



Investigation of ethno-veterinary flora of harsh nath hills region of sikar district, Rajasthan

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Abstract

A botanical survey was conducted on Ethno-veterinary and Ethnomedicinal plants located in the arid and semi-arid regions of the Harsh-Nath hills in the Sikar district. The local rural population utilizes these plant species daily to treat various diseases affecting cattle and livestock. Data was gathered through fieldwork in the study area and interviews with local ethnic communities who practice indigenous Ethno-veterinary medicine. Throughout the survey, some Ethno-veterinary plant species from different families were documented in the study area.

Keywords: Ethno-veterinary, traditional, herbs, harsh nath hills

Introduction

Traditional medicines, particularly Ethno-veterinary medicines, have recently garnered increased attention globally. They hold a significant status today, especially in developing nations where modern veterinary services for cattle are limited. Safe, effective, and affordable indigenous remedies are becoming increasingly popular among traditional ethnic communities in both urban and rural settings, particularly in India and China. This age-old healthcare system has been practiced by indigenous populations residing in remote villages and forests. Information from rural ethnic groups regarding indigenous traditional Ethno-veterinary medicine, as well as herbal medicine, has consistently played a crucial role in the discovery of novel plant-based products as chemotherapeutic agents. Herbal medicines, ethno-veterinary practices, and herbs are fundamental components of Ayurveda, Veda, and Homeopathic Ethno-veterinary systems, all of which are rooted in traditional knowledge. Currently, Ethno-veterinary medicinal plants are highly valued for their chemical properties, leading to a significant increase in their market demand worldwide.

The livestock industry serves as a primary source of livelihood for many individuals globally, especially among the rural poor in developing countries. Health issues pose a major challenge to livestock production and development in rural and sub-urban communities, where half of the world's livestock population resides. The significance of treating Ethno-veterinary medicine and other ethno knowledge systems is undeniable. The contribution of Ethno-veterinary medicine to livestock development is indisputable. The agro-based economy of central Rajasthan is heavily dependent on various types of cattle. This region is home to goats, sheep, cows, buffaloes, bulls, and camels. The present study has been conducted with a focus on the significance of

ethno-veterinary medicinal plants, rural medicine, and the accurate documentation of these plants found in the hilly terrain of Harsh Nath Hills and utilized by rural ethnic communities for the treatment of various cattle diseases. No research has been conducted in this area, the findings of present study will greatly benefit future researchers and the local community.

Study area and Methodology

Sikar is one of the three districts in the Shekhawati region of the Indian state of Rajasthan, spanning the northern latitudes of 27°07' to 28°12' and the eastern longitudes of 74°41' to 76°05' within the northeastern part of the state. It is covered by the Survey of India degree sheet numbers 45I, 45M, 54A, 44P, and 44L, encompassing an area of 7732 square kilometers, which roughly resembles a crescent shape, constituting 2.25 percent of the total area of the state. The Aravalli range includes the hilly regions. The district is nearly bisected from east to west by a range of hills that extend through Sakambrai Mata Ji, situated to the east of Sikar. The topography of the western section is typical of desert landscapes. Generally, the plain areas are located at elevations between 380 and 530 meters above sea level. The terrain in the northwest slopes towards the west. Within the district's hilly system, the prominent peaks are Raghunathgarh, Harsh Nath, Deogarh, and Shyamgarh. The Harshnath Hill features a rugged and hilly landscape along with a semi-arid climate. The Hills exhibit a rocky and hilly terrain that is characteristic of the Aravalli Range. The climate in this area is semi-arid, marked by hot summers and cool winters. These hills support a variety of plant species that have adapted to the arid conditions. The local population makes use of ethnomedicinal plants for their traditional healing practices.

