



Sacred Jammi (Shami) Tree (*Prosopis cineraria*): Hindu Traditions, Epic Associations, Medicinal Properties, and Ecological Significance

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ABSTRACT :

The Jammi or Shami tree (*Prosopis cineraria* (L.) Druce), a drought-adapted species belonging to the family Fabaceae, holds cultural, medicinal, and ecological significance in parts of South Asia. In Hindu traditions, the tree is associated with auspiciousness, prosperity, courage, and victory, particularly through regional Vijayadashami practices and the popular *Mahabharata* tradition of the Pandavas concealing their weapons in a Shami tree during their incognito exile. This narrative review examines the tree's botanical identity and historical-cultural associations, its connections with the *Ramayana* and *Mahabharata*, its traditional medicinal uses, and its environmental contributions. Relevant literature was considered from scholarly publications, botanical resources, pharmacological studies, and epic translations, with information organized thematically. Published research reports various phytochemical constituents and preliminary pharmacological activities, including antioxidant and anti-inflammatory effects; however, much of the available evidence is experimental, and clinical effectiveness in humans remains insufficiently established. Ecologically, *P. cineraria* is valued for its adaptation to arid and semi-arid environments, its role in agroforestry systems, and its contributions to fodder resources, rural livelihoods, and soil conservation. The review also highlights the importance of distinguishing documented ecological and experimental findings from regional beliefs and devotional interpretations. Integrating cultural heritage, scientific investigation, and community-based conservation may support the sustainable management of this species. Further research should prioritize reliable documentation of regional traditions, standardized medicinal investigations, quantitative ecological assessment, and long-term conservation monitoring.

Keywords: *Prosopis cineraria*; Jammi tree; Shami tree; Hindu traditions; traditional medicine; agroforestry; ecological conservation.

1. Introduction

Sacred trees have occupied an important place in Indian culture, where nature, spirituality, and traditional knowledge are closely interconnected. Trees are often associated with religious beliefs, festivals, folklore, and community practices, reflecting their cultural as well as ecological importance. The Jammi or Shami tree, scientifically known as *Prosopis cineraria* (L.) Druce and belonging to the family Fabaceae, is an important dryland species native to parts of South Asia and western Asia. It is commonly known as Khejri in Rajasthan and Jammi in Telugu-speaking regions. Its adaptation to arid and semi-arid environments makes it valuable for rural livelihoods and dryland ecosystems (Garg & Mittal, 2013).

In Hindu traditions, the Shami tree is associated with auspiciousness, prosperity, courage, and victory. Its worship is particularly connected with Vijayadashami, when some communities exchange its leaves as symbols of goodwill and prosperity. The tree is also linked to the *Mahabharata* through the popular tradition of the Pandavas concealing their weapons during their incognito exile. Such associations demonstrate how religious narratives and regional customs contribute to the cultural significance of plants. However, specific epic references must be distinguished from later devotional interpretations and local traditions.

Beyond its religious importance, *P. cineraria* has attracted scientific attention because of its reported traditional medicinal uses, phytochemical constituents, and ecological contributions. Research has explored its potential pharmacological activities, while agroforestry literature highlights its usefulness in dryland farming systems (Garg & Mittal, 2013; Kaushik et al., 2021). Nevertheless, medicinal claims require appropriate scientific validation, and ecological benefits depend on local conditions.

2. Materials and Methods

This study adopts a narrative literature-review approach to examine the cultural, religious, medicinal, and ecological significance of the Jammi (Shami) tree, *Prosopis cineraria* (L.) Druce. Relevant literature was identified through academic databases, including Google Scholar and PubMed, as well as

scholarly journals, botanical databases, and institutional publications. Search terms included “*Prosopis cineraria* medicinal properties,” “Jammi tree cultural significance,” “Shami tree Hindu tradition,” “Shami tree Mahabharata,” “*Prosopis cineraria* phytochemistry,” and “Khejri agroforestry.”

