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Integrated Regional Office
पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय
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दिनांक: 25.11.2022

सेवा में,



अतिरिक्त वन महानिदेशक (एफ.सी.)
पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय
इंदिरा पर्यावरण भवन, जोरबाग रोड
अलीगंज, नई दिल्ली- 110003

विषय: Proposal for seeking prior approval of the Central Government under Section 2 of Forest (Conservation) Act, 1980 for non-forestry use of 406.79. ha of forest land in favour of HPPCL for the construction of Thana Plaun Hydro-Electric Project (191 MW), within the jurisdiction of Mandi & Jogindernagar Forest Division, District Mandi, Himachal Pradesh. (Online Proposal No. FP/HP/HYD/8255/2014)-reg.

सन्दर्भ: पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय, (एफ.सी. डिवीजन), नई दिल्ली का पत्र मिसिल सं. 8-21/2021-FC दिनांक 24.05.2022।

महोदय,

उपरोक्त संदर्भित पत्र के संबंध में विषयांकित प्रस्ताव से सम्बंधित निर्देशानुसार स्थल निरीक्षण रिपोर्ट इस पत्र के साथ आगामी कार्यवाही हेतु आपको भेजी जा रही है। अपरिहार्य कारणों से स्थल निरीक्षण में हुई देरी के लिए खेद है।

सादर,

भवदीय,

संलग्न:- उपरोक्तानुसार।

(सत्य प्रकाश नेगी)
क्षेत्रीय अधिकारी

SIR Report of Thana Plaun HEP

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SITE INSPECTION REPORT BY THE INTEGRATED REGIONAL OFFICE (IRO), SHIMLA FOR PROPOSAL INVOLVING DIVERSION OF 406.79 HA OF FOREST LAND IN FAVOUR OF HPPCL FOR THANA PLAUN HYDRO-ELECTRIC PROJECT (191 MW) Online Proposal No.:- FP/HP/HYD/8255/2014

Name of the Inspecting Officer – Sh. Satya Prakash Negi, Regional Officer, IRO Shimla
Ministry of Environment, Forest and Climate Change (Forest Conservation Division) vide File No.8-21/2021-FC dated 24.05.2022 directed IRO, Shimla to carry out Site Inspection of the diversion area of the above-mentioned proposal. Site Inspection of the above proposal could not be carried out in time mainly because of the fact that large numbers of proposals were/are being received for approval under FCA. Moreover, Site Inspection of M/S JSW Energy Limited for the construction of the Kuther HEP in Chamba Distt. has been carried out during the same period (23-24.05.2022). The Monsoon Season (July-September) also delayed the Site Inspection. There are no AIG/DIG Level officers in IRO, Shimla to assist Regional Officer, IRO Shimla. Therefore, there has been considerable delay in carrying out Site Inspection and hence submission of report as well.

The Site Inspection of the above mentioned proposal was carried out in the month of October from 19.10.2022 to 20.10.2022 after receding of rainy season with the officials of State Forest Department and representatives of the User Agency. The proposed diversion area falls in two Forest Divisions, viz. Joginder Nagar Forest Division (170.55 ha.) and Mandi Forest Division (236.24 ha), both in Mandi district, Himachal Pradesh.

The following Officers were present during the inspection of the Diversion Area:

I. Other officers/Staff from IRO Shimla:

1. Sh. Ajay Kumar, Senior Technical Assistant, FSI, Shimla/Technical Officer (i/c), IRO, Shimla.
2. Dr. Aman Kumar, Technical Officer (Contractual), IRO, Shimla.

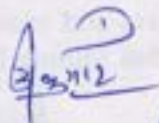
II. Officers/Staff from the State Forest Department

A. Joginder Nagar Forest Division

1. Sh. Ashwani Sharma, ACF Joginder Nagar
2. Sh. Desh Raj, RFO Dharpur
3. Sh. Mani Ram, RFO Joginder Nagar
4. Sh. Shukru Ram, BO Chuku Block
5. Sh. Vinod Kumar, BO Bharudu Block
6. Sh. Tej Singh, Superintendent (Gd-II)
7. Sh. Sarvesh Kumar, Sr. Assistant
8. Sh. Naresh Kumar, Forest Guard

B. Mandi Forest Division:

1. Sh Vasu Doegar, DFO
2. Smt. Nirmla Devi, RFO Kotli
3. Sh. Shivam Rattan, RFO Urla
3. Sh. Megh Singh, Block Officer
4. Smt. Anchal, Forest Guard
5. Sh. Naresh Kumar, Forest Guard
6. Sh. Naveen, Forest Guard





III. Officers/Staff from the User Agency:

1. Er. Dharam Vir Gupta, GM
2. Er. Sanjeev Sharma Sr. Manager (Civil)
4. Er. Himanshu Behl, Sr. Manager (Civil)
5. Er. Rahul Sharma Dy. Manager (Envt.)
6. Er. Harsh Sharma, Astd. Engineer (Civil)
7. Sh. Ishant Rai, Junior Officer (Envt.)
8. Er. Manoj Kumar, Junior Engineer (Civil)

1. Legal Status of the Forest Land Proposed for Diversion

Item-wise break-up details of the forest land proposed for diversion.

The forest area proposed for diversion for the construction of various components in the project as mentioned below (Table-1).

Table-1: Component wise breakup Details (as per PARIVESH portal)

S.no	Component	Forest Land (ha.)	Non-Forest Land (ha.)
1.	Quarry site	45.94	0
2.	Dumping site	10.35	0
3.	Project Colony	0	6
4.	Submergence Area	309.43*	27.46
5.	Road and Job Facility Area	30.87	1.07
6.	Dam Body, components and requisite Job Facility area	10.2	2.97
Total		406.79	37.5**

*Submergence area of 309.43 ha also includes 1.3375 ha area having type of land- Private Forest land kism Jungle Jhadi.

**The document showing abstract of non-forest land uploaded in portal (Annexure-1) total non-forest area involved is 32.86 ha, however, in component wise breakup, Part-I, Para-B-2.4, total forest land involved is mentioned as 37.5 ha. Regarding this mismatch, User Agency informed that area figure has not been updated in PARIVESH portal.

Brief description of the components of proposed project is given as below:

A. Quarry Sites:

There are total five numbers of Quarry Sites proposed for mining.

i. Quarry Site 1 (Son Khad):

This Quarry Site is located near village Kalswai at village Riyur adjacent to Son Khad which is the tributary of Beas River and area proposed for mining is 4.0969 ha. The road is also existing along the Son Khad. As per User Agency this existing road will be utilized to access the Site. Loose Stones, Sand and Bajri are available in the Site. (Image of the Site is placed at Annexure-2, Image No.-2&3). User Agency informed that mining will be carried out up to the depth of 01 meters and same has also been mentioned in the draft Mining Plan. User Agency submitted that Mining Plan is submitted to Mining Department

for approval and approval is under process. Regarding reclamation of quarry site, User Agency informed that mining will be carried out in the middle of Khad and reclamation of the site will be carried out as per the approved EMP plan (**Annexure-48**).

ii. Quarry Site 2 (Thodu Nallah):

This Quarry Site is located near village Sidhpur in Thodu Nallah. The Nallah seems seasonal as there was no water flow at the time of site visit. The area proposed for mining is 9.503 ha. The road is also existing along the Thodu Nallah. As per User Agency existing road will be utilized for access to the Site. Loose Stones, Sand and Bajri are available in the site. (Image of the Site is placed at **Annexure-2, Image No-5&6**). User Agency informed that mining will be carried out up to the depth of 01 meters and same has also been mentioned in the draft Mining Plan. User Agency submitted that Mining Plan is submitted to Mining Department for approval and approval is under process. Regarding reclamation of site, User Agency informed that reclamation of the quarry site will be carried out as per the Approved EMP plan (**Annexure-48**). It has been observed that some patches of *Dalbergia* and other Misc. spp. are available in the site. These tree species are required to be preserved to prevent soil erosion in the area around the quarry site. There are no pillars erected to mark the boundaries of the site.

iii. Quarry Site 3 (Malot Khad):

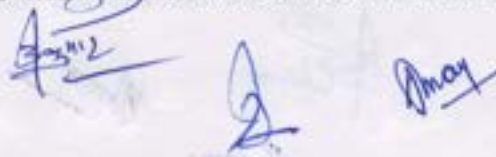
This Quarry Site is located near village Thati and Tatoli Pardana in Malot Khad. The Nallah seems seasonal as there was no water flow at the time of site visit. The area proposed for mining is 7.7259 ha. The road is also existing along the Malot Khad. As per User Agency existing road will be utilized for access to the Site. Loose Stones, Sand and Bajri are available in the site. (Image of the Site is placed at **Annexure-2, Image No.-7&8**). User Agency informed that mining will be carried out up to the depth of 01 meters and same has also been mentioned in the draft Mining Plan. User Agency submitted that Mining Plan is submitted to Mining Department for approval and approval is under process. Regarding reclamation of site, User Agency has informed that reclamation of the quarry site carried out as per the Approved EMP plan (**Annexure-4**). It has been observed that some patches of *Dalbergia* and other Misc. spp. are available in the site. These tree species are required to be preserved to prevent soil erosion in the area around the quarry site. There are no pillars erected to mark the boundaries of the site.

iv. Quarry Site 4 (Sakrain Khad):

This Quarry Site is located near village Bahri in Sakrain Khad. The Nallah seems seasonal as there was no water flow at the time of site visit. The area proposed for mining is 20.4956 ha. The road also exists along the Khad. As per User Agency existing road will be utilized for access to the Site. Loose Stones, Sand and Bajri are available in the site. (Image of the Site is placed at **Annexure-2, Image No.7 &8**). User Agency informed that mining will be carried out up to the depth of 01 meters and same has also been mentioned in the draft Mining Plan. User Agency informed that Mining Plan is submitted to Mining Department for approval and approval is under process. Regarding reclamation of site, User Agency informed that reclamation of the quarry site carried will be out as per the Approved EMP plan (**Annexure-48**). It has been observed that some patches of *Dalbergia* and other Misc. spp. are available in the site. These tree species are required to be preserved to prevent soil erosion in the area around the quarry site. There are no pillars erected to mark the boundaries of the site.

v. Quarry Site 5 (Prain in Beas River):

This Quarry Site is located near Village Prain in right bank of Beas River. The area proposed for mining is 4.1270 ha. It has been observed that no approach road is proposed



to access this site. User Agency informed that road will be constructed in private land from existing road of Prain village up to the quarry site. Loose Stones, Sand and Bajri are available in the site. (Image of the Site is placed at **Annexure-2, Image No. 9 & 11**). User Agency informed that mining will be carried out up to the depth of 01 meters and same has also been mentioned in the draft Mining Plan. User Agency submitted that Mining Plan is submitted to Mining Department for approval and approval is under process. There are no pillars used to mark the boundaries of the site. Regarding reclamation of site, User Agency has informed that reclamation of the quarry site will be carried out as per the Approved EMP plan (**Annexure-48**).

Note: *Mining in scientific manner as per approved mining plan needs to be ensured. Proper technical and scientific mechanism is required to be adopted to reclaim the Quarry Sites. It is recommended that to minimize the impact of mining on the aquatic flora and fauna, mining in this area shall be carried out without interfering with the main flow of River/Khad/Nallah. Some monitoring mechanism is required to be established by the User Agency to monitor the mining as per approved plan. All the Quarry Sites are adjacent to the habitation and are in River/Khads/Nallahs, therefore, a study regarding impacts of mining on general environment of the nearby area as well as riverine ecosystem, its reclamation etc. along with Mitigation Plan is required to be carried out by User Agency. User Agency informed that Temporary Crusher Units will be established at proposed Dumping Sites. No additional land is proposed for Crusher units. These temporary Crusher Units may also cause pollution. Therefore, environmental impacts of the same also needs to be carried along with Mitigation Plan.*

B. Dumping Sites:

i. Dumping Site 1:

This site is located in 31°49'42.39"N 76°46'39.90"E Village-Neri-Kotla having area of 3.85 ha, and adjacent to a link road from Dharampur-Joginder Nagar road to village Neri-Kotla (Image of the Site is placed at **Annexure-2, Image No.12,15-16**). Large number of saplings of Misc. spp with shrubs, climbers and tree species are present in the site. Site is slightly sloppy and which may lead to rolling down of muck to the main stream of Beas River and can damage the vegetation of area adjacent to the river bank and aquatic life as well.

ii. Dumping Site 2:

This site is located in N31° 49' 50.14" E76° 46' 47.32" having area of 6.5 ha, and adjacent to a link road Dharampur-Joginder Nagar (Image of the Site is placed at **Annexure-2, Image No.-13, 15-16**). Large number of saplings of Misc.spp with shrubs, climbers and tree species are present in the site. Site is sloppy and which may lead to rolling down of muck to the main stream of Beas River and can damage the vegetation of area adjacent to the river bank and aquatic life as well.

Note: *Keeping in view of the sloppy terrain, it is recommended that scientific and engineering measures are required to be established and put-in place before beginning the dumping of muck so that muck would not roll down beyond the boundary of dumping sites.*

C. Submergence Area and Dam Site:

As per the documents provided by the User Agency, length of the reservoir is 16.5 kms along the Beas River, 4.5 kms along the tributary-Rana Khad, 1.5 km along with tributary-Armodi Khad from the Dam Site. The dam site is located at Longitude: 76°50'20.53" (E) and Latitude: 31°49'28.22" (N) (Image of the Site is placed at **Annexure-2, Image No.21-25, 30-31**). User Agency informed that about 08 families are likely to be displaced due to

establishment of this project (**Annexure-2, Image No.25 & 30**). Apart from these, there are 38 *Gharats* (traditional *Atta Chakkis/Flour Mill*), out of which 19 numbers are in running/working condition and 12 numbers of *Pashushalas* (Cattle-Sheds) are also going to be affected due to its location in the submergence area of this project. Due to the remoteness of some of these areas, only three households and three *Pashushala* could be visited. The User Agency informed that all these affected families/households and *Pashushalas* are taken care in R&R Plan which is under process.

It has been observed that a road including (**Annexure-2, Image No.29**) a bridge at Kunkatar on Kotli to Joginder Nagar road is also coming under submerged area (**Annexure-2, Image No.31**). User Agency informed that new road will be constructed by HPPWD at the cost of Project Proponent of Thana Plaun HEP and separate proposal for land diversion will be submitted to Ministry by HPPWD. Therefore, it is recommended that before starting to store water in dam /construction of dam, the State Government and User Agency should ensure the construction of an alternate road to town Kotli.

D. Road and Job Facility Area:

Three proposed roads in the project from Kandapattan Bridge to Dam Site ((Image of the Site is placed at **Annexure-2, Image No.19-20**), Dam site to Village Ropru in Joginder Nagar Forest Division (**Annexure-2, Image No. 27**) and Mahan Village to Dam site in Joginder Nagar Forest Division (**Annexure-2, Image No. 28**) are visited and observed that Misc. spp. with dense invasive undergrowth is present in the area. Road from Kandapattan Bridge to Dam site is proposed to be constructed along the river Beas having sloppy terrain. It is recommended that it should be ensured to prevent any debris from entering into the river stream or harming the nearby vegetation outside the Right-of-Way (RoW) while excavating the ground. Scientific and engineering measures are required to be established/adopted during the execution of work. Additionally, it is recommended that efforts to be made to avoid the possibility of green felling in the proposed RoW for the road.

2. Whether proposal involves any construction of buildings (including residential) or not. If yes, details thereof.

No. As per documents, there is no any construction of buildings (including residential) in Forest Land. Project Colony is proposed in Non-Forest Land having 6.0 ha area.

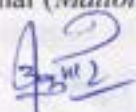
3. Total cost of the project at present rates. Rs. 1530.13 Crores (As per Part-I, Additional Information details, Column -38, PARIVESH portal)

4. Wildlife:

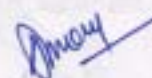
The landscape is having dense vegetation with miscellaneous species of trees, bushes, herbs, climbers and invasive species. There are water streams/ Khads/ Nallahs and river Beas. Therefore, there is a high possibility of presence of wildlife species. Officials of Joginder Nagar Forest Division also confirmed the presence of wildlife. Porcupine, Barking Deer, Wild Pig etc. have been sighted occasionally by the Forest Staff. Therefore, it needs to be ensured by the User Agency that wildlife is not adversely affected by the proposed project. As per the Certificate provided by DFO J/Nagar (uploaded on PARIVESH portal) regarding the aerial distance of proposed site from boundary of Nargu Wildlife Sanctuary is 18 Km. Also, PCCF Wildlife & CWLW, HP reported that there will be no direct/ disturbance to flora and fauna of Nargu WLS.

5. Vegetation:

During Site Visit of area falling under Joginder Nagar and Mandi Forest Division, it has been observed that Kambhal (*Mallotus philippensis*), Shisham (*Dalburgia sisoo*), Amaltas (*Cassia*







fistula), Kachnar (*Bauhinia Parviflora*), Bihul (*Grewia Tiliaefolia*), Bil (*Aegle marmelos*), Khair (*Acacia catechu*), Jamun (*Syzygium cumini*), Amla (*Emblca Officianalis*), Wad (*Salix alba*), Chil (*Pinus roxburghii*), Paryara (*Erythrina Indica*), Albzzia Spp Simbal, (*Bombax ceiba*), Aam (*Mangifera india*) with other Miscellaneous species are present in the Diversion area. Majority of the tree species are of stunted growth and saplings (Girth=0-30cm).

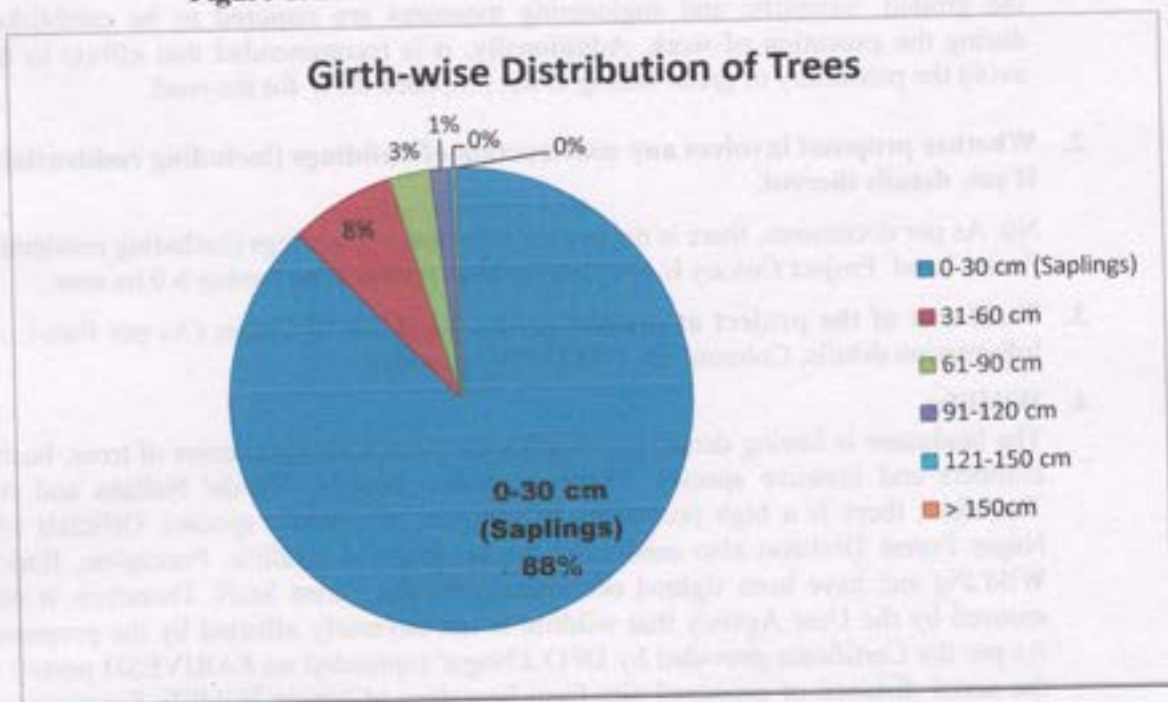
The area is thickly covered with understory vegetation like bushes, herbs, climbers and invasive species.

