

Matvi : An Eco-Cultural Tradition of Wildflower Decoration from Rajapur Tehsil, Ratnagiri Dist., Maharashtra, India

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Abstract

Various worships are associated with plant parts such as leaves, flowers, and fruits. These parts are harvested from wild and domesticated landscapes used in socio-religious ceremonies in India. The present study was carried out in the Konkan region of Maharashtra to document a lesser-known practice of 'matvi' followed during the Ganesh festival. Matvi includes the ceremonial decoration of a wooden canopy with seasonal plants. A review of primary and secondary sources of information revealed that the matvi tradition is strongly linked to the socio-ecological landscape of the Konkan-Malabar eco-region. A survey conducted in eight villages of Rajapur tehsil documented plant species used in matvi. This article also discusses the practice's geographical, ecological, economic, and cultural aspects, including collection sources, local trade, and people's perceptions. However, changing nature of the tradition indicates a probable threat to this human-nature relationship.

Keywords – Ganesh Chaturthi, seasonal flora, endemic, adornment, Konkan

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Introduction

Besides ecology, plant species play a key role in shaping human culture. The term 'eco-cultural tradition' can be defined as a folk practice followed and transferred over generations with the inclusion of diverse interactions between humans and the natural environment, which combine ecological and cul-

tural aspects of the landscape. Nature and especially plant-related practices and rituals form an integral part of the cultural ceremonies, which can be broadly grouped as 'eco-cultural traditions.' Most of the religious ceremonies and rituals in India have some ecological context and are associated with the use of specific flora as celebrations of festivals such as Holi, Navratri, Ganesh festival, and Diwali is linked to the agricultural calendar (Sanford 2012; Ghate 2018; Swaminathan 2018; Malakar 2021). In Maharashtra, *Patri-pooja* (worship with leaves of plant species) is an important tradition followed in various worships (= *pooja*) such as *Mangalagauri*, *Haritalika*, *Varlkskmi-pooja*, *Rishi-Panchami*, *Anant-pooja*, *Devinavratri-pooja* (Ghate 1998; Datar et al., 2011). Such practices indicate an intricate relationship of indigenous communities with their surrounding environment. These are included in the cultural ecosystem services and are part of the intangible values of biodiversity and ecosystems (Malhotra et al., 2000; Tengberg et al., 2012).

Matvi or *mandpi* is a peculiar eco-cultural tradition seen in the Ratnagiri district of Maharashtra. In this practice, wildflowers and fruits are arranged on a wooden square or rectangular frame which is tied to the roof above the idol of *Lord Ganesha* during the *Ganesh* festival. A similar practice is observed under different vernacular names such as '*mati-mhalyar mandap*,' '*mantap*,' '*matoli*,' or '*matov*' in the neighbouring district of Sindhudurg and Goa State (Bhave & Palsarkar, 2005).

Documentation of this tradition is limited to popular articles and a single semi-scientific publication by Bhave & Palsarkar (2005). Datar et al. (2011) have mentioned *matvi* in their review of eco-traditions of people living around Bhagwan Mahaveer National Park in Goa state. But a detailed description or discussion on the ecological context of this practice is lacking. Given this, the present study in Rajapur tehsil was undertaken to document the cultural and ecological aspects of *matvi*. The primary objective of the present study was to document the use of wild plant species in *matvi*. Additionally, this paper also discusses the sources of collection, availability, and abundance of the species in the local landscape and the perception of natives towards following this tradition.

Materials and Methods

Study Area :

Rajapur tehsil (73.31° E longitude and 16.39° N latitude) is located in the southern part of Ratnagiri district in Konkan (Fig 1). Konkan region (spread across three districts viz. Raigad, Ratnagiri, and Sindhudurg) is a rugged part of the west coast of Maharashtra (0-1425 m above MSL), lying between the mountain range of Western Ghats popularly known as *Sahyadris* and the Arabian sea (Prabhu 2013). The present study area lies in Sahyadri-Konkan Ecological Corridor (CEPF 2007). This region shows distinct geographical features, which can be characterized by varied landforms such as gently

