those traditions overlap, may be through migration are by virtue of commonality in our traditional backdrop.

In Andhra Pradesh we have famous tradition of Kalankari we can proudly say about, one in Srikalahasti one in Machilipatnam. In this chapter, I would like to go deep into what is Kalamkari how it is so famous world wide and discuss in detail.

Indian art is among the most precious legacies inherited by mankind. The story of Indian crafts comes from one of the oldest civilizations of the world. The vast cultural ethnic diversity has enabled a variety of motifs, techniques and crafts to flourish on this land.

It is assumed that the nineteenth century saw almost a total decline of arts in India. The revival of classical art in first decades of 20th century took to imitating the fashions of the West. It is now the fashion to derive this, but the language of art has proliferated into many dialects and the Indian artists would have remained illiterate, if they had not learnt to discourse in all of them. The whole Indian culture can easily be said to be reflected in the paintings, which has its roots in religious institutions and in the royal monuments of the great empires. The golden era of the Indian painting can be seen from Mughal rule, the known patrons of art. The paintings of the period reflected the style of Persian art.
The art of painting has many dimensions to it. Different styles and patterns conjure up entirely, mostly of works on a variety of materials. Different techniques are used to produce the exquisite of designs and works the colours used are vibrant and the themes range from the times of kings and rulers to the Gods and Goddesses. Most of these paintings are intricate with clarity in the minute detail.

India is a land of fabrics and colours. The country has always been given a top place for textiles, then and now india’s ancient renown has been mainly due to her hand —dyed fabrics, in a variety of designs and brilliant hues. India is a nation that enjoys the monopoly in textile trade and is renowned for its natural dye fabrics. The colours and themes reflect the cultural diversity of India.

Recent excavations of the red sea ports have brought out great range of printed textiles. These date back to 800 AD. The techniques and design point to western Indian origin.

Today, though many mills produce a wide range of textiles that have won international repute, the charm and allure of hand dyed fabrics still hold their own and captured the hearts of discerning buyers, because their exclusiveness and beauty.

The Kalamkari fabrics are rightly considered one of the most popular of the art fabrics of India. In the southern regions the colourful designs of the Kalamkari textiles are very
rich. The feeling and colour consciousness of Indian calicoes with their absence of machine precision invest them with a supreme charm difficult to describe. The quaintness and harmony in Indian textile is fascinating.

Little was known about printed Indian cottons before the archaeological findings at Fosatat, near Cairo [Egypt]. The discovery unearthed a hoard of fragments of printed Indian cottons supposed to have exported in the 18th century from the western shores of India.

Kalamkari fabrics, as example of decorative art, these printed calicoes are unsurpassed in design, they reveal an art, which has reached such a pitch of perfection that presupposes long centuries of apprenticeship and practice. As masterpieces of manufacture they fascinate the expert calico printer and teach the handicraftsman the lesson of the patience and reproduction.

**Kalamkari**

Kalamkari is an ancient and traditional south Indian art form it is an art form that developed both as purely decorative and also for religious ornamentation. It relates to the category of cotton fabrics. It may be defined as fabrics patterned through the medium of dye, rather than loom. It is a specialized way of painting and dyeing of the fabric with attractive vegetable dyes and stands for the pride and glory of Indian textiles.
The Indian art both in theory (shastra) and practice (prayoga) are branches of single living tree of Indian culture. They cannot be understood in isolation from other dimensions of thought and secular traditions. The underlying world review crystallized in certain concepts, reflecting the understanding of cosmos of man, of space and of mind.

The discovery of dyed piece of cloth on silver vase at ancient site of Harappa confirms that the tradition of Kalamkari is very old. Even the ancient Buddhist charity viharas were decorated with Kalamkari cloth.

A peculiar kind of free hand drawing and painting work known as “Kalamkari’ has been practiced since 18th century in south India. The artists who worked on Kalamkari paintings were known as ‘Jadupatuas” or Duari” patuas. This can be translated to ‘magical pahlters’. The painted cloth of southeast India has been known as “pint ado” by Portuguese as “chintz” by English. It was however the Persian link that gave the painted cloth the name of “Kalamkari” by which they have been known in India from medieval times to present day.

‘Kalam’ is a Persian word meaning ‘pen’ and Kari means ‘work’ hence ‘Kalamkari’ means ‘penwork’.

The art of dyeing, painting, weaving, designing of beautiful fabrics through numerous processes have had an age-old tradition in India. Today, chemical dyes have replaced most of our indigenous vegetable dyes. But yet, the vegetables dyes
pay an important role in the handicraft sector. There is a wide scope in the export for vegetable dyed fabrics.

