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Ethnobotanical Survey of Medicinal Plants amongst Kanti Community in Mashegu Local Government Area of Niger State, Nigeria

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ABSTRACT

There is inadequate information regarding the importance of many wild plants among local people. Hence, this research involves the ethnobotanical survey of trees amongst Kanti community in Mashegu Local Government Area of Niger State, Nigeria. Data were collected using structured questionnaire and oral interviews to acquire information from sampled members of the Kanti community. A total of fifty (50) structured questionnaire were administered randomly to respondents of each households in the study area. The data obtained were analyzed using descriptive analysis in the form of tables, charts and percentages. A total of 27 plant species were identify and are used to cure about 32 ailments which includes; malaria, fever, dysentery, waist pain, stomach upset, menstrual flow, asthma, impotency, wound, worms, female delivery and many others. It was revealed that the majority of respondents (72%) utilized the trees at home, while few (28%) offer the plants for sale. Leaves alone were mostly used (50%), followed by the bark alone (24%), while a combination of the root, bark and the leaves were the least (12%). The study recommended that further research should be carried out to discover more uses of the plant species mentioned in the study, especially on their medicinal and nutritional values.

Keywords*:* ailment, ethnobotany, trees, wild plants

INTRODUCTION

Plants are living organisms belonging to the kingdom: Plantae. They include familiar organisms such as trees, herbs, bushes, grasses, vines, ferns, mosses and green algae. However, [1] had earlier stated that plants comprise a major group of multicellular eukaryotic organisms known as the kingdom Plantae. Plants are photosynthetic with a cell wall enclosing the cytoplasm. [2] stated that by most definitions, a plants is multi-cellular, non-motile, eukaryotic, has cell wall constituting of cellulose, autotrophic and exhibits alternation of generation, has a distinct diploid (Saprophyte) and haploid (gametophyte) phase. In the same vein, [3] considered plants as one of the major kingdoms of living things that include land plants, mosses, ferns, conifers and flowering plants. Whatever the meaning of plant, they are essentially green eukaryotic organisms capable of producing their food and replenishing the atmosphere. Hence, plants are the sources of live on this contemporary universe.

Traditionally, plants are reliable sources for the treatment of diseases in different parts of the world [4]. Traditional medicine heavily relies on the use of plants. This is why WHO recognised the practice since 1977 in its policy document and maintained that "a medicinal plant" is any plant, which in one or more of its organs contains substances that can be used for the therapeutic purposes or which, are precursors for the synthesis of useful drugs [5]. Medicinal plants are plants containing inherent active ingredients used to

cure disease or relieve pain [6]. The use of traditional medicines and medicinal plants in most developing countries as therapeutic agents for the maintenance of good health has been widely observed [7].
There is little or no scientific information regarding the importance of many wild plants. Although wild plants provide many benefits, but factors influencing their distribution are not well known. Adequate information and scientific data regarding the ethnobotanical uses and extent in which plant resources is been utilized is lacking. Thus, this study deals with the identification and the documentation of plants with ethnobotanical importance in Kanti Community.

MATERIALS AND METHOD

Study Area

Kanti community is one of the settlements within Mashegu Local Government Area in Niger State, Nigeria. It is situated at latitude $9^0$57'Nand longitude $5^0$13'E [8]. Its headquarters are in the town of Mashegu in the east of the area. Mashegu is bounded by the Niger River in the west and the Kaduna River in the Northeast. It has an area of 9,182 km² and a population of 215,022 at the 2006 census. The vegetation may be described broadly as wooded guinea savanna with legumes accounting for 55.7% of trees and almost an equal mixture of legumes and Combretacae plants making up shrubs and small trees while grasses dominates the herbaceous layers.

Data Collection Techniques

Data were collected using structured questionnaire and oral interviews to acquire information from sampled members of the Kanti community. A total of fifty (50) copies of structured questionnaire were administered randomly to respondents of each household in the study area. This was used to elicit information on the uses of plant resources by the local people in the study area. The data obtained were analyzed using descriptive analysis in the form of tables, charts and percentages.