As per the tree enumeration list submitted for Joginder Nagar and Mandi Forest Division, total 49862 trees & saplings of different species are being affected in two Forest Divisions. The summary of girth and percentage wise enumeration of trees is as below:

Table-2: Girth-wise & Percentage wise enumeration of trees at FRL

Girth	(0-30) cm	(31-60) cm	(61-90) cm	(91-120) cm	(121-150) cm	(>150) cm	Total
Number of Trees	43805	3728	1430	696	173	30	49862
Percentage (%)	87.85	7.47	2.86	1.39	0.34	0.05	100

Figure-1: Pie Chart of Girth-wise Distribution of Trees at FRL



As shown in Table-2 and Figure-1, 87.85% of trees are in the girth-class distribution of 0- 30 cm (saplings).

Effect of removal of trees on the general ecosystem in the area:

The total number of trees and saplings involved in the project is 49,862. The felling of such large number of trees and saplings will undeniably affect the ecosystem of the area. However, in the

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proposed diversion site, most of the tree species are broad leaf category, out of which mostly are dwarf/understory trees and categories in girth class of less than 0-30cm (87.85 %) as shown in Table-2 and the pi-chart (Figure-1). During field visit it has also been observed that the density of trees in the diversion areas of both the Forest Division is low as the area is rocky in some places and remaining area is covered with bushes, herbs, climbers and invasive species.

Although no eco-restoration/reforestation measures can compensate the removal of such a large number of naturally grown vegetation that provides multiple ecosystem services in the landscape (diversion area); however, the negative consequences of removing these large number of trees can be compensated to some extent through various interventions like CAT plan, EMP plan, Green Belt Development, Biodiversity Plan, Reservoir Rim treatment etc, as proposed by User Agency is implemented properly, so that the ecosystem of the area can sustain itself over the period of time.

6. Background note on the proposal:

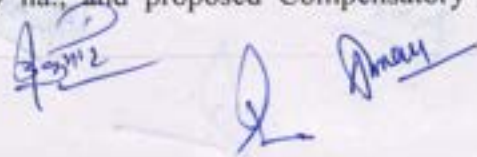
As per the documents available on PARIVESH portal, Thana Plaun Hydro-electric Project (191MW) is conceived as storage cum run-of-the-river scheme. The project envisages the construction of concrete gravity dam across river Beas 85m high above river bed level in the Mandi District of Himachal Pradesh, with a live storage capacity of 44.93 MCM to enhance the peaking benefits during the lean months. Length of the reservoir is 16.5kms long along with Beas River, 4.5 kms along the tributary-Rana Khad along with tributary-Arnodi Khad from Dam site. The Dam site is located at Longitude: 76°50'20.53" (E) and Latitude: 31°49'28.22" (N). The total cost of project as per the concurrence accorded by Central Electricity Authority (CEA) under Section 8 of Electricity Act, 2003 on dated 07.09.2021 is Rs. 1530.13 Crores (at September 2019 price level). The proposed layout has a dam toe type of arrangement.

As per the documents, the project layout comprises of a very short water conductor system on the right bank leading to an underground power house cavity located just downstream of the toe of the dam. The live storage capacity is proposed to be created up by constructing a 106.70 m high (from deepest foundation level) and 225.93m long Concrete Gravity Dam near village Thana. The head works are located approximately 40 km downstream of Pandoh Dam in Mandi district of Himachal Pradesh State, about 1 km downstream of Kunkatar bridge. The design discharge is diverted through power intakes to 2 nos. of headrace tunnels (108.17m and 146.89m), leading to an underground power house through steel lined pressure shafts which are bifurcated near the power house. The power house cavity comprises of 3 nos. of main units of 50.33 MW each and 2 nos. of environmental units of 20 MW each with a total installed capacity of 191MW. The water coming out of the turbines is discharged back into the Beas river through 2 nos. of short tail race tunnels of length 27.50m and 69.50m respectively.

The total forest land involved in both the Forest Divisions (Mandi and Joginder Nagar) is **406.79 ha**. Joginder Nagar Forest Division constitutes 170.55 ha diversion area (i.e. Components proposed in above ground area is 165.48 ha + 5.075 ha components proposed underground) and Mandi Forest Division constitutes 236.24 ha diversion area (i.e. components proposed in above ground is 233.6825 ha + 2.5511 components proposed underground).

7. Compensatory afforestation:

As per documents, the total proposed Forest Land for diversion, including Private Forest Land (Kism Jungle-Jhadi) is 406.79 ha., and proposed Compensatory Afforestation (CA) area is



867.61ha. The CA sites consisting 45 patches are located in 01 district, 04 Forest Divisions (Mandi, Joginder Nagar, Suket and Karsog Forest Division) and 6 Forest Ranges.

Table: 3 Total CA land details for Joginder Nagar and Mandi Forest Division

S. No	Forest Division	Total CA Area (Ha.)	Location of proposed Sites/Forest Divisions	No. of Patches	Remarks
1.	Joginder Nagar	364.35	1. Karsog FD 2. Mandi FD 3. Suket FD 4. Joginder Nagar FD	18	CA area proposed for plantation varies from 5 ha to 117.8 ha
2.	Mandi	503.26	1. Suket FD 2. Mandi FD	27	CA proposed for plantation varies from 5 ha to 103.51 ha
	Total	867.61	4 Forest Divisions	45	---

Since CA sites consisting of 45 patches are located in 01 District (Mandi district only), 04 Forest Divisions, 6 Forest Ranges and 45 patches, it would have been difficult to monitor/inspect all the proposed CA sites by a single officer of IRO, Shimla. There is no DIG/AIG level officer in IRO, Shimla. Therefore, following officials from Forest Survey of India, Regional Office (Northern), Shimla were deputed especially for site inspection of CA land:-

1. Sh. Ashwani Kumar, Assistant Director (i/c), FSI, Regional Office, (Northern) Shimla.
 2. Sh. Raghuvir Singh, Senior Technical Assistant, FSI, Regional Office, (Northern) Shimla.
 3. Sh. Pawan Kumar, Junior Technical Assistant, FSI, Regional Office, (Northern) Shimla.
 4. Sh. Subhash Singh, Junior Technical Assistant, FSI, Regional Office, (Northern) Shimla.
- Detailed Reports on Inspection of CA Sites by the officials of FSI, Regional Office, (Northern) Shimla are annexed as annexures-(3-47).

i. Whether land for compensatory afforestation is suitable from plantation and management point of view or not.

The summary of suitability/non-suitability of CA sites for plantation and management point of view as per Site Inspection Report annexed as Annexure-(3-47) is given in following table (Table-4):

Table 4: Summary of proposed CA Sites

Total CA Sites	CA Sites suitable for Plantation	CA sites with some issues	Names of Non-Suitable CA Site with Area					Annex	Remarks
			Patch no.	Forest Division	CA Site Name	Area (Ha)	Status of CA land		
45	23	22	06	Karsog	Kot/114	11.73	Waste land	3	The proposed CA site has MDF predominantly of

							<i>Pinus roxburghii</i> . Therefore CA site is not suitable for plantation hence need replacement.
04	Karsog	Sawindhar, D-101 Nandho	71.35	Waste land	4		Slope and rockiness are concern otherwise land is suitable for plantation.
02	Karsog	Jamnu, D-74 Parvain	117.8	Waste land	5		Slope and rockiness are concern otherwise land is suitable for plantation.
20	Suket	Hafwana	18 ha	Waste land	8		The CA site exists in two patches having area of 09 ha each. One patch of 09 ha is falling in MDF category therefore, 09 ha area out of 18 ha is not suitable for plantation.
16		Bhalana	05	Waste land	10		Agriculture land is there within the CA site.
09	Suket	Gamoh	09	Waste land	11		Since portion of CA site has already been selected for plantation, therefore needs replacement.
22	Mandi	DPF KUFRU	10	Degraded Forest Land	26		If all the bushes are removed then the land is suitable for plantation.
6	Mandi	Basa	5.58	Waste land	31		KML file uploaded in PARIVESH portal is not of concerned CA site (Geo coordinates of CA site: 31 46 57.29 76 57 39.29). However, as per area (Basa) shown by State Forest Department is Suitable for Plantation.
24	Mandi	Nagdhar	5.74	Waste land	32		Approximately 5 ha area is suitable for plantation.
23	Mandi	Banaul	17.72	Waste land	33		Approximately 2 ha area is suitable for plantation.
12	Mandi	Masad	13.27	Waste land	34		Approximately 12 ha area is suitable for plantation.
26	Mandi	Suma	34.31	Waste land	35		1. Approximately 32 ha area is suitable for plantation. 2. CA site falls in Panarsa range as per concerned VRO but it is shown in Kataula range in KML file
21	Mandi	Bodandhar	103.51	Waste land	38		Approximately 91 ha. area suitable for plantation.
15	Mandi	DPF Bodandhar	10	Degraded Forest Land	39		1. DPF Bodandhar CA site is overlapped with Bodandhar waste land CA site.

							2. According to VRO Kataula this CA site belongs to Revenue Department.	
		16	Mandi	DPF Badaun	10	Degraded Forest Land	40	1. DPF Badaun CA site is overlapped with Bodandhar waste land CA site. 2. According to VRO Kataula this CA site belongs to Revenue Department.
		5	Mandi	Arnehad	14.85	Waste Land	44	Approximately 1 ha. Area is overlapped with DPF Bairoo CA site.
		7	Mandi	DPF Gandhar v	20	Degraded Forest Land	46	Entire area is not suitable for plantation and only gap plantation is possible if bushes are removed.
		3	Mandi	Tung	10	Waste Land	24	In PARIVESH portal, name of CA site is Tung, however, as per HPFD, the name of area is Tandhi. This needs correction in PARIVESH portal Area Tung is suitable for planation.
		1	Joginder Nagar	Ropa Padhar	7.03 ha	Waste land	23	The CA site is an open scrub and 6.52 ha area has already planted in 2021. Hence CA site needs replacement.
		10	Suket	Gamoh	7	Waste land	12	The CA site has Moderately Dense Forest of species like <i>Dalbergia sissoo</i> , <i>Acacia catechu</i> , <i>Cassia fistula</i> etc. <i>Dalbergia sissoo</i> plantation has been done in 2005. Therefore, CA site need replacement.
		17	Suket	Shaishdhar	5	Waste land	6	The CA site lies at an elevation of 1480 m above the mean sea level. The CA site has open forest of broad-leaved species like <i>Emblica officinalis</i> , <i>Mallotus philippinensis</i> , <i>Bauhinia species</i> , <i>Toona ciliate</i> and <i>Pinus roxburghii</i> . CA site is suitable for gap plantation
		5	Mandi	Suran	17.64	Waste land	19	The CA site has Dense Forest of species like <i>Pinus Wallichiana</i> ,

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the documents provided by User Agency is as under in Table -6.:

Table 6: The summary of private land, affected villages and affected land owners in districts as informed by User Agency

S. No	Description	District Mandi
1.	Private land (ha)	32.86
2.	Number of affected Panchayats	12
3.	Number of affected Villages	21
4.	Number of affected Land owners	709
5.	Displaced families due to losing their Land and Houses	8
6.	Others (<i>Gharats</i> and <i>Pashushalas</i>)	Out of total 38, 19 numbers of <i>Gharats</i> are in working and 11 have stopped functioning 12 numbers of <i>Pashushalas</i>

As per the User Agency, the Resettlement and Rehabilitation Plan for the project affected families/ persons and their lands of the proposed Thana Plaun HEP is under processing and this will be formulated within the provisions and/or guidelines as given in "The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act - 2013", Govt. of India and in consonance with "Rehabilitation and Resettlement Policy of HPPCL, 2012", Govt. of Himachal Pradesh.

10. Reclamation Plan:

User Agency has informed that the Environment Clearance has been recommended by the Expert Appraisal Committee, MoEF&CC, based on the Environment Management Plan (EMP) prepared. Following is the abstract of the components and financial allocation related to major Reclamation Plan (as per the records) which is part of the EMP in Table-7. (Annexure-48)

Table 7: Components and Financial allocation of Reclamation Plan (as a part of EMP):

S.N.	Reclamation Activity	Financial Allocation (Rs. Lakh)
1.	Muck Management Plan	176
2.	Catchment Area Treatment Plan	5560.00
3.	Reservoir Rim Treatment	200.00
4.	Restoration Plan for Quarry Sites and Landscaping	35.00
5.	Road Management Plan	21.00

	Total	5992.00
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11. Details on catchment and command area under the project:

As per the documents provided by User Agency, this project is located at Kotli, downstream of the confluence of Beas River and Rana Khad. Beas is the only tributary of the Indus system confined to India. The total catchment area of Beas river is 29500 Km² (Table-8). Out of total catchment area, 7378 Km² is under the Thana Plaun dam site. The immediate upstream project Pandoh is an existing project on Beas River located approx. 43 km upstream of Thana Plaun HEP. The downstream proposed project is Triveni Mahadev HEP whose FRL 592 m is sufficiently below the TWL of Thana Plaun HEP (El. 634 m). A major tributary Uhl river joins downstream of Pandoh dam. There are three Hydro-Electric projects existing /proposed on this river by intercepting its flows (370 Km²) together with the flows of Rana Khad (CA- 98.9 Km²) and Neri Khad (CA-16 Km²) (Annexure-49).

Table 8:- Summary of Catchment area

S. No.	Catchment area Detail	Area
1.	Total catchment area	7378 km ²
2.	Average Annual Catchment Yield of water	5416 million m ³
3.	Effective Catchment area	1615 Km ²
4.	Catchment area of River upstream of Pandoh Dam Site	5278 km ²
5.	Intermediate Catchment Area between Thana Plaun & Pandoh Dam	2100 km ²

The implementation of Catchment Area Treatment (CAT) Plan is mandatory to State Forest Department. The guidelines issued by the Himachal Pradesh Government vide its Notification No. PFF-B-F (2)-72/2004-Pt. II dated 30.9.2009 State that the CAT Plan size should be based on the actual extent of work to be done in the catchment but shall not be less than 2.5% of the project cost. The CAT Plan cost of Thana Plaun HEP is Rs. 56, 00, 31,925/- or say (Rs. 56.003 crores).

12. Cost-Benefit ratio:

As per information provided by the user agency on PARIVESH portal, Cost-Benefit Ratio is as below in Table-9 (Annexures-50).

Table 9:- Summary of Cost-Benefit Analysis

Sr. No	Parameters of Evaluation	Rs in Lakhs
1.	Total benefits	39104.2 lakhs
2.	Total Cost	6898 lakh

3.	Cost-Benefit ratio	1:5.7
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13. Recommendations of the Principal Conservator of Forests/State Government:

As per information provided by the user agency on PARIVESH portal, State Government has recommended the project.

14. Utility of the project. Numbers of Scheduled Castes/Scheduled Tribes to be benefited by the project:

As per the various documents uploaded on PARIVESH portal, Thana Plaun Hydro-Electric Project is conceived as storage cum run-of-the-river scheme (The Dam will store water during the monsoon period and will release it intermittently during the lean period for a limited period of time) proposed on Beas River in the Mandi district of Himachal Pradesh. It has live storage capacity of 44.93 MCM to enhance the peaking benefits during the lean months. In the interest of energy security and achieving a low carbon growth, it is required to tap available hydro potential in the country particularly in the North region which are endowed with huge energy resources. Despite the resources available in this region (especially Himachal Pradesh), these States have been reeling under power shortages during lean flow months, when inflows into hydro projects reduce substantially. The speedy and environmentally favourable exploitation of hydroelectric power potential in a sustainable manner will definitely improve the economic health of the State. These benefits of continuous power availability to the people of this region will lead to increased industrialization, better communication and overall economic development.

Numbers of Scheduled Castes/Scheduled Tribes to be benefited by the project:

As per the documents provided by the User Agency, there is **no** Scheduled Tribe land owners in the proposed project area. However, there are Scheduled Caste (SC) families, the details are as below:

Details of Scheduled Caste Families/Landowners	
Total SC Landowners	79
Women SC Landowners	37 (31 daughters, 5 wife and 1 widow)
Total Villages of SC Families/Landowners	05 Villagers namely Koon, Jandrola, Mahan, Banwar and Banogi
SC family to be displaced	01

User Agency informed that the Resettlement and Rehabilitation Plan for the project affected families/ persons and their lands of the proposed Thana Plaun HEP is under processing and all the Scheduled Caste Families/Landowners affected will be provided benefits as per the provisions under "The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act - 2013", Govt. of India and in consonance with "Rehabilitation and Resettlement Policy of HPPCL, 2012", Govt. of Himachal Pradesh.

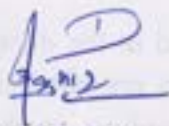
There is a prospect of direct and indirect employment opportunities for the local people that would augment their family income and livelihood.

15. Whether land being diverted has any socio-cultural /religious value. Whether any sacred grove or very old grown trees/forests exists in the areas proposed for diversion:

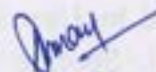
As per documents uploaded on PARIVESH portal and the discussion held with State Forest Department field officers/officials, the land proposed for diversion is not known to have any special socio-cultural/religious value.

16. Any other information relating to the project:

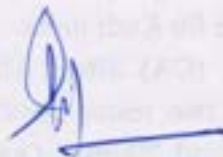
- i. Transmission Line is not proposed in the extant proposal. User Agency in this regard informed that Transmission component for transmission of power of Thana Plaun HEP will be taken up separately by Himachal Pradesh Power Transmission Corporation Limited (HPPTCL).
- ii. Ministry has directed IRO, Shimla to carry out exercise on the effect of the proposed Thana Plaun HEP on the other HEPs namely Pandoh, Dehar Power Plant, Kol Dam and Suket Dam and any other nearby HEPs falling in downstream of the proposed project. This exercise requires experts from diverse fields like Geology, Hydrology, Environment, Fishery, Forestry and Wildlife etc. IRO, Shimla is a newly established office functioning since 05.07.2021 with limited staff and this impact study/exercise is beyond the scope of this office. Thus, a separate team of experts for this impact assessment exercise needs to be constituted by the Ministry.



