

Myths, traditions and fate of multipurpose *Bombax ceiba* L. - An appraisal

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Plants form an integral part of many rites, rituals, folk tales, customs and traditions. Silk cotton tree (*Bombax ceiba* L.), locally known as *semal*, is one such tree species, quite popular among various tribal communities. The plant is being exploited largely for medicinal and commercial purposes but traditional burning of this tree in *Holika-dahan*, which is an important festival of North India, is jeopardizing its survival in the tribal dominated Udaipur district of Rajasthan. An ethnobotanical survey carried out revealed that about 1,500-2,000 trees or branches of *B. ceiba* were cut and burnt during *Holi* festival in the villages around the city. Therefore, there is an urgent need to develop some sustainable conservation strategies and create awareness among rural and urban communities in order to preserve such a tree of immense medicinal value.

Keywords: Silk cotton tree, Ethnomedicine, Ethnoconservation, Myths, Traditions, *Bhil*, *Garasia*, *Kathodi*

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Bombax ceiba Linn. (family Bombacaceae), the large, beautiful and deciduous tree is found throughout India and other parts of tropical and sub-tropical Asia, Australia and Africa ascending the hills up to 1,500 m¹. It is known by different names such as Red Silk Cotton tree, Indian Kapok tree (English), *Shalmali* (Sanskrit), *Semal* (Hindi), *Shimul* (Bengali), *Mullilavu* (Malyalam), *Kondaburuga* (Telgu) in different languages². The plant is even mentioned in *Mahabharata* proving its presence since a long time³. Raj Nighantu describes this plant and its medicinal value².

According to Ayurveda, it has stimulant, astringent, haemostatic, aphrodisiac, diuretic, antidiarrhoeal, cardiotoxic, emetic, demulcent, antidysenteric, alterative and antipyretic properties^{4,5}. Besides having immense medicinal potential, it has also been used for other commercial and industrial purposes¹. Many customs, myths and traditions are related to this old tree. As old is the tree, so as old are these myths and traditions, which are perpetuated from generation to generation and now well dispersed into urban areas. Some of them reflect intelligent approaches for its sustainable use and preservation

while some are seriously causing harm to this beneficial tree species. The paper concentrates on some deep rooted traditions and myths related with *B. ceiba* and in particular the tradition of burning of the tree in *Holi*, a religious festival, which is causing immense damage to the survival of the plant in Udaipur district⁶. In this context, it is important to note that Udaipur district has the highest percentage of tribal population in terms of its share to the total tribal population of the state⁷. *Bhil*, *Garasia* and *Kathodi* are the major tribes of this region besides *Meena* and *Damor* tribes (Figs.1 & 2). Furthermore, the study also suggests some sustainable conservation strategies to protect the multipurpose tree species.

Methodology

Besides, compiling information from the literature about indigenous and commercial uses of *B. ceiba* and various myths and traditions related with the tree, an ethnobotanical survey during January to March 2007 was also carried out in Udaipur city and nearby villages to get information regarding the tradition of burning the tree in *Holika-dahan*. After taking informed consent, informal interviews were conducted with tribal people, their medicinemen and women, knowledgeable elderly individuals and

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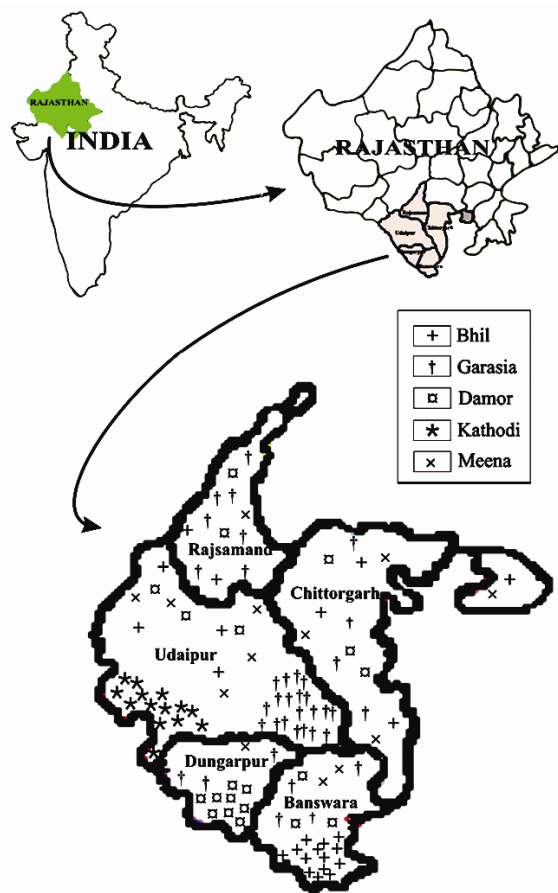


Fig. 1– Location map of the study area

village headman. Respondents were selected randomly representing both sexes and age groups. Besides this, other methods were also used such as observations, enquiries and participation in tribal ceremonies. Further, the information was also collected from forest officials, school teachers, Government physicians, veterinary doctors, who have accrued enough knowledge about tribal customs due to their long association with tribals and long stay in the rural and tribal areas.

