Punjab ENVIS Centre

Vol. 12, No. 1 & 2

2014-15

Ecological Traditions and Role of Socio-cultural & Religious Practices for Biodiversity Conservation

Inside...

Introduction

Biodiversity Conservation and Traditional Religious Practices

Sacred Plants : Some Examples

NEWSLETTER

Sacred Animals : Some Examples

Examples of Conservation by Community

Traditional Festivals or Mela Organization

A Way Forward

INDIA



Status of Environment & Related Issues

www.punenvis.nic.in



EDITORIAL

Biological diversity is the result of millions of years of evolutionary process and its conservation is essential in order to sustain the life of human beings as well as other forms of life. Human race has been dependent on biological resources both for their material needs and emotional needs since its evolution. All over the world people have developed intimate relationship with their surrounding vegetation. The interaction has enabled to evolve a unique system of knowledge on the utilization and conservation of biological resources.

In recent years, there has been increasing interest to address the role of local communities' religious practices and ecological traditions in the management of biodiversity. The conservation and management is driven by the beliefs & behaviours of human communities and local cultures due to their intimate connections to the natural environment that sustains them. From time immemorial, in India, as well as in parts of Asia and Africa, care and respect for nature has been influenced by religious belief and indigenous practices. The ancient texts and religious scripts also provide the significant evidences of the same.

The present issue emphasises on various religious and cultural traditions & practices for conservation of flora and fauna in the region. Special focus has been laid on some important plants & animals, having certain religious beliefs and sacredness associated with them. Biodiversity conservation by communities through festivals, celebrations and fairs has been also covered in the issue.

- Editors

ENVIS Centre, PSCST is a partner of Regional Centre of Expertise (RCE) Chandigarh. RCE Network is an initiative of United Nations University – Institute of Advanced Studies, Japan, which focuses on Education for Sustainable Development (ESD). This article on "Ecological Traditions and Role of Socio-cultural & Religions Practices" in the region reinstate PSCST's endeavour for creating awareness and capacity building for conservation of bio-diveristy in Punjab.



INTRODUCTION

Biodiversity, an integral part of human society plays a key role in supporting and providing ecosystem services as well as its regulation. Going back to historic time period, care and respect for biodiversity is quite evident in every continent and has been influenced by religious beliefs and indigenous practices. These practices were mostly viewed through socio-religious and anthropological aspects of the societies by the sociologists / anthropologists.

Some prominent live examples of traditional and cultural forms of biodiversity conservation still exist and are in practice through variety of rituals, ceremonies, cults, taboos and beliefs, which include sacred plants and animals at different places in various forms as briefed in the following text.

1) Conservation at Sacred / Religious Places : Special sites or areas that have one or more characteristics which distinguish them as somehow extraordinary, usually in a religious or spiritual sense are the sacred places, often termed as temples. They tend to induce a feeling of some overwhelming, mysterious, and inspiring power that merits special respect and behavior. Individuals may experience a sacred place in different ways as a site of charm, attraction, connectedness, suffering, healing, ritual, meaning, identity, exposure, and/or transformation (Sponsel, 2008). The religious places mostly encompass various plants and animals.

Box 1. Sacred Plants

Plants have been considered sacred due to the following reasons:

- Close association with a God /divinity.
- Trees sheltering any object of worship like a God.
- Belief that some plants have originated from bodies or limbs of Gods and hence have sacredness attached to them.
- Due to some mythological associated event in their proximity.
- Plants that have an important social or economic significance or a major role in the local ecology/ecosystem.

Source : www.ecoherigate.cpreec.org



Sacredness associated with plants & animals (Box 1 & 2) at religious places have persisted for centuries or even millennia ranging from natural or biophysical to anthropogenic or socio-cultural; prehistoric to historic, recent, or newly created; private to public; single culture or religion to multi-cultural or multi-religious (http://www.eoearth.org). Thus, divinity traditionally associated with plants & animals have protected and conserved them over the periods. Single tree or group of trees & animals have been part of our culture with evidence

Box 2. Sacred Animals

Animals have been traditionally considered sacred for the following reasons:

- Some animals are worshipped as deities themselves.
- Many animals are considered as vehicles or vahanas of the deities and hence developed sanctity.
- Animals have also been regarded as the abode (either temporary or permanent) of the souls of the dead. Sometimes, even as the actual soul of the dead.
- The sanctity of an animal may also be based on their economic value.

Source : www.ecoherigate.cpreec.org

from scriptures due to their association with meditation, spiritual awakening & celebration. The animal worship (zoolatry) in India has also been practised since ancient times. The important sacred plants and animals in the country are listed in Annexure 1 and 2.

2) Conservation by Community : Local communities at various ecosystems like forests, wetlands, coastal and marine areas, grasslands and wildlife populations are conserved and managed traditionally due to their sacred associations and other reasons. Such areas are often termed as Community Conserved Areas (CCAs). At CCAs, biodiversity exists in natural and modified ecosystems (with minimal to substantial human influence) – providing significant biodiversity, ecological services and cultural values voluntarily conserved by indigenous peoples and other local communities through customary laws or other effective means (Pathak *et.al.*, 2005).

India has a rich history and diversity of CCAs. There are thousands of examples nationwide. These range from sacred groves (**Box 3**) and landscapes protected for centuries, to more recent initiatives at regenerating and protecting forests like, conservation of bird nesting or wintering sites, protection of sea animals nesting beaches, safeguarding ecosystems against developmental threats, and others. These areas provide immense ecological, social, and economic benefits, including the conservation of threatened species and ecosystems, corridors for wildlife, as well as

Box 3. Sacred Grooves

Sacred grooves form important repositories of forest biodiversity and provide refuge to many plant and animal species of conservation significance. No one is permitted to cut any tree or plant, kill animals and birds, or harm any form of life in this area.

Ancient Indian texts have many references to sacred grooves, for example, Kalidaasa's Vikramorvawsiyam. However, the degree of sanctity of the sacred forests varies from one grove to another. In some forests even the dry foliage and fallen fruits are not touched. People



water and livelihood security for communities. Although many CCAs are much older than state-sanctioned protected areas, they do not receive adequate support (legal, political, financial or technical), recognition or documentation from government and civil society (www.cmsdata.iucn.org). However, it requires an impetus with changing attitudes and development activities.

 Conservation by Celebration of Festivals or Melas: India is known as a land of celebrations, fairs and festivals, crowded ceremonies, communication, dancing and other social

believe that any kind of disturbance will offend the local deity, causing diseases, natural calamities or failure of crops. Sacred Grooves can be classified into

- Traditional Sacred Groves -where the village deity resides, who is represented by an elementary symbol.
- Temple Grooves -grove around a temple and conserved.
 - Groves around the burial or cremation grounds.

Source : www.ecoheritage.cpreec.org

leisure activities. In various festivals plants are worshiped and different trees / plants are associated specially the flowering trees receive special reverence. Further, various animals are also associated with gods and goddesses. As the sheep is to Christianity, the cow is to Hinduism. Snakes and cobras are held in awe and reverence in India. They are worshiped and offered prayers on the Nag Panchami Day and fair like Chhapar Mela in Punjab. Further, in Jarg Mela in Punjab, donkey is associated with the Seetla Goddess worshipping. (http:// www.hinduwisdom.info).

BIODIVERSITY CONSERVATION AND TRADITIONAL RELIGIOUS PRACTICES

Traditionally religions have played a crucial part in the development of civilization by focusing on peaceful living and sustainable life style. Over 80 percent of people in the world follow a specific faith, there are at least 2 billion Christians, 1.34 billion Muslims, 950 million Hindus, and 200 million Buddhists worldwide (www.worldwildlife.org).

Though India is multi-cultural with varied religions but here every religion's philosophy underlines the thought 'Live and let others live' and commonly follow the ethics of biodiversity conservation though most of the religions do not mention the term biodiversity but the doctrines of the most of the religions support the conservation of nature (Uttarakhand Biodiversity Board, 2012). Punjab was



The Holy Pipal Tree, Kurukshetra, the Geeta recitation site

the centre for the development of many religions with biodiversity having the major role to play some examples of traditional religious and cultural biodiversity conservation are illustrated as under :

Hinduism : The tradition of attributing sanctity to plants and animals dates back to the days of huntergatherers. The religion of the Vedic period was the religion of the Indo-Aryans of northern India and a historical predecessor of modern Hinduism which originated in Punjab (in Kurukshetra city, now part of Haryana State) the Holy Peepal tree - witness to the Divine message of Sri Bhagavad Geeta by Lord Sri Krishna to Arjuna at this place during the Mahabharata war. Hindu philosophy always had a humane and dignified view of nature and rightly been called as a "environmental friendly religion". Hindus have regarded the biodiversity as sacred with manifestation of God and worshipped them. Evergreen trees were regarded as symbols of eternal life and to cut them down was to invite the wrath of the gods. Groves in forests were looked upon as habitations of the gods.

The cultural scriptures like Vedas Purans, Upanishadas, etc. reflect the relations between human beings and trees often termed as 'Sanskritik Van' (Box 4). However, commonly in and around countryside, the sacred plants are grown in special traditional formations namely, Triveni (Box 5), and Navgrahvana (Gujrat Forest Panchavati Department, 2014). In the Charak Sanhita, (early text on Indian traditional medicine), destruction of forests is taken as destruction of the state, and reforestation an act of rebuilding the state and advancing its welfare. Ayurveda, the science of life, which is a complete health and medicine system based on nature and its regenerating forces. The Vastu Shastra, teaches to place and build dwellings as per the environment. All the epics namely, Mahabharata, Ramayana, Vedas, Upanishads, Bhagavad Gita, Puranas and Smriti contain the earliest messages for preservation of environment and ecological balance. The Varah Purana (a genre of Hindu religious texts devoted to Vishnu) says, "One who plants one Peepal, one Neem, one Bargad, ten flowering plants or creepers, two Pomegranates, two Oranges and five Mangoes



Triveni plantation include three trees namely, Pipal (*Ficus religiosa*), Bargad/ Bohar (*Ficus bengalensis*) and Neem (*Azadirachta indica*) planted in a cluster in a triangular shape. The saplings of these varieties are planted in such a manner that trees converge after attaining some height and grow further upwards entwined with each other and looks like a single tree. Trivenis, which were once found in abundance in villages across Punjab, are today fast disappearing and one can hardly locate such clusters in rural or urban Punjab. Peepal symbolizs Lord Brahma in Hindu mythology and is worshiped in Punjab villages.

Apart from their ecological and medicinal significance, Peepal, Neem and Bohar have references in Hindu mythology. People in villages still worship them. These trees are metaphors of numerous folklores popular in our society. Trivenis, which till a few decades ago, could be spotted in almost every village, are now visible only at some religious places and in areas under the possession of forest department. Even some small roundabouts are still named "Triveni Chowks" in small towns and cities of Punjab, despite the fact that such clusters don't exist there.

Source : Jerath et. al. 2012 & The Times of India, 2013

does not go to hell" (www.hinduwisdom.info).

Traditionally, in many fasts/ vartas observed by hindus e.g. during Durga Puja, Nine Leaves called as Navpatra (of Banana, Indian Barberry, Turmeric, Common Sesban, Stone Apple, Pomegranate, Ashoka Tree, Paddy, Golden Shower Tree) are worshipped with chanting of mantras. In northern India, ten days old barley plants and some flowers such as cotton are worshipped on Dusshera day. Triveni trees are also planted and worshipped in this part of India (Bhatia *et. al.*, 1982). In hinduism, protection of animals is considered a sacred duty and several mythological stories are associated with the sacred animals so they have been well preserved.

The ancient sanskrit scriptures cover major taxa, including invertebrates (bee, butterfly, mollusc, spider), fish, reptiles (crocodile, lizard, snake, squirrel, turtle), birds (eagle, falcon, crow, crane, goose, hawk, owl, peacock, swan, dove), and mammals (bat, bear, wild boar, buffalo, bull, cat, cow, dog, deer, elephant, fox, goat, horse, leopard, lion, monkey, rat, tiger, rabbit). Kamadhenu was the wish-fulfilling cow, whose offspring are all the cattle on earth. The word "gau/go" or cow was very important and was attached to many things within the society like, gopura was the entrance to the village, gotra was the clan to which a person belonged, goshti was an assembly of good men, gosarga and godhuli represented dawn and dusk, while gopa and govalla were offcials. Krishna even lifts Mount Govardhana to save cattle from Indra's wrath. But the greatest honour given to animals

was their elevation as the vehicles of the Gods like, Shiva rode the bull, Vishnu the eagle, Brahma the swan, etc. (Uttarakhand Biodiversity Board, 2012 and Agoramoorthy & Hsu, 2012).