Publications were considered for inclusion based on their relevance, scholarly credibility, and contribution to botanical identification, traditional medicinal knowledge, religious traditions, pharmacological research, or environmental science. Peer-reviewed articles, authoritative botanical resources, and identifiable editions or translations of the Ramayana and Mahabharata were prioritized. The selected information was organized thematically into botanical and cultural origins, epic associations, medicinal properties, and ecological benefits.

Evidence was interpreted according to its source type, distinguishing religious narratives and regional beliefs from experimentally investigated medicinal properties and documented ecological outcomes. As this study relies on secondary sources, it does not include original fieldwork, laboratory experiments, or clinical investigations. The findings are therefore subject to the availability, quality, and limitations of the published literature.

3. Historical and Cultural Origins of the Jammi (Shami) Tree

3.1. Botanical Identity and Distribution

The Jammi or Shami tree is botanically identified as *Prosopis cineraria* (L.) Druce, belonging to the family Fabaceae. It is a drought-adapted tree native to parts of the Indian subcontinent and western Asia. Commonly known as Khejri in Rajasthan and Shami in several Indian languages, it is called Jammi in Telugu-speaking regions. The species is particularly associated with arid and semi-arid environments, where it contributes to dryland vegetation and rural livelihoods. Correct botanical identification is essential because different tree species may share similar vernacular names, while their medicinal properties and ecological characteristics can differ (Garg & Mittal, 2013; Royal Botanic Gardens, Kew, n.d.).

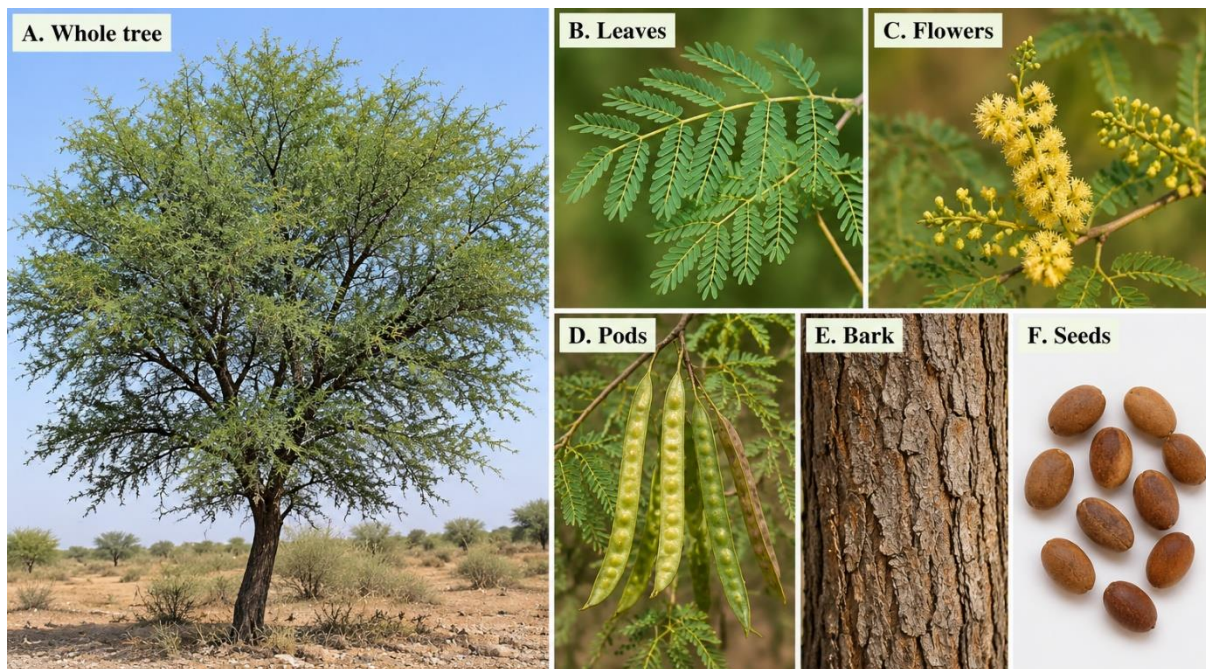


Figure 1. Botanical features of the Jammi/Shami tree (*Prosopis cineraria* (L.) Druce).