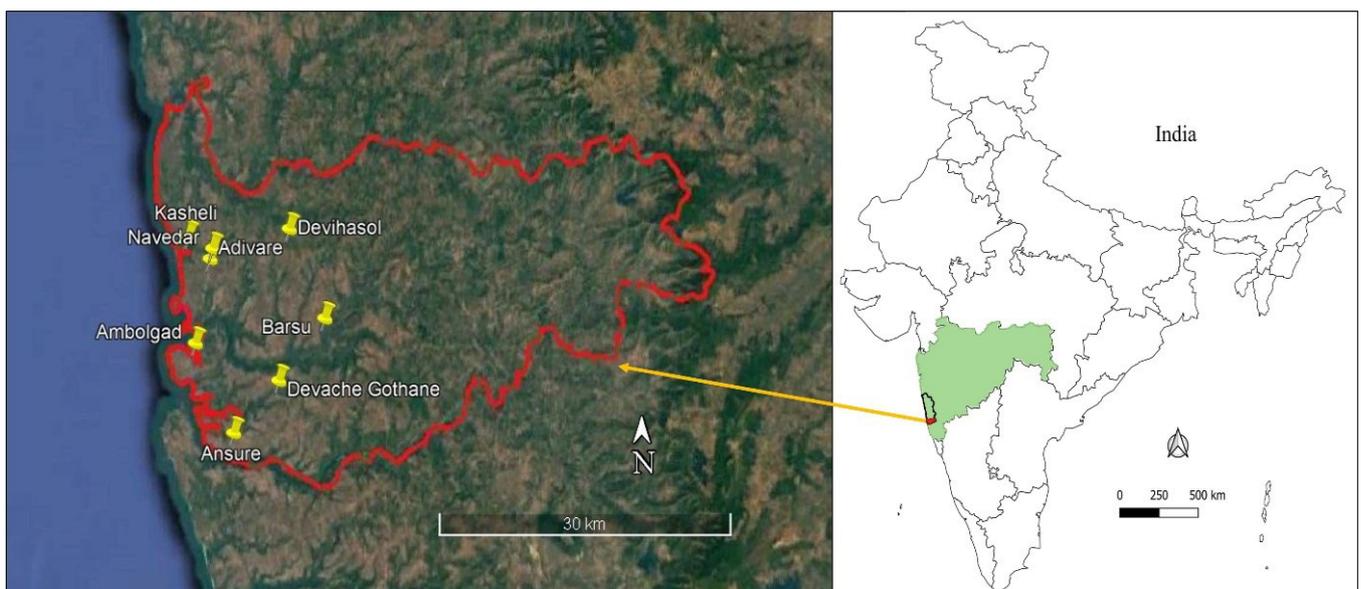


Figure 1 : Study Area

undulating low plateaus, cliffs in the west, very steep slopes, ridges, and high hills towards the east (Apte et al., 2012). Lateritic (rocky) plateaus, locally known as *sadas*, are the most striking landforms covering the largest land surface in the central and southern Konkan, especially Ratnagiri and Sindhudurg districts (Prabhu 2013).

On a broader scale, the vegetation of the Konkan landscape comprises swampy intertidal forests along the estuaries and creeks, plateau vegetation at lower elevations representing moist to deciduous forests, semi-evergreen forests interspersed with patches of montane subtropical evergreen forests, west coast semi-evergreen forests along the Ghats, and also coastal areas with small grasslands and scrub (Champion and Seth 1968; Apte et al., 2012). The vegetation on the hilly slopes and pockets on the plateaus are semi-evergreen to mix deciduous or scrub forest patches predominated by *Tectona grandis*, *Terminalia paniculata*, *Macaranga peltata*, *Careya arborea*, *Acacia* spp, *Ixora brachiata*, *Syzygium cumini*, *Bombax ceiba*, *Carissa carandas*, *Flacourtia indica* and *Ficus* spp. The lateritic plateaus, often considered barren land, show drastic seasonal transformation in monsoon with diverse life forms dominated by annuals (Fig 2).

