

Review on the Socioeconomic Value of Medicinal Plants

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Abstract

Medicinal plants are plants that have healing and, or therapeutic properties in any of their organs. It has been observed from this review that, apart from satisfying the health of people, medicinal plants have significant roles in the livelihoods of people especially in the rural communities. It serves as source of income, employment, food, raw materials and shelter for people. Furthermore, it was observed that local wholesalers control price information to the medicinal plants collectors, and that enables them to maintain high profits. The bulk of the Medicinal and Aromatic Plants (MAPs) materials are exported from developing countries while major markets are in the developed countries. As a result, harvesting has become the domain of untrained and often indifferent commercial gatherers with no other income sources, hence, harvesting and provision of medicinal plants to meet urban demand have become environmentally destructive activity. In this context, proper education and awareness of the collectors/farmers and dealers will not only save foreign exchange but will also open new avenues for low income groups, therefore, playing a role in poverty alleviation.

Keywords

Economic Value, Health and Cultural Impacts, Medicinal Plants

1. Introduction

Plants are among the natural matters found in our environment. It serves various purposes for man's survival: food, shelter, clothing, erosion prevention, health etc. However, plants that have medicinal values are termed medicinal plants. Medicinal plants are plants that have healing and, or therapeutic properties in any of their organs (roots, stem, bark, leaves, seeds, fruits and possibly flowers).

With the increasing death and fear of disease among people especially in rural areas, medicinal plants can be used to enhance good health with little or no cost. The biggest challenge is the mystery of identification of these plants for treatment of a particular disease. Though faced with the problem of identification, it is recalled that back in the day, our helping with fathers paid the price by helping with the

nomenclature of some of these plants. The uses to which medicinal plants can be put to are attributed to some chemically active and naturally occurring substances in these plants [1, 2]. Apart from satisfying the health of people, medicinal plants provide socio-economic value as they provide work (employment), food, raw materials (for pharmaceutical industries), and shelter for people. People have used the knowledge of biological activities and/or chemical constituents of plants for the discovery of new therapeutic agents and obtaining useful information that discloses new sources of such economic materials as essential oil, glycosides, saponins, tannins, resins, and precursors for the synthesis of complex chemical substances [3, 4]. It provides employment for medical practitioners especially the people we refer to as traditional doctors. The traditional doctors are involved in traditional medicine. The use of traditional medicine is very common in Africa and

probably in other developing countries like Iraq [2, 3]. Traditional medicine is concerned mainly with curative practices. It is very vital in sustaining pharmaceutical works needed for production of drugs used in health care delivery using orthodox (modern) medicine. These plants have significant roles in the livelihoods of people especially in rural communities as, firstly, it can provide a source of income, secondly, is important in primary health care delivery system and, thirdly, it has an important cultural value.

Major concerns have arisen as increasing demand for medicinal plants result in an increased pressure on wild plants as most of the plants traded in African markets are observed to be harvested from wild population and are not cultivated. The harvesting of medicinal plants was formerly the domain of trained traditional medical practitioners, well-known for their skills as herbalists and diviners [1, 5]. Strict customary conservation practices were respected, which regulated plant collection times and quantities. With the advent of urbanization and the consequent commercialization of traditional health care however, the demand for medicinal plants has increased. As a result, harvesting has become the domain of untrained, and often indifferent commercial gatherers with no other income sources. Harvesting and the provision of medicinal plants to meet the urban demand have thus become an environmentally destructive activity. A view presented by researchers' states that the direct local use of plant resources contributes to the preservation of species and habitats, and can be used as the basis for conservation policies centered on indigenous management regimes and utilization. Knowing the significant roles played by medicinal plants in the livelihood of local people, the local community would have done something against the commercial gathering for the preservation of their resources.

2. Value of Medicinal Plants

2.1. Socio-economic Value

Local inhabitants recognize that trees have an economic value (especially the dawadawa and shea –nut trees), medicinal value as well as providing shade and wood for building houses and making farm implements; and that they contribute to protecting the head waters or rivers and streams; to the collection of wild honey; the control of soil erosion; and the protection of buildings against storms. It was observed that some invasive medicinal plants are considered for economic value for the horticultural sector, especially trees and shrubs. According to studies observed that for estimating the economic value of medicinal plants as aspect of sellers, the average monthly income of sellers equal to 6769000 Rial and was also calculated annually at 9584904000 Rial – which only about 50% of this figure is derived from the sale of medicinal plants as the net profit based on the results of the interviews.

