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THE SACRED YELLOW

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The Indus Valley Civilization, one of the oldest in the world, dates back at least 5000 years. India has been the treasure-house of ancient textile skills and knowledge of natural dyes.

The Indian subcontinent has gone through many incursions including Arab, Turkish, and European, by the 19th Century, India emerged as a multi-lingual, multi-religious, independent country like a rainbow of cultures.

My presentation about sacred yellow is a journey through this rainbow of Indian culture where the color yellow is very symbolic and is used in different ways in various religious and social ceremonies.

As I show in this presentation, the colors and diversity are synonymous with Indian culture, beliefs and way of life.



Figure 1. Kalamkari tree of life.

The use of natural colors dates back thousands of years in all civilizations. It even predates dye application on cloth and the spinning of yarn to weave cloth. Natural colors were used in cosmetics, spa treatment and the coloring of hair. In India we consider yellow turmeric powder to be auspicious as well as antiseptic. Also in Southeast Asian cultures yellow is considered a sacred color and is used in various festivals, temples and ceremonies

In the Indian *Holi* festival, which celebrates the victory of good over evil, people now throw non-natural colors in the form of liquids and powders at each other to mark the celebration. In ancient times these colours came from the flowers of the flame-of-the-forest tree which produced a brilliant hue of saffron-red, known as *Gulal*. While the flowers are brilliant orange in color the dye is fugitive when used on cloth and so far a method for fixing it to textiles is unknown.

Yellow in Hinduism is the color of Lord Vishnu, the color of purity, victory, chastity and surprisingly sensuality too, since in spring in India unmarried girls wear yellow clothes. Some tribes believe that the color yellow has powers to keep evil spirits away. Holy thread is tied on the wrist of disciples by the spiritual Guru as a mark of protection. In the southern part of India, yellow thread is tied around the neck of the bride by the groom symbolizing marriage and its sanctity. It is clear that yellow has much symbolic meaning.

In Buddhism as well as other religions, the color saffron-yellow has great symbolic significance. When we see pictures of monks and priests wearing yellow attire, we often wonder what must have been the source of yellow dye in former times. We have a number of books and research journals that describe the natural ingredients used for dyeing cloth and how their popularity grew in the late 18th century and started to decline when synthetic dyes were invented.

From the 14th century onwards, we have evidence of textile trade through the Silk Route between India and several Asian countries such as Indonesia, Malaysia, China, including Sri Lanka. The textile trade through the East India Company thrived between the mid-16th and mid-17th centuries. Many books have covered the history of popular Indian trade textiles such as *Palampores*, *Salampores* and Chintz exported from the Coromandel Coast of South India.

These textiles include hand-painted *Kalamkari*, which depicts Gods and Goddesses using natural yellow. In some cases cow milk is used as a mordant even today.

Now environmental consciousness has brought about increased awareness in the fashion and clothing business. The scale of natural dye use has remained at the cottage/small scale level in India, that is, at the artisan level. Elsewhere in the world scientific research has been directed towards standardization, the improvement of fastness and development on an industrial scale. I now show the different types of natural yellows we use in India especially in our own production center at the Creative Bee dye farm.

Natural dye practice in India is usually done on a small scale, at the cottage level, because of the lack of infrastructure. Now however the Government of India's Ministry of Textiles has launched a common facility program which provides infrastructure for dyeing and weaving as well as assistance for design and marketing.

In this presentation I focus only on yellow as a natural dye. It is one of the most popular ancient natural colors, being extracted from many natural ingredients such as: weld, *fusti*, *osage*, chamomile, *tesu*, *dolu*, barberry, safflower, *warberrar*, *kamala-kapila*, pomegranate rind, *myrabolan* gall and marigold. I now show the last three categories of natural yellows, which have been widely used in India because they are economically viable, can be procured in bulk and have good light and rubbing

fastness. The knowledge about the dye techniques has still been safeguarded by most of the traditional and tribal dyers.