Ethnomedicinal and commercial uses

B. ceiba (Fig.3), one of the important plant species is used in various indigenous systems of medicine in India, China and Southeast Asian countries^{8,9}. Almost every part of the plant is used as medicine and its roots and flowers are used for curing maximum number of ailments. Its young roots are roasted in the fire and eaten like roasted sweet potato while some tribes eat even raw roots during famine or otherwise also¹. Some of the ethnomedicinal uses of *B. ceiba* prevalent among different tribes of India have been tabulated (Table 1)¹⁰⁻²². The plant has been found to

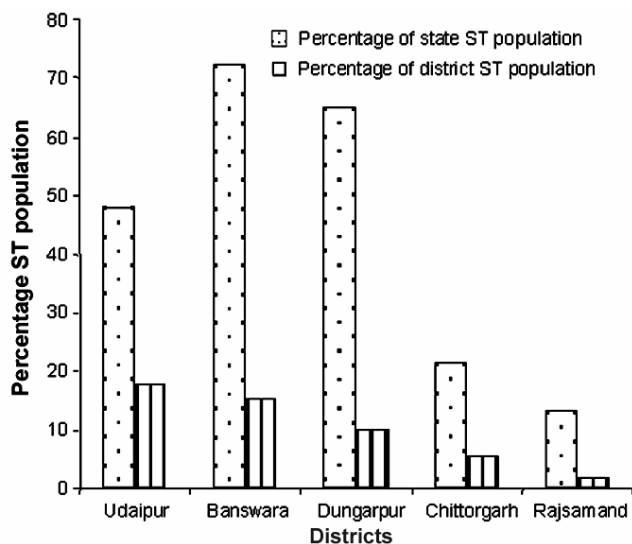


Fig. 2–Percentage of ST population distribution

possess strong antiinflammatory, antibacterial, antiviral, analgesic, hepatoprotective, antioxidant, oxytocic, hypotensive, hypoglycaemic, antiangiogenic, antimutagenic, as well as fibrinolysis enhancing activities²³⁻²⁹.

Besides the ethnomedicinal uses, *B. ceiba* is also used for various commercial purposes. It is an important multipurpose tree used for agroforestry, providing food, fodder, fuel and fiber. Due to high protein content in the leaves, the plant is the most preferred fodder species. It is widely used in silvi-pastoral system of agroforestry, to meet the feed requirements of livestock during the fodder deficit period in winter³⁰. Wood of this plant is strong, elastic and durable which is best suited for ship, boat and catamaran building³¹. It is most widely used in match-industry and for planking ceilings, canoes, shingles, toys, scabbards, coffins, well curbs, brush-handles and artifact production^{1,32}. *Kathodi* tribe of Rajasthan make use of its wood for preparing musical instruments such as a membranophonic *Dholak* and *Tambura* while *Bhil* tribe use its wood to make spoons for their kitchen^{14,33}. Oil isolated from its seeds is comparable to true Kapok plant and can be used as an edible oil substitute for cottonseed oil, for soap making and as an illuminant. Floss isolated from its fruits is an excellent material for making padded surgical dressings, insulating material for refrigerators, soundproof covers and walls and as being vermin-proof; it is most suitable for making cushions, pillows and upholstery¹. The plant is best matchwood resource and useful for reclamation of

wastelands and mine spoils^{43,44}. So, it can also be utilized to improve the barren soil and gain the economic benefits simultaneously.