Medicinal plants provide numerous opportunities for the state to advance rural well-being, because medicinal plants

are one of the few natural products that sell at premium prices [6, 7]. Thus, the global clamor for more herbal ingredients creates possibilities for the commercial cultivation of medicinal crops. In another study, it was observed that the local wholesalers control price information to the medicinal plants collectors, and that enables them to maintain high profits. The estimated total revenue at the collector level of Rs. 66.4 million implies an average of Rs. 553,291 per collector, while the average revenue of a gatherer household was Rs. 13,279 [8]. The bulk of the MAPs materials are exported from developing countries while major markets are in the developed countries [9]. In 2012, Pakistan as a whole exported such plant materials worth over US \$10.5 million (Pakistan Ministry of Food Agriculture and Livestock, 2012). Data is only available in the form of condiments and under title of other spices all the MAPs are summed up. Their export and import values are listed in the Foreign Trade Statistics of Pakistan. The herbal markets of Karachi (Jodia Bazar) and Lahore (Akbari Mandi) act as a main source for MAPs export. The reported destinations of exports include Germany, USA, the Middle East, Switzerland and many other countries. The share of Swat District in the export market is estimated to be substantial, possibly as high as 40% or more [10]. Similarly in 2012, the import of herbal material as a whole was worth over US\$ 130 million annually [11]. The herbal market of Lahore, Akbari Mandi, acts as the main hub and receives very large quantities of imported herbs from India and more recently China. Other sources of imports include Thailand, Indonesia, Tanzania, Iran, and Afghanistan. An increasing market trend of imports has occurred, particularly from India, China, Iran and Afghanistan. This is partly attributed to an increasing demand in domestic markets of the world. In this context, proper education and awareness of the collectors/farmers and dealers will not only save foreign exchange but will also open new avenues for low income groups, therefore, playing a role in poverty alleviation.

2.2. Health and Cultural Value

Good health is among the primary need of human. Health is more than the mere absence of disease or infirmity; rather it is a phenomenon that keeps the body and mind at the highest level of functioning and living at ones best physically, socially, mentally and otherwise [3]. It is said that a healthy nation is a wealthy nation. Good health is highly desirable because health is essential in ensuring effectiveness and efficiency in carrying out day to day activities in human life. The three dimensions (physical, social, mental) of health are interrelated with existing interaction among them. It then imply that malfunction in any of the dimension naturally affects the other, resulting in lowering of the individuals well-being and human efficiency [12].

It can be said that based on the worth of medicinal plants in advancing health, the plants are great source of enhancing productivity. Medicinal plants and their natural products have actually played a great role in health care delivery to man throughout the development of human culture. The medicinal

use of herbs in the treatment of ailments also represents an important aspect of the history of medicine as well as a contribution to the development of modern pharmacotherapeutics [13]. A great deal of traditional medicine in African society involves the application of medicinal plants. However, a lot of arguments have emerged concerning the recognition of traditional medicine. Those who argue against its recognition base their contention on the simple reason that alternative medicine is complicated and is not instituted on scientific analysis and as such, there can be no yardstick for the measurement of its efficacy [13]. As practiced in traditional or folk medicine, some people (at least ten percent) in Africa rarely in the use of medicinal plants for their health needs [5, 2]. It is a truism that a greater percentage of our population live in the rural areas while ironically, our health institutions are concentrated in the urban areas. Therefore, rural dwellers rely on traditional medicine and see it handier for their health needs. African traditional medicine has been described as the total body of knowledge and techniques for preparation and use of substances; measures and practices for diagnosis, prevention or elimination of imbalances in physical, mental or social wellbeing [5, 7]. It is a knowledge and skill, whether explicable or not, that is based on socio-cultural and religious bedrock of African communities and is found on personal experience and observations handed down from generation to generation, either verbally or in writing. African traditional medicine is a distillation of African culture, but the spirit that moves it is that shared by all forms of medicine: provision of health to man.

Traditional medicine, using medicinal plants, concerns itself mainly with curative practices. These practices are carried out by the native doctors. The native doctors are believed to work with supernatural power for he is seen as one who gets the support of the gods in the use of medicinal plants for the curing of numerous problems affecting his clients. He can cure diseases which the Africa people consider to be adversely imposed upon them by the outside forces they do not comprehend. Some traditional measures are difficult for scientists to accept due to lack of empirical basis. These intangible forces, which may be termed protective and restorative forces, are as difficult to generate as the force of hypnosis and which must be sustained by the inductive power of the traditional healer [7]. In South Africa, it is estimated that there are approximately 200,000 traditional health practitioners. These health practitioners are the first health care providers to be consulted in up to 80% of cases, especially in rural areas, and are deeply interwoven into the fabric of cultural and spiritual life. It is for this reason that there has been recognition of traditional medicine practice in South Africa [11]. For the local community, medicinal plants are deemed complementary to western medicines. Ninety five percent of households surveyed in South Africa were using indigenous medicines. It is basically used for treating some simple diseases such as cough, headache and pain. People reported that it is also used at the same time with western medicines for high blood pressure,

diabetes and stomach ache. Cough, head ache, pain, stomach ache, high blood pressure, diarrhea and arthritis are the 7 top diseases the people are frequently suffering from in a study with up to 84%, 47%, 31%, 24%, 18% and 11% of study household have experienced respectively [9].

