

Marketing Flowers: A Potential Industry in Goa

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ABSTRACT: *Flowers have always played an important role in Indian culture, medicine and worship rituals. Classic flowers such as lotus, jasmine and roses are essential to the several practices in the people's culture. The flower is seen as a symbol of wishing luck when given as a gift, besides flowers hold a special place in the minds and hearts of people. Flowers play an important role as decor items in traditional celebrations. They are used to make bouquets, adornments, garlands etc. to offer to Gods and Goddesses. The survey of different flowers grown in Goa and their potential markets in different parts of Goa was carried out, to support the study.*

KEY WORDS: *Flowers,, types, garland ornamental*

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I. INTRODUCTION

A Chinese proverb says “flower leave some of their fragrance in the hand that bestows them.”

Flowers bring joy and are symbols of love, purity and peace. They mean everything to the giver and receiver. They add beauty to a house; bring in immense pleasure, thereby enhancing the aesthetic beauty of the place. Flowers have given a lot of inspiration to people from all walks of life whether you are a florist, a gardener, a painter, a photographer or a writer- one can draw inspirations from flowers.

Flowers have always played an important role in Indian culture, medicine and worship rituals. Classic flowers such as lotus, jasmine and roses are essential to the several practices in the people's culture. The flower is seen as a symbol of wishing luck when given as a gift, besides flowers hold a special place in the minds and hearts of people. Flowers play an important role as decor items in traditional celebrations. They are used to make bouquets, adornments, garlands etc. to offer to God and Goddesses to appease them.

Goa is the state of variations. These variations are seen in cultures, traditions, religions, clothing and on many other aspects but the common aspect is the feeling of emotion of respect, faith, belief and love. The best way to express these emotions towards someone is to present a single or bunch of flowers. Coloured petals of flowers represent the colour of life; its softness and delicacy tell the story of how depth and soothing your feeling is. Its fragrance represents the purity and innocence of your bond and relationship.

Within our Goa, we find flowers with a variety of fragrance, colour and sizes. If we particularly talk about our culture, ladies usually wear beautiful garlands of flowers that they call fatias hair accessory; they are made up of colourful flowers that are bound with a thread in the form of garland. Garlands are locally called as “haar” or “sor”.

Most of the pilgrimage tourist from neighboring states of Goa, have their family deities in Goa, who are using all types of local flowers to worship the deities. The pilgrimage tourist are the main buyers of the local flowers specially during the local festivals and zatra's.

Flowers are used to decorate temples, mosques, gurudwaras and churches and also for ceremonies such as weddings, funerals, birthday and anniversary celebrations, social get-togethers and religious festivals. In Goa, flower garlands have an important and traditional role in every festival; the deities are decorated with garlands made from different fragrant flowers. Garlands are also used to welcome the guests. There are specific species of flowers which are used for a particular occasion.

II. AIMS AND OBJECTIVES

This research study is intended to

- To identify, describe and document the flowers, which has commercial potential due to its use in Goa.
- Make survey of flowers and flower garlands, offered at temples for deities and churches and also used for ornamental purposes for welcoming the guests in Goa.
- To explore the market for flowers in the state of Goa.

- To emphasize the importance of growing and selling local variety of flowers as occupation.

III. METHODOLOGY

The survey of different flowers grown in Goa, was carried out to have a fair collection of flowers grown in different parts of Goa. Markets visited were from the following talukas: Sanguem, Salcete, Quepem, Canacona. The availability of flowers change as their flowering periods vary. Visits were scheduled every month. Flowers and garlands were photographed. Some of the flowers were preserved.

Major temples of Goa such as Chandreshwar Temple-Paroda, Shantadurga Temple-Fatorpa, Hanuman Mandir-Curchorem were visited to survey the various flowers used in garlands and for religious ceremonies by the pilgrimage tourists for seeking blessings from the deity.

In the present survey, 34 flowers which are used in garlands and as ornamental are recorded. These include some of the commonly used flowers like roses, jasmine, lotus, tuberose, marigold and some lesser-known and lesser-used flowers.

Information is also collected from locals about its use and local names. Identification was done till the genus level and some, till the species level.

Identification was done by using the books: Flowers of Sahyadri by Shrikant Ingalkar and Matoli (2005).

Various floras were referred which are as follows: Flora of Bombay Presidency Vol I, Vol II, Vol III (1901-1908), Flora of Goa Diu, Daman, Dadra & Nagarhaveli- Volume I & II (1985,1986), Flora of Kolhapur district (2002), The Indian Verbenaceae by A.Rajendran, P. Daniel.

IV. AREA OF STUDY:



V. FLOWER GARLAND HISTORY

The practice of using flowers to create garlands is an ancient art. Human culture around the world has used flower garlands for ornamentation, celebration and ceremony.

