



Traditional usage of *Acacia catechu* from residents around Rehekuri Blackbuck Sanctuary, Ahmednagar

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Abstract

This article discusses the significance of Khair tree in the daily being of people in rustic areas. This tree is known by its scientific name, *Acacia catechu* (L.F) Willd. The Rehkuri Blackbuck Sanctuary in the Karjat taluka of the Ahmednagar district of Maharashtra state, India, has an abundance of *Acacia catechu*. The *Acacia catechu* is a multipurpose tree that the locals use as medicinal, construction material, and fuel. People who live close to the Rehkuri Blackbuck Sanctuary provided knowledge on the conventional usage and social and economic significance of *Acacia catechu*. A reference to the indigenous people who live outside the boundaries of the Rehkuri Blackbuck Sanctuary.

Keywords: *Acacia catechu*, medicinal use, rehkuri blackbuck sanctuary, traditional use

Introduction

India is a culturally varied country. This culture uses traditional medicines. Numerous medications are derived from plants. Across several cultures, *Acacia catechu*, a member of the Fabaceae family and the Mimosoideae sub-family, is used for medicinal purposes. *Acacia catechu* is locally known as Khair. This plant grows wild in some places and is cultivated in some places (Singh and Lal 2006) ^[7]. *Acacia catechu* can grow up to 15 meters in height. In India, *Acacia catechu* is widely distributed in dry and rough soils in Gujarat, Rajasthan, Maharashtra, and Tamil Nadu (Rout *et al.* 2021) ^[6]. *A. catechu* is abundant in the Rehkuri Blackbuck Sanctuary in the Karjat taluka of the Ahmednagar district of Maharashtra state, India (Kharat and Mokhat 2018) ^[1].

In India, there are three varieties of *Acacia catechu* known as Catechuoides, Sundra, and Catechu. These varieties have significant roles in traditional medicine and local industries. Sundra is called Lal Khair or red catechu. Sundra is found in Maharashtra, Gujarat, Rajasthan, and the Deccan. Catechuoides is found in the Terai area of West Bengal, as well as in Assam and Sikkim. Catechu is distributed widely in Jammu, Punjab, Himachal Pradesh, Uttar Pradesh, Madhya Pradesh, Bihar, Andhra Pradesh, and Orissa (Lakshmi *et al.* 2012) ^[4].

Around 5,800 square kilometers of land in the country are covered by Khair plantations. Every year, around 63,000 tons of Khair heartwood is used for making Katha. The small-scale businesses in the country produce about 3,000 to 3,500 tonnes of Katha annually. However, due to the increasing number of smaller cottage industries starting up every year, the demand for this species is rising significantly (Wanage *et al.* 2013) ^[9].

Acacia catechu is known for its therapeutic properties. It is a deciduous plant that has been used in Ayurveda to treat a wide range of ailments. The plant goes by different names, such as Cutch in English, Khair in Hindi and Marathi, and Khadira in Sanskrit. (Thangavelu *et al.* 2020) ^[8] and Kumar

et al. 2019) ^[2]. *Acacia catechu* is a potent plant with astringent and antioxidant properties. It's used to treat infections and reduce oozing from wounds. Its extracts have antipyretic, anti-inflammatory, and antimicrobial activities (Naik *et al.* 2003) ^[5]. Katha, also known as Catechu, is a significant ingredient in Pan, which is an Indian delicacy made by chewing betel leaves. Katha is used to treat infections of the throat, mouth, and teeth. The concentrated aqueous extract, also known as "cutch" or "khair gum," has digestive, astringent, and cooling properties that make it beneficial for relieving cough and diarrhea. It is beneficial for treating skin eruptions, boils, and ulcers when applied externally (Lakshmi *et al.* 2011) ^[3].

Acacia catechu is not only of great commercial importance but also significant for the rural residents who live near the forests where it grows. It provides them with a source of income, as well as fulfilling their daily needs for fuel, building materials, and traditional. People living near the Rehkuri Blackbuck Sanctuary have become dependent on this plant, which has come to be an essential part of their social, economic, and cultural life.

