

Chapter 3

Indigenous plants used in making traditional brooms and mats

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Abstract: Traditional brooms and mats represent important components of indigenous household utilities that are closely associated with local plant biodiversity and traditional knowledge systems. The present study compiles and documents plant species traditionally used for making brooms and mats based on available ethnobotanical literature. A total of 30 plant species belonging to 18 families were recorded as important raw materials for these traditional crafts. Among them, the family Poaceae was the most dominant, contributing the highest number of species, such as *Thysanolaena latifolia*, *Phragmites australis*, *Sorghum bicolor* and *Aristida setacea*, which are widely utilized due to their fibrous and flexible nature. Species like *Cocos nucifera*, *Phoenix sylvestris* and *Pandanus odorifer* are particularly valued for their strong and resilient fibres suitable for household cleaning tools and floor coverings. The current study highlights the ecological and socio-economic importance of these plant resources, which support rural livelihoods, cottage industries and sustainable utilization of locally available vegetation. Documentation of such indigenous knowledge is crucial for conserving traditional craftsmanship, promoting sustainable resource management and encouraging eco-friendly alternatives to synthetic household products.

Keywords: Cultural heritage, pliability, rural economy, traditional craft

Introduction

Broom and mat making are important parts of the domestic craft traditions of many indigenous communities. These crafts are closely connected with local ecological knowledge and the sustainable use of natural resources (Lynser *et al.*, 2014; Patil *et al.*, 2014). Household implements such as mats and brooms are widely available, remain reliable and durable in many communities across rural areas due to readily available vegetation resources (Chakraborty *et al.*, 2017; Lim *et al.*, 2025). Asian ethnobotany of plant materials used for crafts and decorative items. Records of plant materials used for crafts and decorative items have been assembled from across Asia from ethnobotanical fieldwork and literature (Ma *et al.*, 2024). The majority of sources were records of grasses, Poaceae, which were a versatile resource for crafts and decorative items owing to the useful characteristics of grasses such as strength, flexibility and their ease of shaping into the required form and design for a craft or product (Chaudhary *et al.*, 2024). Other important plant families contributing to the leaf, stem and flower material that formed weaves and bonds in crafts included Arecaceae, Fabaceae, Asteraceae, Cyperaceae and Pandanaceae. Species of *Thysanolaena latifolia*, *Sorghum bicolor*, *Phragmites australis*, *Phoenix sylvestris* and *Pandanus* spp. are among those plant species frequently cited in the sources and that appear to be most suited to the crafts described (Ovali *et al.*, 2024). Additional records of plant materials derived from the waste products of crops such as *Oryza sativa* and *Panicum miliaceum* are also noted (D'Agostini *et al.*, 2022). Documentation of plant resources is essential for conservation of ethnobotanical knowledge for sustainable management and development of plant resources and rural livelihoods (Ullah *et al.*, 2025). The indigenous plant-based crafts are fast being replaced by modern materials and substitutes, thereby losing cultural identity as well as ecological sustainability and thus need to be conserved (Sajjad *et al.*, 2024). The objective of the present study is to document the diversity, distribution and ethnobotanical importance of plant species used in traditional broom and mat preparations.

Methodology

A comprehensive review of published ethnobotanical literature was conducted to identify plant species traditionally used for broom and mat making. Relevant information was collected from peer-reviewed journal articles, books, floras, thesis and online academic databases such as Google Scholar, Scopus, Springer, ScienceDirect and ResearchGate. Keywords including indigenous plants, traditional brooms, mat weaving, ethnobotany

and fibre-yielding plants were used to retrieve relevant sources. Field visits were conducted in selected rural areas to observe and document locally available species used in broom and mat preparation. Photographs of plant species, harvested plant parts and finished products were captured using a digital camera. Plant specimens were identified using standard regional floras and authenticated by comparing morphological characteristics with published descriptions (Kumar, 2025; Sahu et al., 2026).