The mellow vegetable dyed fabrics are slowly winning the hearts of the art lovers and common public. There is a definite trend of change towards better progress of indigenous dyes to the synthetic dyes, proved to be dangerous to the health of human beings. Now, we should meet the challenge of reviewing the traditional dyeing, painting, weaving and printing technique along with reproduction of medieval patterns with a view to enhance creative and aesthetic. Values, which thought the art history have depended upon experimentation with new forms to appropriate the modern need. The central problem is to evolve appropriate forms and techniques to boost the textile sector.

During the medieval period, the Golconda corridor was known for its superlative painted clothes. Golconda popularized the trade term ‘Kalamkari’ on the south east coast line of India. During this period floral designs were very popular. The technique of Kalamkari art is still employed in Andhra Pradesh and few other places in the South. Unfortunately, invention of chemical dyes caused the decline of this. Thus the Kalamkari art languished and created employment problems to many of the families entirely depending on this craft.

The colours used in the Kalamkari craft are natural vegetable fast colours, derived from peels, barks, flowers, seeds,
leaves and roots of various plants which are grown in abundance in Andhra Pradesh.

The colours, thus derived from several plants are fast colours and give strength to the cloth; also the cloth is durable for a year and retains the richness of the colour for longer period.

Although the technique of Kalamkari has been practiced over a wide area, there were two important centres - India and Persia. A considerable quantum of information is available with regard to India and that relating to Persia is fragmentary and ever infertile.

Kalamkari — art is intimately linked to the social practices of the ageold religion, theology and mythological traditions. It could be used for decorative or functional purposes in domestic and monumental structures as wrapping and covering Madeira or in costume.

The degree of utilization in costume would depend on climatic conditions and economic considerations. For the privileged elite decorative appeal would form an important consideration in the choice of fabric.

Thus this category of patterned fabrics in India covered a whole range of textiles, differing from the point of view of texture, as well as pattern, the common features being that of uniformity in methods of dyeing, large figurative Kalamkari wall
hangings for both foreign and domestic markets were done at Pulicat and Palakollu.

Srikalahasti and Polavaram (near Masulipatnam) of Andhra Pradesh are the popular centers for Kalamkari art. There is heavy demand for Kalamkari products in India and abroad.

**History and development:**

The word ‘kalam’ from the Persian and ‘qualam’ from Urdu came into vogue with the Muslim influence and with the trade links between Satavid Persia and Qutubshahi Golconda around sixteenth century. The Qurush traded Kalamkari hand printed cloth.

The traditions of all the arts in South India had their roots in temple rituals. The Kalamkari cloths also followed the old traditions of religious mural paintings. The craftsmen painted the narratives of religious legends from which people learnt the stories of their gods.

Bards recited verses describing these episodes, using these cloths as illustrations, which is a tradition that continues even today in many parts of India. Kalamkari fabrics were made in many parts of India, but at present the traditional process seems to have been retained only in Gujarat and Andhra Pradesh.

Kalamkari has a history of being flexible in form, while staying true to the ancient process. The Coromandel Coast
of India stretching from Masulipatnam to the north, down to Nagapattinam in the south was historically the source of some of the most beautifully coloured and delicately worked cotton fabrics produced and exported by India.

Andhra Pradesh weavers from earliest times were known as excellent weavers of fine cloths. On this cloth they painted the pictures with delicate brushes and then dyed the material to make the Chital Vasteras spoken of in the Mahabharata.

Some of the designs of the original cloths are seen in the kalpasutra paintings of the Jams, but due to the damp climatic conditions in many parts of India, fabric from earlier than the 17 century has not been preserved. With the exported of trade during Buddhist times, Kalamkari cloths were widely exported and dyers too emigrated from the Southeast Asia.

There is proof however, of ancient and un-broken traditional evidence exists, of extensive trade of the dyed sheets of Masulipatnam as early as the first century of the present era. Fragments of dyed cloth have also been found at excavations at Mohenjo-Daro and Harappa and it is believed that the hand-printed cloths of Machilipatnam were popular in ancient Greece even before the time of the Christ.

**Machilipatnam:**

Machilipatanam, known for vegetable dyed block printed textiles, and then was rule of shia muslim (Qutubshi) dynasty of
Golconda (near modern Hyderabad) which had links with Satvid of Persia. It was probably around this time that the cloth from Masulipatanam started to be exported to Iran.