Although knowledge of conventional uses of *Acacia catechu* has been reported previously by several researchers, knowledge of conventional uses of the *Acacia catechu* tree from Rehkuri Blackbuck Sanctuary has not yet been reported. Therefore, the present study was undertaken.

Methodology

Surveys were conducted in Khair-dominated forests in various areas of Rehkuri Blackbuck Sanctuary, as well as in villages surrounding this area *viz.* Rehkuri, Patharwadi, Netkewadi, Bahirobawadi, Gaikarwadi, Bargewadi, Durgaon, Pimpalwadi, Kuldharan, Walvad, and Supe. The purpose of this survey was to record the indigenous knowledge related to Khair. Rural people, including farmers who tend to cattle, were interviewed using the method of Singh and Lal (2006) ^[7]. The observations were documented on diverse traditional uses and classified accordingly.



Plate 1: a Survey of study area; b, c, d, Interview with local people

1. Study Area

The focus of the present study is Karjat taluka, which is a part of the Ahmednagar district in Maharashtra (MS), India. Rehekuri Wildlife Sanctuary for Blackbuck is situated in Karjat Tehsil of Ahmednagar District. The sanctuary covers 217.30 hectares and is situated at an altitude of 610 meters. The climate of the sanctuary is arid and semi-arid, and it is

characterized by a dry deciduous tropical thorn forest. The normal per year rain ranges between 500-600 mm, while the lowest temperature is normal at 28°C, dropping to 16°C in winter. The maximum temperature can reach up to 43°C. The *Acacia catechu* plant, which belongs to the Fabaceae family, is predominantly found in this sanctuary.

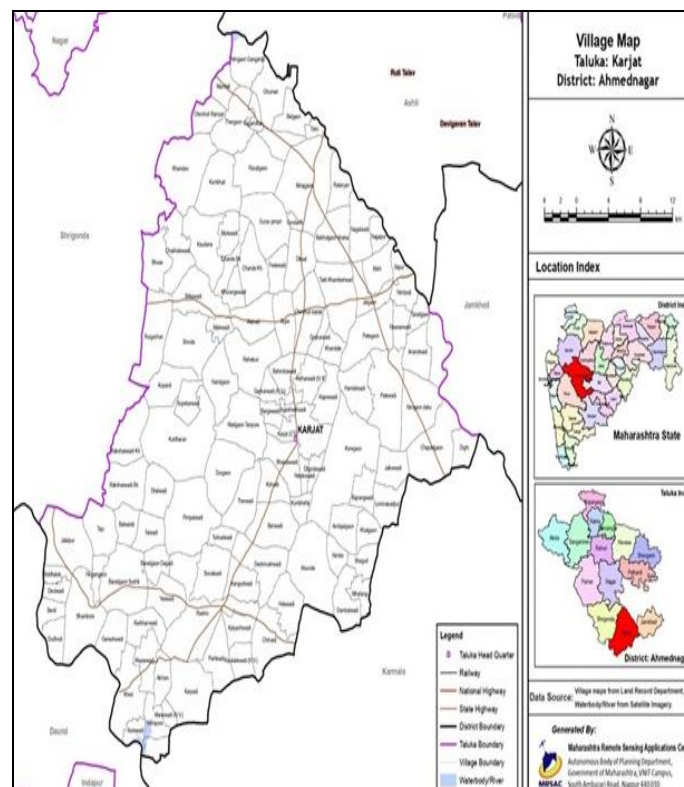


Plate 2: Map location of study area (Source: https://mrsac.gov.in/writereaddata/MRSAC/map/15738897595dcfa6df5f5ebTH_NGR_Karjat.pdf.)

Result and discussion

1. Distribution

Acacia catechu is a plant species that can be found across various countries such as India, Indonesia, Nepal, Malaysia, Myanmar, and Pakistan.