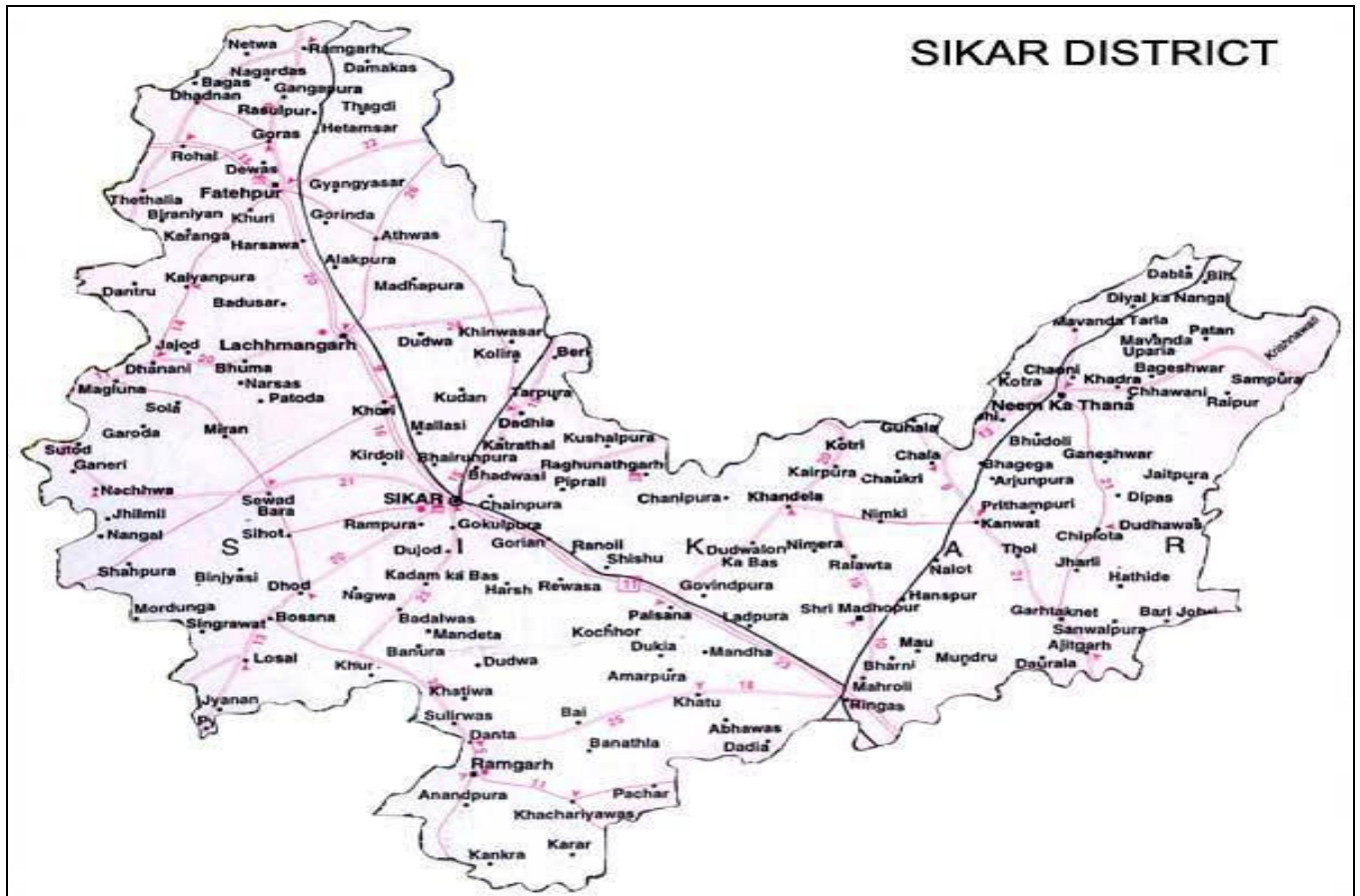


Fig 1: Map of Sikar District

Methodology

In the course of the current study, the work undertaken can be divided into the following stages: a field survey to document Ethno-veterinary Practices (EVP), a literature review, a herbaria survey, and an examination of herbarium specimens.

Ethno-veterinary surveys were conducted repeatedly over various periods within the study area of Rajasthan during the past six months from Oct 2024 to May 2025. Prior to the actual initiation of fieldwork, the report was acknowledged by numerous individuals, rather than solely by the primary supervisor, and connections were subsequently established with other tribal and rural communities in the region. The ability to communicate effectively in the local language, along with one's personality and social standing, is crucial for fostering rapport among the involved parties. Local informants included the village headman, priests, other community leaders, men and women working in the fields, and traditional healers. Throughout the fieldwork, several locals were interviewed.