Islam : Islamic teachings and philosophy are intricately close to the concept of biodiversity conservation. It has repeatedly been mentioned in Holy Quran through various versus to maintain the balance of nature. Although Islamic scriptures dictate no taboos on hunting of animals (except pig) or harvesting any plants, Muslim shrines in different places in India exhibit a few locally held taboos. A Pomegranate (*Punica granatum*) tree at Muslim shrine in Maharashtra is held sacred (Malhotra *et al.*, 1993) and also sacred grooves are maintained and protected at many sufi shrines in Bengal with Pomegranate tree by local Hindu & Muslim devotees (Deb and Malhotra, 2001).



Saykh Jalal-ud- din Makhdum Pir with Pomegranate tree at Bara Dargah,Pandua, West Bengal

Protection, preservation and compassion for God's creation other than human beings can be regarded as "Haqqual Makhloof" (rights of animals/ Plants etc) which is the third most important obligation in Islamic doctrine after "Haqqual-Allah" (rights of God) and "Haqqual-Ibad" (rights of humans).

Sikhism : The Sikh scripture, Guru Granth Sahib, declares that the purpose of human beings is to achieve a blissful state and to be in harmony with the earth and all of God's creation. The Sikh Gurus showed the world the way to live in harmony with the environment . The world started talking about environment and ecological balance only during the past three to four decades while the Gurus realized their significance more than 500 years ago.

Sikh Gurus have narrated many stories of their love for animals, birds, trees, vegetation, river, mountain, sky and biodiversity as a whole. It says that man as superior creation should come for the sustainability of the earth, care for animals, and stress on planting trees. Killing any animal is also strictly prohibited. This belief provides strong support for biodiversity conservation.

Guru Har Rai, the seventh Sikh Guru developed Kiratpur Sahib as a town of parks and gardens. It is located on the banks of tributary of the Sutlej river. He planted flower and fruit bearing trees all over the area which attracted birds also. The 'Gurbani' refers to various species of trees which are useful to the world and its various beings and creatures and the Gurus concluded that it is not the girth, size, or beautiful flowers that determine the significance of a tree but its usefulness that makes it important.



Jand Tree : Gurudwara Charan Kanwal, Ludhiana



Dukh Bhajni Beri : Sri Harmandir Sahib, Amritsar

In 'Guru Granth sahib', the trees have been given much importance to the extent that even the parts of the trees have been looked upon as God. The group of trees planted near holy places are called "Guru Ke Bagh" or the Garden of Guru. The devotees of Sikh religion have traditionally been planting useful miscellaneous tree species in and near Gurudwaras, tanks, ponds etc. (www.allaboutsikhs.com).

An exclusive aspect of its tradition, which is rooted in plant life, makes Sikhism distinct among the world's religions as some of its most sacred shrines are associated with the names of native species of trees. As many as 58 historic shrines related to different periods of the evolution of the Sikh faith have been named after 19 species of trees associated with Sikh shrines. The trees that have sanctity in Sikhism include Bohr (Ficus bengalensis), Pipal (Ficus religiosa), Jand (Prosopis spicigera), Garna (Capparis horrida), Karir (Capparis aphylla), Phalahi (Acacia modesta), Reru (Acasia leucophloea), Lusura (Cordia latifolia), Tahli (Dalbergia sisso), Imli (Tamarindus indica), Amb (Mangifera indica), Harian velan, Neem (Azadiracta indica), Ritha (Sapindus mukorosa), Kalp (Mitragina parvifolia) and Ber (Zizyphus jujuba). (www. trystwithtrees.com).

The most popular trees are Beri (*Zizyphus jujuba*), Tahli (*Dalbergia sisso*) and Jand (*Prosopis spicigera*). However, four most sacred Beri trees associated with the Sikh shrines, are beri of 'Dukh Bhanjani Beri' at Sri Harmandir Sahib, 'Beri of Baba Budha' at Sri Harmandir Sahib, Beri of 'Gurdwara Ber Sahib' at

Box 6. Important Trees in Christianity

In Christianity, biodiversity conservation is given due importance and more Christian clergy are working to restore environment for healthy living of mankind. As per legend in the 7th century, the Fir tree is part of Christian religion. The other trees of religious importance are as under:

The Sycamore or Fig Tree: It is the first species mentioned by name in the Bible. Its fruit is green and not easily detected among the leaves until it is nearly ripe.

Olive Tree: It has the Biblical symbol for the nation of Israel and is mentioned in the book of Genesis. This tree has been called an emblem of peace, prosperity, and wealth.

Cedar tree: It was chosen for building the temple of the Lord, Solomon's house and other public edices in Jerusalem. It was also used for roofing the temple of Diana at Ephesus and Apollo at Utica. The cedar forests in Lebanon had been famous as their life span was often over two thousand years.

Oak Tree: This tree known for its longevity and stands as a witness to certain historical events in Israel.

Palm Tree: The Palm tree is a sign of joy and happiness and also the symbol of life. Due to this a huge number of martyrs in the book of Revelations were dressed in white robes and holding Palms in their hands.

Locust-tree: An important legume plant which is very common in the Holy Land due to its pods being useful as food for livestock as well as people.

Source : UBB, 2012, www.christmasarchives.com & www.ancient-yew.org

Sultanpur Lodhi and 'Beri of Lachi Ber' of Sri Harmandir Sahib highlight the role that trees have played in Sikh history (www.trystwithtrees.com & www.sikhnet.com).

In view of rising global environmental crisis, the sikh clergy have declare 14th March (The coronation day of Seventh Sikh Master Guru Har Rai Sahib) as sikh environment day in 2013 to pay attention to nature and to take steps to harness it (www.ecosikh.org).

Christanity : Christanity like other religions proclaim that the Earth is of God and humans are accountable to God for how they use other creatures. Throughout the Bible up to the last chapter of Revelation there is mention of a variety of trees. Apart from trees there is citation of birds, wild animals, sea creatures and other animals in Bible. The King James version of the Bible mentions seven flowers, seven vegetables, several spices, and thirtyseven differently named trees. The trees have a deep religious meaning throughout the Bible. The different tree species are cited number of places which are given in Box 6. (Uttarakhand Biodiversity Board, 2012).

Buddhism : In Buddhism, it is believed that moral conscious-ness, the human mind, the human body, the external world consisting of fauna and flora and

society are intricately interconnected. It is also believed that human ignorance is the primary cause of the reduction of biodiversity and the destruction of the natural ecosystem on the planet. Buddhism has long advocated reverence and compassion for all life. There are a lot of forests and trees that are directly associated with Gautama Buddha like, Siddhartha Gautam was born under an Ashoka tree in Lumbini vana forest, Bodhi Tree (Peepal) where lord Buddha achieved enlightenment. During the time of Lord Buddha, creation of gardens near the monasteries and stupas seems to have been derived from the description of the gardens of Nalanda and Takshasila. A lot of references to forests have been



Bodhi Tree, the site of Buddha's enlightenment Bodh Gaya, Bihar

made mostly in Tripitakas, Attakathas and Jatakas from the Buddha period.

Jainism : In Jainism, "Ahimsa-paramo-dharmah" is one of the basic virtues, which means non-injury to living. Lord Mahavira, lived in forests most of the time during his asceticism (a state of attainment of spiritual goals) and attained Keval Gyan (omniscience) on the bank of river Rijuvalika below a Sal tree. It is preached in Jainism to sit in Samavasharana (divine preaching hall) after enlightenment. Jains hold an affinity for the ideals of environmental movement.

The practice of non-violence in Jainism fosters an attitude of respect for all life forms (Chart 1). Jains associate human beings with biodiversity on the basis of classification into groups according to their number of senses i.e. one to five. Many Jains wear mask to prevent individual creatures from getting

One-sensed
Two-sensed

Plants, Watereen
Worms, Shells etc.

Plants, Watereen
Poursensed

Spiders, Bees etc.
Spiders, Bees etc.

Bugs
Spiders, Bees etc.

Spiders, Bees etc.
Spiders, Bees etc.

Spiders, Bees, Be

Chart 1. Jain Religion : Hierarchy of Beings

Source : Devanshi Khokhani as cited on www.projectbrahma.org killed while breathing and speaking. The advanced monks and nuns would sweep their path to avoid trampling on insects. One of the ways Jain monks or the followers of Jainism, observe non violence is by restraining themselves from eating the roots like potato, radish, carrots, ginger etc, especially during the 4 months of rainy season. The reason behind this is they think that during harvest of these vegetables, earth is dug out and the soil organisms are killed more during rainy season. Jains called this period as "Chaumasu" or "Chaturmas". In this period, even the monks do not wander from one place to another in order to avoid any unintentional killing of any form of life.

SACRED PLANTS : SOME EXAMPLES

Punjab culture has accorded a position of great importance to trees. In ancient times, our forefathers lived in co-existence with nature. They have recognized the high importance of plants for health, wealth and prosperity of human life and were worshiping trees. At present, most of our religious festivals include worship of trees and these plantations not only contribute towards the environment improvement but also appeal to the sentiments of the people who still respect and follow the age-old traditions and rituals. Some of the most revered plants due to their sacredness within the region are as under :

Scientific Name : Mangifera indica

Common Name : Mango

Vernacular Name: Aam

Brief Description: Mango tree was domesticated thousands of years ago in the region and was originally found in the foothills of the Himalayas in north eastern India. The Mango is a large, long-lived tree with a broad, rounded canopy. Leaves are lanceolate to linear, dark green, with prominent light colored veins and entire margins. The leaves are orange-pink when young and they rapidly change to a dark, glossy red, then dark green as they mature. The flowers are produced in terminal panicles. Each flower is small and white with five



petals, with a mild, sweet odour. Mangos are large drupes. The large, flattened, kidney-shaped central stone contains one or more large, starchy embryos. The fruit takes three to six months to ripen. Both the ripe and unripe fruits are edible.

Medicinal & Other Uses : Mango is commonly used herb in ayurvedic medicine and has higher content of in vitamin C than citrus fruits. The various parts of plant are used as an antiseptic and astringent. The dried powder of the leaves is consumed for diarrhoea and sugar complaints. The bark is taken to control excessive menstruation, dysentery, bleeding piles, liver disorders and excessive urination. Ripe mango fruit is considered to be refreshing and juice is restorative tonic which used in heat stroke. As per a study in 2013 by Edralin Lucas, , Oklahoma State University published in Journal Nutrition and Metabolic Insights, " the daily consumption of 10 grammes of freeze-dried mango, which is equivalent to about one-half of a





Gurudwara Amb Sahib, SAS Nagar

fresh mango (about 100 grams), may help lower blood sugar in obese individuals" (www.eurekalert.org). The wood of the tree is used for making match boxes, plywood, packing cases, door panels, furniture, etc. (www.ncbi.nlm.nih.gov & www.ecoheritage.cpreec.org).

Religious & Cultural Associations : The mango tree in Hindu mythology, finds its mention in the Ramayana, Mahabharata and the Puranas. The mango fruit symbolises love, purity and fertility. The leaf is used since ancient times in several rituals and pujas of the Hindus. Since times, a Purnakumbha', a pot (Kalasam) filled with water and topped with fresh mango leaves and a coconut is believed to symbolise Goddess Lakshmi and good fortune. On auspicious occasions, mango leaves adorn entrances at home to signify good fortune. Mango blossoms are used in the worship of Goddess Saraswasti on Basant Panchami day. There has been much sharing of cultural traditions between hindus and Sikhs, usually door of a new born baby's room is adorned with mango leaves. (w w w . e c o h e r i t age.cpreec.organd www.hinduofuniverse.com).

The tree is also sacred to the Buddhists with its association with Buddha at a place called Shravati, District Gonda, Uttar Pradesh. The Jain Goddess Ambika is also traditionally represented as sitting under a mango tree. The Sikh Gurudawara in Mohali (District Sahibzada Ajit Singh Nagar) has a mango tree which is associated with the seventh Guru, Shri Guru Har Rai Sahib Ji. The tree used to bear mangos in December month (i.e. out of season) but it is dried now.

Scientific Name: Emblica officinalis

Common Name: Indian Gooseberry

Vernacular Name: Amla

Brief Description: Amla is an indigenous fruit to the Indian subcontinent. The tree is small to medium in size with a crooked trunk and spreading branches. The branchlets are glabrous usually deciduous. The leaves are simple, subsessile and closely set along branchlets, light green, resembling pinnate leaves. The flowers are greenish-yellow. The fruit is nearly spherical, light greenish yellow, quite smooth and hard on appearance, with six vertical stripes or furrows.

Medicinal & Other Uses: Amla is richest source of Vitamin C . The fruit is liver tonic and dried fruits have been reported to be useful in haemorrhages, diarrhea, dysentery, anaemia, jaundice, dyspepsia and cough. The pulp of fruit is major ingredient in indigenous medicines 'Chyawanprash and Trifala. The ripe fruit is edible and is also used for making muraba, pickles, jams and chutneys. Amla is the world's oldest, natural hair conditioner. It is presently, also used to prepare hair wash and hair oil which is believed to be beneficial for growth and appearance of hair.

