Clearance Trends Series/July 2020 Vol III No 2

Policy Papers

Analysis of Forest Diversion in India, 2019

(January-December)

LIFE
Legal Initiative for Forest and Environment

Key Findings

- The study analysed 423 proposals for forest diversion under India's Forest (Conservation) Act, 1980 from January-December, 2019
- 13,656.60 hectares of forest land was recommended for diversion for non-forestry uses such as mining, roads, railways, hydel, infrastructure etc.
- Out of 423 proposals for forest diversion, only 10 were rejected implying a rejection rate of mere 2.36%
- Linear Proposals (roads, railways, transmission lines, pipelines) account for 51.73% of forest land recommended for diversion
- Mining accounted for 29.81 % of forest land recommended for diversion
- Within Mining, coal mining accounts for 49% of total forest land diverted for mining & more than 80% of coal mining projects fall in dense forest areas and wildlife habitats
- Out of 13,656.60 hectares of forest land recommended for diversion, 45% falls in wildlife habitats
- Barring Plantation Forests, 58% of forest land recommended for diversion falls under moderately dense and very dense forest
- 4% of total forest land recommended for diversion is for Non-Site-specific projects such as Special Economic Zones (SEZ), Universities, Waste Treatment Facilities, Ayurvedic Centres etc.
- Non-Site-specific projects have been recommended without any justification for their location or if any alternatives are explored.

I. EXECUTIVE SUMMARY

In 2019, the regulatory bodies constituted under India's Forest (Conservation) Act, 1980 recommended diversion of 13, 656.60 hectares of forest land for various non-forestry uses such as mining, irrigation, railways, roads, infrastructure, industry, etc. This recommendation is only in addition to 49, 582, 37 hectares of forest land which was recommended to be set aside from 2017-2018 for the abovementioned purposes. 10 states viz., Odisha, Jharkhand, Madhya Pradesh, Andhra Pradesh, Chhattisgarh, Gujarat, Maharashtra, Uttar Pradesh, Uttarakhand, and Assam account for more than 82% of total forest land recommended for diversion. Further, in terms of different non-forestry uses, Linear proposals such as roads, railways, power lines, and pipelines accounted for more than 50% of forest land recommended. While hardly any proposal for a linear project is rejected by the regulatory authorities, what is worrisome is that 16 proposals spread over 691.63 hectares fall within elephant corridors and other forest areas where though corridors are not demarcated but the regular movement of elephants is observed. As case studies suggest that these proposals may exacerbate the already existing Human-Elephant Conflict in certain areas such as the North-East. Mining took the second lead with 4,070.89 hectares of forest recommended for them wherein 49% is accounted for by coal-based mining. Multiple coal mining projects have been recommended in dense forest lands and wildlife habitat. For example, the Parsa Open Cast (OC) Mine in Chhattisgarh will divert 851.45 of moderately dense and very dense Sal (Shorea robusta) forest and entail felling of more than 95,000 trees. Similarly, the Bina-Kakri OC Mine will affect 2, 45, 462 trees spread over 390.26 hectares of rich Sal forest in Madhya Pradesh's Singrauli district. Both these projects will hamper the movement of elephants in and around these forests. Further, the Tubed Coal Mining project in Jharkhand lies near the tiger corridor of Palamau Tiger Reserve and will entirely divert a tributary of the North Koel River. While the forest land identified for both Bina-Kakri OC Mine and Tubed Mine was categorized as Inviolate, these projects were given a go-ahead without there being an impact study in place. With 1,386.3 hectares of forest recommended for them, irrigation proposals are third in the list. Out of this, 73 % was set aside for the construction of reservoirs and canals under the Galeru-Nagari Sujala Shravanthi (GNSS) Project Phase-II in Chittoor district of Andhra Pradesh. In addition to affecting the Sri Venkateshwara Wildlife Sanctuary and a wetland, the project will require a felling of 3, 98, 622 trees. Out of these, 20,818 are Red Sander trees (Pterocarpus santalinus) which are listed as Near Threatened with a declining population trend in IUCN Red List of Threatened Species. The tree is endemic to India with is geographical range-restricted to the Eastern Ghats.

While it is important to highlight specific proposals within non-forestry use categories, there are a few overall disturbing findings. For example, out of 423 proposals that this study analysed, forest diversion was recommended in 347 proposals and rejected in mere 10 proposals. Rest 66 were deferred for later consideration. A low rejection rate of 2.36% invites a critical question of whether the objective of the regulatory authorities is forest clearance or forest conservation. Another noteworthy aspect of the recommendation is the go-ahead given to non-site-specific projects. For example, a Special Economic Zone (SEZ) was recommended over more than 80 hectares of forest land in Madhya Pradesh solely because proposed forest land is contiguous with the vast stretch of non-forest land already identified for the project. The project received recommendations even though the user agency did not submit the list of alternative sites- a must under Forest (Conservation) Act, 1980. In another case, 35 hectares of very dense mangrove forests were set aside for the extension of a waste treatment facility in Mumbai, Maharashtra.

The user agency tried to justify its proposal for diversion of forest and consequent felling of 25,900 mangrove trees as disposal of untreated waste is affecting mangrove growth in the creek. In another case, more than 40 hectares of forest land was set aside for an Ayurvedic Treatment Centre in Pune, Maharashtra. The siting was justified as chanting of mantras for Vedic research requires natural forest areas. An equally noteworthy finding is that 45% of 13, 656.60 hectares fall under wildlife habitats such as wildlife sanctuaries, national parks, conservation reserves and community reserves, eco-sensitive zones of protected areas, tiger reserves, elephant reserves, wildlife corridors and movement paths used by wildlife. An unhealthy precedent was set when the recommendation was given for undertaking survey and exploration works for Uranium mining over 8,300 hectares of Amrabad Tiger Reserve in Telangana. The project was recommended in the national interest without there being any discussion on the impact of the project on tigers or its habitat. The analysis further suggests 58% of forest land recommended falls under moderately dense and very dense forest types. While fragmentation of dense forests, especially due to linear intrusions makes them vulnerable to further anthropogenic pressures, this aspect was never taken into consideration by the authorities. The rules made under the Forest (Conservation) Act, 1980 mandate that before diversion of any forest land, the rights of the local communities over that forest land must be settled under India's Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act 2006 (FRA) and that a no-objection must be obtained from the relevant village councils. While this is a legal requirement, the regulatory authorities simply treat this as a matter of compliance/non-compliance without considering if these requirements are fulfilled on the ground. Such recommendations give an impression that independent regulatory authorities created for the purpose of forest conservation actually legitimize the process of its destruction.

RITWICK DUTTA

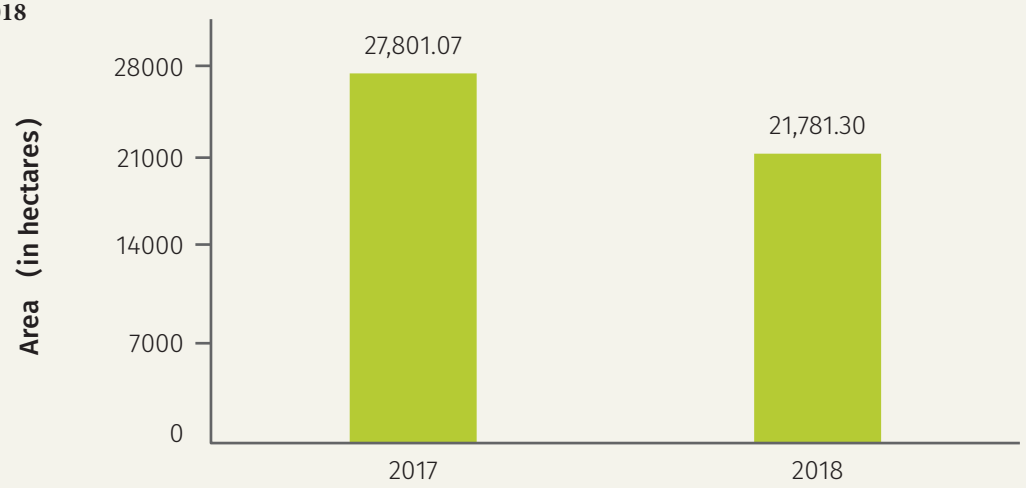
RAILWAY LINE FRAGMENTING THE FORESTS OF CHAPRAMARI WILDLIFE SANCTUARY, JALPAIGURI, WEST BENGAL

II. INTRODUCTION

India's Forest (Conservation) Act, 1980 mandates that a prior approval needs to be sought from the Central Government through Ministry of Environment, Forests and Climate Change (MoEF&CC) to use any forest land for non-forestry purposes such as Roads, Railways, Mining, Irrigation, Hydel infrastructure etc. Before forest clearance is granted by the Central Government, recommendation from Forest Advisory Committee (FAC) or the Regional Empowered Committee (REC) (constituted across the 10 Regional Offices of MoEF&CC) is mandatory1. It is important to note that although, final diversion takes place only after the MoEF&CC accepts the recommendation of the FAC/REC and final orders are issued by the State Government, the recommendations of the FAC/ REC are accepted by MoEF&CC in almost all instances. Therefore, though actual felling may not place in the year when the FAC/REC furnishes its recommendation, however, the decision to use the land for non–forest is taken the moment the FAC/REC recommends for diversion of forest land.