With the prehistoric Persian links and later Dutch when there was increase for the demand from Europe. European markets wanted furnishings, bedcovers with matching curtains and chair covers with overall floral designs or the pattern of the classic tree of life. Therefore from 17th century to 18th century European demand kept the Kalamkari workers of the coast at full stretch.

Later, small floral motifs became popular for use in garments. The Islamic demands both local and for export, was for prayer mats, hangings, longshirts and clothe belts.

**Srikalahasti**

The small temple town in the extreme south-east corner of modern state of Andhra Pradesh only became an important centre for Kalamkari in 19th century. Temples were major inspiration. The art flourished under the patronage of the temples with their demands for hangings with strong figurative and narrative components. The specialization in figurative work continues till today. They richly displayed episodes from Puranas and other mythological stories for the themes.
Srikalahasti is known for hand painted kalamkari. Srikalahasti was well placed for Kalamkari work, as it lay on the river swarnamukhi which was favourable for dyeing operations and could enjoy the great patronage of the famous temple town of Tirupathi.

**Fall of kalamkari**

With the advent of modern printing technology this age-old craft faced a big challenge. The craftsman hawking their exquisite painstakingly made Kalamkari pieces from door to door for throwaway prices is a rending scene. The increase in the standard of living brought the artists to move out of their profession.

The European cotton industry that established in the 18th century was to sound the death knell of the kalamkari chintz industry. Workers were thrown into penury and master craftsmen died without heirs to their trade secrets.

Production of both Machilipatnam and Srikalahasthi fell into steep decline at the beginning of the 20th century. In 1924 Persia prohibited import of Kalamkari. The period from 1924 to Independence and beyond, saw the near disappearance of the industry at Machilipatnam. At the same time of Srikalahasthi temple patronage declined and local landlords lost wealth and powers of patronage.
Around the middle of the 20th century, the popularity of kalamkari in Sri Kalahasti waned to the point of near disappearance, with most artists focusing on agricultural work and other local occupations.

At this point, around the late 1950s, kalamkari received government attention and sponsorship, through the intervention of art activist, Kamaladevi Chattopadyaya in 1957. Kamaladevi Chattopadyaya helped establish a government-run kalamkari training center that focused on teaching a new generation of artists the techniques and stylistic vocabulary of Kalamkari. The ebb and flow of Kalamkari popularity continues to plague the artistic community at Sri Kalahasti, however at the moment there is an upsurge in interest in the art form by designers, NGOs and entrepreneurs living and working in nearby cities.

A range of products are now created using kalamkari cloth and are available for sale at craft exhibitions, small boutiques and from the artists directly. In addition to the traditional style narrative wall hangings, artists also create hand painted saris, dupattas, personal items and home accessories. Production in Masulipatnam is now aimed at the domestic market and in Srikalahasthi has the foreign tourists market.

In the arid Deccan region where Hyderabad, capital of Andhra Pradesh lies today, some of the most sensual and remarkable traditions of weaving and printing flourish in our
era. To see the artistry and Aesthetic brilliance of Kalamkari painting and printing traditions of Srikalahasti and Machilipatnam is to recognize the attempting spirit of creativity that craftsman’s eye captures.

Something larger than life is expressed in these jewel toned clothes. Here the artisan is spontaneously creative, putting a little of himself into the expressions of design.

Much of socio cultural Deccani environment strongly reflects itself in the great, stylized geometrics of Machilipatnams Miharbas, trees of life, flora fauna based motifs in the crown of divinities portrayed, the regional type is clearly visible, out from unknown into the known. All these little figures that represent the epic persons are recognizable in the sinuous, lissome, dark skinned physique of the people of Andhra Pradesh.

**Natural dyes**

Natural dyes are chemical compounds which impart colors to substrate the colored substrate absorbs all other colors and only reflects the color in which it is dyed.

Natural dyes have been used since time immemorial for their long endurance, soft and lustrous coloring.
Natural dyes are considered as excellent for their range of colors and quality. They are very appealing to eyes they retain great beauty and their fastness even after long period.

Since natural dyes are being based on raw material available in nature, they do not create any pollution problems, instead some of the effluents are used as fertilizers in agricultural field. And the other factor of importance is their aesthetic appeal. In addition natural dyes are soothing to human eyes.

