ETHNOBOTANICAL STUDIES OF JESSORE WILDLIFE SANCTUARY, BANASKANTHA, GUJARAT

ABSTRACT

Several plant species found in the Jessore Wildlife Sanctuary benefit the local inhabitants. Resident knowledge and uses of the flora in the refuge were studied through interviews. The study discovered that locals use plants for a range of purposes, including food, medicine, fuel, fodder, and building materials. Plants are also used in rituals and ceremonies. Dabhi, Solanki, Parghi, Bubadiya, Bhemiyat, Dharangi, Gamar, Parmar, Rohisa, Damor, Khermal, and Kodarvi are among the many ethnic groups that reside in the forest areas. It is observed that important plants like *Terminalia Chebula, Phyllanthus emblica, Cassia fistula, and Moringa oleifera* may be used to cure many diseases. The most commonly used plant parts for curing disease are leaves, followed by fruits, seeds, bark, stems, and flowers. The poll also revealed a reduction in people's plant knowledge. Some of the factors that have contributed to this are deforestation, urbanisation, and the adoption of new technologies.

Keywords: Jessore Wildlife Sanctuary, plants, conservation, sustainable development, tribes, deforestation, urbanisation.

INTRODUCTION

Medical ethnobotany studies the traditional applications of Indian medicinal plants. Since ancient times, India has used plants to treat disease and maintain health (Subhose *et al.* 2005). Today, millions of people still rely on these plants as vital components of traditional medicine and health care. 70% of rural Indians are thought to use traditional plant-based medicines as their main source of healthcare (Kirtikar and Basu, 1984). The benefits of floral diversity to health care across civilizations have been widely recognised (Pan et al. *2015).* Over 50,000 species, representing over 13% of flowering plants, are reportedly used for medical purposes worldwide, according to Posey (1999). According to the World Health Organisation (WHO, 2007), 80% of

people in developing nations solely use traditional medicines. They use medical procedures for their minor ailments or health care. On the ethno-medical usage of plants in the Jessore Wildlife Sanctuary, there is insufficient knowledge. There are some published surveys available concerning the alleged benefits of traditional medical treatments (Desai *et al.* 2012). The present research focuses on the availability and utilisation of medicinal plants in protected areas of the Jessore Wildlife Sanctuary as well as changes in the diversity of medicinal plants and their use at the community level, according to experts in medicine.

MATERIALS AND METHOD

The present studied sanctuary is located south of the desert of Thar in the Jessore Hills of the Aravalli Ranges, with a total geographical area of 180.66 square kilometres (69.75 square miles), and was declared a sanctuary in 1978. The conservation area is located between a habitat for dry deciduous trees and a desert ecosystem. The West Banas River inspired the name of the Gujarat district of Banaskantha, which borders the state of Rajasthan. The district, which has its administrative centre in Palanpur, is located between the longitudes of 23.33 and 24.25 in the North and 71.03 and 73.02 in the East. It contains 12 talukas and 1249 villages. The talukas are Palanpur, Danta, Vadgam, Amirgadh, Dantiwada, Deesa, Dhanera, Kankrej, Diyodar, Bhabhar, Vav, and Tharad.

The purpose of the study was to gather data on the plants used as medicine by the tribes in the Banaskantha district of Gujarat. It is also commonly acknowledged that tribes utilise medicinal plants, and local traditional healers who are familiar with their uses, the ailments they treat, and other relevant facts are similarly well recognised, such as the names of the plants, their families, and the species they belong to. This has been adopted with an understanding of research and observations. Such as edible fruit and edible plants. Using only the recognised names of the many different species of plants, the number of species or families in each family is identified. This approach avoids the use of the same plant's species name more than once.

The study took place in communities and villages close to the Jessore Wildlife Sanctuary. Two villages are selected for the survey that are close to Jessore Wildlife Sanctuary, named Baludra and Vera. A total of 40 informants were surveyed, and all the medicinal plant uses were documented and recorded verbally.

