Chapter - 1

Preamble and Literature Review
Preamble

The Indian Peafowl (*Pavo cristatus*), also called Blue or Common Peafowl, is the largest of the pheasants. The term peafowl can refer to the two species of bird in the genus *Pavo* of the pheasant family, Phasianidae. The term Peafowl denotes two species, Indian Peafowl and Green Peafowl whereas the African Congo Peafowl is placed in its own genus *Afropavo*. Indian Peafowl was justifiably declared as the National Bird of India in 1963 due to its ‘flagship’ value founded on its glorious position in mythology and its widespread distribution and grandeur. The peacock’s large body size, brilliantly ornamented plumage and long train-feathers are surely attractive to predators, and it remains a puzzle why such an extravagant trait has been developed despite being a handicap to escape the predation pressure, among other things (Johnsingh and Murali, 1978).

Indian Peafowl is iridescent blue-green or blue in the head, neck and breast. The back, or scapular, feathers are vermiculated in black and white, while the primaries are orange-chestnut. The so-called “tail” of the peacock, also termed as the “train”, is not the tail quill feathers but highly elongated upper tail feather coverts. It is mostly bronze-green, with a series of eyes that are best seen when the train is fanned. The actual tail feathers are short and grey-colored and can be seen from behind when a peacock’s train is fanned in a courtship display. During the molting season, the males shed their stunning train feathers and reveal the unassuming grey-colored tail which is normally hidden from view beneath the
train. Both species have a crest atop the head which is also present in the females. The female peafowl is duller in color than male. It is mostly brown, with pale underparts and some green iridescence in the neck, and lacks the long upper tail feather coverts of the male. Delacour (1977) reported that adult (third-year or older) males have wing lengths of 440-500 mm and tail-covert lengths of 1400-1600 mm (rectrices of 400-450 mm), while females have wing lengths of 400-420 mm and tail lengths of 325-375 mm. Males range in weight from c. 4000-6000 g, and females from c. 2750-4000 g (Ali and Ripley, 1974). The eggs average 69.7 x 52.1 mm and have an estimated fresh weight of 103.5 g.

Habitat

In its wild state in northern India, the favored habitats of this species consist of forests growing along hillside streams, in which the undergrowth consists of ber bushes (Zizyphus) and thorny creepers, the bushes growing some 10 or 12 ft apart, and spreading out to form table-shaped tops that meet one another to form a continuous mass, allowing the birds to move about easily underneath. Higher up in the hill country they are found in open oak forests, where tiny streams run between the hills and each stream-bank is well covered by bushes, brambles, and reeds (Gadagkar, 2003). Over much of southern India where the birds are protected they are likely to occur in any patch of scrub-jungles and forest edges, showing affinity to moist and dry deciduous semiarid biomes and sometimes rainforest. It is also found in agriculture fields, along streams with good vegetation and close to human
habitations in a semi-feral condition (Johnsgard, 1986). It roosts on trees and also uses tall buildings where trees are scarce. It generally prefers a habitat mosaic of scrub and open areas, with adequate sites for 'dust bathing' and 'lekking', a phenomenon where males are known to congregate in open areas for displaying to attract females (Yasmin and Yahya, 1996). In general, wild birds seem to prefer moist and dry-deciduous forests in the neighborhood of streams (Ali and Ripley, 1974). There are also captive populations of the Peafowl in some National Park and other protected areas. Because of human encroachment into their natural territories, peafowl and humans have come into increasing contact. Because of their natural beauty some are reluctant to classify the birds as pests but their presence can be disturbing, especially given their tendency to eat indiscriminately of garden boundaries and the male's powerful vocal crow (louder than a rooster's crow).

Adaptations and Behavior

Peafowl have long, strong legs with four toes and claws adapted to scratching on the ground for food. Peafowl physically interact with each other usually during territorial disputes. They will attack each other with their beaks and claws, chasing and pecking at each other. Although possessing metatarsal spurs "thorns" used for kicking, they are used only for defense against predators. Peafowl warn each other when danger approaches with loud, shrieking cries and honks (Petrie et al., 1991).
The most notable adaptation is that of the male's beautiful feather train. This train helps to attract females and to threaten predators because it makes the peacock look much larger and gives the appearance of hundreds of eyes looking at a predator. Peacocks don't develop the long trains until three years of age, after which the train is molted yearly. The train is not actually the peacock's tail, is composed of 100-150 upper tail coverts, which are supported by 20 retrices (true tail feathers). Peafowl run more than they fly. Its flight is swift but cannot be sustained for a long time. It is not a migratory bird. The only time they fly is when they have to cross a river or ravine, when trying to escape from predators, and to roost up in trees. Dust bathing is critical as this bird has to condition its feathers and remove feather-degrading bacteria and other external parasites.

The peafowls use certain traditional roosting trees, at least where they are protected, and return every night to these. They fly to the top branches of dead trees just a little after sunset and leave just before sunrise. Thus, home ranges are likely to be fairly small, and limited to foraging areas radiating out from roosts and within easy walking distances from them.

The calls of this species are numerous, and are still only rather poorly described. Johnsingh and Murali (1980) listed 11 possibly distinct calls, of which three or four are associated with various enemies, one with parent-young relationships, and one with sexual behavior and related aggressive behavior. The displays of this species, which can be observed so easily in zoo birds, are almost
too familiar to describe. Chakravarthy (2002) has described copulatory behavior in the species, and the strutting has been described by various observers (Ali and Ripley, 1983).

Diet

Peafowl are generally believed to be virtually omnivorous (Baker, 1930; Ali and Ripley, 1978), eating everything from grain and green crops, plant parts, flower petals, seed heads, insects, small reptiles, mammals, and even small snakes. Berries, drupes (such as Carissa, Lantana, Zizyphus) and wild figs (Ficus) are apparently favoured foods where they are available. Johnsingh and Murali (1980) found the birds feeding in cultivated fields and on an adjoining acacia plantation as well as in fallow lands and noted that three birds that were examined had primarily eaten plant materials such as leaves, grass seeds, flower parts, Croton fruit, Acacia seeds, Cyperus rhizomes, and rice. Invertebrates included various insects such as termites, grasshoppers, ants, beetles, scorpions and other arthropods. They also feed on reptiles, and amphibians. Foraging is usually done in small groups, which are primarily harem groups during the breeding season and are segregated parties of adult males and females with young outside the breeding season.

Breeding Ecology

Peafowl are capable of reproducing at the age of 2 and breed from April to July. It is polygamous and that a harem mating system prevails. Obviously not all
adult males are able to gather harems. Johnsingh and Murali (1980) noted a sex ratio favoring apparent females, but admitted that immature female-like males probably affected their estimates. Perhaps only half of the females in a given population are actually breeding birds, as some are too young and others are too old or otherwise unable to breed (Sharma, 1974; Kaul and Garson, 1993).

