

**MITIGATIVE MEASURES TO BE TAKENUP IN THE FOREST AREA DIVERTED FOR CONSTRUCTION OF BARRAGE AND MAIN CANAL FOR DR. B.R. AMBEDKAR PRANAHITHA PROJECT IN KAGHAZNAGAR DIVISION**

**1. INTRODUCTION :**

The total geographical area of Telangana State is 112102 km<sup>2</sup> and the total forest area is 26903 km<sup>2</sup> which constitute to 24%; whereas the total geographical area of the Kaghaznagar division is 1,64,500 ha covering the forest area of 91719.31 ha in four Ranges constituting about 55.90%. The Kaghaznagar division lies between 19° 11' 51'' N and 19° 36' 20'' N and longitudes 79° 22' 28'' E and 79° 58' 21'' E

The Kaghaznagar Division consisting of five Ranges, -viz., Kaghaznagar, Sirpur, Karjelly, Penchkalpet & Bejjur Ranges. The Forest areas in the five Ranges are being utilized as the Corridor for Kawal Tiger Reserve for attracting the Tigers from Thadoba and Indravathi.

The Forest area in Kaghaznagar Division is known for its diversified Flora and Fauna apart from Scattered Primitive Tribal Group Habitations with unique tribal culture.

In the above scenario, the Chief Engineer (Projects), Adilabad submitted proposals for additional forest area for 54.9989 Ha. for permitting construction of Barrage and Main Canal for Dr. B.R. Ambedkar Pranahitha Project for providing irrigation facility to irrigate an area of 2,00,000 Acres. The Canal is passing through the following Compartments and RFs partly falling in Corridor of KTR.

S No	Range	Beat	Forest Block	Compt. No.	Bit Nos	Area proposed to be diverted in Ha.	Package Nos
1	Karjelly	Babapur	Gangapur	169	Bit-I	3.4409	Main canal Package-I
2		Babapur	Gangapur	169	Bit-II	12.4088	
3		Babapur	Gangapur	169	Bit-III	15.6748	
4	Sirpur	Gudlabori	Hetti	166	Bit-IV	23.4744	
				Total		54.9989	

**Report - Technical:**

In the above scenario, if the proposals 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 due to increase in irrigation facility to the interior remote areas.



**Following are the few Probable Consequential problems of Canal formation in Forest Area:**

- 1) Continuous human interference to the Serenity of the Vicinity.
- 2) Depletion of Forest Flora.
- 3) Poaching of Wild Fauna.
- 4) Forest Fires.
- 5) 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 an around the Canal site in Reserve Forest areas.

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 Canal.

3. **LEGAL STATUS:**

Sl. No.	Name of RF Block	Notified U/s.	Notification details
1	Gangapur	24 of APF Act, 1967	G O. Ms No 924 F&RD For III dt 25-12-77AP.Gazette No. 10 dt 15-1-78.
2	Hetti	24 of APF Act, 1967	G O. Ms No 924 F&RD For III Dept. Dt 16-12-77

4. **DISTRIBUTION OF THE AREA:** - The proposed area falls under Karjelly and Sirpur Ranges, spreading in the following compartment:

Sl. No.	Division	Range	Section	Beat	RF Compts. in Corridor area
1	Kaghaznagar	Karjelly	Balaji Ankoda	Babapur	169

5. **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. 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.*



**d. Micro Climatic Changes:**

Micro Climatic changes happens giving scope for more open lands due to formation of the canal.

**e. Increase in man-animal conflict:**

Easy approach of men in the forest vicinity consequently increases the man-animal conflict in search of shelter and food. There are many instances of grazing of agricultural crops and residing in agricultural crops adjacent to RF areas by the wildlife due to loss of their natural habitations because of various reasons.

**f. 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.

**g. 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.

In view of the above adverse impacts and in order to mitigate the adverse affects of Proposed Canal the Conservation plan is prepared.

**7. The Conservation Plan:**

**i. Period of the Scheme:**

The Conservation plan period is for three years starting from 2016-17 to 2018-19 and subject to extend for another two year period after evaluation after 2<sup>nd</sup> year of implementation.

**ii. Goal And Objectives:**

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

*"To address the 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 and protection from fire.
4. Publicity and awareness - conservation education to the stakeholders for protecting Flora and Fauna.



### iii. 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 canal, 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:

- Management of Eco-System through Habitat Restoration
- Water Conservation/ Rain water harvesting
- Fire management
- Publicity and Awareness

The management strategies are discussed under individual theme plans.

#### I. Management of Eco-System through Habitat Restoration:

##### Wild life Habitat Improvement:

In order to ensure safe Drinking Water to the wild life of the area, it is proposed to construct (2) Nos. of Solar Bore wells cum Percolation Tanks in arid areas with an estimated outlay of Rs. 20.000 lakhs. In addition to the above it is also proposed to construct new PTs (2) Nos. and CDs (2) Nos. covering an area of about five km on either sides of the Canal in RF.

