

MITIGATIVE MEASURES
PROPOSED

FOR

Laying of Optical Fiber Cable along the road
and within the existing right of way - In
favour of M/s Reliance Jio Infocomm Limited.,

IN

JANNARAM DIVISION
OF MANCHERIAL DISTRICT

1. INTRODUCTION :

The Forest area of the Division is 27312.46 ha. The percentage of Forest area is about 21.63%. The forest area spread over in (3) Forest blocks and in (196) compartments. There are (3) Forest Ranges in the Division namely (1) Jannaram, (2) Indanpally and (3) Tadlapet.

Jannaram, Indanpally and part of Tadlapet Ranges are serving as the core area and part of Tadlapet Range serving as the Buffer Zone area of *Kawal Tiger Reserve*.

The Forest area in Jannaram, Indanpally and Tadlapet Ranges are known for its diversified Flora and Fauna apart from Scattered Primitive Tribal Group Habitations with unique tribal culture.

In the above scenario, the User agency i.e., M/s Reliance Jio Infocomm Limited., has submitted proposals for permitting for laying of Optical Fiber Cable along the road and within the existing Right of Way in Jannaram Division. The laying of Optical Fiber Cable line is passing through Compt. No. 184/2 & 186/2 of Narlapur (South) Beat and Compt. No. 214 of Indanpally (South) Beat of Indanpally Range.

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 Transmission 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 for addressing the above probable consequential problems with the following suitable Mitigative Measures, in order to conserve the Forest Eco System in an around transmission 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 laying of Optical Fiber Cable along the Road and within the existing Right of Way.

2. LEGAL STATUS:

Sl. No.	Name of RF Block	Area in ha	Notified U/s.	Notification details
1	Kawal, Wildlife Sanctuary, Kawal Tiger Reserve.	19208.68	U/s-4	G.O. M/s No. 261, Dated. 21.03.1355-F.

3. **DISTRIBUTION OF THE AREA:-** The proposed area falls in the following compartment:

Range	Beat	Compt. No.	R.F.	Length in Kms.	Area in Ha.	Remarks
Indanpally	Narlapur (S)	184/2	Kawal	240.25	0.00961	Core area of KTR
	Narlapur (S)	186/2	Kawal	472.50	0.0189	
	Indanpally (S)	214	Kawal	1434.83	0.05739	
			Total	2147.58	0.0859	

4. **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 is closed, through rather uneven, composed of a mixture of a few species practically all deciduous during the dry season, some for several months, through some for a short period only. The height of crop is generally up to 18 mts and some species tend to predominate over selected areas but most are non-gregarious, so that more or less pure associations can usually be traced

to soil peculiarities or human interference. The lower canopy is almost entirely deciduous. An under growth of shrubs is usually present but enough light gets in to promote more of grass growth. Climbers are generally of large woody species but comparatively few. The southern Tropical Dry Deciduous Forests is divided in to two classes according to the presence or absence of Teak. The characteristic tree of the teak bearing type (Dry teak forest) is *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 main Bamboo species found in both the types is *Dendrocalamus strictus*.

5. Adverse Impacts of laying of Optical Fiber Cable along the road and existing Right of Way on Wildlife:-

The adverse impacts, due to the **laying of Optical Fiber Cable along the road and existing Right of Way** 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. Exploitation of Primitive Tribal Groups:

People from plain area exploit the innocent and dilute their unique culture.

iv. Erosion: -

Degradation of Forest will increase soil erosion and water table depletion leading to water scarcity to the wildlife and loss of top soil

effecting the vegetation. This causes scarcity of water and food to the wildlife.

v. Forest Fires: -

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

6. Period of the Scheme:

The Conservation plan period is (5) years starting from 2019-20 to 2024-25 and subject to extent for another one year period after evaluation after 5th year of implementation.

7. 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. Habitat improvement through improvement of fodder availability by raising (Grass Plots) and protection from fire.
4. Publicity and awareness - conservation education to the stakeholders for protecting Flora and Fauna.

8. 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 transmission 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. Fire management

IV. 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:**

In order to ensure safe Drinking Water to the wildlife of the area, it is proposed to formation of Solar Bore well (1 No) with an estimated cost of 8.00 Lakhs.