Territoriality is as yet unstudied in this species, but the male’s loud calling during the breeding season is almost certainly associated with dispersal and spacing. Males will display in the company of hens during courtship and are very territorial to other males during this time. For a breeding trio of peafowl, one should have a minimum of 400 square feet. The male will display by spreading out its train, strutting and whirling while it faces the female with the beautiful ornamental side of the train showing. After mating, the female constructs a nest in undergrowth on the ground. She will lay four to eight eggs and incubate them for about 28 days. After hatching, the chicks are tended by the hen so they can stay protected and learn how to eat. Young are called peachicks, males are called peacocks, and females are called as peahens.
Literature Review

Birds are the major components of natural forest ecosystem. They are warm blooded animals and have reptilian ancestry. Bird's bodies are perfectly adopted for flying. They have highly developed eyesight and hearing power. They are unable to recognize the smell and perfect taste. Birds are useful in various ways either directly or indirectly to mankind, by controlling harmful insects and cleaning of the wastes. They act as pollination agents. They are also used as food by man. Their guano is an excellent fertilizer. They are the good indicators of ecological status of any given ecosystem and play an integral part in the biosphere. In order to understand much about them the present study is proposed for Ornithological field (Gina and Frost, 2001).

The field of Ornithology as an area of systematic and scientific study was established in the year 1861. In that year, Paleontologists discovered the Archaeopteryx, the first bird like fossil with reptilian features. For a long time, paleontologists viewed the Jurassic period, archaeopteryx as unquestionably the first bird to flap its wings in the sky. The Archaeopteryx fossil of the latter Jurassic bird showed well preserved impressions of the medium sized Dinosaur more primitive than the birds of Marsh. To scientists of that period, in particular to Charles Darwin, these findings of semi-reptilian birds represented the evolutionary links in the primitive reptiles to the class Aves. Gerhard Heilmann in 1925 published the book, ‘The Origin of Birds’. Later, Hugh Whistler published
'Popular Handbook of Indian birds' in 1928. In 1941, BNHS (Bombay National History Society) published 'The Book of Indian Birds' by Salim Ali. Oates and Blanford published the 'Fauna of British India' in 1989-90. The publication of the 'Synopsis of the Birds of India and Pakistan' by Dillon Ripley in 1961 and subsequent publication of the 'Handbook of the Birds of India and Pakistan' by Salim Ali and Dillon Ripley between 1968-1974 gave a certain amount of stability to the taxonomy and Importance of Indian Birds (Ali, 1996). The peacock has fired the imagination of the people all over the world. But there are few people who can account for its origin. Ornithologists simply say that the peacock is the most beautiful pheasant. Of course, it is the most beautiful bird and is in the natural course of evolution. The tribal people of India who are full of vigour and imagination have many a fascinating story to account for its origin and it is instructive.

1.1. Vedic and Mythological Aspects

The national bird of India is the peacock. Majestic and graceful, with a beautiful and charming colour, it caught the fancy of the Indian artisans from early times, who used it profusely in their artistic creations. From the Harappan period to the present day, in every art expression, the peacock is beautifully portrayed. It has been depicted as a sacred bird mount of kartikeya, an important deity of Hindu pantheon and a supporter in miniature paintings.
The peacock is truly a beautiful bird. As it walks through the bushes, thoughts wander to our rich literature. Flannery O'Connor (1925-1964) quotes that, the peacock is associated with the Middle Eastern deity, Tammuz, consort of the goddess, Anat. In Greece, it is sacred to Hera, queen of heaven and lawful wife of Zeus, a pair of them drew her chariot, and they were kept at her temples. In the Roman Empire, peacocks were Juno's birds and on coins symbolized the females of the ruling houses, the lineage princesses.

In both the Hindu and the Buddhist traditions, the peacock's influence is mainly in the realm of worldly appearance. (This is in contrast to the swan which is a symbol of the higher realms). Hence, the Mother-of-Buddhas, Mahamayurividyarajni (Skt.) has a peacock as her vehicle. In Japan, she appears as Kujaku. Skanda (called also, Murugan,) one of the two sons of Indian god, Shiva, has a peacock for his mount. Lord of the elements of form, he is also a war god. A standard made of peacock feathers used to indicate the presence of a 19th century rajah, whose power is worldly. Raymond Carver (1938-1988) says, in the old Chinese bureaucratic system, members of the third highest level displayed a peacock as the insignia of rank. These badges were in the form of large embroidered squares applied to the front of an official's formal gown. (A similar system for indicating status was used in the Byzantine Empire). Peacocks are considered sacred in India, especially in the north where its feathers may be burnt to ward off disease, and even to cure snakebite. In a Buddhist tale about the travels
of some Indian merchants to Baveru or Babylon, we learn that the inhabitants of that great city marvelled at the gorgeous bird which the merchants had brought with them.

The motif of two peacocks, one on each side of the tree of life, is a well-known feature of Persian decorative arts. A pair of peacocks stands for the "psychic duality of man" similar to the role played by the Gemini in western astrology, says Cirlot (A Dictionary of Symbols). However it must be said that the notion of two natures in man or in the world that surrounds him is certainly not a universal one. (Hastings- Encyclopedia)

In Christianity, it stands for immortality and the incorruptibility of the soul, as in this 11th century Byzantine image. It is an obvious solar symbol, too, because of the resemblance between the rays of the sun and the circular fan of the tail in full display - "The Birds in Alchemy" by Adam McLean

J.E. Cirlot points out that in the Ars Symbolica of Hieronymus Bosch this blue-green bird represents the blending of all the colours of the spectrum [rainbow] and hence, the idea of totality. Tibetan culture among many others also views green as the mixture of all hues. Among the Muslims of Java in Indonesia there is a myth about how the peacock guarding the gates to Paradise ate the devil, and that is how he managed to get inside. This myth makes a unity of the duality
of good and evil, and also explains the bird's mysterious iridescent colour. It also incorporates the Indian notion of the incorruptibility of the peacock.

**Purification**

In the Hindu tradition the peacock is the vehicle (Skt.: *vahana*) of, or animal associated with, Kartikkeya. Skanda the 6-armed, 6-headed god of war who is a son of Lord Shiva. Kumari (Skanda/Subrahmanya's *shakti*) rides a peacock in the retinue of the Goddess Durga. Its (Latin) scientific name, *pavo*, derives from a Sanskrit epithet, Pavana [purity] that refers to the Hindu deity Vayu, the wind who is also the breath of life and the father of the hero Rama's friend, Hanuman.