They are common in cultures across the globe. In India, flower garlands are used to show respect for deities, saints and Gods they are also used to welcome tourist which is very unique culture in India and more particularly in Goa. Besides, flowers are used in all types of celebrations like marriages, birthday's, festivals and anniversaries. The flowers in different forms are presented to the Gods and Goddesses

In Hawaiian tradition, the ancient islanders used leaves, flowers for adornments and rituals. Certain flowers had special significance. From times in memorials the pilgrimage tourist in Goa also offered flowers to deities according to the colors and type of flower to appease the deities.

Flowers are used as symbol of hospitality. Flower garlands are used for greetings. So importance of flowers has always been in human life. In all the stages of a person's life, from his/her childhood to his/her death ceremony. Flowers can never be replaced with any other object.

VI. FLOWERS AND THEIR NAMES:

Flowers available in Goa and their common names and botanical names were studied for the purpose of this study and documented.

Table 1: Table showing flowers grown in Goa with their botanical name, common name and flower family.

Sr no	Botanical name	Common name	Family
1	Magnolia champaca	Chafo	Magnoliaceae
2	Mimusopselengi	Owla	Sapotaceae
3	Rosa indica	Gulab	Rosaceae
4	Nymphaeanouchali	Kamal	Nymphaeaceae
5	Polianthus tuberosa	Rajanigandha	Asperagaceae
6	Calotropis gigantean	Rui	Asclepidaceae
7	Jasminumsambac	Mogri	Olaceae
8	Chrysanthemum indicum	Shevati	Asteraceae
9	Jasminumofficinale	Jae	Olaceae
10	Jasminummultiflorum	Kunda	Olaceae
11	Crossandrafundibuliformis	Aboli	Acanthaceae
12	Hibiscus rosa-sinesis	Dashin	Malvaceae
13	Dendrobiumsp	Orchid	Orchidaceae
14	Gomphrenaglobosa	Button	Amaranthaceae
15	Jasminummalabaricum	Kusar	Olaceae
16	Gardenia jasminoides	Kaneeri	Rubiaceae
17	Dilleniaindica	Nagchafo	Dilleniaceae
18	Hedychiumcoronatum	Sontakka	Zingiberaceae
19	Pandanusodoratissimus	Kevdo	Pandanaceae
20	Gladiolus communis	Gladiolus	Iridaceae
21	Dianthus caryophyllus	Carnation	Caryophyllaceae
22	Dhaliasps	Dhal	Asteraceae
23	Allamandacathartica	Kanno	Apocynaceae
24	Thevetiaperuviana	Kanna	Apocynaceae
25	Tabernaemontanaacitrifolia	Anant	Apocynaceae
26	Nymphaeapubescens	Kamal	Nymphaeaceae
27	Aster amellus	Aster	Asteraceae
28	Gerbera sp	Gerbera	Asteraceae
29	Barlerialawii	Gotla	Acanthaceae
30	Barliaterminalis	Gotla	Acanthaceae
31	Tagetes calendula	Roj	Asteraceae
32	Magnolia grandiflora	Kavathichafa	Magnoliaceae
33	Plumeriarubra	Chafa	Apocynaceae
34	Mammeasuriga	Suranga	Clusiaceae

Table 1. shows The different types of flowers that are available in various parts of Goa. These flowers are offered to the deities to please and get something in providenceand the pilgrimage tourist who offers these flowers believe that their wish will be fulfilled.. At times these flowers are used to give thanks to the deities for favours received.

Table2: Table showing flowering duration in month, flowering time and uses of various flowers.

Srno	Botanical name	Common name	Flowering time	Uses
1	Magnolia champaca	Chafo	Morning time	Used in garland and as ornament.
2	Mimusopselengi	Owla	Evening time	Used in garland.
3	Rosa indica	Gulab	Morning time	Used in garland and as ornament.
4	Nymphaeanouchali	Kamal	Morning time	Used in garland.
5	Polianthus tuberosa	Rajanigandha	Morning time	Used in garland and as ornament
6	Calotropis gigantean	Rui	Morning time	Used in garland
7	Jasminumsambac	Mogra	Evening time	Used in garland and as ornament.
8	Chrysanthemum indicum	Shevanti	Morning time	Used in garland and as ornament.
10	Jasminummultiflorum	Kunda	Evening time	Used in garland.
11	Crossandrafundibuliformis	Aboli	Morning time	Used in garland and as ornament.
12	Hibiscus rosa-sinesis	Dashin	Morning time	Used in garland
13	Dendrobiumsp	Orchid	Morning time	Used in garland and as ornament.
14	Gomphrenaglobosa	Buttons	Morning time	Used in garland.
15	Jasminummalabaricum	Kusar	Morning time	Used in garland.
16	Gardenia jasminoides	Kaneeri	Morning time	Used as ornament.
17	Dilleniaindica	Nagchafo	Morning time	Used as ornament.
18	Hedychiumcoronatum	Sontakka	Morning time	Used as ornament.
19	Pandanusodoratissimus	Kevda	Morning time	Used as ornament.
20	Gladiolus communis	Gladiolus	Morning time	Used in floriculture.
21	Dianthus caryophyllus	Carnation	Morning time	Used in floriculture.
22	Dhaliasps	Dhal	Morning time	Used in garland and as ornament.
23	Allamandacathartica	Kanno	Morning time	Used in garland.
24	Thevetiaperuviana	Kanna	Morning time	Used in garland.