**Classification of dyes:**

Dyes are classified based on their origination as follows:

1. Natural dyes:
   - a) Vegetable dyes: e.g. haranda, turmeric, onion, etc.
   - b) Animal dyes: e.g. lac, cochineal, etc

2. Mineral dyes: e.g. Persian blue, chrome yellow, organic pigments, etc.

3. Synthetic dyes: e.g. Colar tar dyes.

Vegetable dyed fabrics are of three categories — yarn dyed in natural colors and woven material block printed with natural dyes and kalamkari where kalam or pen used to draw beautiful designs on cloth. Today the most popular vegetable dyes are
from Andhra Pradesh, Madhya Pradesh, Rajasthan and Gujarat and Orissa.

**A Note on Natural dyes:**

Natural dyes comprise of those colors, which are derived from plant or animal sources. The art of dyeing began with dawn of civilization by many thousands of years and was first developed in the east.

Vegetable dyes are obtained from all parts of the plant such as peels, roots, wood, bark, leaves, flowers and seeds. A number of indigenous dye yielding plants had been referred to in the books, but their available and other details are not fully dealt with, so in the absence of proper documentation many of the ingredients which were in use in the past are not being used presently.

There is not much published information on application of indigenous coloring matters to textile. To review the indigenous colors the all India Handicraft Board started a pioneering center at Kalakshetra (Chennai) during the year 1975. This research lab functioned till 1978 and then shifted to Bangalore.

Out of 300 colour-yielding materials the dye research lab was able to collect 120 materials and conduct experiments on cotton for their tinctorial (value). Most of them showed effective tinctorial power.
In kalamkari art, the materials used presently are, pomegranate shell for brownish yellow color, Arabic gum tree bark for brown. Ratan jothi for grey, alizarin for red, etc.

In ancient times, first design outlines are free one and drawn without tracing or sealing with black dye. Then subsequent colors are painted with the reed pen. After painting each colour, the cloth is washed the following day in running water. This art of painting the cloth with reed pen in is termed “kalamkari”. Nowadays the outlines are printed using blocks and the filling is done in resist dyeing method or by hand painting after which the cloth is washed and dried.

All natural dyes, that were known in early 19th century and before were natural in origin, they are mainly extracted from roots, stems, leaves, flowers, fruits, barks and seeds of various plants. Some of them were also of animal and mineral origin.

The natural dyes are mellow and lovely. These colors have to convert into their extraction in water before they are applied on the textile fabrics. The extraction procedure required lot of skill and experience.

The discovery of synthetic dyes in the west in 19th century dealt a massive blow to the Indian textile industry. Synthetic dyes have ease of application and availability in standard form, but because of the hazardous by products produced by the synthetic dye stuff industry, and use of
carcinogenic intermediaries, researches attention was focused again on revival of the old art of dying with natural dyes.

**History of natural dyes**

Dyeing was known by the men of Neolithic age i.e., as far back as 10,000 B.C. to 5000 BC. At the time, the common colours in use were red, yellow, brown, purple and grey. Studies in the analysis of natural colorants in textiles are a fascinating subject, which started as early as 1930’s.

One of the first chemists to analyze natural dye stuffs was the French chemist Pfister. Until the middle of last century, coloring matters of natural origin were in use. Birth of synthetic dyestuffs in the year 1856 attracted the dyeing industry because of its bright colors and good fastness properties, cost resulting in replacement the natural dyes.

Long use of these dyes have created many health hazards and found to be highly mutagenic. This awareness has necessitated a need to look at alternative but safe coloring system. A most natural direction to look at will be natural coloring matter derived from plant and animal origins. Earlier these colorings matters were discarded because of poor tinctorial value, complexity of application procedures and relatively poor fastness properties (wash, light and perspiration).
However the health hazards associated with all classes of synthetic dyes has necessitated second look at these natural coloring materials with new interest.

The efforts that needed to focus attention on dyes:

- Improved application procedures.
- Better mordents.
- Economic extraction (dye) processes.
- After treatment to improve fastness properties.

Many countries including Germany have banned the use of synthetic dyes especially those derived from azo series. Hence to look for textile dyes with natural dyes. But expert potential for dyed fabric and natural dyes are being used in every small sector, garments from India, is in great jeopardy, if synthetic dyes are used.

Research in the field of natural coloring matters had gained considerable momentum in the last decade owing to its advantages of being eco—friendly the credit goes to dedicated traditional craftsmen who kept this exquisite and unique-art of dyeing with natural dyes from completely fading in this concept credit also goes to kalamkari workers. The re-introductions of
this old age skill, is an indication of old global realization on chemical pollutants.

Natural dyes being based on raw materials that are biocompatible arid biodegradable, do not create any pollution problem. The waste in process becomes an ideal fertilizer for use in agricultural fields. One of the most, fascinating aspects of natural dyes is the glow and warmth and charming variability of the colors in dyeing with natural dyes, it is difficult stretch for the color palette to include every desired color in final color scheme of their printers design.

