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MITIGATIVE MEASURES PROPOSED

FOR

Diversion of **2.7052 Ha** of Forest land for formation of BT Road from Karji to Motlaguda village via Rampur in Dahegaon Mandal in favour of the District Panchayath Raj,Engineer (PIU), Kumuram Bheem Asifabad District in Rebbena Range of Asifabad Division under PMGSY works.

IN

ASIFABAD DIVISION
OF KUMURAM BHEEM-ASIFABAD DISTRICT
of
Adilabad Circle

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1. INTRODUCTION :

The Forest area of the Division is 153810.54 ha. The percentage of Forest area is about 45%. The forest area spread over in (37) Forest blocks and in (576) compartments. There are (6) Forest Ranges in the Division namely (1) Asifabad, (2) Rebbena, (3) Jodeghat, (4) Tiryani, (5) Ginnedhary and (6) Kerameri.

The terrain is undulating with a fringe of low hills in different directions and exposing the forest to all aspects. The general elevation of these hill ranges varies from 125 mtrs to 570 above M.S.L. In this Division Degangutta is the highest with an elevation of 633 mtrs above M.S.L situated in Range Tiryani. These hills are an extension of Satmala hills. In the western portion of division there are some hills and hillocks, which are off shoots of Satmala hills. The general drainage is from north to southeast.

Jodeghat and Ginnedhary Ranges are serving as the Buffer Zone area of *Kawal Tiger Reserve* apart from that the Forest area in the Asifabad, Kerameri and Rebbena Ranges are being utilized as the Corridor for Kawal Tiger Reserve for attracting the Tigers from Thadoba and Indravathi respectively.

The Forest area in Jodeghat Range and Ginnedhary Range is 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., District Panchayath Raj,Engineer (PIU), Kumuram Bheem Asifabad District has submitted proposals for permitting for formation of BT Road from Karji to Motlaguda village via Rampur in Dahegaon Mandal is passing through Compt No. 483, 471, 488,470/2, 489/1, 490 & 491 of Girelly Reserve Forests in Rebbena Range of Asifabad Division.

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.
4) Encroachments

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 around 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 formation of BT Road from Karji to Motlaguda village via Rampur in Dahegaon Mandal.

LEGAL STATUS:

Sl. No.	Name of RF Block	Notified U/s.	Notification details
1	Girelly	U/s-19	Notified under section-19 of HFA Gt.No.10, Dated:12-3-1957 F

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

Sl. No.	Range	Section	Beat	Compt No	Name of the RF	Proposed area for Diversion		
						Length in Mts	Width in Mts	Area in Ha
1	Rebbena	Kharji	Kharji	483	Girelly	550	4.00	0.2200
2	Rebbena	Kharji	Jinkalagudem	471	Girelly	580	4.00	0.2320
3	Rebbena	Kharji	Jinkalagudem	488	Girelly	640	4.00	0.2560
4	Rebbena	Kharji	Jinkalagudem	470/2	Girelly	1210	4.00	0.4840
5	Rebbena	Rampur	Rampur South	489/1	Girelly	1610	4.00	0.6440
6	Rebbena	Motlguda	Diggada	490	Girelly	1480	4.00	0.5920
7	Rebbena	Motlguda	Diggada	491	Girelly	693	4.00	0.2772
		Total				**6763**		**2.7052**

5. **CONFIGARATION 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 mtrs 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 surrounding area is as follows:

a) Flora:

Sl. No.	Botanical name	Local name
1	2	3
1	*Acacia ferruginea*	Vel sundra
2	*Anogeissus latifolia*	Tirman
3	*Bauhinia racemosa*	Ari
4	*Butea monosoperma (Butea frondosa)*	Palas
5	*Cassia fistula*	Rela
6	*Chloroxylon swietenia*	Satin
7	*Cleistanthus collinus*	Nalla Kodsha
8	*Dalbergia paniculata*	Sopera
9	*Diospyros melanoxylon*	Abnus (Tumki)
10	*Feronea elephantum*	Kaweet
11	*Garuga pinnata*	Garugu
12	*Givotia rottleriformis*	Punki
13	*Gmelina arborea*	Gummadi Teku
14	*Lannea coromandelica (L.Grandis)*	Gumpena
15	*Lagerstroemia parviflora*	Channangi
16	*Madhuca indica (Bassia latifolia)*	Mohwa
17	*Morinda tinctoria*	Togarmogli
18	*Pongamia pinnata*	Karanj (Kanuga)

19	*Prosopis spicigera*	Jammi
20	*Pterocarpus Marsupium*	Bijasal
21	*Strychnos nux-vomica*	Kuchala (Musti)
22	*Tectona grandis*	Teku (Sagwan)
23	*Terminalia tomentosa*	Nalla Maddi
24	*Terminalia belerica*	Tado
25	*Terminalia arjuna*	Tellamaddi
26	*Wrightia tinctoria*	Palakodsha
27	*Zizyphus xyloporous*	Gotti
28	*Sterculia urens*	Tapsi
29	*Hardwickia binnata*	Narepa
30	*Adina cordifolia*	Bandaru

Bamboo: - Dendrocalamus strictus.