25	Tabernamontanacitrifolia	Anant	Morning time	Used in garland.
26	Nymphaeapubescens	Kamal	Morning time	Used in garland.
27	Aster amellus	Aster	Morning time	Used in garland.
28	Gerbera sps	Gerbera	Morning time	Used in garland,as ornament and in floriculture.
29	Barlerialawii	Gotla	Evening time	Used in garland.
30	Barleriaterminalis	Gotla	Evening time	Used in garland.
31	Tagetus calendula	Roz	Morning time	Used in garland.
32	Magnolia grandiflora	Kavathichafa	Evening time	Used as ornament
33	Plumerarubra	Champa	Morning time	Used in garland.
34	Mammeasuriga	Suranga	Morning time	Used in garland.

Table :2. Shows the months in which the flowers are available and the longevity of the life of the flower. This table also indicates the use of each type of flower. Most of the flowers shown in the above table are used in garland making, indicating that these flowers are normally offered to the gods by pilgrimage tourist to garland the deities. The table also indicates the time of flowering of the flowers so that the pilgrimage tourist is facilitated to offer the flowers at the time of their bloom which is considered auspicious.

Table 3: shows the availability of the flowers location wise.

Srno	Botanical name	Common name	Places
1	Magnolia champaca	Chafo	Kalay
2	Mimusopselengi	Owla	Sanguem
3	Rosa indica	Gulab	Curchorem
4	Nymphaeanouchali	Kamal	Xeldem
5	Polianthustuberosa	Rajanigandha	Kalay
6	Calotropis gigantean	Rui	Curchorem
7	Jasminumsambac	Mogri	Sanguem
8	Chrysanthemum indicum	Shevati	Curchorem
9	Jasminunofficinale	Jae	Sanguem
10	Jasminummultiflorum	Kunda	Sanguem
11	Crossandrafundibuliformis	Aboli	Sanguem
12	Hibiscus rosa-sinesis	Dashin	Bansai
13	Dendrobiumsps	Orchid	Margao
14	Gomphrenaglobosa	Button	Xeldem
15	Jasminummalabaricum	Kusar	Kusar
16	Gardenia jasminoides	Kaneeri	Xeldem
17	Dilleniaindica	Nagchafo	Xeldem
18	Hedychiumcoronatum	Sontakka	Xeldem
19	Pandanusodoratissimus	Kevido	Amona
20	Gladiolus communis	Gladiolus	Curchorem
21	Dianthus caryophyllus	Carnation	Curchorem
22	Dhaliasps	Dhal	Quepem
23	Allamandacathartica	Kanno	Tilamol
24	Thevetiaperuviana	Kanna	Tilamol
25	Tabernamontanacitrifolia	Anant	Sanguem
26	Nymphaeapubescens	Kamal	Xeldem
27	Aster amellus	Aster	Curchorem
28	Gerbera sps	Gerbera	Margao
29	Barlerialawii	Gotla	Kalay
30	Barleriaterminalis	Gotla	Kalay
31	Tagetus calendula	Roj	Sanguem
32	Magnolia grandiflora	Kavathichafa	Canacona
33	Plumerarubra	Chafa	Sanguem
34	Mammeasuriga	Suranga	Netravali

Table:3. Shows the location where different flowers are available in Goa. The floriculturist in Goa is traditional farmers. In the wake of surge in pilgrimage tourism who come to worship their family deities. They have taken up floriculture as their occupation. Mostly local varieties of flowers locally available are grown by the local floriculturist and made available during the seasons, as most of the varieties of flowers are grown seasonally.

VII. RESULTS

The study reveals 34 flowers belonging to different families of Angiosperms, which are used in making garlands. Also, flower types used for decorative and ornamental purposes have also been recorded.

GROUP 1:



1. Chafa(1a. flowers)(1b. garland)
2. Owla (2a. flowers)(2b. garland)
3. Rose (3a.flowers) (3b. garland)

1. Common name: Chafa

Magnolia champaca, commonly called yellow jade orchid tree, is a large evergreen tree. It is best known for its strongly fragrant yellow or white flowers. It is, however, primarily cultivated for its timber, and is also used in urban landscaping. Its aril-covered seeds are highly attractive to birds.

Uses: Used to make garlands, for ornamental purpose, to make perfumes, scents, etc

2. Common name: Owla

English common names include Spanish cherry, Medlar and Bullet wood. Its timber is valuable, the fruit is edible and it has traditional medicinal uses. Bullet wood is an evergreen tree reaching a height of about 16 m. It flowers in April, and fruiting occurs in June. Leaves are glossy, dark green, oval shaped, 5–14 cm long and 2.5–6 cm wide. Flowers are cream, hairy and scented. Bark is thick and appears dark brownish-black or grayish-black in colour, with striations and a few cracks on the surface. The tree may reach up to a height of 9–18 m with about 1 m in circumference.