(Ajay Kumar)
Technical Officer (i/c)
IRO, Shimla



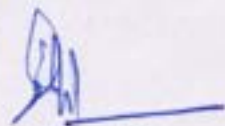
(Dr. Aman Kumar)
Technical Officer (Contractual)
IRO, Shimla



(Satya Prakash Negi)
Regional Officer
IRO, Shimla

**COMMENTS AND RECOMMENDATIONS OF THE REGIONAL OFFICER,
INTEGRATED REGIONAL OFFICE (MoEF & CC), SHIMLA:**

- ❖ The Himalayan State of Himachal Pradesh has immense hydro-power potential, and proposed Thana-Plaun HEP is one of the important projects for harnessing the hydel potential in the State. Thana-Plaun HEP which is a Dam cum run-of-the-river HEP is approved by Government of Himachal Pradesh.
- ❖ **Diversion Area:** The submergence area of the diversion area of the proposed project is spreading over 16.5 Kms in length along the river Beas. There are total 709 affected landowners but only 08 families are likely to be displaced due to loss of their land and houses. These affected landowners and families are proposed to be compensated as per the proposed Resettlement and Rehabilitation Plan as informed by the User Agency.
 - ✓ **Quarry Sites** are proposed in the Khad/Nallah/River. The habitations are also situated in the proximity of these quarry sites. Specific comments and recommendations regarding quarry sites are already mentioned at Sr. no. 1(A) (Note) Page no. 4 above.
 - ✓ **Dumping Sites** are proposed on the sloppy terrain which may lead to rolling down of muck directly in the river Beas. Specific comments and recommendations regarding dumping sites are already mentioned at Sr. no 1(B) (Note) Page no.4 above.
 - ✓ **Temporary Crusher Units** are proposed to be established in the dumping sites as informed by User Agency. However, these Crusher Units are not included in the proposal. Specific comments and recommendations regarding crusher units are already mentioned at Sr. no. 1(A) (Note) Page no. 4 above.
 - ✓ A road including a bridge from Kotli to Joginder Nagar is also coming under submergence area. It is recommended that State Govt./User Agency should ensure construction of an alternate road to Kotli town before submerging the already existing road and bridge for Kotli town.
- ❖ **Compensatory Afforestation (CA) Sites:** All the CA sites (45 Patches in four Forest Divisions) were inspected by two teams constituting technical staff of Forest Survey of India, Regional Office (Northern), Shimla. Out of these 45 patches, 22 CA patches have some minor issues which are summarized in Table no. 4 Page no.8-11 above.
- ❖ Proposed project is located on river Beas and adjoining areas are also covered with diverse multi-storeyed vegetation with presence of wildlife. Therefore, an Ecological Monitoring Unit with a dedicated expert to monitor the impacts on flora, fauna and ecosystem services of the landscape by the proposed project activities needs to be established by the User Agency so that possible adverse impacts can be minimized.
- ❖ The proposal is recommended with specific comments/ recommendations as mentioned above.



(Satya Prakash Negi)
Regional Officer

Full Title of the Project:
 Proposal No.
 Date of Proposal:

Thana Plaun (191MW) Hydroelectric Project
 FP/HP/HYD/8255 /2014
 November 29th,2014

CHECK LIST SERIAL NUMBER: - 7

**Thana Plaun HEP (191 MW)
 Abstract of Private Land of all Tehsils Distt. Mandi (HP).**

Tehsil	Khasra No.	Dhani Aval	Dhani Doem	Varani Aval	Varani Doem	Varani Soem	Bagicha Varani Faldar	Majrua	Banjar Kable Kash	Van	Khadetar	Gair Mumkin	Gair Majrua	Total Rakva BighattiwaBiwansi	Remarks
Kotli	148 Kita		7-04-17	85-01-12	31-03-06		2-08-13	125-18-08	14-09-19		23-13-14	11-19-13	50-03-06	176-01-14 i.e. 14.246 ha	
Jogindernagar	183	0-13-00	11-07-00	21-12-09	36-18-12	1-09-06	1-00-00	73-00-07	21-08-15		15-07-02	12-14-06	49-10-03	122-10-10 i.e. 9.913 ha	
Padhar	29	-	-	41-01-01	20-09-14	-	3-10-00	65-00-15	0-08-15	16-10-12		7-10-15	24-10-02	89-10-17 i.e. 7.244 ha	
Mandi-Sadar	13			0-16-04	3-15-04		2-01-07	6-12-15	4-00-00		6-14-07	0-13-13	11-08-00	18-00-15 i.e. 1.459 ha	
Total	373	0-13-00	18-11-17	148-11-06	92-06-16	1-09-06	9-00-00	270-12-05	40-07-09	16-10-12	45-15-03	32-18-07	135-11-11	406-03-16 i.e. 32.86 ha	

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 GENERAL MANAGER
 Shree Mahindra & Thana Plaun HEP's
 Himachal Pradesh Power Corporation Ltd
 Sangar Talva Distt. Hamirpur HP-176110
 Ph. 01972272200 Fax - 01972272201

Abstract of Private Land of Tehsil Jogindernagar Distt. Mandi (HP).

Sub-Tehsil	Panchayat	Name of Mihal	Khasra No.	Dhani Aval	Dhani Doem	Varani Aval	Varani Doem	Varani Soem	Bagicha Varani Faldar	Majrua	Banjar Kable Kash	Van	Khadetar	Gair Mumkin	Gair Majrua	Total Rakva Bigha Biswa Biswansi	Remarks
Joginder-nagar		Ropru	7	-	-	3-19-00	7-12-18	-	-	11-11-18	5-00-00		-	3-06-13	8-06-13	19-18-11	
			8	-	-	0-18-00	10-19-10	0-15-06	-		12-12-16	-		-	2-02-16	2-02-16	14-15-12
			6			4-06-08		00-14-00		05-00-08	00-10-07		01-03-10	01-13-09	03-07-06	08-07-14	
			21(7+8+6)	-	-	9-03-08	18-12-08	1-09-06	-	29-05-02	5-10-07		1-03-10	7-02-18	13-16-15	43-01-17	
		Bath	54	-	-	-	2-14-03	-	-	2-14-03	0-15-15		6-12-08	0-06-15	7-14-18	10-09-01	
			15	-	-	-	8-10-00	-	-	-	8-10-00			3-12-16	0-17-19	4-10-13	13-00-15
			69 (54+15)	-	-	-	11-04-03	-	-	11-04-03	0-15-15		10-05-04	1-04-14	12-05-13	23-09-16	
		Choraunj	657	-	-	-	-	-	-	-	-		-	0-00-12 (Gharat)	0-00-12	0-00-12	
			1	-	-	-	-	-	-	-	-			-	0-00-12	0-00-12	0-00-12
		Varwar	15	0-13-00	3-03-05	-	2-02-15	-	-	5-19-00	1-08-14		0-04-04	0-10-06	2-03-04	8-02-04	
			27	-	8-03-15	0-13-00	-	-	-	-	8-16-15	1-05-15		3-14-04	0-09-19	5-09-18	14-06-13
			42(15+27)	0-13-00	11-07-00	0-13-00	2-02-15	-	-	14-15-15	2-14-09		3-18-08	1-00-05	7-13-02	22-08-17	
		Banogi	2	-	-	-	-	-	-	-	-		-	0-02-08	0-02-08	0-02-08	
			3	-	-	-	1-03-17	-	-	-	1-03-17	0-11-12		-	-	0-11-12	1-15-09
			5(2+3)	-	-	-	1-03-17	-	-	1-03-17	0-11-12		-	0-02-08	0-14-00	1-17-17	
		Banaru Abbal	33	-	-	11-09-16	1-05-06	-	1-00-00	13-15-02	6-16-12		-	02-08-17	9-05-09	23-00-11	
			8	-	-	0-06-05	2-10-03	-	-	-	2-16-08	-		0-05-11	0-05-11	3-01-19	
			41(33+8)	-	-	11-16-01	3-15-09	-	1-00-00	16-11-10	6-16-12		-	2-14-08	9-11-00	26-02-10	
		Banaru Doem	4	-	-	-	-	-	-	-	5-00-00		-	0-09-01	05-09-01	5-09-01	
		Total	183	0-13-00	11-07-00	21-12-09	36-18-12	1-09-06	1-00-00	73-00-07	21-08-15		15-07-02	12-14-06	49-10-03	122-10-10 Le. 9,913 ha	

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Thana Plaun HEP (191 MW)
Abstract of Private Land of Tehsil Padhar Distt. Mandi (HP).

Sub-Tehsil	Panchayat	Name of Muhal	Khasra No.	Dhani Aval	Dhani Doem	Varani Aval	Varani Doem	Varani Soem	Bagicha Varani Faldar	Majrusa	Banjar Kable Kash	Van	Khadetar	Gair Mumkin	Gair Majrusa	Total Rakya Bigha Biswani	Biswa	Remarks
Padhar		Bhatwari	8	-	-	25-08-00	4-10-00	-	-	29-18-00	-	-	-	3-09-14	3-09-14	33-07-14		
		Bah	1	-	-	2-10-00	-	-	-	2-10-00	-	-	-	0-04-18 (Bt)	0-04-18	2-14-18		
		Vevla	4	-	-	9-03-00	-	-	-	9-03-00	-	-	-	1-12-01	1-12-01	10-15-01		
		Jhanad	3	-	-	-	-	-	-	-	-	16-10-12	-	-	16-10-12	16-10-12		
		Bada-Gaon	13	-	-	4-00-01	15-19-14	-	3-10-00	23-09-15	0-08-15	-	-	2-04-02	2-12-17	26-02-12		
		Total	29	-	-	41-01-01	20-09-14	-	3-10-00	65-0-15	0-08-15	16-10-12	-	7-10-15	24-10-02	89-10-17		ie. 7,244 hu

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Thana Plaun HEP (191 MW)
Abstract of Private Land of Tehsil Mandi Sadar Distt. Mandi (HP).

Tehsil	Panchayat	Name of Mihal	Khasra No.	Dhani Aval	Dhani Doem	Varani Aval	Varani Doem	Varani Soem	Bagicha Varani Fakhar	Majrua	Banjar Kable Kash	Khudetar	Gair Mumkin	Gair Majrua	Total Rakva Bigha Biswa Biswasol	Remarks
Mandi-Sadar		Matha-Nihal	2									6-14-07	-	6-14-07	6-14-07	
		Maigal	4	-	-	-	-	-	0-16-18	0-16-18	4-00-00	-	0-06-12	4-06-12	5-03-10	
		Gumaru	2	-	-	-	03-15-04	-	-	03-15-04	-	-	0-07-01	0-07-01	4-02-05	
		Bijan	5	-	-	0-16-04	-	-	1-04-09	2-00-13	-	-	-	-	2-00-13	
		Total	13			0-16-04	3-15-04		2-01-07	6-12-15	4-00-00	6-14-07	0-13-13	12-08-00	18-00-15 (i.e. 1,459 ha)	

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ANNEXURE- 2 (Images of Diversion Area of Thana Plaun HEP)

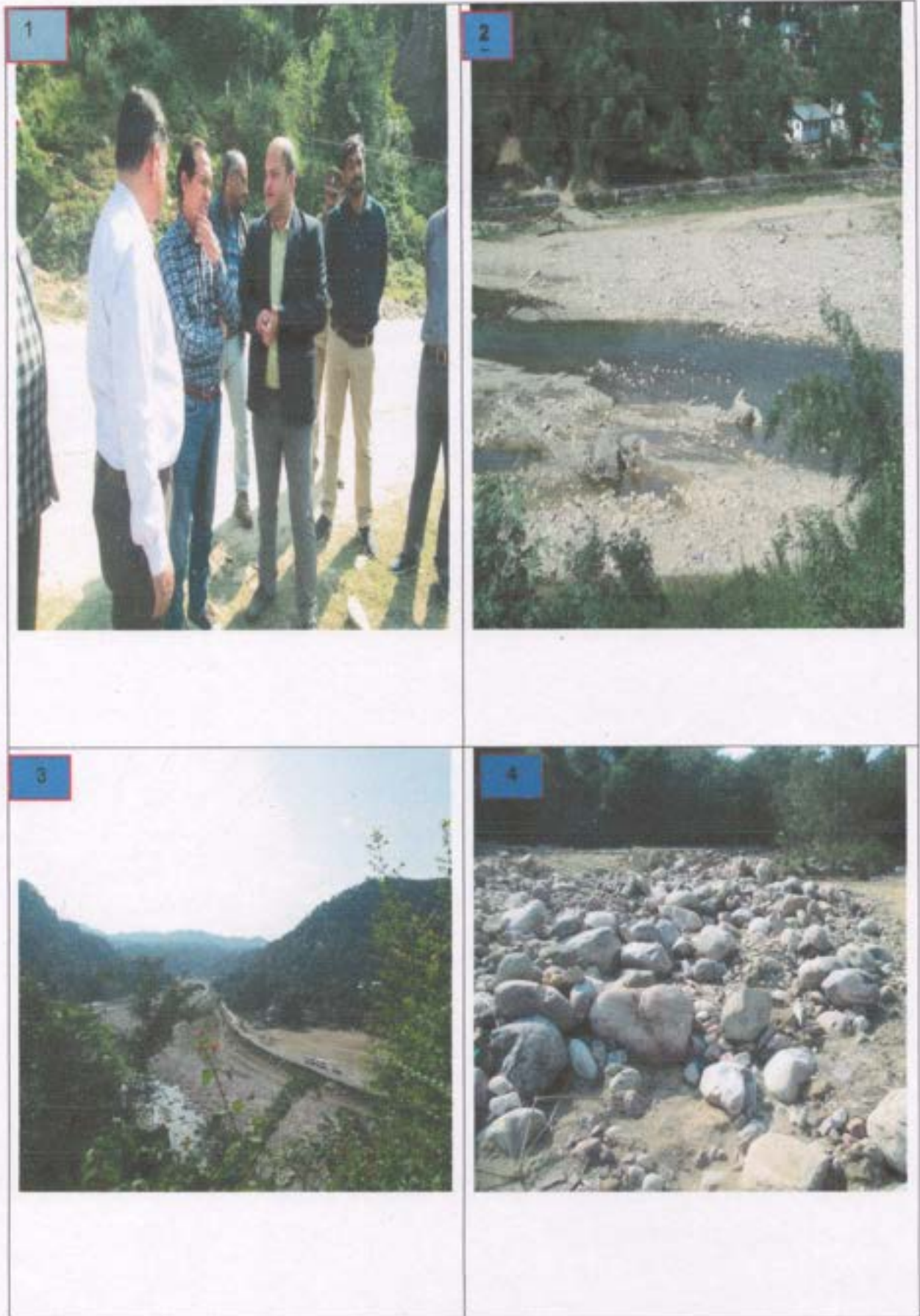


Fig -1: Discussion between the Officials of HPPCL and IRO, Shimla (Fig.-2-4) View of Quarry site-I Near Kalsawi

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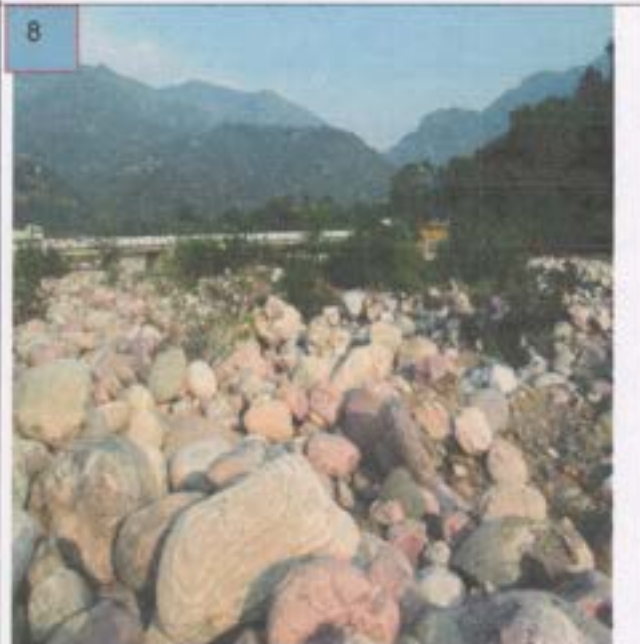
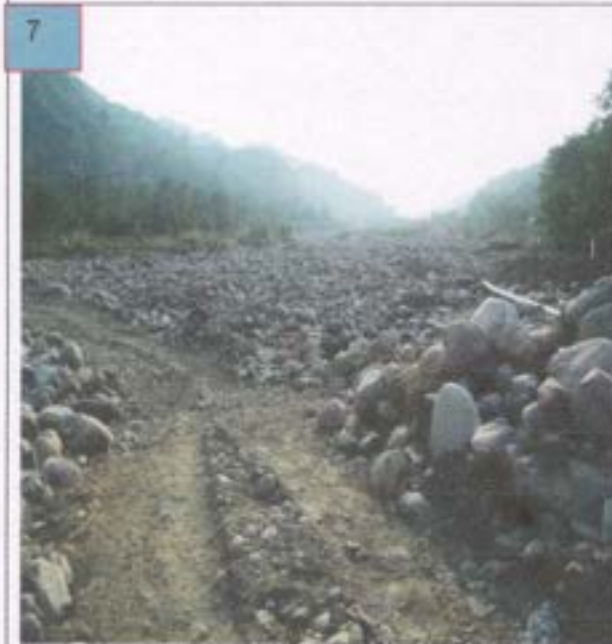
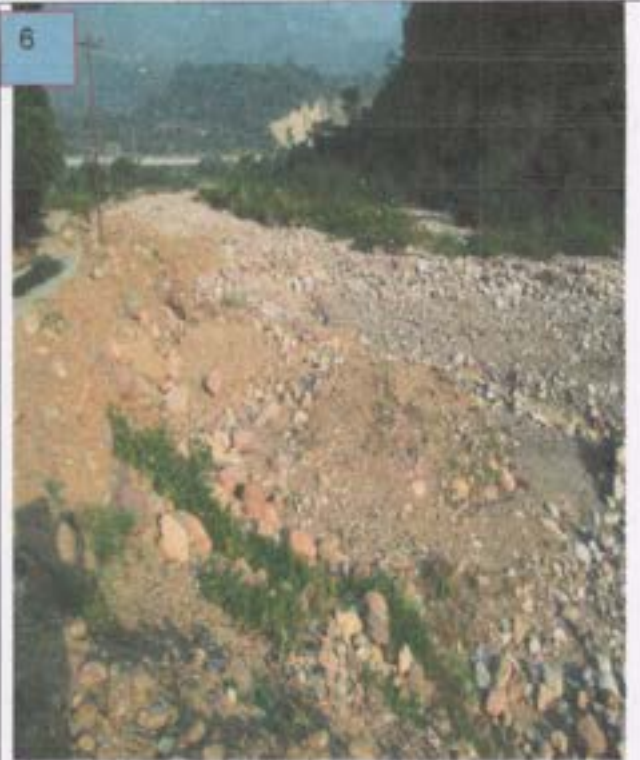


Fig-5-6: Glimpse of Query site at Thodu Nallah
Saklain khad

Fig-7-8:- Glimpse of Quarry Site at

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Fig 9-11: Glimpse of Query site –Prain **Fig 12:** Proposed Dumping sites-I **Fig 13:** Proposed Dumping sites-II **Fig-14:** Group photo with the Officials of HPPCL and Joginder Nagar

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Fig 15: Aerial view of Dumping site- I **Fig-16-17:** Aerial view of Dumping site- II **Fig-18:** Group photo with the Officials of HPPCL and Joginder Nagar Forest Division **Fig-19-20:** Proposed Road from Kandapatan Bridge to Dam site.