Nature is so vivid, but still there are some limitations. One has to accept whatever color is available in the given combination of minerals and vegetable materials.

Depending upon the season, the source of supply of raw materials or the age of plant that is used for dyeing, the final tone, depth shade of the finished product would be altered to some extent. Hence, a wide range of tolerance is essential in the use of the natural products in dyeing.

**Designs of Kalamkari**

Traditionally floral, animal and structures were used in the designs. In geometric and floral designs, motifs of orthodox Islam were preferred, where there is a repetition of the theme. Although the use of the kalam would provide increased scope
for artistic ingenuity, where price was an important factor, a quicker method would have distinct advantages.

During the 19th century, the block appears to have placed on the costs and at some undetermined point of time it appears to have replaced the pouncing techniques. Although in Gujarat the block has been used for figurative representation, as is evident in the category of divine parda or matajine pachedu, the kalam has clear advantages where figurative themes have predominated. But in Srikalahasti and Kumbakonam in the south, only kalam is being used even today.

Centres of printing are known to have sprung up in Central India, Uttar Pradesh and South India. It was in this southern centres of printing that the craft of chipa found richest expression. Taking for inspiration the tradition of Kanjeevaram, Tanjore, Cochin, Padmanabhapur and the great printing centers of Masulipatnam. Pallakolu, Srikalahasthi, Nagapatnam, Salem, Madurai and Tanjore produced Kalamkari cloths that are unsurpassed in vigour of design and freshness and richness of colour.

They are like the fresco paintings, illustrated stories from the Puranic legends and from the Ramayana and the Mahabharata. The myths were pictured in several complete units which were then linked together to reveal the story.

A deeper study into the treatment of design and decorative motifs found in resist-dyed cloths is necessary before
we arrive at any definite conclusion. It is not however possible to dismiss the resemblance’s as insignificant. The most famous centres are Rajpur near Palanpur, Baroda and Ahmadabad in Guajarat, Cutch in Kaithiawar and Sanganer, Bagru Jodhpur and Udaipur.

The inspiration behind the printed clothes of this period is the same inspiration that produced the floral decorative motifs in moghul miniature painting, the enamel work the exquisite precious stone work and inlay work in marble so often used in the architecture of Mughals.

There are two distinctive styles of Kalamkari art in India. the Srikalahasti style, which is essentially narrative in character & often religious and the other, the Machalipatnam style of art, which has wider application in garments & articles for daily use by blocks.

Unlike other centres of Kalamkari, the craftsmen of Srikalahasti still use the ancient techniques of dyeing, which they had inherited from the earliest days. The wall hangings drawn in free hand are the most popular creations of the Craftsmen. Hindu mythology is the main of themes. Some of the craftsmen in Srikalahasti also produce beautiful textile materials drawn free hand.
Materials used in Kalamkari

The material used in Kalamkari and in various processes their uses are mentioned below.

Types of fabrics used

The types of fabrics used are cotton and silk. Cotton fabric used for Kalamkari art is 100% cotton. Different counts of fabric are used depending on the type of article and or desired. The counts of fabric vary from 5 to 120 counts.

Silk fabric is not generally preferred, as it does not give satisfactory results as of cotton fabric. When compared to cotton fabric, silk gives only 40 -50% result that of cotton. Silk fabrics do not give a bright effect of colour and are not colour fast. Weighted fabrics give better results. Many private and government fabric manufacturers supply the fabrics required for Kalamkari.

Process

Washing / Scouring Cloth

Methods for scouring and bleaching of gada cloth vary. Simply immerse gada cloth in cool water over night then beat the wet cloth to remove further impurities like oil, dust, starch. Gada cotton fabric is scoured by immersing it overnight in a
water. The cloth is exposed to the sun for a day by spreading it on the banks of the river. Water is continually sprinkled on the cloth to prevent it from drying. In the evening the cloth is washed by folding it and slapping it against a washing stone, followed by rinsing in the flowing river.

**Application of myrobalam solution**

On the second day the sprinkling is stopped in the late evening to allow the cloth to dry.

The first step in making a kalamkari painting is the treatment of gada, or unbleached cotton cloth in kaccha or myrobalam and buffalo milk solution. A desired size of gada cloth is scoured and bleached before it is treated with the myrobalam/milk solution.