Uses: Flowers have light fragrance which is retained even after flowers are dried and are used to make ornamental garlands. The bark, flowers, fruits, and seeds are astringent, cooling, anthelmintic. It is mainly used in dental ailments like bleeding gums, pyorrhea, dental caries, and loose teeth.

3. Common name: Rose

A rose is a woody perennial of the genus *Rosa*, within the family Rosaceae. There are over 100 species. They form a group of plants that can be erect shrubs, climbing or trailing with stems that are often armed with sharp prickles. Flowers vary in size and shape and are usually large and showy, in colours ranging from white, through yellows and reds. Species, cultivars and hybrids are all widely grown for their beauty and often are fragrant. Rose plants range in size from compact, miniature roses, to climbers that can reach 7 meters in height. Different species hybridize easily, and this has been used in the development of the wide range of garden roses.

Uses: Roses are a popular crop for both domestic and commercial cut flowers. Rose perfumes are made from rose oil, which is a mixture of volatile essential oils.

ROUP:2

4. Kamal(4a. flowers,4b. garland)
5. Rajanigandha(5a. flowers ,5b. garland)
6. Rui(6a. flowers ,6b. garland)



4. Common name: Kamal

Nymphaeanouchali, also called Star lotus, Red and blue water lily, Blue star water lily is a water lily of genus Nymphaea. It is a day blooming with submerged roots and stems. Part of the leaves is submerged, while others rise slightly above the surface. The leaves are round and green on top; they usually have a darker underside. The floating leaves have undulating edges that give them a crenelated appearance. Their size is about 20–23 cm and their spread is 0.9 to 1.8

Uses: Lotus is often used as a freshwater aquarium plant. Sometimes it is grown for its flowers, while other aquarists prefer to trim the lily pads, and just have the underwater foliage.

5. Common Name: Rajanigandha

The tuberose a perennial plant related to the agaves, extracts of which are used as a middle note in perfumery. The tuberose is a night-blooming plant along with every other species of Polianthes. It grows in elongated spikes up to 45 cm (18 in) long that produce clusters of fragrant waxy white flowers that bloom from the bottom towards the top of the spike. It has long, bright green leaves clustered at the base of the plant and smaller, clasping leaves along the stem.

Uses: It is used to make garlands and has ornamental uses.

6. Common name: Rui

Erect branched shrub, 1-3 meter high, whole plant contains milky juice. Branches stout, covered with white pubescent bark, leaves opposite, sessile, 10-20cm thick. Flowers 5-10 umbellate cym. Corolla 3-5 cm, 5 lobed, lobes purplish white. Coronal lobes purple, 1cm shorter than column, apex rounded and with 2 auricles. Follicle 8-10cm thick green seeds with white coma.

Uses: Calotropis is used as a traditional medicinal plant with unique properties. Traditionally calotropis is used alone or with other medicinals to treat common disease such as fevers, rheumatism, indigestion, cough, cold, eczema, asthma, elephantiasis, nausea, vomiting, diarrhea. The powdered root used in asthma, bronchitis. The flowers are bitter, digestive, astringent, stomachic, anthelmintic, and tonic Calotropis is also a reputed Homoeopathic drug

GROUP :3



7. Mogra(7a. flowers,7b. garland)

8. Shevati(8a. flowers,8b. garland)

9. Jai (9a. flowers ,9b. garland)

7. Common name: Mogra

It is a species of Jasmine, it is a small shrub or vine growing up to 0.5 to 3 cm (1.6 to 9.8 ft) in height. It is known as the Arabian jasmine in English. Only a few varieties reproduce by seed in the wild. Cultivated jasmines generally do not bear seeds and the plant is reproduced by cuttings, layering, and other methods of asexual propagation. The leaves are ovate, 4 to 12.5 cm long and 2 to 7.5 cm wide. The phyllotaxy is opposite or in whorls of three, they are smooth except for a few hairs at the venation of the base of the leaf. The flowers bloom all throughout the year and are produced in clusters of 3-12 together at the ends of the branches. They are strongly scented with a white corolla 2-3 cm in diameter with 5 to 9 lobes. The flowers open at nights and close in the morning, a span of 12 to 20 hours

Uses: It is widely cultivated for its attractive and sweetly fragrant flowers. . The flowers are also used for perfumes and for making tea. It is widely cultivated for its attractive and sweetly fragrant flowers. Garlands are made from the flowers.

8. Common name: Shevati

Chrysanthemums, sometimes called mums or chrysanths, are flowering plants of the genus *Chrysanthemum*. They are herbaceous perennial plants or sub-shrubs. They have alternately arranged leaves divided into leaflets with toothed or occasionally smooth edges. The compound inflorescence is an array of several flower heads, or sometimes a solitary head. The head has a base covered in layers of phyllaries. The simple row of ray florets is white, yellow or red; many horticultural specimens have been bred to bear many rows of ray florets in a great variety of colors. The disc florets of wild taxa are yellow. The fruit is a ribbed achene.

