

Report - Technical:

In the above scenario, if the proposal is to be considered, it is necessary to take up the Mitigative Measures to counter the consequential problems, in order to protect the Flora and Fauna especially the extensions to the existing encroachments and fresh attempts of encroachments.

Following are the few Probable Consequential problems of Laying Optical Fiber Cable line in Forest Area:

- 1) Continues human interference to the Serenity of the Vicinity.
- 2) Depletion of Forest Flora.
- 3) Forest Fires.

Therefore, it is mandatory to address the above probable consequential problems with the following suitable Mitigative Measures, in order to conserve the Forest Eco System in an around Optical Fiber Cable line in Reserve Forest area.

1. Fire Management
2. Habitat Management.
3. Water Management
4. Compensative Greenery
5. Publicity and Awareness

2. NAME OF THE SCHEME: Conservation Plan for Flora and Fauna along the Optical Fiber Cable (OFC) .

3. LEGAL STATUS:

Sl. No.	Name of R.F.	G.O.NO & Date
1	2	3
1	Dhanora	Notified U/s-19 vide HFA Gt.No.45; Dt.27-11-1355-F.
2	Tandur	Notified U/s-19 vide Notification No.268;Dt. 18-10-1953
3	Chopidi	Notified U/s-19 vide HFA Gt.No.10 Dt.21-2-1356-F
4	Garlapet (P)	Notified U/s-4 vide Gt.No.49; Dt.26-12-1954.

- 4. DISTRIBUTION OF THE AREA:** - The proposed Buffer and Corridor area falls, under spreading in the following compartments:

Sl. No.	Division	Range	Section	Beat	Compts. No	Remarks
1	2	3	4	5	6	7
1	Asifabad	Jodeghat	Chintaguda	Balhanpur	52	Buffer area of KTR
2	Asifabad	Jodeghat	Chintaguda	Chalbodi	61	
3	Asifabad	Jodeghat	Chintaguda	Balhanpur	64	
4	Asifabad	Jodeghat	Chintaguda	Balhanpur	63	
5	Asifabad	Jodeghat	Wavdham	Wavdham	83	
6	Asifabad	Kerameri	Kerameri	Mettapipri	43	Corridor area of KTR
7	Asifabad	Kerameri	Kerameri	Mettapipri	42	
8	Asifabad	Kerameri	Kerameri	Mettapipri	44	
9	Asifabad	Asifabad	Velgi	Khairit	253	Corridor area of KTR
10	Asifabad	Asifabad	Velgi	Khairit	GAR-258	

- 5. CONFIGURATION OF THE GROUND:-** The terrain is undulating with a range of low hills in different directions and exposing the forests to all aspects. The general elevation of these hill ranges varies from 125 mtrs to 505 mts above M.S.L. The general drainage is from north to southeast. All the streams finally drain into Peddavagu in North East Direction that again drain into Pranahita Godavari River, which flows from west to east beyond the jurisdiction of the area.

6. COMPOSITION OF THE FOREST AND WILDLIFE: -

The forest area surrounding the diverted area is with dense and moderate miscellaneous forest. The main forest type is **(5-A) Southern Tropical Dry Deciduous Forests**. The upper canopy of these forests at some places is closed, though rather uneven and

composed of a mixture of few species practically all deciduous. The height of crop is generally up to 15.m and some species tend to predominate over selected areas but most are non-gregarious. The lower canopy is entirely deciduous. An under growth of shrubs is usually present but enough light gets in to promote more of grass growth. Bamboo is present. Climbers are generally large woody species but comparatively few. In the said area the forests type Southern Tropical Dry Deciduous Forest exist in further two classes according to the presence or absence of Teak. The characteristic trees of the teak bearing type (Dry teak forest) are *Tectona grandis* and *Terminalia spp.* In non-teak bearing or Dry Mixed Deciduous forests, teak is absent and in addition to the above two typical species, *Boswellia serrata*, *Diospyros melanoxylon* and *Sterculia urens* are other associates found in this type. The chief Bamboo found in both the types is *Dendrocalamus strictus*.

