

Medicinal Plants Used in Traditional Medicine by Rural Communities in Cross River State, Nigeria

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Abstract

Information on medicinal plants and the activities of the traditional healers in Iko Ekperem/Owai, Etara/Eyeyeng and Biajua communities in Akamkpa, Ikom and Boki Local Government Areas of Cross River State respectively were investigated. The study shows that 60 different medicinal plants were used in traditional medicine in these communities with *Piper guinensis*, *Alstonia boonei*, *Spondia mombin*, and *Okoubaka aubrevillei* having frequencies of 8, 8, 7 and 6 respectively. A total of 35 different ailments were treated using 52 medicinal plants with stomach pain having the highest number (11) of medicinal plants, followed by cough with 9 medicinal plants. The various plant parts used in traditional medicine include bark with the highest frequency of 55 followed by leaves with 44. Other plant parts used include stems (14), roots (21), fruits (9), seeds (36) and exudates/latex (8). The processing of traditional medicine involves grinding, pounding, chewing, boiling and roasting of the medicinal plants which are administered orally, topical, or by incision, excision and through enema. The study revealed that some conservation measures were adopted by the traditional herbalists to ensure the availability of these plant species at all times. Such measures include planting these plant species in home gardens which has the highest frequency of 10 followed by creation of sacred grooves with frequency of 7 and the lowest frequency of 4 were obtained for planting in the farmlands. Traditional medicine is deeply rooted in magic, superstition and dogma. It thrives under mystery and secrecy to the extent that herbalists hardly disclosed the knowledge of herbal cures to even their children talk- less of the outsiders.

Keywords: Herbalists, traditional medicine, traditional healers, ailments, medicinal plants

INTRODUCTION

The rural people live around the forest and depend solely on the forest and its resources for their sustenance. They exploit the resources in the forest to meet their basic needs of health, food, air, shelter, and energy. However, in man's efforts to meet his basic needs and improve his standard of living, the forest and its resources are destroyed. The exploitation of medicinal plants facilitates not only species decline but also infringe on the growth and development of these plants. Over 80% of rural population depends on herbal therapeutics leading to increased exploitation of herbal plants coupled with the high rate of deforestation resulting in forest depletion and destruction (Olapede & Bakare, 1992). The strength of traditional medicine is based on speculation and superstition. Herbalists continue to utilize plant and animal species known to have medicinal properties. Information on such species is usually scanty and unavailable with a lot of them lodged in the head of aged herbalists who normally died with them. It is inconceivable that about 85% of the world's population in the developing countries when ill do not consult medical doctors and may never enter a hospital from the time they were born until they die (Ayensu, 1983). In Africa alone, about 80% of the rural people have no access to modern medicine and therefore depend on the traditional medicine for health care (Sofowora, 1993). Invariably, traditional medicine remains the only option for rural people as their health care system and is highly appreciated by them. Among the rural people, traditional medicine has advantaged over the orthodox medicine in that it is an integral part of their culture and is particularly effective in remedying their local medical problems. Traditional medicine is considered the rural people oriented technology based on herbalism. Herbalism is the most ancient method of healing which draws its strength from plants and other materials in order to provide remedy against diseases. It involves manipulation by tribal priest and medicinal men using various plants and incantations to drive out evil spirits which they believe to be the cause of the diseases (Irvine, 1961). Even though, the knowledge of medicinal plant was developed through trial and error, rural health care is dominated by traditional medicine because of its affordability and accessibility to rural populace relative to the high cost of orthodox medicines and lack of access to hospital facilities. Traditional medicines are based on a mixture of herbal remedies. The traditional practitioners conduct a brief interview and may also consult medium (spirits) before preparing a decoction and administered with directives on periodic doses. Medical herbalism has two major aspects namely real treatment and psychological treatment. The real treatment does not involve incantations or other ritual or ceremonies, but psychological treatment usually require incantations and other ritual or ceremonies such as sacrifice before the medicine can act. Both are extricably joined because the traditional medicine man believed that two aspects of sickness exist which required two types of treatment to cure it. The first aspect is natural and physical causes which relate to the physical damage caused by accidents. The second is psychological or magical causes which are ailments engendered by either evil spirit or influence e.g. hearing unusual sound or vision of a ghost. It is believed that only the traditional practitioner who knows the real cause of the ailment that can cure it. In herbal sphere, five different ways are diagnosed to be responsible for human's