Note: A. Whole tree showing growth form and habitat in arid and semi-arid regions. B. Bipinnate leaves with small, oblong leaflets. C. yellowish flowers in characteristic spikes. D. Mature and developing pods. E. Bark with a rough and fissured texture. F. Seed extracted from Pods.

3.2. Religious and Cultural Significance

The Shami tree holds cultural importance in several Hindu communities and is associated with auspiciousness, courage, prosperity, and victory. Its religious significance reflects the broader Indian tradition of connecting plants with sacred narratives, rituals, and community identity. Such cultural associations can encourage respect for trees and preserve traditional ecological knowledge. However, the specific beliefs and practices associated with the Shami tree vary across regions and communities and should not be generalized to all Hindus.

3.3. Traditional Worship and Regional Practices

Shami worship is particularly associated with Vijaydashami, also known as Dasara or Dussehra. In some communities, people worship the tree and

exchange its leaves as symbols of prosperity, goodwill, and victory. In Telangana and Andhra Pradesh, Jammi-related customs form part of regional Dasara traditions, although specific practices differ among communities and families. These observances demonstrate how religious customs can preserve cultural memory and maintain connections with native vegetation. Nevertheless, historical claims about the origins and antiquity of particular rituals require support from reliable textual or ethnographic sources. Distinguishing documented customs from popular interpretations provides a more accurate understanding of the Jammi tree's cultural significance.

Table 1. Botanical and cultural profile of the Jammi/Shami tree

Parameter	Description
Scientific name	<i>Prosopis cineraria</i> (L.) Druce
Family	Fabaceae
Common names	Shami, Khejri, Jammi
Regional name in Telugu	Jammi Chettu
Growth form	Small to medium-sized tree
Habitat	Arid and semi-arid environments
Geographic distribution	Indian subcontinent and parts of western Asia
Religious significance	Associated with auspiciousness, courage, and victory in Hindu traditions
Festival association	Vijayadashami (Dasara/Dussehra) in several regional traditions
Epic association	Popularly associated with the Pandavas' concealed weapons in the Mahabharata
Traditional uses	Fodder, fuelwood, food products, and reported medicinal applications
Ecological importance	Dryland vegetation, agroforestry, soil protection, and rural livelihoods
Conservation relevance	Preservation of native vegetation and traditional ecological knowledge

Source: Compiled from Garg and Mittal (2013), Kaushik et al. (2021), and Royal Botanic Gardens, Kew (n.d.).

4. Significance in the Ramayana and Mahabharata

4.1. References and Traditions Associated with the Ramayana

The Ramayana narrates Rama's exile, the abduction of Sita, and Rama's eventual victory over Ravana. This victory is commemorated during Vijayadashami in many Hindu communities and is widely interpreted as the triumph of good over evil. The Shami tree is associated with victory and auspiciousness in some regional devotional traditions connected with Dussehra. However, this cultural association should not automatically be treated as an explicit episode in every version of the Ramayana. The epic exists in multiple Sanskrit and regional retellings, and a scholarly discussion should distinguish the narrative of Rama's victory from later interpretations linking the Shami tree to the festival.

The relationship between the Shami tree and the Ramayana should be interpreted in the context of regional religious traditions. Although Vijayadashami commemorates Rama's victory in many Hindu communities, the association of Shami-tree worship with this festival does not, by itself, establish a direct reference to the tree in the Sanskrit epic. Comparative study of different Ramayana versions, devotional literature, and regional customs may help clarify how these traditions developed and how their meanings vary among communities.

4.2. The Shami Tree and the Pandavas in the Mahabharata

The association between the Shami tree and the Mahabharata is more directly connected with the Virata Parva. During their thirteenth year of exile, the Pandavas had to remain incognito. Arjuna proposed concealing their weapons in a large Shami tree near a cremation ground before they entered King Virata's kingdom. The weapons included Arjuna's celebrated Gandiva bow. Later, when the Kauravas threatened Virata's cattle, Arjuna and Prince Uttara returned to the tree and retrieved the weapons before confronting the enemy. This episode is described in the Virata Parva, including the weapons-concealment narrative and their subsequent recovery (Ganguli, 1884–1896, Virata Parva, Sections V and XL).