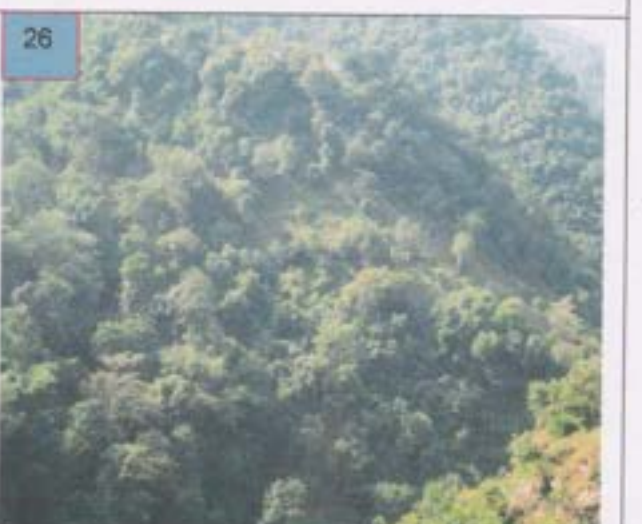


Fig-21: Submergence Area end point **Fig-22:** Group Photo with officials from HPPCL and Mandi Forest Division **Fig-23:** Sign Board of the Project site near Proposed Dam site **Fig-24:** View of Proposed DAM site **Fig-25:** Submergence area showing the affected Households **Fig-26 :** Proposed Approach road from Mahan Village to Dam Site

(Handwritten signatures and initials)

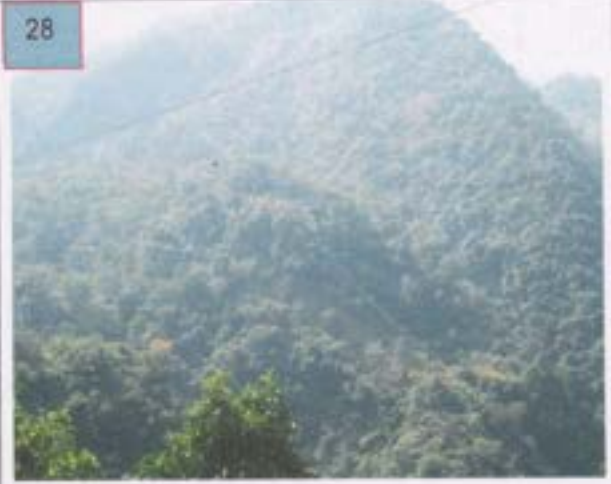


Fig-27: Dam Site to Village Ropru in Joginder Nagar Forest Division **Fig-28:** Mahan Village to Dam Site in Joginder Nagar Forest Division **Fig-29:** Sign Board of the Project site near Proposed Dam site **Fig-30:** Villages under submergence Area **Fig-31:** Bridge from Kotli to Kunkadhar under submerged area **Fig-32 :** Group Photo with officials from HPPCL, Mandi & Joginder Nagar Forest Division

(Handwritten signatures and initials)

1. Compensatory Afforestation:

Online Proposal no. FP/HP/HYD/8255/2014 (Thana Plaun HEP(191MW)

Date of Inspection: 18/07/2022

Detail of CA Site:-

- **Forest Division:** Karsog
- **Forest Range:** Pangna
- **Name of Forest:** Kot/114
- **Compartment / Khasra number:** Khasra No 373
- **Status of CA Land (UPF under Waste Land notification 1952 or UPF/DPF under IFA, 1927):** UPF Waste land (Chargah Bila Darakhtan)
- **Patch no.:** 06
- **Area of Patch:** 11.73 ha
- **Whether Proposed CA land is in vicinity to the area being proposed for diversion and/or contiguity with the existing forest area (Distance is also required):**
The proposed CA site is about 65 km from the diversion area.

Inspecting Officers from IRO, Shimla:

1. Ashwani Kumar, Assistant Director (i/c)
2. Pawan Kumar, Junior Technical Assistant

Officers/Staff from the State Forest Department present during the visit:

1. Sh. Puran Chand, Deputy Ranger
2. Sh. Kali Dass, forest Guard

Officers/Staff from User Agency present during site visit

1. Sh. Ishant Rai, Junior Officer (Environment)

i. Whether land for compensatory afforestation is suitable from plantation and management point of view or not.

The CA site lies at an elevation of 1339 m above the mean sea level and the slope of the site is about 32°. About 80% of the proposed CA site is MDF, primarily consists of *Pinus roxburghii*. Therefore CA site needs replacement.

ii. Whether land for compensatory afforestation is free from encroachments/ other encumbrances.

Yes

iii. Whether land for compensatory afforestation is important from Religious/ Archaeological point of view.

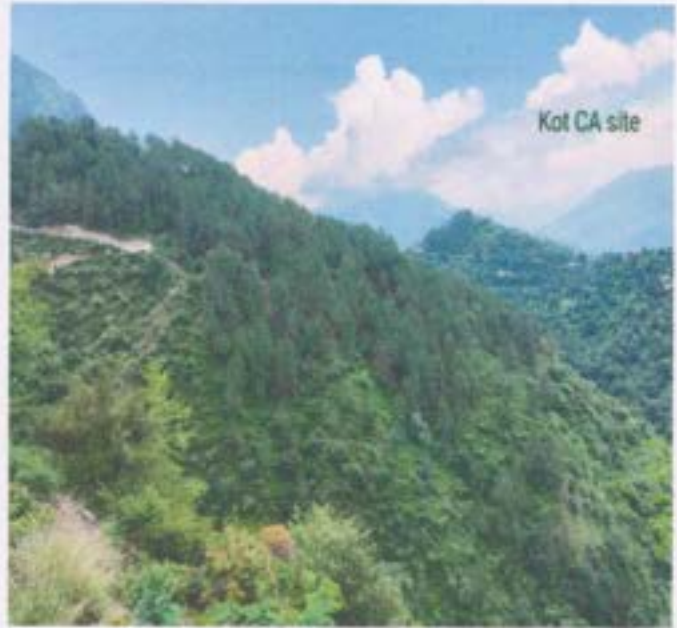
No

iv. Land identified for raising compensatory afforestation is in how many patches, whether patches are compact or not.


Total CA sites proposed are scattered in 45 patches

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v. Map with details (Photograph and Google Image of CA Site:



vi. Remarks: The proposed CA site has MDF predominantly of *Pinus roxburghii*. Therefore CA site is not suitable for plantation hence need replacement.


18/11/22

Signature with Date:

Name of the Inspecting Officer:

Designation:



2. Compensatory Afforestation:

Online Proposal no. FP/HP/HYD/8255/2014 (Thana Plaun HEP(191MW)

Date of Inspection: 18/07/2022

Detail of CA Site:-

- **Forest Division:** Karsog
- **Forest Range:** Pangna
- **Name of Forest:** Sawindhar, D-101 Nandho
- **Compartment / Khasra number:** Khasra Nos.2, 88, 612, 964, 2205/611, 2229/2209
- **Status of CA Land (UPF under Waste Land notification 1952 or UPF/DPF under IFA, 1927):** UPF Wasteland (Chargah Bila Darakhtan)
- **Patch no.:** 04
- **Area of Patch:** 71.35 ha
- **Whether Proposed CA land is in vicinity to the area being proposed for diversion and/or contiguity with the existing forest area (Distance is also required):** The proposed CA site is about 68 km from the diversion area.

Inspecting Officers from IRO, Shimla:

1. Ashwani Kumar, Assistant Director (i/c)
2. Pawan Kumar, Junior Technical Assistant

Officers/Staff from the State Forest Department present during the visit:

1. Sh. Puran Chand, Deputy Ranger
2. Sh. Kali Dass, forest Guard

Officers/Staff from User Agency present during site visit

1. Sh. Ishant Rai, Junior Officer (Environment)

i. Whether land for compensatory afforestation is suitable from plantation and management point of view or not.

The CA site consists of four patches. Three patches are interconnected and fourth patch lies at a distance. The fourth patch is not connected by road. The proposed CA site is a pasture land. Only few scattered trees are present. The slope of the CA site is about 36°. Only slope and rockiness are concern otherwise land is suitable for plantation.

ii. Whether land for compensatory afforestation is free from encroachments/ other encumbrances.

Yes

iii. Whether land for compensatory afforestation is important from Religious/ Archaeological point of view.

No ,

iv. Land identified for raising compensatory afforestation is in how many patches, whether patches are compact or not.


Total CA sites proposed are scattered in 45 patches



v. Map with details (Photograph and Google Image of CA Site):



vi. **Remarks:** Slope and rockiness are concern otherwise land is suitable for plantation.


18/7/22

Signature with Date:
Name of the Inspecting Officer:
Designation:



3. Compensatory Afforestation:

Online Proposal no. FP/HP/HYD/8255/2014 (Thana Plaun HEP(191MW)

Date of Inspection: 18/07/2022

Detail of CA Site:-

- **Forest Division:** Karsog
- **Forest Range:** Pangna
- **Name of Forest:** Jamnu, D-74 Parvain
- **Compartment / Khasra number:** Khasra Nos 25, 546, 548, 552, 554
- **Status of CA Land (UPF under Waste Land notification 1952 or UPF/DPF under IFA, 1927):** UPF Waste land (Chargah Bila Darakhtan)
- **Patch no.:** 02
- **Area of Patch:** 117.8 ha
- **Whether Proposed CA land is in vicinity to the area being proposed for diversion and/or contiguity with the existing forest area (Distance is also required):** The proposed CA site is about 63 km from the diversion area.

Inspecting Officers from IRO, Shimla:

1. Ashwani Kumar, Assistant Director (i/c)
2. Pawan Kumar, Junior Technical Assistant

Officers/Staff from the State Forest Department present during the visit:

1. Sh. Puran Chand, Deputy Ranger
2. Sh. Kali Dass, Forest Guard

Officers/Staff from User Agency present during site visit

1. Sh. Ishant Rai, Junior Officer (Environment)

i. Whether land for compensatory afforestation is suitable from plantation and management point of view or not.

The proposed CA site is a waste land. Only few scattered broad leaved trees are present. Slop is about 43°. Rockiness is also very high. The CA site is about 60m from road. Only rockiness and slop are concern otherwise land is suitable for plantation.

ii. Whether land for compensatory afforestation is free from encroachments/ other encumbrances.

Yes

iii. Whether land for compensatory afforestation is important from Religious/ Archaeological point of view.

No

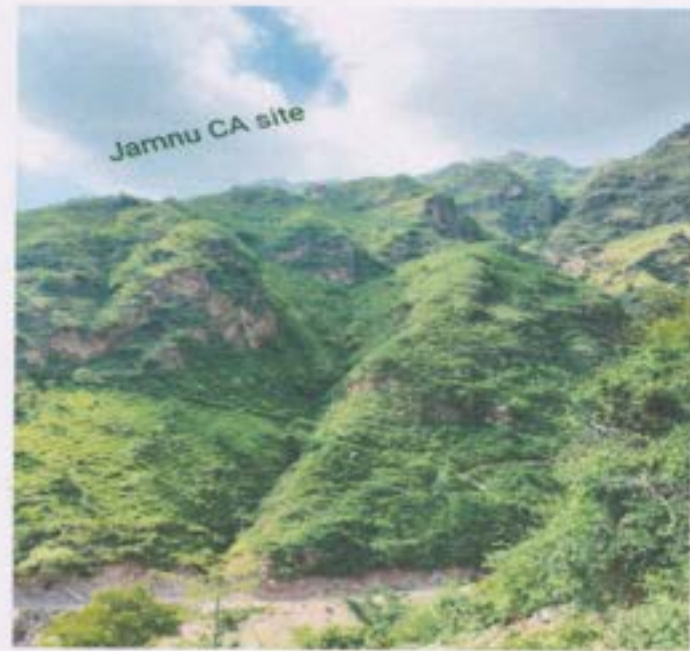
iv. Land identified for raising compensatory afforestation is in how many patches, whether patches are compact or not.

Total CA sites proposed are scattered in 45 patches

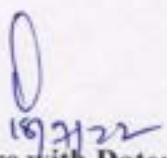
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18/7/22

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v. Map with details (Photograph and Google Image of CA Site:



vi. Remarks: Slope and rockiness are concern otherwise land is suitable for plantation.


Signature with Date:
Name of the Inspecting Officer:
Designation:



4. Compensatory Afforestation:

Online Proposal no. FP/HP/HYD/8255/2014 (Thana Plaun HEP(191MW)

Date of Inspection: 19/07/2022

Detail of CA Site:-

- **Forest Division:** Suket
- **Forest Range:** Jai-Devi
- **Name of Forest:** Shaishdhar, Adjacent Thikan DPF,
- **Compartment / Khasra number:** Khasra No 376
- **Status of CA Land (UPF under Waste Land notification 1952 or UPF/DPF under IFA, 1927):** UPF Waste land (Chargah Bila Drakhtan)
- **Patch no.:** 17
- **Area of Patch:** 05 ha
- **Whether Proposed CA land is in vicinity to the area being proposed for diversion and/or contiguity with the existing forest area (Distance is also required):** The proposed CA site is about 43 km from the diversion area.

Inspecting Officers from IRO, Shimla:

1. Ashwani Kumar, Assistant Director (i/c)
2. Pawan Kumar, Junior Technical Assistant

Officers/Staff from the State Forest Department present during the visit:

1. Sh. Sita Ram, Block Officer
2. Sh. Subhash Chand, Forest Guard
3. Sh. Ankush, Forest Guard

Officers/Staff from User Agency present during site visit

1. Sh. Ishant Rai, Junior Officer (Environment)

i. Whether land for compensatory afforestation is suitable from plantation and management point of view or not.

The CA site lies at an elevation of 1480 m above the mean sea level. The CA site has open forest of broad leaved species like *Emblica officinalis*, *Mallotus philippinensis*, *Bauhinia species*, *Toona ciliate* and *Pinus roxburghii*. CA site is suitable for gap plantation.

ii. Whether land for compensatory afforestation is free from encroachments/ other encumbrances.

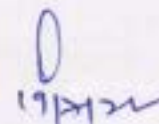
Yes

iii. Whether land for compensatory afforestation is important from Religious/ Archaeological point of view.

No

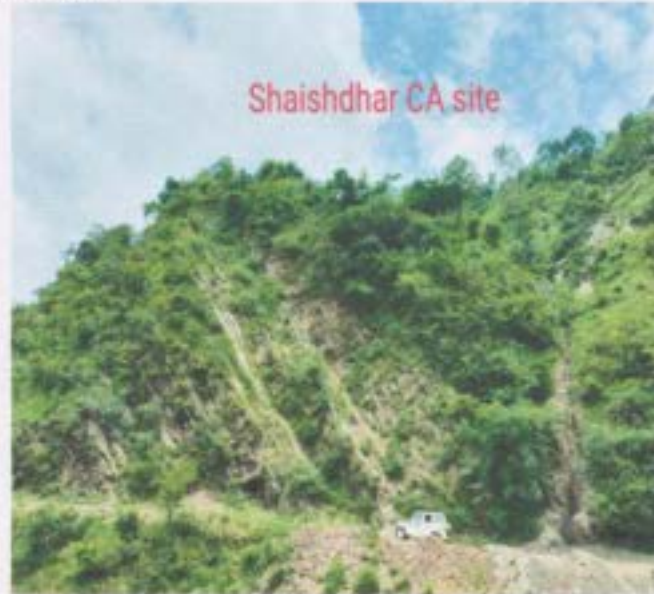
iv. Land identified for raising compensatory afforestation is in how many patches, whether patches are compact or not.

Total CA sites proposed are scattered in 45 patches






v. Map with details (Photograph and Google Image of CA Site:



vi. Remarks: CA site is suitable for gap plantation.


19/11/22

Signature with Date:

Name of the Inspecting Officer:

Designation:



5. Compensatory Afforestation:

Online Proposal no. FP/HP/HYD/8255/2014 (Thana Plaun HEP(191MW)

Date of Inspection: 19/07/2022

Detail of CA Site:-

- **Forest Division:** Suket
- **Forest Range:** Jai-Devi
- **Name of Forest:** Fatehpur, Garela
- **Compartment / Khasra number:** Khasra Nos. 50, 94
- **Status of CA Land (UPF under Waste Land notification 1952 or UPF/DPF under IFA, 1927):** UPF Wasteland (Chargah Bila Darakhtan)
- **Patch no.:** 15
- **Area of Patch:** 10 ha
- **Whether Proposed CA land is in vicinity to the area being proposed for diversion and/or contiguity with the existing forest area (Distance is also required):** The proposed CA site is about 42 km from the diversion area.

Inspecting Officers from IRO, Shimla:

1. Ashwani Kumar, Assistant Director (i/c)
2. Pawan Kumar, Junior Technical Assistant

Officers/Staff from the State Forest Department present during the visit:

1. Sh. Naveen Kumar, Forest Guard
2. Sh. Vijender Kumar, Forest Guard
3. Sh. Ankush, Forest Guard

Officers/Staff from User Agency present during site visit

1. Sh. Ishant Rai, Junior Officer (Environment)

i. Whether land for compensatory afforestation is suitable from plantation and management point of view or not.

The CA site lies at an elevation of 1645 m above the mean sea level. The CA site is 550 m from the road. CA site has few scattered trees of species like Pinus roxburghii, Myrica nagi (Kafal), Albizia lebbek (Kala siris) etc. CA site is suitable for plantation.

ii. Whether land for compensatory afforestation is free from encroachments/ other encumbrances.

Yes

iii. Whether land for compensatory afforestation is important from Religious/ Archaeological point of view.

No

iv. Land identified for raising compensatory afforestation is in how many patches, whether patches are compact or not.

Total CA sites proposed are scattered in 45 patches

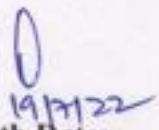
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v. Map with details (Photograph and Google Image of CA Site:



vi. Remarks: CA site is suitable for plantation.