It is said that at the time of Creation of the universe, when the primordial poison was churned out of the Sea of Milk and transmuted into the amrita of immortality, it was a peacock that absorbed the negative effects. Thus the bird is thought of as a protector, though its flesh is consequently considered to be poisonous. Since a potentially deadly emotion such as anger is depicted as a serpent, and the peacock is immune, the peacock also symbolizes victory over poisonous tendencies in sentient beings. Hence the title of a well-known text for training the mind, *Peacock in the Poison Grove* by Dharmarakshita, a Tibetan classic in translation.
In the discourse, The Wheel of Sharp Weapons, another Buddhist treatise by Dharmarakshita, the peacock is credited with an ability to neutralize and use black aconite (*Aconitum ferox*) as a nutriment. This highly toxic plant, also known as “wolf-bane,” is an important ingredient in traditional Asian medicine including that of Tibet. Mixed with other ingredients, it was used in treatments for mental illness, among other complaints (Crooke, 1926).

In Asia, the feathers of the peacock are considered auspicious and protective. However in the early part of the 20th-century in the West, it was considered very bad luck to keep them in the home. One silly explanation for this superstition is that it was promoted intentionally to prevent people from eating this large, delicious member of the pheasant family. In that way, the bird would be protected from extinction, for many people thought it was rare - a quintessential rara avis. The reason for the superstition has more to do with the eye-like markings at the tips of the feathers which, around the Mediterranean, recall the dreaded "evil eye"-the ever watchful and envious glance of the she-demon, Lilith. She was blamed for otherwise inexplicable deaths of infants, among other misfortunes.

Only partly as a result of this association with the evil eye was it believed that the flesh of the peacock is poisonous. But in any case, that is nonsense. At the height of both the Greek and Roman cultures, the bird was served at formal dinners with its feathers cunningly pasted back on, possibly with a honey mixture
used as glue, so that the dramatic beauty concealed the roasted fowl. At the excessive and luxurious banquets of European kings and queens of the Renaissance, there was an epicurean delight consisting of stuffed roast bird's one inside the other like the famous Russian wooden *mamushka* dolls. The outermost shell was the glorious peacock, its many-eyed train stretching the length of the middle of the "groaning board." As Margaret Visser, in much depends on dinner points out. People have always thought that what looks amazing must certainly taste wonderful, too.

From the time of Cicero until the Renaissance, no truly sumptuous European feast was held without a dish of peacock, often adorned with the bird's feathered head and fan of tail feathers. (A dish of swan could also be similarly displayed, the impressive wings taking pride of place instead of the fan). According to "Food fashions of the Renaissance" in Food. The History of Taste, where you can see illustrations of tables set with these extravagant dishes, it was the rapid rise in popularity of the meat of the North American turkey that ended the reign of "peacock supreme" (Kirthisingha and Buddhahasa, 1970).

**Peacock - the protector and preserver**

One of Green Tara's many epithets is The Peahen (Skt. Mayuri). Mahamayuri is green with 8 arms and 3 heads. Her faces are white, green and blue. Her eight hands display: Right side - Varadamudra, a sword, Vajra and
jewel; left side - a bowl, a treasure jar, a bell and a flower. Seated on a lotus throne, she wears all the ornaments and celestial garments of a bodhisattva.

According to the Mahamayuri Sutra of Pancharaksha, there was a bhikshu in the Buddha's Sangha called Svati, who was newly ordained. He was unfortunately bitten by a poisonous snake and fainted. Seeing his condition, Ananda reported this incident to Buddha Shakyamuni. Out of compassion for the newly ordained monk and for the future ones, Lord Buddha disclosed a Dharani capable of eliminating poisonous harm and malignant diseases. This is the Dharani of Arya Mahamayuri. Maha-Mayuri became in Japan, a male figure called Kujaku Myoo. This Buddhist wisdom deity associated with the peacock (whose call is believed to herald the rain) protects against calamity, especially drought.

Palden Lhamo, (pron. Penden Hamo, Skt. Shri Devi) the dark blue protector of all Tibetan Buddhist denominations who rides her mule through a burning [with wisdom] sea of blood [life in the bodily form] is sheltered by a peacock-feather umbrella. Lakshmi, wife of the Hindu god, Vishnu, sometimes is depicted with armbands in the form of peacocks. The birds are sacred to her since their cries are associated with the rainy season and hence, fertility. The hero of the Indian epic, Mahabharat is called Arjun, a name that refers to the peacock. Also, there is a north Indian/Nepali deity called Janguli who protects against snakebite and poisoning. Described as having 3 faces, 6 arms, her vehicle is, not
surprisingly, a peacock. In Nepal, practitioners of Jhankris, a shamanic tradition pre-dating both Buddhism and Hinduism, wear a tall head-dress of peacock feathers as an essential part of their regalia. Also notice the type of drum that is characteristic of shamans.

The peacock's beautiful and distinctive colouring is said to be a gift from the god, Indra. Krishna, the avatar of Vishnu who is God-as-the-one-responding-to-devotion, is also depicted in the company of peacocks. One of Krishna's roles is as the irresistible divine suitor. Perhaps that is the link to the recommendation in the Kama Sutra that, if a man wishes to appear attractive to others, he can wear a peacock's bone covered in gold tied to his right hand. The association of this jewel-tone bird with its sun-like fan of a tail evocative of the Wheel of Dharma, the Buddha's teachings; its connection to the ideas of immortality and compassion, and the unification of views or opposites, as well as the correspondence with the Garden which is the Pure Land, demonstrates in Mahayana Buddhism the archetypical nature of the relationship between the peacock and Amitabha.

In the depiction of this Buddha of Eternal Light, he is seated under a tree; we see its flowers and leaves peeking through the pavilion. Tenga Rinpoche says, "Birds, in particular, have strong desire and craving, so, as a symbol of craving transformed into discriminating wisdom. There are actually eight peacocks that support his throne, one at each corner of the base. Six peacock feathers arranged as a fan ornament the vase (Bumpa) and sprinkling utensil used for distributing the
blessing or purifying water in Tibetan Buddhist empowerments and other rituals. In this role they are not only a symbol of compassion, but also a symbol of immortality by virtue of their capacity to absorb and neutralize, and to act as a universal antidote against poisons including the *Kleshas* (imperfections or obscurations) such as anger, greed and ignorance that are inherently human.

*Rara avis*

A Latin expression used to emphasize, often ironically, the exotic singularity of an individual. Of course the peacock is not rare at all and should not be confused with Birds of Paradise, the paradisidae species that are rapidly disappearing from New Guinea due to loss of habitat as well as the demand for gorgeous feathers.

*Dharmarakshita*

Known as *Serlingpa* in Tibetan, for having come from Sumatra, “the land of gold”, he was Atisha’s teacher (11th century). He is the author of *Wheel of Sharp Weapons*. An earlier monk (ca. 261 BCE) of that name, who some say was a Greek, was invited to India by King Ashoka (Crooke, 1926).