Surrounding land use is mainly agri-horticulture (Singh 2014). The main crop is paddy which is grown in terraces on the *sada* and along estuaries. Commercial orchards of Cashew-nut (*Anacardium occidentale*) and mango (*Mangifera indica*) are present along the hill slopes; coconut (*Cocos nucifera*) and Areca nut (*Areca catechu*) are grown along the homesteads, and estuarine areas. The majority of the residents are still

dependent upon agriculture, fishing, and livestock for subsistence. The northern part of the study area is urban, including the Ratnagiri city, and its surroundings are peri-urban, while the southern area is rural with natural landscapes. The population in the study area is predominantly rural and continues to be deeply rooted in indigenous culture and finds its expression through diverse rituals and festivals, which are mostly associated with an agricultural calendar. Main festivals like *Holi* (in the months of Feb/Mar), *Ganpati* (Aug/Sept), *Navaratri* (Sept/Oct), and *Diwali* (Oct/Nov) are celebrated with social gatherings. Apart from these, people follow many other religious ceremonies, animistic traditions, and rituals that venerate natural resources like ponds, springs, sacred groves, and ancient trees (Malhotra et al., 2000; Singh, 2014).

Data Collection

Primary data was collected from eight survey villages (Adivare, Ambolgad, Ansure, Barsu, Devache Gothane, Devihadol, Kasheli, and Navedar, Fig 1) were categorized as a) rural, b) peri-urban, and c) urban following Goswami 2018 and Woltjer, 2014. Regular visits to the study area were conducted from Aug to Sep 2022 with emphasis on participation in key specific traditional practices like *matvi*. Rapport was easily established with the local community owing to the researcher's familiarity with the neighbourhood and use of vernacular language, i.e., 'Marathi.' This also helped to check the validity and reliability of the data. The following methods were used in this study : a) direct observations, b) focus



Figure 2: Seasonal transformation of the plateaus

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group discussions (FDGs), c) visits to the local market, and d) key informants' interviews. A list of broad reference questions is provided in the questionnaire (Annexure 1). A questionnaire was prepared separately for each of the methods based on the main research questions.

Field visits were conducted a day before *Ganesh Chaturthi* to record collections of natural plant material for *matvi* decoration. Focus group discussions were held with the household members to get insights about aspects such as sources of plant material used, changes in the practices, and any other similar traditions followed at the household level. The local market in Rajapur town was visited a day before the Ganesh festival to note the plant resources that were available for sale for *matvi* decoration. Apart from this, specific questions regarding the spread, origin, and association of the *matvi* practice and religious links were posed to around 35 key informants, including priests working in rural and urban areas of Ratnagiri district and also in Mumbai, a metropolitan city where migrants from the region have settled for many years and maintain strong ties with the places of origin in Konkan. Community elders were also interviewed to understand their perception of changes in the landscape, and local naturalists were contacted to find out the extent of the geographical spread of this practice and likely associations (family, friends).

Plants were identified using floras and on the field itself with plant experts. Primary data was supplemented with information available in the form of newspaper articles, e-books, and research papers.

Results

The geographical spread of matvi tradition :

Available references and discussions with key informants helped us understand the geographical spread of *matvi* practice. The extent of this tradition can be seen in varied geographical regions. It is recorded from southern parts of Ratnagiri dist., almost all parts from Sindhudurg district and Goa State up to some regions in Karnataka like coastal Karwar and Belgaum. In Goa, the tradition is termed '*matoli*' in the vernacular Konkani language. It is a common practice followed in every household and at the community level. Conducting *matoli* decoration competitions is a regular feature in Goa State. However, the scale of this tradition is much lesser in the Ratnagiri district. Documentation of this practice, including the species used in *matoli*, is given by Bhavé & Palsarkar (2005)

and Datar et al. (2011). Interestingly, apart from the area between South Konkan and North Kanara, there is no report of this tradition from any other parts of the Western Ghats or Malabar region. *Matvi* seems to be distinctive to this eco-region. A distant similarity with this can be seen in the *Onam* festival in Kerala, held during Aug-Sept. *Onam* includes floor decorations named *Pookalam* (= flower rangoli or patterns made of flower petals) as against hanging decorations of *matvi*. In *Pookalam*, wild as well as cultivated flowers are being used (Sachdev 2019).