Results and discussion

The present investigation recorded 30 plant species used in traditional broom and mat preparation (Table 1). Poaceae was the most dominant family, followed by Arecaceae, Fabaceae, Asteraceae, Cyperaceae and Pandanaceae, indicating the importance of grasses and palms as primary raw materials (Figure 1). Species such as *Thysanolaena latifolia*, *Sorghum bicolor*, *Phragmites australis*, *Phoenix sylvestris* and *Cocos nucifera* were commonly used due to their fibre strength, flexibility and availability. Plant selection is largely based on durability, ease of processing and local abundance. The use of crop residues like *Oryza sativa* also reflects sustainable resource utilization. However, modernization and synthetic substitutes threaten traditional knowledge and resource conservation. Sustainable management and promotion of indigenous plant-based crafts are therefore essential to preserve cultural heritage and support rural livelihoods.

Table 1: List of plants used in making traditional brooms and mats

Botanical name	Common name	Family	Sources
<i>Aristida setacea</i> Retz. (Plate 1a)	Bristly needle grass (E)	Poaceae	Subramanian <i>et al.</i> , (2021)
<i>Artemisia japonica</i> Thunb.	Japanese wormwood (E)	Asteraceae	Patil <i>et al.</i> , (2014)
<i>Bassia prostrata</i> (L.) Beck	Forage kochia (E)	Amaranthaceae	Nedelcheva <i>et al.</i> , (2007); Rudov <i>et al.</i> , (2020);

			Sukhorukov <i>et al.</i> , (2025)
<i>Bambusa bambos</i> (L.) Voss	Indian thorny bamboo (E)	Poaceae	Gogoi <i>et al.</i> , (2022)
<i>Cajanus lineatus</i> (Wight & Arn.) Maesen	Wild toor (E)	Fabaceae	Patil <i>et al.</i> , (2014)
<i>Chrysopogon zizanioides</i> (L.) Roberty (Plate 1b)	Khuskhus (E)	Poaceae	Balasankar <i>et al.</i> , (2013)
<i>Cocos nucifera</i> L. (Plate 1c)	Coconut palm (E)	Arecaceae	Henrietta <i>et al.</i> , (2022)
<i>Crotalaria calycina</i> Schrank	Hairy rattlepod (E)	Fabaceae	Patil <i>et al.</i> , (2014)
<i>Cyperus longus</i> L.	Sweet galingale (E)	Cyperaceae	González and Amich, (2013)
<i>Foeniculum vulgare</i> Mill.	Florence fennel (E)	Apiaceae	Badgujar <i>et al.</i> , (2014)
<i>Jasminum malabaricum</i> Wight	Wild jasmine (E)	Oleaceae	Patil <i>et al.</i> , (2014)
<i>Juncus effusus</i> L.	Soft rush (E)	Juncaceae	Carvalho <i>et al.</i> , (2006)
<i>Lasiosiphon glaucus</i> Fresen.	Fish poison bush (E)	Thymelaeaceae	Patil <i>et al.</i> , (2014)
<i>Laurus nobilis</i> L.	Bay leaf (E)	Lauraceae	Nedelcheva <i>et al.</i> , (2007)
<i>Lawsonia inermis</i> L.	Henna (E)	Lythraceae	Patil <i>et al.</i> , (2014)
<i>Limonium scoparium</i> (Pall. ex Willd.) H. Arnaud	Desert sea lavender (E)	Plumbaginaceae	Dogan <i>et al.</i> , (2008)
<i>Myrtus communis</i> L.	Common myrtle	Myrtaceae	Nedelcheva <i>et al.</i> , (2007)
<i>Oryza sativa</i> L.	Asia cultivated rice (E)	Poaceae	Suryawanshi and Rane, (2020)
<i>Pandanus odorifer</i> (Forssk.) Kuntze	Kewda (H)	Pandanaceae	Panda <i>et al.</i> , (2024)