Forest View

The important Flora existing in this area is as follows:

a) Flora:

Sl. No.	Botanical name	Local name
1	2	3
1	<i>Acacia ferruginea</i>	Vel sundra
2	<i>Anogeissus latifolia</i>	Tirman
3	<i>Bauhinia racemosa</i>	Ari
4	<i>Butea monosperma (Butea frondosa)</i>	Palas
5	<i>Cassia fistula</i>	Rela
6	<i>Chloroxylon swietenia</i>	Satin
7	<i>Cleistanthus collinus</i>	Nalla Kodsha
8	<i>Dalbergia paniculata</i>	Sopera
9	<i>Diospyros melanoxylon</i>	Abnus (Tumki)
10	<i>Feronea elephantum</i>	Kaweet

11	<i>Garuga pinnata</i>	Garugu
12	<i>Givotia rottleriformis</i>	Punki
13	<i>Gmelina arborea</i>	Gummadi Teku
14	<i>Lannea coromandelica</i> (<i>L. Grandis</i>)	Gumpena
15	<i>Lagerstroemia parviflora</i>	Channangi
16	<i>Madhuca indica</i> (<i>Bassia</i> <i>latifolia</i>)	Mohwa
17	<i>Morinda tinctoria</i>	Togarmogli
18	<i>Pongamia pinnata</i>	Karanj (Kanuga)
19	<i>Prosopis spicigera</i>	Jammi
20	<i>Pterocarpus Marsupium</i>	Bijasal
21	<i>Strychnos nux-vomica</i>	Kuchala (Musti)
22	<i>Tectona grandis</i>	Teku (Sagwan)
23	<i>Terminalia tomentosa</i>	Nalla Maddi
24	<i>Terminalia belerica</i>	Tado
25	<i>Terminalia arjuna</i>	Tellamaddi
26	<i>Wrightia tinctoria</i>	Palakodsha
27	<i>Zizyphus xyloporous</i>	Gotti
28	<i>Sterculia urens</i>	Tapsi
29	<i>Hardwickia binnata</i>	Narepa
30	<i>Adina cordifolia</i>	Bandaru

Bamboo: - *Dendrocalamus strictus*.

Shrubs & Herbs:

Bridelia hamiltonia, *Calotropis gigantea*, *Cassia tora*, *Dodonea viscosa*, *Gymnosporia spinosa*, *Ixora parviflora*, *Jasminum arborescence*, *Randia dumetorum*, *Vitex negundo*, *Cleome viscosa*, *Portulaca oleracea* and *Sida cordifolia*.

Climbers: *Zizyphus oenoplia*, *Acacia intia*, *Butea superba*, *Hemidesmus indicus*.

b) Fauna: The forest area around the mine inhabits a variety of wildlife and it acts as a Corridor area between Buffer area of Kawal Tiger Reserve and Tadoba Tiger Reserve. Hence the Habitat is important for Tiger and other Carnivores like Leopard, Jackal, Dhole etc.,

As per the local enquiries conducted with the local people and also direct and indirect evidences, the area is rich in wildlife. The commonly seen herbivores are spotted deer, Sambar, Four horned antelope, Neelgai etc., Besides this many species of Arthropods, Amphibians, Reptiles, and Avifauna also exist in the said area. The commonly seen wildlife in the said area is as follows:-

Sl. No.	Common Name	Zoological Name	Local Name
1	2	3	4
1	Rhesus Macaque	Macace mulatta	Kothi
2	Common Langur	Presbytis entellus	Kondamuchu
3	Panther	Panthera pardus	Chiruthapuli
4	Jungle Cat	Felis chaus	Jungupilli
5	Common Mongoose	Herpestes edwardsi	Mungisa
6	Jackal	Canis aureus	Nakka
7	Indian Fox	Vulpes bengalensis	Gunta Nakka
8	Sloth Bear	Melursus ursinus	Yelugubanti
9	Hare	Lepus nigricollis	Chevulapilli
10	Chowsingha	Tetracerus quadricornis	Kondagorre
11	Sambar	Cervus unicolor	Kanusu
12	Spotted Deer	Axis axis	Podala Duppi
13	Wild Boar	Sus scrofa	Adavi Pandi
14	Chameleon	Chameleon zeylanicus	Usaravelli
15	Monitor Lizard	Varanus bengalensis	Udumu
16	Python	Python molru	Kondachiluva
17	Common Rat snake	Ptyas mucosus	Jerripothu
18	Cobra	Naja naja	Nagupamu
19	Viper	Vipera russeli	Katukarekula poda
20	Cattle egret	Babulcus ibis	Tella konga
21	Darter	Ashina rufa	Pamutala Neeti Kaki
22	Grey Heron	Ardea cinera	Nallakalla Konga
23	Peacock	Pavo cristatus	Nemali
24	Common Moor hen	Gallinula chloropus	Tumba kodi
25	Blue Rock pigeon	Columbia livia	Pavuram
26	Spotted Dove	Streptopelia shineusis suratensis	Chukkala Guvva
27	Alexandrian Parakeet	Psittacula eupatria	Rama Chiluka
28	Common Koel	Sadya scolopacea	Kokila
29	Jungle owlet	Glaucidium radiatum	Adavi Gudlaguba
30	Pied kingfisher	Ceryle rudis	Kilkila(Hindi)
31	Maratha wood pecker	Deadreceptes maharetteensis	Pasupu Netthi Vadrangipitta