Observations

The health of livestock presents a significant challenge for farmers across India, particularly in the Rajasthan and Shekhawati regions. In remote areas, there is a scarcity of veterinarians, and the costs associated with modern treatments are often high, making them inaccessible and at times unsuitable due to their lack of sustainability within the

existing socioeconomic framework. This scenario has led to the increased use of indigenous and traditional livestock treatment methods, which are viewed as the most crucial immediate remedy.

Ethno-veterinary knowledge, also referred to as veterinary anthropology, encompasses the folk beliefs, knowledge, skills, methods, and practices related to animal healthcare. This form of knowledge is a component of indigenous wisdom and, as a vital aspect of traditional knowledge, contributes to the cultural heritage of ethnic communities. Ethno-veterinary medicine has the potential to significantly enhance the veterinary healthcare infrastructure in India and boost the productivity of the country's livestock.

The current study on alternative medicine, which is connected to our long-standing heritage of traditional veterinary practices, will ultimately assist millions of farmers in treating a wide array of common animal ailments. This initiative will significantly enhance livestock production and contribute to the development of both rural and urban areas. It is now imperative to augment our validated traditional knowledge and present this valuable contribution to the nation. Furthermore, we must train our veterinarians and herbalists/healers to preserve and utilize nature for the benefit of rural communities and their animals. This can be achieved by developing affordable, tested, effective, and readily available herbal remedies that support animal health and promote the efficient production of animal products such as milk and butter.



Fig 2: Investigation with Rural people of study area

The detailed description of these plants, their use and method of medicine preparation and administration is presented in table.

S No.	Botanical Name of plant	Family	Local name	parts used	Mode of administration
1.	<i>Abrus precatorius</i>	Fabaceae	Chirmi,	Seeds	3 gm seeds are crushed and soaked in water over night and given orally to the animal in the morning. This preparation is given for three days to treat fever.
2.	<i>Acacia leucophloea</i>	Mimosaceae	Ronz, Khairi	Leaves, Flowers	Young leaves and flowers are feed to the animal to induce labour pain.
3.	<i>Acacia nilotica</i>	Mimosaceae	Babool, Kikar.	Bark and Thorns	Infusion of bark has cooling effect in animal body Decoction of matured thorns is given to the animal for removal of retained placenta after delivery.
4.	<i>Adhatoda vasiaca</i>	Acanthaceae	Adusa, Aduaa	Leaves	Juice of 20 to 30 leaves is given orally twice a day for three days
5.	<i>Aristolochia bracteata</i>	Aristolochiaceae	Kidamari	Leaves	Leaf juice is applied locally on the wound of cattle in snake- bite.

6.	Cassia tora	Caesalpiniaceae	Panwar	Leaves	Paste of foliage leaves is applied on the skin of cow suffering from lumpy virus infection. This paste is also applied on several skin diseases like- wounds, boils, rashes and maggots / myiasis etc.
7.	Datura innoxia	Solanaceae	Dhatura	Whole plant	To treat mastitis, the entire plant is used locally.
8.	Mimosa pudica	Mimosaceae	Chhuimui	Roots	Animals, particularly oxen suffering from neck tumors from Yoke's constant plowing, are given root extract for five days. The ox is rested for about eight days till full recovery.
9.	Rhus mysorensis	Anacardiaceae	Dansara	Fruit	fruits of this plant is given to cattle to get relief from constipation
10.	Zizyphus nummularia	Rhamnaceae	Jhar-bor	Thorns	Decoction of mature thorns of this plant is given to the cattle for removal of placenta after delivery.

Result and Discussion

The current research indicates that the Harsh Nath hill area in the Sikar district of Rajasthan exhibits a rich diversity of flora with notable ethno-veterinary potential. In spite of socio-cultural transformations, the local rural communities continue to retain traditional knowledge regarding plants used for ethno-veterinary applications. A well-structured management strategy for the extraction of medicinal resources will support the sustainability of both the regional flora and the rural populations. Nevertheless, there is an urgent requirement for a comprehensive quantitative evaluation of these resources, the development of sustainable harvesting and cultivation practices, and an enhancement of market value for promising ethno-veterinary plants, while integrating fair benefit-sharing frameworks.

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