Cultural features of matvi :

In the Konkan region, *matvi* is one of the remarkable eco-traditions seen on the occasion of *Ganeshotsav* (=Ganesh festival). It is a festival commemorating the birth of God *Ganesh*. The first day of the festival is *Ganesh Chaturthi*, also known as *Vinayak Chaturthi*, *Chavithi*, or *Chouthi*. An idol of Lord *Ganesh* made out of clay soil is worshiped on *Chaturthi*, i.e., the fourth day in the sixth month of the Indian civil calendar *Bhadrapada* (which falls in Aug or Sept of the Gregorian calendar). These idols are installed privately in homes as well as publicly. The festival is usually observed for 4-10 days of *Bhadrapada* during the waxing moon phase (*Shukla Paksha*). The festival ends on the tenth day (i.e., *Anant Chaturdashi*) with immersion (*visarjana*) of the idol in a nearby water body.

The month also has other traditions of worship along with that of the idol of Lord *Ganesh*. *Haritalika pooja* is on *Tritiya*, i.e., the third day of *Bhadrapada*, where Lord *Shiva* and Goddess *Parvati* are worshiped and garlanded with *patri* (leaves) by young girls and married women. *Rushi Panchami* is on the fifth day of *Bhadrapada*. In some households, a pair of goddesses, *Gauri* (elder and junior), is also worshipped alongside the Lord *Ganesh*.

Our observations showed that all of these worships have a component of ritualistic offerings of *patri* (leaves) and wildflowers that are collected from surrounding landscapes. But *matvi* differs in one significant aspect that the plants are neither worshipped nor offered to the deities but are primarily used to decorate the sacred space.

Physical characteristics of matvi :

Various rituals, which are part of the *Ganesh* festival, take place in a designated space in the house, where the idol of Lord *Ganesh* is placed. It is not necessarily the *devghar* (a sacred space in the house where idols of the deities reside throughout the year).

This designated space becomes a sacred space till the immersion of the idol. A square or rectangular wooden frame called *matvi* is hung exactly above the *Ganesh* idol, and it is laden with locally available plants, flowers, and fruits (Fig 3). The plant material is generally collected the day before *Ganesh Chaturthi* and hung on the *matvi*. This collected material is termed '*fulora*,' roughly translated as 'blooms.' In some places, it is locally known as *Sonaki* (*Senecio bombayensis*) as well. The entire sacred space is decorated by family members before the arrival of *Lord Ganesh*. The fruit of *Cocos nucifera* and leaves of *Mangifera indica* are tied first as they are considered auspicious in all Hindu rituals. A list of '*fulora*' observed in the study area is included in Table 1. Artificial garlands and flowers are also used with natural materials, indicating a cultural shift. Once *matvi* decoration is finished, it is kept as it is till the departure of *Lord Ganesh*. Fresh natural elements are

not added or replaced even if they have dried out.

Socio-cultural features of matvi :

Households were sampled from the study area to document natural vs. artificial decorative material use. These included households of different communities viz. Bhandaris, Brahmins, Kunbis, and Marathas mainly to get an overview of the prevalence of practices in these communities. All the *matvis* in households had a combination of natural as well as artificial flora (flowers made of plastic and/or paper). In sampled villages, all except *Kasheli* and *Adioare* villages follow this tradition. Key informants in these two villages informed that they are aware of the *matvi* tradition but do not practice it now. The wooden frame above the *Lord Ganesh* idol was seen in most of the houses and appeared to be the last remnant of the tradition from the past in these villages. In contrast to this, the households in the remaining six



