

Policy Brief

# ANALYSIS OF FOREST CLEARANCES IN INDIA, 2020

(January-December)



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## SUMMARY

Each year, the Ministry of Environment, Forest and Climate Change proudly claims that the forest cover in India has increased. This increase in forest cover is supported by assessments done by the Forest Survey of India. However, these statements and assessment conceal the loss of natural forest cover in India due to various activities, many of which could clearly be located in non-forest land. In addition, there is a misconception that the environmental laws are a hurdle in getting approval for various projects. The present analysis shows that the Forest Advisory Committee (FAC) and the Regional Empowered Committee (REC), which are constituted under the Forest (Conservation) Act, 1980 have abdicated their statutory duty in order to grant approval to every project that seeks diversion of forest land. It is clear that approval is the norm and rejection takes place in the rarest of rare instance.

Our analysis shows that in the year 2020 a total of 9,434.06 hectares (ha) of forest land diversion was recommended by these committees. In addition to this, our previous analyses for years 2017, 2018 and 2019 have shown that total 63,238.97 ha of forest land was recommended to be diverted in these years. Cumulatively, 72,673.03 ha forest land has been recommended for diversion in the past four years. Further, 24% of the forest land recommended for diversion falls in wildlife habitats and 47% of the total diversion falls under moderately dense and very dense forest types. Throughout the year, only three projects were rejected—one mining proposal (2 ha) in Goa, one infrastructure project for construction of temple (0.26 ha) in Telangana, and one linear proposal for construction of road (9.194 ha) in Uttarakhand. This adds up to a total of 11.45 ha forest land.

In terms of different non-forestry uses, linear projects account for 57.97% of total forest land recommended for diversion. Construction of roads and transmission line projects make up approximately 88% of linear diversion. Some of the major linear diversions include upgradation of Ganeshpur-Dehradun road section (47.7054 + 9.6224 ha), four-laning of Bilaspur-Katghora section of NH-111 road (83.62 ha), transmission line from Xeldem to Mapusa (69.41 ha), transmission line from Narendra (existing) to Narendra (new) at Xeldem (48.3 ha) etc. Forest land of 3,629.73 ha recommended for linear diversion is part of high-density forests and wildlife habitats such as protected areas, eco-sensitive zones around protected areas, wildlife corridors, and forest lands where the regular movement of wildlife is observed. Hydel projects account for 15% of forest land recommended for diversion. Shahpurkandi dam project (275.16 ha + 13.24 ha) and Ujh multipurpose project (680.1 ha) are two major projects recommended under hydel category. They have been recommended as projects of national importance, which ultimately surpasses the need to examine them from the perspective of conservation of forests and wildlife. Further, there is nothing in the Forest (Conservation) Act, 1980 or the Rules framed thereunder that provides for special consideration for projects of "national importance". In fact the term "national importance" has not been defined and therefore using this term to approve diversion is illegal and improper.

Some proposals under "infrastructure", which is a sub-category under "others" category, are non-site specific projects and have been recommended. Non-site specific projects do not require forest land diversion and alternative non-forest land must be utilized for them. Few of them are construction of Shiv Dham at Kangi Village, Himachal Pradesh (9.5 ha), establishment of Government Medical College in Ooty, Nilgiris (10.12 ha) and establishment of Medical Sciences Institute in Chikkamagaluru, Karnataka (11.07 ha), livelihood development centre, village Balud, Dantewada division (30 ha), construction of Acharya Shankar Antarrashtriya Vedan Sansthan (10 ha) in Khandwa, Madhya Pradesh. Infrastructure projects further include tourism projects diverting a total of 182.74 ha forest land. Recommendation has been given for a tiger safari in 106.16 ha of forest land in Pauri Garhwal district, Uttarakhand which lies in the buffer of Corbett Tiger Reserve. Another recommendation has been made for development of 30.25 ha International Standard Tourism Destination on Pathankot-Dalhousie road in Punjab, which lies within 1 km from the boundary of the Ranjit Sagar Lake Conservation Reserve. In their deliberations, the authorities fail to take into account that fragmentation of dense forests makes them vulnerable to further anthropogenic pressures.

The National Forest Policy, 1988 which is statutory in nature, clearly mandates that diversion of forest land must be subjected to "most careful" scrutiny by experts from the view of ecological costs and benefit. It also stipulates that every effort must be made to ensure that forest land are not made "readily available" for diversion. The issue of concern is not just that forest land is being diverted, the concern is the casual, hasty and lackadaisical approach with which approvals are being granted by members of committee, who are statutorily required to protect the forest and take decisions based on law and policy. The very fact that forest land is being diverted for non-site specific projects such as temple and medical college implies that the Forest (Conservation) Act, 1980 no longer provides the statutory safeguard to forest land from being diverted. In the final analysis, the fault is not of the law, but those who are members of the FAC and REC and finally the MoEF&CC, which for the last few years has showcased its track record of diverting forest land as a sign of its commitment to "ease of doing business". Its constitutional duty to safeguard forest and wildlife is unfortunately forgotten.

## KEY FINDINGS:

- The study analyses 367 proposals for forest diversion under India's Forest (Conservation) Act, 1980 from January-December, 2020.
- Forest land to the tune of 9,434.06 ha has been recommended for diversion for non-forestry uses such as roads, railways, transmission lines, hydel, mining, infrastructure, etc.
- Out of the total proposals for forest diversion, 300 proposals have been recommended, 54 deferred for later consideration and only three proposal have been rejected.
- Linear projects (roads, railways, transmission lines, pipelines) account for 57.9 % of forest land recommended for diversion.
- Hydel category of projects account for 15% of forest land recommended for diversion.
- Barring plantation forests, 47% of forest land recommended for diversion falls under moderately dense and very dense forest.
- Forest land of 106.16 ha has been recommended for diversion to establish a tiger safari in Pauri Garhwal District, Uttarakhand which lies in buffer zone of Corbett Tiger Reserve.
- A project of 30.25 ha in Punjab has been recommended for the development of an international standard tourism destination on Pathankot-Dalhousie road. The project site lies within 1 km from the boundary of the Ranjit Sagar Lake Conservation Reserve, which is a protected area under Wildlife (Protection) Act, 1972.

## I. INTRODUCTION

India's Forest (Conservation) Act, 1980 mandates that a prior approval needs to be sought from the Central government through the Ministry of Environment, Forest 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 Centre, a recommendation from Forest Advisory Committee (FAC) or the Regional Empowered Committee (REC) (constituted across the 10 regional offices of MoEF&CC) is mandatory. 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 take place in the year when the FAC/REC furnishes its recommendation, the effective decision to use the land for non-forest purposes is taken the moment the FAC/REC recommends diversion of forest land.

We have been analysing the recommendations made to proposals for diversion of forest land for non-forestry purposes since 2017. Building up on the analyses carried in 2017, 2018 and 2019, this paper aims to analyze the recommendations made by FAC and REC to forest diversion proposals over the calendar year of 2020 (January 1-December 31).

A total of 446 proposals were considered by the FAC and REC for diversion of forest land for non-forestry purposes under five groups: fresh diversion, rediversion, modification in previously approved proposals, lease renewal and withdrawal of proposal. For calculation of forest diversion for the current analysis, only fresh diversion projects were counted. A total of 367 fresh proposals were applied where 300 proposals were recommended, 54 proposals were deferred for later consideration, three proposals were rejected, three were returned and six were transferred to MoEF&CC to be placed in front of FAC. Stage 1 clearance for one modification proposal was revoked due to non-compliance of conditions. Recommendation of 300 proposals implies that 9,434.06 hectares (ha) of forest land was recommended for diversion for non-forestry purposes such as roads, railways, mining, irrigation, infrastructure, hydel projects among others. One important thing to note here is that the actual diversion approved in the year 2020 is more than 9434.063 ha as there was unavailability of some minutes of meetings on the MOEF&CC website.

### BOX NO. 1:

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

#### REC

- Proposals that involve forest diversion above 5 ha to 40 ha.
- Proposals related to mining, encroachments, and hydel involving forest land up to 5 ha.
- All linear proposals irrespective of area.

#### FAC

- Proposals that involve diversion of forest of more than 40 ha, other than proposals related to linear.

## II. METHODOLOGY

This paper attempts to analyze the trends in the recommendations made by both the committees, FAC and REC, for forest diversion proposals. The paper is based on review and analysis of minutes of the meetings of FAC and REC conducted in the calendar year of 2020. These minutes of the meeting are available on the PARIVESH website managed by the MoEF&CC.

### III. OVERALL TRENDS IN FOREST DIVERSION RECOMMENDATIONS

An evaluation of the state-wise statistics (Figure 1) reveals that out of 29 states, the top 10 states account for 74.10% of total forest land recommended for diversion for non-forestry purposes in the year 2020. This means 6,990.405 ha of the total 9,434.06 ha of forest land recommended for diversion is in these states. Gujarat has the highest diversion of forest land despite the fact that it has only 11% of its land is under forest area as against the requirement of 33% as per the National Forest Policy, 1988. It is followed by Uttar Pradesh and Madhya Pradesh with almost similar diversions, cumulatively diverting more than 2,000 ha.

