

Tribal Indigenous Knowledge of Medicine for Sustainable Development: An Exploratory Study

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ABSTRACT

Now we live in the age of Artificial Intelligence. In this juncture we must preserved and protect Indigenous knowledge as an alternative way of living because when we unable to get benefit modern knowledge system at that time we must utilized the Indigenous traditional knowledge for achieving sustainability in all dimensions for social, environmental, and economical sustainability. But due to the colonial implication we loss our traditional wisdom and knowledge. Hence, we face challenge during the various crisis such as pandemic of corona mahamari. Therefore, through this small work researchers want to explore the traditional knowledge for sustainable development and justifying how these knowledge pattern helps to achieved the 2030 Global Agenda of Sustainability.

Keywords: *Tribal, Indigenous, Indigenous Knowledge, Medicine, Sustainable Development*

Local and indigenous knowledge refers to the understandings, skills and philosophies developed by societies with long histories of interaction with their natural surroundings. For rural and indigenous peoples, local knowledge informs decision-making about fundamental aspects of day-to-day life. This knowledge is integral to a cultural complex that also encompasses language, systems of classification, resource use practices, social interactions, ritual, and spirituality. These unique ways of knowing are important facets of the world's cultural diversity, and provide a foundation for locally-appropriate sustainable development (UNESCO) Indigenous knowledge (IK) is today a popular word throughout the world. It has been interpreted in different ways at different places but generally it is understood as local or traditional knowledge that indigenous people have brought down with them from earlier times via the oral tradition. Indigenous knowledge (IK) is, broadly speaking, the knowledge used by local people to make a living in a particular environment (*Warren, 1991*).

Indigenous knowledge developed over time; built up as a body of knowledge through generations of living in close contact with nature. It is “the sum totals of the knowledge and skills which people in particular geographical area possess, and which enable them to get the most out of their natural environment. Most of this knowledge and these skills have been passed down from earlier generation, but individual men and women in each new generation

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adapt and add to this body of knowledge in a constant adjustment to changing circumstances and environmental conditions” (*Behera, 2000*).

India, along with Africa, has the largest tribal population in the world. India is home to a large number of tribes which represents a varied form of economic backwardness and a state of impoverishment. India is one of the single largest populations of indigenous people in the world (approximately 10.2 crores). There is 8.6 percent of the tribal population in India according to Census 2011 which lives in different geographical terrain and spread over all over the region of the country. There are about 700 tribes (with overlapping categories in some States/UTs) as per notified Schedule under Article 342 of the Constitution of India (**Annual Report, Ministry of Tribal Affairs, 2012-13**).

Jharkhand was constituted on 15th Nov. 2000 as 28th, State of India. It is known for its natural resources, minerals, cultural speciality, and diversity of tribes. It is also called —Ruhr of India, for greatest stock of coal. Jharkhand is bordered by the states of Bihar to the north, Orissa to the south, Uttar Pradesh, Chhattisgarh to the west and West Bengal to the east. It has a population of 32.99 million (2011) consisting 26.2% tribals. Jharkhand has 32 types of tribal communities. Jharkhand is a land of tribals since ancient times.

Jharkhand is known for diversity of tribes. Presently, Jharkhand has 32 types of tribal communities. They are Asur, Baiga, Banjara, Bathudi, Bedia, Binjhia, Birhor, Birjia, Chero, Chik Bariak, Gond, Gorait, Ho, Karmali, Kharwar, Khond, Kisan, Kora, Korwa, Lohra, Mahli, Mal Paharia, Munda, Oraon, Parhiya, Santhal, Sauria Paharia, Savar, Bhumij. Kol, Kawar and Kharia, of which 8 tribes have been kept in the category of primitive tribal groups. They are Asur, Birhor, Korwa, Birjia, Mal Paharia, Sauria Paharia, Parhiya and Savar (Hil Kharia). Tribal population of Jharkhand was 26.3% in 2001 and 26.2% in 2011 of the total population. Tribal health has a very different yet comprehensible relationship with nature and its power. They are very much akin and belief to supernatural powers in curing or treating any sort of health-related issues and problems on the one hand, on the other hand, they are a greater degree of inclination towards the forest and nature which has a direct impact upon the health conditions of the masses particularly women population. Women because of their close tie and relationship with the forest, they are the most susceptible to the various health vulnerability and exploitation. Because of the extensive cutting of trees by the vested interest the distances between the villages and the forest areas had increased, forcing the tribal women to walk long distances in search of minor forest produce and firewood (*Basu, 2000*). Since time immemorial, plants containing beneficial and medicinal properties have been known and used by human beings in some form or other (*Jain and Saklani 1991*). In developing countries, 80% of the population still use traditional folk medicines obtained from natural resources (*Farnsworth et al 1985*). The United Nations General Assembly in its 70th meeting on 25 September 2015 adopted a resolution “transforming our world: the 2030 agenda for sustainable development”. Its member countries adopted 17 set of goals called the sustainable development goals (SDGs) to end poverty, protect the planet, and ensure prosperity for all. Each goal has certain targets to be achieved by 2030. Sustainable development goals are an extension of millennium development goals (MDGs) and part of a new sustainable development agenda to complete what MDGs did not achieve. where the concept of sustainable development emerged, advocated a pivotal role for indigenous people and other local communities in the management of environment and sustainable development because of their traditional knowledge and associated practices. The usage of plants for various purposes by indigenous and local communities comprises