Myths, traditions and ethnoconservation

There are many myths, legends, folktales, songs, customs and traditions associated with this large deciduous tree among various tribes of India. Some of these are indirect projections of mentality showing concern for its sustainable use and conservation, while some are seriously damaging its existence in nature. Ethnoconservation practices prevalent among the tribes and dispersed in the urban areas are primarily based on either dreadful imposition or God hood concept. In the former case, *B. ceiba* is said to be the tree of infernal region and the thorny appearance (*Kantakdruma*) has led it to be called as *Yamadruma*, the tree of *Yama* (the lord of hell)². The fear is so much engraved that a myth prevails among tribes that as if a healthy person visualizes it even in dreams, he becomes ill and if an ill person sees it in dreams, he will be dying soon³⁴. It is considered as inauspicious in Dungarpur district of Udaipur division, due to hooting of owls that make their home on it³³. *Bhil* tribe of Udaipur division has another superstitious fear associated with the silk cotton obtained from its fruits. According to them, mattresses and pillows filled with its plumed seeds will cause paralysis of the user and so they do not use its cotton, thus indirectly protecting its natural dispersal source¹⁴. Besides this, its wood is not used as fuel by tribals of Rajasthan as it is believed that it will bring bad luck to them³⁵. Even the ancient text, *Brahamavaivarta Purana* prohibits use of the plant for brushing the teeth¹³. This all dreary part of the tree led indirectly for its survival and preservation in nature for a long time. Imparting the God hood concept is another way for ethnoconservation of plants prevalent among the tribes. This tree has been considered as God tree since *vedic* times. It is said to be the *nakshatra* tree of people born in *Jyestha* constellation and therefore, plantation of *B. ceiba* is expected³⁶. Concept of God tree is that nobody can use that tree even as medicine. The tree was called to be home of female tree spirits *Yakshis* and it was worshipped by women for gift of children and thus preserved for a long time³⁷.

Semlia clan among *Bhil* tribe in Rajasthan considers *B. ceiba* as a tree totem and hence respect, worship,

guard and conserve the tree. Moreover, *Garasia* tribe present in Bosa village near Sirohi district in Rajasthan protects the tree in a sacred grove called as *Maad Bavasi*³³. *Khuman* clan of *Meetei* community in Manipur does not use or consume *B. ceiba* in any form and conserve the tree by simply employing environmental ethics in consumption or harvesting of plants³⁸. Similarly, tribal communities of Madhya Pradesh and Chattisgarh states, also use various strategies to protect the tree. For example while employing it for medicine collection, a clock wise selection of one group of tree; using different group of trees at a time or collecting plant parts on specific days of the week are the ethnoconservation practices used by these tribals¹⁵. Folk songs also give an idea of plants growing in the surrounding environs of tribals and throw light on most popular plant based practices in usage, in various spheres of their lives. *Garasia* tribe identify *B. ceiba* tree so much with themselves that they sing a song *Hemlo ropalo re* (meaning *O plant the hemlo; hemlo = semal*). In this song, moon and clouds have been given the status of its father and mother, respectively and generally village chief and his wife are assigned the role of its brother and sister-in-law and then a request is made to plant the tree and take care of it by considering it as one's own relative. Shade of the tree is also praised in a song by *Garasia* tribals. Even in some songs, a warning is given to the tribals who are cutting the tree, on seeing forest guards coming on their truck for patrolling³³. Among all the customs and traditions related to *B. ceiba*, the one which is most dangerous and widely prevalent even in urban masses of Udaipur city is the use of the tree as a pole for *Holika-dahan* (Fig 15). This particular tradition is leading to loss of the tree species in large quantities in a single day, every year.

Holika-dahan – a traditional fatal axe to *Bombax ceiba*

Holi, the colour festival is also blooming time of *B. ceiba* tree and its flowers are used to prepare ecofriendly colour to play with. Besides this, a pole of debarked *B. ceiba* stem or a branch is used as main pillar to be burnt in *Holika-dahan* by *Bhil*, *Garasia* and *Damor* tribes³³. The tradition of burning of *B. ceiba* in *Holika-dahan* is followed in states of northern India such as Rajasthan, Madhya Pradesh and Uttar Pradesh, where the tree is found abundantly. However, from east to West, the use of sacred cotton tree (*semal*) in *Holi* is a must³⁹. In southern India

where *B. ceiba* is found but *Holi* festival is not celebrated, it has been protected. The burning of *Holika* is celebrated as *Holi* or *Holika-dahan*⁴⁰. *B. ceiba* poles are considered as virtuous *Prahlad* and planted nearly a month before the festival day. Even effigy of *Holika* and *Prahlad* is also prepared and tied over the prepared *Holi* (Fig.13 in circle). The tree is well known among tribal people as well as urban people as *Holi-Danda*.