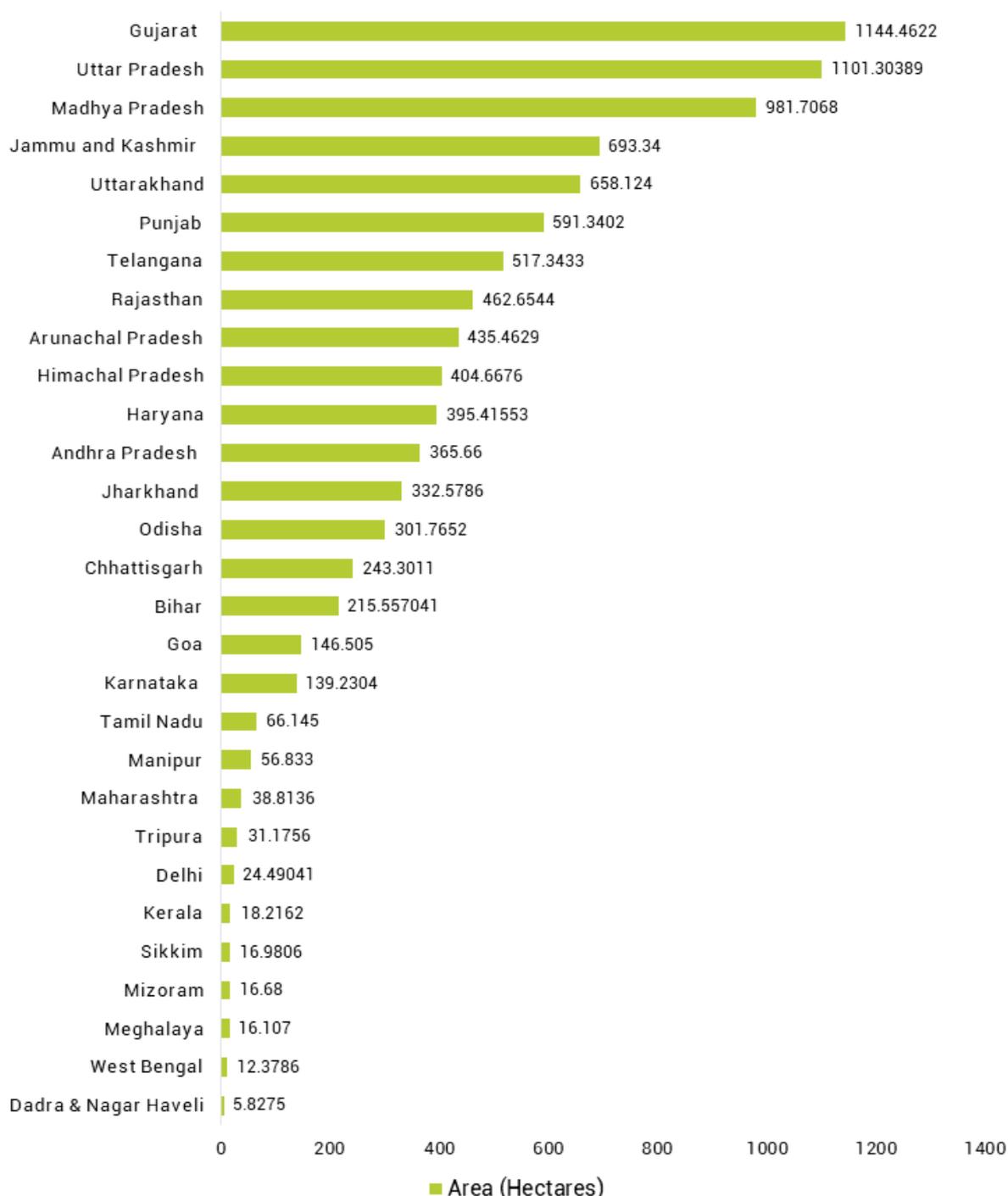


Figure 1: Forest land (in hectares) recommended for diversion in 2020 (January-December) in states

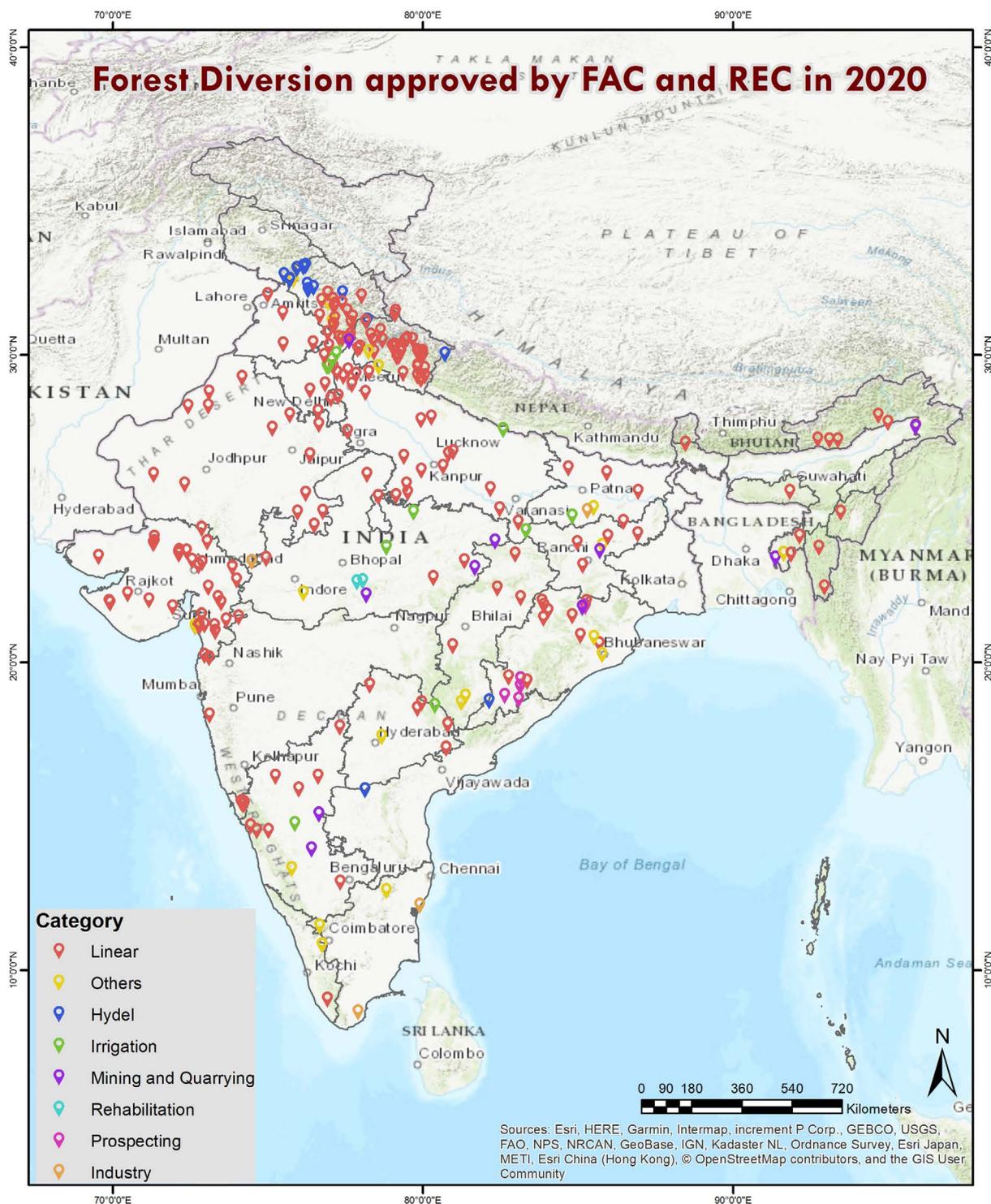


Figure 2: Forest Land (in hectares) recommended for diversion in 2020 (January-December) by FAC.

Of the total forest land recommended for diversion, the share of different categories is shown in Figure 2. Out of 9,434.06 ha of forest land recommended for diversion, predominance of linear projects was observed with 5,469.04 ha diverted for projects such as roads, railways, transmission lines and pipelines. These projects accounted for 57.97% of total forest land recommended for diversion. After linear, the next major category was hydrel with 15% of the total diversion. "Others" category of projects diverted 989.12 ha (10.48%) forest land for non-forestry use. For mining and quarrying, 802.5 ha of forest land was recommended for diversion which accounted for 8.51% of the total forest land recommended for diversion. This was followed by irrigation, rehabilitation, industry and prospecting projects.

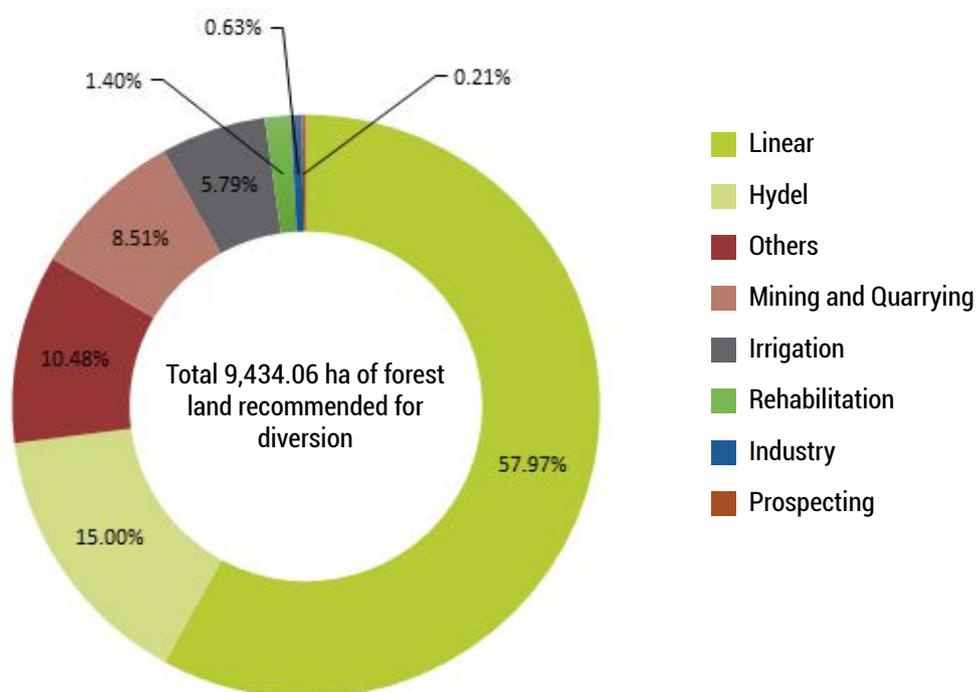


Figure 3: Category-wise forest land (in hectares) recommended for diversion in 2020

## IV. PROJECT CATEGORY WISE TRENDS

### i. Linear Proposal

Linear proposals such as roads, transmission lines, railways, and pipelines had the highest contribution in the overall forest land recommended for diversion. A total of 253 proposals for linear projects were considered by the RECs in regional offices of the MoEF&CC across the country. Out of these, 218 were recommended for diversion, 31 were deferred for later consideration, two were returned and one was rejected.