[13] The tribal community of central India has been found to be rich in ethno biological knowledge, which has been transmitted from one generation to another. It also revealed that the tribal communities living in the same region have their own traditional ethno botanical knowledge. The methods used for curing diseases have been found to be different from one community to the other. This is because of their socio economic structure, ancient traditional knowledge and beliefs. Their livelihood is totally dependent on their ecological surroundings and they use simple technology to sustain their life, which seems totally conservative. The study emphasized that there is a profound and growing knowledge gap between old and younger generations. People of more than 50-65 years age know a lot about wild plant products as compared to younger generation.

Based on personal interviews and completed questionnaire revealed the most widely used medicinal plants - which their origin is in Khuzestan province - are Borage, Chamomile, Thyme, Fenugreek, Violet Flowers, Fennel, Cumin, Dill, Eucalyptus, Spearmint, Plantago Seed, Ziziphus, Maidenhair fern, Purslane and Malva sp. In this part after purslane and Malva sp - which are used as an edible vegetable daily - Thyme is the most widely used medicinal plants in the area that is consumed as the dust or boiled. Thyme used as an antispasmodic, treatment for whooping cough, bronchitis, lung infections, colds, flu, treatment muscle cramps and bloating in traditional medicine.

3. Problems Associated with Medicinal Plants

While developing countries, especially the Least Developed Countries (LDCs), face opportunities for developing the markets for medicinal plants and their products, they also face a number of limitations and constraints which must be overcome in meeting the demands of the developed country markets. The major common constraints that developing countries face in successfully moving from trading in unprocessed medicinal plants to processing medicinal plants, and in being more competitive in global markets are poor harvesting (indiscriminate) and post-harvest treatment practices; Lack of research on development of high-yielding varieties, domestication, etc.; Inefficient processing techniques leading to low yields and poor quality products; Poor quality control procedures; Lack of research and development on product and process development; Difficulties in marketing; Lack of local markets for primary processed products; and Lack of access to latest technological and market information [1, 5].

It was documented that Medicinal and Aromatic Plants (MAPs) trade is highly complex, uncoordinated and

heterogeneous, involving many players showing that approximately 90% of MAPs materials are sold unprocessed by collectors. Local collectors are untrained in sustainable harvest methods, post-harvest handling, and the proper storing of medicinal plants [14]. They have weak market links and are unable to negotiate the prices of collected MAPs. Many collectors have small volumes/quantities of MAPs and so receive only a small portion of the total revenue.

4. Discussion

In the course of this review, it was observed that household incomes of gatherers and collectors of medicinal plants can be enhanced if communities acquire a better understanding of the economic importance of high-demand natural plant resources, as well the interests and respective roles of the key stakeholders involved in the market. Very few of the collectors knew about the existence of the major markets for medicinal plants or were sufficiently trained in such critical skills as the best pre and post-harvest treatments. It was found that the trade and collection of plant materials is mostly practiced by unskilled persons. As a result, valuable medicinal plants lose value on their way to their final market while being subject to over-extraction and destructive harvesting techniques. This suggests that there is a need to develop practical and economically sound strategies for the efficient utilization of natural resources in order to improve the condition of marginalized communities; a process that should eventually lead the country towards greater economic stability. This must include understanding of the importance of sustainable collection and cultivation practices to the long term livelihood of the community. Educational programs should address the issue of sustainable harvesting and the possibility of cultivating MAPs that are currently collected from the wild. There is also need for a program that focuses on assisting collectors and local dealers in providing consistently high quality, well preserved, material to purchasers, combined with a sharing of information as to why this is important.

5. Conclusion

The medicinal plants provide numerous opportunities for countries to advance rural wellbeing of its populace. This is because medicinal plant is one of the few natural products that sell at premium prices. Thus, the global clamor for more herbal ingredients creates possibilities for the commercial cultivation of medicinal crops. Such endeavors could help raise rural employment in the developing countries, boost

commerce around the world, contribute to the health of millions and perhaps improve livelihood.

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