Legal Initiative for Forest and Environment (LIFE) has been analysing the recommendations made to proposals for diversion of forest land for non-forestry purposes since 2017. The forest land (in hectares) recommended for diversion in the calendar years of 2017 and 2018 can be seen in figure 1 below.

Figure 1: Forest Land (in hectares) recommended for diversion in calendar years of 2017, 2018



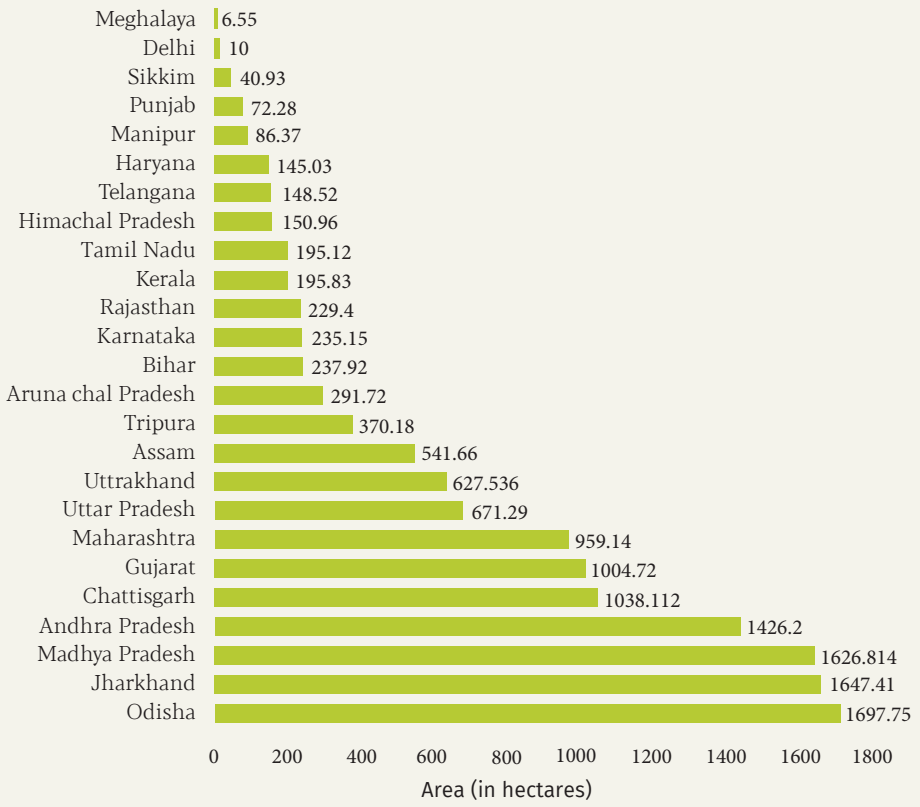
Building up on the analysis carried in 2017 and 2018 this paper aims to analyse the recommendations made by FAC and REC to forest diversion proposals over the calendar year of 2019 (01January-31December). The paper is based on review and analysis of minutes of the meetings of FAC and REC conducted in 2019.These minutes of the meeting are uploaded on the PARIVESH website managed by the MoEF&CC.

Out of 423 proposals considered by FAC and REC for diversion of forest land for non-forestry purposes, 347 proposals were recommended, 66 proposals were deferred for later consideration and 10 were rejected. Recommendation for 347 proposals implies that 13,656.60 hectares of forest land was recommended for diversion for non-forestry purposes such as roads, railways, mining, irrigation, infrastructure, hydel etc.

III. OVERALL TRENDS IN FOREST DIVERSION RECOMMENDATIONS

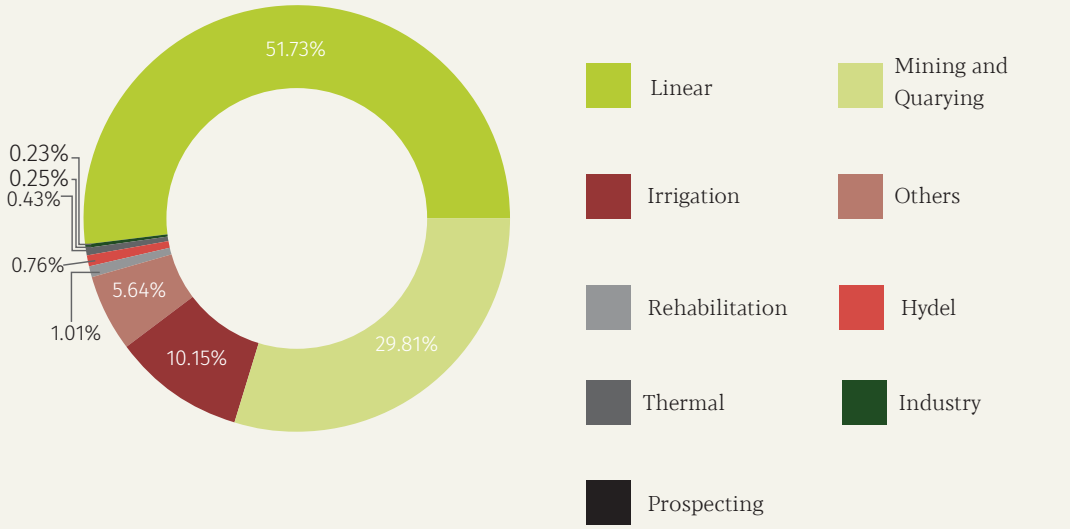
State-wise statistics (see figure 2) reveal that out of 24 states, the top 10 states account for 82.49% of total forest land recommended for diversion for non-forestry purposes in 2019. A total of 11,265.382 hectares (more than 112 sq. km) of forest land was recommended for diversion in these states

Figure 2: Forest Land (in hectares) Recommended for Diversion in 2019 in States



Out of the total forest land recommended for diversion, the share of different non-forestry uses is shown in figure 3. Out of 13,656.60 hectares of forest land recommended for diversion, 7,064.26 hectares was for linear projects such as Roads, Railways, Transmission Lines, and Pipelines. These projects accounted for 51.73% of total forest land recommended for diversion. After Linear, the next major category was Mining and Quarrying. 4,070.89 hectares of forest land was recommended for diversion for mining and quarrying projects and accounted for 29.81% of total forest land recommended for diversion. This was followed by Irrigation for which 1,386.3 hectares of forest land was recommended for diversion and thereby account for 10.15% of total forest land recommended for diversion.