illness but only one of these is known to the orthodox medical practitioners. They deal with only physical ailments arising from poison, impurities, or damage to any part of the body especially when localized. But the traditional herbalist believed to know how to trace the five different causes of diseases which include; physical, psychological, astral influences, spiritual causes and Esoteric causes. The rural people seek medical help from traditional herbalist who has knowledge of medicinal plants. They gained the knowledge of herbal drugs based on many beliefs, assumption and superstitions. The knowledge is transferred orally from one generation to another. It is difficult to unveil the much acclaimed curative potential of some methods of healing because of the mystical and secrecy which usually accompanied their practices. The traditional practitioners revealed that some ailments are effectively treated through herbal sphere and claimed to have herbal cure for lunatic, epilepsy, barrenness, impotence, poisoning or charming and fibroid, but the practitioners would not reveal the steps involved in the treatment to even their children not talk of the outsiders. The traditional medicine practitioners used various plant species found in the forest to treat some illnesses and provide physical relieve to their patients (Le Strange 1977). Herbal drugs obtained from medicinal plants such as *Rauwolfia* had been reported to be effective in the treatment of mental disorders and many others that can be used for treatment of various ailments (Sofowora, 1993 and Graham, 1963). Leaves of Neem (*Azadiractha indica*), *Ficus spp* and *Erythrina senegalensis* have been macerated in water and taken in oral doses as a remedy for malaria fever (Mume 1976, Oliver-Bever 1986). The anti-malaria property of *Cinchona succirubra* bark has been recorded for the treatment of malaria fever (sofowora 1993). The dried root of *Rauwolfia serpentine*, the juice of the leaves of *Aristolochia bracteata* (Snake worth) and the bark leaves and roots of *Alstonia boonei* are macerated in water and drank as a remedy for snakebites (Sofowora, 1993). The leaves of Neem and *Erythrina sp*, the bark of *Ficus sp* thoroughly pounded together and macerated in water have been effective in treating Typhoid fever. Equally effective in the treatment of Typhoid fever are the bark of *Magnifera indica* and the leaves of *Irvingia gabonensis* (sofowora, 1993). Despite the importance of the traditional medicine to rural health care system, the methods of harvesting these medicinal plants were not sustainable. The unsustainable harvesting of medicinal plants and the rapid conversion of the forest into other uses had led to the forest destruction and loss of the gene-pool of these valuable plant species. Therefore, some conservation measures were needed by the traditional practitioners to ensure the availability of these medicinal plants. This study was carried out to identify the different medicinal plants, the parts of plant used and the ailments treated as well as the methods adopted to conserve these plants in Iko Ekperem/Owai, Etara/Eyeyeng and Biajua communities of Cross River State. This will ensure sustained use of these plant species and also encourage the replication of such methods every where tradition medicine is practiced.

Methodology

This study was carried out in Iko Ekperem/Owai, Etara/Eyeyeng and Biajua communities in Akamkpa, Ikom and Boki Local Government Areas respectively of Cross River State. Cross River State is located between latitude 4^o.25 and 6^o.55 North and longitude 7^o.50 and 9^o.28 East. It is highly endowed with numerous solid minerals, forest reserves and community forests. It has a landmass of 23000km² with large expanse of vibrant tropical rainforest and highly fertile soil. Almost one-quarter of its landmass has been carved out as Cross River National Park (CRNP). The climatic conditions of Cross River State are typical of lowland rainforest amidst patches of freshwater swamp. This highly enriched environment supports a suitable microhabitat for various flora and fauna. The climate of study areas is marked by two distinct seasons: the dry and the rainy season. The mean rainfall varies between 200 and 375mm and the mean annual temperature is 27^oc while the relative humidity lies between 75% and 90%. During the time of this study, some of the habitats were already fragmented due to high rate of land cultivation by mostly migrants.

Data Collection

The study adopted random sampling and Participatory Rapid Appraisal (PRA) approach based on group interviews with the elders, woman, members of Forest Management Committee (FMC), herbalists and the youths. A total of 30 prominent traditional herbalists, were sampled and randomly consulted. Ten (10) herbalists from each community were consulted. Information on type of ailment treated, parts of plant used and how these plants are protected by the herbalists constitute our check list. Identification of some tree species was done by the authors while the difficult ones were done with assistance of experienced taxonomist at Forestry Commission Headquarters, Calabar. Data collected were analysed using Data analysis plus to generate frequencies. The results are presented in tables and histograms.