A paste of powdered myrobalam fruit (karakkai, Tchebula) is mixed in fresh, unheated buffalo milk. For about 6 meters of cloth, 100 grams of myrobalam powder and about 2 liters of milk are needed. This solution is kept for 1 hour to extract tannic acid from the seeds.

The cloth is then soaked in the myrobalam solution for 15 minutes, taking care to see that the entire length of cloth is sufficiently saturated. The cloth takes on a light yellow color.
It is then squeezed/twisted to remove excess solution, and dried in the sun on a sandy riverbank for approximately 1 hour.

The cloth is folded and stored in a cool dry place for up to 3 months. The high fat content of the milk prevents dye from spreading beyond the point of application. The immature myrobalam contains tannic acid that acts as the mordant component for the black dye (kasimi).

**KALAM**

The kalam, or bamboo pen, is the most important tool in painting kalamkari and gives the artform its name: kalam (pen) kari (work/action/agent). A kalam is made from bamboo splinters measuring about 4-6 inches in length, sharpened to a tip of desired thickness.

A thicker point is preferred for filling in background color, while a finer point like pencil is used for outlines. About 1 to 1 1/2 inches from the tip of the kalam, is a dye reservoir made from small rags of cotton that are wound around the bamboo and tied in place by cotton thread. This reservoir absorbs and retains the dye solution.

Artists regulate the flow of dye down the bamboo Kalam to the point through deliberate and controlled squeezing of the reservoir. In this manner an artist can vary the thickness
of the lines s/he draws by skilfully moving the tip of the kalam over the cloth.

Kalams with thinner points are sometimes slit from the tip to the dye reservoir, and filled with a few strands of hair or thread to facilitate the flow of black dye. The reservoir of the Kalam is never allowed to dry. It is washed and dried thoroughly before storage.

CHARCOAL SKETCH

Most artists will sketch a charcoal outline on the prepared cloth before application of black dye (kasimi). Some use charred tamarind twigs to draw, while others use commercially manufactured charcoal or lead pencils.

The following steps are taken to prepare tamarind twigs (chinta boggu) for sketching:

- Dried twigs that have fallen around the tree, are gathered and broken to a length of 3-7 inches.
- To char the twigs, a shallow circular pit is scooped out in dry soil and a heap of sand is kept besides the pit.
- The dry twigs are piled up to a height of 2-3 inches above the ground level. Some newspaper is also placed among the twigs to facilitate burning. The twigs and paper are set on fire.
• When the flame dies down, sand is thrown over the twigs and they are set to cool in the pit for 3-4 hours.

• This slow cooling makes the pencils tough. The ash coloured twigs are then unearthed, rolled between fingers to remove greyish bark until black color is revealed.

• The pencils so prepared can be stored until further use (do not remove bark before charring; else the twigs will turn to ash).

**KASIMI (Black)**

Black ink/dye or kasimi is at the basis of all traditional kalamkari paintings. It is used to outline all figures, write texts and narrative descriptions, and is the first ink to be applied to myrobalam-treated cloth. Kasimi is made from a fermented solution of rusted iron pieces and sugarcane jaggery.

Scrap bits of iron are mixed with about 10 liters of water and one kg of jaggery until it is thin to the touch, and sweet to the taste. Keep the kasimi solution in an earthen pot, cover and let ferment for 12-15 days (longer if in a cooler climate).

A brown/grey/blackish froth forms at the surface, indicating that the solution is ready. The iron acetate is strained
through cotton cloth into another container (earthenware, plastic, stainless steel, glass). If stored in a cool place, the solution can be kept up to one year. Iron bits can be reused in later preparations of the solution.

Kasmi solution is used for outlining of figures/motifs and for filling in larger areas in black color. When the iron acetate is applied to treated cloth, a chemical reaction takes place between the iron acetate and the myrobalam solution, causing the kasimi to first appear as a dull, brownish gray, and after a few seconds reach a deep black color.

Artists use a cotton rag (or the reservoir ball on the side of the kalam) to dab/clean up any excess or unwanted ink that falls on the cloth. It takes about 5 minutes for the kasimi to fully dry on the cloth.

When first applying kasimi to the cloth, the color appears dull, brown, gray and takes a few moments to turn a deep black.

**CHAVALKODI & SURUDUPATTI**

**(Pink, Red, Maroon)**

Red shades are acquired through a lengthy alum mordant painting/dyeing process. Alum powder (50 grms ) is dissolved in warm water (1litre) until a thin and watery
consistency is achieved. Artists paint alum solution on all portions of the cloth that should appear red.

