

F. No. 8-28/2016-FC

Sub: Diversion 52.66 hectares of forest land in Kuderu and Kondapalli Reserve Forests of Ananthapuram Division for setting up 46.40 MW Wind Power Project, in favour of M/s Rayala Wind Power Company Private Limited, Hyderabad.

1. The Government of Andhra Pradesh vide their letter No. 4670/Section-II/2016 dated 03.09.2016 was submitted the above subject proposal to obtain prior approval of the Central Government, in terms of the section-2 of the Forest (Conservation) Act, 1980 .The land proposed to be diverted i.e compartment nos 438, 440, 441, 443, 444, 445 (Kondapalli RF) and 446 (Kuderu RF) are Reserved Forest. Kuderu RF is notified under Section 16 of Madras Forest Act – V of 1882, vide B.P.No.373 dated 23.07.1894 and Kondapalli RF is notified under Section 16 of Madras Forest Act – V of 1882, vide B.P. No. 568, dated 06.12.1898.
2. The FRA alongwith gram sabha resolution has been provided.
3. The Compensatory afforestation has been proposed over non -forest land in Sy. No. 67 (P) 1.35 Acres (0.54 Ha), 68 (P) – 25.30 Acres (10.24 Ha), Sy No. 69 (P) – 41.15 Acres (16.74 Ha), Sy. No. 70-22.57 Acres (9.13 Ha), Sy. No. 74 (P) – 33.42 Acres (13.52 Ha) and Sy. No. 81 (P) – 18.74 Acres (7.58 Ha) of Peruru Village, Ramagiri Mandal of Ananthapuramu district. Out of 57.68 Ha. Identified by the user agency, an area of 56.65 ha., will be suitable for Raising Compensatory Afforestation Plantation and treatment area is 53.00 Ha. The total financial outlay for compensatory afforestation is Rs. 260.767 Lakhs
4. The user agency has submitted an undertaking separately that they will implement all the mitigative measures including greening of the Catchment, Avenue Plantation along the proposed road in the proposal, site specific soil & moisture conservation works as planned and estimated by the Forest Department at their cost whenever the demand is raised by the Forest Department. This undertaking is necessitated to safeguard the catchment of forest land from any negative impacts on the land proposed for diversion.
5. Purpose wise breakup of the forest land proposed for diversion has also been provided and the total land requirement for the project is 60.47 ha. out of which 52.66 ha is forest land. The break up is as below:

S. N.	Description of Calculation:	Non-Forest Area (Ha)	Forest Area (Ha)	
1.	Total area for WTGs (Turbines.)	--	10.15	10.15
2.	Total Area for approach road	3.49	04.24	39.22
3.	Total Area for Internal Road	--	17.75	
4.	Total Area for road with internal Electrical Line (Transmission)	--	07.21	
5.	Total Area for Internal Electrical line (Transmission)	1.48	10.01	03.29
6.	Total area at Curves (Roads)	--	03.29	
7.	Pooling Substation (PSS)	2.84	--	
Total Land		7.81	52.66	

6. Further the FAC took note of the fact that another proposal for diversion of forest land for Irrigation Canal in the area had been granted vide F.No 8-31/2013-FC dtd 25/05/2015. An area of 0.8 ha is common to both projects.
7. The proposal was considered in Forest Advisory Committee (FAC) in its meeting held on dated 09-10 November, 2016. After thorough deliberation, the FAC *inter-alia* recommended that:
 - (i) The study to assess the impact of the proposed project on wildlife, especially birds and raptors may be done as per the guidelines issued by the Ministry vide F No 8-47/2008-FC dated 16/03/2008 through any expert agency including SACON, NCF etc. and report be submitted through the State Government.
 - (ii) The NOC for an area of 0.8 Ha which has already been diverted for Irrigation purposes in the area vide F. No. 8-31/2013-FC dated 25/05/2015 and is overlapping with the present proposal may be obtained and conveyed through the State Government.
 - (iii) The User Agency to try and reduce area to be diverted especially for roads and transmission lines.
8. The above FAC recommendation was communicated to the State Government of Andhra Pradesh vide this Ministry's letter dated 16.12.2016 (**Pg. 1136/c**). Now, the State Government of Andhra Pradesh, Environment, Forests, Science & Technology (Section. II) vide their letter No. 4670/Section-II/2016 dated 26.12.2016 (**Pg. 1137-1224/c**) has forwarded the point wise information. The information as sought and reply thereof are as follows:

S. No.	Observation raised by the MoEF & CC	Reply submitted by State Government
1.	The study to assess the impact of the proposed project on wildlife, especially birds and raptors may be done as per the guidelines issued by the Ministry vide F No 8-47/2008-FC dated 16/03/2008 through any expert agency including SACON, NCF etc. and report be submitted through the State Government.	In this regard, the State Government reported that the study report on assessment of the impact of the proposed Wind Power Project on Wildlife, particularly birds and raptors this study was conducted by Ela Foundation, Pune, India and the same is place at (Pg. 1161-1224/c).
2.	The NOC for an area of 0.8 Ha which has already been diverted for Irrigation purposes in the area vide F. No. 8-31/2013-FC dated 25/05/2015 and is overlapping with the present proposal may be obtained and conveyed through the State Government	In this regard, the State Government reported that the project proponent has obtained permission from the Chief Engineer (Projects), Water Resources Department, Ananthapuramu vide letter No. SE/AVR HNSS C.II/ATP/DW/DEE-4/SO-9/F.P.3 (B)/693 ATP DTD: 08/11/2016 and the same is available at (Pg. 1149/c). The said permission has been granted on the following conditions: (i) The designs and drawings are to be approved by Water Resources Department, Andhra Pradesh duly following procedure as per MOST

		drawings and as per approved Hydraulic Particulars of HNSS main canal. (ii) Construction programme should be approved by Superintending Engineer, HNSS Circle No. II, Ananthapuramu. (iii) The Agency should hand over the bridge to Water Resources Department after completion of execution. (iv) Any deviation from above terms and conditions will automatically cancel the permission given by the concerned Department.
3.	The User Agency to try and reduce area to be diverted especially for roads and transmission lines.	In this regard the State Government reported that the reducing the extent of area, the user agency has informed that the width of the internal roads with electrical line & internal Electrical line (total is about 11.5 Km) is considered as 15 Mtrs based on the GoI guidelines dated 05.05.2014 (Pg.1156-1160/c) for construction of 33 KV transmission line through forest areas, as such <u>there is no possibility to reduce the length and width of the road and the proposal may be considered for the total 52.66 ha of forest land for diversion of said project.</u> Copy of the sketch map is placed at (Pg.1153-1155/c).

9. It is also imperative to mention that the study report as conducted by the Ela Foundation, Pune, India was circulated among the members of FAC through e-mail with a request to offer your comments on the study reports to this Ministry for inclusion in the Agenda of FAC. But the comments in this regard have not been received.

10. The Mitigation measures suggested in Study report are as follows:

- (i) These are aimed at the protection and conservation of local biodiversity. The human activity and vehicular traffic should be withdrawn as soon as the project operations are completed and no further modification and disturbance of habitats should be undertaken, such that the return of displaced species can begin. Many species are known to be displaced temporarily and they often come back after the anthropogenic disturbance subsides.
- (ii) The arid habitats are also important areas of rich bio- diversity specific to such dry regions. The arid habitat specific species need such habitats which are widely perceived as wastelands. There is need to teach the local communities that such dry and arid habitats should not be considered as wastelands. Education of local communities, including school children will be of vital importance to protect and conserve such habitats with habitat-dependent inherent biodiversity found in areas found in the Rayala Wind Farm Project. This education may be imparted by suitable trained project personnel
- (iii) **Monitoring of bird and bats diversity and mortalities:** Future surveys should be undertaken for all three seasons to estimate the true avian, mammalian and invertebrate biodiversity of the Rayala Wind Farm Project. The present study was undertaken only during

one season (late winter and summer). Biodiversity is likely to increase during the monsoon and winter seasons and more migratory species can be recorded. Only when the comprehensive bio-diversity of the project area is estimated and documented, and the true picture of wind farm induced faunal mortality emerges, conservation measures can be formulated and effectively undertaken.

