Biodiversity, Conservation of Some Medicinal Plants of Katsina State Nigeria

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***Abstract*—The medicinal values of some plants are identified by the indigenous people. The indigenous people are generally very knowledgeable about the wild medicinal plants around them, many of which have local names and are important to the people medically. This traditional knowledge is best starting point for effective in situ conservation, which requires accurate and up to date information on the status of medicinal plants populations, the extent and nature of plants used by local communities and the capacity of the resources base to support different economic activities. This knowledge can be used in the evolution and in creation of the awareness of the importance of medicinal plants as it is generally easier for the public to relate the cultural significance than the result of scientific trials. This may not be unconnected with the relatively high cost of conventional pharmaceutical drugs, inaccessibility of orthodox medicinal service to a vast majority of people particularly in the rural areas prevalence of fake, substandard or counterfeit drugs in the market and the problem of anti- biotic resistance whichis very common in developing countries. It has been noted that in the last few decades, there has been an upsurge in the circulation and usage of traditional medicinal plants in the treatment and or preservation of disease. An understanding of the many aspects of human influence on biodiversity and the underlying driving forces of the influence is of crucial importance for setting priorities and directing efforts towards conservation and sustainable use.**

***Key words* —Biodiversity, conservation, sustainable use, medicinal plants.**

I. INTRODUCTION

Katsina state of Nigeria is bordered by Niger Republic in the North, Zamfara State in the west, Kano State, Jigawa in the East and Kaduna State in the south[2]. The State possesses a great plant wealth that is yet to be fully utilized on a commercial scale. Such utilization could accrue abundant benefit to the farmers of the region. In fact, the region has a great potential for the plantation of medicinal plants because of ideal agro- climatic conditions and suitable soil [4]. Nature in its generous abundance, has bestowed on Katsina a unique array of vegetation, ranging from tropical and subtropical to temperate or near temperate [5]. Traditions of collecting, processing and applying plants and plant based medications, long carefully maintained by individualswith a profound knowledge have been handed down from generation to generation among the indigenous people. The value of such ethno- medicine and traditional pharmacology is now increasingly recognized in modern human and veterinary medicine [3]. These plants mostly grow naturally and are collected bylocal people and sold to traders who in turn sell to the pharmaceutical and cosmetics industries and exporters.

There is no scientific system of collection or regeneration as a result of which many of these plants have become endangered [7]. Recently it has been noted that increasing biotics influences, including socio- economic development and unrestrained commercial exploitation of forest wealth, have threatened the survival of the rich genetics resources of this region, amounting to a great loss of national heritage. It is not possible here to describe all the medicinal plants of the state. However, a list of very significant medicinal plants is present here. The aim is to highlight the most frequently used medicinal plants used in Katsina in sustainable management of medicinal plant resources.

II. MATERIALS AND METHOD

Along with intensive survey of locally available information on the use of traditional herbal medicine collected through personal interview and literature search, field work was also considered necessary. The methodology followed during field work was based mainly on detailed questioners. Carefully planned field work spread over four years from 2010- 2014 was carried out in different rural communities of Katsina State. The purpose of the study was not only the collection of first hand information about the relationship of medicinal plants with the community but also to verify the already published data wherever possible. All plants where identified using relevant floras and by matching the specimens in the herbaria of Botanical garden of *HASSAN USMAN KATSINA POLYTECHNIC.* Where necessary, locals were employed in order to acquire details of uses and other information on plants and their environments. Local markets

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were also visited to study the plants and plants product sold there.

III. RESULTS

The plants listed were widely used as medicines in Katsina before the advent of chemical medicines. These plants have important components, which can cure an extensive range of diseases (table 1). Nineteen medicinal plants species used to treat different diseases were identified.

Table 1: Common Medicinal Plants Used By the People of Katsina State.