2. Botanical Description

Acacia catechu is commonly known as black catechu. Origin of the term Acacia Derived from the Greek term "Thorns" which means "point or a barb". The tanning extraction collected from the heartwood of *Acacia catechu* is called 'cutch'. The species appellation is decided from the word 'cutch'. The plant size is small to medium. The height of this plant is about 15 meters. *Acacia catechu* is a deciduous tree with crooked thorns on its branches. The tree bark is tough and exfoliates in long, thin, rectangular flakes that often dangle. It is hard, dark brown or dark grey on the outside, and brown or red on the interior, with a thickness of 12- 15 mm. The young branches are glabrous and dark brown or purple (Rout *et al.* 2021) [6].

Leaves bipinnately compound with 30–50 pairs of oblong-linear, 2–6 mm long, glabrous leaflets; also, pubescent are the 9–30 couple of leaflets and the main rachis, which has a big, visible gland around its middle.

Flowers are pentamerous, white to pale yellow, and arranged in 5–10 cm long axillary spikes. The corolla is 2.5–3 mm in length, and the calyx is 1-1.5 mm in length. The stamens are many, widely outstretched from the corolla, and have filaments that are either white or yellowish-white.

Fruit: a strap-shaped, flat, tapering pod that is 5-8.5 cm by 1-1.5 cm. It is glossy, brown, dehiscent, and contains 3 to 10 broadly ovoid seeds. *Acacia catechu* sheds its leaves for a period during summer. In India, leaves fall in February and new leaves appear in late April or early May. The flowers appear around the same time as fresh leaves. The Flowering continues till July and August. After flowering, the pods develop rapidly. Full growth of the pod occurs by September or October. Finally, they start ripening in November to early January. The pods split after maturity, and begin to drop from January, with further dropping continuing for the next few months. A few legumes persist hanging on the tree till October as a result, insects seriously harm the seeds within the pods. The seeds are dispersed by the wind and germinate when the rains begin (Lakshmi *et al.* 2011) [3].

3. Traditional Uses of *Acacia catechu* (L.F) Willd.

3.1 Fuel

The dried wood of *Acacia catechu* is used extensively as fuel or firewood. Charcoal from burnt wood is also used as fuel. The ash obtained after burning the coal is mixed with the soil to improve soil fertility.

3.2 Timber

The wood of *Acacia catechu* is sturdy, enduring, and insect-repellent compared to other trees, so the wood is used to make house frames, windows, doors, and agricultural implements.

3.3 Mastication

In the rural areas, a katha (cutch) is given along with betel leaf after the meal in the meal program.

3.4 Social and Religious Use

Acacia catechu wood is used in religious rites by the people of the region. (e.g. Havan, Yadnya, and Cremation.)

3.5 Hedges

Acacia catechu has spiny branches, so farmers use it to fence fields to protect crops from crop-grazing animals. Like that, Fences made from the thorny branches of *Acacia catechu* are used to protect domestic animals from wild animals such as wolves, foxes, leopards, and other predators.

3.6 Fodder source

The leaves of *Acacia catechu* are used as fodder for sheep and goats.

3.7 Gum

The plant discharges a high-quality gum that is used for paper adhesion

3.8 Medicinal uses

1. *Acacia catechu* bark extract, taken in two teaspoons each day for five days, provides relief from colds and coughs.
2. Consuming *Acacia catechu* gum regularly for fourteen to fifteen days is thought to alleviate body pain. Whereas, boiled extract of its heartwood, administered orally, is thought to ease stomach pain.
3. Katha, prepared from the heartwood of *Acacia catechu*, is applied to treat oral ulcers.
4. *Acacia catechu* bark is said to be beneficial in treating dysentery, diarrhea, and wounds. Regularly consuming lemon juice and Katha powder on an empty stomach for a few days gives relief from piles.
5. *Acacia catechu* heartwood is cooked in water, and this water is administered to ladies after childbirth for bathing. It is said to reduce pain in the body.
6. A powder made from the bark of *Acacia catechu* mixed with milk is believed to provide relief for colds, coughs, and sore throats.
7. An extract made from the leaves of *Acacia catechu* is considered a panacea for diarrhea. An extract prepared from its flower is also thought to be effective in treating diarrhea
8. A paste made from the root of *Acacia catechu*, applied to the Teeth and Joints, is believed to relieve Toothache and Joint pain. Similarly, applying the paste in the mouth is claimed to heal oral ulcers. It is thought that taking two spoonfuls of root paste orally on an empty stomach for 60 days will bring treatment for tuberculosis.