**The only one rejected linear project was for construction of Sahastradhara to Naliwala motor road in Uttarakhand.** It was discussed in the meeting that the proposed road would require to pass through undisputed reserve forest for more than 10 km and to connect to the village Naliwala which is situated at the very end of the proposed road. As per Divisional Forest Officer (DFO) Mussoorie, who was present in the meeting, "There is no such need for construction of the road as the village Naliwala can easily be connected from upper side in 2-3 km length with an already existing road. As these types of projects are potentially disturbing for the aquifers of the vicinity, therefore should be avoided" (REC Dehradun 2020a).

Linear projects accounted for 5469.045 ha of forest land, which is 57.97% of total forest land recommended for diversion. The break-up of linear projects into sub-categories such as roads, transmission lines, railways, and pipelines is shown in Figure 4. Construction of roads and transmission line projects occupy major portion of the recommended linear diversion with approximately 88% linear diversion under these two types of projects.

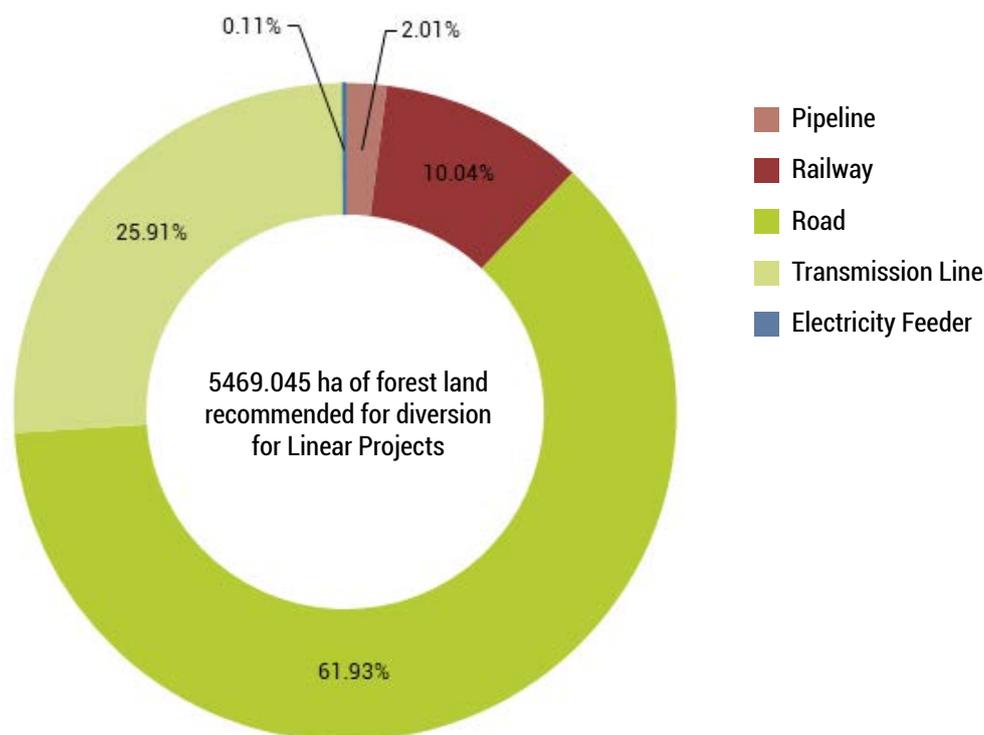


Figure 4: Forest land (in hectares) recommended for linear projects in 2020 by sub-category.

The top five states in terms of land diverted under major linear projects (roads, transmission lines, railways and pipelines) is shown in Figure 5. Gujarat and Uttar Pradesh have appeared under three of the four types of linear diversion among the top five states, which basically means that these states had large number of recommendations under linear category of projects.

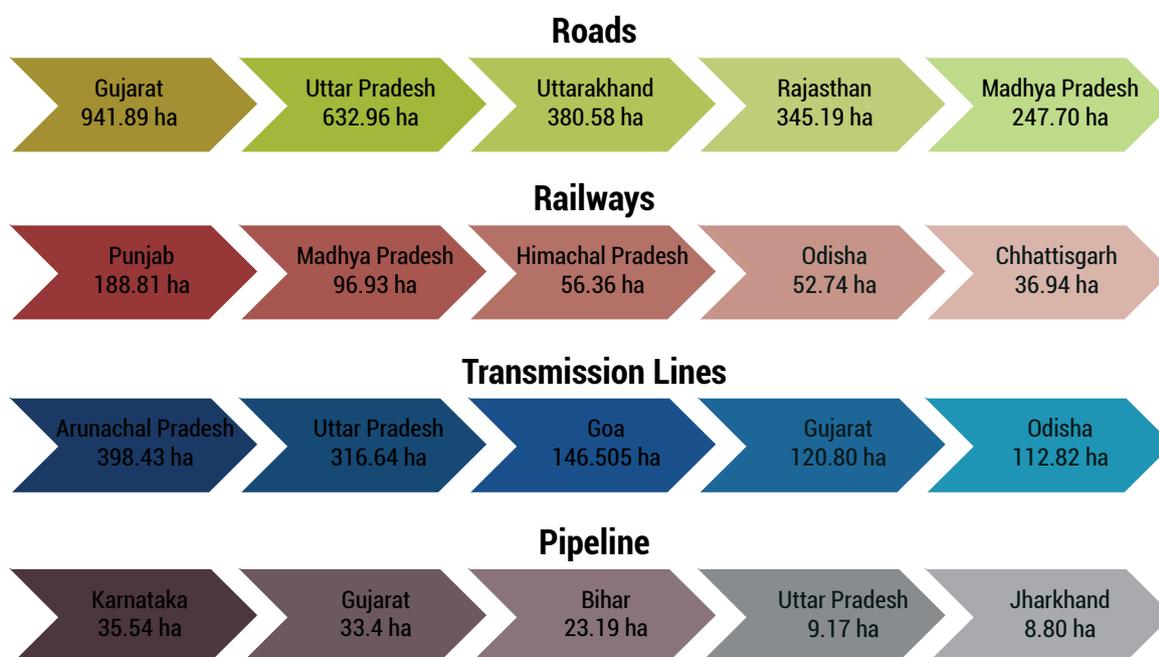


Figure 5: Forest land (in hectares) recommended for diversion for linear projects in 2020 by states

Diversions due to linear projects such as roads, railways, transmission lines, pipelines, ropeways and bridges are known to be especially destructive, as the projects run over long distances crossing multiple forest divisions, which often includes protected areas and wildlife habitats. Linear intrusions fragment the entire landscape, disrupt the canopy continuity and interrupt the movement range of animals in the wild. The repercussions of these are seen in the incidences of wild animal deaths in car and train accidents, electrocution of birds and elephants, and human-wildlife conflicts.

Additionally, our analysis suggests that 3,629.73 ha of forest land recommended for linear projects is part of wildlife habitats such as protected areas, eco-sensitive zones around protected areas (ESZs), wildlife corridors, and forest lands where the regular movement of wildlife is observed.

The following section covers projects for construction of roads, railways and transmission lines that have been recommended despite being situated in locations critical for forest and wildlife.

### ► Diversions under road projects

A project for widening and strengthening of existing road to two-lane by two-lane with paved shoulders configuration on National Highway **(NH)-07** (Old NH-58) between 368.00 km and 468.00 km in Rudraprayag and Chamoli districts, Uttarakhand was presented in four proposals for different forest divisions. All four proposals were recommended, diverting a collective area of 72.59 ha (13.95 ha + 7.72 ha + 40.89 ha + 10.02 ha). This project will divert forest of canopy density up to 0.5, which means the forest is covered in 50% canopy and classified as Moderately Dense Forest. The area has been reported to have Schedule 1 and 2 species such as Leopard, Serow, Black Bear, Red Fox and other wild animals like Ghural, Monkey and Wild Boar (Forest Conservation Division MoEF&CC 2020a).

Similarly, as per official forest clearance documents, the proposed forest area (83.62 ha) for upgradation to four-lane of **Bilaspur-Katghora Section of NH-111** forms the habitat of Elephant, Sloth Bear, Leopard, Spotted Deer, Hyena, etc.. (Deputy Conservator of Forest Katghora 2019). The proposal was recommended on the condition that the user agency will construct box culverts which will act as wildlife passages (REC Nagpur 2020a).