Religious & Cultural Associations: The Amla tree is one of the most sacred plants in India due to the



associated religious beliefs and due to its nourishment. The tree is considered sacred by Hindus due to its association with the Vishnu God's wife Goddess Lakshmi (the Goddess of prosperity) and its worshipping on Amalaka Ekadashi. In other Hindu myths, it is associated with lord Brahma and believed to be the first tree on earth (is referred to as Adiroha). Hence due to these associations, since ancient times, it is believed to cure many diseases and in extending the longevity of life.

Scientific Name: Saraca asoca

Common Name: Ashok

Vernacular Name: Ashoka

Brief Description: Ashoka tree is one of the most sacred and legendary trees of India. It is indigenous to India. It is slow growing, small evergreen erect tree with branchlets having green leaves. The flowers are red (initially orange in color) while False Ashoka flowers are apple green in colour. Ashoka fruits look like broad beans containing multiple seeds. Ashoka trees are small in height.

Medicinal & Other Uses : Ashoka has analgesic properties and is used for treating gynecological, urination problems. It also purifiers blood naturally and is helpful in preventing skin allergies. Dried Ashoka flowers can be helpful in treating diabetes. The bark cures bacterial infections (Jerath *et. al.*, 2012).

Religious & Cultural Associations : Ashoka tree has many folkloric, religious and literary



associations in the region. In Punjab people worship it due to its association with epic Ramayana. The Ashoka tree is worshipped in Chaitra the first month of the Hindu calendar. It is also associated with Kamadeva, the Hindu god of love. It is also said that Lord Buddha was born under this tree, hence this tree is planted in all Buddhist monastery. This tree is respected by the Jains due to its association with God Mahavira.

Scientific Name : *Ficus benghalensis* Common Name : Banyan Vernacular Name : Bohar

Brief Description: Banyan tree is native to South and East Asia. It is a evergreen huge tree with very extensive branches. Older banyan trees are characterized by their aerial prop roots that grow into thick woody trunks which, with age, can become indistinguishable from the main trunk. Old trees can spread out laterally, using these prop roots to cover a wide area. In some species the effect is for the props to develop into a sort of forest covering a considerable area. The leaves of the banyan tree are large, leathery, glossy green and elliptical in shape. Young leaves have an attractive reddish tinge. The fruit of the tree is without stalk, in pairs in leaf axil, and when ripe are bright red.

Medicinal & Other Uses : The twigs of the banyan tree are good for teeth & gum aches. Leaves and shoots have anti-inflammatory properties. The bark controls cholesterol, improves immune system and has anti bacterial properties. The milky latex from its leaves and stems is used in many Ayurvedic medicines. The fruit cures diarrhoea & dysentery.

The wood of the Banyan tree is used in making door panels, boxes and tent poles. Its bark is used for making paper and ropes. Its leaves are used for making plates and bowls. The tree is planted for the soil conservation (Jerath *et.al.*, 2012 and www.eoindia.com).

Religious & Cultural Associations : The Banyan Tree is sacred to Hindus and Buddhists in India and is frequently planted around temples. Being a majestic ornamental tree it is also planted in parks. Traditionally, the Banyan Tree is considered as



immortal and has always been the focal point for the village communities in India. It has been believed as wish fulfilling tree. In the sacred Hindu Book 'Bhagwad Gita' has reference of Banyan tree in association with Lord Krishna.

Traditionally, people in India grow Banyan tree closer to the Peepal tree. Banyan also symbolises life and is worshipped by those who are childless and it is never cut. As per Hindu mythology, the Banyan tree symbolizes Trimurti i.e. associated with three Gods (Vishnu with bark, Brahma with roots and Shiva with branches of the tree). Lord Dakshinamurthy (representing Lord Shiva), regarded as an ultimate guru or the teacher in Hindu system of beliefs, is usually depicted beneath a banyan tree. He accords a special reverence to the embodiment of knowledge and the destroyer of i g n o r a n c e (Uttar Pradesh State Biodiversity Board, 2011, w w w . e c o i n d i a . c o m and www.ecoheritage.cpreec.org).



Banyan Tree Puja in Hindu religion



Banyan Tree at Gurudwara Damdama Sahib Ludhiana

Buddhists have association with lord Buddha and his enlightenment. Banyan tree in Gurudwara Degsar Sahib or Gurdwara Katana Sahib in Katana Kalan near Doraha, Ludhiana has also religious associations with Guru Gobind Singh Ji.

Scientific Name : Aegle marmelos

Common Name: Wood Apple

Vernacular Name: Bael

Brief Description : The Bael tree is a tree native to India. It copes with a wide range of soil conditions is tolerant of water-logging and has an unusually wide temperature tolerance. It is a tree with oval shaped leaves and flowers have a pleasant fragrance. The large, round or oval shaped fruit is greenish-white in color with a hard but smooth outer surface. The inner contents of the fruit are



mucilaginous and faintly aromatic. Bael plant acts as a 'Sink' for chemical pollutants as it absorbs poisonous gases from atmosphere and make them inert or neutral. Thus, it is a member of plant species group known as 'Climate Purifiers' (Sharma *et.al.*, 2006).

Medicinal & other uses: Every part of plant such as fruit, seed, bark, leaf and root are important ingredients of several traditional formulations. Due to its curative properties, it is one of the most useful medicinal plants of India. It is used in diarrhea & dysentery. It has antibiotic, anti-diabetic and antiinflammatory properties (Jerath *et. al.*, 2012).

Religious & Cultural Association : In India, bael tree is considered to be very sacred because it is associated with Lord Shiva. Planting these trees around home or temple is sanctifying. The trifoliate leaf or tripatra of the bael tree is often offered in temples with a belief to symbolize the three functions of the Lord i.e. the creation, preservation and destruction.

The Bael tree is also sacred to the Jains. It is said that the 23rd Tirthankara, Bhagwan Parasnathji attained "Nirvana" enlightenment under a Bael tree.

Scientific Name : *Ziziphus jujuba* Common Name : Indian Jujube Vernacular Name : Beri

Brief Description : Indian jujube originated from Central Asia and then spread to North Africa, India through Afghanistan, South China, Malaysia and Australia. Indian jujube is a shrub or small thorny tree. It is a deciduous or almost evergreen tree with erect or spreading habit. The leaves are simple, alternate and ovate. The upper surface of the leaves is dark glossy green, the lower one is densely hairy with silky underside. It is a multi-purpose tree. It is mainly grown for its fruits.

Medicinal & Other Uses: The powdered raw fruit cure ulcers or swellings in mouth and diarrhoea. The fruit juice treats venereal disorders. A paste of the bark helps to cure boils and tumours.

Religious & Cultural Associations : The tree is



associated with Lord Shiva, especially during Mahashivaratri festival. The Ber fruit is also mentioned in the Hindu epic Ramayana. The tree is also considered sacred by the Sikh community. The Sikh shrines with sacred Beri are namely, 'Dukh Bhanjani Beri' at Sri Harmandir Sahib in Amritsar, 'Beri of Baba Budha' at Sri Harmandir Sahib, Beri at 'Gurdwara Ber Sahib' in Sultanpur Lodhi and Lachi Ber at Sri Harmandir Sahib. The Beri trees at other sikh temples with associated sacredness are given in Box 7.

Scientific Name: *Magnolia champaca* Common Name: Fragrant Champaka Vernacular Name: Champa

Box 7. Beri Trees at Sikh Temples in Punjab

Beri Tree is associated to various Sikh temples or Gurudawaras as illustrated below:

Dukh-bhanjani Beri (Amritsar): This Beri tree exists in the parikarma of Sri Darbar Sahib, where a person with leprosy recovered from the disease. The original tree died and its place a new tree re-sprouted which is present till date.

Beri (Amritsar) : This is the biggest and one of the oldest trees, situated in the Parikarma of Sri Darbar Sahib near the main gate. Baba Budha ji used to sit under this tree when Sri Darbar Sahib was under construction.

Lachi Beri (Amritsar) : Under this tree Guru Arjan Dev Ji (Fifth Sikh Master) and a close devotee (Bhai Salo Ji) of the Guru ji used to sit and supervise the construction of



Brief Description : *Magnolia champaca,* is a large evergreen tree, native to the Indomalaya ecozone. 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.

Medicinal & Other Uses: The plant *M. champaca* is widely used in both Ayurvedha and Siddha medicine. Root bark is used in the treatment of inflammation, constipation and dysmenorrhoea. Stem bark is used in gastritis, fever and cough. Flower, flower bud and fruit are useful in healing, ulcers, wounds and skin diseases.

Harmandir Sahib.

Ber (Sultanpur Lodhi): Gurudwara Ber Sahib has a Beri tree where Guru Nanak Dev Ji used to keep his clothes before taking bath in Kali Bein Naddi and did meditation.

Beri (Lohgarh Sahib): This Beri tree is located at a fortress, Lohgarh on the western outskirts of the Amritsar city for the protection of the same. The site is associated with Guru Hargobind Sahib Ji.

Beri Sahib (Mehraj) : A Beri tree also exists at Gurudwara Shahid Ganj at Village Mehraj near Rampura Phul town 45 Km from Bathinda City. The Beri is associated with Sixth Sikh Guru, Shri Guru Hargobind Sahib Ji.

Source : Kaler, 2014 & www.worldgurudwaras.com

Religious & Cultural Associations : In India, the plant is primarily used for worship at temples and home. It is worn as hair ornament and as well as a natural perfume. Flowers are used to be floated in bowls of water to scent the room, as a fragrant decoration for bridal beds, and for garlands.

Scientific name : Jasminum officinale Common Name : Jasmine Vernacular Name : Chameli

Brief Description: Jasmine is a shrub and is widely cultivated for the characteristic fragrance of their flowers. The plant can be either deciduous or evergreen and can be erect, spreading, or climbing shrubs and vines. Their leaves are borne opposite or alternate. Flowers are white or yellow in color, although in rare instances they can be slightly reddish. They are usually very fragrant. The fruits of jasmines are berries that turn black when ripe.

Medicinal & Other uses : Jasmine has been used in ancient Ayurvedic and Chinese medicine for centuries. Jasmine is widely used in aromatherapy. The essential oil of jasmine can be used as a sedative to promote relaxation. Jasmine has also been traditionally used to treat liver problems, such as hepatitis and cirrhosis, stomach pain (dysentery) and even cancer. It is also cultivated commercially, for both the domestic and industrial uses such as the perfume industry. **Religious & Cultural Associations** : The flowers of Chameli plant are used in regular worship and for hair ornaments. It is used in rituals like marriages, religious ceremonies and festivals. In the Chandan Yatra of lord Jagannath, the deity is bathed with water flavored in sandalwood paste and jasmine.

Scientific Name : Saccharum officinarum Common Name : Sugarcane Vernacular Name : Gannah

Brief Description: Cultivation of sugarcane in India dates back to the Vedic period. Before the 18th century, cultivation of sugar cane was largely confined to India. Sugarcane is a tall perennial true grass. It has stout jointed fibrous stalks that are rich in sugar. The plant is composed of root system, stalk and leaves. It is a perennial grass with lateral shoots at the base to produce multiple stems.

Medicinal & Other Uses : It cures skin & urinary tract infections, bronchitis, heart, problems, cough, anaemia and constipation. The juice detoxifies liver & boosts moisture level of tissues as it is rich in natural sugars /minerals. Sugarcane bagasse is a potentially abundant source of energy for large producers of sugarcane.

Religious & Cultural Associations : Sugarcane cultivation, its crushing and preparation of Gur is mentioned in Atharva Veda as well as Kautaliya's Arthasastra. In Punjab, Sugar cane stalks are offered to Durga Goddess in the culmination of the Navratri





festival in the Hindu religion. The followers of Jain religion on Akshaya Tritiiya end their fast with sugarcane juice. Punjabis eat gur traditionally as sweet-dish and is also considered auspicious to have it in any ceremony and to start any work.

Scientific Name : *Tagetes erecta* Common Name : Marigold Vernacular Name : Gendha

Brief Description : Marigold has been collected in the wild only in Massachusetts, but cultivars of this annual plant, in a range of sizes and colors, are popular garden flowers, and may persist after planting. The plant is erect, terrestrial having simple alternate leaves, flowers are orange yellow in color and the flower head has tubular disk with florets in the center.

Medicinal & Other uses : This plant has been used for medicinal purposes. The juice of the flower is used in traditional medicine to purify the blood and as a remedy in bleeding piles. The essential oil from the leaves has been reported to have anti-fungal / insecticidal properties. The flower extracts are sometimes added as a food colouring agent. The flowers are used to prepare fabric dyes and are also used during the festival of Holi.