32	Indian pitta	Pitta brachvura	Marugujju Vadla Pitta
33	Common wood shrike	Tephrodornis pondicerianus	Pitta
34	Red vented Bulbul	Pycnonotus cafer	Bulbul(Hindi)
35	Black drango	Dicrurus adsimilis	Burugu Pitta
36	Tree pie	Dendrecitta vagabunda	Treepie
37	Pied Robin	Copsychus saularis	Nalupu Telupu Robin Pitta
38	Common myna	Acridotheres tristis	Goruvanka
39	House sparrow	Passer domesticus	Pichuka

7. Adverse Impacts of Optical Fibre Cable line on Wildlife:-

The adverse impacts, due to the laying of Optical Fibre Cable line **on** the wildlife and surrounding forest areas are likely to be as follows:

i. Fragmentation and Edge Effect:-

Due to depletion of the Forest the habitat of the wildlife will be fragmented and certain forest areas will be depleted leading to changes in micro climatic conditions thereby causing imbalance in habitat.

ii. Degradation of Forests:

Due to easy access to the Hilly Forest area, the Flora and Fauna will become susceptible for Degradation and poaching respectively by people from plain areas

iii. Erosion: -

Degradation of Forest will increase soil erosion and water table depletion leading to water scarcity to the wildlife and loss of top soil affecting the vegetation. This causes scarcity of water and food to the wildlife.

iv. Forest Fires: -

The biotic interference increases the forest fires either accidentally or intentionally. The forest fires further have an adverse impact on vegetation, i.e., Flora and Fauna, hardening of soil, and increase in erosion, loss of wildlife habitat etc.

9. Period of the Scheme:

The Conservation plan period for one year i.e., 2020-21 and subject to extent for another one year period after evaluation after 1st year of implementation.

10. Goal And Objectives :

a) Goal:- "To conserve, the Flora and Fauna"

"To address genetic isolation of wild animal population"

b) Objectives:

1. Protection and improvement of the eco-system through mitigative measures.
2. Improvement of water resources through Soil & Moisture Conservation measures by catchment area treatment on watershed principles.
3. Publicity and awareness - conservation education to the stakeholders for protecting Flora and Fauna.

**11. Strategies to meet the Objectives:-
Theme Plans:-**

For attaining the said objectives and for holistic treatment and management of the entire proposed area for mitigating the adverse impacts of the proposed optical fiber cable line, theme plans are proposed based on the objectives.

Holistic Habitat Management:

For holistic habitat management of the treatment area the following individual theme plans are proposed:

- I. Management of Eco-System through Habitat Restoration
- II. Water Conservation/ Rain water harvesting
- III. Publicity And Awareness

The management strategies are discussed under individual theme plans.

I. Management of Eco-System through Habitat Restoration:

A. Wild life Habitat Improvement:

1. Management of vegetation:

The habitat is rich in Bamboo along with other species like Teak, Nallamaddi, Andugu, Palakodisa, Gumpena, etc., The habitat is with less of natural grass lands and large Forest area is infested with Mahaveera weed which suppress the growth of palatable grass species. To improve the Habitat for Wildlife the following measures to be taken.