Figure 2: Artistic depiction of the Pandavas concealing their weapons in the Jammi/Shami tree in the Mahabharata tradition.

4.3. Symbolism of Victory, Courage, and Auspiciousness

The Shami tree's association with the Pandavas has contributed to its symbolic meanings of courage, patience, preparedness, and victory. Concealing the weapons represents strategic restraint, while retrieving them symbolizes readiness to act when circumstances permit. In regional Vijayadashami practices, worshipping the tree or exchanging its leaves expresses wishes for prosperity, success, and goodwill. These interpretations demonstrate how epic narratives can shape religious customs and cultural identity. They also provide an opportunity to connect traditional reverence with the conservation of native trees. Nevertheless, the symbolic meanings attributed to the Shami tree vary across communities and should be understood within their specific cultural contexts.

5. Medicinal Properties and Traditional Uses

5.1. Traditional Medicinal Applications

The Jammi or Shami tree (*Prosopis cineraria* (L.) Druce) has a long history of use in traditional medicine and regional ethnomedicinal practices. Different plant parts, including leaves, bark, flowers, and pods, have been used in traditional preparations for various health complaints. Published reviews document reported applications involving digestive, respiratory, skin, and inflammatory conditions (Garg & Mittal, 2013; Chaudhary et al., 2018). However, these uses vary across communities and preparation methods. Ethnobotanical documentation records traditional knowledge; it does not by itself establish clinical effectiveness.

5.2. Phytochemical Constituents

Phytochemical investigations have reported several classes of compounds in *P. cineraria*, including flavonoids and other phenolic compounds, tannins, alkaloids, sterols, fatty acids, and amino acids. Reported constituents include gallic acid, prosogerin derivatives, spicigerine, prosophylline, stigmasterol, campesterol, and sitosterol (Garg & Mittal, 2013). The chemical profile may differ according to the plant part examined, geographical origin, season, extraction solvent, and analytical technique. Therefore, findings from one extract should not automatically be generalized to all traditional preparations.

5.3. Reported Pharmacological Activities

Experimental research has investigated the antioxidant, anti-inflammatory, analgesic, antimicrobial, and glucose-regulating potential of extracts from different parts of *P. cineraria*. Sharma and Sharma (2020) reported anti-inflammatory effects of stem-bark extract in a mouse model, while other studies

have investigated antioxidant activity and changes in blood glucose in experimentally induced diabetic animals (Sharma & Sharma, 2020; Singh et al., 2011). Research on isolated tissues has also explored possible smooth-muscle-relaxing effects (Janbaz et al., 2012). These findings provide preliminary evidence for further investigation, but laboratory and animal results do not establish effectiveness in humans.