RESULTS

The socio-demographic factors of the respondents are shown in Table1.It is revealed that male had the highest number (70%), while female were only 30%. Majority of the respondents were married (80%), likewise age group 51-60 had the highest percentage (38%) followed by age group 41-50 with 24% and the least respondents were age group 61-70 with 2%. The table further revealed that 34% of the respondents had Secondary school certificate followed by primary school certificate (30%) while the least was tertiary certified(10%). 34% of the respondents were unemployed, while 20% were students.
Figure 1 shows the level of plant utilization in the study area. The majority (86%) attested to the use of plant as traditional medicines.
A checklist of all recorded species of medicinal value was compiled, including their local name, scientific name, plant parts used and medicinal uses (Table 2). A total of 27 plant species were identify and are used to cure about 32 diseases which includes; malaria, fever, dysentery, waist pain, stomach upset, menstrual flow, asthma, impotency, wound, worms, female delivery and many others.
Table 3 reveals the various methods of preparation which includes; decoction, pounded, boiled, soaked, squeezed and eaten raw. Decoction is the most common method of preparation, followed by pounding.
Figure 2 shows the motivating factor for the use of plants in the study area. The desire to use the plants probably due to health needs was the highest (50%), other motivating factors were money (38%) and hobby (12%).
Figure 3 shows the purpose of utilization of plants in the study area. It was revealed that majority (72%) utilized the plants for home use, while 28% offer the plants for sale.
Figure 4 shows the plant parts used in the study. Leaves were mostly used (50%), followed by the bark (24%), while a combination of the root, bark and the leaves were the least (12%).

Table 1: Socio-Demographic Factors

Variable	Respondents	Percentage(%)
Gender		
Male	35	70
Female	15	30
Total	50	100
Marital Status		
Single	10	20
Married	40	80
Total	50	100
Age Group		
21-30	11	22
31-40	7	14
41-50	12	24
51-60	19	38
61-70	1	2
Total	50	100
Qualification		
No Formal Education	17	34
Primary	15	30
Secondary	13	26
Tertiary	5	10
Total	50	100
Occupation		
Unemployed	17	34
Student	10	20
Herbalist	13	26
Employed	10	20
Total	50	100

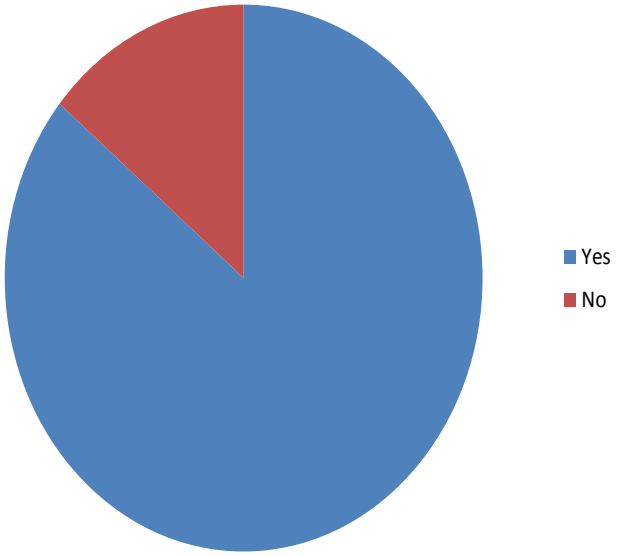

Figure 1: Level of plant utilization in the study area

Table 2: Inventories Plants Used for Medicinal Purpose.

