

Traditional Knowledge on Plant Conservation Linked to Beliefs and Religious Rites

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Nature provided man with all the basic requirements for his existence which is one of the reasons why nature was respected. The early civilisations valued nature and nature worship was common in those times. After coming in contact with plants people began to realise their significance and how they could be of great benefit to them. There are also some evidences relating to nature worship in the Indian subcontinent around 3000 BC as well as admiration for nature as a source of medicine. This perhaps was the reason that these plants began to be protected seriously.

The earliest Indian texts show evidences of the utilisation of plants for veterinary purposes, for plant health, and also for manufacturing textiles (vegetable dyes), cosmetics, perfumery which can be seen even today in certain places. According to the All India Ethno-biology Survey conducted by the Ministry of Environment and Forests, there are more than 7,500 species of plants that are being used by 4,635 ethnic communities for human and veterinary health care across the country. Men have been using different parts of various plants as drugs since ancient times which not only promote good health but also help in maintaining a balanced environment. Civilisations across the world have utilised these valuable plants because of their medicinal value. The variety of plants varied from one place to another depending on the confined ecosystem and requirements, although the human problems they deal with were the same. For thousands of years plants have demonstrated their effectiveness not only as healing agents but also in taking care of the surrounding environment.

Plant Biodiversity and Religious Importance

Biodiversity, an important gift of nature, is now under great threat owing to mankind's race towards modern development. Deforestation, wetland losses, habitat loss, environmental pollution, overexploitation, fragmentation, industrialisation and many other factors are responsible for the depletion of biodiversity and about 320 plants have already come under the category of endangered species. Biodiversity is not only depleting in high growth regions but also in slow or negative growth regions.

The legend "Old is gold" is more appropriate in the present context. The future of any nation depends on its knowledge bank and resources. Our ancestors had left various religious beliefs for us towards nature and it was a very constructive device for conservation of plant biodiversity not only during their time but at present also. Our forefathers have attached a religious belief or rites as part of ritual to most of the plants, which in fact proved more than functional. Therefore, the main reason for associating plants with religious rites and beliefs was probably for conservation or we can say that it was the hidden concept of conservation of plant biodiversity. Some of the plants that are being conserved in this way are described below:

1. *Aegle marmelos*

This tree is commonly known as *bel* in Hindi and *Bilipatra* in Gujarati. This tree belongs to the family Rutaceae. Its dry fruit in the form of decoction is used for the cure of diarrhoea. Its fruit pulp is believed to be a good blood purifier, an effective appetiser and one of the best cures for dysentery. Not only its ripe fruit but also the unripe fruit is useful and supposed to be a highly effective medicine for acute or chronic digestive disorders like constipation, malabsorption, ulceration and bulging in the intestine. Besides fruit, its leaves are used for treating diabetes, asthma, fever, influenza, fatigue, etc, and a decoction of the bark is used for heart palpitations. The decoction made of its bark, roots and stem is very good for the nervous system and is

also used to cure insomnia and relax the mind. With its varied medicinal properties this is a very important tree so to conserve it people started regarding it as sacred. Even in the *Atharvaveda* we find reference to this tree where it is said that the tree should never be used as fuel. The devotees of Lord Shiva offer the leaves of this tree to God. This tree is often found near temples and in this way people have tried to conserve it.

2. *Calotropis procera*

This plant is utilised in the cure of leprosy. The bark of its root is taken out and mixed with a minute dose of arsenic and given in the form of a pill to people suffering from leprosy. It is an expectorant and is diaphoretic in nature. This plant is also used in the treatment of dysentery. It contains calotropine, which exhibits anthelmintic properties. Its flowers are used to treat cough and asthma (Singh *et al.*, 1996). As the leaves of *Bel* are offered to Lord Shiva, in the same way the leaves of *Calotropis procera* are also offered to Lord Shiva while its floral buds are offered to Hanuman. Since its leaves and flowers are considered sacred and offered to the gods, people look after such plants for the continuous supply of both leaves and floral buds. It is a very strong plant and can grow in extreme arid conditions where only few species can survive.