At the time of the Churning: An alternate view is that Lord Shiva’s throat is dark because it was he who drank the poison, thus his epithet, Neelakantha. Shiva is also Mahakala, meaning both "Great Dark One" and "Great Time", the embodiment of Impermanence. Sauntering in and out of our poetry are these
peacocks, with each poem they reveal a separate emotion. So it is not just a
pictorial image - the peacock is an entire technique. The word peacock points to a
specific season - *Varsha ritu*, or the monsoon. Monsoon ragas (melodies) contain
beautiful description of the rainy season. And most of these compositions mention
the peacock.

The peacock, then, is unusual in at least two respects. Although it often
denotes the basic emotion - *shringar* or love that is universal in its appeal, it also
symbolizes pain - the pain separation from one’s lover. Samyog or union on the
one hand has the peacock calling in a celebratory manner, heralding the advent of
the rains. And in a totally different manner, the full-throated call of the mor
(peacock) establishes the viyog rasa (separation) where the call of the peacock
reminds the Nayika (heroine) of the absence of her lover. Folk dialects, like Braj,
Avadhi, Bhojpuri have used the world peacock in myriad ways - Mor, Morla,
Mayur. Folk-texts related to the monsoon are in plenty - yet the lyricism or the
poetic qualities mainly nurture the Viyog Rasa or the pain to separation. Since the
men-folk migrated to the cities for work, the women often waited with abated
breath for months on end for union with their lovers. Bihari literature has the
Barahmasa from of poetry that usually describes the woes of these separated
ladies. Here, addressing the peacock, the women request it not to call, lest it
remind them of their men who are away.
Shubha also mentions that the Pushtimargis of the Bhakti movement have a vast amount of literature that dates back 5000 to 7000 years. They have created brilliant padas (verses) for every time of the day - the Ashtayam Leela - since each day is compartmentalized into eight blocks. The Pushtimargis have also invented verses for each season and festival. So, the verses for Varsha Ritu or the monsoon season are unique and vibrant in its quality with the peacock taking on a very dramatic flavour. An absolutely textual image of the peacock is that it is part of the flora and fauna that serves the divine. Vrindavan the divine land, where lord Krishna, adorning a peacock feather, danced, played and teased the Gopikas (milkmaids), has fine examples of poetry that portray the image of this beautiful bird.

1.2. Ecobiology of Peafowls

Johnsingh and Murali (1978) have studied the ecology and behavior of Blue Peafowl at Injar, Tamil Nadu. Navaneethakannan (1981) has reported the activity patterns in a colony of Peafowl in Tamil Nadu. Sathyanarayana and Rajadurai (1989) investigated the roost tree preference and distribution of Indian Peafowl at Viralimalai, Tamil Nadu and found that the population in 20 villages was around 4,255 consisting of 1,468 males, 1,677 females, 435 subadults and 675 chicks. Sathyanarayana and Ramesh (1994) reported a population of 597 at the District Livestock farm, Machuvadi, Pudukottai, Tamil Nadu. These studies revealed that the most of the Peafowl preferred *Albizzia lebbeck* for roosting.
Sathyanarayana and Asokan (1996) counted a total of 1017 birds in 25 villages of Viralimalai Panchayat Union, Tamil Nadu. They also studied on the distribution, roosting tree preferences of Peafowls in 25 villages.

Rajaraman et al. (1998) have carried out a preliminary work on the food preferences of the Indian Peafowl at Suriyur, Mathur, Vemmani and Neerpalani villages that fall under the Viralimalai Panchayat Union, Tamil Nadu. The diet analyses revealed that the plant matter constituted the bulk of the diet of Indian Peafowl and the animal matter was found only in low proportions. Among the plant matter, paddy formed the major proportion. Saravanan et al. (1997) have also reported that paddy comprised the bulk of diet.

Sathyanarayana and Veeramani (1993a,b) investigated the activity patterns, food habits and use of roost trees by the Indian Peafowl in Scrub jungle and Dry deciduous Forests of Mudumalai Wildlife Sanctuary, Tamil Nadu. They found that the Peafowl roosted in eight tree species which includes species such as *Acacia sundra*, *Cordia obliqua*, *Bombax malabaricum* and *Zizphus jujuba*.

Sundaramurthy et al. (2002) carried out a study on the ecology and behaviour of the Indian Peafowl at Vembakkotai, Virudhunagar district, Tamil Nadu, from September 1995 to March 1996. They reported the sex ratio of adult male and female to be 1:0 : 7.2. Harem formation, display, roosting, preening,
standing, vocalization, feeding and breeding were the major behavioural activities of Peafowl during the study period.

Solaiappan et al. (2002) have reported the sex ratio of adult male and female to be 1:0 : 7.6 based on their studies on the population and behaviour of Indian Peafowl at Ketchilapuram village, Tuticorin district, Tamil Nadu from July 1998 and January 1999. They also reported seasonal variation in group composition and grouping patterns of Indian Peafowl in three different seasons. Habitat destruction, poaching for meat and egg were the real threats to the Peafowl in this area. Despite the crop damage caused by Peafowl, the villagers of Ketchilapuram tolerate the presence of the Peafowl due to their religious sentiment.

Sathyanarayana and Veeramani (1993b) have done assessment studies on crop damage by Indian Peafowl in Tamil Nadu. They have reported that the Peafowl primarily fed upon paddy and on finger millet (ragi) and estimated the percent crop damage as 34.2% with a crop loss of 142 g/ha/day. Overall results revealed that the bulk diet (88.9%) of the Peafowl constituted plant matter and that the animal matter constituted only 4.8% and grit 6.3%. It is very interesting to note that although there are many species of insects, only large black ants (Camponotus sp.) were recovered from the faecal samples. The direct observations on the intact and damaged tillers showed that 1.9% paddy tillers /m² /day were damaged by the Peafowl. The results obtained from the direct assessment show that the Peafowl
consumed 0.99 gms/m² area/day. The indirect crop damage evaluation from the faecal analysis shows that on an average the Peafowl consumed 3.29 g of paddy seeds (Mean weight of the seeds / faecal sample).

Sathyanarayana (2004) has done studies on bird pest management with special reference to Indian Peafowl in Tamil Nadu. In order to protect their crops, the farmers in the villages of Viralimalai Panchayat Union, Pudukottai district, Tamil Nadu, used audio tapes, scare dogs, and crackers to scare the Peafowl, although these methods were not very effective and economical. The use of reflective ribbon, a polypropylene metallic shining with red one side and silver white on other side was found to be very effective in preventing the peafowl from raiding crops from the paddy fields and other food crops.

Sathyanarayana and Mathialagan (1994) has carried out investigations on the helminth infection in the Indian Peafowl and has reported occurrence of only Ascaridia sp. Manimozhi et al. (2002) have reported their observations on the courtship behaviour, egg laying, incubation, rearing and management of captive Indian Peafowl at Arignar Anna Zoological Park, Chennai.