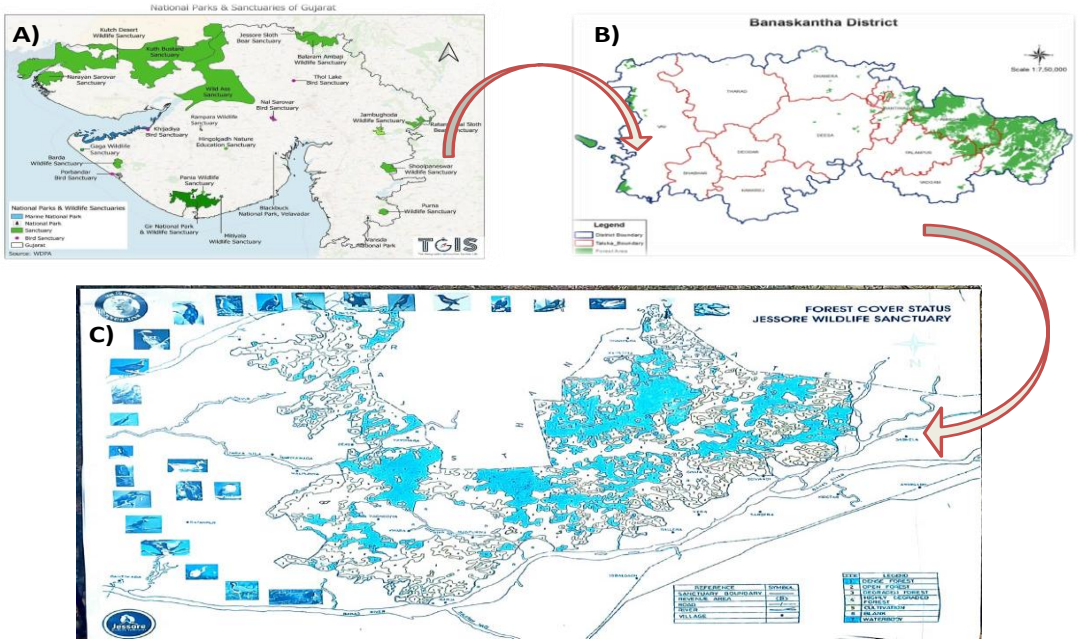


Fig 1: Study area A) Gujarat Map, B) Banaskantha map, C) Jessore wildlife sanctuary map