Shrubs & Herbs:

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

Climbers: Zyzyphus 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, Nilgai 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 Mangoose	Herpestes edwardsi	Mungisa
6	Jackal	Canis aureus	Nakka
7	Indian Fox	Vulpes bengalensis	Gunta Nakka
8	Sloth Bear	Melursus ursinus	Yelugubanti
9	Hare	Lepus nigricollois	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	Strentopelia shineusis suratensis	Chukkala Guvva
27	Alenxandrian Parakeet	Psittacula eupatria	Rama Chiluka
28	Common Koel	Sadya scolopacea	Kokila
29	Jungle owlet	Glaucidiu radiatum	Adabvi Gudlaguba
30	Pied kingfisher	Ceryle rudis	Kilkila(Hindi)
31	Maratha wood pecker	Deadrecepes maharetteonsis	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	Acidotheres tristis	Goruvanka
39	House sparrow	Passer domesticus	Pichuka

7. Adverse Impacts of formation of BT Road from Karji to Motlaguda village via Rampur in Dahegaon Mandal on Wildlife:-

The adverse impacts, due to the formation of BT Road from Karji to Motlaguda village via Rampur in Dahegaon Mandal 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 became 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 the dilute their unique culture.

iv. Encroachments:-

Existing Forest will become susceptible for encroachments by the encroachers from plain areas

v. 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.

vi. 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 is (3) years starting from 2021-22 to 2023-24 and subject to extent for another one year period after evaluation after 2nd 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. 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.

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 transmission line, theme plans are proposed based on the objectives.

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. <u>Management of Eco-System through Habitat Restoration</u>:

A. Wild life Habitat Improvement:

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.

It is proposed to Animal trackers, Anti poaching squad, erection of check gates, Construction of watch tower, Borewell with solar pump set, Management of grass land by uprooting the obnoxious weed, Raising of Fodder plots with chainlink, Construction of saucer pits, Formation of Percolation Tanks.

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 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 earthern 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.

III. Fire Control Measures:

Fire Tracing:

a) As a preventive measure fire tracing to a width of 5.00 Mtrs on either side of the proposed area 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 creation for Field lines

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 vide 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. 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. 105.00 Lakhs at an average of Rs. 35.00 Lakhs per annum for the period of 2 years.

Proposed mitigative measures for formation of BT Road from Karji to Motlaguda village via Rampur in Dahegaon Mandal (2.7052 Ha) in Girelly RF of Rebbena Range of Asifabad Division. (Project Cost: Rs.700.00 Lakhs x 15% = Rs.105.00 Lakhs)

Sl. No.	Item of works	Units	Qty.	Rate	Amount (Rs. In lakhs)
I	**Wildlife protection**				
1	**Animal trackers** (5 Nos. for 3 year /5 units (5 x3 x12 x 9000/- = Rs.16.20 Lakhs)	Nos.	5 Nos		16.200
2	**Anti Poaching squads** (1 No. for 3 **year** /1 unit (1x24000/-x12 = Rs.2.880 Lakhs + 5x12x9000=Rs.5.400 Total =Rs.2.88+Rs.5.40=Rs.8.28 x 3=Rs.24.840 Lakhs)	Nos.	1		24.840
3	Erection of check gates to control wildlife entering to road	Nos.	8	0.12	0.960
4	Construction anti poaching hut (Semi permanent strucutre) for wildlife monitoring	Nos.	1	7.00	7.000
5	Construction of watch tower	Nos	1	10.0000	10.000
II	**Habitat improvement measures**				
1	Borewell with solar pump set	Nos	1	6.00	6.000
2	Management of grass land by uprooting the obnoxious weed and sowing local collected grass seed over - Ha (incl maint for 3 Years)	Ha	3	0.4000	3.600
3	Raising of Fodder plots with chainlink	Ha	2	2.60	5.200
4	Construction of saucer pits	Nos.	8	0.10	0.800
5	Formation of Percolation Tanks	Nos.	2	1.00	2.000
III	**Monitoring of wildlife**				
1	Procurement of camera traps for monitoring wild animals	Nos	25	0.300	7.500
2	Procuremnet of batteries, memory cards etc for camera traps	Nos	50	0.03	1.500
3	Procurement of hand held GPS , Binoculars	Nos	5	0.25	1.250
4	Procurementof Walkie talkies	Nos	5	0.2	1.000
5	Supply of field kit to the staff containing Measurement tape, torch, bill hook, bag, water bottle, plaster of paris, mug, glass, compass, etc for wildlife monitoring	Nos	20	0.05	1.000
6	Data Entry operator for maintenance of wildlife data	Nos	1	1.8	1.800
7	Maintenance of Vehicles incl POL of staff engaged in wildlife monitoring	Nos	1	1	1.000

Sl. No.	Item of works	Units	Qty.	Rate	Amount (Rs. In lakhs)
V	**Publicity & awarness and Eco Development activities**				
a)	Installation of large hoarding and sign boards to propogate the needs for the conservation of flora and fauna of the area	Nos	2	1.00	2.000
b)	Setting up of regulatory sign boards on speed limits and wild animal crossing zones @ Rs.0.60 per each	Nos	3	0.6	1.800
c)	Conducting of Awareness programme for Wildlife	Nos.	2	0.25	0.500
d)	Providing Solar fence to the farmers for controlling crop damage by wildlife	Nos	10	0.12	1.200
VI	**Fire management**				
a)	Procurement of fire blowers @ Rs.0.60	Nos	1	0.6	0.600
b)	Procurement of fire fighting equipments like shoes, glouse, helmates, spades, crowbars fire beaters etc., @ Rs.	LS	LS	LS	0.500
c)	Engaging of fire watchers (1 No. for 3 year /1 unit 5x5x9000=Rs.2.25 Total Rs.2.25 x 3= Rs.6.75 Lakhs)	Nos			6.750
	Total				**105.00**

Conclusion: The mitigative measures are proposed to prevent adverse effects of proposed for formation of BT Road from Karji to Motlaguda village via Rampur in Dahegaon Mandal 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 formation of BT Road from Karji to Motlaguda village via Rampur in Dahegaon Mandal that passing through the Corridor Area of Kawal Tiger Reserve in Asifabad Division.

District Forest Officer &
Forest Divisional Officer (FAC)
Asifabad