Sathyakumar (2006) has studied the different types of Indian Peafowl feathers (oscillated, half moon, sword, wing and tail) to determine the number and size of each part of the feather. Parameters such as length of feather, number and average length of barbs, and length of barbs in and below eye pattern have been
estimated. Raja Priya (2006) investigated whether the peafowl are killed for feathers or only shed feathers are collected by the villagers in different villages in Viralimalai Panchayat Union, Pudukottai district for economic benefits.

Habitat selection and utilization

Southern India is endowed with a rich diversity of galliformes, however, not much information is available with the exception of some surveys and short-term studies on the distribution, status, habitat requirements, diet, and activity pattern of a few galliformes species in southern India. A review of literature clearly indicates that there is a need for further based information on the current status, distribution and habitat requirements of galliformes in southern India. It is needless to emphasize that such information will help in the long-term conservation and management of galliformes in southern India.

Blue Peafowl is found only in certain limited parts of India (Howman, 1991; Bird Life International, 2005). In India, its distribution is restricted to a few parts of the north Indian and South Indian lands associated with cultivated areas where rough estimates suggest 2000-5000 individuals occur and are probably slowly declining due to hunting and habitat degradation (Bird Life International, 2001). Based on observational records, its habitat has been generally described as open and dry scrubby forests. The analysis of habitat selection and utilization by birds is a complex subject (Aebischer and Robertson, 1992). However the loss or
degradation of key habitats is a common cause of avian population declines, and understanding key habitat requirements is a common aim of many conservation biology studies. Knowledge of key, preferred and potentially limiting habitats can allow more to be provided in any conservation initiative. Peafowl numbers have declined by about 40% in open forests and scrubby populated areas since the mid 1970s (Birdlife International, 2005) and the habitat composition and quality in floral landscapes is likely to have changed over this period. It is not obvious what the consequences of loss of suitable foraging habitat could be. Habitat loss may have different consequences on the habitat use of a breeding bird, depending on the relative quality of alternative habitats (Brunn and Smith, 2003).

**Diet Composition**

Detailed investigation of diet is critical to the study of avian biology. Numerous methods have been used to assess the composition of vegetable and insectivorous diets in peafowls. Techniques ranged from direct visual observations, to the use of neck ligatures and the analysis of stomach contents and faecal remains. In case of foraging Peafowls, all these techniques are useful for assessing nutrition because invertebrates form a major component of the diet (JohnSingh and Murali, 1980).

Quantitative estimates of the composition are often made by counting prey remains in faeces. Analysis of faecal samples represents a relatively non-invasive
method of determining diet. The method confirms that items have been ingested and samples may be collected with minimal stress to study. The method is also free from the problems of identifying small items by direct observation (Rajaraman et al., 1998). Although faecal analysis is itself associated with some bias against small soft-bodied groups (such as Hemiptera and Collembola) the bias is not always large and is negligible.

Indian peafowl is a widely distributed and at places locally abundant bird in Indian subcontinent. Peafowls all quite commonly found in rural areas of India. Most peafowl’s prefer to live in interior of dense forests or hilly areas, with a lot of bushes or reeds on forest floor (Marion, 1999). Peafowl’s also appear in croplands within close proximity to villages and town causing greater crop damage in agro ecosystems. The Indian peafowl (*Pavo cristatus*) is a granivorous bird and feeds on grains and seeds, which are of economic importance; thereby coming into conflict with man for a limited and valuable commodity. Peafowl’s are well known for their agro-pestiferous nature in developing countries like India is a great Concern but all often labeled as ‘agricultural pest’ as their impact on agricultural crop is adverse (Satyanarayana, 2004). They are omnivorous in feeding behavior. The diet comprises 90 to 95% of food from plant sources. They feed on seeds, grains, groundnuts, chillies, tomato, tender shoots of crops, leaves, flowers, buds, berries, drupes, wild figs, centipedes, scorpions, lizards, small snakes, insects and worms. These birds take Grit (small stones/mineral matter) to
grind up food in gizzard. They forage in small groups, feeds up on grains and seed crops which are of economic importance and the birds thus come into potential or direct competition with man for a limited and valuable commodity. They are often labeled as "pests" and if the agricultural impact is sufficient their population may become the target of massive management or control effort. There is very little information indeed about what they eat and again how this might affect their distribution? What plants do they feed on and in what proportion? Do the adults eat insects and if so, does this vary at different times of year? Satyanarayana further emphasized that there is so much work to be done on Indian blue peafowl of south India (Johnsingh and Murali, 1978).

In a number of studies, a determination of diet has been achieved by examining crop or gut contents; these often coming from shot birds. Today, this is neither acceptable for many common species or a necessary method for many others, because a number of other techniques allow the same information to be obtained without the risk of harm or strain to the bird. Droppings of peafowl have used successfully as source of food habit information. This method is used because of killing or sacrificing peafowl is prohibited because it is our National Bird and also included under Schedule-I of Wildlife Protection Act (1972). It is reported that the faecal analysis is a best method for determining the plant and animal matter in the diet of Galliformes and also to assess food availability. In the village of Viralimalai, Tamil Nadu, (Sathyanarayana, 2004) surveyed and recorded
major crop patterns viz., paddy, pearl millet, finger millet, maize, ground nut, sesame, sugarcane, tomato, brinjal, lady’s finger, capsicum, onion and cotton. The faecal analyses from his study revealed that the peafowls consumed paddy, finger millet, pearl millet and groundnut. They also feed on tomato, brinjal, lady’s finger, capsicum, onion and cotton. All the food items were found only in minimal quantity except paddy. The peafowls prefer to feed on paddy mostly.

According to Sathyakumar (2006) in areas where the peafowl is semi-feral and abundant, it is highly destructive to cereal and groundnut crops, and they opined that in Viralimalai area, the peafowls are not harmed or killed by the villagers.

Roosting pattern

Provision of sufficient habitat for the peafowl is a key component of management programmes, (Satyanarayana and Veeramani, 1993a) yet information is extremely limited on characteristics of tree selected by this species for roosting in the preferred study areas in Karnataka. To evaluate the effectiveness of the habitat areas for maintaining populations of peafowls, monitoring of habitat occupancy and population trends is also required (U.S. Forest Service, 1982). Because forest components for peafowls vary geographically, extrapolating information from one region to another may be misleading (Rands et al., 1984).
Detailed information on the habitat relations of peafowl is essential for any biologist to design effective management strategies. It is pertinent to study whether the height of the tree is connected with the roosting tree preference by peafowl. In order to obtain information on these aspects, an attempt is made in the hitherto study.