The cloth is allowed to dry for two days. It is then rinsed in flowing river water to remove excess alum, squeezed and dried in the sunlight. The alum solution can be stored in glass or plastic containers for several months. Once the alum solution is dried, water is brought to a boil in a large copper vessel.

Chavalikodi root and Surudupatti bark are added to the boiling water. After about 20 minutes, submerge the alum-painted cloth and boil for about 40 minutes. The cloth is then removed, rinsed with cold water, and let dry. For a darker shade of red/multiple shades of red in a single piece, the entire process is repeated until desired colour are achieved. Some also apply lime juice onto portions of cloth that have already been dyed red, in order to obtain a light pink color.

Typically lime juice is used to create pink line details on red figures or on floral motifs. At present it is important to note that most artists are using a synthetic form of alizerine for obtaining red colours on cloth. Typically the alizerine is mixed with alum and painted directly onto the cloth, however some artists maintain the two-step process of painting alum first then dyeing the cloth in a red dye bath (in this case alizerine).
In the evening the cloth is returned to the sheep dung solution and the process is repeated for 2-4 days, depending on the whiteness desired. Before yellow or additional colors are added, the cloth is again treated in the myrobalam-milk solution.

Yellow colour

A yellowish colored dye is obtained by mixing 150 grams of powdered myrobalam flowers and 4 liters of boiling water in an earthen or metal pot. The solution is stirred for some time and then set to cool for about 2-3 hours.

Some artists have indicated that a better, darker shade of yellow is obtained if the solution is left to mature for a week in a glass (or non-absorbent) vessel. Before painting the yellow dye solution onto cloth, 10 grams of alum is added. All portions of a cloth that should appear yellow and green are painted with this yellow solution. The dye can be stored up to 6 months in a cool place.

The yellow solution, if set for several days, can turn a slight greenish tint. Otherwise, green can be obtain by painting portions with the myrobalam yellow solution, then treating the same portion of cloth with indigo dye. Once myrobalam yellow painting is completed, the cloth is dried in the shade. The next
day, the cloth is washed well in flowing river water and dried in the sunlight.

Sometimes pomegranate rinds are used to obtain a yellow color dye. About 200 grams of rinds are powdered and boiled in 3 liters of water. Once cooled, about 8-10 grams of alum is added to the solution. The pomegranate rind solution can then be painted directly onto cloth, creating a dullish yellow color.

**Indigo**

When indigo is applied by kalam / painting directly to the cloth, the dye is not fast. To insure fastness and stability of indigo, it is necessary to submerge the cloth in an indigo vat, using a resistant (like wax) to protect portions of the cloth that should not be blue.

While indigo is used in limited situations by kalamkari artists in Sri Kalahasti, the following method has been cited for indigo painting onto cloth. If this technique for indigo application was used, it would likely fade easily and disappear if washed.

1) An earthen pot is buried in the earth, filled with powdered indigo cakes (1/2 kg) and water (15 liters).

2) Another earthen pot is half-buried in the ground. The half that is left exposed outside is coated with lime. On top of this pot another earthen pot is placed,
with a hole at the bottom. The upper pot is filled with paddy husk. Two solutions are then created, one a mixture of alkaline dirt (8 kg) and water (5 liters), the other a mixture of shell-lime (5kg) and water (5 liters). These solutions are poured over the upper pot, filtered through the husks, and drained into the lower pot. A lid is placed over the upper pot. The filtered alkaline-lime solution, collected in the lower pot, is called appala karam.

3) In a small pot, 2 kg thagarsa (cassia tora or tandipaginjalu) seeds are boiled in an aluminium pot with 3-4 litres of water

**Green**

For green, blue & yellow are mixed. After filling of colours and drying, the cloth is spread and gently rinsed in water. The colours get evenly spread and brighten up. kalamkari cloth is now ready.

**KALAMKARI PAINTINGS MACHILIPATNAM MAGIC**

Originally used as decorative wall hangings of the Muslim Royalty of South India, Kalamkari the hand painted and block printed textile, craft, was a Persian – inspired, with “the tree of life” as dominant motif against a profusion of flowers, creepers and Birds.
The Machilipatnam “Mihrab” created by master artisan Mr. P.M. Easwarudu and his father Nageshwra Rao for the festival of India in 1982 is a master piece of Kalamkari.

Sadly Machilipatnam kalamkari craft went in to near oblivion in the early 20th century, due to changing of styles and the patronage.

It was resuscitated in the 1960’s by visionaries like Kamala Devi chottobadyaya, Nelli Sethna and Pupul Jayakar.