Signature with Date:
Name of the Inspecting Officer:
Designation:



6. Compensatory Afforestation:

Online Proposal no. FP/HP/HYD/8255/2014 (Thana Plaun HEP(191MW)

Date of Inspection: 19/07/2022

Detail of CA Site:-

- **Forest Division:** Suket
- **Forest Range:** Jai-Devi
- **Name of Forest:** Hafwana
- **Compartment / Khasra number:** Khasra Nos. 228, 266,
- **Status of CA Land (UPF under Waste Land notification 1952 or UPF/DPF under IFA, 1927):** UPF Waste land (Chargah Bila Darakhtan)
- **Patch no.:** 20
- **Area of Patch:** 18 ha
- **Whether Proposed CA land is in vicinity to the area being proposed for diversion and/or contiguity with the existing forest area (Distance is also required):** The proposed CA site is about 41 km from the diversion area.

Inspecting Officers from IRO, Shimla:

1. Ashwani Kumar, Assistant Director (i/c)
2. Pawan Kumar, Junior Technical Assistant

Officers/Staff from the State Forest Department present during the visit:

1. Sh. Naveen Kumar, Forest Guard
2. Sh. Vijender Kumar, Forest Guard

Officers/Staff from User Agency present during site visit

1. Sh. Ishant Rai, Junior Officer (Environment)

i. Whether land for compensatory afforestation is suitable from plantation and management point of view or not.

The CA site has two patches of 9 ha each. Patch -1 has MDF of Deodar. Therefore patch – 1 is not suitable for plantation. Patch- 2 has few scattered trees of *Pinus roxburghii* and broad leaved species. Hence patch- 2 is suitable for plantation.

ii. Whether land for compensatory afforestation is free from encroachments/ other encumbrances.

Yes

iii. Whether land for compensatory afforestation is important from Religious/ Archaeological point of view.

No


iv. Land identified for raising compensatory afforestation is in how many patches, whether patches are compact or not.

Total CA sites proposed are scattered in 45 patches

v. Map with details (Photograph and Google Image of CA Site:



vi. Remarks: Patch – 1 is not suitable for plantation and patch- 2 is suitable for plantation.


19/1/22

Signature with Date:
Name of the Inspecting Officer:
Designation:



7. Compensatory Afforestation:

Online Proposal no. FP/HP/HYD/8255/2014 (Thana Plaun HEP(191MW)

Date of Inspection: 19/07/2022

Detail of CA Site:-

- **Forest Division:** Suket
- **Forest Range:** Jai-Devi
- **Name of Forest:** Naval, Near DPF Banani
- **Compartment / Khasra number:** Khasra No 167
- **Status of CA Land (UPF under Waste Land notification 1952 or UPF/DPF under IFA, 1927):** UPF Waste land (Chargah Bila Darakhtan)
- **Patch no.:** 14
- **Area of Patch:** 06 ha
- **Whether Proposed CA land is in vicinity to the area being proposed for diversion and/or contiguity with the existing forest area (Distance is also required):** The proposed CA site is about 41 km from the diversion area.

Inspecting Officers from IRO, Shimla:

1. Ashwani Kumar, Assistant Director (i/c)
2. Pawan Kumar, Junior Technical Assistant

Officers/Staff from the State Forest Department present during the visit:

1. Sh. Naveen Kumar, Forest Guard
2. Sh. Vijender Kumar, Forest Guard

Officers/Staff from User Agency present during site visit

1. Sh. Ishant Rai, Junior Officer (Environment)

i. Whether land for compensatory afforestation is suitable from plantation and management point of view or not.

The CA site lies at an elevation of 1716 m and having slop of about 42°. CA site is a grassland and suitable for plantation.

ii. Whether land for compensatory afforestation is free from encroachments/ other encumbrances.

Yes

iii. Whether land for compensatory afforestation is important from Religious/ Archaeological point of view.

No

iv. Land identified for raising compensatory afforestation is in how many patches, whether patches are compact or not.

Total CA sites proposed are scattered in 45 patches

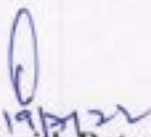
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19/07/22



v. Map with details (Photograph and Google Image of CA Site:



vi. Remarks: CA site is suitable for plantation.


Signature with Date: 19/1/22
Name of the Inspecting Officer:
Designation:



8. Compensatory Afforestation:

Online Proposal no. FP/HP/HYD/8255/2014 (Thana Plaun HEP(191MW)

Date of Inspection: 19/07/2022

Detail of CA Site:-

- **Forest Division:** Suket
- **Forest Range:** Jai-Devi
- **Name of Forest:** Bhalana
- **Compartment / Khasra number:** Khasra No – 174, 291
- **Status of CA Land (UPF under Waste Land notification 1952 or UPF/DPF under IFA, 1927):** UPF Waste land (Chargah Bila Drakhtan)
- **Patch no.:** 16
- **Area of Patch:** 05 ha
- **Whether Proposed CA land is in vicinity to the area being proposed for diversion and/or contiguity with the existing forest area (Distance is also required):** The proposed CA site is about 39 km from the diversion area.

Inspecting Officers from IRO, Shimla:

1. Ashwani Kumar, Assistant Director (i/c)
2. Pawan Kumar, Junior Technical Assistant

Officers/Staff from the State Forest Department present during the visit:

1. Sh. Naveen Kumar, Forest Guard
2. Sh. Vijender Kumar, Forest Guard

Officers/Staff from User Agency present during site visit

1. Sh. Ishant Rai, Junior Officer (Environment)

i. Whether land for compensatory afforestation is suitable from plantation and management point of view or not.

The CA site has scattered trees of *Pinus roxburghii*, *Myrica nagi (kafal)*, *Embllica officinalis*, *Ficus species* etc. CA site is about 1Km from road side. CA site is suitable for plantation.

ii. Whether land for compensatory afforestation is free from encroachments/ other encumbrances.

Encroachment is there within the proposed CA site.

iii. Whether land for compensatory afforestation is important from Religious/ Archaeological point of view.

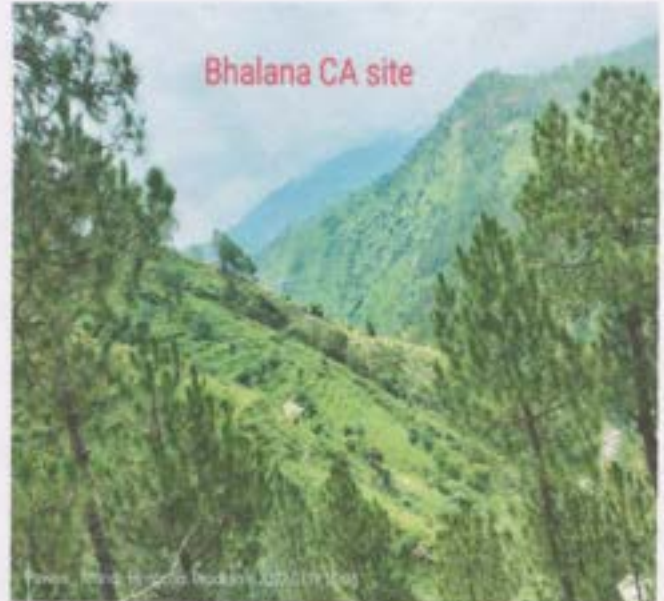
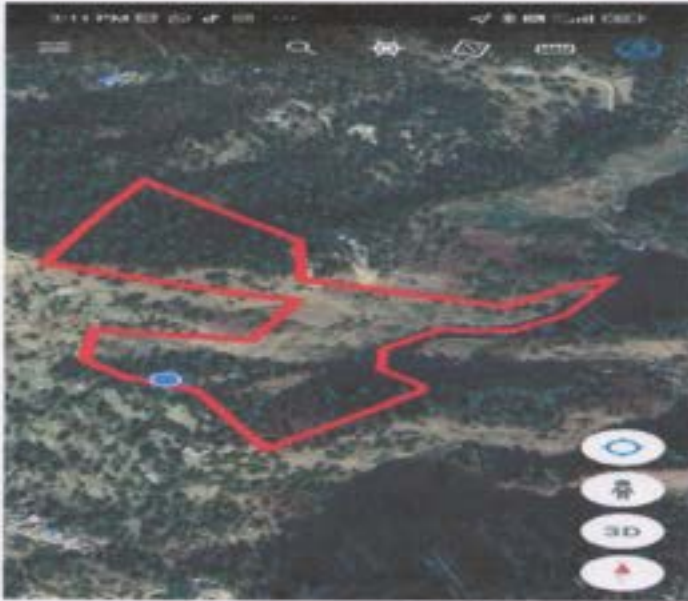
No

iv. Land identified for raising compensatory afforestation is in how many patches, whether patches are compact or not.

Total CA sites proposed are scattered in 45 patches


19/07/22

v. Map with details (Photograph and Google Image of CA Site:



vi. Remarks: Agriculture land is there within the CA site.

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19/12/22

Signature with Date:
Name of the Inspecting Officer:
Designation:

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9. Compensatory Afforestation:

Online Proposal no. FP/HP/HYD/8255/2014 (Thana Plaun HEP(191MW)

Date of Inspection: 20/07/2022

Detail of CA Site:-

- **Forest Division:** Suket
- **Forest Range:** Kangoo
- **Name of Forest:** Gamoh
- **Compartment / Khasra number:** Khasra No - 550
- **Status of CA Land (UPF under Waste Land notification 1952 or UPF/DPF under IFA, 1927):** UPF Waste land (Chargah Bila Darakhtan)
- **Patch no.:** 09
- **Area of Patch:** 09 ha
- **Whether Proposed CA land is in vicinity to the area being proposed for diversion and/or contiguity with the existing forest area (Distance is also required):** The proposed CA site is about 42 km from the diversion area.

Inspecting Officers from IRO, Shimla:

1. Ashwani Kumar, Assistant Director (i/c)
2. Pawan Kumar, Junior Technical Assistant

Officers/Staff from the State Forest Department present during the visit:

1. Sh. Ravi Kumar, Forest Guard
2. Sh. Dharam Singh, Forest Worker

Officers/Staff from User Agency present during site visit

1. Sh. Ishant Rai, Junior Officer (Environment)

i. Whether land for compensatory afforestation is suitable from plantation and management point of view or not.

The CA site has open forest of species like *Dalbergia sissoo*, *Mallotus philippinensis*, etc. The portion of the CA site has been selected for plantation under JICA scheme. Therefore CA site need replacement.

ii. Whether land for compensatory afforestation is free from encroachments/ other encumbrances.

Yes

iii. Whether land for compensatory afforestation is important from Religious/ Archaeological point of view.

No

iv. Land identified for raising compensatory afforestation is in how many patches, whether patches are compact or not.

Total CA sites proposed are scattered in 45 patches.

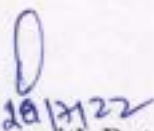
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v. Map with details (Photograph and Google Image of CA Site:



vi. **Remarks:** Since portion of CA site has already been selected for plantation, therefore needs replacement.


20/3/22
Signature with Date:
Name of the Inspecting Officer:
Designation:



10. Compensatory Afforestation:

Online Proposal no. FP/HP/HYD/8255/2014 (Thana Plaun HEP(191MW)

Date of Inspection: 20/07/2022

Detail of CA Site:-

- **Forest Division:** Suket
- **Forest Range:** Kangoo
- **Name of Forest:** Gamoh
- **Compartment / Khasra number:** Khasra No - 1040/992
- **Status of CA Land (UPF under Waste Land notification 1952 or UPF/DPF under IFA, 1927):** UPF Waste land (Chargah Billa Drakhtan)
- **Patch no.:** 10
- **Area of Patch:** 07 ha
- **Whether Proposed CA land is in vicinity to the area being proposed for diversion and/or contiguity with the existing forest area (Distance is also required):** The proposed CA site is about 42 km from the diversion area.

Inspecting Officers from IRO, Shimla:

1. Ashwani Kumar, Assistant Director (i/c)
2. Pawan Kumar, Junior Technical Assistant

Officers/Staff from the State Forest Department present during the visit:

1. Sh. Ravi Kumar, Forest Guard
2. Sh. Dharam Singh, Forest Worker

Officers/Staff from User Agency present during site visit

1. Sh. Ishant Rai, Junior Officer (Environment)

i. Whether land for compensatory afforestation is suitable from plantation and management point of view or not.

The CA site has Moderately Dense Forest of species like *Dalbergia sissoo*, *Acacia catechu*, *Cassia fistula* etc. *Dalbergia sissoo* plantation has been done in 2005. Therefore CA site need replacement.

ii. Whether land for compensatory afforestation is free from encroachments/ other encumbrances.

Yes

iii. Whether land for compensatory afforestation is important from Religious/ Archaeological point of view.

No

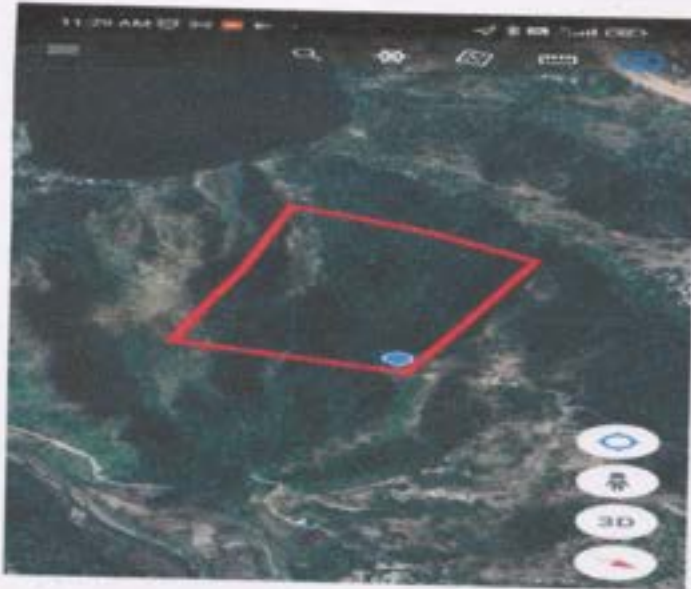
iv. Land identified for raising compensatory afforestation is in how many patches, whether patches are compact or not.

Total CA sites proposed are scattered in 45 patches.

20/7/22



v. Map with details (Photograph and Google Image of CA Site:



vi. Remarks: CA site need replacement.

(Signature)
20/3/22

Signature with Date:
Name of the Inspecting Officer:
Designation:

(Signature)

11. Compensatory Afforestation:

Online Proposal no. FP/HP/HYD/8255/2014 (Thana Plaun HEP(191MW))

Date of Inspection: 20/07/2022

Detail of CA Site:-

- Forest Division: Suket
- Forest Range: Kangoo
- Name of Forest: Khanokhar
- Compartment / Khasra number: Khasra No 882
- Status of CA Land (UPF under Waste Land notification 1952 or UPF/DPF under IFA, 1927): UPF Waste land (Chargah Bila Darakhtan)
- Patch no.: 12
- Area of Patch: 06 ha
- Whether Proposed CA land is in vicinity to the area being proposed for diversion and/or contiguity with the existing forest area (Distance is also required): The proposed CA site is about 39 km from the diversion area.

Inspecting Officers from IRO, Shimla:

1. Ashwani Kumar, Assistant Director (i/c)
2. Pawan Kumar, Junior Technical Assistant

Officers/Staff from the State Forest Department present during the visit:

1. Sh. Ravi Kumar, Forest Guard
2. Sh. Dharam Singh, Forest Worker

Officers/Staff from User Agency present during site visit

1. Sh. Ishant Rai, Junior Officer (Environment)

i. Whether land for compensatory afforestation is suitable from plantation and management point of view or not.

The CA site has open forest of mainly *Pinus roxburghii*, and other species like *Dalbergia sissoo*, *Albizia species*, *Bombax ceiba*, etc. CA site is suitable for plantation.

ii. Whether land for compensatory afforestation is free from encroachments/ other encumbrances.

Yes

iii. Whether land for compensatory afforestation is important from Religious/ Archaeological point of view.

No

iv. Land identified for raising compensatory afforestation is in how many patches, whether patches are compact or not.

Total CA sites proposed are scattered in 45 patches.

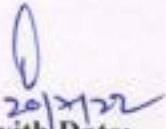
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20/7/22

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v. Map with details (Photograph and Google Image of CA Site:



vi. Remarks: CA site is suitable for plantation.


Signature with Date: 20/1/22
Name of the Inspecting Officer:
Designation:



12. Compensatory Afforestation:

Online Proposal no. FP/HP/HYD/8255/2014 (Thana Plaun HEP(191MW)

Date of Inspection: 20/07/2022

Detail of CA Site:-

- **Forest Division:** Suket
- **Forest Range:** Kangoo
- **Name of Forest:** Koon
- **Compartment / Khasra number:** Khasra No. - 318
- **Status of CA Land (UPF under Waste Land notification 1952 or UPF/DPF under IFA, 1927):** UPF Waste land (Chargah Bila Drakhtan)
- **Patch no.:**13
- **Area of Patch:** 05 ha
- **Whether Proposed CA land is in vicinity to the area being proposed for diversion and/or contiguity with the existing forest area (Distance is also required):** The proposed CA site is about 38 km from the diversion area.

Inspecting Officers from IRO, Shimla:

3. Ashwani Kumar, Assistant Director (i/c)
4. Pawan Kumar, Junior Technical Assistant

Officers/Staff from the State Forest Department present during the visit:

3. Sh. Ravi Kumar, Forest Guard
4. Sh. Dharam Singh, Forest Worker

Officers/Staff from User Agency present during site visit

1. Sh. Ishant Rai, Junior Officer (Environment)

vii. Whether land for compensatory afforestation is suitable from plantation and management point of view or not.

The CA site has open forest of mainly *Pinus roxburghii*, and other species like *Dalbergia sissoo*, *Albizia species*, *Bombax ceiba*, etc. CA site is suitable for plantation.

viii. Whether land for compensatory afforestation is free from encroachments/ other encumbrances.

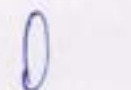
Yes

ix. Whether land for compensatory afforestation is important from Religious/ Archaeological point of view.

No

x. Land identified for raising compensatory afforestation is in how many patches, whether patches are compact or not.

Total CA sites proposed are scattered in 45 patches.


20/07/22



xi. Map with details (Photograph and Google Image of CA Site:



xii. Remarks: CA site is suitable for plantation.

[Handwritten signature]
20/1/22

Signature with Date:
Name of the Inspecting Officer:
Designation:

[Handwritten signature]

13. Compensatory Afforestation:

Online Proposal No. FP/HP/HYD/8255/2014 (Thana Plaun HEP (191MW)

Date of Inspection: 20/07/2022

Detail of CA Site:-

- **Forest Division:** Suket
- **Forest Range:** Kangoo
- **Name of Forest:** Kunaila
- **Compartment / Khasra number:** Khasra No. - 434
- **Status of CA Land (UPF under Waste Land notification 1952 or UPF/DPF under IFA, 1927):** UPF Waste land (Chargah Bila Darakhtan)
- **Patch no.:** 11
- **Area of Patch:** 06 ha
- **Whether Proposed CA land is in vicinity to the area being proposed for diversion and/or contiguity with the existing forest area (Distance is also required):** The proposed CA site is about 38 km from the diversion area.