3. *Cassia fistula*

Cassia fistula is another plant with a large number of medicinal properties. The powder of its bark has high medicinal value and is used to treat dysentery, various types of skin disorders and jaundice. The mash of the pods is also useful and is used as a purgative and is also used as an ingredient of senna that is a useful laxative preparation (Singh *et al.*, 1996). Like other trees its wood is also used for making furniture, attractive panel work and for fine carving. Its roots are used to treat skin diseases, leprosy, and syphilis. Its leaves are used in rheumatism and to reduce irritation. Because of their medicinal value a large number of trees are being cut down

which is a cause of concern. During Onam (a festival celebrated in Southern India) its flowers are used.

4. *Cynodon dactylon*

It is also known as Bermuda grass. Leaves and stems of this plant are used in hemostasis. It also helps in improving digestion. This grass is important for the Hindus and its leaves are offered to Lord Ganesha. It keeps the soil covered and maintains soil dampness.

5. *Ficus benghalensis*

Ficus benghalensis (banyan) is commonly known as *bargad* in India. It is also known as the many-footed tree as most of its branches touch the earth and give the appearance of various feet of the tree. This tree has immense spiritual significance from the Vedic period till today and is one of the most holy trees under which religious preaching was imparted. In India this tree is worshipped during *Vad Savitri Puja*. This tree has a large number of uses. Owing to its size it is valued for its great shade. It not only provides shelter because of its size and evergreen nature, but its fruits are also eaten at the time of drought. It is home to various birds and small animals. The concoction of its bark is used against diseases like dysentery and diabetes, etc. The latex is useful against rheumatism. As people began using various parts of this tree for different uses its number became concentrated. However, the tree is conserved as it is considered pious and is worshipped. Vadodara (in Gujarat) was named after this tree as a large number of banyan trees were found here.

6. *Ficus religiosa*

Ficus religiosa (pipal) is considered holy both by the Hindus as well as the Buddhists and it is believed that prince Siddharatha (Buddha) attained nirvana under the pipal tree. It is an important host plant for the summer brood of lac insect and also for large

varieties of birds. People believe that this is the only tree that releases oxygen even during the night whereas other plants release carbon dioxide. The aqueous solution of its bark contains antibacterial action (Singh *et al.*, 1996). The whole plant is used for medicinal purposes. Fruits are purgative and the gum is used for treating heart problems. The tree is worshipped during Vishnu and *Pitru puja*. This tree is believed to be so sacred that no one cuts the tree. This tree is also believed to be the seat of ghosts.

7. *Ocimum sanctum*

This is another plant considered sacred by the Hindus and is commonly known as tulsi. According to Hindu mythology, each house must always have a tulsi plant. Therefore, assigning more respect, this plant is grown on a small raised platform. *Ocimum sanctum* (tulsi) is useful in the treatment of various diseases. Its leaves have great medicinal value and are effective in curing cold, cough, sinus infection, chest congestion and similar other respiratory diseases. It has a potent antituberculosis action that has also been confirmed lately. Not only its leaves but its stem pieces are also used in the treatment of some diseases. Because of its antiseptic value its stem pieces are also worn around the neck. Probably, due to its great medicinal value our ancestors revered it as a most sacred plant and in this way tried conserving it. Furthermore, it is also referred to in the *Atharvaveda* for its healing and life-giving properties.

8. *Randia dumetorum*

Commonly known as mainphal this plant is one of the main components used in wedding ceremonies. It is tied both to the ankle of the bride and the bridegroom. It is an important antidote for food poisoning and it is a common belief that the bride and bridegroom wearing it will be easily traceable in case of an emergency. The fruit pulp is also found useful in treating dysentery.