Johnsingh (1980) reported that roost selection is a vital component in the overall habitat selection process. Information on roost selection by a bird species is of great importance in planning for its conservation. Navaneethakannan (1981) also suggested that it would be interesting to study the peafowl distribution related to the availability of suitable roosting trees. She further stated that the researcher must to know why the peafowl choose the trees they do i.e. is it connected with height or lack of lower branches or restricted to certain species of trees. Roost site selection of pheasants directly reflects the suitability and preference of that particular habitat and selection is regulated by many factors. The roost site selection is regulated by many factors. The roost site selection has often been a focus of research on many birds (Zahavi, 1975; Ramesh et al., 1995) A perusal literature shows that no detailed information is available about roost selection by a species as it carries immense importance for assessing its conservation needs (Johnsingh, 1980). The limiting factors controlling peafowl populations could be appropriate vegetative cover for roosting and nesting (Sharma, 1974).
Breeding and Nesting

West and Zhao (1989) reported that Peafowl normally reach breeding age at two years. A mature male is a peacock which is at least three years old. Generally peacock will not have a full train until it is three years old. The tail train will lengthen and get fuller over the first two to three years. After the peacock is five or six years old, the tail train will remain consistent in length and quality for the rest of the bird's life as long as the bird remains healthy. The tail train is very important to the breeding cycle of peafowl. The peacock will molt the tail in late summer and this is when the breeding season will end. A two year old peacock that has a one to two foot long tail train will be a better breeder at this age than a peacock of the same age that doesn't have a tail train of any size (Blau, 2004).

A mature peacock in prime condition forms lek and perform courtship dance so that it can mate with as many as five peahens. The egg fertility rate for each male should be monitored closely to determine how many peahens each male is capable of mating with successfully by a healthy male. A healthy bird will be active, have good feather quality, straight legs and toes, and clear eyes (Yasmin, 1995).

Satyanarayana and Rajadurai (1989) reported that the nesting season of peafowl was from January to October and it usually coincides with monsoon. In the present study Late April to August was observed to be the breeding season for
free ranging peahen at the Bankapura Peacock reserve. In Adichunchanagiri and Jogimatti region, the pre-breeding season of peafowl starts from March to June, followed by the breeding season from July to September and a non-breeding season from November to February. Yasmin, (1996) stated that in southern India it usually coincides with the Northeast monsoon (October-December). Johnsingh and Murali (1978) reported that the breeding period of peafowl in southern Tamil Nadu starts from August to October, followed by a post-breeding (nesting) period from November to March which is certain to the observations recorded in this study.

Howman (1991) opined that peahens usually made their nests in isolated sites in thick bushes and laid their eggs in protective places if predation trend was high. Virdi (2008) opined, Peahens begin laying eggs in June-July and will lay eggs every other day until a clutch of seven to ten eggs is achieved. The eggs are light brown in color and are similar in size to turkey eggs. Peahens roam freely about in search of nesting sites or will hide their nests in tall grass, around shrubs, and in brush piles in some secluded place in jungles as the cock are peculiarly jealous and will break the eggs as well as the chicks if he discovers them. The nest is a depression scratched out in the ground and lined with grass. Nests in such locations are many times destroyed by snakes, mongoose, and jungle cats which will eat the eggs. Peahens that are sitting on these nests are vulnerable to attack by jackals, fox, and stray dogs which will kill the peahen. The eggs will hatch after 27 to 30 days of incubation.
1.3. Dwindling Numbers

The National Board for Wildlife, headed by Prime Minister Manmohan Singh, has approved a rapid survey to assess the current status of the peacock under the Save the National Bird campaign. The peacock is a pheasant species, one of the 17 others found in India, which include some of the most useful and colorful birds in the world such as Red Jungle fowl and Monal pheasant.

"The peacock was once widely distributed and abundant in the Indian mainland except for the Himalayan ranges and the North-East. In recent years, there has been increasing Concern about its declining status", observe Choudhury and Sathyakumar of the Wildlife Institute of India, Dehradun, writing about the bird in a publication brought out on the occasion of the recent Jaipur Birding Fair which was dedicated to the peacock. "In the recent years there has been increasing Concern about its declining status. The reports of peacock mortality due to poaching, increased use of pesticides in agricultural fields and retaliatory killing by farmers for crop damages need field verification", Prof. Choudhury notes. In response to a questionnaire from WII to the authorities of 448 protected areas (PAs) in the peacock range in the country, till June 2007, 189 PAs reported the presence of peacock in their area.

"Of these 60 PAs reported peacock population to be increasing, 32 PAs stable population and 5 PAs decreasing number of birds. The remaining considers
their population to be unknown. Only 10 per cent PAs reported instances of poaching/trade in peafowl feathers”, points out Prof. Choudhury. “In a sense the pheasants can well be known as India’s national birds and its status is a matter of grave Concern. The destruction of forests all over the country, and especially in the Himalayan region, has caused extensive loss of habitats for all pheasant species”, Samar Singh, president of World Pheasant Association-India, observes. According to him the single most serious threat to the pheasant species is the loss of habitat followed by hunting and trapping (Hindustan Times, 1987).

“Five of the 17 pheasant species found in India are threatened and the others are also not really secure in their habitats”, Singh, a pioneer in pheasant conservationist in the country, says. Barring the peacock, the Red Jungle fowl and the Grey Jungle fowl, rest of the pheasant species in the country belong to the high altitude States. One or the other pheasant species is the State bird in Uttrakhand, Himachal Pradesh, Orissa, Manipur, Mizoram, Nagaland and Sikkim.

“Pheasants in general seek isolation and they live in remote areas away from human habitation. However of late there are encroachments in higher altitude areas as well”, Peter G. Kaestner, well-known ornithologist and Consul General at the US Embassy in New Delhi, explains talking about the status of the birds (Rahul and Garson, 1992).
The feathers and plumes of many pheasants, especially the Monal and Kaleej are in high demand as decoration for headgear and many other purposes in the Himalayan communities and the pheasant meat is considered a delicacy. It clearly determines that, the national bird of India is struggling for survival. The peacock population is dwindling fast due to habitat loss, contamination of food sources and poaching. Ironically, until today no census has been conducted of the peacock, says Satyanarayan of Tamil Nadu. Non-feasibility has been cited as the only reason. The sole stock-taking of the peacock population in India was done by WWF India in 1991. It revealed that India was left with only 50 per cent of the total peacock population that existed at the time of Partition in 1947. While the green peacock is already believed to be extinct, the peacock may soon end up on the critically endangered list. According to the Earth Island Journal, a journal that focuses on the environment and wildlife, Farmers use pesticides to battle termites. After munching seeds treated with these insecticides, male peacocks have been seen falling from trees, unable to fly. In great demand for their feathers and flesh, peacocks are being mercilessly hunted down all over from Rajasthan and peripheral Delhi to Haryana and adjoining Punjab, once a rich peacock belt. Peacocks are also targeted for their fat which, some mistake as a cure for arthritis.