Inspecting Officers from IRO, Shimla:

1. Ashwani Kumar, Assistant Director (i/c)
2. Pawan Kumar, Junior Technical Assistant

Officers/Staff from the State Forest Department present during the visit:

1. Sh. Ravi Kumar, Forest Guard
2. Smt. Renu Thakur, Forest Guard

Officers/Staff from User Agency present during site visit

1. Sh. Ishant Rai, Junior Officer (Environment)

i. Whether land for compensatory afforestation is suitable from plantation and management point of view or not.

The proposed CA site is grassland having only few scattered trees of Pinus roxburghii and other broad leaved species. Ca site is suitable for plantation.

Whether land for compensatory afforestation is free from encroachments/ other encumbrances.

Yes

ii. Whether land for compensatory afforestation is important from Religious/ Archaeological point of view.

No

iii. Land identified for raising compensatory afforestation is in how many patches, whether patches are compact or not.

Total CA sites proposed are scattered in 45 patches.

0
20/7/22



iv. Map with details (Photograph and Google Image of CA Site:



v. Remarks: CA site is suitable for plantation.

[Handwritten signature]
20/7/22

Signature with Date:
Name of the Inspecting Officer:
Designation:

[Handwritten signature]

14. Compensatory Afforestation:

Online Proposal no. FP/HP/HYD/8255/2014 (Thana Plaun HEP(191MW))

Date of Inspection: 20/07/2022

Detail of CA Site:-

- Forest Division: Suket
- Forest Range: Kangoo
- Name of Forest: Batwada
- Compartment / Khasra number: Khasra No. - 292
- Status of CA Land (UPF under Waste Land notification 1952 or UPF/DPF under IFA, 1927): UPF Waste land (Chargah Bila Darakhtan)
- Patch no.: 08
- Area of Patch: 08 ha
- Whether Proposed CA land is in vicinity to the area being proposed for diversion and/or contiguity with the existing forest area (Distance is also required): The proposed CA site is about 48 km from the diversion area.

Inspecting Officers from IRO, Shimla:

1. Ashwani Kumar, Assistant Director (i/c)
2. Pawan Kumar, Junior Technical Assistant

Officers/Staff from the State Forest Department present during the visit:

1. Sandeep Kumar, Forest Guard

Officers/Staff from User Agency present during site visit

1. Sh. Ishant Rai, Junior Officer (Environment)

i. Whether land for compensatory afforestation is suitable from plantation and management point of view or not.

The CA site is an open scrub and is suitable for plantation.

ii. Whether land for compensatory afforestation is free from encroachments/ other encumbrances.

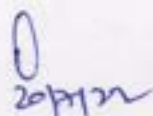
Yes

iii. Whether land for compensatory afforestation is important from Religious/ Archaeological point of view.

No

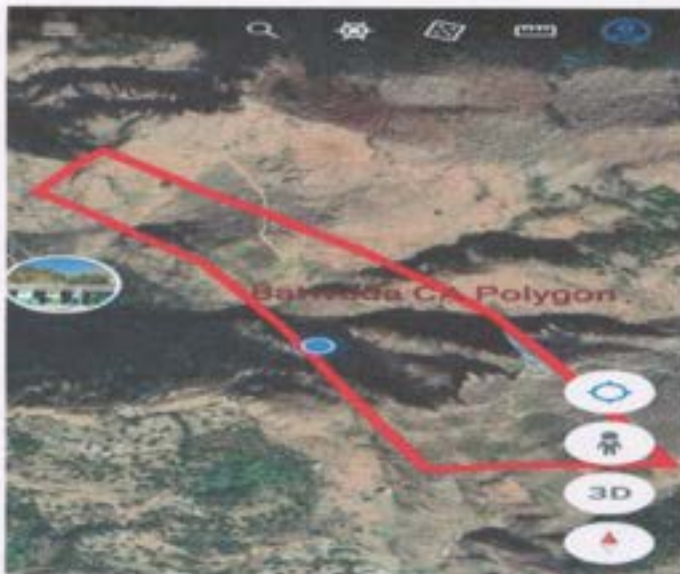
iv. Land identified for raising compensatory afforestation is in how many patches, whether patches are compact or not.

Total CA sites proposed are scattered in 45 patches.



20/07/22



v. Map with details (Photograph and Google Image of CA Site):



vi. Remarks: CA site is suitable for plantation.


20/11/22
Signature with Date:
Name of the Inspecting Officer:
Designation:



15. Compensatory Afforestation:

Online Proposal no. FP/HP/HYD/8255/2014 (Thana Plaun HEP(191MW)

Date of Inspection: 21/07/2022

Detail of CA Site:-

- **Forest Division:** Mandi
- **Forest Range:** Kataula
- **Name of Forest:** Bambola
- **Compartment / Khasra number:** Khasra No. – 207, 210, 244
- **Status of CA Land (UPF under Waste Land notification 1952 or UPF/DPF under IFA, 1927):** UPF Waste land (Chargah Bila Darakhtan)
- **Patch no.:** 03
- **Area of Patch:** 25.73 ha
- **Whether Proposed CA land is in vicinity to the area being proposed for diversion and/or contiguity with the existing forest area (Distance is also required):** The proposed CA site is about 25 km from the diversion area.

Inspecting Officers from IRO, Shimla:

1. Ashwani Kumar, Assistant Director (i/c)
2. Pawan Kumar, Junior Technical Assistant

Officers/Staff from the State Forest Department present during the visit:

1. Sh. Kesar Singh, Forest Guard

Officers/Staff from User Agency present during site visit

1. Sh. Ishant Rai, Junior Officer (Environment)

i. Whether land for compensatory afforestation is suitable from plantation and management point of view or not.

The CA site is grass land and is about 1 Km from road. There is also resentment of local people about plantation because this site is used by them for grazing purpose. Although CA site is suitable for plantation.

ii. Whether land for compensatory afforestation is free from encroachments/ other encumbrances.

Yes

iii. Whether land for compensatory afforestation is important from Religious/ Archaeological point of view.

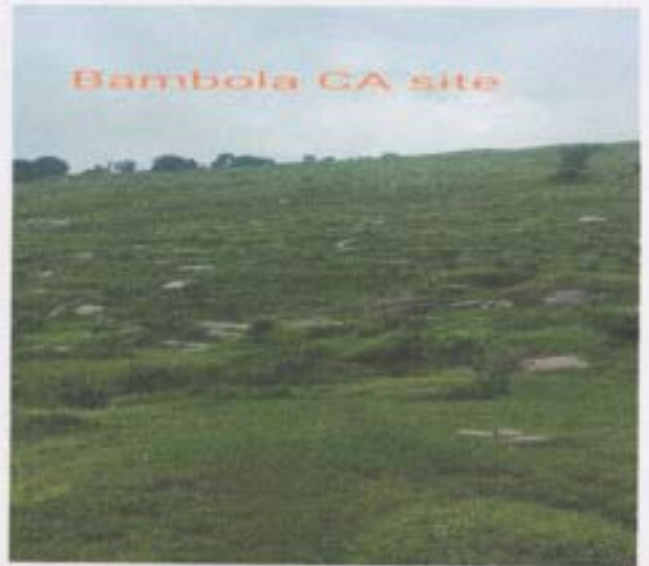
Yes, Shehla Mata Mandir is at the top of the CA site.

iv. Land identified for raising compensatory afforestation is in how many patches, whether patches are compact or not.

Total CA sites proposed are scattered in 45 patches.

v. Map with details (Photograph and Google Image of CA Site:



vi. Remarks: CA site is suitable for plantation.

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21/3/22

Signature with Date:
Name of the Inspecting Officer:
Designation:

[Handwritten signature]

16. Compensatory Afforestation:

Online Proposal no. FP/HP/HYD/8255/2014 (Thana Plaun HEP(191MW)

Date of Inspection: 21/07/2022

Detail of CA Site:-

- **Forest Division:** Mandi
- **Forest Range:** Kataula
- **Name of Forest:** Solang
- **Compartment / Khasra number:** Khasra no.- 414, 419
- **Status of CA Land (UPF under Waste Land notification 1952 or UPF/DPF under IFA, 1927):** UPF Waste land (Chargah Bila Darakhtan)
- **Patch no.:** 07
- **Area of Patch:** 6.07 ha
- **Whether Proposed CA land is in vicinity to the area being proposed for diversion and/or contiguity with the existing forest area (Distance is also required):** The proposed CA site is about 26 km from the diversion area.

Inspecting Officers from IRO, Shimla:

1. Ashwani Kumar, Assistant Director (i/c)
2. Pawan Kumar, Junior Technical Assistant

Officers/Staff from the State Forest Department present during the visit:

1. Sh. Rakesh Kumar, Dy Ranger
2. Ms Bharti, Forest Guard

Officers/Staff from User Agency present during site visit

1. Sh. Ishant Rai, Junior Officer (Environment)

i. Whether land for compensatory afforestation is suitable from plantation and management point of view or not.

The CA site has open forest of species like Deodar, Ban oak etc and CA site is already planted of Deodar species. Hence CA site is suitable for gap plantation.

ii. Whether land for compensatory afforestation is free from encroachments/ other encumbrances.

Yes

iii. Whether land for compensatory afforestation is important from Religious/ Archaeological point of view.

No

iv. Land identified for raising compensatory afforestation is in how many patches, whether patches are compact or not.

Total CA sites proposed are scattered in 45 patches.

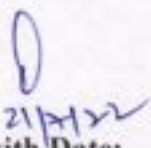
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21/07/22



v. Map with details (Photograph and Google Image of CA Site):



vi. Remarks: CA site is suitable for gap plantation.


Signature with Date:
Name of the Inspecting Officer:
Designation:



17. Compensatory Afforestation:

Online Proposal no. FP/HP/HYD/8255/2014 (Thana Plaun HEP(191MW))

Date of Inspection: 20/07/2022

Detail of CA Site:-

- Forest Division: Mandi
- Forest Range: Kataula
- Name of Forest: Suran
- Compartment / Khasra number: Khasra no.- 139, 215
- Status of CA Land (UPF under Waste Land notification 1952 or UPF/DPF under IFA, 1927): UPF Waste land (Chargah Bila Darakhtan)
- Patch no.: 05
- Area of Patch: 17.64 ha
- Whether Proposed CA land is in vicinity to the area being proposed for diversion and/or contiguity with the existing forest area (Distance is also required): The proposed CA site is about 26 km from the diversion area.

Inspecting Officers from IRO, Shimla:

1. Ashwani Kumar, Assistant Director (i/c)
2. Pawan Kumar, Junior Technical Assistant

Officers/Staff from the State Forest Department present during the visit:

1. Sh. Rakesh Kumar, Dy. Ranger
2. Ms Bharti, Forest Guard

Officers/Staff from User Agency present during site visit

1. Sh. Ishant Rai, Junior Officer (Environment)

i. Whether land for compensatory afforestation is suitable from plantation and management point of view or not.

The CA site has Dense Forest of species like *Pinus Wallichiana*, *Rhododendron* etc. CA site is not suitable for plantation.

ii. Whether land for compensatory afforestation is free from encroachments/ other encumbrances.

Yes

iii. Whether land for compensatory afforestation is important from Religious/ Archaeological point of view.

No

iv. Land identified for raising compensatory afforestation is in how many patches, whether patches are compact or not.

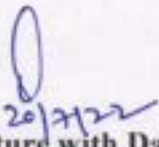
Total CA sites proposed are scattered in 45 patches.

20/7/22

v. Map with details (Photograph and Google Image of CA Site:



vi. Remarks: CA site is not suitable for plantation.


Signature with Date:
Name of the Inspecting Officer:
Designation:



18. Compensatory Afforestation:

Online Proposal no. FP/HP/HYD/8255/2014 (Thana Plaun HEP(191MW)

Date of Inspection: 22/07/2022

Detail of CA Site:-

- **Forest Division:** Mandi
- **Forest Range:** Kataula
- **Name of Forest:** Halog DPF,
- **Compartment / Khasra number:** Compartment-Whole, Beat - Kammand
- **Status of CA Land (UPF under Waste Land notification 1952 or UPF/DPF under IFA, 1927):(DPF under IFA, 1927)**
- **Patch no.:** 18
- **Area of Patch:** 08 ha
- **Whether Proposed CA land is in vicinity to the area being proposed for diversion and/or contiguity with the existing forest area (Distance is also required):** The proposed CA site is about 16 km from the diversion area.

Inspecting Officers from IRO, Shimla:

1. Ashwani Kumar, Assistant Director (i/c)
2. Pawan Kumar, Junior Technical Assistant

Officers/Staff from the State Forest Department present during the visit:

1. Sh. Dharam Chand, Forest Worker

Officers/Staff from User Agency present during site visit

1. Sh. Ishant Rai, Junior Officer (Environment)

i. Whether land for compensatory afforestation is suitable from plantation and management point of view or not.

The CA site has open forest of species like *Pinus roxburghii*, *Phoenix sylvestris*, *Myrica nagi* etc. CA site is suitable for plantation.

ii. Whether land for compensatory afforestation is free from encroachments/ other encumbrances.

Yes

iii. Whether land for compensatory afforestation is important from Religious/ Archaeological point of view.

No

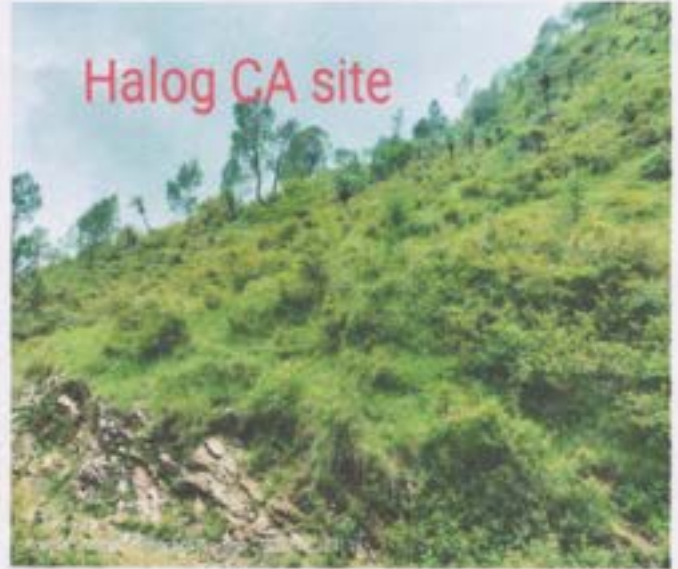
iv. Land identified for raising compensatory afforestation is in how many patches, whether patches are compact or not.

Total CA sites proposed are scattered in 45 patches.

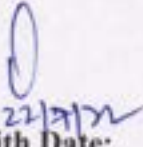
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22/7/22



v. Map with details (Photograph and Google Image of CA Site:



vi. Remarks: CA site is suitable for plantation.


Signature with Date:
Name of the Inspecting Officer:
Designation:



19. Compensatory Afforestation:

Online Proposal no. FP/HP/HYD/8255/2014 (Thana Plaun HEP(191MW)

Date of Inspection: 22/07/2022

Detail of CA Site:-

- **Forest Division:** Mandi
- **Forest Range:** Kataula
- **Name of Forest:** Nerinishoo, Neri DPF
- **Compartment / Khasra number:** Compartment-Whole, Beat - Kammand
- **Status of CA Land (UPF under Waste Land notification 1952 or UPF/DPF under IFA, 1927):** DPF (DPF under IFA, 1927)
- **Patch no.:** 13
- **Area of Patch:** 10 ha
- **Whether Proposed CA land is in vicinity to the area being proposed for diversion and/or contiguity with the existing forest area (Distance is also required):** The proposed CA site is about 16 km from the diversion area.

Inspecting Officers from IRO, Shimla:

1. Ashwani Kumar, Assistant Director (i/c)
2. Pawan Kumar, Junior Technical Assistant

Officers/Staff from the State Forest Department present during the visit:

2. Sh. Dharam Chand, Forest Worker

Officers/Staff from User Agency present during site visit

1. Sh. Ishant Rai, Junior Officer (Environment)

i. Whether land for compensatory afforestation is suitable from plantation and management point of view or not.

The CA site has open forest of species like *Pinus roxburghii*, *Albizia odoratissima* etc. CA site is suitable for plantation.

ii. Whether land for compensatory afforestation is free from encroachments/ other encumbrances.

Yes

iii. Whether land for compensatory afforestation is important from Religious/ Archaeological point of view.

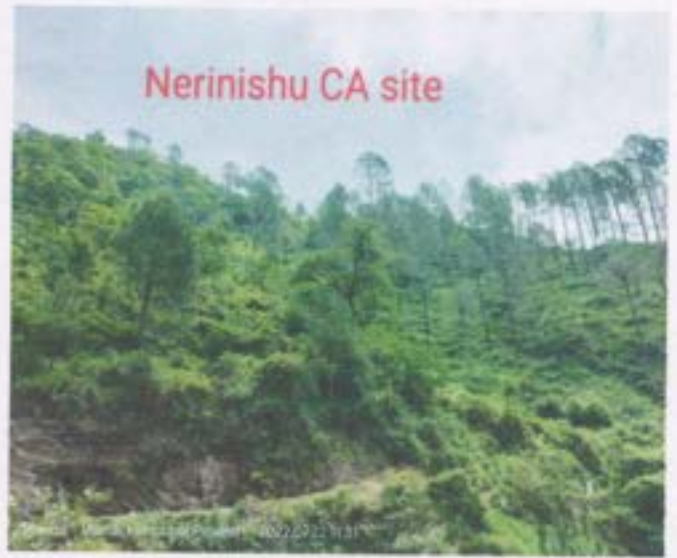
No

iv. Land identified for raising compensatory afforestation is in how many patches, whether patches are compact or not.

Total CA sites proposed are scattered in 45 patches.

22/7/22

v. Map with details (Photograph and Google Image of CA Site:



vi. Remarks: CA site is suitable for plantation.

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22/3/22

Signature with Date:
Name of the Inspecting Officer:
Designation:

[Handwritten signature]

20. Compensatory Afforestation:

Online Proposal no. FP/HP/HYD/8255/2014 (Thana Plaun HEP(191MW)

Date of Inspection: 22/07/2022

Detail of CA Site:-

- **Forest Division:** Mandi
- **Forest Range:** Kataula
- **Name of Forest:** Junah DPF
- **Compartment / Khasra number:** Compartment-Whole, Beat - Kammand
- **Status of CA Land (UPF under Waste Land notification 1952 or UPF/DPF under IFA, 1927):** DPF under IFA, 1927
- **Patch no.:** 10
- **Area of Patch:** 05 ha
- **Whether Proposed CA land is in vicinity to the area being proposed for diversion and/or contiguity with the existing forest area (Distance is also required):** The proposed CA site is about 17 km from the diversion area.

Inspecting Officers from IRO, Shimla:

1. Ashwani Kumar, Assistant Director (i/c)
2. Pawan Kumar, Junior Technical Assistant

Officers/Staff from the State Forest Department present during the visit:

1. Sh. Dharam Chand, Forest Worker

Officers/Staff from User Agency present during site visit

1. Sh. Ishant Rai, Junior Officer (Environment)

i. Whether land for compensatory afforestation is suitable from plantation and management point of view or not.