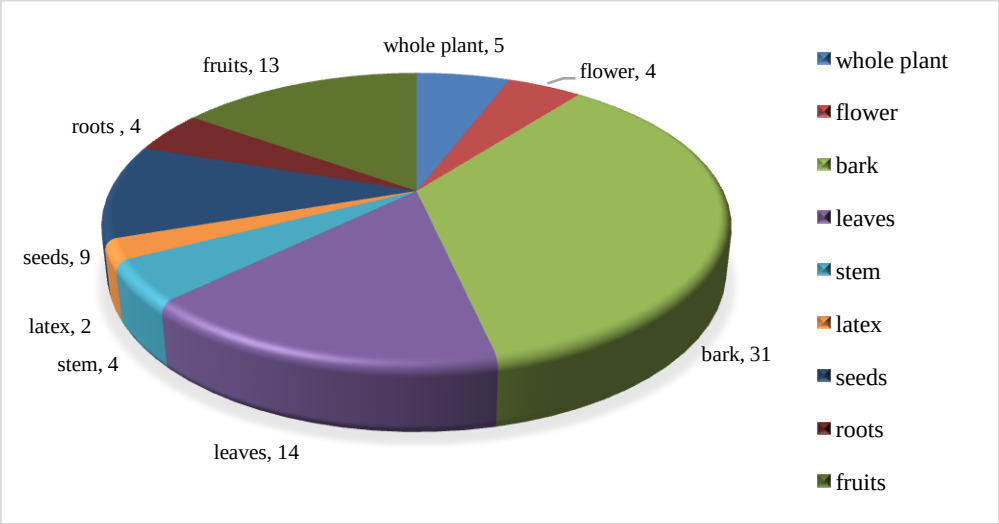
RESULT AND DISCUSSIONS

The present study focused on the use of plants for medicinal purposes by the tribes in villages. It was observed that the indigenous people employed a wide variety of plants to heal various ail ments. A total of 47 medicinal plants belonging to 23 families are recorded in this work. The information on the scientific name, family, local name, habits, plant parts used, mode of usage, and therapeutic uses of recorded plants is given alphabetically in the table. The present study shows that almost all plant parts are used as medicine. The most commonly used plant parts for curing disease are leaves, followed by fruits, seeds, bark, stems, and flowers.

According to the findings, individuals used a total of 36 distinct tree species and 11 shrub species from 23 different groups. Among the 23 families, Fabaceae was found to be dominant with 12 species. During the ethno-medicinal plant survey, the most common disease cure among the people was found to be fever, cough-cold, skin disease, stomach problems, and dysentery (Punjani and Solanki, 2013), while a minimum number of plants are used to cure anaemia,

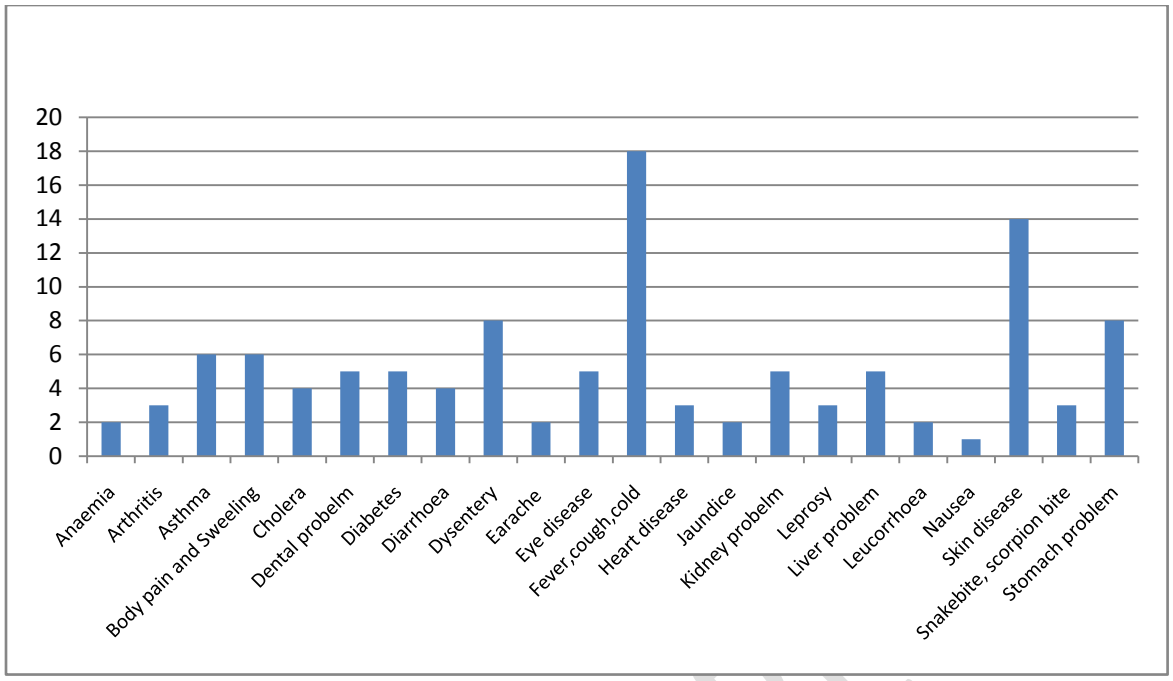
Earache, Nausea, Leucorrhoea, Jaundice, and arthritis (Jadeja, 2009), which are included together in the others category. It is observed that a single plant may be used to cure many diseases, such as *Terminalia chebula*, *Phyllanthus emblica*, *Cassia fistula*, *and Moringa oleifera* (Tables 1 and 2).