In our own production center at the Creative Bee dye farm, we have developed specialized recipes of all the natural dyes we use. Our production is 100% eco-friendly. Our dye and print processes are such that the fabric [silk, cotton, wool] goes through rinsing more than five times, washing away the maximum residue of the mordant making them user-friendly. We use no electricity at any stage of our production. Our textiles are treated with dyes as fashion products, and they have natural variations in dye and print unless otherwise specified by the bulk buyers.

Marigold: In India many farmers cultivate marigold flowers which are used a lot in Hindu rituals. Next to every temple one will see a vendor doing good business selling these flowers.

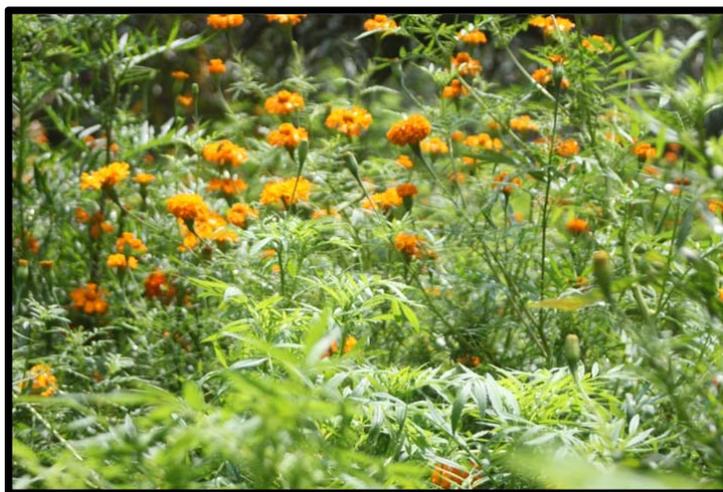


Figure 2. Marigold plants.

We produce our own Marigold crop at dye farm. We harvest the flowers after 60 days, dry them and store the dried petals. We do not use the seedpods.

Marigold dye: Dried petals are boiled in hot water to dissolve the color of the flower. We mix alkali while boiling to speed up the extraction. Alkali is traditionally made with wood ash and slaked lime, by boiling these in two to one proportion, then sieving through a fine muslin cloth and adding the required amount to the marigold dye pot which has to be boiled for half an hour, left for fermentation overnight, filtered and kept ready for dyeing. We can then make dye print paste by adding natural gum to it.

Mordants: For marigold dyeing there are two methods of applying mordant.

Pre-mordant: for marigold, natural and mineral mordant such as milk, alum, copper and iron (ferrous) sulphate are used. If we want consistent and even bulk production, we usually do pre-mordant application; ratio is 1 gram to 5 grams per 10 liters of water. After applying the mordant, we allow it to dry for an hour before dyeing in the prepared dye bath. We use stainless steel vessels for this process as copper or brass can react and change the color.

Post-Mordant: to achieve a variety of color shades in one batch, we use post-mordant or cross-mordant (use of more than one mordant).

Pomegranate rind: We make a few more shades of yellow, such as khaki and ochre. In addition green is made out of pomegranate. At our farm we have about 50 pomegranate trees. Usually birds come and eat the mature fruit so only shells of the fruit remain on the trees. These are harvested and dried. To make a dye bath or paste we soak these dried fruit shells in water overnight and boil them the following day until the water content is reduced to half [proportion is one kilo to five liters.] This is then left overnight, made into a thick pulp and sieved through a cloth filter. This dye liquid is then converted to dye paste for printing by using tamarind seed gum or gum Arabic.

Myrabolan gall: These galls are harvested from the forest. Their local name is *Karakkai pu*. The extraction process is similar to that of pomegranate. The color ranges from fresh light yellow to ochre.

These are the various natural yellow dye applications which are popular in India and at our Creative Bee dye farm. However quality standards for natural dyes vary widely.

Yellow as a natural color is used in other products too. In India our artisans make wooden toys and handicrafts from the branches of the white wood tree - *Tella Punaki* - the diameter of which is only three to four inches. These craft products are colored with a variety of natural colors. Yellow is made from marigold, turmeric and myrabolan galls by mixing the dye with natural lacquer. This craft provides employment to over 60 families in a village called Ettikopaka, in Andhra Pradesh, India. The Creative Bee Foundation runs a common facility center in this village.