The whole silk cotton tree or a large branch of the tree with sacred thread, coconut and vermilion and dry grass tied over it, is fixed in the ground on *Magha*

Purnima (full moon day of preceding month of *Holika-dahan*), after cleaning and worshipping the land. In different tribes, there prevails some variations, in preparing poles for *Holika-dahan*, but the use of *B. ceiba* is a must to perfectly perform the tradition. In *Bhils*, before cutting a *B. ceiba* pole, a coconut is tied on the bough, liquor trickled and vermilion is applied and tree is cut in such a manner so as to have a head and two arms (Fig.11) and generally the pole is removed from the burning pile. This traditional two armed *Holi* is still prepared and planted (Fig.12). But in some *Bhil* villages of

Table 1—Ethnomedicinal uses of *Bombax ceiba*¹⁰⁻²²

Plant parts	Uses
Root	Diarrhoea, dysentery, boils & burns, diabetes, impotence & as aphrodisiac, night pollution, scorpion sting & snakebite, sex tonic, urinary troubles, brain tonic, gonorrhoea, syphilis, bedwetting, leucorrhoea, & spermatorrhoea.
Stem & bark	Bacterial, viral, protozoal infection & digestive disturbances, Boil, heartburn, heart tonic, kidney stone, spermatorrhoea & weakness, headache, dislocated bones, easy delivery, snakebite, scorpion, centipede & spider stings.
Gum	Asthma, giardiasis, bleeding piles, diarrhoea & dysentery, dental caries, aphrodisiac & in scabies.
Leaf	Glandular swellings, rheumatism, antidiysenteric, haematinic, menorrhagia, leucorrhoea, anaemia & infertility.
Flower	Haematuria, anaemia, leucorrhoea, haemorrhoids, hydrocoele, gonorrhoea, menstrual disorders & leucorrhoea, boils & sores, splenomegaly, internal bleeding & cancer, colitis, premature ejaculation, snakebite, permanent sterilization, diuretic & laxative.
Fruit	Antifertility agent, uterus protrusion, leucorrhoea.
Fruit & heartwood	Antidiabetic, antidiarrhoeal, snakebite.
Seed	Chicken pox & small pox.
Spines	Skin troubles, acne & headache.

Table 2—Details of Udaipur division^{41,42}

District	Tehsil	Towns	Gram Panchayats	Villages	Total area (Km ²)	Total forest area (Km ²)
Udaipur	10	5	498	2351	13419	4682.20
Chittorgarh	13	2	391	2395	10856	2633.74
Rajsamand	7	5	205	987	3860	392.72
Banswara	5	2	325	1504	5037	1236.66
Dungarpur	4	1	237	858	3770	646.82
5	39	15	1656	8095	36942	9592.14

Table 3—Population data at a glance⁴¹

Level	Gross population	Urban population	Rural population	Scheduled tribes population	% Literacy rate
India	1,02,70,15,247	2,853,54,954	74,16,60,293	8,43,26,240	64.8
Rajasthan	5,65,07,188	1,32,14,375	4,32,92,813	70,97,706	60.4
Division Udaipur	2,633,312	4,90,317	21,42,995	12,60,432	58.62
Udaipur district					
Banswara district	15,00,420	1,07,316	13,93,104	10,85,272	44.22
Dungarpur district	11,07,037	80,143	10,26,894	7,21,487	48.32
Chittorgarh district	18,03,524	,89,269	15,14,255	3,88,311	54.37
Rajsamand district	9,87,024	1,28,723	8,58,301	1,29,198	55.65

Banswara district, besides *Bombax*, bamboo is also planted with a red cloth tied on it, representing as *Prahlad* and there *Bombax* represents the wicked aunt *Holika*, therefore it is allowed to be burnt and bamboo is removed showing survival of *Prahlad*. In *Kathodi* tribe, five poles of five different plant species are planted among which *B. ceiba* is one and they keep length of each pole to the level of a person's head and before planting the pole, a coin and *Areca catechu* nut is placed at the spot and all the poles are allowed to be burnt^{14,33}. Whatever may be the tradition, the fatal axe always falls on the *semal* tree (Figs. 4-7). This irrational tradition of cutting the tree for the purpose of *Holika-dahan* is damaging the environment, disturbing the eco-system and proving devastating for human health.