Result and Discussion

The summary of medicinal plants and parts used by the traditional healers in the treatment of ailments in the three Local Government Areas of Cross River State is presented in Table 1. The results show that 60 different medicinal plants were used in traditional medicine in these communities with *Piper guineensis*, *Alstonia boonei*, *Spondia mombin* and *Okoubaka aubrevillei* having frequencies of 8, 8, 7 and 6 respectively. It was also observed that a total of 35 ailments were treated by the traditional herbalists in the study areas with stomach pain having

the highest number (11) of medicinal plants followed by cough with 9 medicinal plants while diarrhoea, Wounds/sores, Abscess, malaria fever and rheumatism have 6 medicinal plants each. The various parts of medicinal plants used include barks with the highest frequency of 55, followed by leaves with 44. Other parts were stems, roots, fruits and exudates/index (Figure 1). The conservation methods adopted for sustenance of these plants are given in Figure 2, with planting of these species in the home gardens having the highest frequency of 10, while planting in the farmland has the lowest frequency of 4. We observed that the traditional healers (either singly or in combination) used many medicinal plants for the treatment of ailments. Most of these medicinal plants like *Piper guinensis*, *Astonia boonei*, *Harungana madagasriensis*, *Xylopiya esthiopica*, *Pycnanthus angolense*, *Okoubaka aubrevillai*, *Spondias mombin* among others are heavily exploited due to their multipurpose characteristics. This attests to the immense importance of these plant species to the rural people who solely depend on them for their primary health care (Lambo, 1979, Sofowora 1993, and Kokwaro 1993). The prevalence of ailments such as malaria fever points to the widespread of this disease in the country and the need to urgently reverse this trend not only in the study areas but also in other rural areas in the country. The traditional practitioners claimed that the rural populace are used to herbal drugs and would only consider the orthodox medicine as a last resort. This is because herbal drugs are affordable and accessible to rural populace relative to the high cost of orthodox medicines and lack of access by rural people to hospital facilities. However, massive exploitation of these medicinal plants in the study areas constitutes a major set back to the growth and development of these plants species. In addition, the removal of leaves, barks, stems and roots from these tree species amount to defoliation, debarking, root destruction and wounds on the stems which could facilitate disease infection (Mishra and Kowal 2003). Despite the importance of the traditional medicine to rural health care system, the methods of harvesting these medicinal plants are not sustainable. The unsustainable methods of harvesting these tree species coupled with the rapid conversion of the forest into other uses have led to the forest destruction and loss of the gene-pool of these valuable plant species. We observed that some conservation measures are carried out by the traditional practitioners to ensure the availability of these medicinal plants at all times. Such measures include planting some of these plants in home gardens which is most common among the traditional herbalists in the study area, followed by the creation of sacred grooves and planting of these plants in the farms. According to Sofowora (1993) and Akerle (1991) it was reported that traditional herbalists ensure the sustained use of medicinal plants by embarking on conservation practices. These measures are not very encouraging due to low number of those involved. There is a call to domesticate some of these plants especially by Government to ensure availability and also sustained management of critically endangered medicinal plants to avoid extinction.

Conclusion and Recommendation

The herbal drugs are claimed by traditional herbalists as the most effective in the treatment of varieties of ailment ranging from abscess, eye pain, malaria, charms, cough and a host of others. Moreover, exclusive reliance on modern medicine can not guarantee the attainment of primary health care for all by the year 2015. This is because of shortage of trained medical practitioners, high cost of modern drugs and unavailability of modern health facilities especially in the rural areas. The oral and dream transfer and use of herbal cures from one generation to another are common but such information is rarely documented. Therefore, herbalism has all along been thriving under mystery and secrecy to the extent that the herbalists would not even reveal the knowledge of herbal cure to their wards not to talk of the outsiders. In view of the above the following recommendations are necessary to ensure the sustainability of these plant species not only in the study area but also in other rural communities:

- Agro forestry practices need to be encouraged with emphasis on artificial regeneration of the multipurpose tree species such as *Piper guinensis*, *Gnetum africanum*, *Xylopiya aethiopica*, among other numerous medicinal plant species.
- Short-term training and retraining programme should be organized for traditional practitioners to educate them on appropriate methods of extracting, screening and analyzing medicinal plants in order to improve upon the traditional medicines efficacy, safety, availability, preservation and application a very low cost.
- Government should educate the traditional healers and herbal drugs peddlers on approved methods of harvesting medicinal plants/parts and the appropriate conservation measures so as to ensure sustained use.
- There should be proper co-ordination of the traditional medicine practitioners up to the end-users.
- Effort should be made to establish botanical gardens/arboreta for further investigation and research especially on the most common medicinal plants.

Table 1: Ailment treated, Plant species and part used in Traditional medicine in Iko/Owai, Etara/Eyeyeng and Biajua communities

	Local Name	Botanical Name	Family	Part Used	Ailment
1	Ekpitatai* Nton* Ijenijen**Ashiose*** Edisimon* Ukwari*Ikeli**	Momordia chorantia Ocimum gratissimum Piper guineensis Heliotropium indicum Spondias mombin	Cucurbitaceae Lamiaceae Peperaceae Boraginaceae Anacardiaceae	Exudate Leaves Seed Root/Stem/Leaves Bark	Eye Pain
2	Oruni*Etoni** Etoukukim Nton* Onoabo*Yimchipai** Paw Paw* Kakeleng***	Harungana madagasiensis Okoubaka aubrevillai Ocimum gratissimum Cylicodiscus gabunensis Carica papaya Enantia chloranta	Hypericaceae Lamiaceae Mimosaceae Caricaceae Annonaceae	Bark Bark Leaves Bark Root/Leaves Bark	Malaria fever
3	Edisimon* Igini**Ntigene*** Bokuk*** Bocham*** Kensange***	Heliotropium indicum Carapa procera Alstonia boonei Pycnanthus angolense Bridelia micrantha	Boraginaceae Mliaceae Apocynaceae Myristicaceae Euphorbiaceae	Leaves/Stem/Root Seeds Leaves/Root Root Leaves/Bark	Worm repellent
4	Kechichi*** Ising*Acymbai**Bologhe*** Etorc**Akukechi*** Ijenijen**Ashiose*** Onoabo*Yimchipai**	Treulia africana Distemonathus benthamianus Entandrophragma utile Piper guineensis Cylicodibcus gabunensis	Moraceae Caesalpiniaceae Meliaceae Piperaceae Mimosaceae	Latex Stem/Bark Fruit Seeds Bark	Chest pain
