

CONSERVATION PLAN FOR INDIAN PEA FOWL (*Pavo cristatus*) FOR RIVER BED SAND/MORRAM MINING PROJECT AT YAMUNA RIVER ,LEASE AREA-108.499 HA, PROPOSED PRODUCTION- 16,27,485 cu.m./29,29,473 TPA in favour of M/S JAI MATA DI PACKAGING

PROJECT LOCATION

**VILLAGE - DHAURAHRA KHADAR, TEHSIL - RAJAPUR,
DISTRICT - CHITRAKOOT, STATE - UTTAR PRADESH(INDIA)**

Prepared By

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CONSERVATION PLAN FOR INDIAN PEA FOWL (*Pave cristatus*)

1. Introduction

The lease area of River Bed sand/ Morram Mining Project at Yamuna river, Lease Area- 108.499 ha, Village – Dhaurahra Khadar, Tehsil – Rajapur, District – Chitrakoot, State – Uttar Pradesh, The lease area falls within the Survey of India Topo-sheet no. 63G/02, 63/G03.

The geographical location of the mine is as under

Latitude (N)	25°30' 00.39"N to 25°30' 38.64" N
Longitude (E)	81° 07' 09.46" E to 81°08' 00.12" E



The purpose of Conservation plan is not only to protect the species that have been listed as threatened or endangered, but also to conserve the ecosystems upon which these depends.

A detailed biological survey of the core zone (mining area) and buffer zone (10 km radius of periphery of the area) has been carried out. This list is submitted for an authentication list of the flora and fauna in the core zone and in Buffer zone. No fauna, belonging to Schedule I of the Wildlife (Protection) Act 1972, is present in the core area. However, Peacock which belongs to Schedule I of the Wildlife (Protection) Act 1972 is the species of fauna found in the villages of the buffer zone of the study area. This conservation plan for peacock has been formulated in consultation of the Forest Department.

2. General description:

Peacock or Indian peafowl (*Pavo cristata*) is a familiar bird . It is the “National bird of India”. Peafowl are prized possessions and therefore can be found in any country in captivity through trade. The term "peacock" is commonly used to refer to birds of both sexes. Technically, only males are peacocks. Females are peahens, and together, they are called peafowl.

The male is metallic blue on the crown, the feathers of the head being short and curled. The fan-shaped crest on the head is made of feathers with bare black shafts and tipped with bluish-green webbing. A white stripe above the eye and a crescent shaped white patch below the eye are formed by bare white skin. The sides of the head have iridescent greenish blue feathers. The back has scaly bronze-green feathers with black and copper markings. The scapular and the wings are buff and barred in black, the primaries are chestnut and the secondaries are black. The tail is dark brown and the "train" is made up of elongated upper tail coverts (more than 200 feathers, the actual tail has only 20 feathers) and nearly all of these feathers end with an elaborate eye-spot. A few of the outer feathers lack the spot and end in a crescent shaped black tip. The underside is dark glossy green shading into blackish under the tail. The thighs are buff coloured. The male has a spur on the leg above the hind toe.

Classification

Kingdom	:	Animalia
Phylum	:	Chordata
Class	:	Aves
Order	:	Galliformes
Family	:	Phasianidae
Genus	:	Pavo
Species	:	<i>Pavo cristatus</i>
Vernacular name	:	Indian Peafowl

SIZE & HABITAT	
Body length	0.86- 2.12m
Range wingspan	1.4-1.6m
Weight	2,750 – 4,000 g
Lifespan	20-25 years
Habitat	Most Common in deciduous, open forest, evergreen forest habitats where they had sufficient water sources and were relatively distant from any human presence.
Range	900m- 1200m above sea level

3. **Behaviour:**

Indian blue peafowl prefer a mostly solitary and isolated lifestyle.. Mating success is usually more successful for the males with the highest number of eyespots (also called ocelli) on their train. If eyespots are removed from a male's train below the range of other individuals eyespot numbers, mating success would be decrease significantly. A peacock that displays less often and has less eyespots has more heterophils circulating in its body, indicating the peacock is spending more energy to fight off an infection than a male that displays more often with more eyespots. Peahens choose the peacocks with the most eyespots because her chicks will hopefully inherit the male's superior immune system and have a greater chance at survival. In the breeding season they are usually seen in small parties of one male with three to five females, whereas in the non breeding season they remain in separate parties of adult males and females with juveniles. Peacocks roost in tall trees and emerge from the dense thickets to feed in fields and openings in forests and fields.

