigeria (Fasola and Egunyomi 2002), that is mainly inhabited by the Yoruba ethnic group. A distinct feature of this group is the possession of a vast knowledge of the medicinal importance of the flora in their area. Kayode (2002) had asserted that the use of plant parts for health maintenance had an integral component of Yoruba culture that genuinely guided and passed from one generation to another.

The Akoko is a distinct indigenous tribe among the Yoruba and are presently occupying the northwestern parts of Ondo State, Nigeria where they are presently delineated into four local government areas. The major vegetation formation of these areas is the derived savanna. At present the area, like other parts of Nigeria, is experiencing massive deforestation, bush burning, uncontrolled farming and grazing activities. Thus the study being reported here is part of on-going collaboratory studies on the ethnobotanical utilization in Ondo State being conducted by the Department of Plant Science, University of Ado-Ekiti, Ado-Ekiti, Nigeria and the Department of Plant Science and Biotechnology, Adekunle Ajasin University, Akungba-Akoko, Nigeria.

Materials and Methods

Semi-structured questionnaire matrix was used to interview relevant stakeholders who included botanical vendors, individuals, groups and key informants. Two major market centers were selected from each of the four local government areas. In each market, five botanical vendors were randomly selected and interviewed. Botanicals whose barks were used in native pharmaceuticals were identified and voucher specimens of such were obtained from them. The specimens were later taken to the herbarium of the Department of Plant Science and Biotechnology, Akungba-Akoko.

Also, in each of the community where the selected markets were located, ten individuals who had maintained continuous domicile in them, for a period of not less ten years, were selected and interviewed on the identified botanicals. Separate visits were later made to the communities during which group interviews were conducted with a view to verifying the information obtained from the vendors and individuals earlier interviewed. Each group consisted of a minimum of three people and five groups were interviewed in each community. The key informants, made up of the officials of the Forest Department and the Local Governments in the study area, were interviewed to provide secondary information on the subject matter.

Results and Discussion

The barks of 27 plant species belonging to 18 families were identified as being used for native pharmaceuticals in the study area (Table 1). The barks are usually soaked in water in a bottle and the filtered aqueous extracts are taken once or twice daily. The dosage however varied from one species to another. Also the dosage prescribed for children differed from those of the adults. All the barks were available for sale in the local markets of the study area. This guaranteed their availability for use among the indigenous communities who could also sourced them from the aboriginal forest community as well as the individual household farms. Only 7 species, representing only about 26% of the species, were cultivated in the study area. These species were cultivated for purposes other than medicine. *A. occidentale*, *B. sapida*, *C. sinensis*, *C. nucifera*, *M. indica* and *P. guajava* were cultivated for their edible nutritious fruits, which also served as major source of income especially during the off-farm season. *A. indica* is cultivated to serve as shelterbelt and as a wind breaker usually in the household areas. All the species could be said to be indigenous as they had existed for several years in the study area and information about their medicinal potentials had been passed over many generations.

The harvesting methods employed in getting the barks of these species were predatory and annihilative. Debarking is carried out without consideration for age and the demography of the species. Field observation revealed the existence of some of these species with circular debarking already carried out on them. Previous observation by Fasola and Egunyomi (2002) had revealed that such individual species are liable to death. Thus, supporting the previous assertion of Homman (1994) that predatory and annihilative extraction methods entailed the destruction of source(s) such that the rate of regeneration is slower than the rate of extraction. The availability and sale of the barks in the markets is indicative of an unhindered debarking exercise. That the over 70% of the species were not cultivated is a cursor to their being endangered. Most of the species, as observed by Shinwari and Khan (2000) required prolonged period of growth and require considerable number of years to reach flowering and fruiting stage thus minimizing their

regenerating possibilities. Respondents revealed that it is better and easier to get the barks of some of these species from the markets rather than scavenging for them in the forest as this could take several hours to obtain. This observation tends to suggest that the economic potentials of these species could serve as incentive to their being domesticated. Kayode (2006) had stressed the need for the encouragement of individuals and communities' participation in tree planting in Nigeria. Each structural unit-the local government area-could be persuaded to establish a botanical garden where important medicinal species could be planted. The forest department could be encouraged to embarked on the enumeration of the existing species with the aimed of developing an accurate data base on the indigenous species in the state. Perhaps government could endeavour to make seedlings of these species available to interested people willing to cultivate these species. These will make these species available at all time in the study area.

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Table 1.

Identified botanical species used for native pharmaceuticals in Akoko, Ondo State, Nigeria.

Botanical name	Vernacular name	Disease (s) cured with barks
<i>Acacia ataxacantha</i>	ewon agogo	dysentery, diarrhea
<i>Alstonia boonei</i>	ahun	natality
<i>Alstonia congensis</i>	awogba	malaria
<i>Anacardium occidentale*</i>	kasu	malaria, dysentery
<i>Ancistrophyllum secundiflorum</i>	okuku	malaria
<i>Aristolochia repens</i>	ako ogun	diabetic, rheumatism
<i>Azadirhita indica*</i>	dongoyaro	malaria, jaundice, catarrhal, skin disease
<i>Blighia sapida*</i>	isin	fever, headache, backache, ulcer
<i>Bridelia ferruginea</i>	ira	diabetics, rheumatism, gonorrhoea, dysentery
<i>Calliandra patriocensis</i>	tude	constipation
<i>Citrus sinensis*</i>	osan	fever, headache
<i>Cocos nuciferi*</i>	agbo	dysentery
<i>Erythrophleum sauevelens</i>	obo	malaria
<i>Harungana madagascarensis</i>	arunje	dysentery, fever
<i>Khaya ivorensis</i>	oganwo	malaria
<i>Lawsonia inermis</i>	laali	rheumatism, gonorrhoea, jaundice
<i>Mangifera indica*</i>	mangoro	malaria, fever, diarrhea, dysentery
<i>Newbouldia laevis</i>	akoko	worms, dysentery, malaria,, migraines
<i>Parkia biglobosa</i>	iru	malaria, fever
<i>Psidium guajava*</i>	gurofa	fever, diarrhea, cough

<i>Securdaca longepedunculata</i>	ipeta	diabetes, malaria
<i>Sphenocentrum jollyanum</i>	akerejupon	worms
<i>Terminalia macroptera</i>	idi	piles, laxative
<i>Terminalia superba</i>	afara	laxative
<i>Tetrapleura tetraptera</i>	aidan	rheumatism, gonorrhoea
<i>Uvaria afzelli</i>	gbogbonse	fever, cough
<i>Xylopiya aethiopica</i>	arunje	dysentery, cough, bronchitis, stomachache

* Cultivated species