## BOX NO. 2: IMPORTANT WILDLIFE HABITATS DIVERTED IN UTTARAKHAND

Two proposals of same project for improvement, upgradation and construction of Ganeshpur-Dehradun road section have been approved, where one portion lies in Uttar Pradesh (47.7054 ha) and other in Uttarakhand (9.6224 ha), part of the elephant reserve area of Shivalik Forest Division and the ESZ of Rajaji National Park respectively. The project site lies just adjacent to the national park boundary, beginning exactly where the national park ends in the sensitive transition zone. It is a linear diversion passing from the centre of the Shivalik Forest Division, fragmenting the entire migratory path of tigers and elephants (PIU, Dehradun 2020). The Uttar Pradesh section of forest land diverted has 0.4 canopy density i.e., Moderately Dense Forest, while the Dehradun section has canopy density of 0.8 which is Very Dense Forest. As per the Site Inspection Report (SIR) by Conservator of Forest, "The area has an abundance of wildlife including Red Jungle Fowl, Kalij Pheasant, Himalayan Goral, Barking Deer, Indian Crested Porcupine, Rusty Spotted Cat, Asian Palm Civet, Yellow-Throated Marten, Masked Palm Civet, Leopard Cat, Leopard, Asian Elephant, etc." (Conservator of Forest, Saharanpur 2020). Upgradation of this road is in violation of the recommendations of the sub-committee on guidelines for roads in protected areas (MOEF&CC Wildlife Division 2014).

The sub-committee recommends that "roads passing by national parks/core-critical tiger reserve/wildlife sanctuary are within a radius of 1 km thereof, or within the ESZ, whichever of the two is lesser. The roads could be maintained and repaired in the best manner possible in their current form and present width and no widening or upgradation is to be allowed". Further, another project was approved for diversion of 9,541 ha forest area for Naudkhal Malakota Road to Sirasu Motor Road in Pauri Gharwal which falls under the ESZ of Rajaji National Park (REC Dehradun 2020b).



Figure 6: Linear diversions in Rajaji National Park

## ➤ Diversions under railway projects

A proposal for doubling of railway line in Sambalpur-Titligarh will divert 10.42 ha from Sambalpur and Bolangir Forest Divisions. As per the DFOs, the proposed area forms part of the habitat of Schedule 1 species such as Leopard and Sloth Bear. Additionally, in between Khalipali and Loishinga station and Bolangit to Deogaon station, elephants are found raiding the paddy crop of the nearby areas. Movement of elephants is also noticed in Matkhai Reserve Forest close to the railway line (REC Bhubaneswar 2020a).

Another project for construction of 3<sup>rd</sup> and 4<sup>th</sup> line between Budhpanka-Salegaon Railway Project in Dhenkanal/Athagarh Forest Division, Odisha, 24,188 ha of forest land was recommended by REC. The project has been established to cater to the increased coal production by Mahanadi Coalfields. The railway line will also carry imported coking coal from Paradeep Port to the sponge iron plant located at Angul-Sambalpur-Jharsuguda belt. The proposed area comes under Kapilash Wildlife Sanctuary and its ESZ. The area has wild animals like Elephant, Spotted Deer, Barking Deer, Rabbit, Fox, Mongoose etc. A railway line of 85 km from Budhpanka to Salegaon in Dhenkanal and Athagarh Divisions will pass through the areas frequented by elephants. REC also added the condition for proponent to ensure construction of 12 underpasses in consultation of three DFOs (REC Bhubaneswar 2020b).

Recommendation of **Sivok Rangpo** New BG Rail Line Project, West Bengal was also given for 12.3786 ha, of which 1.5278 ha falls in the Mahananda Wildlife Sanctuary. The felling is from Very Dense Forest on hills of 0.85-0.9 density. The site is located at banks of the river Teesta, therefore the area is vulnerable to erosion. The REC considered the project to be of national importance, as it connects north eastern states to other parts of the country, and hence recommended the project (REC Bhubaneswar 2020a).

Diversion of 36.943 ha of forest land has been approved for construction of three new feeder lines from Kharsia to Dharamjaygarh in Chhattisgarh for transportation of coal. Total of 4866 trees are set to be cut for this project. The area has presence of Schedule 1 species like Elephants, Sloth Bear, Panther, and other species like Field Rat, Common Indian Hare, Squirrel, Monkey, Spotted Bear, Mongoose, Indian Fox, Indian Porcupine, etc. REC conditioned that Wildlife Institute of India will undertake a study about the project's impact on the species present, and prepare a site-specific Wildlife Management Plan, primarily for movement of elephants (REC Nagpur 2020b).

### ► Diversions under transmission line projects

A 33 KV transmission line from Khupi to Thrizino proposed in Arunachal Pradesh's West Kameng district will divert 63.58 ha of forest land from a biodiversity hotspot. The project was recommended on the condition that the user agency will engage the State Forest Research Institutes for taxonomical studies and prepare a conservation plan of flora and fauna (REC Shillong 2020).

#### **BOX NO. 3: TRANSMISSION LINE PROJECTS AND FRAGMENTED WILDLIFE HABITATS OF GOA**

Three projects for transmission lines diverting area of 69.41 ha, 48.3 ha and 28.24 ha, lying contiguous to each other, were approved in the North and South districts of Goa in April 2020 by REC Bangalore.

The recommendation for diversion of 69.41 ha of forest land for laying Xeldem to Mapusa transmission line has been given. The proposed area comes under ESZ of Bondal Wildlife Sanctuary in North Goa (REC Bangalore 2020a). As per official forest clearance documents, "The area appears to be frequented by wild animals like Indian Gaur, Leopard, Wild Boar, Sambar Deer, Jungle Hare, Snakes & Avifauna, though no direct sightings were noticed at the time of site inspections." (Deputy Conservator of Forest North Goa 2018)

Another proposal is the construction of **Narendra (existing) to Narendra (new) quad at Xeldem** transmission line in Goa which will divert a total of 48.3 ha, of which 36.76 ha of forest land will be from North Goa Forest Division and 11.54 ha of forest land from Bhagwan Mahaveer Wildlife Sanctuary. Wildlife clearance for the portion of project falling in the sanctuary has been given by the Standing Committee of National Board for Wildlife on April 7, 2020 (REC Bangalore 2020b). The forest land supports a canopy density of 0.8 and the project will entail felling of 15,772 trees. As per Deputy Conservator of Forest for North Goa Forest Division, the area appears to be frequented by wild animals like Indian Gaur, Leopard, Wild Boar, Sambhar Deer, Jungle Hare, Snakes & Avifauna (Deputy Conservator of Forest North Goa 2019). Further, as per Deputy Conservator of Forest for North Goa Forest Division, Tiger, Panther, Gaur, Leopard, Sambhar, Deer, Sloth Bear, Python, Slender Loris, White Bellied Woodpecker, etc, are present in and around forest land proposed for diversion. Concerns have also been raised that the high-tension line may cause accidents harming the wildlife in case of sagging of the live line and leaking of the power during rains (Deputy Conservator of Forest Wildlife-North 2019).

The third project is for construction of **Xeldem to Xeldem (existing)** transmission line. The project area will divert 28.24 ha of forest land of 0.6-0.7 density which forms moderately to very dense forest cover. A portion of the project area passes through Bhagwan Mahaveer Wildlife Sanctuary/ESZ and therefore the proponent needs to take wildlife clearance, as per the condition of the REC. The area under North Goa appears to be frequented by wild animals like Indian Gaur, Leopard, Wild Boar, Sambar Deer, Jungle Hare, etc. The area under South Goa also has the following wildlife: Panther, Bison, Porcupine, Spotted Deer, Barking Deer, Wild Boar, Monkeys, etc. (Deputy Conservator of Forest 2020).



Figure 7: Forest area diversion for three transmission line projects in Goa

## ii. Hydel projects

After linear, the next major non-forestry use for which forest land was recommended was hydro projects. A total of 1415.515 ha of forest land was recommended for diversion for the construction of hydel projects, constituting 15% of the total forest diversion. Of these 1415.515 ha of forest land, 365.66 ha were recommended for Integrated Renewable Energy Project, Pinnapuram in Kurnool Forest Division, Andhra Pradesh. This pumped storage project will entail construction of two reservoirs near Pinnapuram village and will involve non-consumptive re-utilization of water to be taken from the existing Gorakallu reservoir to fill up Pinnapuram Upper reservoir. The project will entail felling of 24,044 trees and the proposed forest land is habitat of the sloth bear which has the highest protection under the Wildlife (Protection) Act, 1972 (Forest Conservation Division MoEF&CC 2020b).

Another project recommended was for the construction of 34.98 ha of vented barrage to supply additional drinking water to towns of Kawar and Akola. Site inspection report of the DFO, Honavar Forest Division, Karnataka, clearly mentions, "The proposed forest land for diversion lies in dense evergreen forest with canopy density of 1.0 which means a 100% canopy cover and falls in Eco class 1. A total of 7,213 number of trees has to be felled in Karwar and Honnavar division for this project. The entire project area is part of the world mega biodiversity hotspot-Western Ghats and is home to several endemic and endangered species of flora and fauna. These are the pristine, undisturbed and ecologically fragile natural wilderness areas receiving 3500mm average annual rainfall."