S/N	Botanical Names	Local Name	Part Used	Medicinal Uses
1	*Afzelia africana*	Kawo	Bark, leave	Miscarriage
2	*Pterocarpus erinaceus*	Madobia	Bark,Leave	Menstrual Flow,Asthma
3	*Daniela oliveri*	Maje	Bark	Blood pressure, Hernia, Malaria
4	*Arachis hypogeal*	Dubina	Leave	High Blood Pressure
5	*Khaya senegalensis*	Madacei	Bark	Pile, Stomach ache, Anaemia
6	*Boswellia dalzielii*	Hano	Bark,Root	Measles, Vaginal Diseases
7	*Detarium macrocarpum*	Taura	Bark	Dysentery
8	*Citrus sinensis*	Lemo	Leave	Fever, Cough
9	*Annona senegalensis*	Gondadaji	Leave	Fever
10	*Tamarindus indica*	Tsamuja	Leave	Fever
11	*Parkia biglobosa*	Doruwa	Leave, Bark	tonic, malaria, diabetes and dysentery
12	*Mangifera indica*	Mongoro	Leave	Malaria, diarrhea, diabetes,
13	*Azadirachta indica*	Darbejoya	Leave	fever, Stomach upset and Malaria
14	*Grewia mollis*	Kukachi	Leave	Body pain
15	*Lannea acida*	Faru	Bark	Fever
16	*Psidium guava*	Guava	Leave	Fever
17	*Piliostigma thoningii*	Kalgo	Leave	Eye Problem
18	*Vitellaria paradoxa*	Kadanya	Bark	Swollen pain, toothache, Dysentery
19	*Adansonia digitata*	Kuka	Leave	Cancer, cardiovascular diseases
20	*Ficus sycomorous*	Chediya	Leave	Wound, Ringworm
21	*Anacardium occidentale*	Cashew	Leave	Malaria
22	*Ficus thoningii*	Durumi	Leave	Stomach offset, Malaria
23	*Moringa oleifera*	Jogala	Leave	Asthma, arthritis, rheumatism, Ulcer
24	*Carica papaya*	Gwanda	Leave	Malaria, gonorrhoea, diabetes
25	*Cymbopogon citrus*	Lemon Grass	Leave	Antipyretic cold, stomach ache
26	*Piper guineense*	Masoro	Fruits, leaves	Impotence, hypertension,

Table 3: Modes of Preparation

S/N	Botanical Names	Local Name	Preparation Forms
1	*Afzelia africana*	Kawo	Decoction
2	*Pterocarpus erinaceus*	Madobia	Decoction
3	*Daniela oliveri*	Maje	Pounded
4	*Arachis hypogeal*	Dubina	Decoction
5	*Khaya senegalensis*	Madacei	Decoction
6	*Boswelli adalzielii*	Hano	Decoction
7	*Detarium macrocarpum*	Taura	Decoction
8	*Citrus sinensis*	Lemo	Decoction
9	*Annona senegalensis*	Gondadaji	Decoction
10	*Tamarindus indica*	Tsamuja	Pounded
11	*Parkia biglobosa*	Doruwa	Decoction
12	*Mangifera indica*	Mongoro	Decoction
13	*Azadirachta indica*	Darbejoya	Decoction
14	*Grewia mollis*	Kukachi	Soaked
15	*Lannea acida*	Faru	Decoction
16	*Psidium guava*	Guava	Decoction
17	*Piliostigma thoningii*	Kalgo	Decoction, Pounded
18	*Vitellaria paradoxa*	Kadanya	Decoction, Pounded
19	*Adansonia digitata*	Kuka	Cooked. Pounded
20	*Ficus sycomorous*	Chediya	Pounded
21	*Anacardium occidentale*	Cashew	Boiled
22	*Ficus thoningii*	Durumi	Squeezed
23	*Moringa oleifera*	Jogala	Powder, Boiled
24	*Carica papaya*	Gwanda	Boiled, Eaten Raw
25	*Cymbopogon citrus*	Lemon Grass	Boiled
26	*Piper guineense*	Masoro	Decoction