Religious & Cultural Associations : Marigold is one of the flowers commonly used in garlands, in festival decorations and offerings in temples in the northern parts of India. Scientific Name : *Prosopis cineraria* Common Name : Indian Mesquite Vermacular Name : Jand or Khejri

Brief Description: Jand is a small tree, Leaves are bipinnate and branches are thorned along the internodes. Flowers are small and creamy-yellow, and followed by seeds in pods. The tree is found in extremely arid conditions. It has a tolerance of highly alkaline and saline environments. Basically jand tree is a symbol of socio-economic development of the arid regions. Since all the parts of the tree are useful, it is called kalp taru. It is also known as the 'king of desert', and the 'wonder tree'.

Medicinal & Other Uses : Flowers prevent miscarriage, extract has anti-inflammatory properties, bark cures leprosy, dysentery, bronchitis, asthma and piles. Pod is astringent & used in snake bite/scorpion sting. The wood of Jand is a good fuel source, and provides excellent charcoal.

Religious & Cultural Associations: People down the ages have held Jand tree sacred. During Vedic times, khejri wood was used to kindle the sacred fire for performing a yajana. Hindu epics, the Ramayana and the Mahabharata, mention the usefulness and significance of this tree.

The Bishnoi community have laid down their lives to save the cutting of this tree. The Jand tree is often called as the golden tree or king of desert and the wonder tree of Indian deserts as it plays a vital role in preserving the ecosystem of arid and semi-arid





Box 8. Jand Tree in Sikh Temples in Punjab

Gurudwara Shri Guru Har Rai Sahib Ji Jand Sahib , Har Raipur, Bathinda: Guru Arjun Dev Ji also stayed for some time under this tree.

Gurudawara Jand Sahib at Dehriwala village in Faridkot: Under this Jand Guru Gobind Singh took rest for some time.

Gurudwara Mau Sahib at Hoshiarpur Guru Arjan Dev Ji came here for his wedding.

Gurudawara Jand Sahib at Lahli Kalan village, in Hoshiarpur district: On the eve of diwali Sri Guru Harrai Sahib ji spent three days, while going to Harmandir Sahib (golden temple) along with his batallian of 2200 horse riders. Guru Sahib tied his horse to a tree of Jand, which is still here in the Gurudwara premises.

Gurudwara Jand Sahib in Ropar district: Under this tree Guru Gobind Singh Ji after leaving Chamkaur stayed for some time during his journey from Garhi.

Gurudawara Jand Sahib at Kot Bhai village district Muktsar (previously in District Ferozepur) : Guru Gobind Singh ji rested under this tree and hung his dress and weapons on this tree.

Gurudwara Sri Patshahi Nauvin, Mullowal on Dhuri-Barnala Road: The Ninth Sikh Guru, Shri Guru Tegh Bahadur Ji visited this place during his journey of

areas. Basically Jand tree is a symbol of socioeconomic development of the arid regions. Since all the parts of the tree are useful, it is called kalp taru. The Jand tree is present in many gurudawaras with sacred association with them as illustrated in Box 8.

For the past many years, a Jand tree behind the Kiran Theatre in Sector 22, Chandigarh is worhipped by some families, belonging to Chandigarh or the adjoining areas of Punjab. People offer prayers to mark the birth of a child or marriage in the family.

Scientific Name : *Neolamarckia cadamba* Common Name : Kadamba Vernacular Name : Kadamb

Brief Description: Kadam tree is a large tree with a broad crown. It is quick growing, with broad spreading branches and grows rapidly in the first 6-8 years. Leaves are long and flowering usually

Malwa region, while coming from Village Rajo Majra and tied his horses to the Jand trees existing there.

Gurdwara Sulisar Sahib Patshahi Nauvin village Kot Dharmu, district Mansa: Shri Guru Tegh Bahadur Ji visited this place and a thief stole Guru Ji's horse. Later, the thief committed suicide by hanging himself on a Jand tree, so this Gurdwara came to be known as Sulisar Sahib.

Gurudwara Sri Charan Kanwal Sahib, Machiwara, Ludhiana: Guru Gobind Singh ji rested for night under this Jand tree after martyrdom of his two Sahibzadas and few sikhs before the battle of Sri ChamKaur Sahib.

Gurudwara Theri Sahib at Malout-Bhatinda Road, Village Thehri, District Muktsar: Guru Gobind Singh Ji. halted near a group of three Jand trees and after hanging his arms and belt on them, rested for some time while on his way to Damdama Sahib, Delhi, after winning the battle of Muktsar.

Gurudawara Jand Sar, **Damdama Sahib** at **Talwandi Sabo:** Sri Guru Gobind Singh prepared Bir Sahib at Talwandi Sabo and at a distance of half a kilometer from this place exists a Jand tree, where Guru Ji distributed pay to laborers and tied his horse.

Source : Kaler, 2014 & www.worldgurudwaras.com

begins when the tree is 4-5 years old. Kadam flowers are sweetly fragrant, red to orange in colour, occurring in dense and globular heads. The fruit of *N. cadamba* occur in small, fleshy capsules packed closely together to form a fleshy yelloworange infructescence containing approximately 8000 seeds. On maturing, the fruit splits apart,



releasing the seeds, which are then dispersed by wind or rain.

Medicinal & Other uses : The bark and leaves of the plant is reported to possess various medicinal uses such as astringent anti-hepatotoxic, antidiuretic, wound healing, antiseptic and anthelmintic. The Plant is grown as an ornamental, and for low-grade timber and paper. The timber is used for plywood, light construction, pulp and paper, boxes and crates, dug-out canoes, and furniture components. Kadamba yields a pulp of satisfactory brightness and performance as a hand sheet.

Religious & Cultural Associations : Kadamb tree is associated with Lord Krishna and mother Goddess (Durga, Parvati and Radha-Krishna). This tree is also associated with fourteenth Lord Buddha. It has lot of significance in popular harvest festival of south.

Scientific Name : *Musa paradisiacal* Common Name : Banana Vernacular Name : Kela

Brief Description : Banana evolved in the humid tropical regions of S. E. Asia with India as one of its centres of origin. Banana is the largest herbaceous flowering plant. The "trunk" or pseudostem is not a true stem, but only the clustered, cylindrical aggregation of leaf stalk bases. Leaves are among the largest of all plants, All the above-ground parts of a banana plant grow from a structure usually called a corm. The banana fruits develop from the banana heart, in a large hanging cluster, made up of tiers called "hands".





Medicinal & Other Uses : Banana is good for anaemia (due to high content of iron), regulates bowl movement, is a brain tonic and treats ulcer. Banana leaves are not edible, but can be used for wrapping food items. The leaves and the stem are also used as cattle feed in some areas. However, the fibre obtained from the plant is used for making ropes, mats, coarse paper and paper pulp (www. http://ecoheritage.cpreec.org).

Religious & Cultural Associations: The fruits are offered as food offerings to Hindu Gods during various ceremonies / poojas. Banana as a fruit is offered to Lord Vishnu and Laksmi for good married life and good financial condition and happiness of family. The fruit is also associated with Lord Ganesha.

In some Hindu weddings, in pre-wedding ceremony a full grown Banana tree is worshipped by tying it at the entrance. Leaves of Banana tree are also used religiously in many Hindu festivals. However, it has associated astrological beliefs also, due to which marriages are solemnized with the tree to have happiness in marriage.

Scientific Name : *Azadiracta indica* Common Name : Indian Lilac Vernacular Name : Neem

Brief Description: Neem tree is native to India. It is a fast-growing tree and is evergreen, but in severe drought it may shed most or nearly all of its leaves. The branches are wide and spreading. The fairly dense crown is roundish. The leaves are opposite



and pinnate with dark green leaflets with missing terminal leaflet. The white and fragrant flowers are arranged in more-or-less drooping. The fruit is a smooth (glabrous) olive-like drupe which varies in shape from elongate oval to nearly roundish and is yellowish-white and very fibrous.

Medicinal & Other Uses : Traditionally Neem plant has many medicinal benefits like, it is a blood purifier & detoxifier. It is a powerful febrifuge, effective in malaria and fevers. Neem oil is also used for healthy hair, to improve liver function and balance blood sugar levels. Neem leaves have also been used to treat skin diseases like eczema, psoriasis, etc. Traditionally, slender neem twigs called datun had been used as a toothbrush and as a tongue cleaner. Ripe fruit destroys worms in the stomach.

Neem is a key ingredient in non-pesticidal management (NPM), providing a natural alternative to synthetic pesticides. Neem oil is used for preparing cosmetics such as soap, shampoo, balms and creams as well as toothpaste.

Religious & Cultural Associations: The neem tree is one of the most sacred plants to the Hindus and is worshipped reverently throughout India. Neem is also associated with Goddess Sitala Devi in north India (however, some people believe the tree to be a manifestation of Goddess Durga in some areas and as Neemari Devi in other areas. The tree is also associated to Manasadevi, the queen of the serpents, for protecting people from snake bites. The tree itself is believed to be a Goddess called Neemari Devi.

Sikh temple at Baba Gurditta Ji, Kiratpur Sahib has sacred Neem tree associated with sixth guru Guru Hargobind Ji's son Baba Gurditta Ji. Neem tree is also associated with Sai Baba, as Sai Baba's Samadhi (Final resting place).

Scientific Name : *Ficus religiosa* Common Name : Sacred fig Vernacular Name : Pipal

Brief Description : Sacred fig is native to India and origin of pipal tree can be traced back to the times of Indus Valley Civilization (3000 BC - 1700 BC) in the Mohenjodaro city. It is a large dry seasondeciduous or semi-evergreen tree. The leaves are cordate in shape with a distinctive petiole. The fruits are small figs green ripening to purple.

Medicinal & Other uses: Pipal tree is of great medicinal value. Its leaves serve as a wonderful laxative as well as tonic for the body and are highly effective in treating heart disorders. It is especially useful for patients suffering from Jaundice. It helps to control the excessive amount of urine released during jaundice.

Religious & Cultural Associations: Pipal tree is one of the most revered trees in India. Hindus hold a great spiritual regard for Pipal tree and people refrain from cutting this tree. The people use its heart shaped leaves for the religious purposes. Pipal plant is regarded as the representation of various





Pipal Tree : Sacred in Hindu religion

Hindu Gods and Goddesses Mentions have been made about the holiness of Pipal tree in Vedas and is also known as the 'Cosmic Tree'. Sadhus (Hindu ascetics) still meditate beneath sacred fig trees, and Hindus do pradakshina (circumambulation, or meditative pacing) around the sacred fig tree as a mark of worship. Traditionally, worship of the peepal has symbolic association with marital love and happiness.

The Pipal tree is also sacred to the Buddhists, because of Lord Buddha's connections with enlightenment under this tree and is often referred to as the Bodhi tree or the 'tree of enlightenment'.

Scientific Name: Ocimum sanctum

Common Name: Holy Basil Vernacular Name: Tulsi

Brief Description : The plant is an erect, much branched subshrub with hairy stems and simple, opposite, green leaves that are strongly scented. Leaves have petioles, and are ovate. The flowers are purplish in colour. The two main types of Tulsi plant are cultivated in india , the green-leaved Rama Tulsi and purple-leaved Krishna / Shyama Tulsi. Rama Tulsi, is primarily used for worship and the other is of greater medicinal value.

Medicinal & other uses: Tulsi is used as remedy for common colds, heartaches, stomach disorders, inflammation, heart disease, various forms of poisoning and malaria (Jerath *et al.*, 2012).



Religious & Cultural Association: Tulsi plant has a lot of significance in the Hindu religion. Many Hindus have tulsi plants growing in front of or near their home, often in special pots or special small masonry structures. Traditionally, Tulsi is planted in the center of the central courtyard of Hindu houses. Tulsi has many associated legends and is extensively used to maintain ritual purity, i.e. to purify things if polluted and also to ward away evil. People worship Tulsi everyday in the morning as well as evening time. There is a Tulsi - maadam (an altar bearing the Tulsi plant) in most Hindu households. As per the Hindu mythology, Tulsi is very close to Lord Vishnu and Vrinda Devi (www.hinduofuniverse.com). Further, according to a Christian folklore, the sacred



Traditional Tulsi Plant worship in front of the home court yard

plant Tulsi grew around the place, where Jesus Christ was crucified.

Besides, the plants discussed in the preceding text there are many other plants which do not grow in Punjab but still have sacred significance in the state like coconut, Rudraksha, sandal wood etc. The fruits, flowers and seeds of different plants are traditionally attached to various ceremonies. Further, people respect various plants with in the region due to their medicinal and beneficial properties. Some trees are also associated with the sikh temples in Punjab like Shisham in Tahli Baba Sri Chand Ji Gurudwara near Dera Baba Nanak; Van in Faridkot, Sri Muktsar Sahib, Tibba Sahib, Abohar & Firozepur; and White Babool in Sahnewal.