S/ N	SCIENTIFIC NAME	MODE OF UTILIZATION	MEDICINAL VALUE
1	*Magniferaindica*	Leaves boiled in water for 2- 3 hours and the vapour inhaled	For influenza and headache
2	*Parkiabiglobosa*	Paste of leaves is applied on skin bark	For sore skin, for dysentery
3	*Anogeissusleocarpus*	Bark used as chewing stick	As anti-malaria and dysentery
4	*Adansaoniadigitata*	Leaves taken, have high anti-oxidants and vitamin C	For boosting imunity
5	*Allium satinuum*	Extract of bulb taken	Used against many problems
6	*Mormodicabalsamia*	Leave smashed and made into paste in hot water and taken directly	During nausea and vomiting also used for malaria
7	*Senna caccidentalis*	Boiled leaves solution is taken	Patient suffering from typhoid and malaria fever
8	*Terminaliacatappa*	Ripe fruits are taken and leaves are used	For jaundice and chest infection
9	*Azadirachtaindica*	Extracts of boiled leaves are used	For malaria and dysentery
10	*Tavicenniodes*	Leaves are boiled and the water is taken	For respiratory infections
11	*Hibiscus*	Calyx are given	For digestion and hypertension
12	*Combretummolle*	Leaves are used	For jaundice and yellow fever
13	*Prosopisfricana*	Extract bark and young shoots, mixed with coconut oil	Improve immunity
14	*Ficussycomorous*	Barks are boiled and taken	For chests sore throat and stomachache
15	*Jatrohacurcas*	Leaves, seeds and roots are used	For fever, rectal infection and gonorrhea
16	*Carica papaya*	Leaves are boiled and the water is taken	For malaria and syphilis
17	*Aspilla Africana*	Stem and barks are used	In case of high fever, as in analgesic
18	*Kheayasenegelesis*	Leaves and barks are grounded to powder and dissolved in water	For syphilis and dysentery
19	*Moringaoleifera*	Leaves are boiled and eaten	For all kinds of infection with micro organism

IV. DISCUSSIONS AND RECOMMENDATIONS

It has been shown that through numerous examples that indigenes of Katsina make wide use of variety of medicinal plants available to them [1]. The demand in the local market has increased causing a threat to these wild species. In order to protect the diversity of medicinal plants of the state, the following are being suggested:

1. The data on medicinal plants will serve as a useful tool to prepare development and action plansfor herbal drug industry for improving and uplifting the life and economy of the state. What is urgently needed is the integration of all aspects of medicinal plants diversity in our planning for development of local community with linkages to conservation and protection of all kinds of traditionally used plants used by indigenous people.
2. An effective way of giving protection to biodiversity and ethno- medicinal plants is to provide a legal cover to the habitat or the species to enable enforcement agencies to have authority to control/ regulate their enactment.
3. *In sit and ex situ* conservation of endangered or likely to be endangered (rare) species should immediately be started in the appropriate districts of the state.
4. Use of spontaneous and wild collected plants must be as limited as far as possible and replaced step by step cultivation.

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5. Rural people should be encourage to raise their own ethno- medicinal gardens or herbs gardens in their vicinity to ensure conservation of depleting biodiversity in medicinal plants.
6. Research priority should be given to develop appropriate technology for propagation, cultivation, processing chemical characterization and marketing of medicinal plants, useful and endangered species. Local people should be trained to propagate, preserve and collect the medicinal plants as part of extension. They should be educated and provided with the proper guidelines, so that there is a continuous regeneration of wild flora.
7. It is again important that we should not disturb the local flora, which is generally susceptible to environmental changes which may lead to extinction of natural species. With the erosion of the tribal cultures, the traditional healers have become a threatened category. Also, the genetic diversity in medicinal plants has diminished due to shifting cultivation and large scale destruction of natural location. The over- exploitation of medicinal resources in unscientific manner by unskilled labor and poor natural or artificial regeneration in virtually extinction of certain vital species.

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