Poaching is the most vital cause of the plummeting peacock population across India, followed by environmental contamination caused by sprinkling of heavy pesticides and insecticides in the fields. Further investigations conducted
by the Wildlife Institute, Dehra Dun reported that the birds died due to gunshot wounds and suffocation. The report added that a detailed examination was not possible because the birds were rotten. While the case is lingering, with the honorary wildlife wardens under tremendous pressure to compromise, it is to be seen if a conviction in an offence against the national bird comes through, especially when the over-all conviction rate under the Wildlife Protection Act is abysmally low.

In Punjab alone, only two poaching cases (one in Ludhiana and the other in Ropar) reached the court in the past three years. Wildlife Department officials confirm that in both the cases the alleged culprits were let off after being sent to a 14-day judicial remand, despite the fact that the peacock is protected under Section 51, 1-A of the Wildlife Protection Act and its killing is strictly prohibited.

Of the few prosecutions in the peacock killing cases in India, a landmark case, pursued till the prosecution stage in India involved Lt Gen Baljit Singh, the then Chief of Staff Central Command at McCluskieganj near Ranchi, Bihar. Following the killing of two peacocks in his area of command, Lt Gen Baljit Singh launched a campaign to redeem the honour of the national bird. It was in this case that the first-ever prosecution of the two suspected culprits happened. Ever since, the rate of prosecution has been dipping, while conviction is unheard of in cases registered under the Wildlife Protection Act (1972).
With rates of conviction so low, fowlers and poachers find it easy to stalk the birds and kill them for feathers. Thakur, Regional Deputy Director, Wildlife Preservation, Northern Range, New Delhi, said though export, import and internal trade of peacock had been banned under the Wildlife Protection Act. "Only shed feathers are allowed to be used for the small scale industry. But poaching of the peacock is rampant in Punjab, Haryana and around Delhi. It is difficult to determine how many peacocks have been lost over the years because a census of the bird has not been done till date. It is not feasible. As of today, the peacock-rich belts are Haryana, adjoining Punjab, Rajasthan, Delhi, Gujarat and Uttar Pradesh".

Admitting to large-scale poaching, Delhi-based Brig Ranjit Talwar from WWF India, reasoned, "Poaching of peacock is done for white meat. While the young ones are mainly trapped for eating, male peacocks are killed for feathers. Actually, the law permits collection of moulted feathers, but once the feathers have been used in artifacts it is difficult to say whether they were shed or pulled out. Another problem in detecting violators is that most peacocks are killed outside the protected areas. That is why 99 per cent poaching cases go unreported" (Times of India, 1973).

A cause for Concern is that most of the peacocks, according to wildlife experts, are killed during the mating season. A Punjab Wildlife Department official says, "It is the easiest to kill a male peacock during the mating season when it dances around in the open and can be easily targeted. You can well
imagine how threatened the peacock species would be when the male birds are being killed just before mating. It is also easier to hunt peacocks down because they sleep in the same trees every night. The procedure of killing is simple. First the head is cut off, then the crest is ripped off and then the tail feathers. There are fowlers who are even more cruel. If they don’t want the feathers to be smeared with blood, they first trap the bird, break its legs, pull out feathers and then kill it”.

Peacock deaths have also been reported due to deliberate spraying of pesticides in fields. Haveri is one amongst such sites in Karnataka where peafowls were poisoned in huge flocks during 2006 for damaging the young seedlings. Haryana and Punjab are peculiar examples in this case. Punjab that once had a heavy peacock Concentration in Nabha-Patiala-Sangrur-Jalandhar belt now has few birds left. Haryana’s case is the same. When mortality in peacocks was reported in village Rampura in Mahendragarh on December 2, 1999, a detailed examination was carried out by experts from Chaudhary Charan Singh Hisar Agricultural University (CCHAU) in Haryana.

A team consisting of veterinary toxicologists, pathologists and external specialist were rushed to the spot to carry out investigations. The team reached in time to find one newly dead and one sick bird. The experts Concluded that the peacocks died of chlorpyriphos toxicity. The mortality was among male peacocks only, which were seen picking up wheat grains from the recently sown fields. The Concentration of chlorpyriphos in the dead peacocks was found to be
(0.7575 ppm), three times higher than prescribed. This level of Concentration could not have been possible if the seeds were treated as per the package of practices of the university.

Referring to the CCHAU study, Jakati, Chief Wildlife Warden, Haryana says the peacocks are killed less due to poaching and more due to environmental contamination. "Farmers treat seeds with pesticide doses three times higher than recommended. The HAU study revealed high Concentration of pesticide chlorpyriphos in the peacocks that died in Mahendragarh some time back. There are intermittent reports on peacock mortality due to consumption of seeds treated with pesticide 2-4 D, a weedicide". To contain this dangerous trend, Haryana has launched awareness generation programmes in villages. “District-level inspectors visit three villages every month. They educate farmers on the need of using the right quantity of pesticides. But farmers have problems of low yield”. Haryana wildlife officials have also written to the Agriculture Department to work out options of animal and bird friendly pesticides.

Less than three years after the Chief Minister of Andhra Pradesh expressed Concern over the dwindling number of national birds, the city seems to have accomplished the impossible by showing significant increase in the population of the birds. Though no census has been conducted to officially confirm it, the three national parks within the city limits together with adjoining rural pockets have begun showing up substantial accretion to their peacock population.
“The number is especially high at two to three thousand in the Mahaveer Harina Vanasthali National Park spread over 3600 acres. Similar number roams the Mrugavani National Park while the same at the Kasu Brahmananda Reddy National park may be around four to five hundred,” informs Ramana Reddy, the State Forest Range Officer and head of the anti-poaching squad at KBR Park (Savage, 1983).

He attributes the growing numbers to increasing awareness levels among general public as also to stringent action being taken by the department officials against the poachers. Diligent work by a few NGOs has contributed to a great extent. Captive breeding at Nehru Zoological Park and artificial breeding by CCMB too paid off. “We are making it a point to collect eggs wherever we find them and send them immediately for captive breeding,” he said.

“Copious rains in the past few years have also made valuable contribution in terms of availability of food for the birds”, says Mahesh Agarwal, the General Secretary of Sahyog Organization. Nothing that there has been good rise in number of peacocks even in the residential localities, he said measures to impose cases and penalties on poachers have yielded results. Alert calls from the conscientious citizens helped the growth significantly.

However, poaching is still on at a few places, he opined. Meat of the bird is sold at Rs.350 per plate, they do squawk at all hours of the night and day and
Currently during peacock mating season the males become more aggressive. That's why they peck at their reflections." The males attack cars during the mating season," said Dunedin resident Laura Stone. But there may be some relief for homeowners." "Possibly, if need be, thin the flock out some in the cemetery but to emphasize that they would be relocated. But that's a controversial move because some people like the peacocks just the way they are now.