#### 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 2 Nos. of Percolation Tanks at an estimated cost of 14.000 lakhs, Construction of Check Dams 2 Nos. at an estimated cost of Rs. 18.000 lakhs, Construction of Mini Percolation Tanks 5 Nos. with an estimated cost of Rs. 5.000 lakhs, Formation of SCTs 2,000 Nos. at an estimated cost of Rs. 3.600 lakhs and formation of RFDs 500 Nos. at an estimated cost of Rs. 2.000 lakhs.



The details of locations are as follows.

Sl. No.	Range	Beat	Compt. No.	Nos. proposed
I	<b>Medium Percolation Tanks</b>			
1	Karjelly	Korsana	174	1 No.
2		Balaji Ankoda	172	1 No.
				2 Nos.
II	<b>Construction of Check Dams</b>			
1	Karjelly	Korsana	174	2 Nos.
				2 Nos.
III	<b>Construction of Mini Percolation Tanks</b>			
1	Karjelly	Korsana	174	2 No.
2		Balaji Ankoda	172	3 No.
				5 Nos.
IV	<b>Formation of SCTs</b>			
1	Karjelly	Korsana	174	1000 Nos.
2		Balaji Ankoda	172	1000 Nos.
				2000 Nos.
V	<b>Formation of RFDs</b>			
1	Karjelly	Korsana	174 & 176	500 Nos.
				500 Nos.

#### OBJECTIVES:

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

- To check soil erosion
- To conserve water in situ in the treatment area itself
- To improve moisture regime in treatment area and recharge ground water table.
- Improvement of vegetation of grassland and availability of sustainable food and cover to wildlife.
- 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.

#### III. Fire Control Measures:

##### Fire Tracing:

- As a preventive measure fire tracing to a width of six m on either side of the main road 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 traveller, 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 10,000 RMT at an estimated cost of Rs. 92,000/-.

- b) It is proposed to construct nine Fire Watch Tower with an estimated cost of Rs. 9.000 lakhs at a strategic point to monitor the Fire occurrence and wildlife movement.

Sl. No.	Range	Beat	Compt. No.	Nos. proposed
I	<b>Fire Watch Tower</b>			
1	Karjelly	Karjelly	176	1 No.

- c) All the R.F. lines, Compartment lines and Beat boundary will be fire traced and kept clean.
- d) The pasture areas around the waterholes will be given additional protection from fire for maintenance of succulent grass fodder to the wildlife.
- e) The bamboo areas, regeneration areas with more dry material need to be protected.
- f) A follow up action of maintenance of the fire lines every year before the onset of summer shall be taken up.
- g) 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.

#### IV. Publicity and Awareness:

It is proposed to give wide publicity about the importance of Forest Protection, bio diversity and the wildlife conservation with an estimated cost of Rs. 6.000 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 sabhas 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.

**h) FINANCIAL OUTLAY:-**

The scheme is prepared with financial outlay of **Rs. 78.520 Lakhs** at an average of Rs. 15.704 Lakhs per annum for a period of five years to be done within the vicinity of five km radius from the Canal.

Sl No	Item of prescription	Amount required
1	<u>2</u>	<u>3</u>
<b>1.</b>	<b><u>Management of Eco-System through Habitat Restoration.</u></b>	
<b>a.</b>	<b><u>Wild life Habitat Improvement</u></b>	
i	Solar Borewells cum Percolation Tanks 2 Nos. @ 10.000 lakhs	20.000
		20.000
<b>2.</b>	<b><u>Water Conservation/ Rain water harvesting</u></b>	
i	Construction of new Percolation Tanks 2 Nos. @ Rs. 7.000 lakhs	14.000
ii	Construction of new Check Dams 2 Nos. @Rs. 9.000 lakhs	18.000
iii	Construction of Mini Percolation Tanks 5 Nos. @1.000 lakhs	5.000
iv	Formation of Staggered Contour Trenches 2,000 Nos. @ Rs. 180/-	3.600
v	Formation of RFDs 500 Cmt. @400/-	2.000
		42.600
<b>3.</b>	<b><u>Fire Management.</u></b>	
i	Fire lines (width 6.00 Mtrs.) 10,000 Rmt @9.20/1 Rmt.	0.920
ii	Construction of Fire Watch Tower 1 No. @ 9.000	9.000
		9.920
<b>4.</b>	<b><u>Publicity &amp; Awareness</u></b>	
i	Hoardings 4 Nos. @ 1.000 lakhs	4.000
ii	Publicity to propagate the need for conservation of Flora and Fauna of the area	2.000
		6.000
	<b>Total</b>	<b>78.520</b>

**Conclusion:** *The mitigative measures are proposed to prevent adverse effects of proposed Canal formation to wildlife i.e., both Flora and Fauna of the area and also at the same time improving the water resources and controlling soil and water erosion. There will be unaccountable loss due to proposed Canal that passing through the Corridor Area of Kawal Tiger Reserve in Gangapur and Hetti Reserve Forests in Kaghaznagar Division.*

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