Table 1 : Plants used in Matvi

Sr. No.	Species	Family	Plant Part Used	Vernacular Name	Landscape element through which species were collected	Market Availability
1	<i>Areca catechu</i> [*]	Arecaceae	Fruits	<i>Supari</i>	cultivated land	A
2	<i>Celastrus paniculatus</i> [#]	Celastraceae	Fruits	<i>Kangali</i>	open scrub, lateritic plateau	A
3	<i>Cocos nucifera</i> [*]	Arecaceae	Fruits	<i>Naral</i>	cultivated land	A
4	<i>Gloriosa superba</i> ^{¥#}	Colchicaceae	Inflorescence	<i>Nagkadi, Nagvel, Sitechyabangadya</i>	open scrub, forest, road-side	NA
5	<i>Impatiens rosea</i> [#]	Balsaminaceae	Inflorescence	<i>Gaayterda</i>	lateritic plateau	A
6	<i>Mussaenda glabrata</i> ^{#I}	Rubiaceae	modified sepal	<i>Shervad, Shravada</i>	open scrub, forest	A
7	<i>Senecio bombayensis</i> ^{¥w}	Asteraceae	Inflorescence	<i>Sontal, Sonki, Fulora</i>	lateritic plateau	A
8	<i>Trichosanthes tricuspidata</i> [#]	Cucurbitaceae	Fruits	<i>Kavandal</i>	open scrub, forest	A
9	<i>Utricularia reticulata</i> ^{¥#h}	Lentibulariaceae	Inflorescence	<i>Kaavali</i>	lateritic plateau	NA
10	<i>Mangifera indica</i> ^{*•}	Anacardiaceae	Leaves	<i>Aamba</i>	cultivated land	NA

*Cultivated, # wild, ¥ Least concern and •Data deficient as per IUCN Red List

w Endemic to Western Ghats, h Endemic to Western Ghats-Sri Lanka hotspot, I Endemic to India and Bangladesh

A - Available, NA - Not Available

villages, viz. Ambolgad, Ansure, Barsu, Devache Gothane, Devihasol, and Navedar use natural and domesticated plant materials in matvi decorations. In the villages where the *matvi* tradition is still practiced actively, instead of only collecting flowers and fruits from the landscape, people were found to prefer artificial decorative materials as well (Fig 4).

Ecological features of matvi :

Plants resources used in the *matvi* decorations are collected from surrounding areas. The main landscape element from where the plants are being collected is the lateritic plateau, as most of the villages are located around these plateaus, i.e., *sadas*. These plateaus have diverse habitats, such as open grassland, pockets of scrub vegetation, and bare rocks. People situated in Ansure, Barsu, Devache Gothane, Devihasol, and Navedar villages were observed to collect plants directly from the plateau because it is the nearest and easily accessible from homesteads

(Fig 5 and 6). None of the households that were visited in these villages reported purchasing the species. But in Ambolgad village, people only collected *Impatiens rosea* and *Senecio bombayensis* from the plateau and bought other plants from the local market. A total of 10 species were used in the decoration of matvi from the study area. Table 1 shows the list of plants and the landscape element where they are found. Species are observed in abundance on the lateritic plateau and fallow fields in the rural landscape. Species were collected from household gardens and/or orchards. Three species out of ten were commonly cultivated, and the remaining 7 were found to be wild. Out of these, *Senecio bombayensis* is endemic to the Western Ghats, and *Utricularia reticulata* is endemic to the Western Ghats-Sri Lanka hotspot.

Local Perceptions :

Perceptions of respondents regarding the availability and abundance of the species were recorded.



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Figure 4: Artificial decoration

The cultivated species were plentiful in the plantation areas, and their parts were easily available to all. Among the wild species, *Senecio bombayensis* was profusely observed in the landscape and was seen in all households. But the key respondents reported that *Senecio bombayensis* was less abundant this year than the previous year, and one respondent suggested that it is probably affected due to the wide use of weedicides and pesticides in the surrounding orchards and man-made fires on the plateau. Respondents in all the villages also observed that the

landscape-level abundance of *Utricularia reticulata* has reduced considerably in the last few years. *Mussaenda glabrata*, *Impatiens rosea* and *Trichosanthes tricuspidata* were quite common and easily available, as noted by the interviewee. *Gloriosa superba* is difficult to find. Elderly respondents and knowledgeable individuals expressed an opinion about the landscape that there is a reduction in the number of mature individuals of *Celastrus paniculata*. Hence, in conformity with them, its fruits have become very rare and found only at specific locations on the plateaus.