### BOX NO. 4: THE "NATIONAL IMPORTANCE" OF UPCOMING DAM PROJECTS

#### Shahpurkandi Dam Project

Shahpurkandi Dam Project will be constructed on River Ravi 11 kms downstream of Ranjit Sagar Dam and 8 kms upstream of Madhopur Headworks. Total reservoir area of the proposal is 952.26 ha, out of which the reservoir area in Punjab is 333.91 ha while the reservoir area in Jammu & Kashmir is 618.35 ha. Both had applied for forest diversion, and FAC recommended diversion of 275.16 ha forest in Punjab part of the project in September 2020 and 13.24 ha forest diversion in Jammu & Kashmir part of the project in December 2020.

The report of Wildlife Warden Kathua says, "Proposed area of Shahpur Kandi Dam Project involves area of Thein Conservation Reserve which was notified as Game Reserve in 1981 and was deemed as Conservation Reserve under section 36 of J&K Wildlife Protection Act, 1978." The proposal has also been accorded with wildlife clearance for 51.08 ha by the National Board for Wildlife in February 2021. Central government has declared this a "national project" for which 86% cost of irrigation component is to be provided as central assistance.

The enumeration of 40,464 and 26,544 trees/saplings/poles in Punjab and Jammu & Kashmir respectively has been approved for felling. The trees to be felled are part of forests of density 0.6 in Punjab section and 0.4 in Jammu & Kashmir section of the project. Following species have been reported to be found in the diverted forest land: Himalayan grey goral (*Nemorhaedus bedfordi*), other ungulates such as Nilgai (*Boselaphus trangocamelus*), Barking Deer (*Muntiacus muntjak*), Chital (*Axis axis*) and Wild Pig (*Sus scrofa*), other species including Mongoose (*Herpestes edwardsii*), Porcupine (*Hystrix indica*), Rhesus Monkey, (*Macaca mullata*), Jackal (*Canis aureus*) and Hare (*Lepus negricollis*) (Forest Conservation Division MoEF&CC 2020c).

## Ujh Multipurpose Project

The project is for non-forest use of **680.1 ha** (instead of 1100 ha) of forest land for construction of Ujh Multipurpose Hydro Electric Project in District Kathua, Jammu and Kashmir. The proposal is for diversion from Kathua Forest Division (62.69 ha), Samba Forest Division (8.0 ha), both of which have 0.7 forest density, and the Billawar Forest

Division (609.41 ha) which has 0.8 forest density. FAC recommended the project in December 2020 and the National Board for Wildlife also recommended the project in July 2020. FAC recommended the proposal with the reason that it is of "national importance".

As per the Deputy Conservator of Forest, following wildlife is present in and around the forest land proposed for diversion: Leopard (*Panthera pardus*), Rhesus Monkey (*Rhesus macaque*), Gray Langurs (*Semnopithecus*), Monitor Lizards (*Varanus*), Mongoose (*Herpestes*), Sambar Deer (*Rusa unicolor*), Indian Crested Porcupine (*Hystrix indica*), Indian Krait (*Bungarus*), Russell's Viper (*Daboia russelii*) Viper Russeli, etc.

### iii. Proposals under "Others"

After hydel, the next major non-forestry use for which forest land was recommended for diversion was "Others" category of projects. This category consists of defence facilities, infrastructural facilities, solid waste management facilities and gas pipeline facilities. A total of 31 proposals were considered in this category out of which 24 were recommended, five were deferred for later consideration, one was approved for modification and one proposal was rejected.

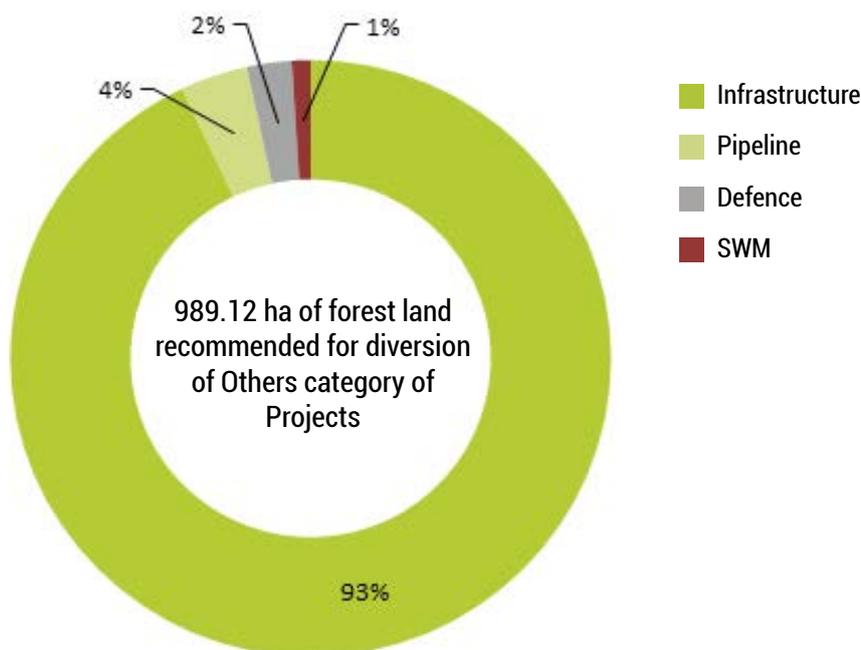


Figure 8: Forest land (in hectares) recommended for diversion for 'Others' category in 2020 by sub-category

The total forest land recommended for diversion for "Others" was 989,1193 ha, which accounts for 10.48% of total forest land recommended for diversion. The share of different project types in this category is shown in Figure 8. Infrastructure accounted for 93% (879.55 ha) of forest land recommended for diversion within "Others". Rest, 69,57 ha of forest land was recommended for diversion for setting up of solid waste management plants, defence purpose and gas and slurry pipelines.

### ► Infrastructure

Infrastructure projects are majorly not site-specific and do not necessarily require forest diversion. Construction of infrastructural facilities led to the diversion of 879.55 ha of forest land and accounted for 9.32% of total forest land recommended for diversion for non-forestry use. Within this category, the breakup of different sub-categories such as tourism facilities, airport facilities, institutes, development projects, drinking water facilities and hospitals is shown below. One project was rejected in this category, where the proposal was for construction and development of Mallanna Temple in Honnajipet village in Nizamabad district, Telangana. The proposal was for 0.26 ha and considered a non-site specific project. The committee opined that the construction of new/additional amenities like dharmashala, chowtrys, water tank rooms, toilets, etc. in forest area is not a feasible option and therefore rejected the proposal.

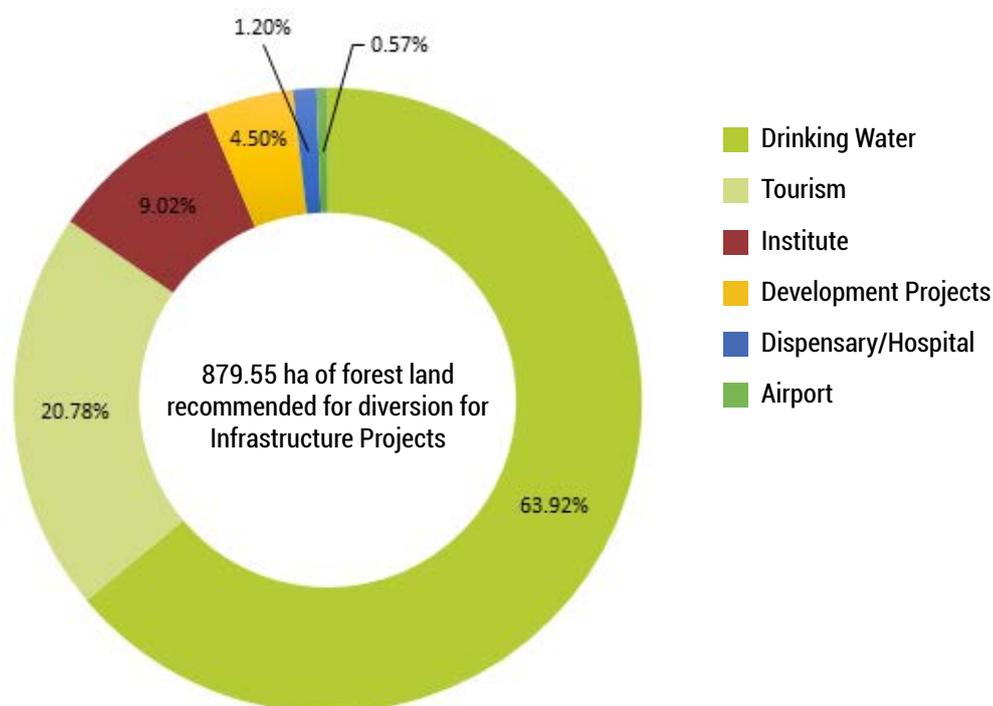


Figure 9: Forest Land (in hectares) recommended for Infrastructure in 2020

As clear from Figure 9, drinking water projects accounted for the highest diversion within infrastructure. Out of 562.24 ha of forest land recommended for the drinking water facilities, a 409.53 ha project was recommended for construction of reservoir at Keshavapuram with associated components at Godavari River, which is the source for drinking water for Hyderabad city. The project involves felling of 1,39,274 trees from Medchal Forest Division (DFO Medchal 2020). The other project is a 127,6712 ha Song Dam Drinking Water Project in Dehradun and Garhwal districts of Uttarakhand. The project area proposed for diversion lies within 8.70 km of Vinog Wildlife Sanctuary, Mussoorie which means it is inside default 10 km ESZ of the protected area.