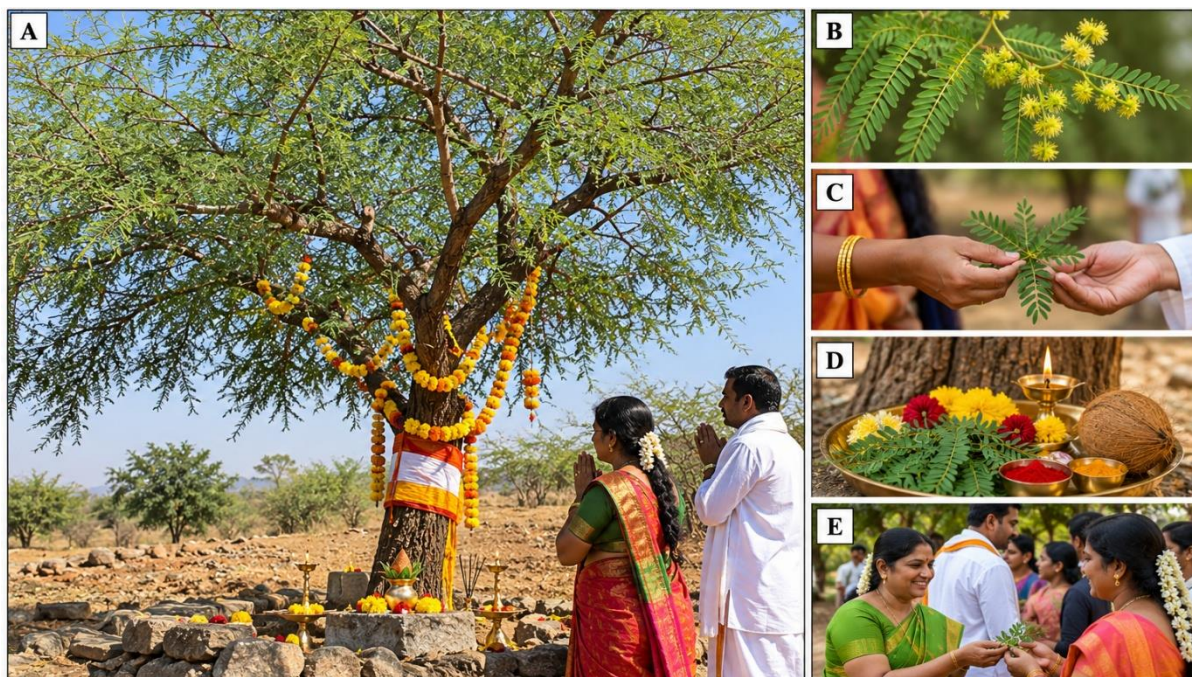


Figure 3. Traditional worship of the Jammi/Shami tree during Vijayadashami

Note. (A) Worship of the tree with traditional offerings; (B) leaves and flowers; (C) exchange of leaves as a symbol of goodwill and prosperity; (D) ritual offerings; and (E) community leaf-exchange practices.

Table 2. Traditional medicinal uses and scientific evidence

Plant part	Traditional medicinal use	Scientific evidence reported	Evidence level and limitations
Bark	Used traditionally for inflammation, digestive complaints, and certain skin conditions	Experimental studies have reported anti-inflammatory and antioxidant activities of bark extracts (Sharma & Sharma, 2020; Singh et al., 2011).	Mainly preclinical evidence; clinical effectiveness in humans remains insufficiently established.
Leaves	Used in traditional remedies for inflammatory conditions and minor skin complaints	Phytochemical investigations suggest the presence of bioactive constituents with potential biological activity (Chaudhary et al., 2018).	Evidence is largely preliminary; specific uses require further validation.
Pods	Consumed as food and used in traditional dietary practices; some traditional medicinal applications are reported	Research on <i>Prosopis cineraria</i> documents its nutritional and phytochemical potential (Garg & Mittal, 2013).	Nutritional value should be distinguished from proven therapeutic effects.
Flowers	Used in some traditional preparations	The species has been investigated for diverse phytochemical and pharmacological properties (Chaudhary et al., 2018).	Evidence specific to flowers and individual therapeutic claims is limited.
Roots	Used in certain traditional medicinal preparations	Reviews report ethnomedicinal applications of different plant parts, but evidence varies by preparation and claimed use (Garg & Mittal, 2013).	Traditional use does not establish safety or clinical efficacy; root-specific evidence is limited.
Whole-plant extracts or selected extracts	Used in traditional systems for a range of ailments	Experimental investigations have examined pharmacological activities, including effects relevant to gastrointestinal, respiratory, and vascular systems (Janbaz et al., 2012).	Findings from laboratory and animal studies cannot be directly generalized to human treatment.

Note. The table summarizes reported traditional uses and selected scientific findings for *Prosopis cineraria* (L.) Druce. Evidence levels refer to

the general nature of the available research, not a formal systematic evidence grading. Findings from extracts may depend on the plant part, extraction method, dose, and experimental model. Traditional use and laboratory findings should not be interpreted as proof of clinical efficacy or safety. Human clinical studies and standardized preparations are needed before therapeutic recommendations can be made.