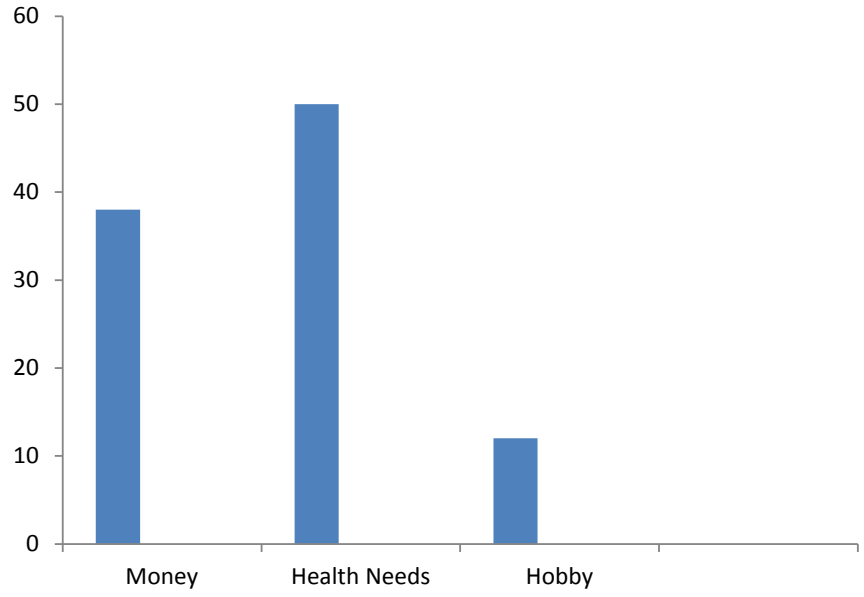

Figure 2: Motivating factor for the use of plants in the study area

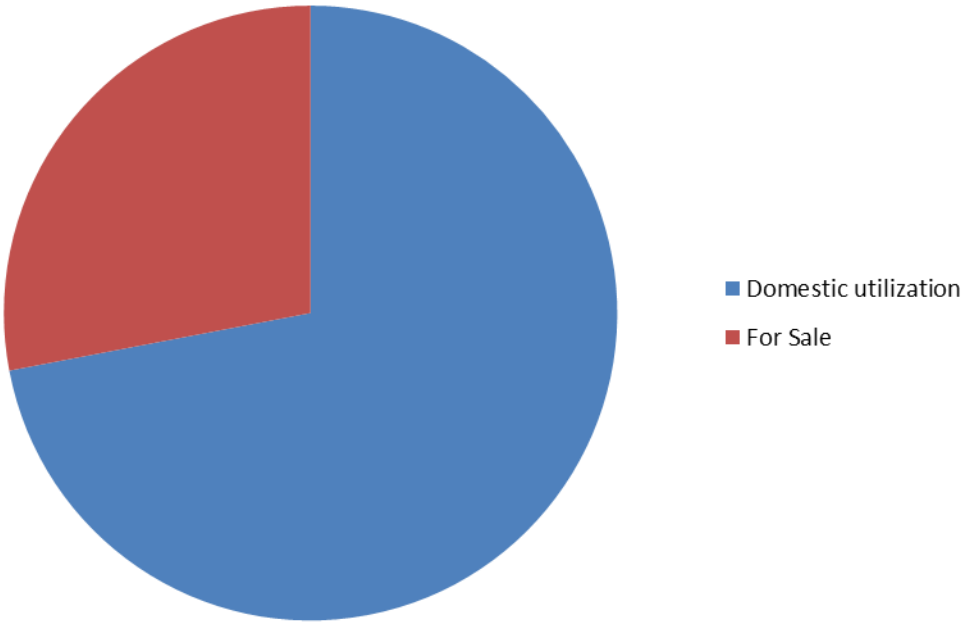

Figure 3: Purpose of utilization of plants in the study area

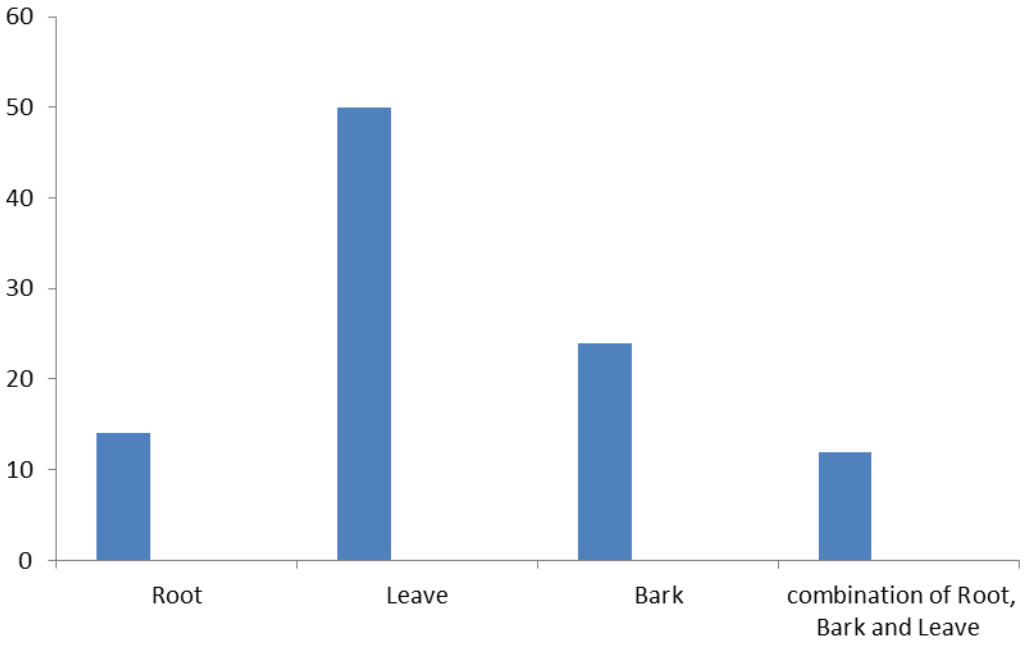

Figure 4: Plant parts used in the study area

DISCUSSION

Since time immemorial, plants have been an essential source of medicines for humans [9] and constitute a major economic resource of most countries of the world including Nigeria. Most of the herbal medicines came from trees, many of which also have other uses such as providing timber and protection of the environment. They have taxonomic classes which enable their classification with respect to their role in economic development [10]. In the study area, the use of traditional medicine is widely accepted. This is evidence from the number of plant species identified as medicinal. Though, the number of plant species identified as medicinal plants are few compared with 96 plant species identified as medicinal plants in Enugu state, Nigeria by [11] and 45 medicinal plant species identified by [12] in Ijesaland, Osun state, Nigeria. The total number of species recorded in this study compares closely to that recorded by [13] in a study of medicinal plants used in Katsina State in Northwestern Nigeria and that of [14] in Biu Local Government area of Borno State, Nigeria. This may be as a result of the location of the Local Government Area which is situated in the Sudan savanna area of the country. The importance of these plant species to the local communities cannot be over emphasized as they make use of them daily and preferred them more than the orthodox medicines. The parts of plants commonly used are the leaves, root and bark. This is due to the availability of these plant parts during the rainy and dry seasons. Leaves were found to be the most reported plant part used for the preparation of various medications in the study area. That leaves were predominantly used, this concurs with findings of studies in African countries like Uganda, Ethiopia and Mali where it was reported that most