4. **Reproduction & life cycle**

Call	kee-ow, kee-ow, kee-ow, ka-an, ka-an, ka-an, kok-kok, kok-kok, cain-kok
Breeding	April-September (Project area)
Nest site	On ground in undergrowth (wild) On buildings by semi-feral birds in villages
Clutch size	4 to 6

Hatching Period	27-29 days.
Reproductive Maturity (Male)	2-3 years

5. Food Habit:

Indian blue peafowl are omnivorous. They consume insects, worms, lizards, frogs, and snakes. Termites are their food of choice. This species name in Sanskrit means “killer of snakes” because they eat young cobras (*Ophiophagus Hannah*), making them invaluable and often revered. They also feed on tree and flower buds, petals, grain, and grass and bamboo shoots. In order to help with the breakdown of their food, peafowl will ingest pebbles which are stored in their gizzard and help grind up grains. It is also reliant on an abundance of water for survival.

6. Predation:

The natural enemies of Indian blue peafowl are large cats like civets (*Civettictis civetta*), tigers (*Panthera tigris*), and leopards (*Panthera pardus*). Wild dogs like dholes (*Cuon alpinus*) and jackals (*Canis aureus*) are also considered to be main predators. Because peafowl are so effective at running away and disappearing into shrubbery, predators usually take the birds down in a surprise attack.

Peafowl can use the spurs on their legs to defend themselves, but do not easily deter predators. However, humans have done the most damage to peacock populations and are considered to be the greatest enemy. Humans have been destroying their natural range, reducing their habitat, hunting them for sport, and eating them and their eggs.

7. Ecosystem Roles:

Indian blue peafowl help regulate the numbers of venomous snakes, abundant lizards, and insects to maintain a stable ecosystem. Peafowl are a carrier of lice and microorganisms which only infected to female.

8. Economic Importance for Humans:

8.1 Positive:

- Pavo cristatus feather extract in the form of water or ash can be used to treat the poisonous bites of Russell vipers *Vipera russelii*, common cobras *Naja naja*, and Malabar pit vipers *Trimeresurus malabaricus*.
- The extract is high in iron, protein, and steroids, and acts as an inhibitor to harmful enzymes in the venom that cause tissue damage. This is a traditional treatment in India for those who live far away from hospitals and doctors.
- Not only can the feathers be used for medical purposes, but can be used for decoration. Feathers were used to embellish helmets and hats during the Middle Ages, and more recently are used in flower arrangements.
- The feathers were used to fletch arrows and were woven into clothes. Over one hundred feathers can be collected from a single peacock when it molts, a collection method that does not harm the birds.
- Their eggs are a profitable source of income in areas where they are not revered and protected through religion. Because of their extravagant trains, peacocks have been depicted in art and literature throughout the ages.
- In Hindu and Buddhist religions, Pavo cristatus is considered a vehicle for the gods. Religion is not the only reason Indian blue peafowl are respected and loved.
- They also kill deadly snakes such as cobras, and consumes a large number of insects reducing the amount of pesticides used on crops.

8.2 Negative:

- In areas where Indian blue peafowl have been introduced and allowed to roam free, it has the potential to disrupt the ecosystem if it feeds on endangered lizards.

9. Conservation Status:

Due to this species is so thoroughly woven into many cultures, they face little threat of becoming endangered. However, because the human population is growing so quickly, peafowl face the loss of natural habitat and access to water sources. National parks are working to protect the habitats in India and nearby countries considered native to peafowl. Because Indian blue peafowl are so adaptable, it has been introduced to

different countries to extend its range. There are also a large number of aviculturalists who raise and breed this species as pets.