Uses. Flowers are use to make garlands, for decorations and in bouquets.

9. Common name : Jai

Jasminum officinale is a vigorous, twining, deciduous climber with sharply pointed pinnate leaves and clusters of starry, pure white flowers in summer, which are the source of its heady scent.

Uses: It is also used as an essential oil in aromatherapy. It is specially used in dermatology as either an antiseptic or anti-inflammatory agent. Jasmine absolute is known as the 'king of oils', and its heavy, sweet scent is loved by most people. The flowers release their perfume at dusk, so flowers are picked at night and a tiny amount of oil is obtained by solvent extraction.

GROUP 4:



10. Kundi (10a. flowers, 10b. garland)

11. Aboli (11a. flowers, 11b. garland)

12. Dashin (12 a. flower, 12b. garland)

10. Common name: Kundi

It is a species of jasmine, from the family Oleaceae. It is known as winter jasmine, Indian jasmine, downy jasmine, and star jasmine. It flowers so much that sometimes the flowers cover most of the leaves leaving everything white, it is a branching vine that can be trained as a shrub or a spreading vine 3 to 10 ft tall. The stem and leaves are covered with a downy pubescence (micro hair) that gives the plant an overall grayish – green appearance. The leaves are ovate and rounded at the base and opposite to each other on the stem. It has very beautiful single flowered, white blooms. In Indian mythology, star jasmine or Kunda is known for its whiteness. Flowers appear in bunches, almost throughout the year. The flowers are used for worshipping, and are essential part of a marriage ceremony.

Uses: Flowers are used in garland and worshipping god.

11. Common name: Aboli

It is an erect, evergreen shrub, growing to 1m with glossy, wavy margined leaves and fan shaped flowers, which may appear at any time throughout the year. The flowers are unusually shaped with 3 to 5 asymmetrical petals. They grow from four sided stalked spikes, and have a tube like $\frac{3}{4}$ inch stalk, flower colours range from the common orange to salmon orange or apricot, coral to red, yellow and even turguois.

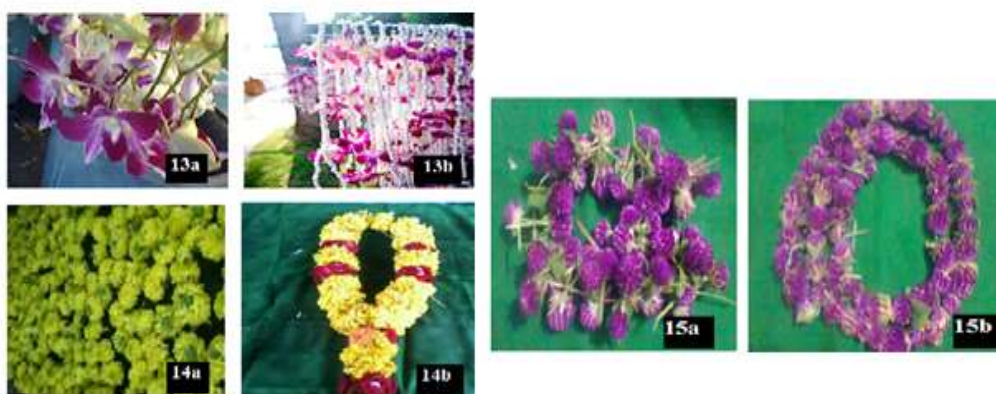
Uses: used in making garlands.

12. Common name: Dashin

It is an erect annual with lobed leaves and brightly coloured flowers and woody stems. Rosa sinesis has red flowers, while sabdariffa has pale yellow flowers with a purple centre, followed by capsules surrounded by an enlarged, fleshy and brightly red calyx. The fresh and dried epicalyes and calyces are used for herbal remedies.

USES: It is an aromatic, astringent and cooling herb that has diuretic properties and helps to lower the fever as well as providing vitamin C also used in making garland for worshiping lord Ganesh.

GROUP: 5



13. Orchid(13a. flowers,13b. garland

14. Marigold (14a. flowers,14b. garland)

15.Button(15a. flowers,15b. garland)

13. Common name: Orchid

Orchidaceae is a diverse and widespread family of flowering plants with blooms that are often colourful and often fragrant. Orchids are easily distinguished from other plants, all orchids are perennial herbs, lack any permanent woody structure, and can grow according to 2 patterns such as monopodial and sympodial. Like most monocots, orchids usually have simple leaves with parallel veins. Some orchids have single flowers but most have a racemose inflorescence sometimes with a large number of flowers.

Uses: Most of them are used in decorations as they have a beautiful colors such as yellow, pink, white, red, purple.

14. Common name: Marigold

Marigolds are hardy, annul plants and are great plants for cheering up any garden.They are of different colours yellow and orange being the most common, most of the marigolds have strong, pungent odor and have great value in cosmetic treatment. They vary in size from 0.1 to 2.2M tall. Most species have pinnate green leaves .Blooms naturally occur in golden , orange, yellow and white colours.