of the plant parts used in different preparations for remedy were leaves [15]. A similar observation was also made by [16] in the study of ethnobotany and conservation of Ribako Strict Nature Reserve in Northern Nigeria. It was observed that some plant species have multiple uses and were used in treating and curing different ailments which included asthma, typhoid, stomach-ache, headache, diarrhoea, whitlow, dysentery, anaemia, gonorrhoea, cough, among others. The low level of education of the respondents may probably affect the standard of herbal medicine preparation and also the keeping of records. This low or inadequate education among the traditional medicine practitioners generally has been known to be responsible for passing down information on traditional medicine from generation to generation orally instead of documenting the uses of these plants. According to [17], since oral information can never be as accurate as was told to the recipient, a whole library of herbal information was being buried gradually with every person that dies. This has led to slow pace of development of traditional medicine in Nigeria and in Africa in general. Medicinal properties and potency for treatment of various ailments is causing over exploitation of such plant genetic resources in the study area. According to [18], the depletion rate of plant resources generally is high, yet little is known about most of the world's plant species especially tropical floras. When viewed against the current rate of extinction and decimation of the forests in this area, there is then need to conserve what is left as forests for posterity sake.

CONCLUSION

For a long time, the bulk of intuitive information on traditional plant uses in the treatment of ailments has been disparate and privately held, with limited accessibility to the public or even young practitioners. The results of the study revealed that there is a high diversity of medicinal plants and traditional knowledge about the use, preparation, and application, which is still maintained in Kanti Community in Mashegu Local Government Area of Niger State, Nigeria.