5	Kpui* Bokuk*** Ebin*Kepeng*** Losen**Oshie*** Ntigene***Igini** Uyinija*	Cestus afer Alstonia boonei Tetraptera tetrapleura Baphia nitida Carapa procera Physostigma venosum	Zingiberaceae Apocynaceae Mimosaceae Papilionaceae Meliaceae Papilionaceae	Leaves Root/Leaves/Bark Fruit Leaves Seeds Seeds	Rheumatism
6	Butikabi*** Bokuk***	Uvaria chacam Alstonia boonei	Annonaceae Apocynaceae	Root Root/Bark	Snake bite
7	Okponkoron* Bobe***	Boerhavia diffusa Cola acuminata	Nyctaginaceae Sterculiaceae	Leaves/Root Leaves	Menstrual pain
8	Kasuachi*** Kui* Otesi*Otasi*** Shiri*Ojie*** Ijenijen**Ashiose*** Etorc**Akukechi*** Bocham*** Nton* Kechichi***	Afromomum melegueta Costus afer Gongrunema latifolium Garinia kola Piper guinensis Entandrophragma utile Pycnanthus anglense Ocimum gratissimm Treulia Africana	Zingiberaceae Zingiberaceae Asclepiodaceae Gutiferae Piperaceae Meliaceae Mynsticaceae Lamiaceae Moraceae	Seeds Stem Stem/Leaves Seeds Stem/Seeds Fruit Bark Leaves Bark/Latex	Cough
9	Kasuachi*** Kensange*** Bobe*** Kpui* Ijuoma*Ntwol** Shiri*ojie** Otesi*Otasi** Debin*Ijuo**Bujop*** Kakabuk*** Ijenijen**Ashiose*** Ukwari*Ikeli**	Afromomum melegueta Bridelia micrantha Cola nitida Costus afer Oula edulis Garcinia kola Gongrunema latifolium Irvingia gabonensis Nauclea latifolia Piper guinensis Spondias mombin	Zingiberaceae Euphorbiaceae Sterculiaceae Zingiberaceae Olaaceae Guttfierac Asclepiadaceae Irvingiaceae Rubiaceae Piperaceae Anacardiaceae	Root Leaves/Bark Bark/Seed Leaves/Stem Bark/Nut Seeds Leaves/Stem Bark Root Seeds Leaves/Bark	Stomach pain
10	Bakikor*** Ukwari*Ikeli** Ndopdop* Shiri*Ojie***	Urtica diolca Spondias mombin Bryophyllum pinnatum Garcinia Kola	Anacardiaceae Grassuaceae Guttfierac	Root/Leaves/Stem Leaves/Stem Leaves Seeds	Asthma
11	Demeron* Nton* Inwun*	Aspilia latifolium Ocimum gratissimum Monodora myrstica	Compositae Lamiaceae nnonaceae	Leaves Leaves Bark	Headache
12	Kasuachi*** Bokuk*** Debin*Ijuo**Bujop*** Etokukim* Osankwal*** Ijenijen**Ashiose***	Afromomum meleguete Alstonia boonei Iroingia gabonensis Okoubak aubrevillae Sida acuta Piper guinensis	Zingberaceae Apocynaceae Irvingiaceae Malvaceae Piperaceae	Seeds Latex Bark Bark Root Seeds	Abcess
13	Etokukim* Osnkwal*** Bokuk** Ntigene***Igini** Okibomi*Kachi kabiam***	Okoubaka aubrevillai Sida acuta Alstonia boonrei Carapa procera Piptadeniastrum africanum	Mimosaceae Malvaceae Aocynaceae Meliaceae Mimosaceae	Bark Root Bark Seeds Bark	Poisoning