Figure 3: Forest Land (in hectares) Recommended for Diversion in 2019; by Non-Forestry Use



IV. PROJECT CATEGORY WISE TRENDS

i. LINEAR PROPOSALS

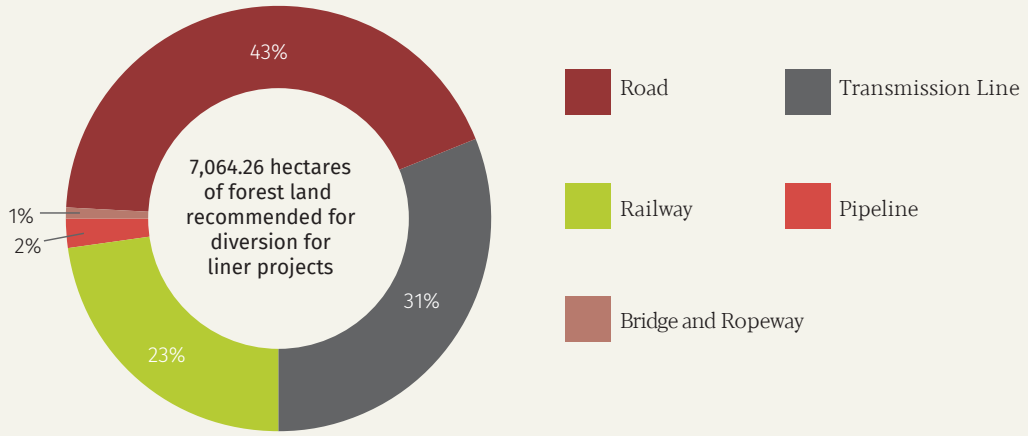
Linear proposals such as roads, transmission lines, railways, pipelines, and bridges had the highest contribution in the overall forest land recommended for diversion. A total of 237 proposals for linear projects were considered by the RECs across the 10 Regional Offices of the MoEF&CC. Out of these, 207 were recommended for diversion, 28 were deferred for later consideration and two were rejected. REC Dehradun in its meeting dated 20.06.2019 rejected the proposal for diversion for 6.055 hectares of forest land for construction of Bheturi-Jaledi-Chamund Motor Road by PWD in Tehri district of Uttarakhand (REC Dehradun 2019a). Subsequently, in its meeting dated 29.07.2019, the committee rejected the proposal for diversion of 6.45 hectares of forest land for construction of Kandara to Kedarkot Motor Road from Karnprayag-Nainisain MR by PWD in Chamoli district of Uttarakhand. Diversion of forest land was not recommended in these proposals as it was observed by REC that the villages mentioned in the proposal are already connected with the other road, hence, the requirement of the proposed land was not justified (REC Dehradun 2019b).

ADITYA PANDA

ROAD FRAGMENTING THE ATHGARH FORESTS WHICH IS AN IMPORTANT ELEPHANT HABITAT IN ODISHA

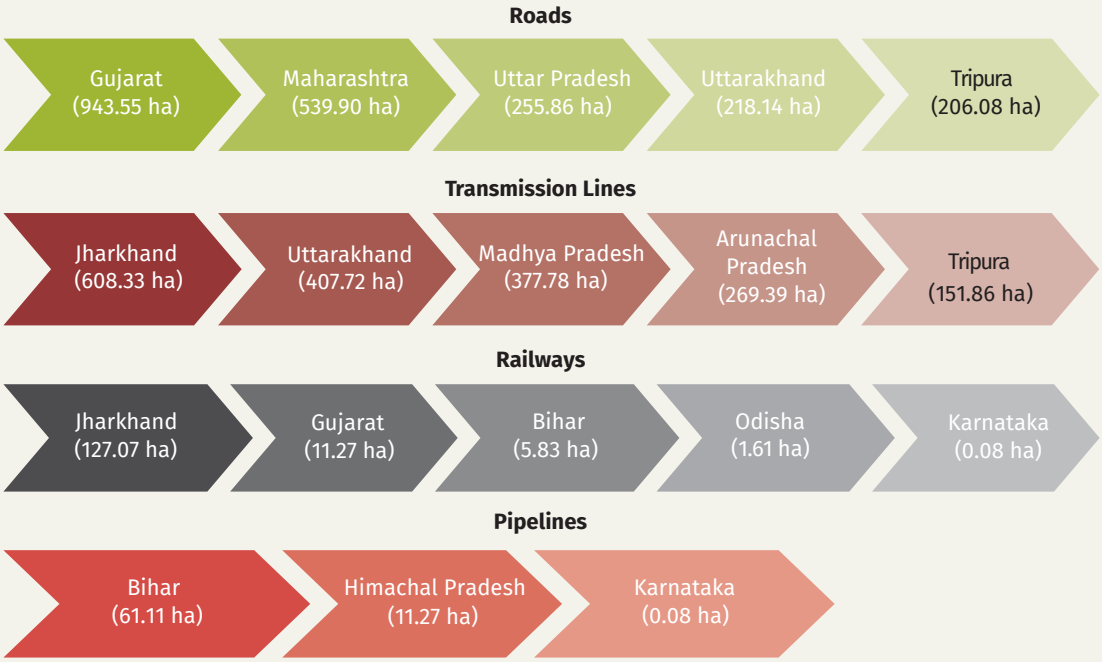
Linear projects accounted for 7.064.26 hectares of forest land which is 51.73% of total forest land recommended for diversion. The break-up of linear projects into sub-categories such as roads, transmission lines, railways, pipelines, and bridges, and ropeways is shown in figure 4 below.

Figure 4: Forest Land (in hectares) Recommended for Diversion for Linear Projects in 2019; by Sub-Category



The share of major states in terms of land diverted for major linear projects (roads, transmission lines, railways, pipelines, and bridges, and ropeway) is shown in figure 5.

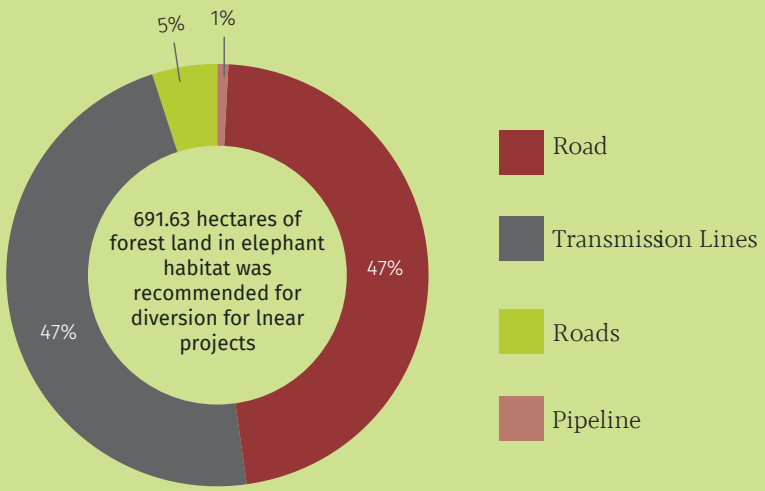
Figure 5: Forest Land (in hectares) Recommended for Diversion for Linear Projects in 2019



Box 1 | India's push for Linear Infrastructures leaves its Elephant Habitats Fragmented

A total of 16 projects spread over 691.63 hectares of forest land were recommended in Elephant habitat2 for diversion for linear projects such as Railways, Transmission Lines, Roads, and Pipelines.

Figure 6: Diversion within elephant habitats due to liner projects



As clear from figure 6, the majority of the diversion was due to railways and power lines. Within Railways, the recommendation was given for diversion of 244.62 hectares of forest land for the Talcher-Bimalagarh New Broad-Gauge Rail Link Project Phase-II in Angul, Deogarh and Sundergarh districts of Odisha. The forest land supports canopy density between 0.4-0.5 and entails a felling of 30,734 trees. As per official forest clearance documents, "movement of wild elephants is often noticed in and around the applied area and therefore the movement of elephants and other wildlife will be affected due to implementation of the project" (REC Bhubaneshwar 2019b). The proposed railway line will provide a shorter route for export Iron ore through Paradeep Port. Further, the forest land (203.83 hectares) proposed for construction of Koderma detour in Hazaribagh District (Jharkhand) under Dankuni to Sonnangar section of East Dedicated Freight Corridor in Jharkhand's Hazaribagh district forms part of the migratory route of Asian Elephants which will be impacted due to the project". (DCF Hazaribagh 2018). The project will cut through the Gautam Buddha Wildlife Sanctuary and its eco-sensitive zone and was studies by Wildlife Institute of India (WII), Dehradun. The WII Report recorded the following, "the presence of Elephants indicates towards the diverse vegetation of the study area as Elephants are browsers and forage on a plant species. Also, elephants are considered as forest architects and thus their presence is a good indicator and essential to maintaining the vegetation diversity (WII 2017). In terms of transmission lines, 85.30 hectares recommended for 765 KV D/C Vidhyanchal-Varanasi Transmission Line (Madhya Pradesh) passes through the Elephant Corridor of Singrauli Forest Division (DFO Singrauli 2019). Similarly, the 51.60 hectares of forest land (in Khowai Forest Division, Khowai district, Tripura) recommended for 400 KV D/C Transmission Line from Suryamani Nagar to PK Bari observes the regular presence of elephants As per CCF Territorial, "there is a herd of wild elephants (based on indirect signs-13 to 18, No of herds: 1, Solitary Bull: 1 tusker male) and there is a history of human-elephant conflict in this part of the landscape. (CCF Territorial 2018). Further, another 28.73 hectares in the Khowai Forest Division was recommended for the widening and improvement of the Churaibari-Agartala section of NH 44. The area observes the movement of wild elephants and as per the DFO, "proposed area is the corridor for wild elephants that travel from Kalyanpur, Mungiakami to Gomati Wildlife Sanctuary". (DFO Khowai 2019)