- (iv) Future monitoring of the biodiversity is strongly recommended in the protected areas of Kuderu & Kondapalli Reserved Forest to monitor the effects of wind farm on species and to augment their conservation.
- (v) **local community's rights to obtain various goods:** If the local communities have to utilize roads or croplands in the project area to transport or procure goods or crop they should not be restrained.
- (vi) Long term monitoring of the biodiversity is recommended for at least 5 years on a yearly basis and then on twice yearly basis as long as the wind farm is functional. This will help in the early identification of risks to biodiversity and timely implementation of mitigation measures. The baseline data for future comparison is generated by our study.
- (vii) The arid and semi-arid habitats are critical for the sustenance of species evolved to occupy and live in arid habitats. The list of such species is already mentioned in the table above. Such habitats should be conserved in the future and xerophytic and other short trees found in the adjacent habitats can be planted in the areas destroyed or modified for the project during construction activities. Care should be taken not to plant tall growing trees near WTG's for obvious reasons.
- (viii) Periodic removal of alien species like poppy, *lantana*, *tephrosia* and *ipomoea* before their flowering commences is recommended. This should be conducted till the species is eradicated from the immediate surrounding areas. Other species like eucalyptus, copper pod, etc. may be left alone.

11. Management of Ecosystem Services:

- (i) No adverse impacts or project affected communities were observed during the study period. Fodder, medicinal plants, crop yield by small land holders and clean air must be assured. However, a separate dedicated study should be undertaken in the future for identification of the needs of local communities, by designing an appropriate questionnaire.
- (ii) The project area is draught prone region and comprises mainly of arid habitat with extreme scarcity of water and is poorly utilized as cropland. The problem of water scarcity can be addressed by education and teaching the methods such as drips irrigation to the local communities.
- (iii) There are probably no significant alterations of supply chains, because large quantities of crop produce are not locally yielded from the project affected region, it being a semiarid land.

12. Conclusion of the Study report:

- (i) The Shanon Index for the bird diversity in the study area of Rayala Wind Farm is significantly high and is = 3.407054. This indicates that the avian diversity, richness and evenness of species in the project site are good. It will be interesting to study the species compositions after the entire construction activity is completed. Follow up monitoring is therefore suggested.
- (ii) The Rayala Wind Farm has a significant biodiversity. 112 species of birds belonging to 55 families were recorded by us during the study. These include 15 species of raptors and 25 migratory bird species; 31 breeding species and 7 roosting species in the project area. 13 bird species are representative of arid dry habitats. 2 species are endemic to the Deccan Plateau of India and the study site is located in this bio-geographic zone.

(iii) Some WTG's are near the migratory routes undertaken by the locally migratory species such as parakeets, mynas, egrets and crows, as they move between roosts and feeding areas. We recorded that the species avoid the WTG's during their daily movements.

(iv) All migratory species could not be evaluated because the survey was conducted during the late winter and summer season. Future monitoring during the monsoon and winter seasons will give a larger perspective of local biodiversity.

(v) Total of 17 species of mammals (including bats) belonging to 12 families were recorded in the wind farm site.

(vi) 13 species of reptiles, 3 species of amphibians and 14 species of butterflies were recorded in the wind farm site.

(vii) There is no significant collision risk for birds or bats. No dead birds or bats were found during the study period. The true picture of collision risk is difficult to predict but mathematical modeling such as used by us is utilized to assess the hypothetical risk. It is stressed again that in real life birds take active measures to avoid collision with any barriers including WTG's.

(viii) Arid and dry habitat is a critical habitat but is not restricted to the Rayala Wind Farm site and similar habitats occur widely over hundreds of km adjacent to the Wind Farm site. There is therefore no significant damage to local biodiversity.

(ix) **Legally Protected and Internationally Recognized Areas** do not occur in the Rayala Wind Farm site.

(x) Invasive alien floral species are recorded and mitigation measures for their eradication should be undertaken.

(xi) The total area of 52.66 Ha acquired for the Project 0.00 Ha was destroyed or modified. Hence, 100 % of the total area acquired for the Rayala Wind Farm Project was the foot print of the project.

12. Management of Ecosystem Services.

(i) No adverse impacts or project affected communities were observed in the study period due the arid dry nature of the locality.

(ii) The project area is draught prone region and comprises mainly of arid habitat with extreme scarcity of water and is poorly utilized as cropland.

(iii) Hence, there are no significant alterations of supply chains, since none of major importance exist in the project affected region.

The status of the above proposal may be placed before FAC in its forthcoming meeting to be held on 28th February, 2017 for their examination and appropriate recommendation.