Graph 1. **Pie chart showing the use of Plant parts**



Graph 1 Shows that almost all plant parts are used as medicine. The most used plant parts for curing disease are leaves followed by fruits, seeds, bark, stems, and flowers.

Graph 2. Bar graph showing plant parts used for treatment of different diseases



Graph 2 Shows that curing number of diseases, maximum number of plants are used for curing diseases like Fever, cough, cold, Skin disease, Stomach problem, Dysentery while minimum number of plants are used to cure Anaemia, Earache, Nausea, Leucorrhoea, Jaundice, Arthritis which are included together in others category.

CONCLUSION

The study shows the medicinal diversity of sanctuary plants and their valuable uses. The study focused on transferring the knowledge of medicinal plants from tribal people to future generations. According to the survey, there are many medicinal plants in the area of study that can be used to cure a variety of human problems. The research study found that it is vital to find the local forests' biodiversity and preserve it and traditional knowledge through effective documenting and conservation measures. This study demonstrated the potential diversity of medicinal plants by demonstrating their potential through their therapeutic characteristics. The accessibility and utilisation of medicinal plants in Jessore Wild Life Sanctuary, as well as changes in the diversity of medicinal plants and community level in the interpretations of medical experts, are the primary purposes of the present research.

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Table 1: Medicinal plants and their uses.

Botanical name	Local name	Family	Parts used	Ethno-medical uses
Acacia nilotica	Desi Baval	Fabaceae	Bark, fruit, gum	Joint fracture, diabetes, leucorrhoea
Anogeissus latifolia	Dhav	Comretaceae	Roots, bark	Abdominal pain, stomach, liver problem, swelling
Acacia catechu	Kher	Fabaceae	Bark	Leukoderma, Skin disease, dental disease, fever, cough
Aegle marmelos	Bili	Rutaceae	Fruit, leaves	Diarrhoea, dysentery, Fever and asthma
Ailanthus excelsa	Ardaso	Simaroubaceae	Bark, leaves	Skin disease, diarrhoea, asthma
Azardicta indica	Limdo	Meliaceae	Stem, bark, seed, Leaves	Cholera, diabetes, Snakebite, scorpion sting
Albizia lebbeck	Siris	Fabaceae	Bark, leaves, Flower, seed	Cough, skin disease, wounds, Anti poison
Bauhinia racemosa	Aashitro	Fabaceae	Leaf, bark	Leprosy, piles, wounds, dysentery, indigestion, worms
Cassia fistula	Garmado	Fabaceae	Fruit, bark, Leaves, root	Blood purification, asthma, antifertility, antiseptic, burn cough, leprosy, Jaundice, liver problem, ringworm, stomach ache, tooth ache, swelling of throat, pimples

Carea arbora	Khumbhio	Lecythidaceae	Leaf, bark	Cold, dysentery, Muscle stiffness
Cratevanurvala buch-ham	Vay varno	Capparaceae	Bark, root	Kidney disease, joint pain, treating, fever
Casuarina equisetifolia	Sharu	Combretaceae	Bark	Dysentery, stomach ache, swelling
Derris indica	Karji	Fabaceae	Seed, roots	Skin-diseases, Hepatic troubles, Enlargement of spleen.
Ficus benghalensis	Vad	Moraceae	Latex, fruit, leaf, Bark	Cure worms, cut wounds, Toothache, Diabetes, Swelling
Lannea coromandelica	Modak mahudi	Anarcardiaceae	Whole plant	Heart disease, swelling, relieve pain
Moringa oleifera	Shargavo	Moringaceae	Fruit, bark, seed	Urinary tract, Rheumatism and Anthelmintic, Headache
Oroxylum indicum	Tetu	Bignoniaceae	Roots, bark	Diarrhoea and dysentery, Urinary troubles, Jaundice, fevers
Phyllanthus emblica	Aamla	Phyllanthaceae	Fruit, leaves, bark	Bronchitis, asthma, burns, constipation, headache, stomach ache, dropsy, liver problems, diabetes, acidity, dysentery
Peltophorum pterocarpum	Tamraphai	Caesalpiniaceae	Stem, leaves, Fruit	Skin disorder, muscular pain