Uses: From decoration to dyes, brightly coloured yellow and orange marigolds provide familiar splashes of colour. They are mainly used to make garlands and for adorning buildings and statues of spiritual significance but have also been used to make skin creams.

15. Common name: Button

Gomphrenaglobusa, commonly known as globe Amaranth or bachelor button, is an annual plant that grows up to 24 inches in height. The true species has magenta bracts, and cultivars have colors such as purple red, white, pink and lilac.

Uses –These flowers are used to make a garland.In Trinidad, the flowers are boiled to make a tea which is used for baby gripe, oliguria, cough and diabetes.

GROUP: 6



16. Kusar (16a. flower) 17. Kaneeri (17a. flowers)
 18. Nagchafa (18a. flowers) 19. Sontakka (19a. flowers)
 20. Kevda (20a. flowers) 21. Gladiolus (21a. flowers)

16. Common name: Kusar:

It is a large climber; growing up to 3-5 m. Woody stems are 4 cm thick. Slender branches are spreading and trailing. Oppositely arranged membranous leaves are 8-12 cm long, and broadly ovate, with a sharp tip. The base of the leaf is either rounded or heart-shaped, and the stalk is 1-3 cm long. Fragrant white flowers appear in branched cymes at the end of branches, upto 50 in a single cyme. Petals are 6-10, 2 cm long, lance-like and spreading. The narrow tube below the petals is 2 cm long. It is found planted near many temples, and is used in worship. This one is very rare in northern parts of India.

Uses: Used to make garlands.

17. Common name: Kaneeri

It is an evergreen flowering plant of the family Rubiaceae, having green leaves and fragrant white summer flowers, it is widely used in gardens in warm temperate and subtropical climates. It is a shrub with greyish bark and dark green shiny evergreen leaves with prominent veins. The white flowers bloom in spring and summer and are highly fragrant. They are followed by small oval fruit. The fruit is used as a yellow dye, which is used for clothes and food.

Uses: The fruit is used as a yellow dye, which is used for clothes and food. Flowers are used in garlands.

18. Common Name: Nagchafa

It is a species of Dillenia, belongs to family Dilleniaceae. It is an evergreen, large shrub or small to medium sized tree growing to 15m tall. The leaves are 15 to 36 cm long, with a conspicuously corrugated surface with impressed veins. Its branches are used to make good firewood. The flowers are large, 15 to 20 cm diameter, with 5 white petals and numerous yellow stamens.

Uses: Used in hair accessories.

19. Common name: Sontakka

It is a genus of flowering plants in ginger family Zingiberaceae, the genus name Hedychium is derived from 2 ancient Greek words, hedy meaning sweet and chios meaning snow. This refers to the fragrant white flower of the type species.

Uses: Used as ornamental flowers.

20. Common name: Kevda

Large shrub, 5-8m, stem thick, supported by inclined cylindrical roots. Leaves 1-2m, 10cm wide, acuminate, coriaceous, margins spinous. Flowers unisexual, male flowers fragrant, in cylindrical spikes 5-10cm on pendulous spadix 25-40cm, bracts 10-20cm, peduncles 7-10cm female flowers on solitary spadix 5cm, stigma as short, kidney shaped, yellow. fruits 15-25cm, oblong, yellow, tubercled. Common in coastal swamps in konkan.

Uses: Kewda or in Konkani it is called as hanton, in Goa is found plenty on the seashore and near streams and rivers. The kewda essence is used in most of the sweet dishes and some food items also.

21. Common name: Gladiolus

Gladiolus is a genus of perennial bulbous flowering plants. It is sometimes called as the sword lily. Gladioli are half hardy in temperate climate, they grow from rounded symmetrical corms, that are envelope in

several layers of brownish fibrous, tunics. Their stems are usually unbranched, producing 1 to 9 narrow, sword shaped, longitudinal grooved leaves enclosed in a sheath. The flowers spikes are large and one side secured bisexual flowers, each subtended by leathery green bract. The sepal and petals are almost identical in appearance, and are termed tepals. The perianth is funnel shaped, with the stamens attached to its base. The style has 3 filiform spoon shaped branches, each expanding towards the apex. The ovary is three locular with oblong or globose capsules, containing many winged brown longitudinally dehiscent seeds. The flowers are variously coloured pink to reddish or light purple or white or white to cream or orange to red.

Uses: Used as ornamental flower

GROUP: 7



22. Carnations (22a. Flowers) 23. Dahlia (23a. Flowers)

24. Kanna (24a. flowers) 25. Kannya (25a. flower)

2. Common name: Carnations

Dianthus caryophyllus, carnation or clove pink is species of *Dianthus*. It is probably native to Mediterranean region. It is a herbaceous perennial plant growing to 80 cm tall. The leaves are glaucous, greyish green to blue green, slender, upto 15 cm long. The flowers are produced singly or upto five together in a cyme. They are 5-10 cm diameter and sweetly scented. The original natural flower colour is bright pinkish purple, but the cultivators of other colour including red, white, yellow and green have been developed.