It involves diversion of forest land from very dense (1 ha), moderately dense (60 ha) and open forest (20 ha). Wildlife present in the area includes Goral (*Nemorhaedus goral*), Common Leopard (*Panthera pardus*), Indian Muntjac (*Muntiacus muntjak*), Rhesus Monkeys (*Mucacumulata*), Asiatic Black Bear (*Selenarctos*), Wild Boar (*sus-scrofa*), etc. (Forest Conservation Division MoEF&CC 2020d). The DFO and Conservator of Forest appraised the proposal in public interest.

Drinking water projects were followed by tourism projects in the size of diversion, with 182.74 ha of forest land being diverted for them. A project of 30.25 ha in Punjab was recommended for the development of International Standard Tourism Destination on Pathankot-Dalhousie road. The project site lies within 1 km from the boundary of the Ranjit Sagar Lake Conservation Reserve, which is a protected area under Wildlife (Protection) Act, 1972. The forest supports a canopy density of 0.6 and the project will lead to felling of 3,180 trees (Deputy Conservator of Forest Pathankot 2018). Another project was recommended for establishment of a tiger safari in 106.16 ha of forest land in Pauri Garhwal District, Uttarakhand. The proposed area lies in the buffer of Corbett Tiger Reserve (CTR) at a distance of about 4 km. The area is a reserved forest and designated eco-tourism zone of CTR. The factsheet from forest conservation division of MoEF&CC mentions that along with presence of tigers and its prey base in the proposed area, the surrounding area also has leopards and elephants due to which several incidences of human-elephant conflicts have been recorded. This tiger safari has been approved by National Tiger Conservation Authority, backed with the justification that in addition to eco-tourism benefits, it will help in rescue and conservation of injured wild animals, and in reducing human-wildlife conflicts because the proposal also involves construction of a wildlife rescue center (Forest Conservation Division MoEF&CC 2020e). This reason for approval of this project is flawed, as allowing tourists in the area will increase the conflict rather than reducing it.

It is important to note that out of 13 proposals under infrastructure, seven recommended projects are non-site specific. **Some of these proposals are the construction of Shiv Dham at Kangi Village, Himachal Pradesh (9.5 ha); establishment of Government Medical College in Ooty, Nilgiris (10.12 ha); establishment of Medical Sciences Institute in Chikkamagaluru, Karnataka (11.07 ha); livelihood development centre, Balud village, Dantewada division (30 ha); and construction of Acharya Shankar Antarrashtriya Vedan Sansthan (10 ha) in Khandwa, Madhya Pradesh.**

#### iv. Mining Proposals

After "Others" category, the next major non-forestry use for which forest land was recommended for diversion was mining and quarrying. Total 23 proposals were considered for mining and quarrying, where 14 were recommended, seven were deferred for later consideration and one was rejected. REC Bangalore in December 2020 rejected the proposal for diversion of 2.0 ha of deemed forest land in Sattari Taluka of North Goa division for quarrying purpose. The proposed area is located near Bondla Wildlife Sanctuary. The area is on a slope and receives heavy rainfall. Along with ecological reasons, non-compliance of conditions imposed related to planting (i.e. plantation of ten times the number of trees felled for approval granted for diversion of 0.9 ha) is the cause of rejection. In addition to that, a case of human-animal conflict leading to fatality was reported in nearby area in 2018 due to movement of Gaur (REC Bangalore 2020b).

The total forest diversion under mining and quarrying category accounted for 802.501 ha of forest land recommended in 2020. Out of total area approved, 582.755 ha was recommended for coal-based mining, and rest 219.746 ha of forest land was for non-coal mining including iron ore, granite, natural gas, sand stone and bajri mining (see Figure 10 for distribution).

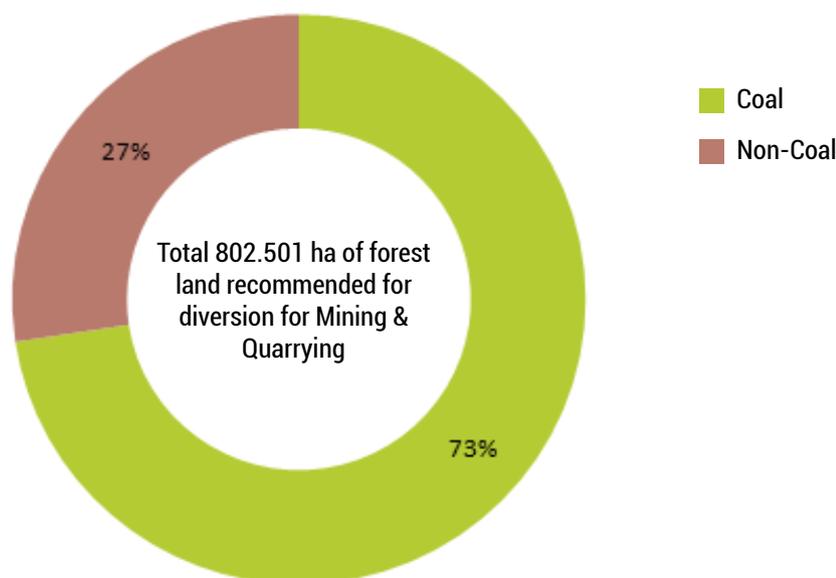


Figure 10: Forest Land (in hectares) recommended for Mining & Quarrying in 2020

In terms of forest land recommended for coal mining, two proposals alone account for 536,389 which is 66.84% of total forest land recommended for coal mining. These projects are highlighted in Figure 11.

Suliyari Coal Mine (259.239 ha)	Rajrappa Open Cast Coal Mine (277.15 ha)
<ul style="list-style-type: none"> <li>➤ Location: Singrauli, Madhya Pradesh</li> <li>➤ Legal status of forest land diverted is 69.669 ha Reserve Forest, 156.68 ha Protected Forest and 32.89 ha Revenue Forest.</li> <li>➤ Project will entail felling of 16,168 trees from forest land which supports 0.6 canopy density.</li> <li>➤ The proposed area forms part of elephant corridor.</li> <li>➤ Wildlife found around the project area is Indian Gazelle, Wild Boar, Jackal, etc.</li> <li>➤ Total lease area is 1298 ha, out of which 259.239 ha is proposed for forest lease. Rest of the land has been acquired under CB Act, 1957 as per Part I of the proposal but relevant notification under CB Act, 1957 has not been provided.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Location: Bokaro, Jharkhand</li> <li>➤ Coking mine of Coal India Limited</li> <li>➤ Coalfield is drained by Damodar River System.</li> <li>➤ Project will entail felling of 14,698 trees from moderately dense (0.5) forest.</li> <li>➤ Wildlife found around the project area is Striped hyena (<i>Hyaena</i>), Wild boar (<i>Sus scrofa</i>), Porcupine (<i>Hystrix indica</i>), Rhesus macaque (<i>Macaca mulatta</i>), Langur (<i>Presbytis entellus</i>), Jackal (<i>Canis aureus</i>), Fox (<i>Vulpes bengalensis</i>), Jungle cat (<i>Felis chaus</i>), Spotted deer (<i>Axis axis</i>), Hare (<i>Lepus nigricollis</i>), Chamelion (<i>Chameleon calcarata</i>), Cobra (<i>Naja naja</i>), Ajagar (<i>Python molurus</i>).</li> <li>A part of total forest area (510.12 ha) was diverted under the provisions of FCA 1980 in 2007.</li> <li>➤ The present proposal is for 277.15 ha of the total project area spread over five blocks with 3300.53 ha area. Out of this, 1353.44 ha is the forest area.</li> </ul>

Source: Parivesh website, Ministry of Environment, Forest and Climate Change

Figure 11: Major coal mining projects recommended for forest diversion in 2020

In terms of non-coal mining, the share of minor minerals such as sand, stone and bajri quarrying was the highest at 42% (54,668 ha), which is for just one project—extraction of sand, stone and bajri from the bed of River Yamuna located in Sirmour, Himachal Pradesh. Legal status of forest land diverted is *Gair mumkin naddi* under the ownership of Himanchal Pradesh government and in possession by Forest Department (riverbed area). Distance of proposed site for diversion from the forest boundary is approximately 50 m from boundary of Reserve Forest Yamuna (DFO Paonta 2020). Fauna present at the site location includes aquatic winter migrates like Ruddy Shelduck, Cormorant, Little Grebe, etc. and density of flora is very less with revival species like Khair/Shisham present in a very scattered manner. DFO in his Site Inspection Report states, "Being a river bed that gets recharged annually by the natural water flow and an average less than 2 trees per ha in the area to be diverted."

This was followed by granite mining which accounted for 29% (38 ha), and then oil mining accounting for 25% (32,836 ha). Rest of the diversion for non-coal mining was for iron ore and natural gas. Besides this, 89,479 ha forest land was diverted for construction of Kurmitar conveyor belt.