5.4. Scientific Evidence, Safety, and Limitations

Despite promising experimental findings, the medicinal potential of *P. cineraria* requires further evaluation. Standardized clinical evidence concerning appropriate dosage, long-term safety, adverse effects, and interactions with medicines remains insufficient to support broad therapeutic claims. Different extracts may contain different concentrations of active constituents, making direct comparisons difficult. Future studies should prioritize botanical authentication, standardized extraction, toxicity assessment, reproducible experiments, and well-designed human clinical trials. Until adequate clinical evidence is available, traditional preparations should not replace established medical treatment.

The strength of evidence varies according to the type of research conducted. Traditional medicinal reports document customary uses, while phytochemical studies identify compounds under specific analytical conditions. Laboratory and animal experiments can provide preliminary evidence of biological activity, but they do not establish therapeutic effectiveness in humans. Future research should use authenticated plant material, standardized extraction procedures, reproducible experimental methods, and appropriate toxicity assessments. Human clinical studies would be required to establish the safety and effectiveness of specific preparations.

6. Environmental and Ecological Benefits

6.1. Adaptation to Arid and Semi-Arid Environments

The Jammi or Shami tree (*Prosopis cineraria* (L.) Druce) is well adapted to arid and semi-arid environments, where high temperatures and limited rainfall restrict plant growth. Its drought tolerance makes it valuable in dryland landscapes, particularly in parts of western India. The tree provides shade, leaf litter, and plant resources that support agricultural activities and rural communities. Its ecological value depends on local climatic and soil conditions. The canopy of *Prosopis cineraria* can influence the microclimatic conditions beneath the tree, including soil temperature, highlighting its potential role in improving the growing environment in arid regions (Kumar et al., 2018).

6.2. Soil Conservation and Agroforestry

The tree's root system can contribute to soil stabilization, while decomposing leaves and other organic material support nutrient cycling. Khejri-based agroforestry systems have been investigated for their potential to support soil resources, agricultural production, and rural livelihoods in dry regions (Kaushik et al., 2021). Integrating the tree with suitable crops may provide shade and diversify farm resources. However, the effects on crop yield, soil fertility, and water availability depend on tree density, crop selection, rainfall, and management practices. Research on *Prosopis cineraria*-based agroforestry in rainfed arid western Rajasthan reported improvements in soil organic carbon and available nutrients compared with sole cropping, supporting its role in dryland soil management (Tripathi et al., 2024).

Studies of agroforestry systems based on *Prosopis cineraria* and *Ailanthus excelsa* have examined early tree growth and crop yields in north-western India, providing relevant evidence for evaluating tree–crop interactions in dryland farming (Subbulakshmi et al., 2023).

6.3. Biodiversity and Rural Livelihoods

P. cineraria provides fodder, fuelwood, and other useful products, contributing to the livelihoods of dryland communities. Its canopy can create microhabitats for insects and other organisms, while fallen leaves influence soil conditions and organic matter. Sustainable harvesting and natural regeneration are important for maintaining these benefits over time.

The Palapitta, or Indian roller (*Coracias benghalensis*), provides an opportunity to discuss the relationship between regional cultural identity and wildlife. Birds use a range of habitats in dryland landscapes, and trees may provide perching sites or other resources depending on local conditions. However, the presence of the Indian roller near the Jammi/Shami tree should not be interpreted as proof of a specific ecological dependency on this species without direct field evidence. Further observations of bird activity and habitat use could help clarify such relationships.



Figure 4. Palapitta (Indian roller, *Coracias benghalensis*) on a Jammi/Shami tree

6.4. Climate Resilience and Ecosystem Sustainability

Conserving native Shami trees can contribute to dryland restoration, agricultural diversification, and ecosystem resilience. Their integration into appropriate agroforestry and land-management programmes may help communities adapt to environmental stress. Nevertheless, conservation decisions should consider local biodiversity, soil characteristics, and long-term ecological outcomes rather than assuming uniform benefits across all locations. Research evaluating agroforestry systems in the arid ecosystem of western Rajasthan has investigated their potential contribution to soil health, providing broader evidence for the value of agroforestry in dryland environments (Santra et al., 2024).