Information gathering on the status of the India’s national bird from Jaipur, the peacock, is to be intensified in the wake of increasing Concern over their numbers and the absence of any base data on them. The status assessment, initiated by the Endangered Species Management Department of the Wildlife Institute of India (WII) in 2004, is still underway (Amrita Bazar Patrika).

Population trends

In the absence of reliable information and data, it is hard to place the current distribution status and population size of the species; although a conservative ‘guesstimate’ suggests that the population may exceed 100,000 (Madge and McGowan, 2002) at global level. While the species is becoming locally extinct from several parts of its former range due to habitat conversion and changes in the cropping pattern, (Imam, 2005) poaching, and pesticide-related issues, there is no estimate of the size of surviving populations and the rate of loss from the entire country. Only recently the states of Himachal Pradesh,
Uttarakhand and Gujarat have initiated statewide surveys for these birds, but the estimates are not yet available. These estimates would reflect only the minimum population size, requiring further investigation to fully understand the population status in these areas.

The Wildlife Institute of India has conducted a questionnaire survey on population status of Indian peafowl (Choudhury and Sathyakumar, 2007) and this again would only be a pointer for further investigation unless the estimates are substantiated with empirical data. Other sources of information could be the dissertation studies carried out by some universities and projects on carnivores and their prey estimation, wherein peafowl abundance also figures in terms of available prey densities and biomass. However, such efforts are not many, and have also been carried out over varying time scales making it difficult to draw general Conclusions. Through compiling any data it would be useful to understand the population size in given localities, it is certainly insufficient to make any extrapolation to population estimates for large regions of the country as a whole.

In short, there is no reliable estimate of the current population status of Indian Peafowl for the country, and it is important to carry out intensive field sampling to arrive at a reliable estimate of the population.

“Urbanization” a threat to the Population

Mankind is a rapidly increasing, social species whose industrial abilities allow the colonization of virtual wilderness and the building of sprawling
metropolises. We live virtually everywhere on Earth and wherever we settle we significantly transform the natural habitat. Like natural environmental gradients, anthropogenic presents ecologists with a rich spatial array to explain or predict environmental and ecological effects (Alcock, 2002). With respect to birds, Sherman (1999) suggested that settlement can change ecosystem processes, habitat, food, predators and competitors, and disease. These effects lead to significant changes in the population biology of birds in areas with resulting effects on the structure and composition of bird communities. In a study, Petrie et al, (1999) reported that arthropod communities change substantially with urban exposure, but an understanding of the trophic effects of fragmentation is hindered by the lack of basic autecological data on bird foraging and diet, including adult and nestling food. Urbanization is likely to directly affect arthropods, the primary food for many birds, especially during reproduction, yet studies of the effects of urbanization on arthropods are few, to gain a fuller understanding of the effects of urbanization on avifauna. Petrie et al. (1999) recommends considering avian population, community and landscape ecology across a gradient of urbanization. Local bird abundance, demographic rates, and ecological processes may be a function of the larger urban landscape. Therefore studies of foraging, breeding, competition and predation of avian species need to be carried out along this gradient. In order to compile the complete picture and reveal the key functional elements of an urban landscape and the bird communities within it (Elliot et al., 1994).
Threats

The Indian Peafowl is under constant threat from various quarters that include the demand for feathers and wild meat, conflict with farmers during cropping season, increased use of chemical fertilizers and pesticides, and habitat degradation. An adult peacock has about 200 tail feathers, which it sheds from August onwards; fully-developed new feathers appear in February (Sharma, 1974; Ali and Ripley, 1980). The fallen feathers are collected and sold in local markets and the birds are also reportedly killed to increase revenue return. It is economically important and has manifold uses as food, as medicine and for decorative and ceremonial purposes. Peacock feathers are sold in southern and northern India and the burnt ash is thereof is used as a remedy for vomiting. Peacock feathers are used in the making of various articles such as fans, decorative pieces and brooms for use in temples, churches and mosques. Other threats include habitat degradation and loss - more significantly from conversion of their habitat to agriculture, habitation and industrial growth, poisoning to counter crop damage, consumption of eggs and fat extracts for alleged medicinal values, and killing for wild meat (del Hoyo et al., 1994; Chakraravarthy, 2002). Although these threats are believed to be causing an alarming decline in populations, the magnitude and pattern of the effects in different parts of the country are yet to be quantified. There are reports that many peacocks are killed due to pesticide application during sowing season in Karnataka.
1.4. Legal Aspects

The peacock is protected under Schedule I of the Wildlife Protection Act, 1972. Section 9 of the Act prohibits hunting of wild animals and birds specified in Schedule I, II, and III and IV, except as provided under Sections XI and XII. This classification has been made keeping in mind the significance and population of wildlife. Those highly threatened find a place in Schedule I. Section 51 of the Act prescribes a maximum imprisonment of six years, Rs. 25,000 fine or both for hunting animals and birds specified on Schedule I. In case of partridges (also killed in the recent case in Hoshiarpur, Punjab), mentioned in Schedule II, Section 51 provides for a maximum imprisonment of three years, Rs. 25,000 fine or both. In case of Haryana, where the partridge is a state bird, its hunting is a non-bailable offence. Even though the punitive measures under law are exhaustive, the enforcement is very poor. Wildlife Department officials admit that out of 100 killings of a peacock, just one is reported. Although a case is sometimes registered under the Wildlife Protection Act, it never reaches court because of several inducements for key witnesses of poaching. Even if the case reaches court, the lack of awareness about Wildlife Act provisions invariably results in miscarriage of justice. That is why one hardly hears of convictions under the Wildlife Protection Act.

The Indian Peafowl is listed as Least Concern species in the Red List of International Union for Conservation of Nature (Birdlife International, 2008),
probably owing to its widespread distribution, occurrence of locally abundant semi-feral populations, and protection from people on religious grounds. In India, it is given the utmost protection by inclusion in the Schedule I of Indian Wildlife Act, 1972. Although the train feathers of the Indian Peafowl are traded for various reasons, it is not included on any Appendix of the Convention on International Trade of Endangered Species perhaps on the claim that these feathers are naturally fallen ones during annual molt of the species, and also that the scale of trade across international border is still to be understood.

India set a precedent by formulating The Wild Birds Protection Act of 1887, the first law for the protection of wildlife wealth. Later, India had the Wild Bird and Animals Protection Act in 1912, prohibiting capture, killing, selling, buying or possession of specified animals or birds. With future amendments, wildlife sanctuaries were set up to promote wildlife conservation. The Wildlife Protection Act, 1972, became a watershed because it addressed various aspects of the issue. In 1986, trade or commerce in trophies and animal articles was prohibited. The 1991, an amendment made punishments more stringent. It also banned trade in imported ivory and products and transportation of wildlife or products without permission.