	Local Name	Botanical Name	Family	Part Used	Ailment
14	Ijenijen**Ashiose*** Ebin**Kepeng*** Kenya***	Piper guinensis Tetrapleura tetraptera Xylopia aethiopica	Piperaceae Mimosaceae Annonaceae	Seeds Fruit Fruit	Draining of Blood
15	Bobé*** Utiewa** Dedia*Luto**Boku***	Cola nitida Cnestia furruginea Pterocarpus soyauxii	Sterculiaceae Connaraceae Papilionaceae	Bark Root Leaves/Bark	Miscarriage
16	Ebikiel**Boka*** Kenya***	Carpolobia lutea Xylopia Aethiopica	Polygalaceae Annonaceae	Roots Seeds	Impotency (male)
17	Losen**Oshie*** Kenya***	Baphia nitida Xylopia aethiopica	Papilionaceae Annonaceae	Leaves/Bark Seeds	Nervous disorder
18	Isop* Bocham***	Afromomum daniella Pycnanthus angolense	Zingiberaceae Myristicaceae	Root/Seeds Bark	Chicken/Small pox
19	Utiewa* Oruni*Etoni** Kekeleng*** Okibomi*Kachikabiam*** Ijenijen**Ashiose***	Cnestia furruginea Harungana madagasriensis Enantia chloranta Piptadeniastrum africanum Piper guinensis	Connaraceae Hypericaceae Annonaceae Mimosaceae Piperaceae	Fruit Leaves Bark Bark Seeds	Tooth ache
20	Kpui* Ndopdop*	Costus afer Bryophyllum pinnatum	Zingib eraceae Grassulaceae	Stem Leaves	Ear pain
21	Bede*Ofor**Bejie*** Debin*Ijuo**Bujop***	Baillonela toxispermum Ivingia gabunensis	Sapotaceae Iringiaceae	Seeds Bark	Strangulated hynia
22	Oruni*Etoni**	Harungana madagasriensis	Hypericaceae	Young leaves	Hasten delivery
23	Ohuani*Okana**Elole*** Otesi*Otasi*** Nwari* Bocham***	Gnetum africanum Gongrunema latifolium Mallotus oppositifolus Pycnanthus angolense	Gnetaceae Asclepiadaceae Euphorbiaceae Myristicaceae	Young leaves Leaves Leaves Exudate	Bleeding
24	Etoukukim* Uyinija* Odangbole***	Okoubaka aubrevillai Physostigma venosum Erythrophyllum ivorensis	Mimosaceae Papilionaceae Caesalpiniaceae	Bark Seed Bark	Anti-witchcraft
25	Etoukukim* Ukwari* Ikeli*	Okoubaka aubrevillai Spondias mombin	Mimosaceae Anacardiaceae	Bark Leaves/Bark	Elephantiasis
26	Bokuk*** Loseri** oshie*** Kakabuk*** Uwari* Ikeli**	Alstonia boonei Baphia nitida Nauclea latifolia Spondias mombin	Apocynaceae Papilionaceae Rubiaceae Anacardiaceae	Latex/bark Roo Root Leaves/Bark	Gonorrhea
27	Ising* Achymbgai** Bolonghe*** Oruni* Etoni** Debia* Luto** Boku*** Igini** Ntigene*** Uyinija*	Distemonanthus benthamianus Harungana madagasriensis Pterocarpus soyauxii Carapa procera Physostigma venosum	Caesalpiniaceae Hypericaceae Papilionaceae Meliaceae Papilionaceae	Bark Exudate/Bark Bark Seed Seed	Scabies/Ringworm
28	Kenya*** Ijara* Utiewa* Nwari*	Xylopia aethiopica Hura crepitans Cnestia furruginea Mallotus oppositifolus	Annonaceae Boraginaceae Connaraceae Euphorbiaceae	Seed Bark Fruit/leaves Leaves/Bark	Sore-throat
29	Okibomi* kachikabiam*** Uyinija* Etoukukim* Bokuk***	Piptadeniatrum africanum Physostigma venosum Okoubaka aubrevilai Alstonia boonei	Mimosaceae Papilionaceae Mimosaceae Apocynaceae	Bark/Exudate Seed Bark Bark	Anti-charm
30	Enung***	Afromomum sceptrum	Zingibraceae	Leaves/stem	Post delivery fever
31	Kenya*** Uwari*Ikeli** Utiewa* Ijuoma*Ntwol**	Xylopia aethiopica Spondias mombin Cnestia furruginea Coula edulis	Annonaceae Anacardiaceae Connaraceae Olacaceae	Seed Leaves/Bark Leaves Bark/seed	Dysentery/Vomiting
32	Knsange*** Bobé*** Ijuoma*Ntwol** Utiewa* Kakabuk*** Ukwari* Ikeli**	Bridelia micrantha Cola nitida Coula edulis Cnestia furruginea Nauclea latifolia Spondias mombin	Euphorbiaceae Serculiaceae Olacaceae Connaraceae Rubiaceae Anacardiaceae	Bark/leaves Bark/Seed Bark,Seeds Root Stem/leaves Leaves/Bark	Diarrhoea
33	Kasuachi*** Edemron* Ntigene*** Igini** Nwari* Otesi* Otasi*** Kakeleng***	Afromomum melegueta Aspilia Latifolium Carapa procera Mallotus oppositifolus Gongrunema latifolium Enantia chloranta	Zingiberaceae Compositae Meliaceae Euphorbiaceae Asclepiadaceae Annoaceae	Root/seed Leaves Seed Root Stem Bark	Wounds/sores/burns
34	Ijenijen** Ashiose*** Bokuk*** Kenya***	Piper guinensis Alstonia boonie Xylopia aethiopica	Piperaceae Apocynaceae Annonaceae	Seed Leaves/Root Seed	Fracture
35	Onoabo* yimchipai** Ising* Achymbgai** Bolonghe*** Orun* Etoni**	Cylicodiscus gabunensis Distemonanthus benthamianus Harungana madagasriensis	Mimosaceae Caesalpiniaceae Hypericaceae	Bark Stem/bark Bark/leaves	Yellow fever