ii. MINING PROPOSALS

Followed by Linear proposals, the next major non-forestry use for which forest land was recommended for diversion was mining & quarrying. Out of 52 proposals for mining and quarrying, 43 were recommended, seven were deferred for later consideration and two were rejected. REC Bhubaneshwar rejected the proposal for diversion of 0.64 hectares of forest land for exploratory drilling for prospecting of coal in forest areas of Chandrabila Coal Block in Angul, Odisha. The committee observed that 600 MT of coal is available in the non-forest area for which prospecting is already been carried out and it will take 30 years to exhaust the same. Moreover, the Kanheri-Jena-Ananthapur Elephant Corridor is approximately four km from the prospecting site and the reserved forest within which diversion is proposed is itself a migratory corridor for elephants and other available wildlife (REC Bhubaneshwar 2019a). Further, REC Ranchi rejected the proposal for diversion of 10.16 hectares of forest land for Partango Stone Mine in Koderma district of Jharkhand. The committee observed that proposed land is adjacent to 6-8 existing stone quarries and environmental clearance has been granted to 77 stone quarries in Koderma district and 26 in the adjoining Hazaribagh district. Moreover, the area forms part of natural wilderness, given its proximity to Koderma Wildlife Sanctuary. Taking these facts into consideration, the committee decided not to recommend the proposal (REC Ranchi 2019).

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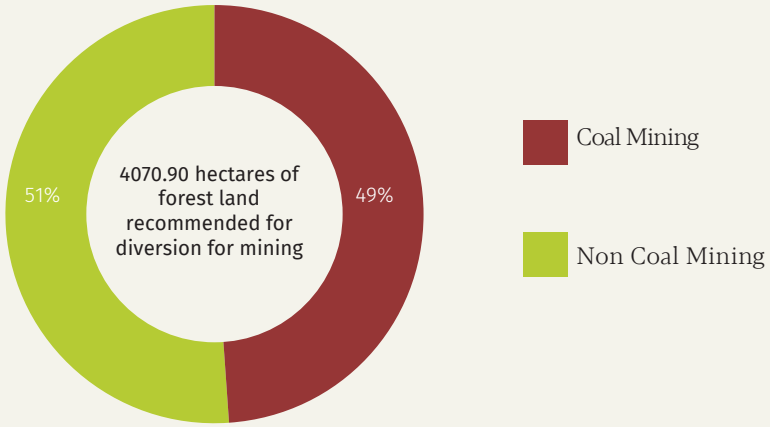
JALDAPRA NATIONAL PARK, ALIPURDUAR, WEST BENGAL

The 43 mining proposals recommended accounted for 4,070.90 hectares of forest land which is 29.81% of total forest land recommended for diversion. **The analysis shows that out of 4,070.90 hectares recommended for mining, 1,984.07 hectares was for coal mining and rest 2,086.84 was for non-coal mining. This distribution is shown in figure 7 (a) below:**

Figure 7 (a): Forest Land (in hectares) Recommended for Diversion in Mining in 2019; by Coal & Non-Coal Mining Projects



In terms of forest land recommended for coal mining, four proposals alone account for 81.87% of total forest land recommended for coal mining. These projects are highlighted in Figure 7 (b).

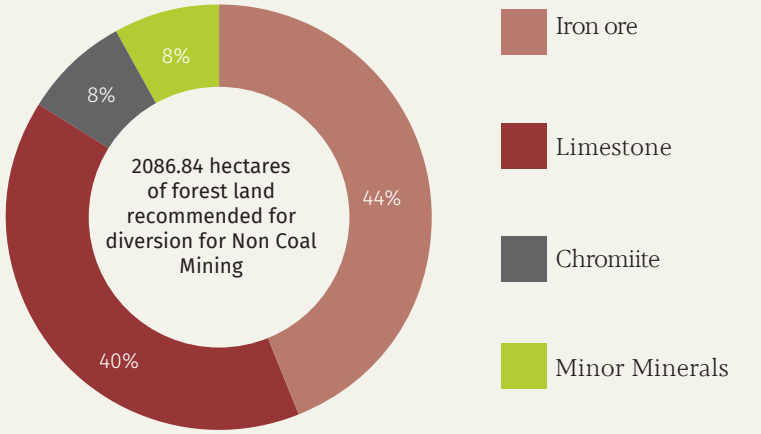
Figure 7 (b): Major Coal Mining Projects Recommended for Forest Diversion in 2019

Parsa OCP (851.45 hectares)	• Location: surguja and surajpur, chhattisgarh • Forest land supports 0.5-0.7 canopy density particularly with Sal species • The proposed area forms habitat of Elephant, Sloth Bear, Leopard, Hyena, Jackal and Wild Boar • Project will entail felling of 95,458 trees • APCCF: As a standalone project, it does not deserve consideration for forest clearance due to its high canopy density • APCCF: Project may considered for grant of forest clearance as contigous to Parsa East Kete Basan & Tara Coal Block where mining is ongoing
Bina Kakri OCP (390.26 hectares)	• Location: Singrauli, Madhya Pradesh • Arean is primarily Sal Mixed forest with more than 0.5 canopy density • Out of 390.26 hectares of Forest, 96 is Very Dense Forest Type & rest 18 hectares is Open Forest Type • Proposed area is inviolate due to presence of Very Dense Forest • 94.85% of forest land falls within Elephant Corridor • Project will entail felling of 2,45,462 trees
Samaleshwari OCP Expansion (230.20 hectares)	• Location: Jharsughda, Odisha • Forest land forms habitat of Sloth Bear, Hyena, Jackal Fox, Peafowl, Jungle Fowl, Grey Patridge and Golden Oriole • Occasional movement of Elephants is observed • The project will entail felling of 17,423 trees
Tubed coal block (162.394 hectares)	• Location: Latehar, Jharkhand • Area has been identfied as inviolate or having high conservation value • Mining will divert Sukri River which is tributary of Auranga & North Koel Rivers • Part of forest area on nortern side is contigous with larger landscape surrounding palamau Tigar Reserve • The Southern forest patch is also connected with vast forest & wilderness areas with potential wildlife habitat • Mahauadhar-lawalong Tigar corridor is located at a distance of 4 km from the proposed land for diversion • The project will entail felling of 8,170 trees having negative implications for moisture regime microclimate, soil condition and regeneration of vegetation

Source: Compilation based on official forest clearance documents as uploaded on PARIVESH

In terms of non-coal mining, the share of Iron Ore was the highest at 44% (925.2 hectares). This was followed by Limestone which accounted for 40% (823.61 hectares). Rest of the diversion for non-coal mining was for chromite mining and minor minerals such as granite and stone quarrying (see figure 7 ©),

Figure 7 (c): Forest Land (in hectares) Recommended for Diversion for Non-Coal Mining in 2019; by Mineral Type



Box 2 | Missing Cumulative Impact for Iron Ore Mining in ecologically fragile Gandhamardan Hills