SACRED ANIMALS : SOME EXAMPLES

The tradition of worshiping animals is a common phenomenon throughout India. The different cultures and anthropogenic groups in various states have common traditions with subtle variation according to the regional cultures and practices. Indian tradition accords animals a revered position unequalled by any other. For this reason, many animal species have been traditionally protected and continue to be conserved in many parts of India. Many traditional religious ceremonies involving animals are observed by the Punjabis. Traditionally, cow is respected equivalent to mother and Hanuman the monkey god. Hindu deities have particular vehicles or vahana associated with them on which they travel. These vehicles are animals or birds and the Gods are depicted with the corresponding animals or birds.

Scientific Name : Bos taurus

Common Name: Cow

Vernacular Name : Gaan

Brief Description: It is zebu cattle often known as humped cattle or Brahman, is a type of domestic cattle originating in South Asia. They are characterised by a fatty hump on their shoulders, drooping ears and a large dewlap.

Religious & Cultural Association : The cow is



holiest animal in India. It is equated to one's mother as it fulfills all the basic needs, therefore it is called 'Gaumata'. The cow has also been associated with various deities, notably Shiva (whose vahana or divine vehicle is Nandi, a bull), Indra (closely associated with Kamadhenu, the wish-granting. cow), Krishna (a cowherd in his youth), and goddesses in general (because of the maternal attributes of many of them). It has been the backbone of Indian families and the Indian agricultural system ever since the dawn of this ancient civilization in India. Apart from the extensively used Cow's milk the most important use of Cow was in Agriculture. The entire Indian agriculture was based on the nature's best fertilizer -Cow dung, and one of the nature's best pesticide -Cow's urine (along with the neem based solutions) were used extensively in the agriculture. Buttermilk again which is a derivative of Cow's milk was used as an effective fungicide and weedicide.



Scientific Name : *Equus caballus* Common Name : Horse Vernacular Name : Ghodha

Brief Description : The horse has been present in South Asia from at least the middle of the second millennium BC. Horses have been so strongly bred by humans that there is extensive variability in their size and weight. The general body pattern is that of long limbs, barrel shaped body, and a long neck supporting a large head. Vision and hearing are key senses for these animals, as suggested by their large eyes and ears. The tail is relatively short but has long hair coming off it that frequently reach the ground. There is also long hair along the neck and forehead (the mane and forelock).

Religious & Cultural Association : In more than one tradition, the white horse carries patron saints or the world saviour in the end times (as in Hinduism, Christianity, and Islam), is associated with the sun or sun chariot (Ossetia) or bursts into existence in a fantastic way, emerging from the sea or a lightning bolt. Lord Indra and Lord Vishnu have associations with the white horse in hindu mythology. Furthur, in Buddhism, white horse (named Kanthakathat) was favourite horse of Prince Siddhartha i.e. Gautama Buddha and in Sikhism, Guru Gobind Singh Ji was famed for his blue coloured horse. Even today the lineage of the stallions continues at Hazoor Sahib, Nanded. The horses are kept in stables and are bred from the original stallion belonging to Guru Sahib Ji, although over time the blue colour has been diluted down to a grey white. No one is allowed to ride the

horses as a mark of respect and they are brought out on the festival of Holla Mahalla or gurpurbs when they are beautifully decorated with tassels and riding gear.

Scientific Name : *Gyps sp.* Common Name : Indian Vulture Vernacular Name : Gidh

Brief Description: Indian Vulture is the Old World vulture, including the birds that are seen scavenging on carcasses of dead animals. They find carcasses exclusively by sight. It breeds mainly on hilly crags in central and peninsular India. The long-billed vulture is a typical vulture, with a bald head, very broad wings and short tail feathers. The populations of this species have drastically reduced in this region.



Religious & Cultural Association: Vulture has many references & associated events in hindu epic Ramayana like the vulture king, Jatayu and his brother which finds mention in the epic Sampati. The vulture is also sometimes depicted as the vahana of god Ketu. Parsis (Zoroastrians) also have funeral associated beliefs with the vultures i.e. the vultures help release the sprit or soul of the dead.

Scientific Name : Accipiter gentilis Common Name : Easter Goshawk Vernacular Name : Baaz

Brief Description : The Easter Goshawk inherits India and is the state Bird of Punjab. It has similar features to Common Goshawk but are darker in



colour. They are pure grey above with very little or no tinge of brown except on the wing-quills. They feed on various kind of Pheasants and pigeons (www.indianiodiversity.org)

Religious & Cultural Associations : Baaz is significant in Sikh history as it has been associated with Guru Gobind Singh ji (the tenth master of the Sikhs). He has had many titles bestowed upon him, one of the most beautiful was 'Chittay baajan wala" or Chittian Bajanvala), the keeper of the white falcon. The baaj features in a number of stories relating to the Guru. The bird also finds mention in the Sikh's religious book "Guru Granth Sahib".

Scientific Name : Semenopithecus entellus Common Name: Northern Plain Grey Langur Vernacular Name: Indian Langur

Brief Description: Langurs are largely grey (some more yellowish), with a black face and ears.



Externally, the various species mainly differ in the darkness of the hands and feet, the overall color and the presence or absence of a crest. Typically all north Indian gray langurs have their tail tips looping towards their head during a casual walk There are also significant variations in the size depending on the sex, with the male always larger than the female.

Religious & Cultural Associations: Hindus revere the Hanuman langur as the living incarnation of Hanuman, the Hindu monkey-God. He is associated to epic Ramayana (being the loyal devotee of Lord Rama), an incarnations of Lord Vishnu and an army of monkeys or the vanara sena and other notable vanaras namely, Sugriva, Vali and Angada also have lot of significance in the epic.

Scientific Name : Corvus splendens Common Name : House Crow Vernacular Name : Kaan

Brief Description : The house crow is a common bird that is of Asian origin. The forehead, crown, throat and upper breast are a richly glossed black, whilst the neck and breast are a lighter grey-brown in colour. The wings, tail and legs are black. There are regional variations in the thickness of the bill and the depth of colour in areas of the plumage.

Religious & Cultural Associations : Conservation Significance: The house crow is usually identified with departed souls or ancestors. Throughout the country, certain communities observe the ritual of 'pinda pradhana' (offering of cooked rice balls) to the crow, during ancestral worship. The crow is



supposed to be a connection between the living world and the world of the dead. Also, in traditional Hindu homes, the crow is offered a handful of rice first, before any meal. The bird is also the vahana of Lord Saneeshwara (astrologically equated to Planet Saturn), one of the navagrahas or nine planets (http://ecoheritage.cpreec.org).

Scientific Name : Pavo cristatu

Common Name : Peacock / Indian Blue Peafowl

Vernacular Name: Mor

Brief Description: The peacock was designated the national bird of India in 1963[The Indian peafowl is a large and brightly coloured bird native to South Asia. The male peacock is predominantly blue with a fan-like crest of and is best known for the long train made up of elongated upper-tail covert feathers which bear colourful eyespots. These stiff and elongated feathers are raised into a fan and shaked in a display during courtship. The female lacks the train, has a greenish lower neck and a duller brown plumage. The Indian peafowl is found mainly on the ground in open forest or on land under cultivation.

Religious & Cultural Associations : Many Hindu deities are associated with the Peacock like Goddess Saraswati and Lord Indra. It is considered as divine vehicle or vahana of God Kartikeya (also known as Skanda or Murugan). The feathers of the peacock are also considered auspicious and are used to fan Hindu Gods in temples. The crown of Lord Krishna is usually adorned by a peacock feather. Scientific Name : *Naja Naja* Common Name : Indian Cobra Vernacular Name : Naag

Brief Description: The Indian cobra is native to the Indian subcontinent and can be found throughout India. The Indian cobra is a moderately sized, heavy bodied species. This cobra species can easily be identified by its relatively large and quite impressive hood, which it expands when threatened. This species has a head which is elliptical, depressed, and very slightly distinct from neck. The snout is short and rounded with large nostrils. The eyes are medium in size and the pupils are round.

Religious & Cultural Associations : The worship of finds wide reference in all Indian traditions. Adisesha, the king of snakes is associated with Narayana (a form of Lord Vishnu) when he lies on the ocean. The snake is coiled around Lord Shiva's neck. Snake stones are present in temples and under the peepal and neem trees. In Punjab, Lord Gugga is associated with snakes and is worshipped on Gugga Navami.

The various animals are associated with the hindu deities as their vehicles or vahanas for travelling like Aditya - seven horses; Brahma - seven swans; Durga - the lion; Ganesha - the mouse; Indra - the elephant; Kartikya - the peacock; Lakshmi - the owl; Saraswati - the swan or the peacock; Shakti - the bull; Shani the crow; Seetla - the donkey; Shiva - the bull; Varuna - seven swans; Vayu - a thousands horses; Vishnu - the Garuda, the eagle, Adi Shesha, the serpent; Vishwakarma - the elephant & Yama - the male buffalo. (www.hinduism.about.com).





EXAMPLES OF CONSERVATION BY COMMUNITY

In Punjab the biodiversity is respected and is conserved by different communities in one way or the other. However, some communities within the state have taken initiatives collectively to protect or save a particular floral or faunal species as detailed below :

Kaya Kalp Vriksh at Fatehgarh Sahib: Trees have a special religious and cultura significance in Punjab. The Punjab state has one of the largest Banyan (Ficus bengalensis) tree amidst lush green fields at village Cholti Kheri, block Khera Mandal of district Fatehgarh Sahib. The canopy of the tree spreads over three to four acres of land. It is also known as 'Kaya Kalp Vriksh'. The tree resembles a small forest as its aerial roots have grown as large props supporting the tree's many branches with under storey vegetation which is thick that even sunlight hardly penetrates especially during monsoons. The fruit is a small fig but is not edible and is red when ripe.

According to villagers, this great banyan is a few hundred years old. The local belief is that nobody can stop the relentless spread of the tree. Even though the tree is surrounded by private land, the adjoining land owners do not cut any branch which may grow and cover their land. This is due to associated sacred believes.





The tree has acquired religious as well as cultural significance with a temple. People of the surrounding villages believe that the tree has unique healing and medicinal power, therefore, people suffering from different ailments visit this place to spend some time under its shade in order to get cured. A fair is organized by local people annually under its shade on 15th February to worship the divine powers of Great Banyan. The tree has created its own unique eco system supports large number of birds such as mayna, peacock, parrot, crow, owl, egret, etc and many insect species. The site has a tourism and heritage potential as it attracts many visitors including people from nearby areas, students groups, tourists and the spiritually inclined. Though the great banyan tree continues to grow undisturbed however, it needs to be conserved from the vagaries of time, weather and human behaviour (Singh & Jerath, 2014).

• Chatpat Bani (Kataru Chak) in Pathankot : The Chatpat Bani protected forest area in Pathankot. It is the city situated a the foot of hills and near the head of Bari Doab canal. Chatpat Bani is located in village Kataru Chak Pathankot-Amritsar National Highway. It has 30 acre area under thick forest. The Chatpat Bani preserved forest area site and a temple with it. The forest area has been preserved by the local residents due to associated sacred beliefs.



 Protection of Wildlife by the Bishnois of Abohar:

The Black Buck antelope or Kala Hiran or Ena (Antilope cervicapra Linn) is held sacred by the Bishnoi tribes. Bishnoi is a community in Rajasthan famous for its self-sacrificing defence of wildlife and trees, continue strong traditions of conservation. At all the Bishnoi sites, Blackbuck and Chinkara are abundant. The conservation work of blackbuck, the Punjab state animal was started by All India Jeev Raksha Bishnoi Sabha in Abohar area (district Ferozepur) in 1974 by Sant Kumar Bishnoi. The efforts of the Sabha have resulted in maintaining the number of blackbucks. In acknowledgment of the efforts of the Sabha, the state government declared a 70 sg km area of Abohar as the Abohar Wildlife Sanctuary in 1975 under the Wildlife Protection Act, 1972





(As of 2006, it is reported that the state government is considering converting the sanctuary into a community reserve, new category of protected area brought into the Wild Life Protection Act in its 2003 amendment). The sanctuary is unique as the entire area is under private ownership and involvement of the forest department is minimal. It includes thirteen Bishnoi villages and three closed areas (Neema, 2009).

Protection of Indian peafowl in a group of villages in District Ropar : Since ancient times, the Indian peafowl, national bird of India, has been found in abundance in rural areas of Punjab. The state's natural vegetation provided a suitable habitat for its feeding and roosting. However, the loss of tree cover at the time of consolidation of land holdings and increased use of pesticides during the Green Revolution in



the state has led to decrease in availability of habitat and pesticide-free grain for this beautiful bird. In spite of this, the bird can still be sighted in great numbers in 4–5 villages in Ropar District namely, Todar Majra, Makrian, Chunni Khurad, Makar and Majatri as a result of the villagers efforts. These villages are adjacent to each other and cover a total area of nearly 404.8 ha. About 400 Indian peafowl have been protected in Todar Majra village alone, which has an area of 500 acres (202.4 ha) and a human population of around 700 persons (Jerath, 2014).