Figure 1: Conservation methods by Traditional Healers in the three Local Government Areas in Cross River State

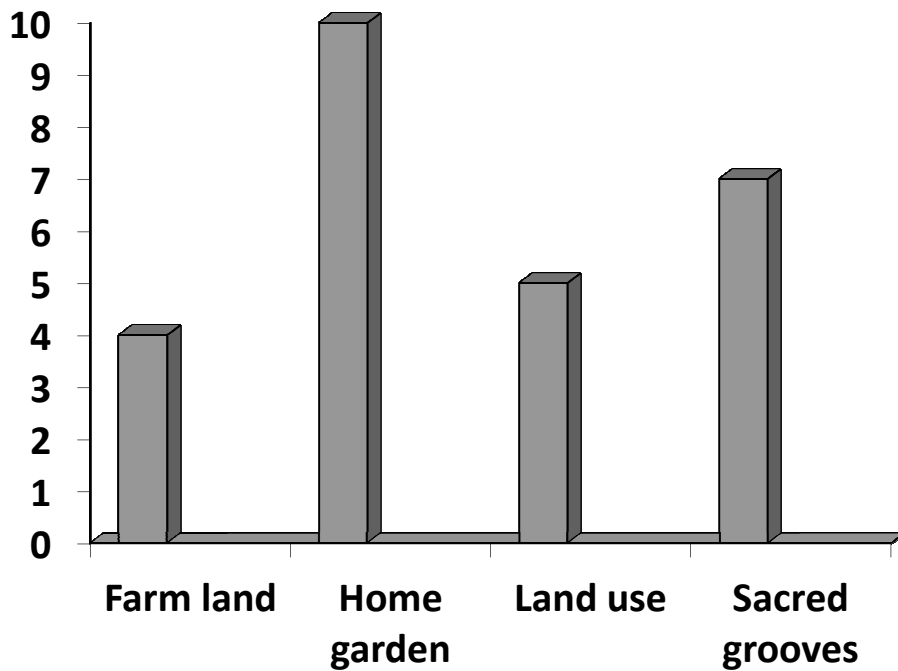
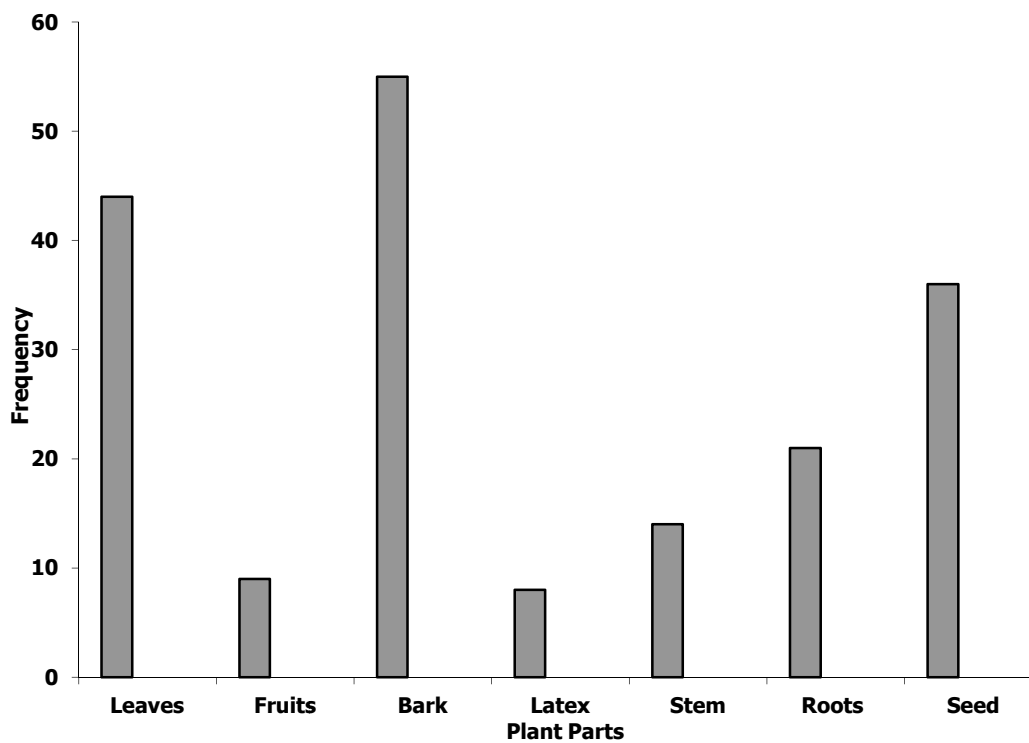


Figure 2: Parts of plants used in Traditional Medicine in three Local Government Areas in Cross River State

Figure 2: Partsof plant used in traditonal meedicine in three Local Government Areas in Cross River State



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