Results and discussion

A survey in nearby forest areas of the Udaipur city just before *Holi* festival has revealed many illegal attempts for felling the tree (Figs. 4-7). Local tribes and people mentioned that in the year 2007, around 1,500-2,000 trees or twigs of *B. ceiba* were cut for *Holika-dahan* (Figs. 8-15). There was hardly any concern about the sacrifice of such a large tree among people (Figs.13 & 15). The gravity of the situation can be further assessed as there are 2,351 villages in Udaipur district (Table 2) and on an average more than 2,300 young *semal* tree or twigs were sacrificed. The observation on the event also revealed that the number of trees has declined so much that people are now selling other plant species such as *Ailanthus excelsa*, *Lannea coromandelica* and *Nyctanthes arbor-tristis* in the name of *Holi-Danda* among the debarked stems of *B. ceiba*. Younger generation, who is ignorant about the identification of *semal* tree, usually buys these debarked trees assuming them to be the traditional *Holi*-poles. Udaipur division, a tribal dominated region has *Meena*, *Bhil*, *Garasia*, *Damor* and *Kathodi* as the main tribes (Fig.1). Udaipur district has highest percentage (17.75) of scheduled tribe population followed by Banswara (15.29%) and Dungarpur (10.16%) districts (Table 3 Fig.2).

Moreover, Banswara district has lowest literacy rate in the state while *Garasia*, as compared to other tribes has lowest percent literacy rate in the state (Table 4). With the rise in literacy level, practicing of the old ethnoconservation customs have gone down but the adherence to this particular devastating tradition has been continued. By mere conservation of one tradition, thousands of *semal* trees or their branches are sacrificed in one single day, every year. Loss of an important ethnomedicinal tree can lead to simultaneous loss of many other important fauna surviving on the plant.

Conservation strategies

Various ethnoconservation practices, in the form of traditions, customs, myths and folktales have made survival of *B. ceiba* for so many years. Now, there is a need to revive these beneficial traditions for conservation while discarding all other traditional practices that destroy the plant. The most important part of the conservation strategy is to make people aware about its various beneficial medicinal properties. It should be a joint venture of non-governmental organizations, forest officials, local environmentalists, village heads and teachers at the local school level. There should also be a complete involvement of all tribal communities for replanting the tree as a customary practice. For conserving the tradition, only a small twig of *B. ceiba* can be used symbolically. In this regard, it is suggested that an iron pole wrapped with dried grass and hay material instead of the wooden pole of *Bombax* can be used for burning in *Holi*. Moreover, increasing numbers of *Holi* burning events even at a very short distance should be checked. This multipurpose tree species should be used for social forestry schemes and awareness among people and forest officials should be created.

As natural propagation through seeds is low, large scale propagule production of this plant is difficult⁴⁵. Efforts have been initiated for *ex situ* conservation of medicinal plant species⁴⁶. For preserving the plant, large scale *in situ* and *ex situ* conservation techniques should be employed. Applications of biotechnology can be used as a major tool to propagate and conserve the species in a short time period^{47,48}. One should strictly discard or modify all illogical traditions having a devastating impact on ecosystem while reestablish those ethnoconservation practices and traditions, which are not causing harm to the environment. In order to

Table 4—Literacy rate (%) of Scheduled tribes population⁷

National	State	State tribes					
		<i>Dhanka</i>	<i>Mina</i>	<i>Damor</i>	<i>Bhil</i>	<i>Saharia</i>	<i>Garasia</i>
47.1	44.7	61.8	52.2	41.2	35.2	34.2	30.7

Fig.3 *B. ceiba* in full bloom

Fig.4 An attempt to cut tree



Fig.5 Cut tree lying in forest



Fig.6 Stump of cut tree



Fig.7 Tree after cut branches



Fig.8 Transportation for selling



Fig.9 Selling outside the city



Fig.10 Selling and buying

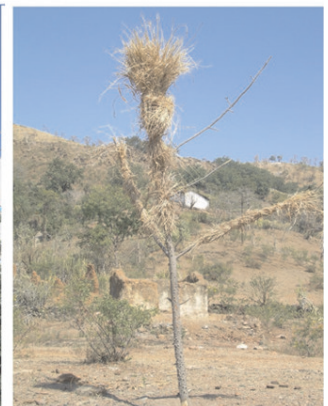


Fig.11 Rural Holi

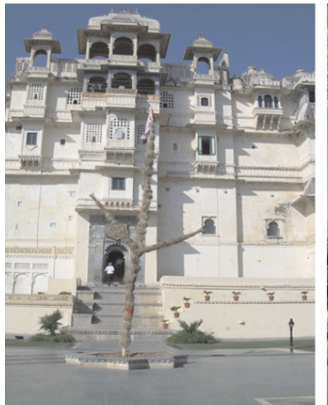


Fig.12 Royal Holi



Fig.13 Largest Holi of the city



Fig.14 Two Holis



Fig.15 Holika-dahan

maintain the grace of both, the tradition of *Holika-dahan* and the multipurpose *Bombax ceiba*, we should initiate implementation of the conservation strategies.

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