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Figure 5: Collection of *Senecio bombayensis*



Figure 6: *Mussaenda glabrata* collection
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Figure 7: Local Market of *matvi* in Rajapur town
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Economic aspect :

A visit to the local market in Rajapur town helped to understand the economic aspects of this practice. The previous day of the Ganesh festival, the market was full of fruits, vegetables, and other produce necessary for the *Ganesh* festival. The people in Rajapur town buy a set of natural elements (plant parts) from the local market. The demand is seen only on the day of *Haritalika*, i.e., a prior day of the arrival of Lord *Ganesh*. Vendors are mainly the residents in the nearby villages who collect the plants from surrounding areas and sell them personally. Fruits of *Areca catechu*, *Trichosanthes tricuspidata* and blooming twigs of *Impatiens rosea*, *Mussaenda glabrata* and *Senecio bombayensis* were commonly sold in the local market (Fig 7).

The retail price of a set of plants was seen to vary species-wise. A set of *Impatiens rosea*, *Mussaenda glabrata* and *Senecio bombayensis* was sold at a rate of Rs. 10-12. Fruits of *Trichosanthes tricuspidata* were sold based on size. Bigger-sized fruit (approx. 6-8 cm in diameter) was priced at Rs. 10/fruit, and a pair of smaller-sized

fruits (approx. 3-5 cm in diameter) was observed to be sold for Rs. 10. Notably, *Utricularia reticulata* was not found anywhere in the market. *Celastrus paniculatus* was hardly seen with one or two retailers in very fewer quantities. In Ambolgad, *Celastrus paniculatus* and *Trichosanthes tricuspidata* were purchased from the local market in village Nate as they are not found on the local plateau.

Discussion

Ganesh festival is celebrated with families and social gatherings through daily prayers, *vrata* (fasting), and offerings. *Matvi* is a common practice at the local level in the Konkan and Goa regions. According to the literature review, a single research paper by Datar et al. (2011) has reported 18 species used in Bhagwan Mahaveer National Park in Goa. Ten species were cultivated, and 8 were wild. An ethnobotanical study conducted in Goa surveyed 104 species that are published in the form of e-book (Bhave & Palsarkar 2005). It has given 6 categories of plants such as cultivated, imported, wild edible, wild inedible, wild medicinal, and ornamental. Besides these, local as well as na-

tional level newspapers have published articles on this peculiar tradition and about competitions held. Nonetheless, critical study on aspects like socio-culture, economy, and ecology has not yet been carried out, even though it is a widespread practice. The present exploratory study highlighted the plants used, local trade, and perception of people in villages from Rajapur tehsil of Ratnagiri district.

The coastal plains of India are rich in biodiversity and also in various nature-related traditions (Jaiswal 2018). At present, the tradition of *matvi* is most vibrant in Goa, while it is comparatively limited in the Konkan region except Sindhudurg. In Karnataka State, parts of Belgaum and Karwar used to have this concept of decoration, but people don't practice it much. Traditionally, *matvi* featured flowers and fruits found in the wild. But over a while and with changing lifestyles, it seems to be vanishing and, at the same time altering.

On *Bhadrapada Chaturthi*, nature is rejuvenating. Thus, this occasion is celebrated with newly harvested natural elements. This could be to express one's gratitude towards the deities or nature spirits responsible for vegetative wealth, local biodiversity, and favourable weather conditions during the harvest season. Therefore, the harvest rituals and ceremonies focused more on pleasing and seeking blessings from the deities, such as offering the best of the first fruits of one's laborious work to God (Kuriakose and Soreng 2020). Thus, *Lord Ganesha* could be the embodiment of these, ultimately balancing a harmonious relationship between humans and the environment (Bhave & Palsarkar 2005). Overall, it symbolizes the diversity of nature (Datar et al., 2011). In this short study, none of the respondents or key informants could offer any explanation on why this tradition started and how it is linked to the other ritual uses of plants in this period.

Within the study area, this tradition was followed in its original form (that is, the use of natural materials) mainly in the villages which are in the vicinity of lateritic plateaus and forest patches. The reason could be easy access to the plant resources in these landscape elements. Households in the urban and peri-urban regions in the study area were replacing readily available fruits and flowers with plastic replicas. The agents related to this cultural change could be the younger generation residing in metropolitan areas who come to their native places with fascinating decor ideas to adorn *Lord Ganesha* and are not connected anymore with the traditional ecological knowledge about *matvi*. Geographical and historical

aspects of this tradition, its origin, spread with local cultures, and apparent loss merits a separate study.