Painstakingly going through old Kalamkari collections and loads of forgotten blocks and working with artisans such as Easwardu they revived Kalamkari. Easwaradu, who was an integral part of this revival, was in Chennai to participate in crafts Bazaar, organized by crafts council of India.

Studied the craft from old manuscripts and Books and got hold of ancient printing. Nelli Sethna stayed in the village, and exposed artisans to a new kalamkari format, borders Bed sheets, Table linen and sarees using old Blocks. So beautiful were her format that we only had to say ‘This is Nelli Sethna design’.

**KALAMKARI FIELD RESEARCH :**

Polavaram – “Easwardu Kalamkari Center”, of the two popular Kalamkari centers in Andhra Pradesh. (Sri kalahasti and Machilipatnam).
I have chosen Polavaram near Machilipatnam in Krishna district about 60 Km. from Vijayawada, for my field study.

We went by car on a crisp morning travelling along the coconut palm an either side of the road with paddy fields dancing to the cool breeze. The scene was so exhilarating. We reached around 2’o clock in the afternoon and were warmly received by the 3rd generation artisan of Easwardu family, Nageswar Rao, son of Easwardu.

Easwaradu has become old but active enough to interact with us and given certain details regarding the establishment of his unit.

It seems that there are more than 150 families involved in the kalamkari printing process, directly or indirectly. He instructed his son to take us to his unit to show us around and do the needful.

Nageshwara Rao, an M.B.A from IIM, is well versed in the trade and is manging the affairs of the unit and promoting the block printing across the borders, while exporting the kalamkari – Finished – Products.

The unit is a small tiled building with large open area for starching, stretching and drying the cloth. The tiled area has as many as twenty tables on which the artisans were working their blocks.
We have understood the process of print – making just by looking at various tables with designs, half – finished and at different stages. Surrounded by his incredible collection of kalamkari, Bed linen, Sarees, Yardage, Scarves and Stoles, he speaks of his passion for Kalamkari its, present and future.

The great revival of kalamkari

By the 1960’s kalamkari all but died out. At this juncture, Kamala Devi helped the Balyagudem cooperative industry one organization while working with kalamkari artisans. The craft got a further lease of life, with Nelli Sethna’s interventaion.

References :

1. Kalamkari - Painted & Printed Fabrics from Andhra Pradesh - Sethna N. Belly. H

2. Indian Painted & Printed fabrics - Irwin John and Margaret Hal. - Calico Museum of Textiles, Head band - 1971.

3. Indias Popular Paintings - Rossi, Barbara - The occean of paintings, Hongkong.


**Internet Sources :**


4. thehindu.com by haragopal singh
**Photo References:**

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<th>Age</th>
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<td>Eswarudu</td>
<td>Traditional Artist</td>
<td>70</td>
<td>Eswarudu Polavaram Post Krishna Dist Andhra Pradesh</td>
<td>No Education</td>
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<tr>
<td>2.</td>
<td>Nageswar Rao</td>
<td>Traditional Artist</td>
<td>40</td>
<td>C/o. Eswarudu Polavaram Post Krishna Dist Andhra Pradesh</td>
<td>MBA (IIM)</td>
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<td></td>
<td>S/o. Eswarudu</td>
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<td>3.</td>
<td>S. K. Raja Velu</td>
<td>Professional Artist</td>
<td>72</td>
<td>Main Road, Phirangipuram Guntur Dt.</td>
<td>DFA</td>
</tr>
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<td>4.</td>
<td>Jonnalagadda Gurappa Chetty</td>
<td>Kalamkari Worker</td>
<td>78</td>
<td>Flat No.4, Near Sri Shirdi Sai Temple, Chennai Road Sri Kalahasti - AP</td>
<td>Intermediate</td>
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<td>5.</td>
<td>J. Niranjan Chetty</td>
<td>Traditional Kalamkari Worker</td>
<td>48</td>
<td>Flat No.4, Near Sri Shirdi Sai Temple, Chennai Road Sri Kalahasti - AP</td>
<td>Graduate</td>
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<td>6.</td>
<td>S. Subrahmanyam</td>
<td>Traditional Kalamkari Worker</td>
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<td>H.No. 16/61, Panagal Srikalahasti, Chittoor Dt Andhra Pradesh</td>
<td>No Education</td>
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<td>7.</td>
<td>M. Nagaraj</td>
<td>Traditional Kalamkari Worker</td>
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<td>15/585, BP Agravaram Srikalahasti, Andhra Pradesh</td>
<td>10th Class</td>
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