RECOMMENDATIONS

- It is recommended that because of continued loss diversity of medicinal plants in the area owing to pressure on the use of them by the people, methods of species conservation mentioned such as natural regeneration and planting of indigenous plants should be given priority through incentives and provision of nursery materials to the rural people and resource users as they are adaptive and cost effective.
- Various organs such as governments and NGOs, as well as community based must ensure integrated approach of tree multiplication and propagation through policies and

programs and enlightenment campaigns. This is because universal education is keys to diversity conservation.

- Further research should be carried out to discover more uses of the plant species used in the study most especially their medicinal and nutritional values.

REFERENCES

[1] Bold HC, La Claie JW (1987). The plant kingdom prentice- Pearson College Div; Facsimile, Subsequent edition,pp 320.

[2] Purves, W.K., Orians, G.H., Heller, H.C. (1994). Life: The science of biology, 4th Edition, Sinaver associates, pp 1121.

[3] Stephen, P.B. (1980). The evolution of plants, Tale New Haven leader Institute U.K.

[4] Hostettmann, K., Marston, A., Ndojoko, K.and Wolfender, J. (2000).The potential of Africa Plants as a source of drug.*Current Organic Chem*istry, 4 (10) 973-1010.

[5] World Health Organisation (WHO) (1991). *Guidelines for the Assessment of Herbal Remedies.* Traditional MedicineProgramme of the World Health Organisation, Geneva.

[6] Okigbo, R.N. and Mmeka, E.C. (2006). An appraisal of phytomedicine in Africa. *Sci. Tech. J.,* 6 (2): 3-94.

[7] UNESCO (1996). Culture and Health, Orientation texts- World Decade for Cultural Development Documents CLT/DEC. PRO-1996, Paris, France, p. 29.

[8] NIPOST "Post Offices- with map of LGA".. Retrieved 2009-10-20.

[9] Dery, B.B. and Otsyina, R. (2000). The 10 priority medicinal trees of Shinyanga, Tanzania. *Agroforestry Today* 12 (1), 9-10.

[10] Ekanem, A.P, Udoh, F.V. (2009). The diversity of medicinal plants in Nigeria: An overview. *ACS Symposium Series*, Vol. 1021, Pp 135.147.

[11] Aiyeloja, A.A. and Bello, O.A. (2006). Ethnobotanical potentials of common herbs in Nigeria: A case study of Enugu state. *Educational Researchand Review*, 1 (1): 16-22.

[12] Kayode, J. (2008). Survey of Plant Barks Used In Native Pharmaceutical Extraction. In Yorubaland of Nigeria. *Research Journal of Botany*.3 (1): 17-22.

[13] Danjuma, M.N. and Darda'u, H. (2013).An Ethno-survey of Medicinal Trees of Kabobi Village, Northern Katsina, Nigeria. *Academic research international*, 4(3), 174-183.

[14] Ampitan, T.A. (2013).Ethnobotanical survey of medicinal plants in Biu local government area of Borno state, Nigeria. *Comprehensive Journal of Herbs and Medicinal Plants* Vol. 2(1), pp. 7 – 11.

[15] Tagola and Diallo (2005). Ethno pharmacological survey of different uses of medicinal plants from Mali (West Africa) in the region of Doila. *Journal of Ethno Biology*. Pp. 1-7.

[16] Ugbogu, O.A. and Akinyemi, O.D. (2004). Ethnobotany and Conservation of Ribako Strict Natural Reserve in Northern Nigeria. *Journal of Forestry Research and Management*, 1(1& 2): 60- 70.

[17] Ogbole, O.O., Gbolade, A.A. and Ajaiyeoba, E.O. (2010). Ethnobotanical survey of plants used in the treatment of inflammatory diseases in Ogun state of Nigeria. *European Journal of Scientific Research.* 43 (2): 183-191.

[18] Igoli, J.O., Ogaji, O.G., Tor-Anyiin T.A. and Igoli, P. N. (2005). Traditional medicine practice amongst the Igedepeople of Nigeria. Part II. *African J TradComplAltern Med*. 2:134–152.