All the plant species mentioned in Table 1 and previous studies have cultural, religious, economic, medicinal, and ornamental use values as reported in ethnobotanical literature. But their decorative or aesthetic values seem to be considered in the *matvi* tradition only. The sale of some of these species in the market and associated prices indicate two aspects, one economical price of the natural resources to some members of the community and the possibility of exploitation of wild resources in the future. Until now, few newspaper articles have mentioned the economic aspects of *matvi* in Goa and Sindhudurga, which have characteristic '*matoli*' markets at a larger scale. Also, personal communication with naturalists mentioned state-level *matoli* competitions conducted during the festival, for which the prizes ranged from Rs 5000 up to Rs 25000. Notably, the highest number of *matoli* items (flowers and fruits) increases by up to 300 species in some cases. These wild plants are brought from nearby forests in Sindhudurg (Maharashtra), Khanapur, Supa, Dandeli, Karwar, and Ankola from Karnataka and are further exported with truckloads to lucrative markets in Goa (Kamat 2018). All these points to reckless plunder, unchecked, uncontrolled harvest, and trade of these natural resources, which are major worrying aspects of the tradition.

In our study area, such massive markets are not observed, and the trade is limited to a few resident sellers. The prices are comparatively less, between Rs. 10-30. It is unclear how much of the wild collection reaches the market and if it is sustainable. It will be a great addition to the study by exploring further cost-value analysis and the availability of resources on a larger geographical scale.

Comprehensive exploration is essential regarding various facets of *matvi*, such as socio-economic linkages and historical and anthropological dimensions. Aspects such as where did this tradition come from? When has it started? Is it related to God's reverence, or is it simply for aesthetic purposes? are *Haritalika* and *Gauri's* veneration linked with *matvi*, or is it different? Is it related to the caste system in which most of the farmer community follows this tradition? What is the case of other communities?

However, this practice and the plants are both facing threats. As per natives, the availability of *Utricularia reticulata*, *Celastrus paniculatus* and *Gloriosa superba* has reduced to worrying levels. Observations of local experts suggest that habitat shrinkage, clear-

ing of vegetation, excessive use of pesticides, and fire are potential threats to these plant species. These observations of the local experts can be checked by designing scientific studies specifically to understand the causes of population reduction for species used in *Matvi*. Although it is an indigenous practice that strengthens the human-plant relationship, over-exploitation of endemic and rare species should be avoided. News articles such as Kamat (2018) indicate that indigenous and religious tradition leads to the overexploitation of plants from the wild. Conservation scientists will have to face the dilemma between the conservation of tradition as well as natural resources. To avoid this, it is necessary to effectuate awareness among people by conveying to them not to harvest plants in larger quantities or by suggesting alternatives or framing new ecological ethics to be followed by all worshippers. The sustainable practice of *matvi* is possible if the harvesting of natural material is limited to easily available, abundant, cultivable, and commonly found flowers and fruits which are not threatened. If *matvi* decorations are made from a sustainably sourced natural material, they have the potential to reduce the use of industrial products like plastics which will eventually lead to the generation of non-biodegradable waste. The dual purpose of reducing waste and ensuring sustainability for the tradition can be achieved through the sensitization of local community members. It is possible that the community if made aware of potential threats to nature, can make an informed decision to regulate commercial collection from the wild and promote the use of cultivated produce instead. Else, the cultivation of wildflowers can also be tried locally. Sustainable display and utilization, regulation of commercialization, and awareness among future generations can be the protective measures for these wild plants, which ultimately protect human-nature interconnectedness.