9. *Tamarindus indica*

Commonly known as tamarind, the fruit pulp of the tamarind tree is used in Indian medicine in the form of a refrigerant, carminative, laxative, etc. It is generally recommended in feverish diseases and bilious disorders (Singh *et al*, 1996). The poultice of its fresh leaves is found useful in reducing swelling and boils and also for relieving pain. Like pipal, this tree is also believed to be the seat of ghosts. Due to this belief people do not cut these trees in villages and thereby conserve them.

10. *Terminalia arjuna*

Commonly known as Arjun, the pulverised bark of this plant is reported to reduce hypertension and is also reported to have diuretic and stimulant effect in liver cirrhosis (Singh *et al*, 1996). It is a heart tonic and is best known for its special property of strengthening the heart muscles and promoting a long life. It is believed that it sets heart to the right rhythm and controls the heartbeat. It is believed to be effective in the case of old people suffering from heart diseases. It makes the blood vessels stronger and is also recommended in case of enlargement of the heart. In recent times it was discovered that the plant has anticoagulant properties that help avoid clot formation. The fruits of this plant are offered as a part of rituals in some parts of Maharashtra. Therefore, people tend to conserve the trees for their supply of fruits.

Traditional Knowledge of Plant Conservation

A few plants that are conserved for their religious belief are described above briefly. However, these are not the only plants that are conserved because of religious beliefs. Many other plants are also being preserved because of sacred beliefs and rites relating to them.

Some of the main causes of depletion of natural wealth or the loss of biological

resources are as follows:

- Large-scale clearance and burning of forests
- Over-harvesting of plants
- Random use of pesticides
- Draining and filling of wetlands
- Destructive harvesting procedures
- Conversion of forest land to agricultural and urban land

These and a few more reasons are causing great damage to our biodiversity and threatening various plant species. To prevent this loss some laws have come into existence time to time, some areas have been declared as additional protected areas and certain resources have been closed to access. It is right that these responses are essential in times of uncontrolled overexploitation, but they have hardly ever proved satisfactory in changing the social and economic causes of threat to biological diversity. Further, local as well as traditional knowledge about biodiversity is also vanishing fast as the current generation is not showing the same response towards it as shown by the past generations. The family structure is also changing from joint to nuclear and thus creating a gap between generations. And because of all this, outsiders extract this local knowledge and commercialise or publish it without any acknowledgment and reciprocity or benefit sharing and thus offend local communities.

Now, however, local community/tribals have been given their due benefit. All India Coordinated Research Project on Ethno-biology (AICRPE) carried out a survey to preserve the knowledge system of our tribal communities in 1982 which highlighted the benefit-sharing feature. Now, the Tropical Botanical Garden and Research Institute (TBGRI) shares 50 per cent of the license fee and royalty with the Kani tribal community of Kerala. A drug known as 'Jeevni' obtained from *Trichopus zeylanicus*, was developed by TBGRI and was found to have great anti-fatigue properties.

However, the tribals used to eat the fruit of this wild plant to stay active, energetic and agile during regular exhausting expeditions. Therefore, such types of attempts are necessary as these can be useful for diffusion of traditional knowledge and lead to protection or conservation and sustainable utilisation of biological resources.

At a time when biodiversity is in great danger, it is believed that using one plant as a part of rituals of religious nature is not only good for an individual's health but also helps in the conservation of biodiversity. This conservation of biodiversity is extremely essential in present times to stop the indiscriminate use of important plants.

The following lines were issued in public interest by ASTRA IDL Ltd., the makers of MUCOSOL, which rightly says:

"A tree that lives for 50 years

Generates Rs 5.3 lakh worth of oxygen

Recycles Rs 6.4 lakh worth of soil fertility

Facilitates Rs. 6.4 lakh worth of soil erosion control

Creates Rs 10.5 lakh worth of air pollution control and

Provides Rs 5.3 lakh worth of shelter for insects, birds, and animals.

Besides, it provides flowers and fruits.

Our net loss is worth more than Rs 33 lakh when one tree falls or is felled."

Therefore, a humble request -

Think before you cut a tree!

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Source:

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