1. **Management of vegetation:**

The habitat is rich in Bamboo along with other species like *Teak, Nallamaddi, Anduk, 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.

2. **Creation of natural grasslands / meadows:-**

As a measure of improving fodder availability even in summer season to the wild life it is proposed to create 0.0859 Ha of Natural Grass Lands by providing 4 feet Chain link fence and by removal obnoxious weeds for three consecutive years at an estimated cost of 1.060 Lakhs.

II. **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 (1 Nos) of Mini Percolation Tanks with an estimated cost of Rs.1.00 Lakhs and Medium Percolation Tanks (1 Nos) with an estimated cost of Rs.3.00 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 construct (1 Nos) of Mini Percolation Tanks with an estimated cost of Rs.1.00 Lakhs and Medium Percolation Tanks (1 Nos) with an estimated cost of Rs.3.00 Lakhs

III. Fire Control Measures:

Fire Tracing:

- a) As a preventive measure fire tracing to a width of 10. Mtrs on either side of the gas pipeline to be taken up and these fire lines will be kept clean of any inflammable material. This will protect the forest from accidental fires due to throwing of lighted matchsticks by the traveler, shepherds etc. it is also proposed to take up fire line contour trenches where the inflammable material will be swept into the trench and control burning will be done. It is proposed to create about 500 RMT at an estimated cost of 0.200 Lakhs.

- b) All the R.F. lines, Compartment lines and Beat boundary will be fire traced and kept clean.
- c) The pasture areas around the waterholes will be given additional protection from fire for maintenance of succulent grass fodder to the wildlife.
- d) The bamboo areas, regeneration areas with more dry material need to be protected.
- e) A follow up action of maintenance of the fire lines every year before the onset of summer shall be taken up.
- f) The local people will be involved in protection from fires and awareness programs will be conducted on importance of fire control and hazards due to fire.

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. 1.00 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 people's participation to develop the sense of ownership and responsibility.

FINANCIAL OUTLAY:-

The scheme is prepared with financial outlay of Rs. 16.725 Lakhs at an average of Rs. 3.345 Lakhs per annum for the period of 5 years.

Sl No	Name of the work	Amount in Lakhs
1.	Habitat Management. a) Bore well with solar pump sets (1) No.	8.00
	b) Creation of Natural Grass Lands by providing 4 feet chain link fence and by removal of obnoxious weeds for two consecutive years 0.0859 Ha	1.06
2.	Water Management. Construction of Mini Percolation tanks 1 Nos. @ 1.00 Lakh / each	1.00
	Construction of new Medium Percolation Tanks 1 Nos. @ Rs. 3.000 lakhs	3.00
3.	Fire Management. Construction of Fire Watch tower includes Road connectivity	6.000
	Procurement of Fire blowers (1 Nos @ 0.50 Lakhs)	0.500
	Engaging of Fire watchers for 1 Nos for fire season from January to May for (5) months including hiring of jeep. (1 Nos x 5 months @ 8340/- PM=0.417 Lakhs + Hire Charges 5 months @ 25000/- PM= 1.250 Lakhs =1.667 Lakhs per one season Rs.1.667 lakhs x 5 seasons/years =8.335 lakhs)	8.335
	Fire fighting equipments for fire watchers (towards i.e., shoes, Goggles, Helmets, gaggles	0.500
	Formation of New Fire lines (width 5.00 Mtrs) 240 Rmt @ 7.458 / 1 Rmt. Per year =0.019 x 5 years	0.090
4	Procurement of GPS Hand held (2 Nos @ 0.150 Lakhs)	0.300
6	Publicity & Awareness Hoardings & publicity to propagate the need for conservation of Flora and Fauna of the area	1.00
	Total	16.725

Conclusion: The mitigative measures are proposed to prevent adverse effects of proposed for laying of Optical Fiber Cable along the road and existing Right of Way 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 laying of Optical Fiber Cable along the road and existing Right of Way that passing through the Core Area of Kawal Tiger Reserve in Jannaram Division.

Forest Divisional Officer,
Jannaram