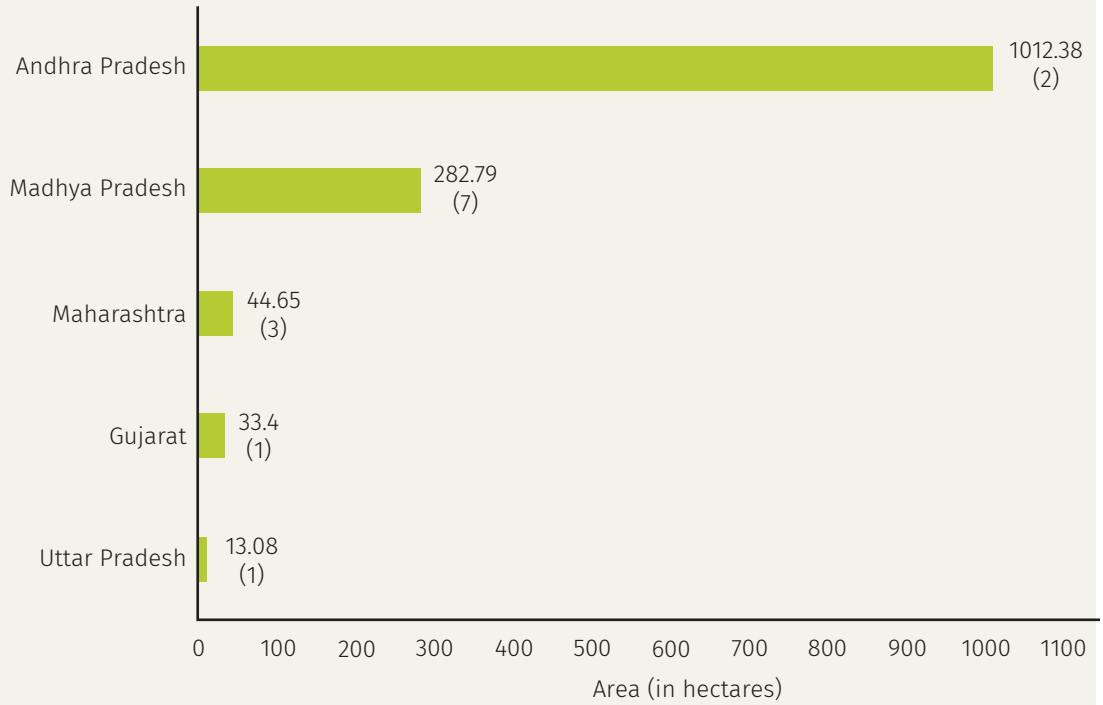
The FAC recommended diversion of 401.78 hectares of forest land for iron ore mining in Odisha Mining Corporation (OMC) Ltd.'s Gandhamardan Block-A in Odisha's Keonjhar district. Block-A is spread over a total of 519.74 hectares of forest land out of which clearance has already been granted to 117.96 hectares. The project falls in Gandhamardhan Hills which is a pristine ecosystem of the state and habitat of wildlife including its flagship species, the elephants. The minutes record that "there had been alarming incidences of elephant deaths due to drowning in the dangerously exposed mining pits of OMC. Gandhamardan hills also cater to river Baitarani, through the feeder streams, which shall also be affected by mining activities." The forest support Sal vegetation and the project will involve the felling of 89,645 trees. The minutes further highlight that "the hills are having steep slopes and the area contains a lot of biodiversity and is very fragile. There will be a loss of biodiversity as well as soil erosion." It is important to note that Block-A is lease is adjacent to Block-B which is spread across 1,409.65 hectares of forest land. While forest clearance has been granted over 232.43 hectares, the balance area has stage-1 approval (FAC 2018).

In their site inspection, the Regional Office Bhubaneswar observed that mining is already being taken up in the foothills of Gandhamardan-A lease (covered with Lantana and Eupatorium weeds). In this scenario, if mining is also taken up in the hilltops of the Gandhamardan-A area, the ecosystem of the hills will be severely damaged. The Regional Office recommended that balance virgin forest area of Gandhamardan Hills should be kept intact and they should be operated on once the Gandhamardan-B lease is exhausted of the stock of iron ore and progressively reclaimed. Given the Site Inspection report, the FAC directed a site visit by its sub-committee to see whether it is imperative to open a new area under Block-A when the adjoining Block-B is already under operation (FAC 2018). The view of the sub-committee was, "diversion of a mine or consideration of diversion of a mine is not prohibitive or restrictive for getting another mine diverted to a user agency.....The sub-committee is of the opinion that as per the prevalent acts & rules the Gandhamardan-B, which was allotted to OMC by the State Govt. in the year 1970 and has recently been diverted by the Ministry, accordingly shall not be restrictive or prohibitive in getting another mine (Gandhamardan-A) diverted in their favour, whether adjoining or elsewhere." Based on the views of the sub-committee, the FAC recommended diversion for Block-A mining lease with the condition that OMC Ltd. Will use of use 191.77 hectares, and the balance area shall be retained as green cover at the cost of the user agency (FAC 2019a). It is important to note that neither while considering the proposal, the FAC did not consider the need for assessing the cumulative impact of mining in Block-A and Block-B on the ecologically fragile Gandhamardan Hills. The FAC's recommendation is not in sync with Report of the Comptroller and Auditor General of India on Environmental Clearance and Post Clearance Monitoring which has stressed on the importance of Cumulative Impact Assessment to Revaluate the impact on the environment of the activity in question with other existing or planned activities in the locality (CAG 2016).

iii. IRRIGATION PROPOSALS

After Mining and Quarrying, the next major non-forestry use for which forest land was recommended for diversion was Irrigation. Out of 26 irrigation proposals that were considered, 14 were recommended and 12 were deferred for later consideration. No proposal for rejected. The total forest land recommended for irrigation projects was 1,386.3 hectares and accounted for 10.15% of total forest land recommended for diversion.

Figure 8: Forest Land Recommended for Irrigation in 2019; by States



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GORUMARA NATIONAL PARK, JALPAIGURI, WEST BENGAL

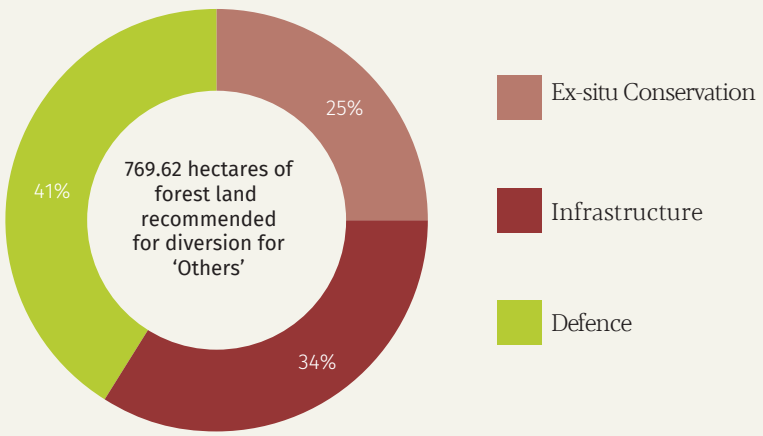
Figure 8 shows the break-up of forest land recommended for irrigation in terms of States. The share of Andhra Pradesh in the forest land recommended for irrigation is highest at 73.02% (1,012.38 hectares). Two proposals (essentially for one project) explain the recommendation

for diversion of forest land for irrigation in Andhra Pradesh. FAC recommended diversion of 730.88 hectares of forest land for construction of Sri Balaji Reservoir, Mallemadugu Reservoir, and Kailasagiri Canal under Galeru-Nagari Sujala Shravanthi (GNSS) Project Phase-II in Chittoor district of Andhra Pradesh. Out of 730.88 hectares of forest land, 81.7% (597.10 hectares) has been categorized as 'Inviolate'. This is because the forest land proposed for construction of Sri Balaji Reservoir completely falls within Sri Venkateshwar Wildlife Sanctuary; forest land for construction of Mallemadugu Reservoir is located as a distance of 273.68 metres from Sri Venkateshwar Wildlife Sanctuary boundary and a wetland of more than 10 hectares size exists within 250-metre distance from the Mallemadugu Reservoir (MoEF&CC Forest Conservation Division 2019a). In addition to the above, the REC Chennai recommended diversion of 281.50 hectares of forest land for investigation, design, and earthwork excavation of GNSS Main Canal under GNSS Phase-II. As per the site inspection report of MoEF&CC's Chennai Regional Office, the forest land proposed for diversion supports canopy density of 0.4 and forms habitat of Sloth Bear, Spotted Deer, Grey Jungle Fowl, Sambar, Jungle Cat, Chowsingha and Wild Boar. The report mentions that the canal alignment will cause fragmentation and disturb the movement of wildlife in general (MoEF&CC Chennai Regional Office 2019). Analysis of both the projects indicates that a total of 3, 98, 622 trees will be affected due to the proposed irrigation project.