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traditional ethnobotanical knowledge, which is not well documented by indigenous people, but has been orally and vertically transmitted from generation to generation

Objective

To find out Tribal Indigenous Knowledge of Medicine for sustainable development

METHOD AND MATERIAL

Lohardaga district came into existence after Ranchi was split into three districts namely Ranchi, Lohardaga and Gumla way back in 1983. The district is named after the town of Lohardaga, the administrative headquarters of the district. Lohardaga was given the position of a sub division in 1972 and a district in 1983. In Jain texts there is reference to Lord Mahavir's visit to Lore-a-Yadaga, which means 'river of tears' in Mundari. 'Ain-e-akbari', the famous book on Akbar, also mentions a place called 'Kismate Lohardaga'. The word Lohardaga may be made of two hindi words, Lohar meaning 'ironmonger', and Daga meaning center', which makes the literal meaning of Lohardaga as 'center of iron mining'. The district is situated in the south western part of Jharkhand State between 23°30' and 23°40' north latitudes and 84°40' and 84°50' east longitudes. The district covers an area of 1491 km² in the tribal belt of Chotanagpurplateau.

District has a number of small hill blocks covered with forests. The general slope of the district is from west to east. The main rivers of the district are South Koel, Sankh, Nandni, Chaupat's and Fulijhar etc. These are mainly Rain fed Rivers and dried up in the summer months. Some springs are also seen in the hilly tract of the district. Geologically the area in comprised with Archean Granites and Gneisses. In the uplands considerable thickness of late-rite of Pleistocene age is found in the Granite and Gneisses tracts. Alluvium of recent to sub-recent age is found in the river valleys. The most important mineral of the district is bauxite. Other minerals which are found in the district are feldspar, fire clay and china clay and have less economic importance. The major part of the district is covered with Golden Alluvium, Red and Sandy and Red and Gravelly soils. Late-rite and red and yellow soils are also found elsewhere in the district. The district enjoys a healthy and pleasant climate throughout the year. The annual average temperature is 23° centigrade and the district receives an annual average rainfall of 1000-1200 mm. The rainfall increases from west to east.

Method: Several field-surveys we undertaken in tribal villages of Lohardaga district during the years 2022-2023, at each time of visit to these tribal hamlets of forest residing villages a different season was choosen and the information is accrued after discussion with tribal people, ojha, Guni, elder women and other local informants. They provided useful information on the common names of different plant species, including the uses of parts of the wild edible plants. Repeated interviews through questionnaires were made in different villages to authenticate the information collected from different places and tribes. All the collected information on wild plants was analyzed. Plant specimens were collected to herbarium for taxonomical identification. Local floras were used to identify the specimen. Photographs were taken to show other neighboring communities of the plant materials, investigator, had to look-out to the flowering stages of specimens round the year for the correct identification.

Table 1. Types of medicinal practice by tribal indigenous people of Jharkhand

Sl no	Botanical name	Local name	Uses of medicinal plants
1	Butea Monosperma	Palash	Stomach infections, alleviating diabetes symptoms, easing bowel movements and even boosting sexual functions.
2	Shorea Robusta	Sal	Wounds, burns, indigestion, constipation, skin infections, piles, arthritis, general debility, ear problems, diarrhoea, dysentery, headache, cough, cold.
3	Madhuca Longifolia	Mahua	Epilepsy, Intestinal worm, Anemia, epilepsy
4	Bacopa Monnieri	Beng saag	Skin and hair problem
5	Crotalaria juncea	Sanai	
6		Dhatura	Having both poisonous and medicinal values; it is an anti-asthmatic, anticholinergic, antimicrobial, anticancer, anti-inflammatory activity, larvicidal and mosquito repellent, pesticide, antifungal activity.
7	Adina cordifolia	karam	Used in fever, wound, ulcers, skin disease, gastropathy burning sensation.
8	Calotropis procera	Madar/Aak	Emetic, cathartic and digitalic properties, leprosy and elephantiasis, snakebites, asthma
9	Azadirachta indica	Neem	Many medicinal treatment like skin diseases, healthy hair, improve liver function, detoxify the blood, Pest and disease control, fever reduction, dental treatments, cough, asthma, ulcers, piles, intestinal worms, urinary diseases etc
10	Bombax ceiba	semal	Gynocological, skin problem, diarrhoea, constipation
11	Millettia pinnata	karanj	Traditional use to treat human and animal skin diseases, enhance skin pigmentation; having insecticidal and antibacterial properties; potential biodiesel. Datun- traditional toothbrush.
12	Cissus repanda	Hadjod	Bone fracture of human and animal
13	Ficus geniculate	futkal	Edible – new and tender leaves; antimicrobial and antioxidant properties; traditional medicine for leucorrhoea, urinary tract infection and gastrointestinal infection.
14	Bauhinia purpurea	koinaar	
15	Pongamia pinnata	karanj	Traditional use to treat human and animal skin diseases, enhance skin pigmentation; having insecticidal and antibacterial properties; potential biodiesel. Datun- traditional toothbrush