Uses: Used as ornamental flower.

23. Common name: Dahlia

Dahlia is the genus, which is bushy, tuberous, herbaceous, perennial plant, member of Asteraceae or Compositae. Related species include the sunflower, daisy, chrysanthemum. There are at least 36 species of dahlia with hybrid commonly grown as garden plants. Flower forms are variable with one head per stem, these can be as small as 2 inches in diameter or upto 1 feet. The stems are leafy ranging in height from as low as 12 in' to more than 6 to 8 ft. The majority of species do not produce scented flowers or cultivars. Like most plants, they do not attract pollinating insects through scent. They are brightly colored, displaying most hues, with the exception of blue.

Uses: Used as ornamental flower.

24. Common name: Kanna

It is a species of flowering plant of the genus *Allamanda*. It is a vine which requires a trellis or a fence for a support. It does not twine nor does it have tendrils or aerial roots. It can be pruned into a shrub form. If not pruned, it can sprawl to a height of 20 feet.

Uses: It is widely used as ornamental plant, flowers are used in garlands.

25. Common name: Kannya

It is an evergreen tropical shrub. Its leaves are willow like, linear lanceolate, and glossy green in colour. They are covered in waxy coating to reduce water loss. Its stem is green turning silver/ grey as it ages. The long funnel shaped sometimes fragrant yellow. Flower are in few flowered terminal clusters. Its fruit is deep red- black in colour encasing a large seed.

Uses: The plant is widely grown as as ornamental plants. The flowers are used at religious sites for offering.

GROUP: 8



26. Anant(26a. garland) 27. Salak (27a. flower)

28. Aster (28a. flower)

29. Gerbera (29a. flowers)

30. Padhrikoranti(30a. flowers) 31. Gotla(31a. flowers)

26. Common name: Anant

Large shrub 2-3m, branches horizontal with milky juice leaves opposite 5-15cm, oblanceolate, acuminate, shining, glaucous beneath nerves 8-10 pairs petioles 3-5cm. Flowers in terminal and axillary cymes 5-10cm peduncles 2-3cm; pedicels 1cm, slender calyx short ; corolla tube 2-3cm, lobes rotate twisted stamens 5 included

Uses: The root and bulb taste bitter. These are used as Ayurvedic medicine to treat ascariasis and scabies. Flowers are used in garlands.

27. Common name: Salak

This plant is common in shallow lakes and ponds. The hairy water lily is an aquatic plant having erect perennial rhizomes or rootstocks that anchor it to the mud in the bottom. The rhizomes produce slender stolons. Its leaf blades are round above the water and heart-shaped below 15–26(–50) cm, papery, abaxially densely pubescent. Some of the leaves that emerge rise slightly above the water held by their stem in lotus fashion, but most of them just float on the surface. The floating leaves have undulating edges that make a crenellate effect. The flowers are quite large, about 15 cm in diameter when fully open. They tend to close during the daytime and open wide at night. Their color varies from white to pink, mauve or purple depending from the variety.

Uses: It is used as ornamental purpose, use to worship deities and in garlands.

28. Common name: Aster

Aster amellus reaches an average a height of 20-50cm. The stem is erect and branched, the leaves are dark green. The basal leaves are obovate and petiolated, the cauline ones are alternate and sessile, increasingly narrower and lanceolate. The flowers are lilac. The flowering period extends from July to October. The seed is an achen that ripen in October.

Uses – It is used as ornamental purpose, for offering God and for decorating hair.

29. Common name: Gerbera

Gerbera species bear a large capitulum with striking two lipped ray florets in yellow orange white pink or red colours. The capitulum which has the appearance of single flower is actually composed of hundreds of individual flower. The morphology of the flower varies depending on their position in the capitulum. The flower head can be small 7cm in diameter upto 12cm.

Uses: Gerbera is a very popular and widely used as decorative garden plant or as cut flowers.

30. Common name: Pandhrikoranti

Branched perennial herb, 1-2 m high. Branches many, spreading. Leaves opposite, 10-15 cm. acuminate, glabrous, base tapering, petioles 6-9 mm. flowers solitary, axillary or in terminal panicles, abundant. Outer sepals 3 cm, unequal, elliptic lanceolate, hairy, inner sepals 1-2 cm, acute, with membranous margins. Corolla 7-10 cm, tube 5-7 cm, white, nerved. Upper lip 4 lobed. Lower lip 3 cm, oblong. Lobes flushed with light purple at base. Stamens 2, filaments bluish. Anthers light blue. capsules 2-3cm.

Uses: Flowers are used in garlands and for offering God.

31. Common name: Nili-koranti/ gotla

Branched herb, 1-1.5 m high. Branches many, leaves opposite, 10-15cm, elliptic lanciolate, acuminate, hairy above, margin ciliate, base winged, nerves 6-8, petioles 1-2 cm. Flowers in terminal hairy spikes, crowded at the top of branches. Calyx densely hairy, sepals 4, in opposite pairs. Outer sepals 2-3cm, inner sepals 1cm. corolla 6-7 cm, blue, tube paler. Lobes 2cm, obovate. stamens 2, staminodes 2, filaments hairy at base. Capsules 2 cm, 4 seeded.