iv. PROPOSAL UNDER 'OTHERS'

After Irrigation, the next major non-forestry use for which forest land was recommended for diversion was 'Others'. This category consists of defence facilities, infrastructural facilities, and ex-situ conservation facilities. A total of 26 proposals were considered out of which 16 were recommended, six were deferred for later consideration and four were not recommended. The FAC rejected three proposals for setting up of infrastructural facilities on forest land. These were the construction of New All India Institute of Medical Sciences (AIIMS) in Rewari, Haryana (90.84 hectares); Degree Government College in Gurugram, Haryana (1.99 hectares) and Construction of Commercial Complex for M/s Aerospace Builders (2.23 hectares). These proposals were rejected on the account of they being non-site specific in nature and that such proposals are not permissible under Forest (Conservation) Act, 1980. Further, REC Bangalore rejected the proposal for diversion of 0.6 hectares for the construction of approach road for Karnataka Veterinary Animal and Fisheries Sciences University. The committee observed that there is already an existing approach road to the main building of the university and the proposed road will fragment the forest (REC Bangalore 2019).

Figure 9: Forest Land (in hectares) Recommended for Diversion for 'Others' in 2019; by Sub-Category



The total forest land recommended for diversion for 'Others' was 769.62 hectares which accounts for 5.64% of total forest land recommended for diversion. The share of different

project types in 'Others' is shown in figure 9. As clear from the figure above, Defence accounted for 41% (314.79 hectares) of total forest land recommended for diversion within 'Others'. Further, 260.95 hectares of forest land was recommended for diversion for setting up of Universities/ Hospitals, Airport Facilities, SEZs, and Waste Treatment Plants. Lastly, 193.88 hectares of forest land was recommended for setting up of ex-situ conservation facilities such as Animal Rescue and Rehabilitation Centres.

v. PROPOSALS UNDER REST OF THE CATEGORIES

After 'Others' the next major non-forestry use for which non-forest land was recommended for diversion was Rehabilitation. Two rehabilitation proposals were recommended: diversion of 98 hectares of forest land for relocation of villages from Satpuda Tiger Reserve, Hoshangabad, Madhya Pradesh, and diversion of 39.59 hectares of forest land for relocation of villages from Simlipal Tiger Reserve, Odisha. After Rehabilitation, the next major category was Hydel. A total of 19 proposals spread over 104.35 hectares of forest were recommended. Following Hydel, 58.82 hectares of forest land was recommended for diversion for setting up of thermal power plants and their associated infrastructure facilities. The major project which got recommended was for diversion of 38.10 hectares of forest land for construction of 3*800 MW Super Critical Thermal Power Plant in Kamakhyanagar Tehsil in the Dhenkanal district by Odisha Thermal Power Corporation Ltd. After Thermal, 33.8 hectares was recommended for setting up of industrial facilities. The major project in the industry category was the establishment of 30 MTPA Iron Ore Grinding De-slimming (Beneficiation) Plant, Slurry Pumping Station, and Water Intake System for Utkal Steel Limited. Lastly, 16 proposals covering 30.97 hectares of forest land were recommended for the prospecting of mineral via drilling of boreholes. Within prospecting, it is important to highlight the FAC's recommendation for a survey and exploration of Uranium over 8,300 hectares in Amrabad Tiger Reserve, Telangana. The project was recommended as it is of critical importance from the national perspective (FAC 2019b).

PRAKASH BHANDARI/HIMDHARA

APPLE ORCHARDS IN LIPPA VILLAGE TO BE AFFECTED BY THE KASHANG HYDROELECTRIC PROJECT, KINNAUR, HIMACHAL PRADESH

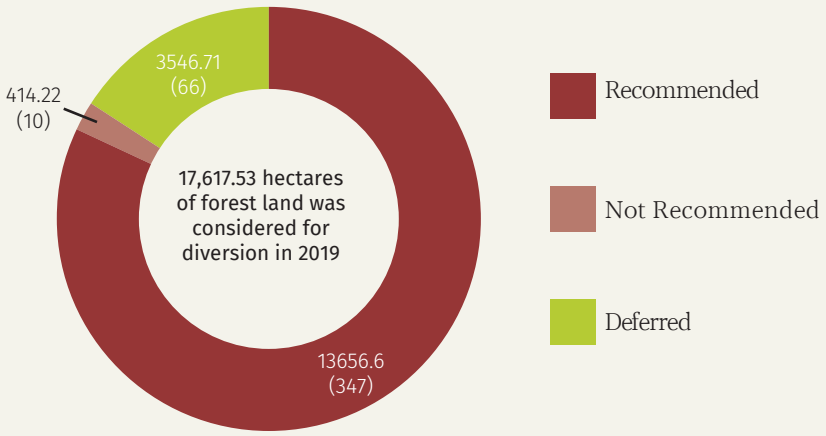
V. EMERGING CONCERNS

In addition to state-wise and project category-specific recommendations, our analysis of the minutes of the meeting of FAC and REC finds a few overall concerns concerning the recommendations made to forest diversion proposals.

i. LOW REJECTION RATE OF PROPOSALS

In the calendar year of 2019, a total of 423 had sought diversion of forest land for non-forestry purposes. Out of these, 347 were recommended, 66 were deferred for later consideration and only 10 were rejected. This implies that a total of 13,656.60 hectares of forest land was recommended for diversion for non-forestry purposes and another decision on another 3,546.71 hectares of forest land was deferred for later consideration (see figure 10). It is important to note that proposals which were deferred were those where FAC and REC in principle agreed with the proposal but to finally recommend for diversion further clarifications or information was required from the user agency.

Figure 10: Decision on Forest Land (in hectares) for Diversion in 2019



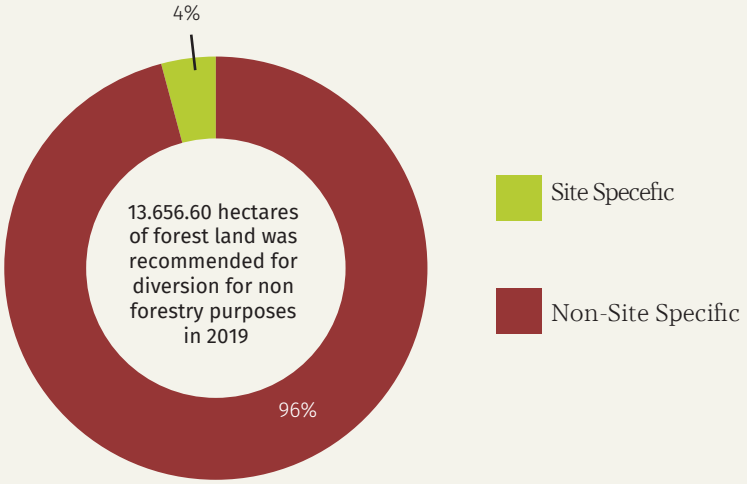
It is important to highlight that FAC and REC had given rejection to only 10 out of 423 proposals. This implies that the rejection rate of proposals is a mere 2.36%. In terms of forest land (in hectares), this means that 17,617.53 hectares of forest land considered for diversion for non-forestry purposes, FAC and REC rejected the use of only 3,546.71 hectares of forest land which is 2.35% of forest land (in hectares).

ii. RECOMMENDATION FOR NON-SITE-SPECIFIC PROJECTS

One important concern regarding recommendation given by FAC & REC is the recommendation given for non-site-specific projects. MoEF&CC Guidelines on Non-Site-Specific Project under Forest (Conservation) Act, 1980 specify that normally there is no justification for locating non-site- specific projects on forest land. Projects like industries, construction of residential colonies, institutes, disposal of fly ash, and rehabilitation of displaced persons are termed as non-site as these do not necessarily need forest land. The Guidelines further make it mandatory for the State Government to give a complete justification for locating the project in the forest and submit the details of the alternatives considered and reasons for their rejection (MoEF&CC

2019). The total forest land recommended for diversion in 2019 was 13,656.60 hectares out of which 569.03 hectares were for non-site-specific projects and rest 13087.56 hectares were for site-specific projects. The share of the site and non-site-specific projects is shown in figure 11.