Phoenix sylvestris	Khjur	Arecaceae	Fruit, leaves, Root	Arthritis, anaemia, cough, improve digestion strength
Pterocarpus marsupium	Biyo	Fabaceae	Bark, leaves	Relives fever, anaemia, relives swelling
Polyalthia longifolia	Aasopalav	Annonaceae	Leaves, stem, bark	Anti cancerous, skin diseases
Prosopis juliflora	GandoBaval, Mad tree	Mimosaceae	Leaves	Digestive disturbance, eye disease, skin lesions
Shorea robusta	Salar	Dipterocarpaceae	Bark, resin, Leaves	Earache, ulcers cough, headache, cut healing, eye irritation
Sterculia urens	Gond	Malvaceae	Bark, seeds,	Cure boils, wounds, sores, Joint pain, brain tonic, gonorrhoea
Sapindus trifoliatus	Aritha	Sapindaceae	Fruits, seed	Scorpion bites, respiratory, cough, hair problems
Senna auriculata	Aavad	Fabaceae	Leaves	Muscle pain, body pain, skin, sores and ulcers
Tectona gradis	Saag	Verbenaceae	Root, bark, seed	Wound healing benefits, overcome anaemia, skin health
Terminalia Crnuleta	Sadad	Combretaceae	Bark, stem	Diarrhoea, stomach pain
Tamarindus indica	Khati amli	Fabaceae	Flower, Seed,	Indigestion, jaundice

			fruit	
Thespesia populnea	Paras piplo	Malvaceae	Whole plant	Skin problem, dysentery, cholera, Haemorrhoids, liver, high blood pressure, wound healing
Terminalia Chebula	Harde	Casuarinaceae	Fruit	Bronchitis, cold, constipation, dysuria, eczema, dysentery, measles, pneumonia, stomach and spleen problem
Tecomella undulata	Rochdo	Bignoniaceae	Bark, flower	Leucorrhoea, liver disease, diabetes
Wrightia tinctoria	Dhudhlo	Apocynaceae	Bark	Skin disease
Ziziphus nummularia	Bordi	Rhamnaceae	Fruit, leaves, root	Dysentery, headache, indigestion, rheumatism, cough, wounds, fever, eye diseases, diarrhoea cholera, colic, blood purification, spleen disease
Zanthoxylum armatum	Timru	Rutaceae	Fruit, seed, bark	Dyspepsia, fever, toothache, cholera

Table 2: Important medicinal shrub species.

Botanical name	Local name	Family	Parts used	Ethno-medical uses
Bambusa arundinacea	Vans	Poaceae	Young shoots, seeds	Nausea, indigestion, infected wounds
Caesalpinia pulcherrima	Shakhasur	Fabaceae	Whole plant	Bronchitis, asthma, Malarial fever, heart disease, kidney disease
Calotropis gigantea	Safed akado	Apocynaceae	Bark, leaves	Snake bite antidote, arthritis, spine disease
Calotropis procera	Akado	Apocynaceae	Bark, leaves	Treatment of leprosy, asthma
Capparis sepiaria	Kanther	Capparaceae	Flower, leaves, root	Blood purifiers, cough, snake bite,
Cassia auriculata	Aaval	Fabaceae	Whole plant	Jaundice, eye infection (conjunctivitis), joint pain
Commiphora wighti	Gugal	Burseraceae	Whole plant	Skin infections, heart and brain abnormalities, kidney problem
Euphorbia neriifolia	Thor	Euphorbiaceae	Latex bark	Ear pain, skin disease,
Holarrhena pubescens	Indra jav	Apocynaceae	Bark	Arthritis
Justicia adhatoda L	Ardusi	Acanthaceae	Flower	Cough, cold, allergy
Kirganelia reticulata	Kamboi	Phyllanthaceae	Leaves, roots	Fractures, traumatic injury