Table 1: Different parts of *Acacia catechu* used for different disorders are mentioned in the following table.

Plant material	Use	Types of Remedy	Medication Procedure	Reference
Bark	Colds and coughs	Extract	Extract, two teaspoons daily for five days.	PS,
Gum	Body pain	As it is	Consume gum regularly for fourteen to fifteen days.	PS
Heartwood	Stomach pain	Boiled extract	Take the boiled extract orally.	PS
Katha (Catechu)	Mouth ulcers	As it is	Kath is applied to the mouth and tongue.	PS

Bark	Dysentery, diarrhea, and wounds	Powder	One to two spoonfuls of powder is mixed with one glass of water.	PS
Katha (Catechu)	Piles	Powder, and Lemon juice	A mixture of Katha powder in lemon juice on an empty stomach regularly for a few days	PS
Heartwood	Body pain after delivery	Heartwood boiled Water	The heartwood is boiled in water and this water is given for bathing.	PS
Bark	Colds, coughs, and sore throats	Powder and Milk	A spoonful of powder is mixed with a glass of milk and taken orally.	PS
Root	Toothache and Joint pain	Paste	A paste is applied to teeth and joints.	PS
Root	Mouth ulcers	Paste	The paste is applied in the mouth.	PS
Root	Tuberculosis	Paste	Two teaspoons of the paste are taken orally on an empty stomach for 60 days.	Ps
Leaf	Dysentery	Extract	Mix one to two teaspoons of the extract in a glass of water. Take this mixture daily for five days.	PS
Flower	Dysentery	Extract	Mix one to two teaspoons of the extract in a glass of water. Take this mixture daily for five days.	PS

Present Study = PS

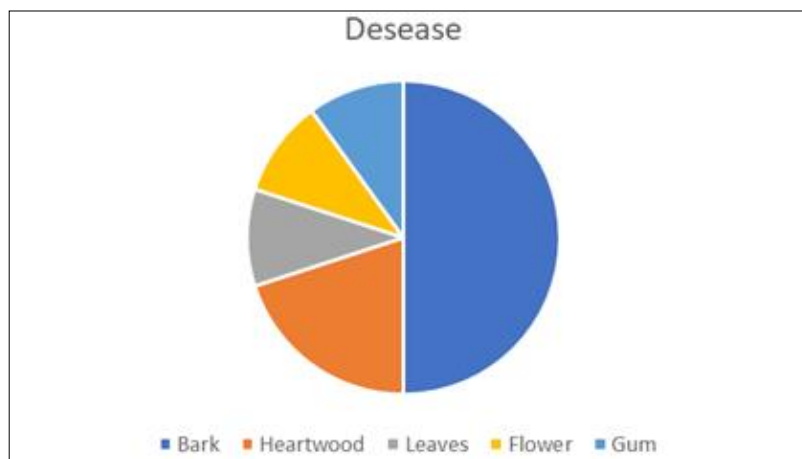


Fig 1: Different parts of *Acacia catechu* used for different disorders

3.9 Economic Significance

The heartwood of *Acacia catechu* is commonly used commercially to prepare Katha. In India, this Katha sells for Rs.10 per gram.

Conclusion

The present study highlighted that *Acacia catechu* has great traditional, socio-economic importance. It is widely used for various purposes such as medicinal, fodder, hedges, *Hom-Havan* (rituals), cremation, mastication, furniture, and fuel by the residents living in the vicinity of Rehekuri Blackbuck Sanctuary. It has traditional, social, and economic importance, and besides it has great environmental importance. It is an effective tree for preventing soil erosion, sustaining the atmosphere, fighting drought, and developing wasteland. This tree grows in areas with less water or rainfall.

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