Keshopur Chhamb Community Reserve

Box 9. Community Reserves in Punjab

Keshopur Chhamb Community Reserve

It is the first Community Reserve declared by the Government of India. It lies in the Bari Doab area between Beas and Ravi rivers near the town of Gurdaspur. It comprises of five villages (Miani, Keshopur, Matwa, Dalla and Magar mudian) around a wetland which has been attracting migratory bird species from Central Asia and Siberia.

The conservation efforts has resulted spotting more than 400 species of birds (out of which about 45 species are migratory) in the area. Other faunal species includes: 7 species of mammals, 17 species of fish, 8 species of reptiles, some amphibians and several insects. The flora of the area is also very rich including 344 species of angiosperms. The villagers voluntarily cooperate with the Forest Department to

• Conservation in Community Reserves

Two new categories of protected areas namely Community Reserves and Conservation Reserves were created in 2003 under the Wildlife Protection Act, 1972 by the Govt. of India. These categories provide a mechanism for recognition and legal backing to community initiated efforts in wildlife protection outside the protected areas. Out of four Community Reserves notified by the Government, two Community Reserves namely Keshopur Chhamb and Lalwan Community Reserves have been notified from Punjab as illustrated in **Box 9**.



Lalwan Community Reserve

conserve this important ecosystem. They use the wetland for sustainable harvesting of lotus stem and *trapa* fruits which are sold in the local market and provide livelihood to several people around the wetland.

Lalwan Community Reserve

This Community Reserve is located in Lalwan village of Tehsil Garhshanker in district Hoshiarpur and is spread over more than 3000 acres of panchayat forest land. The area is rich in avifauna and has prominent fish and floral diversity. The communities residing around the reserve in 11 villages assist the Department of forests in implementing conservation and management plan and are a part of the Management Committee.

Source: ENVIS Centre, PSCST

The village pond of Keshopur belongs to the community owing to its importance in livelihood through its association with sacred flower 'Lotus'. Further, various religious rituals are associated with the trees in the Lalwan Forest area.

TRADITIONAL FESTIVALS OR MELA ORGANIZATION

People in the Punjab Region regard Baisakhi as a harvest festival and the most famous of the fairs are the Chhapar fair and the Jarag fair.

• Baisakhi

The most important festival which is celebrated in Punjab is Baisakhi, which marks the arrival of the harvesting season. The word Baisakhi is derived from the month of Baisakha (April-May) in which the festival is celebrated. This festival is celebrated on the 13th April every year, a time when the farmer returns home with his bumper crop, the fruit of his hard labour. Lohri is also related to the agricultural activities of the farmers. It marks the harvesting season in Punjab and the end of the winter season. The main event is making of a huge bonfire which is symbolic of the homage to the Sun God for bringing in warmth.



Baisakhi Celebrations



• Chhapar Mela:

The Chhapaar Mela is celebrated in the village of Chhapaar in the district of Ludhiana every September. A village fair that originated, as a small gathering of locals to worship snake embodiment of Guga 150 years ago has emerged as a mega festival in the past three decades. This week long fair is organised on Anand Chaudas, the 14th day of the bright half of Bhadon in honour of Gugga Pir in Chhapar village of Dehlon block of Ludhiana district. An impressive shrine, Gugge di Marhi, was built in memory of the Pir in 1890. Gugga Pir was a Chauhan Rajput. According to the folklore he descended into the bosom of Mother Earth along with his steed, and never returned. He is said to possess special powers over all kinds of snakes. On the day the fair begins, villagers scoop out earth seven times, invoking Gugga Pir



to protect them against snakes. This shrine is believed to cure people of snake bites. People associate and narrate different stories about this place. The farmers of the Malwa belt recognise the fair to the extent that they change the agricultural chores according to the dates of the mela. Though originally the fair had started as a small congregation of the devotees of Gugga, it has now transformed into a big festival.

• Jarag Fair

This fair is held in Jarag, a village in tehsil Payal. in Ludhiana. It is held in Chet (March-April) in honor of the goddess Seetla. It is also known as the Baheria fair. Donkey the vehicle of Seetla goddess is the part of worshiping. Sweet gulgulas (jaggery cakes fried in oil) are prepared one day earlier and then given in offering to the goddess and thereafter to the donkey who is her favorite. After propitiating the goddess, the family members eat the remaining savory gulgulas with great relish. This festival is observed in Malwa and Powad but the fair is held only in Jarag. There is a pond where the devotees of Seetla gather. They scoop the earth and raise a small hillock, which is accorded the status of the goddess's shrine. Potters specially bring their donkeys decked in colored blankets. http://www.webindia123.com/punjab/festiv als/other.htm

A WAY FORWARD

Plant and animal worship has its roots in man's respect for nature and natural beings. Traditional societies considered animals as important creations, sharing natural resources and helping human beings in many different ways. The concept and practice of maintenance of the biodiversity through community participation are scientifically and socially valid. Their worship significantly contributes to the conservation of the species that are worshiped. Legally, while conservation efforts are restricted to the 'Protected Areas' where conservation is enforced by law, local traditions contribute, knowingly or unknowingly, to the conservation of several insignificant small species. Therefore, there is a need to conduct to apply contemporary scientific knowledge and dispassionately study people's traditional habits and practices so as to support and improve on the usefulness of these practices for appropriate ecological management. Further, similar efforts need to be promoted in other areas as well through appropriate awareness, education and training.



ENVIS Centre, PSCST in collaboration with ENVIS Centre, CPREEC, Chennai organized a workshop on the theme **'Ecological Tradition and Sacred Sites of Punjab'** in December, 2010. This article contains information collected during the workshop.

Some Important Sacred Plants in India

S. No.	Scientific Name	Common Name	Vernacular Name
1)	Calophyllum inophyllum Linn.	Alexandrian Laurel	Sultan Champa
2)	Ficus benghalensis Linn.	Banyan	Bargat
3)	<i>Clitoria ternatea</i> Linn.	Butterfly pea	Aparajit
4)	<i>Michelia champaca</i> Linn.	Fragrant Champaka	Champa
5)	Jasminum multiflorum (Burm.f.) Andr.	Downy Jasmine	Kundphool
6)	<i>Tinospora cordifolia</i> (Willd.) Miers. ex Hook.f. and Thoms.	Heart-leaved moonseed	Giloy
7)	Syzygium cumini	Indian black plum	Jamun
8)	Jasminum auriculatum Vahl.	Indian Jasmine	Juhi
9)	Guettarda speciosa Linn.	Indian Lavender	Panneer
10)	Diospyrus peregrine	Indian Persimon	Gaabh
11)	Anthocephalus cadamba (Roxb.) Miq.	Kadam	Kadamb
12)	Citrus limon (Linn.) Bunn. f.	Lime	Nimbu
13)	Azadirachta indica A. Juss.	Neem or Margosa	Nimb
14)	Oryza sativa	Rice	Chaval
15)	Streblus asper Lour.	Sandpaper Tree	Sihora
16)	Crataeva religiosa	Three-leaved caper	Barun
17)	Jasminum sambac (L.) Aiton	Arabian Jasmine	Moghra
18)	Aegle marmelos (L.) Correa	Bengal Quince	Bael
19)	<i>Bauhinia variegata</i> Linn.	Camel foot tree	Kachnar
20)	Strychnos potatorum Linn.	Clearing nut tree	Nirmali
21)	Butea monosperma	Flame of the forest	Dhak
22)	Lawsonia inermis Linn.	Henna	Mehendi
23)	Madhuca indica Gmel.	Indian butter tree	Mahua
24)	Zizyphus mauritiana Lam.	Indian Jujube	Ber
25)	Mimusops elengi Linn.	Indian Medlar	Bakul
26)	Albizzia lebbeck Linn.	Indian Siris	Siris
27)	Vetiveria zizanioides (L.) Nash	Khus Khus grass	Khas
28)	Nelumbo nucifera	Indian Lotus	Kamal
29)	Nyctanthes arbor-tristis Linn.	Night Jasmine / Coral Jasmine	Harsinghar
30)	Elaeocarpus ganitrus Roxb.	Blue-marble tree / Utracham bead tree	Rudraksha
31)	Hibiscus rosa-sinensis	China Rose / Shoe-flower plant	Gurhal
32)	<i>Stereospermum colais</i> (Buchanan- Hamilton ex Dillwyn) Mabberley	Trumpet flower tree	Paraal

S. No.	Scientific Name	Common Name	Vernacular Name
33)	Saraca indica (syn. Saraca asoca)	Ashoka tree	Ashok
34)	<i>Excoecaria agallocha</i> Linn.	Blinding tree	Tejbala
35)	Couroupita guianensis Aublet.	Cannon ball tree	Shivaling
36)	Cocos nucifera Linn.	Coconut tree	Nariyal
37)	Pandanus fascicularis Lam.	Fragrant Screw Pine	Kewda
38)	Ocimum sanctum Linn.	Holy Basil	Tulsi
39)	Emblica officinalis Gaertn.	Indian Gooseberry	Amla
40)	<i>Cassia fistula</i> Linn.	Indian Laburnum	Amaltas
41)	Prosopis spicigera Linn.	Indian Mesquite	Jand
42)	<i>Terminalia chebula</i> Retz.	Ink-nut tree	Harra
43)	Poa cynosuroides Retzius.	Grass of lucky augury	Kusha
44)	Mangifera indica Linn.	Mango	Aam
45)	Borassus flabellifer Linn.	Asian Palmyra Palm	Taar
46)	Ficus religiosa Linn.	Sacred Fig	Peepal
47)	Saccharum officinarum Linn.	Sugarcane	Gannah
48)	Curcuma longa	Turmeric	Haldi
49)	Bambusa bambos (L.) Voss	Bamboo	Bans
50)	Nymphaea stellata	Indian Blue Waterlily	Neelkamal
51)	Ricinus communis Linn.	Castor bean plant	Erand
52)	Tabernaemontana divaricata Linn.	Crepe Jasmine	Chandni
53)	Calotropis procera (Linn.) R. Br.	Giant Milkweed / Swallow Wort	Madaar
54)	Pongamia pinnata Linn.	Indian Beech	Karanj
55)	Artocarpus integrifolia Linn.	Indian Jackfruit tree	Kathal
56)	Ficus microcarpa Linn.	Indian Laurel fig	Kaamrup
57)	Nerium oleander Linn.	Indian oleander	Kaner
58)	Aerva lanata (Linn.) Juss.	Javanese wood plant	Chaya
59)	<i>Cordia myxa</i> Linn.	Large sebesten	Lasora
60)	Tagetes sp.	Marigold	Gendha
61)	Musa paradisiaca Linn.	Plantain / Banana	Kela
62)	Streblus asper Lour.	Sandpaper Tree	Sihora
63)	Tamarindus indica Linn.	Tamarind tree	Imli
64)	Terminalia arjuna (Roxb.) W. and A.	White Marudah	Arjun

Source: www.cpreecenvis.org.in

Annexure - 2

Important Sacred Animals in India

S. No.	Scientific Name	Common Name	Vernacular Name
1)	Ursus thibetanus	Asiatic Black Bear	Bhalu
2)	Ithaginis cruentus	Blood Pheasant	Chillimey or Semu
3)	Gallus gallus	Cock	Murga
4)	Odocoileus sp.	Deer	Mrig / Hiran
5)	Equus asinus	Donkey / Ass	Gadha
6)	Calodactylodes aureus	Indian Golden Gecko	Seraiki
7)	<i>Suncus murinus</i> Linn.	House Shrew / Asian Musk Shrew	Chachundar
8)	Pteropus giganteus	Indian Flying Fox / Giant Indian Fruit Bat	Gadal
9)	Psittacula krameri manillensis	Indian Rose-ringed Parakeet	Totha
10)	Grus antigone	Sarus crane	Saras
11)	Geochelone elegans	Tortoise	Kachuva
12)	Bos grunniens Linn	Yak	Jadala
13)	Panthera leo persica	Asiatic Lion	Sher
14)	Haliastur indus	Brahminy Kite	Brahmani Cheel
15)	Turbinella pyrum	Conch	Shankh
16)	Canis lupus familiaris Linn	Dog	Kutha
17)	Columba sp.	Pigeon	Kabutar
18)	Semenopithecus entellus	Indian Langur / Northern Plain Grey Langur	Hanuman Langur
19)	Naja Naja Linn.	Indian Cobra / Spectacled Cobra	Nag
20)	Pavo cristatu Linn	Indian Blue Peafowl / Common Peafowl	Mor or Mayur
21)	Hystrix indicus Kerr	Indian Porcupine	Seh
22)	Achaearanea tepidariorum	Spider	Makadi
23)	Gyps sp	Vulture	Gidh
24)	Panthera tigris tigris	Bengal Tiger	Bagh

Annexure - 2 (Contd.....)

