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Impact assessment of Mangalore-Bangalore petroleum product pipeline (Hindustan Petroleum Corporation Limited) on the flora and fauna

Final report



Salim Ali Centre
For
Ornithology & Natural History
Coimbatore, Tamil Nadu

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5.0 SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

- 1) Hindustan Petroleum Corporation Limited (HPCL) proposes to lay a 364 km long pipeline from Mangalore to Bangalore, traversing 6 districts of Karnataka, to transport petroleum products namely petrol, diesel, kerosene, naphtha and aviation fuel.
- 2) The entire stretch of the pipeline route was divided into three sectors, namely sector 1, the western sector (Concan region), sector 2, Western Ghats and sector 3, the eastern planes (Deccan plateau).
- 3) The entire stretch of the route of the pipeline was examined following sample survey method. For intensive survey of flora and fauna a few replicate quadrats of 25 X 25 m and 100 X 100 m size were marked along the route at an average interval of five km for intensive studies of flora and fauna.
- 4) Mostly the pipeline passes through private owned cultivable lands, plantations and estates.
- 5) 375 species of plants comprising 26 species of climbers, 176 of herbs, 83 of shrubs, 9 of stragglers and 80 of trees are recorded along the path of the pipeline and its environs.
- 6) No notified sanctuary or national park, occur along the pipeline route. 9359 m of the pipeline route is through reserve / state forest, namely Dharmasthala reserve forest and Balur state forest, which amounts to 16.8 ha considering the width of RoW as 18m.
- 7) The major wild species of trees present along the route and its environs are *Terminalia crenulata*, *Adina cordifolia*, *Terminalia paniculata*, *Careya arborea*, *Dalbergia latifolia*, *Ficus hispida*, *Ficus benghalensis*, *Ficus microcarpa*, *Lagerstroemia parviflora*, and *Terminalia tomentosa*. The major planted species are arecanut (*Areca catechu*), coconut (*Cocos nucifera*), cashew (*Anacardium occidentale*) and rubber (*Hevea brasiliensis*).

- 8) A large number of trees, both wild and planted species will be felled during the creation of RoW. In the sector 1 the estimate is about 16000 wild species and 40000 planted species. In sector 2 the number of wild and planted species are about 15000 each and in sector 3 1800 and 2300 respectively. In the reserve / state forests around 8000 number of wild species of trees are in the RoW and may be fell during the creation of RoW.
- 9) Since 16.8 ha of forest land will be converted for the RoW, compensatory afforestation by HPCL is mandatory as per the Forest Conservation Act (1980). The area for compensatory afforestation needs to be identified in consultation with Karnataka state forest department according to the prevailing norms.
- 10) In afforestation / tree planting programme preference should be given to local wild species of plants.
- 11) In all, 135 species of birds, 14 species of reptiles and six species of amphibians were sighted during the survey, and a number of them are listed in schedule I & II of the Wildlife Protection Act. However, most of these animals are highly mobile and are not very prone to short-term disturbances that are likely during the pipeline construction in small stretch of their habitats.
- 12) An attempt to grade the ecological sensitivity / significance of each sector based on the occurrence, in the proposed pipeline route, of animals belonging to schedule I & II, floral and faunal endemism, and legal status of the area suggest that the sectors 1 & 3 are low in ecological sensitivity in comparison with the sector 2.
- 13) The major impact of the pipeline project is during the construction. During the operation phase the underground pipeline practically does not pose any threat to the local ecological makeup, except in case of accidents such as leakage which have low probability.
- 14) In sector 2, the construction must be completed as fast as possible to minimize disturbance to the ecosystem. Similarly, construction work should be completed at a faster pace in the reserve forests in sector 1.
- 15) Dry season (March - May) are advisable for construction because i) in wet season it will be practically impossible to move the labour, construction machinery and materials in certain areas of sector 2, except at a high cost to the local ecological make-up and ii) primary breeding season for most of the resident birds commences with monsoon.

- 16) Care should be taken not to erect any permanent barriers along the boundary of Row which may hinder the free movement of animals.
- 17) The forest in Western Ghats are prone to fire during dry season and hence, all precautionary measures against fire should be taken during construction.
- 18) During the operation phase the team involved in the regular inspection in sector 2, should be trained / educated so as to minimize disturbance to wildlife and the local ecological makeup. Inspection during morning and evening hours also should be avoided.