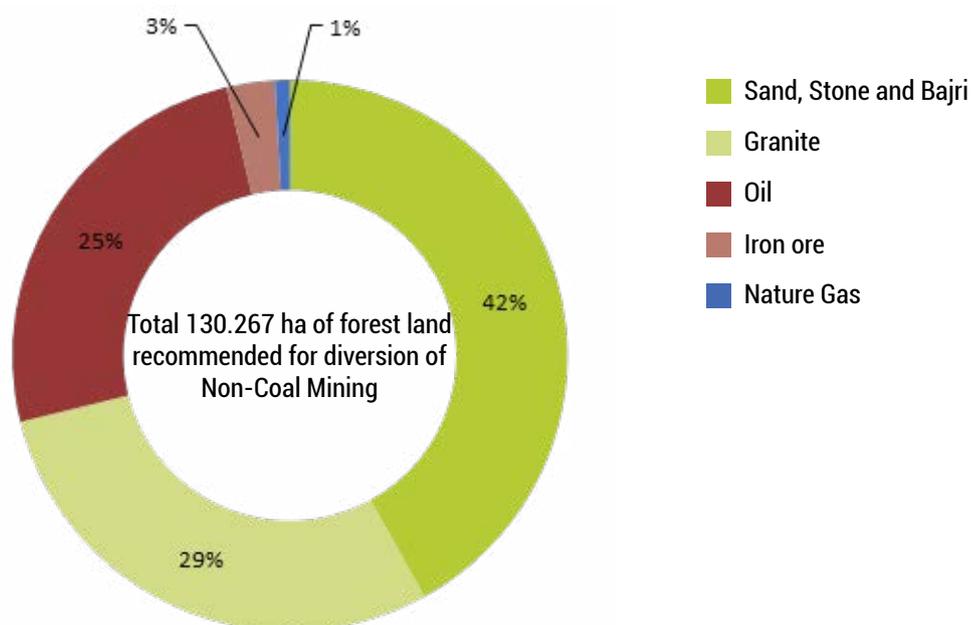


Figure 12: Forest Land (in hectares) Recommended for Diversion for Non-Coal mining in 2020; by Mineral Type

### v. Irrigation Proposals

After mining, the next major non-forestry use for which forest land was recommended for diversion was irrigation. The total forest land recommended for irrigation projects was 546,58 ha, accounting for 5.79% of total forest land recommended for diversion.

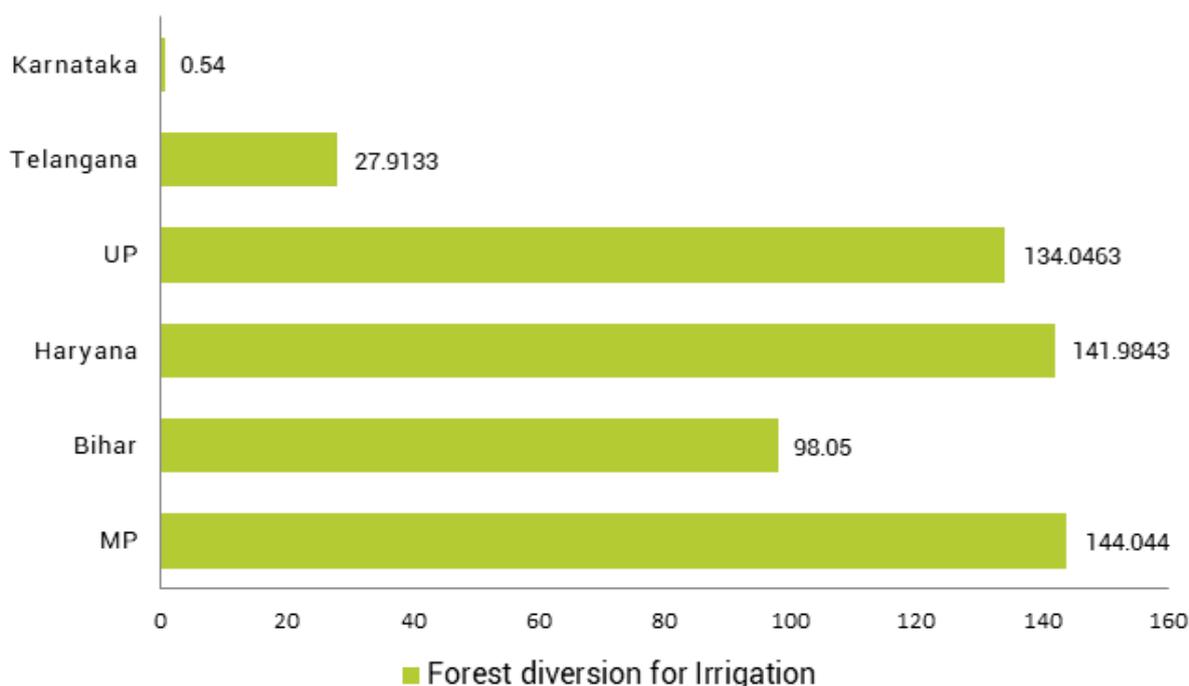


Figure 13: State-wise forest land recommended for irrigation in 2020

Figure 13 shows the state-wise break-up of forest land recommended for irrigation. The share of Madhya Pradesh, Haryana and Uttar Pradesh in the forest land recommended for irrigation is almost similar. Five irrigation projects spread over 144.04 ha were recommended in Madhya Pradesh, five projects of 141.9843 ha in Haryana and two projects over forest area of 134.0463 ha were recommended in Uttar Pradesh.

Only two projects accounted for the entire diversion due to irrigation in Uttar Pradesh. A project namely Kanhar Irrigation Project of 127.1637 ha in Sonbhadra district of Uttar Pradesh was recommended. The entire project area forms part of Reserved Forest of 0.8 density, i.e. 80% canopy density. The justification given for the project states, "Janpad Sonbhadra is a very backward district where no other alternative except rain is available for irrigation. This project majorly aims to provide Amvar village of Dudhi tehsil with water for irrigation and drinking," (Executive Engineer 2020). The other project was for 6.8826 ha forest land proposed to be diverted for construction of canal passing through villages Thakurapur, Jamdhara and Sugaon in Balrampur district under the National Saryu Nahar Pariyojna (Rapti Main Canal). As per details provided by the Forest Conservation Division, project area falls within ESZ of a protected area. Since ESZ of the sanctuary is not notified, 10 km from the boundary of protected area is considered as ESZ. The following wildlife is found in the area: Common Leopard (*Panthera pardus*), Jackal (*Canis aureus*), Wild Pig (*Sus scrofa*), etc. The Deputy Conservator of Forest, Sohelwa Wildlife Division, Balarampur recommended the project on grounds that the project land is for developmental work and public use, and it holds importance towards "public wellness".

A proposal was recommended in Bihar for construction of the Ganga Water Lift Scheme in Gaya and Bodhgaya districts (98.05 ha). The project area is at risk of medium to high soil erosion due to intrinsic geological features of the substrate during rainy season. Further, a project in Telangana for construction of barrage across Godavari River under PV Narasimha Rao Kanthanapally Sujala Sraavanthi Project Phase-1 in Mulug will divert 18.23 ha of forest land in Eturunagram Wildlife Sanctuary and 9.68 ha of forest land from the ESZ of the sanctuary.

## vi. Remaining categories of proposals

Apart from the above-mentioned categories, following are the remaining categories for forest diversions: rehabilitation, prospecting and industry. Three rehabilitation proposals were recommended for forest diversion. Two proposals were for relocation of villages from Satpura Tiger Reserve in Hoshangabad, Madhya Pradesh: one diverting 100 ha forest land for relocating villages "Khamda and Malani Part 5" from Bori Sanctuary, and other diverting 12 ha of forest land for relocation of village Ratibandar. Followed by this, 20 ha was recommended for diversion of forest land for rehabilitation of Dacholi village from Koyna Wildlife Sanctuary, Maharashtra.

After rehabilitation, 8.38 ha of forest land was recommended for the construction of a utility corridor to lay a multiproduct pipeline for transportation of petroleum products, chemicals, etc. for Reliance Industries in Surat, Gujarat. The project was recommended on the condition that a Coastal Regulation Zone clearance should be obtained (REC Bhopal 2020).

Lastly, it is important to highlight REC Nagpur's recommendation for a prospecting project in Kerwa Coal Block in Korba Coal Field. The forest area of the coal block is a thick Sal (*Shorea robusta*) forest with a canopy density of 0.5. As per the submissions of the Divisional Forest Officer, "Elephant travels in the area, but there is no elephant corridor" (DFO Korba 2017). The REC Nagpur, while considering the proposal, observed that the project lies in proximity to a proposed elephant reserve for which notification has been submitted. While the proposed area does not fall within the core area of the elephant reserve, it is within a 10 km radius of the core zone which is deemed buffer zone of the proposed reserve (REC Nagpur 2020). The committee before recommending the proposal took into consideration the Handbook on Forest (Conservation) Act, 1980 wherein prospecting has not been prohibited in the buffer of elephant reserve. Accordingly, the proposal was recommended. However, the REC clarified that in the future when the user agency (Chhattisgarh Mineral Development Corporation Ltd.) decides to move a proposal for diversion of forest area for mining, the same shall be decided after ascertaining the status of the elephant reserve (REC Nagpur 2020).

## 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 issues concerning the recommendations made to forest diversion proposals.

### i. Low rejection rate of proposals

In the calendar year of 2020, a total of 367 proposals had sought diversion of forest land for non-forestry purposes. Out of these, 300 were recommended and 54 were deferred for later consideration and only three were rejected. This implies that a total of 9434.06 ha of forest land was recommended for diversion for non-forestry purposes. Decision on another 4834.883 ha of forest land was deferred for later consideration (see Figure 14).

**It is important to highlight that FAC and REC rejected to only three out of 367 proposals. This implies that the rejection rate of proposals is a mere 0.82%.** This means that from the 14,855.91 hectares of forest land considered for diversion for non-forestry purposes, FAC and REC rejected the use of only 11.45 hectares of forest land which is just 0.08% of the applied forest land (in ha).

The FAC and REC have been constituted under the Forest (Conservation) Act, 1980, and Forest (Conservation) Rules for the preservation of forest and maintenance of ecological balance. However, as the analysis shows, the primary goal of the committee is to simply clear proposals which demand diversion of forest land for non-forestry purposes.