References

- Apte, D., Prabhu, S. and Katwate, U. (2012). A Preliminary Report on Diversity of Coastal Ecosystems of Maharashtra Part 2: Coastal Plateaus in Ratnagiri District. Bombay Natural History Society, Mumbai pp. 121.
- Bhave, B., Palsarkar D. (2005). *Matoli: ek girest dayaj*. Publisher: Dr. Anil Dingu. Principal PES's Shri. Ravi Sitaram Naik College of Arts & Science Farmagudi Ponda Goa 403401. pp 1-150.
- Champion, H. G. and Seth, S. K. (1968). A Revised Survey of the Forest Types of India. The Manager of Publications, Delhi-6. pp. 492-501.
- Critical Ecosystem Partnership Fund. (2007). Eco-system profile: Western Ghats and Sri Lanka Biodiversity Hotspot-Western Ghats Region. <https://www.cepf.net/sites/default/files/western-ghats-ecosystem-profile-English.pdf>.
- Datar, M., Salelkar, P., and Lakshminarasimhan P. (2011). Eco-traditions of People Living around Bhagwan Mahaveer National Park in Goa. *Asian Agri-History* (15) 4, pp. 303-313.
- घाटे पं. (२०१८). पश्चिम भारतीय खगोल ज्ञानाचा उदय आणि अस्त. समाज प्रबोधन पत्रिका, २२३. pp. 18-27.
- Ghate, V. (1998). Plants in Patra-Pooja: Notes on Their Identity and Utilization. *Eth-nobotany* (10), pp. 6-15.
- Goswami, M. (2018). Conceptualizing Peri-urban-rural Landscape Change for Sustainable Management. The Institute for Social and Economic Change. ISBN: 978-81-7791-281-4. pp. 1-23.
- Jaiswal, A. (2018). Ecological Anthropology: Cultural and Biological Dimensions. Book Chapter Coastal Anthropology, module 35.
- Kamat, N. (2018). Controlling Wild Plant Use for Matoli. <https://www.navhindtimes.in/2018/09/16/magazines/panorama/controlling-wild-plant-use-for-matoli/>.
- Kuriakose, H., and Soreng, E. (2020). Myth of Vamana and Mahabali: Jungian Ap-proach to the Origin of Onam Festival. *The International Journal of Indian Psychology* 8 (2). pp. 912-919.
- Malakar, S. (2021). Kumari Puja: Worshipping the Devine Mother. <https://www.sahapedia.org/kumari-puja-worshipping-divine-mother>.
- Malhotra, K., Gokhale, Y., Chatterjee, S. and Srivastava, S. (2000). Cultural and Eco-logical Dimensions of Sacred Groves in India: An Overview. *Indira Gandhi Rashtriya Manav Sangrahalaya: Bhopal*.
- Prabhu, S. (2013). Neglected Habitats: Coastal Plateau. Hornbill. *Conservation Notes* pp. 38-44.
- Sachdev, G. (2019). Engaging with Plants in an Urban Environment through Street Art and Design. *Plants People Planet* 1 pp. 271-289.
- Sanford, A. W. (2012). The Festival of Holi: Celebrating Agricultural and Social Health. *Growing Stories of India: Religion and the Fate of Agriculture* (Lexington, KY, 2012; online edn, Kentucky Scholarship Online. <https://doi.org/10.5810/kentucky/9780813134123.003.0006>).
- Singh, A. (2014). Probable Agricultural Bio-diversity Heritage Sites in India : XX. The Konkan Region. *Asian Agri-History* 18 (3), pp. 257-282.

- Swaminathan, L. (2018). Symbiosis between Humans and their Ecology through Agricultural Rituals Kangara Valley. <https://www.sahapedia.org/symbiosis-between-humans-and-their-ecology-through-agricultural-rituals-kangra-valley>.
- Tengberg, A., Fredholm, S., Eliasson, I., Knez, I., Saltzman, K. and Wetterberg, O. (2012). Cultural Ecosystem Services provided by Landscapes: Assessment of Heritage Values and Identity. *Ecosystem Services* 2, pp. 14-26.
- Woltjer, J. (2014). A Global Review on Peri-urban Development and Planning. *Journal Perencanaan Wilayah dan Kota*. 25 (1), pp. 1-16.

Annexure 1

1. Is there any tradition related to wildflowers in the area?
2. What are the different names for it?
3. Is it especially for any specific festival?
4. Which plants are used for Matvi?
5. Where are they procured from?
6. What is their status in local markets and landscape?
7. Are these plants easily available?
8. Is there any change in the availability and abundance of the plants? Which plants?
9. If there is a change, then what are the reasons?