Table 3. Cultural and ecological significance of the Jammi (Shami) tree

Aspect	Cultural or ecological significance	Importance
Religious symbolism	Revered as a sacred tree in several Hindu traditions	Represents auspiciousness, reverence, and spiritual significance
Vijayadashami festival	Associated with Shami-tree worship and the exchange of leaves in some regional traditions	Symbolizes prosperity, victory, and goodwill
Mahabharata tradition	Popularly associated with the Pandavas concealing their weapons in a Shami tree during exile	Represents courage, preparedness, and the eventual triumph of good
Ramayana traditions	Connected with regional religious narratives and interpretations involving sacred trees	Contributes to the cultural and devotional significance of trees
Dryland adaptation	Tolerates arid and semi-arid conditions	Supports vegetation and land use in water-limited environments
Soil conservation	Can contribute to soil stabilization and protection against erosion	Helps maintain soil quality in dryland landscapes
Agroforestry	Used in traditional farming systems alongside agricultural crops and livestock	Supports diversified land use and farm resilience
Livestock support	Leaves and pods are used as fodder in dryland regions	Provides a supplementary resource for livestock
Biodiversity	Forms part of dryland habitats and provides resources for associated organisms	Contributes to local ecological interactions
Rural livelihoods	Provides products such as fodder, fuelwood, and edible pods	Supports household needs and traditional livelihoods

Climate resilience	Deep-rooted growth and adaptation to dry environments can benefit dryland farming systems	Contributes to resilience, although benefits depend on local conditions and management
Traditional ecological knowledge	Reflects longstanding practices involving tree conservation and sustainable resource use	Helps preserve local cultural heritage and environmental knowledge

Note. Cultural practices and epic associations vary by region and tradition. The Pandavas' association with the Shami tree is widely recognized in popular religious tradition; specific textual claims should be verified against the relevant epic translation. Ecological benefits depend on site conditions, tree management, and the surrounding ecosystem.

Sources: Garg and Mittal (2013); Kaushik et al. (2021); Royal Botanic Gardens, Kew (n.d.).