<i>Pandanus tectorius</i> Parkinson	Ketaki (H)	Pandanaceae	Panda <i>et al.</i> , (2009)
<i>Panicum miliaceum</i> L.	Proso millet (E)	Poaceae	Paniagua-Zambrana <i>et al.</i> , (2024)
<i>Parthenium hysterophorus</i> L.	Carrot grass (E)	Asteraceae	Rasingam and Jeeva, (2013)
<i>Phoenix loureiroi</i> Kunth	Mountain date palm (E)	Arecaceae	Rasingam and Jeeva, (2013)
<i>Phoenix sylvestris</i> (L.) Roxb.	Wild date palm (E)	Arecaceae	Patil <i>et al.</i> , (2014)
<i>Phragmites australis</i> (Cav.) Trin. ex Steud.	Common reedgrass (E)	Poaceae	Hong <i>et al.</i> , (2021)
<i>Schoenoplectus lacustris</i> (L.) Palla	Bulrush (E)	Cyperaceae	Jansen and Brink, (2003)
<i>Sida acuta</i> Burm.f.	Morning mallow (E)	Malvaceae	Shil and Shaw, (2025)
<i>Sorghum bicolor</i> (L.) Moench	Jowar (H)	Poaceae	Dogan <i>et al.</i> , (2008)
<i>Thysanolaena latifolia</i> (Roxb. ex Hornem.) Honda (Plate 1d)	Asian Broom grass (E)	Poaceae	Niveditha and Yadav, (2016)
<i>Vitex negundo</i> L.	Chaste tree (E)	Lamiaceae	Patil <i>et al.</i> , (2014)

(E: English; H: Hindi)

Identification of plant material depends on several criteria, which include weathering resistance, availability, suitability to process technology and method of harvesting (Patil *et al.*, 2014; Qian *et al.*, 2024). Uses of agricultural wastes like paddy straw (*Oryza sativa*) in craft production are an approach towards making use of the available resources economically (Berenji *et al.*, 2011; Kobbing *et al.*, 2013; Niveditha and Yadav, 2016; Chavan *et al.*, 2017; Suseno *et al.*, 2019).



Plate 1: Some plants used for making mats and brooms; a) *Aristida setacea*, b) *Chrysopogon zizanioides*, c) *Cocos nucifera* and d) *Thysanolaena latifolia*

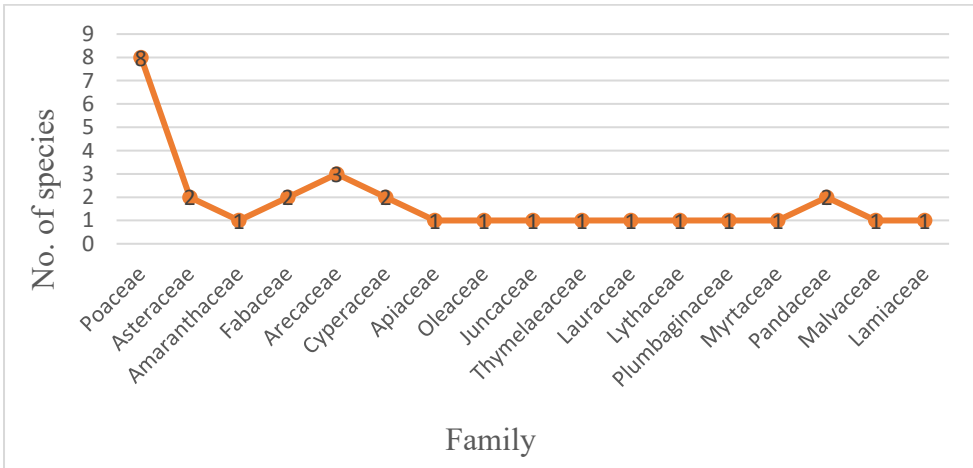


Figure 1: Plants belonging to different families used for making brooms and mats

However, modern values and easy availability of synthetic products and plastic have led to loss of traditional resource base and technology and also eroded the indigenous craft practices to the disadvantage of the rural community (Lakra and Nayak, 2025). Thus, there is an immediate need to sustain, develop and propagate the plant-based traditional crafts so as to reinforce the cultural aspects, improve the socio-economic status of rural folk and also to meet the needs of the economy.

Conclusion

The present study highlights the diversity of indigenous plant species traditionally used in the preparation of brooms and mats. The use of these plant resources not only fulfils household needs but also supports rural livelihoods and small-scale cottage industries. Traditional broom and mat making represents an eco-friendly practice that promotes sustainable utilization of natural resources and reduces dependence on synthetic materials. However, with increasing modernization and declining transmission of traditional knowledge, the use of many indigenous plant species is gradually diminishing. Therefore, proper documentation, conservation of useful plant species and promotion of traditional crafts are essential for preserving this valuable ethnobotanical heritage while encouraging sustainable and biodegradable alternatives in daily life.

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