Figure 11: Diversion of Forest Land (in hectares) in 2019; by Site & Non-Site-Specific projects



RITWICK DUTTA

MANGROVE FORESTS OF SUNDARBANS TIGER RESERVE, WEST BENGAL

The key to non-site-specific projects is the justification for locating the project in the forest and a list of alternatives. However, multiple cases suggest that these requirements are not followed. For example, **80.74 hectares of forest land was recommended for diversion for SEZ Chindwara in Madhya Pradesh. In addition to forest land, the SEZ will require 1,239.32 hectares of non-forest land.** The project location was justified as **"It is the necessity of the project to make land contiguous and also it is compulsion under the SEZ Act, 2005 that the land has to be contiguous. Hence there is no option to leave the forest land from our project area. However, during land acquisition, we have tried all the possibilities of not to include the forest land adjoining our SEZ boundary."** A perusal of the clearance document shows that a list of these

possibilities/alternatives has not been submitted by the user agency. The Ministry during its examination had raised concerns about the justification of the project being inappropriate but the reply from State Government simply referred to the old justification given by the user agency (MoEF&CC Forest Conservation Division 2019b). The project was recommended by the FAC without taking into account the irregularity. **In another case, 35 hectares of Mangrove forest land was recommended for a sewage treatment facility in Borivali, Maharashtra**. The forest land supports a canopy density of 1.00 and will involve a felling of 25,900 trees. **Proposed next to the existing Malad waste treatment facility, the proposal was justified along the lines that at present disposal of untreated municipal sewage into the creeks is deteriorating the water quality and affecting the flora and fauna and resulting in stunted Mangrove growth in the Malad creek area (REC Nagpur 2019a). The REC while considering the project did not even once question why diversion of mangrove forest is required for improving the growth of mangroves.** Lastly, REC Nagpur had recommended diversion of 39.25 hectares of forest land for Ayurvedic Medicines and Treatment Centre. **The justification given by the user agency was** *"all the Chanting of Mantras for Vedic Research is to be done in the area surrounded by the natural forest and in the vicinity of the water bodies. Moreover, the area involves both non-forest and forest land and the forest area proposed for diversion is contiguous to the non-forest land where a major portion of the project is coming up". Given these submissions by the user agency, the REC concluded,* **"Therefore, the project becomes site-specific" (REC Nagpur 2019b).**

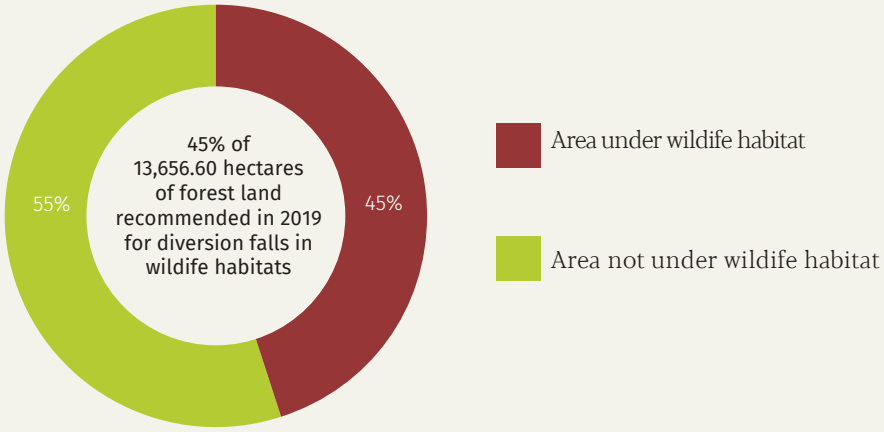
RITWICK DUTTA

ELEPHANT CROSSING SIGNBOARD ALONG THE RAILWAY LINE PASSING THROUGH CHAPRAMARI WILDLIFE SANCTUARY, JALPAIGURI, WEST BENGAL

III. PROJECTS RECOMMENDED IN WILDLIFE HABITATS

Our analysis reveals that 45% out of 13,656.60 hectares of forest land proposed for diversion i.e. 6145.47 hectares fall under wildlife habitats. The term wildlife habitat means (wildlife sanctuaries, national parks, conservation reserves, and community reserves), eco-sensitive zones of protected areas, tiger reserves, elephant reserves, wildlife corridors and movement paths used by wildlife3 (see figure 12)

Figure 12: Wildlife Habitat in Forest Land Recommended for Diversion in 2019 in hectares



It is important to note that while recommending projects in wildlife habitat neither FAC nor REC calls for a scientific study analysing the impact of the proposed project on wildlife. The Forest (Conservation) Amendment Rules, 2014 requires the committees (before recommending the proposal) to ensure that the State Government or Union Territory Administration considers the direct and indirect impact of diversion of forest land on wildlife. However, such concerns do not reflect in the recorded discussion of the committees. The projects proposed in wildlife habitats are recommended on the condition of preparation of a Site-Specific Wildlife Conservation Plan. In the case of Linear projects, the committees specifically ask for a provision for underpasses/ overpasses following the Guidelines made WII in Eco-friendly Measures to Mitigate Impacts of Linear Infrastructures on Wildlife.

RITWICK DUTTA

JALDAPARA NATIONAL PARK, ALIPURDUAR, WEST BENGAL

iv. RECOMMENDATION FOR DIVERSION OF DENSE FORESTS FOR NON-FORESTRY PURPOSES

The section deals with distribution of forest land recommended for diversion for non-forestry purposes in terms of its canopy density. The term canopy density is defined as proportion of forest floor that is covered by crown of trees and is expressed as a percentage (%) of total area.

The Forest Survey of India (FSI) has categorised the canopy density as follows:

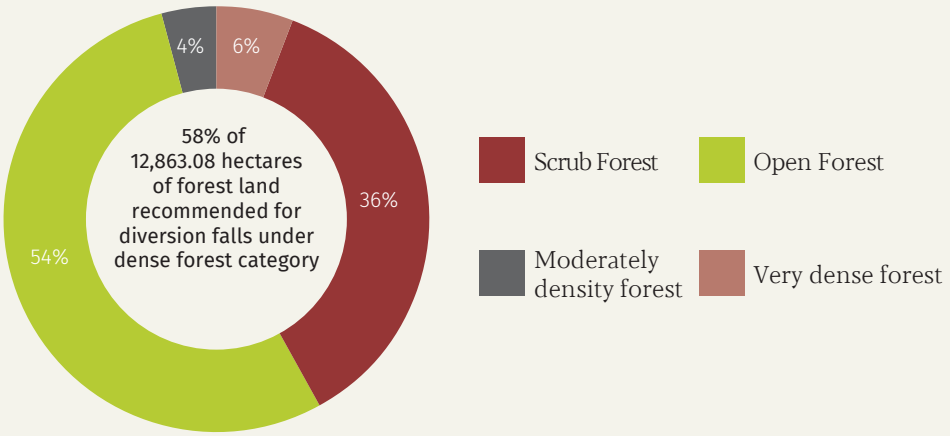
Table 1: Classification Scheme of Canopy Density

Class	Description
Scrub Forest	All lands with poor tree growth mainly of small or stunted trees having canopy density less than 10 %
Open Forest	All lands with tree canopy density of 10% and more but less than 40%
Moderately Density Forest	All lands with tree canopy density of 40% and more but less than 70%.
Very Dense Forest	All lands with tree canopy density of 70% and above

Source: (FSI n.d.)

In the calendar year of 2019, 13,656.60 hectares of forest land was recommended for diversion for non-forestry purposes. Out of this, 396.45 hectares of forest land have been categorized as roadside plantation and data is unavailable for another 364.83 hectares of forest land. Barring roadside plantations and data unavailability, the forest land recommended for diversion comes to 12895.32 hectares. Using the FSI Classification as shown in table 1, 54% of forest land recommended for diversion falls under MDF. Further, 4% of forest land recommended for diversion falls under VDF (see figure 13). This implies that nearly 58% of the forest land (barring plantations and data unavailability) recommended for diversion falls under dense forest category i.e. forest land where tree canopy coverage is at least 40% of the total area.