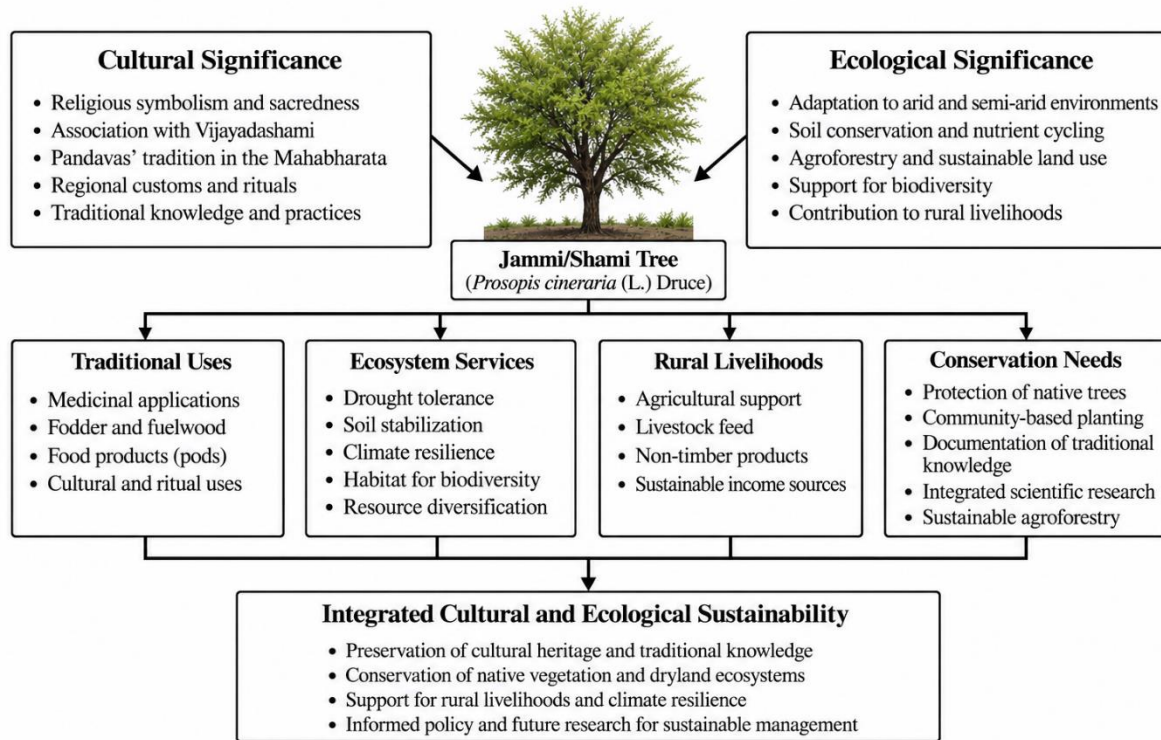


Figure 5. Conceptual framework of cultural and ecological significance of the Jammi/Shami tree (*Prosopis cineraria* (L.) Druce)

7. Discussion: Integrating Cultural Traditions and Scientific Evidence

The Jammi or Shami tree illustrates the relationship between cultural heritage, traditional knowledge, and environmental sustainability. Its association with Vijayadashami and the Pandavas' story in the Mahabharata demonstrates how religious narratives contribute to cultural identity and the symbolic value of plants. These traditions may also create opportunities to promote native-tree conservation.

From a scientific perspective, research documents the tree's traditional medicinal applications and investigates its potential pharmacological properties, while agroforestry studies examine its contribution to dryland farming systems (Garg & Mittal, 2013; Kaushik et al., 2021). However, different forms of evidence must be interpreted carefully. Religious narratives document cultural traditions, ethnobotanical reports record traditional uses, and laboratory studies establish findings only under their specific experimental conditions. Medicinal effectiveness in humans requires appropriate clinical evidence.

An interdisciplinary approach involving botany, religious studies, pharmacology, and ecology can improve understanding of the species. Documenting regional customs, validating medicinal claims, and measuring ecological outcomes can support informed conservation. Integrating cultural respect with scientific investigation therefore offers a practical foundation for preserving the Jammi tree and its associated knowledge.

8. Conservation and Future Perspectives

Community-based conservation can connect the cultural importance of the Jammi tree with practical environmental management. Relevant activities include protecting mature native trees, encouraging natural regeneration where suitable, documenting regional worship practices, and involving educational institutions and local communities in conservation awareness. Planting programmes should be monitored for tree survival, growth, and effects on surrounding agricultural land. Such monitoring would help determine whether cultural conservation initiatives also produce measurable ecological benefits.

Conservation of the Jammi or Shami tree (*Prosopis cineraria* (L.) Druce) is essential for preserving its cultural heritage, traditional knowledge, and ecological value. Protecting existing native trees, encouraging natural regeneration, and promoting community-based planting can support long-term conservation. Educational institutions and local organizations can document regional Jammi worship practices, particularly those associated with Vijayadashami in Telangana and Andhra Pradesh. Future medicinal research should investigate phytochemical composition, toxicity, dosage, and therapeutic effectiveness through standardized experimental methods and appropriate clinical studies. Ecological monitoring should assess tree survival, soil conditions, biodiversity, and agroforestry outcomes under different environmental conditions. Collaboration among botanists, pharmacologists, historians, ecologists, and local communities can integrate traditional knowledge with scientific evidence. These efforts can strengthen public awareness, promote responsible resource management, and preserve the Jammi tree for future generations.

9. Conclusion

The Jammi or Shami tree (*Prosopis cineraria* (L.) Druce) represents an important connection between Hindu cultural traditions, traditional medicine, and environmental sustainability. Its associations with Vijayadashami and the Mahabharata reflect its enduring religious significance. Traditional medicinal uses and reported phytochemical properties provide opportunities for further scientific investigation, while its dryland adaptation and agroforestry potential contribute to ecological and livelihood benefits. Nevertheless, medicinal claims require rigorous validation, and cultural narratives should be interpreted using reliable textual sources. Integrating cultural preservation, scientific research, and sustainable conservation can help protect this valuable species and its associated knowledge.

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