S. No.	Scientific Name	Common Name	Vernacular Name
25)	Papilio sp.	Butterfly	Titali
26)	Bos taurus indicus	Bull (male) / Cow (female)	Gai
27)	Felis silvestris Linn	Domestic Cat	Billi
28)	Apis cerana Fabricus	Honey Bee,	Madhu Makhi
29)	Crocodylus palustris	Indian Crocodile	Muggermach
30)	Herpestes sp.	Indian mongoose	Nevla
31)	Mantis religiosa	Praying Mantis	Тока
32)	Cygnus sp.	Swan	Hans
33)	Bubalus bubalis	Buffalo	Bhains
34)	Antilope cervicapra Linn	Blackbuck Antelope	Kala Hiran
35)	Camelus dromedaries	One-humped Camel	Oont
36)	Corvus splendens	House Crow / Colombo Crow	Kowwa
37)	Capra aegagrus hircus	Domestic Goat	Bakhri
38)	Hoplobatrachus tigerinus	Indian Bullfrog / Tiger Frog	Maindak
39)	<i>Equus caballus</i> Linn.	Horse	Ghoda
40)	Elephas maximus indicus	Indian Rlephant	Haathi
41)	Strix leptogrammica	Brown Wood Owl	Ullu
42)	Rattus rattus Linn	Black Rat	Chuha
43)	Funambulus palmarum	Three-striped Palm Squirrel	Ghilahari
44)	Sus scrofa / Sus scrofa domesticus	Domestic Pig	Sour

Source: www.cpreecenvis.org.in

REFERENCES

- Agoramoorthy G., Hsu J.M., 2012. The Signifiance of Cows in Indian Society between Sacredness and Economy, Anthropological Notebooks, XVIII (3).
- Bhatia N., Mukherjee T., Singh G., 1982. Plants Traditional Worshipping, Indian Journal of History of Science, 19 (1): 37-42.
- Deb D. and Malhotra K.C., 2001. Conservation Ethos in Local Traditions: The West Bengal Heritage Society and Natural Resource, 14 : 711-724.
- Deb D, 2006. The Role of Religious Ethics in Biodiversity Conservation in India (www.authorsden.com).
- C.P.R. Environmental Education Centre, 2014. Ecological Traditions of India : Vol. VIII : Punjab, Krishna N. (ed), ENVIS Centre, CRREEC, Chennai.
- Gujarat Forest Department, 2014. Cultural Forests : Sanskritik Van (A Unique System of Celebrating Van Mahotsav).
- IOSR Journal of Environment Science, Toxicology and Food Technology (IOSR - JESTTFT), March-April 2014. Responding to Environment Imbalance Mitigation Strategies: Confirm Your Share to Save Earth 8(2): 44-49.
- Jerath N., Sadhar S.S. and Dewan A., 2014. Sacred Plants : A Brief Note on Some of the Most Revered Plants, National Environment Awareness Campaign, Punjab State Council for Science & Technology, Chandigarh.
- Jerath N., Singh G., Sehgal D. 2012. Bioresources based industry in Punjab: A Treatise. Biodiversity Board & Punjab State Council for Science & Technology, Chandigarh.
- Jerath N., 2014. Socio-cultural and Religious Practices in Biodiversity Conservation in Punjab: In Ecological Traditions of India: Vol. VIII: Punjab. Krishna N. (ed), ENVIS Centre, CPREEC,

Chennai.

- Kaler P. L., 2014. Sacred Trees of Punjab: In Ecological Traditions of India: Volume III: Punjab. Krishna N. (ed), ENVIS Centre, CPREEC, Chennai.
- Malhotra K.C., Shah S. and Hayden R.M., 1993. Association of Pomegranate (*Punica granatum*) 73: 395-400.
- Mishra G.K., 2011, Conserving Biodiversity based on Cultural and Religious Values, NBRI, Lucknow.
- Neema P., 2009. Community Conserved Areas in India. A directory Kalpavriksh. Pune, India.
- Pathak N., Balasinorwala T., Kothari A., Borgini B.R. People in Conservation : Community Conserved Areas in India, Kalpavriksh, Pune.
- Saini D.C., Kulshreshtha K., Kumar S., Gond D.K. and Mishra G.K., 2011. Conserving Biodiversity boved on Cultural and Religious Values, NBRI, Lucknow.
- Sharma P.C., Bhatia V., Bansal N. and Sharma A. 2006. A Review on Bael Tree Natural Product Radiance, 6(2): 171-178.
- Singh G. & Jerath N., 2014. Kaya Kalp Vriksh (Ficus benagalensis). The Great Banyan Tree of Punjab In Ecological Traditions of India: Vol. VIII: Punjab. Krishna N. (ed), ENVIS Centre, CPREEC Chennai.
- Sponsel E.L. 2008. Sacred places and Biodiversity Conservation, Casagrande D. (ed) as cited on (www.eoearth.org).
- The Times of India, 2013. Patiala villages revive 'Triveni' tradition, September 14, 2013.
- Uttar Pradesh State Biodiversity Board Oct.-Dec. 2011. Biodivnews; quaterly e-newsletter, 2 (9).
- Uttarakhand Biodiversity Board, 2012. Biodiversity in different religious : Biodiversity Future Secured XII Conference of Parties Hyderabad.

WEB REFERENCES

www.allaboutsikhs.com All About Sikhs your Gateway to Sikhism

www.ancient-yew.org Ancient Yew Group

www.cbd.int Convention on Biological Diversity

www.christmasarchives.com The Christmas Archives

www.cmsdata.iucn.org International Union for Conservation of Nature

www.cpreec.org C.P.R. Environmental Education Centre, Chennai

www.cpreecenvis.nic.in ENVIS Centre, CPREEC, Chennai

www.ecoheritage.cpreec.org

Conservation of Ecological Heritage and Sacred Sites, C.P.R. Environmental Education Centre, Chennai

www.ecoindia.com ECO India

www.ecosikh.org Sikh Organization

www.eoearth.org Encyclopedia of Earth

www.esamkriti.com The Essence of Indian Culture

www.eurekalert.org US Department of Energy: Science News

www.hinduwisdom.info Hindu Wisdom: A Tribute to Hinduism

www.hinduofuniverse.com Hindu of Universe

www.historicalgurudwaras.com A Journey through Sikh History

www.iccaconsorhun.org Indigenous Peoples' and Community Conserved Territories and Areas ICCAs) www.indianetzone.com India Netzone

www.itihaasakgurudwaras.com Itihaasak Gurudwaras

http://isebindia.com International Society of Environmental Botanists

www.jainworld.com Jainism Global Resource Center

www.kalpavriksh.org Kalpavriksh Environment Action Group

www.nathas.org Natha Tradition

www.ncbi.nlm.nih.gov National Centre for Biotechnology Information

www.punjabitadka.in Punjabi Tadka

www.projectbrahma.org Project Brahma: Stones for New India

www.sbb.uk.gov.in Uttarakhand Biodiversity Board

www.sikhnet.com SikhNet -Sharing the Sikh Experience

www.trystwithtrees.com Tryst with Trees - Punjab's Sacred Heritage

www.upsbdb.org Uttar Pradesh State Biodiversity Board

www.walkthroughindia.com Walk Through India

www.webindia123.com Suni Systems Pvt. Ltd.

www.worldgurudwara.com A Directory of Gurudwaras Across the World

www.worldwildlife.org World Wildlife Fund

www.yogamag.net Yoga Magazine-Magazine of the Bihar School of Yoga

2,000 Murrah buffaloes identified for improving breed in Moga

The state Animal Husbandry Department has identified as many as 2,000 healthy Murrah buffaloes to improve the breed of cattle to enhance milk production. The programme has been launched by the Punjab Dairy Development Board with the help of World Bank in Moga district.

District Magistrate Parminder Singh Gill and Deputy Director, Animal Husbandry Department, Nazar Singh said the selected animals were being artificially inseminated with quality semen under progeny testing scheme.

They said this project was being implemented at 19 centres of the district by tagging ears of the buffaloes for regular monitoring and health check-ups to increase the graph of milk production. "We are using semen of healthy bulls to improve the breed," the officials said.

Gill said a majority of the selected buffaloes were those which gave over 15 litres of milk. "The bull calves of these buffaloes will also be developed as quality bulls for further reproduction," he said.

Nazar Singh said efforts were being made to save livestock from diseases. As many as 1.5 lakh injections against hemorrhagic septicemia and 3.3 lakh injections for foot and mouth disease had been administered to cattle. Besides, 5,000 doses of ETV to goats had been given during the past few months in the district.

Moga district is the repository of some of the best cattle and buffalo genetic resources in the country. Besides good trade of milk and its products at the local level, one of the most renowned food processing industries, Nestle, is also located here in Moga city, which has employed over 12,000 youths.

The project

- The selected buffaloes are being artificially inseminated with quality semen under progeny testing scheme
- Their ears have been tagged for regular monitoring and health check-ups to increase the graph of milk production
- A majority of the selected buffaloes were those which gave over 15 litres of milk

Source: The Times of India, 25th June, 2014

New algae species could provide valuable biofuel

The discovery of a new species of macro algae along the coast at south Goa could open up vast reserves of biofuel besides providing raw material for anti-cancer drugs.

A variety of macro algae was last discovered some 45 years back in the coastal region of Chennai.

"Such macro algae can be a rich source of biomass," said Felix Bast, principle investigator and scientist at the Centre for Biosciences, Central University of Punjab. "Macro algae or seaweed changes its morphology frequently and hence it is extremely tough to record or find out about various species," Bast said.

Algae larger than 100 micrometre in size is termed a macro algae, or seaweed, in layman's language. The new species has been named Cladophora goensis Bast after the researcher who found it. Green marine algae is responsible for the phenomenon of the massive green tides occurring in Goa, due to the explosive growth of seaweeds.

"This is a rapidly growing algae which cultivates in marine areas only and in water with salinity greater than 30ppm," said Bast. "Apart from the possibility of this being used as a raw material for biofuel, it can be cultivated and used in the production of FDA-approved anti-cancer drugs," he added.

The team of researchers including Felix Bast and his students Aijaz Ahmad John and Satej Bhushan used DNA sequencing techniques to establish their findings.

The researchers said this bloom forming algae needs some hard sub-strata or rock-like substance to grow on and was seen to be

growing on mooring lines, buoys, hulls of wooden dinghies and intertidal substrata, including natural rocks and concrete breakwaters. Its morphological characters distinguish it from its earlier species including the green pigment- chloroplast- containing organic cell.

Source: The Times of India, 25th June, 2014

Two more vulture species decline in population drastically over the years

In a recent paper published in the Cambridge Journal -Bird Conservation International, researchers from BNHS-India and Royal Society for the Protection of Birds (RSPB), it has been stated that like the three Gyps species, even Egyptian Vulture Neophron percnopterus and Red-headed Vulture Sarcogyps calvus had declined by nearly 80% and 91% respectively in the Indian subcontinent since the mid-1990s and are now globally threatened. Both species are likely to have showed similar physiological intolerance and exposure risk to diclofenac through a common ancestry and foraging niche with Gyps vultures. The paper examined the records of Redheaded and Egyptian Vultures obtained on road transects in and near protected areas between 1992 and 2011, particularly in northern India. This study comes as one of the strongest evidence that these two vulture species have also been affected by diclofenac.

Commenting on the impact on these two species, Chris Bowden, International Species Recovery Officer and SAVE Programme Manager said, "This study clearly shows that not just the Gyps species, but also other vulture species, have been affected by drugs such as diclofenac to varying extents. Future conservation efforts should cover all such species that have been affected, through a broader framework of research and advocacy".

Diclofenac ban to the rescue

After the ban on veterinary diclofenac by the government of India due to sustained efforts by BNHS and RSPB, the two organizations have been actively advocating for smaller doses of human diclofenac, under the wider international consortium SAVE (Saving Asia's Vultures from Extinction), so that the same may not be illegally used on cattle. The positive fallout has been that the prevalence and concentration of diclofenac in domesticated ungulate carcasses has decreased and population declines of Gyps vultures have slowed down or even reversed in a few cases. The observations in the later years of the study reveal that the declines in Red-Headed and Egyptian Vultures also seem to have slowed down after the ban. Their numbers have even possibly increased in some areas.

Illustrating the development Asad Rahmani, Director, BNHS said, "The partial recovery of vulture numbers after the ban shows that strong research and advocacy go a long way in effective conservation. Further research should also focus on the current status of Red-headed and Egyptian vultures".

The way ahead

The level of sensitivity to diclofenac in these other two species, when ingested by feeding on cattle carcasses

is yet to be known completely. Hence, further research is underway, since till now the sample size for the study of these two species has been smaller than in the case of the Gyps species. Thus, continued ban on such drugs, widespread advocacy and search for safer alternatives may benefit a wider range of vulture species in the Indian subcontinent than was previously thought.