9.1 Ethical Value and Relationship with Man

The great beauty and popularity of the Indian Peafowl has ensured its protection throughout most of its native ranges. It is the national bird of India. The peafowl is prominent in the mythology and folklore of the Indian people. The Hindus consider the bird to be sacred because of its association with Lord **Krishna** who used to wear its feather as crown (mormokut). It is also associated with the God **Kartikeya**, son of the Lord Shiva and Parvati and brother of Lord Ganesh . It is “vaahan” (transport) of Lord Kartikeya. This long and close association with humans has proven the peafowl’s adaptability to human-altered landscapes. In villages where it is protected it becomes quite tame, but is very shy and secretive where hunted.

CONSERVATION STATUS	
IUCN	Others
WL(P)Act	Schedule I
CITES	Not listed

9.2 Conservation measures needed:

In view of the above threats to the peacocks in the area the measures needed for their conservation in the area were discussed with the officers of Forest and Wildlife department. Written suggestions of the Forests and Wildlife Department for conservation of the peacocks in the buffer areas were also obtained.

Accordingly it is proposed to take the following conservation measures in the buffer area of the mining lease.

- 1. Increase in tree cover** in the buffer area of the mining lease for shelter and roosting of peacocks. This will be achieved by
 - a)** Planting of two groves of ten hectare each in degraded buffer area.
 - b)** Planting of trees along the boundaries of agricultural fields.
 - c)** Planting of tree groves in school compounds in the villages of buffer area

2 Publicity for generating public awareness for conservation of Peacocks in the area

- a) Amongst cultivators to avoid using chemically treated crop seeds.
- b) Generating awareness in school children by organising competitions during Wildlife Week and Van Mahotsavas celebrations.
- c) Distribution of caps in schools with slogans for protection of peacocks.

3 Strengthening of anti-poaching measures.

Giving cash Rewards to the people / informers who provide information about the poaching of peacocks and get the poachers arrest.

9.3 Conservation Measures

Direct and indirect approach is required to provide effective conservation, which is recommended as under-

- Increasing the tree cover in the buffer area for shelter and roosting of peacocks. This will be achieved by planting of trees (a group of trees that grow close together, generally without many bushes or other plants) in buffer area. Some local species such as Neem, Siris, Amaltash, Ardu, Shesham, Dhak, Peepal tree etc. will be planted. Planting of trees groves in school compounds in the villages of buffer area will be planted as per the plantation programme.
- By conducting awareness programmes (community and school level) for conservation of peacock in the area and also through organizing competitions during “Wildlife Week” and “Van Mahotsave” celebrations.
- Some provision of rewards to informers for the control of poaching and illegal trade in wildlife.
- Carrying out census and research projects to know the potential threats and population status of the species.
- Provision of veterinary care and cages for injured or sick deformed birds.
- Suggest strategies to minimize negative impacts of changing environment in nearby area of peacock populations and to promote conservation of peacock habitat.

- Another way to preserve the endangered species is to create society dedicated to ecological ethics. All the conservation measures will be implemented with the help of and in the consultation of the district forest department, Chitrakoot (U.P.)

With the objective of effectively protecting the wild life and to control poaching, smuggling and illegal trade in wild life and its derivatives, the Government of India enacted Wild Life (Protection) Act 1972. The Act was amended in January 2003 and punishment and penalty for offences under the Act have been made more stringent.

For the mentioned activities, proponent has proposed a sum of Rs. 4,00,000/- for the "Peacock" conservation plan under the following heads up to three years in consultation of local forest department.

10. Requirements of funds for Implementation

S. no.	Item NOS/ Activity	Year wise expenditure (Rs.)
1.	Raising of 3,000 shrub plants along the farmers boundary & forest areas.	1,00,000/-
2.	Cash rewards for farmers	50,000/-
3.	Publicity material (Van Mahotsavas, Wildlife Week)	1,00,000/-
4.	Anti Poaching Measures	50,000/-
5.	Awareness activities, Animal welfare programme	1,00,000/-
Total		4,00,000/-

The total amount needed for the conservation of Peacock will be 4.00 Lakhs/year. The money for implementation of the project may be made available to the Forest Department in advance each year by the Director of mine.