Uses – Flowers are used in garland and for offering god.

GROUP: 9



32. Chafa (32a. flowers) 33. Kavathichafa (33a. flower) 34. Suranga (34a. flowers)

32. Common name: Chafa

Small deciduous tree, 3-5m, trunk short, crooked, bark greenish brown, branches cylindrical with milky juice. Leaves whorled at ends of branches, 20-30cm, oblanceolate, acuminate, tapering at base, petioles 3-5cm, strongly veined. Flowers fragrant, in terminal corymbose panicles- 10-20cm, calyx lobes 5, orbicular, stamen 5, inserted, filaments short. Fruit a pair of follicles, 10-15cm, pointed.

Uses: Flowers are used as necklaces, as offerings to deities or as decoration for coffins.

33. Common name: Kavathichafa

Large evergreen tree 5-8m, bark grey, smooth, flaky. Leaves alternate, 10-20 cm, coriaceous, elliptic oblong, obtuse, shining above, rusty pubescent beneath, petioles 3 cm. flowers fragrant, solitary, terminal, pedicel stout, petal 6-12, deciduous, stamens and carpels many in whorls, sessile, styles short. Fruits of 8-10 carpels, ovoid, clustered as long stalk, seeds many, red.

Uses: Used as a ornamental tree and flowers are used in hair accessories.

34. Common name: Suranga

Large evergreen tree, 5-10m, branches 4 angled. Leaves opposite, 15-20cm, oblong, obtuse, shining, base rounded, petioles 6mm, stout. Flowers fragrant, in short fascicles on scars of fallen leaves, buds globose, pedicels 1-2cm, sepals 2, stamen many. Fruits 2-3cm, ovoid, tipped with style. Occasional in evergreen forest in hills.

Uses- Flowers used in hindu worship and for decorating hair and are also used in perfume industries.

The thirty-four types of flowers are varied in their characteristic features, they belong to different families. Table 1, summarises this information about all the species studied for this project work. The photographs of all these species/garlands are recorded in the photographic plates. (Group 1 to 9).

The species also differed from each other with respect to their flowering time, flowering duration and their respective uses. Table 2 provides this information. All the studied species were collected from different places from South Goa. Table 3 provides information about the places from where the species were collected.

These species belonged to different families. In some cases, more than one species belonged to a particular family. This information is important so as to see the frequently occurring family.

VIII. CONCLUSION

In the present investigation, a total of 34, flowers were recorded of different types. Most of the flowering type, of plants is seasonal in nature and available only during certain seasons. It was observed that some of the plants flower during morning time such as rose, suraanga and chaffa. The plants which flower during evening time were Mimusopselengi, Jasminumsambac, Jasminumofficinale, Jasminummalabaricum, Jasminummultiflorum, Hedychiumcoronatum.

Some of the flowers are exclusively used for making garlands such asowla and ragnigandha. The flowers which are used in floriculture are Gerberasps, Dianthus caryophyllus, Gladiolus communis, Dendrobiumsp, Rosaindica. They are used as cut flowers. These flowers are also used by the pilgrimage tourist to offer to the deities in temples and to saints in churches because of their fragrance.

This data provides us information about the various places in which a particular type of flowers/garland can be found, a particular season in which the flower/garlands are found. The species belong to different families. From some families (for instance- Apocynaceae, Olaceae and Asteraceae) more than three species are recorded. This information is useful in utilizing the wealth of all these resources.

There are some garlands with very uncommon flowers like Barlerialawii, Barleriaterminalis, Calotropisgigantea, Gardenia jasminoids, Hedychiumcoronatum, Dilleniaindica, Magnolia grandiflora, Mammeasuriga and Jasminummalabaricum These garlands are used in particular places and for a particular occasion. This information can provide a new direction of orientation and innovation in the fast-developing business of garland making.

Marigold is the most common flower used in Goa for various purposes. Flowers like hedychium, Champa, Gerbera are used as ornaments by ladies. Flowers of Jasminum species are used primarily by women to adorn their hair and are also used in garlands. Flowers like carnations, gerbera, roses are mostly used in bouquets. They are also popularly used for decorations and as cut flowers.

Our present study, revealed that various flowers form an integral part of the diverse cultural life of Goa. Any flower that is highly fragrant and brightly coloured is usually preferred in a garland. In all, thirty four flowers are recorded in this study which is used in the garlands or as ornamentals. From this study, the places of occurrence of these garland-flowers and the variety of these garlands have been listed which will serve as a future reference point.

Also, garlands made from some unique and lesser-known flowers can help widen the scope of garland-making enterprise. The study reveals that flower cultivation and marketing can be a potential occupation in the select rural areas of Goa.

These findings also give direction to bring in more production of flowers of different types during the times of influx of pilgrimage tourists in Goa, especially during the festival times and the times of zatra's.

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