The CA site has open forest of mainly of *Pinus roxburghii*. CA site is suitable for plantation.

ii. Whether land for compensatory afforestation is free from encroachments/ other encumbrances.

Yes

iii. Whether land for compensatory afforestation is important from Religious/ Archaeological point of view.

No

iv. Land identified for raising compensatory afforestation is in how many patches, whether patches are compact or not.

Total CA sites proposed are scattered in 45 patches.

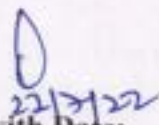

22/7/22



v. Map with details (Photograph and Google Image of CA Site:



vi. Remarks: CA site is suitable for plantation.


Signature with Date:
Name of the Inspecting Officer:
Designation:



21. Compensatory Afforestation:

Online Proposal no. FP/HP/HYD/8255/2014 (Thana Plaun HEP(191MW)

Date of Inspection: 23/07/2022

Detail of CA Site:-

- **Forest Division:** Joginder Nagar
- **Forest Range:** Joginder Nagar
- **Name of Forest:** Ropa Padhar, Mohal - Neri Kotla,
- **Compartment / Khasra number:** Khasra No. – 738/718
- **Status of CA Land (UPF under Waste Land notification 1952 or UPF/DPF under IFA, 1927):** UPF Waste land (Chargah Bila Darakhtan)
- **Patch no.:** 01
- **Area of Patch:** 7.03 ha
- **Whether Proposed CA land is in vicinity to the area being proposed for diversion and/or contiguity with the existing forest area (Distance is also required):** The proposed CA site is about 18 km from the diversion area.

Inspecting Officers from IRO, Shimla:

1. Ashwani Kumar, Assistant Director (i/c)
2. Pawan Kumar, Junior Technical Assistant

Officers/Staff from the State Forest Department present during the visit:

1. Sh. Raj Kumar, Sr. Forest Guard

Officers/Staff from User Agency present during site visit

1. Sh. Ishant Rai, Junior Officer (Environment)

i. Whether land for compensatory afforestation is suitable from plantation and management point of view or not.

The CA site is an open scrub and 6.52 ha area has already planted in 2021. Hence CA site needs replacement.

ii. Whether land for compensatory afforestation is free from encroachments/ other encumbrances.

No, encroachment was there at one corner within the proposed CA site.

iii. Whether land for compensatory afforestation is important from Religious/ Archaeological point of view.

No

iv. Land identified for raising compensatory afforestation is in how many patches, whether patches are compact or not.

Total CA sites proposed are scattered in 45 patches.

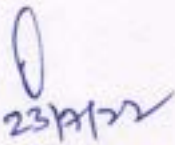
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23/7/22



v. Map with details (Photograph and Google Image of CA Site:



vi. Remarks: CA site needs replacement.


23/1/22

Signature with Date:
Name of the Inspecting Officer:
Designation:



22. Compensatory Afforestation:

Online Proposal no. FP/HP/HYD/8255/2014 (Thana Plaun HEP(191MW))

Detail of CA Site

Forest Division: Mandi

Forest Range: Sadar Mandi

Name of Forest: DPF Tung

Compartment/Khasra number: C2

Status of CA Land: DPF under IFA, 1927

(UPF under Waste Land notification 1952 or UPF/DPF under IFA, 1927)

Patch no.:3

Area of Patch:10 ha.

Whether Proposed CA land is in vicinity to the area being proposed for diversion and/or contiguity with the existing forest area (Distance is also required):-

Within the Forest area

Inspecting Officers from IRO, Shimla:

Sh. Raghuvveer Singh, STA

Sh. Subhash Singh, JTA

Officers/Staff from the State Forest Department present during the visit:

Sh. Rajesh Thakur, Range Officer, Sadar Mandi

Officers/Staff from User Agency present during site visit

Sh. Rahul Sharma, Deputy Manager (Env.)

Sh. Harsh Sharma, SDO (Civil)

- vii. Whether land for compensatory afforestation is suitable from plantation and management point of view or not.

As per Our Observation

Average slope:- 35°

Density:-Open Forest

Suitable for plantation

- viii. Whether land for compensatory afforestation is free from encroachments/ other encumbrances.

Free From encroachment/other encumbrances

- ix. Whether land for compensatory afforestation is important from Religious/ Archaeological point of view.

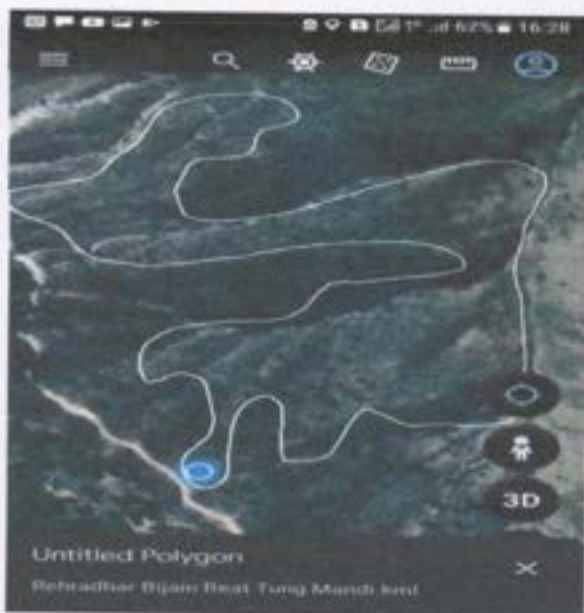
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SR of H/S
20.7.22

x. Land identified for raising compensatory afforestation is in how many patches, whether patches are compact or not.

Single compact patch

xi. Map with details (Photograph and Google Image of CA Site:



xii. Remarks

As per the PARIVESH portal the name of RF/PF is TUNG, however during filed visit HPFD suggested the name of forest as DPF Tandi.

Suitable for Plantation

Signature with Date:

M. Singh 20.07.22

Name of the Inspecting Officer: Raghuvver Singh, STA

Designation: Senior Technical Assistant

Forest Survey of India, Regional Office (Northern) Shimla

M. Singh

23. Compensatory Afforestation:

Online Proposal no. FP/HP/HYD/8255/2014 (Thana Plaun HEP(191MW))

Detail of CA Site

Forest Division: Mandi

Forest Range: Sadar Mandi

Name of Forest: DPF SINHAL

Compartment/Khasra number: C2

Status of CA Land: DPF under IFA, 1927

(UPF under Waste Land notification 1952 or UPF/DPF under IFA, 1927)

Patch no.: 2

Area of Patch: 10 ha.

Whether Proposed CA land is in vicinity to the area being proposed for diversion and/or contiguity with the existing forest area (Distance is also required):-

Within the Forest area

Inspecting Officers from IRO, Shimla:

Sh. Raghuveer Singh, STA

Sh. Subhash Singh, JTA

Officers/Staff from the State Forest Department present during the visit:

Sh. Rajesh Thakur, Range Officer, Sadar Mandi

Officers/Staff from User Agency present during site visit

Sh. Rahul Sharma, Deputy Manager (Env.)

Sh. Harsh Sharma, SDO (Civil)

- i. Whether land for compensatory afforestation is suitable from plantation and management point of view or not.

As per Our Observation

Average slope:- 43°

Density:- Scrub Forest

Suitable for plantation

- ii. Whether land for compensatory afforestation is free from encroachments/ other encumbrances.

Free From encroachment/other encumbrances

- iii. Whether land for compensatory afforestation is important from Religious/ Archaeological point of view.

---No---

20.7.22



iv. Land identified for raising compensatory afforestation is in how many patches, whether patches are compact or not.

Single compact patch

v. Map with details (Photograph and Google Image of CA Site:



vi. Remarks

Suitable for Plantation

Signature with Date:

R. A. Singh
30.07.22

Name of the Inspecting Officer: Raghuvver Singh, STA

Designation: Senior Technical Assistant

Forest Survey of India, Regional Office (Northern) Shimla

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24. Compensatory Afforestation:

Online Proposal no. FP/HP/HYD/8255/2014 (Thana Plaun HEP(191MW))

Detail of CA Site

Forest Division: Mandi

Forest Range: Sadar Mandi

Name of Forest: DPF KUFRU

Compartment/Khasra number: C3

Status of CA Land: DPF under IFA, 1927

(UPF under Waste Land notification 1952 or UPF/DPF under IFA, 1927)

Patch no.: 22

Area of Patch: 10 ha.

Whether Proposed CA land is in vicinity to the area being proposed for diversion and/or contiguity with the existing forest area (Distance is also required):-

Within the Forest area

Inspecting Officers from IRO, Shimla:

Sh. Raghveer Singh, STA

Sh. Subhash Singh, JTA

Officers/Staff from the State Forest Department present during the visit:

Sh. Rajesh Thakur, Range Officer, Sadar Mandi

Officers/Staff from User Agency present during site visit

Sh. Rahul Sharma, Deputy Manager (Env.)

Sh. Harsh Sharma, SDO (Civil)

- i. Whether land for compensatory afforestation is suitable from plantation and management point of view or not.

As per Our Observation

Average slope:- 42°

Density:- Open Forest

Approximately 1 ha. Area is covered with trees

Approximately 1 ha. Area is covered with bushes

If all the bushes are removed then the Suitable for plantation

- ii. Whether land for compensatory afforestation is free from encroachments/ other encumbrances.

Free from encroachment/other encumbrances

20.7.22



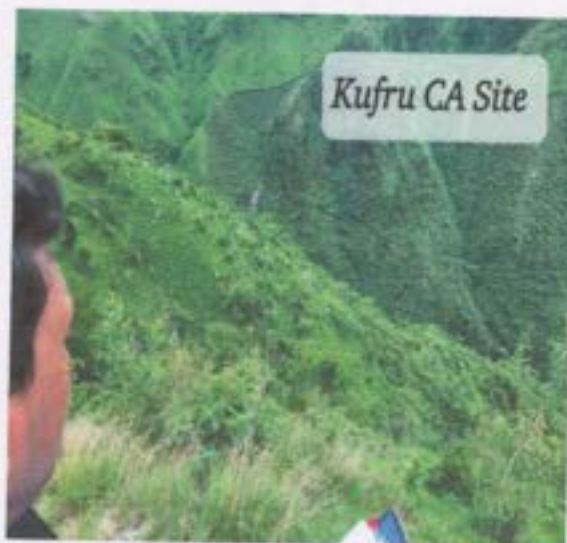
iii. Whether land for compensatory afforestation is important from Religious/ Archaeological point of view.

---No---

iv. Land identified for raising compensatory afforestation is in how many patches, whether patches are compact or not.

Single compact patch

v. Map with details (Photograph and Google Image of CA Site:



vi. Remarks

If all the bushes are removed then the land is suitable for plantation.

Signature with Date:

R. A. Singh
20.07.22

Name of the Inspecting Officer: Raghuvver Singh, STA
Designation: Senior Technical Assistant
Forest Survey of India, Regional Office (Northern) Shimla

R. A. Singh

25. Compensatory Afforestation:

Online Proposal no. FP/HP/HYD/8255/2014 (Thana Plaun HEP(191MW)

Detail of CA Site

Forest Division: Mandi

Forest Range: Sadar Mandi

Name of Forest:DPF SIRAM

Compartment/Khasra number:Whole

Status of CA Land: DPF under IFA, 1927

(UPF under Waste Land notification 1952 or UPF/DPF under IFA, 1927)

Patch no.:1

Area of Patch:10 ha.

Whether Proposed CA land is in vicinity to the area being proposed for diversion and/or contiguity with the existing forest area (Distance is also required):-

Within the Forest area

Inspecting Officers from IRO, Shimla:

Sh. Raghveer Singh, STA

Sh. Subhash Singh, JTA

Officers/Staff from the State Forest Department present during the visit:

Sh. Rajesh Thakur, Range Officer, Sadar Mandi

Officers/Staff from User Agency present during site visit

Sh. Rahul Sharma, Deputy Manager (Env.)

Sh. Harsh Sharma, SDO (Civil)

- i. Whether land for compensatory afforestation is suitable from plantation and management point of view or not.**

As per Our Observation

Average slope:- 42°

Density:-Scrub Forest

Approximately 1 ha. Area is covered with rock.

Suitable for plantation

- ii. Whether land for compensatory afforestation is free from encroachments/ other encumbrances.**

Free from encroachment/other encumbrances

M A M
20.07.2022



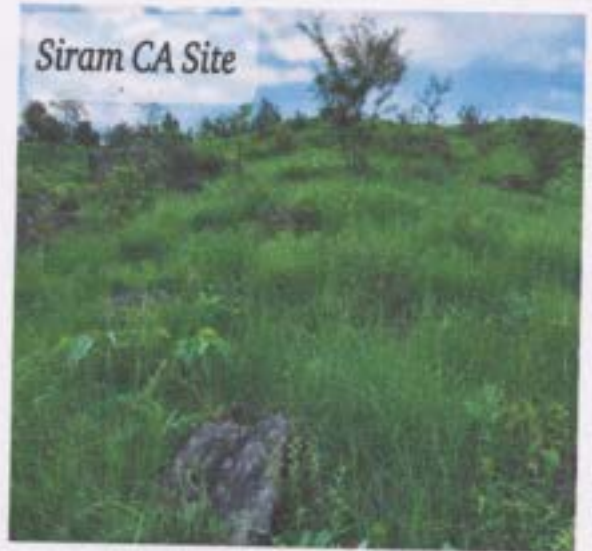
iii. Whether land for compensatory afforestation is important from Religious/ Archaeological point of view.

---No---

iv. Land identified for raising compensatory afforestation is in how many patches, whether patches are compact or not.

Single compact patch

v. Map with details (Photograph and Google Image of CA Site:



vi. Remarks

Suitable for plantation

Signature with Date:

MA Singh
20.07.22

Name of the Inspecting Officer: Raghuvver Singh, STA
Designation: Senior Technical Assistant
Forest Survey of India, Regional Office (Northern) Shimla

26. Compensatory Afforestation:

Online Proposal no. FP/HP/HYD/8255/2014 (Thana Plaun HEP(191MW)

Detail of CA Site

Forest Division: Mandi

Forest Range: Darang

Name of Forest: DPF LANJHANU

Compartment/Khasra number: Whole

Status of CA Land: DPF under IFA, 1927

(UPF under Waste Land notification 1952 or UPF/DPF under IFA, 1927)

Patch no.: 18

Area of Patch: 40 ha.

Whether Proposed CA land is in vicinity to the area being proposed for diversion and/or contiguity with the existing forest area (Distance is also required):-

Within the Forest area

Inspecting Officers from IRO, Shimla:

Sh. Raghuvver Singh, STA

Sh. Subhash Singh, JTA

Officers/Staff from the State Forest Department present during the visit:

Sh. Hitesh, Forest Guard, Drang Mandi

Sh. Sumit, Forest Guard, Drang Mandi

Officers/Staff from User Agency present during site visit

Sh. Rahul Sharma, Deputy Manager (Env.)

Sh. Harsh Sharma, SDO (Civil)

vii. Whether land for compensatory afforestation is suitable from plantation and management point of view or not.

As per Our Observation

Average slope:- 45°

Density:- Scrub Forest

Approximately 1.5 ha. Area is covered with rock.

Suitable for plantation

viii. Whether land for compensatory afforestation is free from encroachments/ other encumbrances.

Free from encroachment/other encumbrances

m A H 2

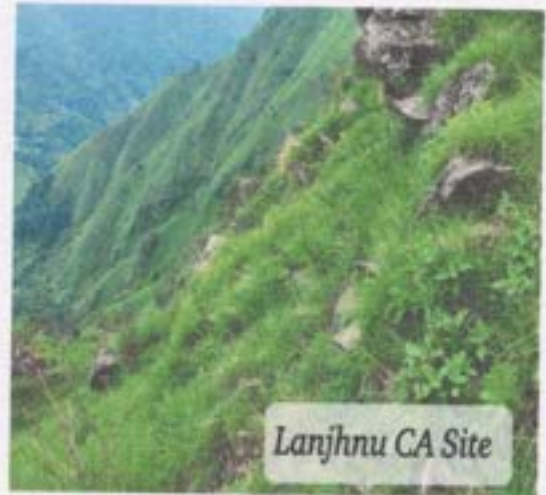
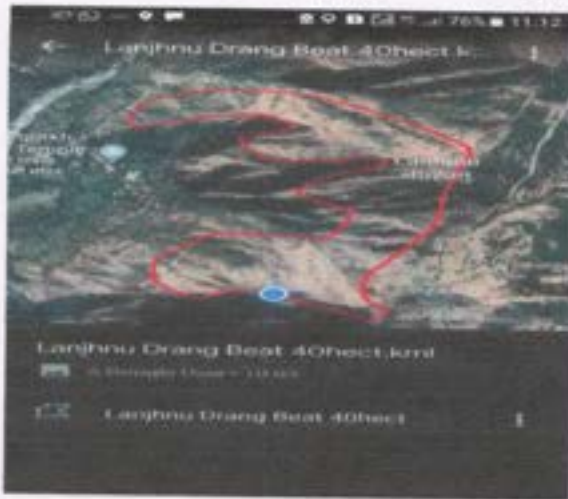
ix. Whether land for compensatory afforestation is important from Religious/ Archaeological point of view.

---No---

x. Land identified for raising compensatory afforestation is in how many patches, whether patches are compact or not.

Single compact patch

xi. Map with details (Photograph and Google Image of CA Site:



xii. Remarks

Suitable for plantation

Signature with Date:

Raghuveer Singh
21.07.22

Name of the Inspecting Officer: Raghuveer Singh, STA

Designation: Senior Technical Assistant

Forest Survey of India, Regional Office (Northern) Shimla

[Handwritten mark]

27. Compensatory Afforestation:

Online Proposal no. FP/HP/HYD/8255/2014 (Thana Plaun HEP(191MW)

Detail of CA Site

Forest Division: Mandi

Forest Range: Darang

Name of Forest: DPF BUNGADHAR

Compartment/Khasra number: Whole

Status of CA Land: DPF under IFA, 1927

(UPF under Waste Land notification 1952 or UPF/DPF under IFA, 1927)

Patch no.: 17

Area of Patch: 20 ha.

Whether Proposed CA land is in vicinity to the area being proposed for diversion and/or contiguity with the existing forest area (Distance is also required):- Within the Forest area

Inspecting Officers from IRO, Shimla:

Sh. Raghuvver Singh, STA

Sh. Subhash Singh, JTA

Officers/Staff from the State Forest Department present during the visit:

Sh. Hitesh, Forest guard, Drang Mandi

Sh. Sumit, Forest guard, Drang Mandi

Officers/Staff from User Agency present during site visit

Sh. Rahul Sharma, Deputy Manager (Env.)

Sh. Harsh Sharma, SDO (Civil)

- xiii. Whether land for compensatory afforestation is suitable from plantation and management point of view or not.

As per Our Observation

Average slope:- 46°

Density:- Open Forest

Suitable for plantation

- xiv. Whether land for compensatory afforestation is free from encroachments/ other encumbrances.