Figure 13: Forest Land (after adjusting for plantations) (in hectares) Recommended for Diversion in 2019; By Canopy Density



Diversion, especially in the form of linear intrusions into natural areas (such as railways, roads, transmission lines, and pipelines) into forests that support a closed canopy cover, leads to fragmentation of such otherwise continuous and remnant forests into smaller patches. Such fragmentation makes these forests more vulnerable to expansion and intensification of encroachments and diversion pressures. The FAC and RECs while considering the proposal for diversion of forest land which supports dense forest canopy never look into this aspect.

DR. RAKESH SINGH

PACHMARHI BIOSPHERE RESERVE, MADHYA PRADESH

v. LACK OF DISCUSSION ON COMPLIANCE WITH FOREST RIGHTS ACT, 2006

As per Forest (Conservation) Rules, 2016, before approval is given for the diversion of forest land for non-forestry purposes under Forest (Conservation) Act, 1980, it is mandatory that the process of recognition and vesting of forest rights following the provisions of Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act is completed. In addition to this, it is mandatory to obtain the written consent of the Gram Sabha for diversion of the forest land. This has been the stand of the MoEF&CC as well as mentioned in the Office Memorandum titled "Ensuring Compliance of Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act 2006 in cases of Diversion of Forest Land for Non-Forestry Purposes under the Forest (Conservation) Act, 1980 dated 03.08.2009.

In the context, it is important to note that compliance with the Forest Rights Act is rarely deliberated upon by the FAC and REC while considering forest diversion proposals. When it is discussed, the minutes simply record that "documents for compliance with Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act 2006 (FRA) and Gram Sabha Resolution has been submitted". In cases where compliance has not been submitted, the recommendation is simply given on the condition that the FRA Compliance Letter will be submitted before the grant of Stage-II approval. It is important to note that in cases when FRA compliance is submitted along with forest diversion proposals, there is no effort made by the committees to check the authenticity of the same. For example, consider the case of

Parsa OC Mine which covers six villages namely: Salhi, Hariharpur, Ghatbarra, Fatehpur, Tara, and Janardanpur in Surguja and Surajpur districts of Chhattisgarh. While prior consent from the six Gram Sabhas is a mandatory requirement, it is important to note that none of the However, none of the Gram Sabhas of the villages in the project area granted their consent for the diversion of forest land for the proposed mine. On the contrary, all the Gram Sabhas had passed resolutions in opposition to the project. The main concern of the Gram Sabhas was that process settlement of rights under FRA was incomplete and the proposed mining will destroy the forest land that they have been conserving for generations. The culture and livelihood of the village are intrinsically tied to the said forest land. Given the objection raised by the Gram Sabhas, the project proponent i.e. M/s Rajasthan Rajya Vidyut Utpadan Nigam Limited (RRVUNL) had created false Gram Sabha resolutions by forging the signatures of the villagers to show consent. After becoming aware of the false signatures, multiple villages had sent compliant letters to district collectors of Surguja and Surajpur between August-September 2018, however, no action was taken by the collectors (Hasdeo Aranya Bachao Sangharsh Samiti Vs. Union of India & Ors.; 2019). The district collectors of Surguja and Surajpur had submitted FRA compliance certificates on 13.02.2018 and 27.03.2017 respectively (MoEF&CC Forest Conservation Division 2018). The project was recommended by the FAC in their meeting dated 15.01.2019 without taking into consideration the irregularity.

HIMDHARA

WOMEN COLLECTING FOREST PRODUCE, HIMACHAL PRADESH

VI. CONCLUSION

India's Forest (Conservation) Act, 1980 aims to regulate the diversion of forest land for non-forestry purposes such as mining, hydel, roads, railway, infrastructure, industry, etc. The goal is to prevent the destruction of forests and thereby help in maintaining ecological balance. However, analysis shows that when committees (FAC and REC) consider proposals for forest diversion, the conservation objective is not taken into consideration. In 2019, the committee considered 423 proposals spread over 17,617.53 hectares of forest land, out of which 77.52% i.e. 13, 656.60 hectares was recommended for diversion. It is important to note that this figure excludes encroachments and shows the loss of forest backed under India's law on forest conservation. **While considering the loss in 2019, it is important to note that the committees have already recommended diversion of 49, 582.37 hectares of forest land from 2017 to 2018. While the size of the forest land itself is a cause of concern, it is important to note that 45% of the forest land recommended for diversion falls in wildlife habitats and that 58% of the total diversion falls under dense forest type.** Opening up of ecologically fragile and dense forest lands that form the habitat of wildlife for purposes such as mining, road, railways make them vulnerable to further encroachments and anthropogenic pressures. This is especially true in the case of linear projects such as railways and power lines which are proposed in wildlife corridors. Linear infrastructures tend to fragment otherwise continuous natural landscapes severing habitats connectivity which is vital for the genetic viability of several endangered species. While the recorded discussions and other forest clearance documents mention the ecological value of the forest land proposed for diversion in terms of canopy density, tree species, and presence of wildlife and sometimes even concerns such as the existing human-wildlife conflict in the area, the committees still do not call for impact assessment studies. Therefore, projects carrying ecological costs easily sail through the regulatory authorities. Another cause of concern is the recommendation given for infrastructure facilities which can be set up on non-forest lands. There can be no justification for projects such as the establishment of waste treatment facilities which entails the felling of more than 25,000 mangrove trees when the goal of the waste facility is to reduce pollution in the creek which has led to stunted mangrove growth. The Guidelines under Forest (Conservation) Act, 1980 for non-site-specific projects make it mandatory for the State Government to consider alternatives in detail and present the same while justifying the location of the project. However, analysis shows that committees very selectively follow these guidelines. What is worrisome is the way the FAC and REC consider the provisions of the Forest Rights Act, 2006. The Act makes prior informed consent of the Gram Sabha necessary before forest land can be diverted for non-forestry purposes, however, committees simply treat it as a matter of compliance/non-compliance without considering whether the process is followed on the ground or not.

NOTES

The jurisdiction of FAC and REC over forest diversion proposals is as follows:

REC:

i. Proposals that involve diversion of forest land above 5 hectares and up-to 40 hectares;
ii. proposals that related to mining, encroachments and hydel involving forest land up to 5 hectares
iii. all Linear proposals (irrespective of area)

FAC:

i. Proposals that involve diversion of forest of more than 40 hectares, other than proposals related to Linear.

It is the responsibility of the FAC and REC to screen these proposals, seek additional information or studies, order for site inspections and subsequently recommend or reject the proposal for granting of clearance.

1. Proposals where the official forest clearance documents (such minutes of the meeting of FC/REC, Submissions/Site Inspection Report by the State Forest Department) mention that presence/movement of elephants is reported in an around the forest area proposed for diversion, they are taken as proposal within elephant habitats. It is important to note that these can be delineated elephant corridors or movement paths in general.
2. In addition to forest lands that form part of already demarcated wildlife corridors, the study takes into consideration cases where the forest land proposed for diversion may not form part of a corridor, but the regular movement of wildlife is observed in and around the forest area. For example, in many mining projects recommended in Chhattisgarh and Odisha, the forest land does not form part of an elephant corridor, but the movement of elephants is often seen in the area. Similarly, in multiple proposals recommended by Regional Empowered Committee of MoEF&CC Regional Office Dehradun, minutes of the meeting and other official forest clearance documents report the presence of Leopard (Panthera pardus) (listed under Schedule-I of Wildlife (Protection) Act, 1972 and categorized as Vulnerable with a decreasing Population Trend as per IUCN Red List) in and around the forest land proposed for diversion. Such forest lands are also counted as while calculating diversion within wildlife habitats.

RITWICK DUTTA

PENCH TIGER RESERVE, MADHYA PRADESH

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NEERAJ VAGHOLIKAR

THE 2000 MW SUBANSIRI LOWER HYDROELECTRIC PROJECT UNDER CONSTRUCTION ON THE ASSAM - ARUNACHAL PRADESH BORDER

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SUGGESTED CITATION : LIFE: (2020): "Analysis of Forest Diversion in India 2019 (January-December) Vol III No 2", New Delhi: Legal Initiative for Forest and Environment

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