I. Water Conservation/ Rain water harvesting:

The proposed area forms catchment area for a number of streams, which drain finally into Pranahita River and adjoining ponds. Most of the areas is subjected to rich topsoil erosion and even at some places along hill slopes trees are uprooted accordingly. All the rainfall in treatment area shall be conserved in situ, improving the moisture regime and the vegetation will be lush green for longer periods providing ideal shelter and forage grounds for the wild animals. It also makes water available to the wild animals especially during the dry season. This also reduces migration of animals to villages utilizes in search of water whereby they are subjected to poaching.

Therefore it is proposed to construct (8 Nos) of Mini Percolation Tanks with an estimated cost of Rs.4.00 Lakhs.

Construction of Forest tanks for wildlife 2 Nos Rs. 5.00 Lakhs

Construction of monitoring camp Rs. 5.00 Lakhs

Improving grass land for wildlife habitat Rs. 2.00 Lakhs

OBJECTIVES:

The main objectives of water conservation/rain water harvesting are as follows:-

- (i) To check soil erosion
- (ii) To conserve water in situ in the treatment area itself
- (iii) To improve moisture regime in treatment area and recharge ground water table.
- (iv) Improvement of vegetation of grassland and availability of sustainable food and cover to wildlife.
- (vi) Check siltation of ponds and waterholes in treatment area and maintain the water holding capacity.

It is proposed to take up the following activities for harvesting the rain water and improving the availability of water to the wild animals, and to increasing the water table and improvement of the vegetation.

Construction of Percolation Tank in the RF:-

It is proposed to take up construction of Percolation Tanks with earthen bunds for water harvesting, impounding and storage of water. This helps in availability of water all over the treatment area especially during the pinch period. The percolation tanks are in situ water harvesting structures, which help in percolation and recharge of ground water whereby water is available to the wildlife and also improves the vegetation in the treatment area. It is proposed to formation of Mini Percolation Tanks (8 Nos) with an estimated outlay of Rs. 4.00 Lakhs.

V. Publicity and Awareness:

It is proposed to give wide publicity about the importance of Forest Protection, bio diversity and the wildlife conservation and also conservation of unique culture of the Primitive Tribal Groups of the area. An estimated cost of Rs. 5.00 lakhs. The publicity and awareness campaigns are proposed as follows:-

- a) Sensitize the community and create awareness about the need to conserve bio-diversity through awareness campaigns, nature camps, conducting workshops, trainings etc.
- b) Arranging prompt and quick payment of compensation cases involving wild animal attacks.
- c) Building mutual confidence between protected area management and local people by frequent interaction between the two and also being responsible to the gender issues.
- d) Taking up initiatives in mobilizing community for controlling totally stopping the grazing.
- e) Display of hoardings (signage and hoardings) and brochures/pamphlets with messages of bio-diversity conservation at prominent places.
- f) Training the people, departmental staff and NGO's to enhance their technical, social, professional skills for effective planning, implementation and monitoring of the eco-development programme.
- g) Conducting regular Gram sabha's in the surrounding villages and making the people aware of the conservation. It is also proposed to take up all the habitat development activities by peoples participation to develop the sense of ownership and responsibility.

FINANCIAL OUTLAY:-



The scheme is prepared with financial outlay of **Rs. 26.150 Lakhs** is as follows.

SI No	Name of the work	Amount in Lakhs
1.	<u>Water Management.</u>	
	a) Construction of Mini Percolation tanks 8 Nos. @ 0.500 Lakh / each	4.000
	b) Construction of Saucer pits 15 Nos. @ 0.120 Lakh / each	1.800
	Filling of water in to saucer pits (15 Nos X 18 times x@ Rs.500/- per time (6 months x 3 times p/m= 18 times)	1.350
	C) Taking up staggered trenches to retain moisture for regeneration of fodder species	2.000
2.	<u>Wildlife management</u>	
	a) Construction of Forest tanks for wildlife 2 Nos	5.000
	B) Construction of monitoring camp	5.000
	D) Improving grass land for wildlife habitat	2.000
3.	<u>Publicity & Awareness</u>	
	Hoardings & publicity to propagate the need for conservation of Flora and Fauna of the area	5.000
	Total	26.150

Conclusion: The mitigative measures are proposed to prevent adverse effects of proposed Optical Fibre Cable line to wildlife i.e., both Flora and Fauna and also at the same time improving the water resources and controlling soil and water erosion. There will be unaccountable loss due to proposed Optical Fibre Cable line that passing through the Corridor Area of Kawal Tiger Reserve in Asifabad Division.

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