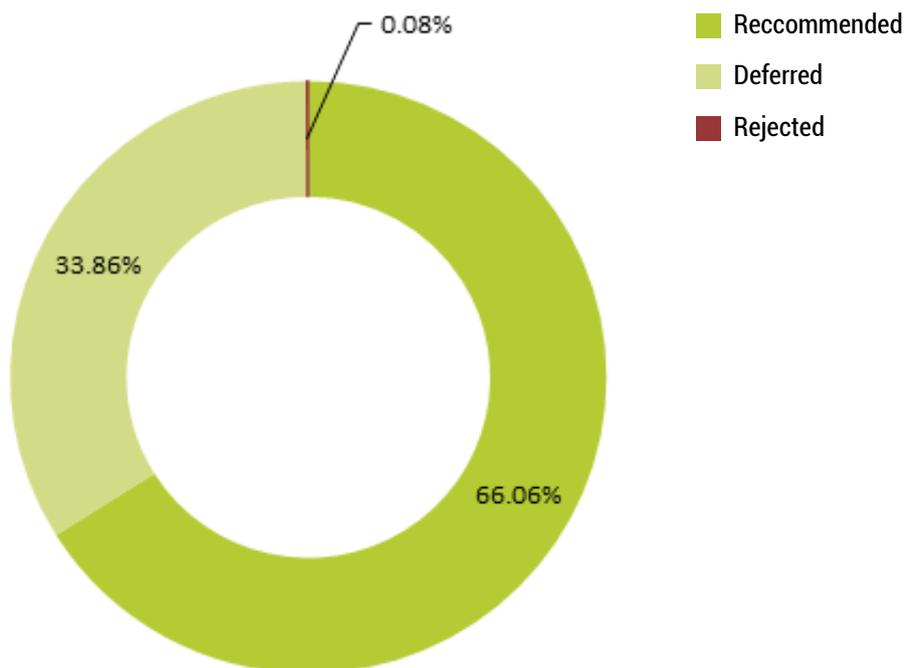


Figure 14: Forest land (in hectares) considered for Diversion in 2020

### ii. Projects recommended in wildlife habitats

Our analysis reveals that **24.4% out of 14,855.91 ha of forest land proposed for diversion i.e. 3629.73 ha fall under wildlife habitats.** For the purposes of this paper, a restricted definition of wildlife habitat has been taken which includes wildlife sanctuaries, national parks, conservation reserves, and community reserves, ESZs of protected areas, tiger reserves, elephant reserves, wildlife corridors and movement paths used by wildlife (see Figure 15).

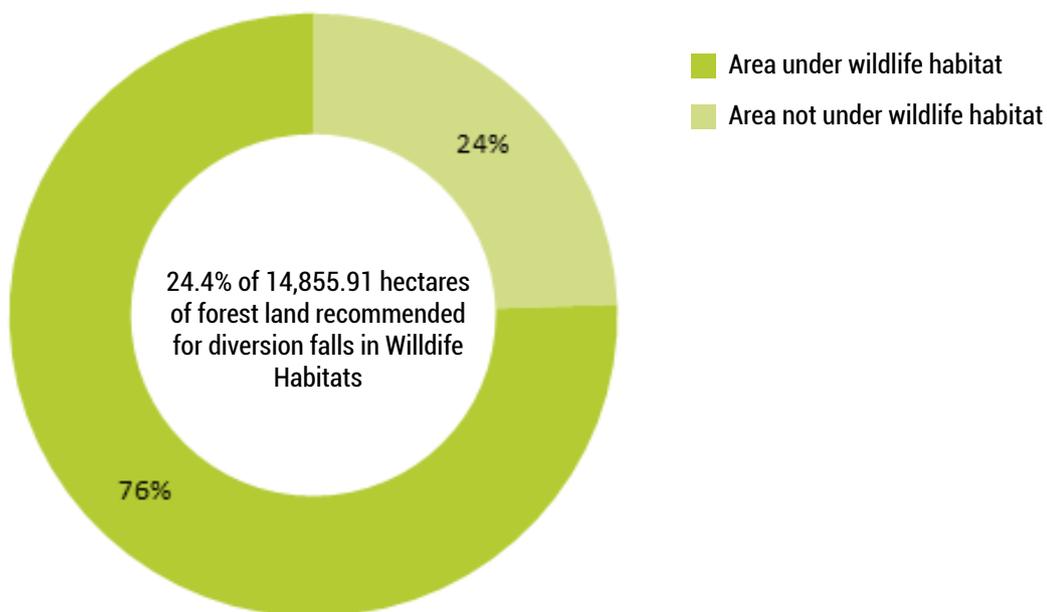


Figure 15: Wildlife habitat in forest land (in hectares) recommended for diversion in 2020

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 require 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<sup>1</sup>. However, such concerns do not reflect in the recorded discussion of the committees. Usually, 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 by Wildlife Institute of India with Eco-friendly Measures to Mitigate Impacts of Linear Infrastructures on Wildlife. Otherwise the committees ask for necessary wildlife clearance from the Standing Committee of National Board for Wildlife.

### iii. Recommendation for diversion of dense forests

This section deals with the distribution of forest land recommended for diversion for non-forestry purposes in terms of canopy density. The term canopy density is defined as the "percent area of land covered by the canopy of trees. It is expressed as a decimal coefficient, taking closed canopy as a unit" (Forest Survey of India 2009).

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

Figure 16: Forest land (in hectares) considered for Diversion in 2020

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

Source: FSI

In the calendar year of 2020, forest land of area 9434.06 ha was recommended for diversion for non-forestry purposes. Using the FSI classification as shown in Table 1, 33.24% of forest land recommended for diversion falls under Moderately Dense Forest. Further, 13.6% of forest land recommended for diversion falls under Very Dense Forest (see Figure 15). **This implies that approximately 47% 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.**

1. Clause (e) of Sub-Rule 4 of Rule 6 of Forest (Conservation) Amendment Rules, 2014

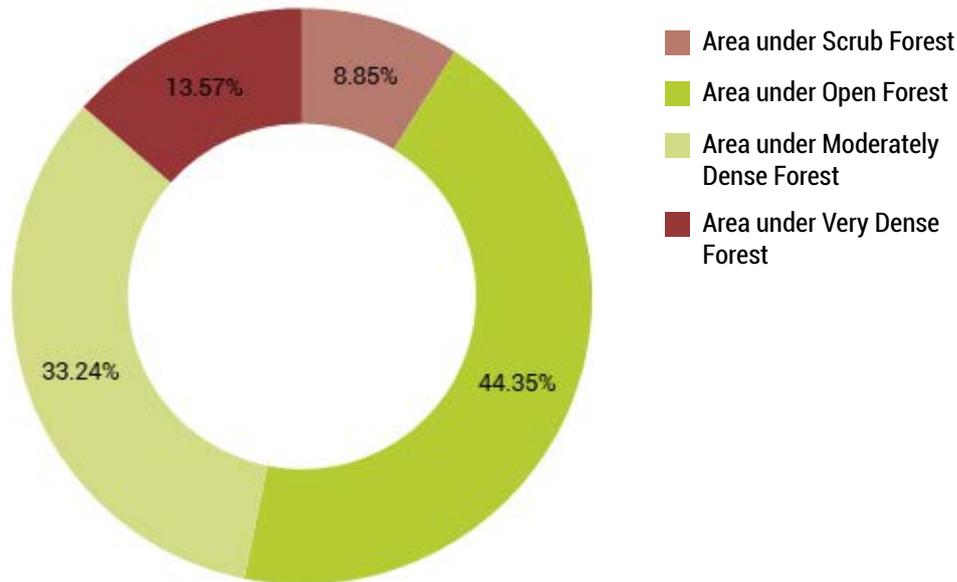


Figure 17: Forest land (after adjusting for plantations) (in hectares) recommended for diversion in 2020 (January-June); by canopy density

## 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, our analysis of the decisions of FAC and REC regarding proposals considered for forest diversion reveals that the committees show lack of intent towards conservation. In 2020, the committees considered 367 proposals spread over 14,855.91 ha of forest land, out of which 63.5% i.e. 9,434.06 ha 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. Only three proposals were rejected throughout the year. While considering the loss in 2020, it is important to note that the committees have already recommended diversion of 63,238.97 ha of forest land from 2017 to 2019. While the size of the forest land itself is a cause of concern, it is important to note that 24% of the forest land recommended for diversion falls in wildlife habitats and that 47% of the total diversion falls under dense forest type. Projects are recommended just by designating them as projects of national importance or for public interest while ignoring the immediate and long-term environmental impacts that these projects have.

Opening up wildlife habitats to make way for linear diversions such as railways, roads and transmission lines fragment otherwise continuous forest patches into small pieces that are unable to meet the needs of many species, ranging from rare plants and trees to elephants and tigers. These projects block migratory corridors, thereby severing habitat connectivity which is vital for the genetic viability of several endangered species. While the wildlife values are mentioned in the forest clearance documents, the committees rarely call for a study to analyse the impact of the proposed diversion on the habitat. More so, this leads to projects having ecological costs easily sailing through the regulatory authorities. Further, diverting forest lands which support moderately dense and very dense forest types make them vulnerable to further diversion pressures and encroachments.

The FAC and REC were set up with the sole aim to conserve the forest land. Given the objective behind their constitution, one would expect these committees to consider every proposal in detail and locate non-forest land to minimize the loss of forest land, especially those which form part of wildlife habitats and support high canopy density. However, this analysis suggests that the sole aim is to clear the proposal at hand rather than work in tandem with the purposes of the Forest (Conservation) Act, 1980.

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