DISCUSSION

Tribal life is more sustainable because of its closeness to nature. It, in turn, provides continuity and sustainability to nature. The tribal philosophy of environmental management is the result of their knowledge enhancement. It protects the natural resources, maintains a

balance between nature and tribal life, and preserves the ecology of their habitat. It makes a significant contribution to sustainable development by establishing nature more sustainably. However, as one becomes aware of their invaluable knowledge, the threat to their knowledge system increases. Since independence, with the declaration of the green revolution and the establishment of industry in tribal areas, the knowledge system of tribal communities, their forest-based lifestyle, and their coexistence relationship with nature are gradually disappearing. Forest policy seems to reflect the interference of modern perspective and biases. As a result, they are being forcibly displaced from the forest by ignoring their culture. The displacement of tribes from their natural habitat is a reason for the disappearance of their knowledge system. It is well known that tribal knowledge has particular relevance in the maintenance and management of local ecology and environment. On the other hand, in the name of forest and wildlife conservation, tribal people like Baiga are being evicted from their habitat (*Mollick 2016*). When tribal communities are displaced, it breaks in the chain of transferring their indigenous knowledge from one generation to another. So there will be a change in the process of traditional knowledge, and subsequently, that knowledge will almost disappear and eventually permanently become extinct.

Followers of the Sarna religion are usually known as nature worshippers, as it is based on nature worship. It depicts tribal identity through ecological tradition. The knot made of the 'Sal' tree at the place of Sarna is considered sacred. Worship and religious function are performed under the 'Sal' tree at the place of Sarna. It is the sacred centre of the religious beliefs of tribal living in the Jharkhand region. It spreads over the state of Jharkhand, Odisha, West Bengal, and Chhattisgarh. The tribal of Jharkhand has demanded Sarna's recognition as a distinct tribal religion. It expresses eco-nationalism by highlighting the role of nature in building nationalism and pride of tribal religion. "Sarna Dharam can teach a lot to the world facing problems, such as pollution and environmental degradation, as it is all about worshipping nature, forest, and mountain" (Kukreti 2020). All medicinal plant species surveyed were used by people in more than one form of combinations. Majority of plant species were used medicinally in the form of decoction obtained from the leaves, roots, seeds, flowers, and bark. The present observations are similar with the previous reports which have been indicated earlier in relation to medicinal plants uses by the Indian traditional system of medicine like Siddha and Ayurveda (*Kirtikar and Basu, 2001*). The present reports also gain support from the observation of Nandagoapalan et al., (2015; *Ragragio et al., 2013; Tantengco et al., 2018*) who have observed similar results on medicinal plants. However, the therapeutic importance of these plant species has less information on their active phytochemical and therefore, the active principles responsible for pharmacological action requires further investigation at scientific level to validate the claim.

CONCLUSION

The aim of this study is to give a consolidated account of the medicinal plant wealth of the Lohardaga district of Jharkhand, being used for the treatment of common ailments through the traditional system of medicines. The paper contains 15 species, and traditional information belongs to plant species used by indigenous people are related to very common plant species of Lohardaga district to easily assessable for all tribal communities. The plants used for medicinal purposes are found all over the district, cultivated land, forest, wastelands as well as near to the houses of communities. The tribes using these plants for common and frequently occurring diseases i.e., wounds, all type of fevers, cough and cold, gastric issues, pain and swelling, blood pressure, dental issue, anxiety, fatigue as well as skin issues and all parts of plants are used for the cure of any disease. The mode or even whole plants of use is external as well as internally. Plant parts like root, shoot, stem, leaves, fruit, seeds are used

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in different forms to cure the disease by using different procedures. By the practice of these medicinal tribal indigenous knowledge will help to achieve various sustainable development Goal.

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WEB-RESOURCES:

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Conflict of Interest

The author(s) declared no conflict of interest.

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