Source : Hindustan Times, 11th April, 2014

Nagoya Protocol to help conserve biodiversity: Javadekar

The Nagoya Protocol, which will create incentives to conserve biodiversity, has received the required 50th instrument of ratification on July 14.

NEW DELHI: The Nagoya Protocol, which will create incentives to conserve biodiversity, has received the required 50th instrument of ratification on July 14.

India, having hosted CoP-11 to the Convention on Biodiversity (CBD) in Hyderabad in October 2012, is currently the President of CoP till CoP-12 to be held in Pyeongchang, South Korea in October this year.

Making a suo motu statement in Parliament, Environment Minister Prakash Javadekar said the Protocol on access and benefit sharing will enter into force on 90th day - October 12, 2014. He said facilitating early entry into force of this landmark international treaty has been a priority of India as CoP president. "India has made significant efforts in the last 21 months through political and diplomatic channels. After assuming the charge of Minister, I have taken personal interest in the matter, and addressed the CBD meeting in Montreal via video on June 16.

"I had also made a statement at the UN environment assembly in Nairobi on June 26 urging countries to ratify the Protocol soon. I also met my couterparts of concerned countries for early ratification, on the sidelines of the Nairobi meeting," Javadekar said. He said ratification of the Nagoya Protocol by 51 parties to the CBD is also a "major step towards achieving the first of the global Aichi Biodiversity Targets (Target 16 that by 2015, the Nagoya Protocol is in force and operational), and that too more than a year before its target date, which is quite remarkable."

"The pivotal role played by India in achieving this remarkable feat once again showcases India's leadership in biodiversity in the global arena," he said.

Source : 17 July, 2014, The Economic Times

IMPORTANT EVENTS

Wetlands Biodiversity and Services: Tools for Socio-Ecological Development

14th to 18th September 2014 Venue : HUESCA, Aragón, Spain Website : http://www.wetlands2014.eu Contact person: Francisco A. Comín Organized by: Society of Wetland Scientists-Europe

National Seminar on Management of Urban Biodiversity-Challenges, Issues and Solutions

1st to 2nd September 2014 Venue : Bangalore, Karnataka, India Website : http://www.christuniversity.in Contact person: Dr Antoney P U Organized by: Christ University

International Conference On "Agriculture, Forestry, Horticulture, Aquaculture, Animal Sciences, Food Technology, Biodiversity and Climate Change Sustainable Approaches" (AFHAFBC-2014)

30th to 31st August 2014 Venue : New Delhi, Delhi, India Website: http://www.krishisanskriti.org Contact person: Dr. G. C. Mishra Organized by: Krishi Sanskriti

National Seminar on Management of Urban Biodiversity-Challenges, Issues and Solutions

1st to 2nd September 2014 Venue : Bangalore, Karnataka, India Website: http://www.christuniversity.in Contact person: Dr Antoney P U Organized by: Christ University

Wetlands Biodiversity and Services: Tools for Socio-Ecological Development

14th to 18th September 2014

Venue : HUESCA, Aragón, Spain Website: http://www.wetlands2014.eu Contact person: Francisco A. Comín Organized by: Society of Wetland Scientists-Europe

International Conference on Plant Physiology 2014

26th to 28th August 2014 Venue : Bali, Indonesia Website: http://www.mspp.org.my Contact person: Dr. Nor Mayati Che Husin Organized by: Malaysian Society of Plant Physiology

2014 International Conference on Environment and Natural Resources (ICENR 2014)

29th to 30th July 2014 Venue : Hong Kong, China Website: http://www.icenr.net/ Contact person: Ms Mickie Gong Organized by: CBEES

3th Global Conference: Environmental Justice and Citizenship

13th to 15th July 2014 Venue : Oxford, United Kingdom Website: http://www.inter-disciplinary.net Contact person: Rob Fisher Organized by: Inter-Disciplinary.Net

2014 International Conference on Energy and Environment Research (ICEER 2014)

18th to 19th July 2014 Venue : Madrid, Spain Website: http://www.iceer.net Contact person: Ms. Cindy Lau Organized by: SCIEI

ENVIS CENTRE, PUNJAB SCORES HIGHEST COUNT IN INDIA

The Environment Information System Centre (ENVIS) is a network of 68 ENVIS Centers (28 State Centers and 40 Thematic Centers) in the country established by Ministry of Environment, Forests and Climate Change, Govt. of India. The Ministry conducts an annual performance review of all the Centers. The Ministry has evaluated and graded all the ENVIS Centers for the activities undertaken during the F.Y. 2011-12 & F.Y. 2012-13. The grading has been done on the basis of marks (out of 100) attained by each Centre by evaluating the different parameters such as website updation (online monitoring), Database Development (non-numeric/ numeric), publications, user engagement and interaction (including visitors & Query - Response statistics), new initiatives undertaken, reporting in review meetings and personal visits.

ENVIS Centre in PSCST, a State Centre, during the two financial years 2011-12 & 2012-13 scored highest count among 68 centers of India i.e. 82 and 83 marks (out of 100), respectively. The Centre was graded as category 'A' along with two other State Centers and 15 Thematic Centers. Further, the ENVIS Centre, Punjab had scored highest marks among all the category 'A' Centers. The Centre has also been graded as 'A' Centre with an aggregate score of 83 marks for Financial year 2013-14.



ENVIS Newsletters Published during 2011 – 12 & 2012 – 13



ENVIS NEWSLETTERS Published during 2013 – 14



National Evaluation Meeting of ENVIS Centres - 2014

The National Evaluation Meeting was held in March, 2014 at Sikkim for evaluating the performance of ENVIS Centers. A presentation of ENVIS Center activities was made by Mr. Gurharminder Singh, SSO (Env.) & Coordinator (ENVIS). The activities of ENVIS Centre were appreciated by the experts.

Publication of 'State of Environment (SoE) Report, Punjab-2014'

PSCST has published 'State of Environment (SoE) Report, Punjab-2014' under Govt. of Punjab Annual Plan Scheme EE-8: State of Environment Reporting for free distribution to disseminate environment related information/data. The SoE, 2014 focuses on six major environmental parameters i.e Air, Water, Forest, Biodiversity, Agriculture and Energy. The report attempts to identify the trends that reflect the current environmental situation of the State and highlights the remedial actions/ initiatives being taken up to ameliorate the situation. ENVIS Centre, PSCST played a pivotal role in publication of the document.





MAJOR ACTIVITIES OF ENVIS CENTRE, PSCST

ENVIS Centre, PSCST is consistently working towards its commitment to disseminate information on state environmental issues through its website and publications. The Centre regularly involve its network partners in collaborative activities so as to promote education for sustainable development:

Celebration of Earth Day, 2014

ENVIS Centre celebrated 'Earth Day' on 22nd April, 2014 with RCE Chandigarh partner Sant Isher Singh Public School, Mohali. Lectures and poster competition was organized on the occasion. Senior Program Officer discussed global theme: 'Green Cities' and motivated students to adopt sustainable lifestyles. A cycle rally was also flagged off from the school to spread awareness with posters of 'Save Tress, Save Water', 'Reduce, Recycle & Reuse',



Ms. Ravleen, Senior Programme officer, PSCST and Ms. Indeerjeet K. Sandhu, Principal, Sant Isher Singh School, Mohali on Earth day 2014

World Environment Day Celebration, 2014

ENVIS Centre, PSCST facilitated celebration of 'World Environment Day (WED)' by organizing a 'Brainstorming Session' at Council's office on 5th June, 2014 to catalyze the local initiatives towards sustainable development. Thirty two participants from Council and representatives from DEEKSHA (a NGO) joined for the celebrations. Dr. Satnam Singh Ladhar, AD (Env.), SPO (ENVIS) and Mrs. Tripat Parmar from DEEKSHA deliberated on the theme. A



Mr. Dinesh Kumar, Project Associate with participants during Ludhiana Exhibition on World Environment Day

short movie on 'Wetlands', developed by PSCST was also showcased on the occasion and Clips on water conservation and water pollution were also shown to motivate positive actions for the conservation of environment.

ENVIS Centre also collaborated with the Ludhiana Chapter of Indian Society of Remote Sensing (ISRS) and Punjab Remote Sensing Centre (PRSC), Ludhiana by organizing workshop and setting up of exhibition. Forty participants from Ludhiana NGC schools, PAU, PRSC and PSCST attended the celebrations. On the occasion, Dr. Brijendra Pateriya, Director, PRSC and Prof. SS Kukal, Chairman& Dr. RK Setia, Secretary, Ludhiana Chapter of ISRS delivered lectures on the importance of WED, environmental degradation in the region, implications of climate change and application of Remote Sensing/GIS in agriculture. A painting competition on the theme, "Safeguarding Environment" was also organized for the students. The winners of competitions were given prizes. A tree plantation drive was also conducted at the PRSC campus. The ENVIS Newsletters were also distributed to the participants.

Celebration of International Day for Biological Diversity - 2014

ENVIS Centre took initiative to participate and

motivate its RCE network partners/linkages (schools, institutions & organizations) within the state to contribute in the 'Green Wave' campaign 2014. The Green Wave is a multi-year global campaign commenced by Convention on Biological Diversity (CBD) and facilitated by UNESCO. The Green Wave brings together children and youth from around the world to raise awareness about biodiversity, and the need to reduce its loss. The activity involves planting trees at the same time and submitting the photograph online on the website URL:http:// greenwave.cbd.int. On 22nd May Green Wave activity was undertaken in Council, wherein, five native plant saplings of Emblica officinalis were planted in the office complex After plantation, a discussion session was held. The initiative was valued by all the members and it was recommended to take up such activity every year. The story of the activity was uploaded alongwith the photographs. The map generated on the website based on the registered activities, depicted Punjab as greenest state with maximum participation in 'Green Wave' campaign as compared to adjoining states.

SPO (ENVIS) participated in seminar organized by PSCST in collaboration with PBB and Centre for Industry Institute Partnership Programme (CIPP), Department of Biotechnology, Panjab University (PU), Chandigarh. Dr. Neelima Jerath, ED, Punjab State Council for Science and Technology delivered a presentation on 'Economics of Biodiversity and Biological Diversity Act, 2002' in the seminar. A total of 75 participants including Students, Research Scholars, Professors and Punjab State Council for



Science and Technology officials attended the same.

An exhibition (having ENVIS, RCE & PBB display boards) was also organized at the Student Centre of the Panjab Unversity. The students were also motivated to conserve biodiversity by organizing game 'Snakes and ladder' ENVIS Newsletters were also exhibited and distributed among the visitors.

Exhibition at NEAC Workshop

ENVIS Centre organized an exhibition by exhibiting displaying boards and ENVIS Newsletters in the National Environment Awareness Campaign (NEAC) Post-Sanction Guidance Workshop organized by Punjab State Council for Science and Technology (Regional Resource Agency) of the state on 23rd May, 2014 at the Institution of Engineers (India), Sector 19-A, Chandigarh. About two hundred and twenty participants from NGOs, schools, colleges/ universities and other agencies attended the workshop. SPO (ENVIS) created awareness about the ENVIS and its initiatives.

Participation in Sejahtera Art Project, Korea

ENVIS Centre, PSCST partner in RCE Global Network participated in "Sejahtera Art Project" for Sejahtera Centre in Korea on the invitation of RCE Tongyeong, Korea.

The Sejahtera Centre is three storied education centre within 200, 000 sq. meter eco-park to serve the RCEs network in Asia-Pacific as the hub. The purpose of Sejahtera Centre is to strengthen partnerships among RCEs in Asia-Pacific and to





contribute to the post UN Decade of Education for Sustainable Development.

Under the Sejahtera Art Project, RCE Tongyeong on accepting the purposal of RCE Chandigarh had send wooden blocks to paint them on the selected theme, Traditional Knowledge. The ENVIS Centre conducted the activity and involved the schools of Mohali and Jalandhar. The entry of Sant Isher Singh School Mohali was selected and delegated the work of painting the wooden blocks for Sejahtera Centre on state environment and traditional knowledge of Punjab. The same

have been painted and send to RCE Tongyeong Korea. The team work of Sant Isher Singh School, Mohali has been appreciated by other RCE Chandigarh partners.



Editorial Team

Dr. Neelima Jerath Dr. Satnam Singh Ladhar Mr. Gurharminder Singh Ms. Ravleen Singh

Guidance & Support Dr. S.K. Saxena & Ms. Nitima Bhatia

I.T. Assistance Mr. Dinesh Kumar

Published by

Punjab ENVIS Centre Punjab State Council for Science & Technology, Chandigarh

Sponsored by

Ministry of Environment & Forests, Government of India

AZAD HIND STORES

Contact us

ENVIS Centre, Punjab State Council for Science & Technology MGSIPA Complex, Institutional Area, Sector 26, Chandigarh - 160 019 Phones: 0172-2792325, 2795001, Fax: 0172-2793143 Email: pun@envis.nic.in, Website : www.punenvis.nic.in