Free from encroachment/other encumbrances

mdhl
21.07.22



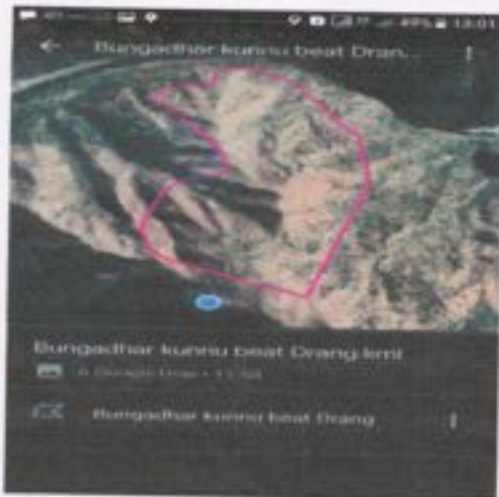
xv. Whether land for compensatory afforestation is important from Religious/ Archaeological point of view.

---No---

xvi. Land identified for raising compensatory afforestation is in how many patches, whether patches are compact or not.

Single compact patch

xvii. Map with details (Photograph and Google Image of CA Site:



xviii. Remarks

Suitable for plantation

Signature with Date:

Name of the Inspecting Officer: Raghuvveer Singh, STA

Designation: Senior Technical Assistant

Forest Survey of India, Regional Office (Northern) Shimla

R. Singh
21.07.22

[Handwritten signature]

28. Compensatory Afforestation:

Online Proposal no. FP/HP/HYD/8255/2014 (Thana Plaun HEP(191MW))

Detail of CA Site

Forest Division: Mandi

Forest Range: Darang

Name of Forest: DPF KALAUN

Compartment/Khasra number: Whole

Status of CA Land: DPF under IFA, 1927

(UPF under Waste Land notification 1952 or UPF/DPF under IFA, 1927)

Patch no.: 19

Area of Patch: 15 ha.

Whether Proposed CA land is in vicinity to the area being proposed for diversion and/or contiguity with the existing forest area (Distance is also required):- Within the Forest area

Inspecting Officers from IRO, Shimla:

Sh. Raghveer Singh, STA

Sh. Subhash Singh, JTA

Officers/Staff from the State Forest Department present during the visit:

Sh. Tilak Raj, Forest guard, Drang Mandi

Officers/Staff from User Agency present during site visit

Sh. Rahul Sharma, Deputy Manager (Env.)

Sh. Harsh Sharma, SDO (Civil)

- xix. Whether land for compensatory afforestation is suitable from plantation and management point of view or not.

As per Our Observation

Average slope:- 38°

Density:- Open Forest

Suitable for plantation


- xx. Whether land for compensatory afforestation is free from encroachments/ other encumbrances.

Free from encroachment/other encumbrances

- xxi. Whether land for compensatory afforestation is important from Religious/ Archaeological point of view.

---No---

Md. H. S.
21.07.22



xxii. Land identified for raising compensatory afforestation is in how many patches, whether patches are compact or not.
Single compact patch

xxiii. Map with details (Photograph and Google Image of CA Site:



xxiv. Remarks

Suitable for plantation

Signature with Date:

m. A. Singh
21.7.22

Name of the Inspecting Officer: Raghuvver Singh, STA

Designation: Senior Technical Assistant

Forest Survey of India, Regional Office (Northern) Shimla

29. Compensatory Afforestation:

Online Proposal no. FP/HP/HYD/8255/2014 (Thana Plaun HEP(191MW)

Detail of CA Site

Forest Division: *Mandi*

Forest Range: *Darang*

Name of Forest: *Waste Land village Basa*

Compartment/Khasra number: *1409/1382*

Status of CA Land: *Charagah bila Darkhtaan*

(UPF under Waste Land notification 1952 or UPF/DPF under IFA, 1927)

Patch no.: *6*

Area of Patch: *5.58 ha.*

Whether Proposed CA land is in vicinity to the area being proposed for diversion and/or contiguity with the existing forest area (Distance is also required):- *Within 1km of Forest area*

Inspecting Officers from IRO, Shimla:

Sh. Raghveer Singh, STA

Sh. Subhash Singh, JTA

Officers/Staff from the State Forest Department present during the visit:

Sh. Chandan Kashyap, VRO, Basa Mandi

Officers/Staff from User Agency present during site visit

Sh. Rahul Sharma, Deputy Manager (Env.)

Sh. Harsh Sharma, SDO (Civil

- xxv. Whether land for compensatory afforestation is suitable from plantation and management point of view or not.

As per Our Observation

Average slope:- *30°*

Density:- *Open*

Suitable for plantation

- xxvi. Whether land for compensatory afforestation is free from encroachments/ other encumbrances.

Free from encroachment/other encumbrances

*n 11/12
21/07/22*

- xxvii. Whether land for compensatory afforestation is important from Religious/



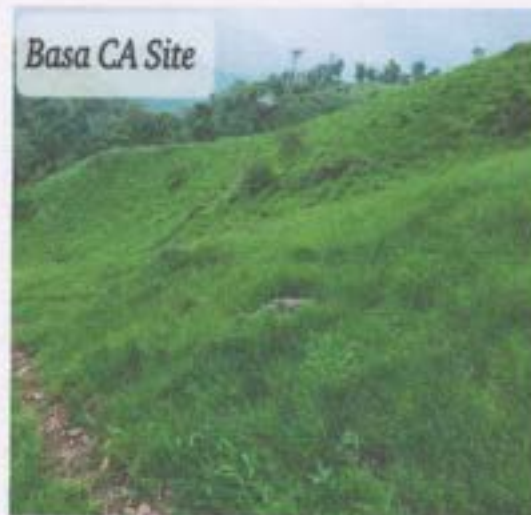
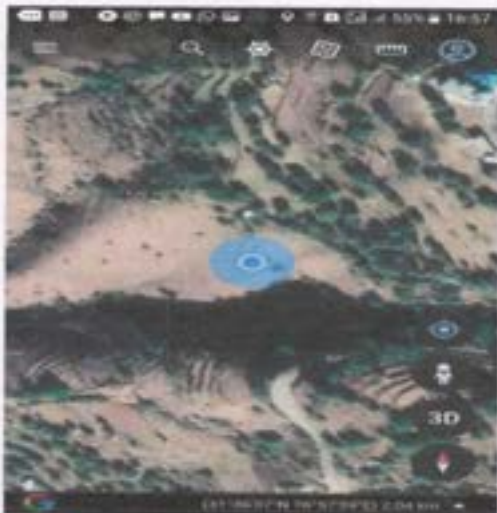
Archaeological point of view.

----No----

xxviii. Land identified for raising compensatory afforestation is in how many patches, whether patches are compact or not.

Single compact patch

xxix. Map with details (Photograph and Google Image of CA Site:



xxx. Remarks

Uploaded kml. file is not of concerned CA site (Geo coordinates of CA site: 31 46 57.29 76 57 39.29)

However, as per area (Basa) shown by State Forest Department is Suitable for Plantation.

M.A.H.S.
21.07.22

Signature with Date:

Name of the Inspecting Officer: Raghuvver Singh, STA

Designation: Senior Technical Assistant

Forest Survey of India, Regional Office (Northern) Shimla

A handwritten signature in blue ink, located at the bottom right of the page.

30. Compensatory Afforestation:

Online Proposal no. FP/HP/HYD/8255/2014 (Thana Plaun HEP(191MW)

Detail of CA Site

Forest Division: *Mandi*

Forest Range: *Panarsa*

Name of Forest: *NAGDHAR*

Compartment/Khasra number: *819/391*

Status of CA Land: *Charagah bila Darkhtan*

(UPF under Waste Land notification 1952 or UPF/DPF under IFA, 1927)

Patch no.: *24*

Area of Patch: *5.74 ha.*

Whether Proposed CA land is in vicinity to the area being proposed for diversion and/or contiguity with the existing forest area (Distance is also required): *-Within 1 km of Forest area.*

Inspecting Officers from IRO, Shimla:

Sh. Raghuveer Singh, STA

Sh. Subhash Singh, JTA

Officers/Staff from the State Forest Department present during the visit:

Sh. Hukamchand, VRO, Nagdhar, Mandi

Officers/Staff from User Agency present during site visit

Sh. Harsh Sharma, SDO (Civil)

xxxi. Whether land for compensatory afforestation is suitable from plantation and management point of view or not.

As per Our Observation

Average slope: *- 42°*

Density: *-Open*

Approximately 0.5 ha. Area is already planted.

Approximately 0.5 ha. Area is covered with rock and steep portion.

Suitable for plantation

xxxii. Whether land for compensatory afforestation is free from encroachments/ other encumbrances.

Free from encroachment/other encumbrances

xxxiii. Whether land for compensatory afforestation is important from Religious/

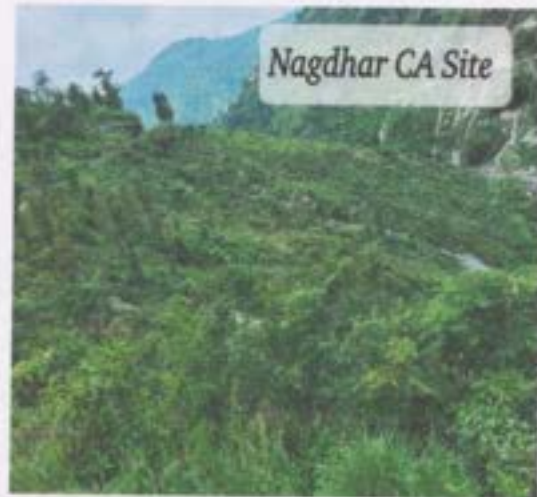
*ml Mc
22.07.22*

Archaeological point of view.

---No---

xxxiv. Land identified for raising compensatory afforestation is in how many patches, whether patches are compact or not.
Single compact patch

xxxv. Map with details (Photograph and Google Image of CA Site:



xxxvi. Remarks

Approximately 0.5 ha. Area is already planted.
Approximately 0.5 ha. Area is covered with rock and steep portion.
Approximately 5 ha area is suitable for plantation.

M. Singh
22.7.2022

Signature with Date:

Name of the Inspecting Officer: Raghuvver Singh, STA

Designation: Senior Technical Assistant

Forest Survey of India, Regional Office (Northern) Shimla

31. Compensatory Afforestation:

Online Proposal no. FP/HP/HYD/8255/2014 (Thana Plaun HEP(191MW))

Detail of CA Site

Forest Division: Mandi

Forest Range: Panarsa

Name of Forest: BANAUL

Compartment/Khasra number: 882/840 (6.23 ha.) & 856/478 (11.49 ha.)

Status of CA Land: Waste land (Charagah bila Darkhtan)

(UPF under Waste Land notification 1952 or UPF/DPF under IFA, 1927)

Patch no.: 23

Area of Patch: 17.72 ha.

Whether Proposed CA land is in vicinity to the area being proposed for diversion and/or contiguity with the existing forest area (Distance is also required):- Within 1 km of forest area.

Inspecting Officers from IRO, Shimla:

Sh. Raghuveer Singh, STA

Sh. Subhash Singh, JTA

Officers/Staff from the State Forest Department present during the visit:

Sh. Hoshiyar Singh, VRO, Banaul, Mandi

Officers/Staff from User Agency present during site visit

Sh. Harsh Sharma, SDO (Civil)

xxxvii. Whether land for compensatory afforestation is suitable from plantation and management point of view or not.

As per Our Observation

Area : 6.23 ha.	Area: 11.49 ha.
Average slope:- 44°	Average slope:- 44°
Density:- Open	Density:- Open
Rockiness terrain and deep Nala	Rockiness terrain and deep Nala
Approximately 1 ha. Area is covered with trees.	Approximately 8 ha. Area is already planted with fencing.
Approximately 2 ha. Area is suitable for plantation.	Not suitable for plantation

xxxviii. Whether land for compensatory afforestation is free from encroachments/ other encumbrances.

MAK
29.07.22

Free from encroachment/other encumbrances

xxxix. Whether land for compensatory afforestation is important from Religious/ Archaeological point of view.

---No---

xl. Land identified for raising compensatory afforestation is in how many patches, whether patches are compact or not.

Two patches

xli. Map with details (Photograph and Google Image of CA Site:

Area: 6.23 ha.

Area:11.49 ha



xlii. Remarks

Approximately 2 ha area is suitable for plantation.

R. Singh
22.7.22

Signature with Date:

Name of the Inspecting Officer: Raghuvver Singh, STA

Designation: Senior Technical Assistant

Forest Survey of India, Regional Office (Northern) Shimla

32. Compensatory Afforestation:

Online Proposal no. FP/HP/HYD/8255/2014 (Thana Plaun HEP(191MW))

Detail of CA Site

Forest Division: Mandi

Forest Range: Panarsa

Name of Forest: MASAD

Compartment/Khasra number: 06 (6.55 ha.) & 156 (6.72 ha.)

Status of CA Land: Waste land (Charagah bila Darkhtan)

(UPF under Waste Land notification 1952 or UPF/DPF under IFA, 1927)

Patch no.: 12

Area of Patch: 13.27 ha.

Whether Proposed CA land is in vicinity to the area being proposed for diversion and/or contiguity with the existing forest area (Distance is also required):- Within 1 km of forest area.

Inspecting Officers from IRO, Shimla:

Sh. Raghuveer Singh, STA

Sh. Subhash Singh, JTA

Officers/Staff from the State Forest Department present during the visit:

Sh. Hoshiyar Singh, VRO, Banaul, Mandi

Officers/Staff from User Agency present during site visit

Sh. Harsh Sharma, SDO (Civil)

xliii. Whether land for compensatory afforestation is suitable from plantation and management point of view or not.

As per Our Observation

Area : 6.55 ha.	Area: 11.49 ha.
Average slope:- 44°	Average slope:- 43°
Density:- Open	Density:- Open
Approximately 1 ha. Area is already planted.	-----
Approximately 5 ha. Area is suitable for plantation.	Suitable for plantation

M. M. S.
32.07.20

xliv. Whether land for compensatory afforestation is free from encroachments/ other

encumbrances.

Free from encroachment/other encumbrances

xlv. Whether land for compensatory afforestation is important from Religious/ Archaeological point of view.

---No---

xlvi. Land identified for raising compensatory afforestation is in how many patches, whether patches are compact or not.

Two patches

xlvii. Map with details (Photograph and Google Image of CA Site:

Area: 6.55 ha.

Area:6.72 ha



xlviii. Remarks

Approximately 12 ha area is suitable for plantation.

Signature with Date:

Raghuveer Singh
22.07.22

Name of the Inspecting Officer: Raghuveer Singh, STA

Designation: Senior Technical Assistant

Forest Survey of India, Regional Office (Northern) Shimla

33. Compensatory Afforestation:

Online Proposal no. FP/HP/HYD/8255/2014 (Thana Plaun HEP(191MW))

Detail of CA Site

Forest Division: Mandi

Forest Range: Panarsa

Name of Forest: SUMA

Compartment/Khasra number: 239 (7.69 ha.) & 52 (26.62 ha.)

Status of CA Land: Waste land (Charagah bila Darkhtan)

(UPF under Waste Land notification 1952 or UPF/DPF under IFA, 1927)

Patch no.:26

Area of Patch:34.31 ha.

Whether Proposed CA land is in vicinity to the area being proposed for diversion and/or contiguity with the existing forest area (Distance is also required):- Within 1 km of forest area.

Inspecting Officers from IRO, Shimla:

Sh. Raghuvveer Singh, STA

Sh. Subhash Singh, JTA

Officers/Staff from the State Forest Department present during the visit:

Sh. Hoshiyar Singh, VRO, Suma, Mandi

Officers/Staff from User Agency present during site visit

Sh. Harsh Sharma, SDO (Civil)

xlix. Whether land for compensatory afforestation is suitable from plantation and management point of view or not.

As per Our Observation

Area : 7.69 ha.	Area:26.62 ha.
Average slope:- 40°	Average slope:- 39°
Density:-Open	Density:-Open
Approximately 2 ha. Area is already planted.	Rocky terrain
Approximately 6 ha. Area is suitable for plantation.	Suitable for plantation

l. Whether land for compensatory afforestation is free from encroachments/ other encumbrances.

Free from encroachment/other encumbrances

m/s
24.07.22

ii. Whether land for compensatory afforestation is important from Religious/ Archaeological point of view.

----No----

iii. Land identified for raising compensatory afforestation is in how many patches, whether patches are compact or not.

Two patches

liii. Map with details (Photograph and Google Image of CA Site:

Area: 6.55 ha.

Area: 6.72 ha



liv. Remarks

1. Approximately 32 ha area is suitable for plantation.

2. CA site falls in Panarsa range as per concerned VRO but it is shown in Kataula range in kml file

Signature with Date:

Raghuveer Singh
29.07.22

Name of the Inspecting Officer: Raghuveer Singh, STA

Designation: Senior Technical Assistant

Forest Survey of India, Regional Office (Northern) Shimla

34. Compensatory Afforestation:

Online Proposal no. FP/HP/HYD/8255/2014 (Thana Plaun HEP(191MW))

Detail of CA Site

Forest Division: *Mandi*

Forest Range: *Kataula*

Name of Forest: *SUHDA*

Compartment/Khasra number: *412/339*

Status of CA Land: *Waste land (Charagah bila Darkhtan)*

(UPF under Waste Land notification 1952 or UPF/DPF under IFA, 1927)

Patch no.: *25*

Area of Patch: *8.42 ha.*

Whether Proposed CA land is in vicinity to the area being proposed for diversion and/or contiguity with the existing forest area (Distance is also required):- *Within 1 km of forest area.*

Inspecting Officers from IRO, Shimla:

Sh. Raghuvver Singh, STA

Sh. Subhash Singh, JTA

Officers/Staff from the State Forest Department present during the visit:

Sh. Prakash, VRO, Kataula, Mandi

Officers/Staff from User Agency present during site visit

Sh. Rahul Sharma, Deputy Manager (Env.)

iv. Whether land for compensatory afforestation is suitable from plantation and management point of view or not.

As per Our Observation

Average Slope: *-38°*

Density: *- Open*

Suitable for Plantation

lvi. Whether land for compensatory afforestation is free from encroachments/ other encumbrances.

Free from encroachment/other encumbrances

lvii. Whether land for compensatory afforestation is important from Religious/ Archaeological point of view.

----No----

M. P. Singh
23.07.22



lviii. Land identified for raising compensatory afforestation is in how many patches, whether patches are compact or not.

Two patches

lix. Map with details (Photograph and Google Image of CA Site:

Area: 6.55 ha.

Area:6.72 ha



ix. Remarks

Suitable for plantation

Signature with Date:

RMS
23.07.22

Name of the Inspecting Officer: Raghuvver Singh, STA

Designation: Senior Technical Assistant

Forest Survey of India, Regional Office (Northern) Shimla

35. Compensatory Afforestation:

Online Proposal no. FP/HP/HYD/8255/2014 (Thana Plaun HEP(191MW))

Detail of CA Site

Forest Division: Mandi

Forest Range: kataula

Name of Forest: TIHRI

Compartment/Khasra number: 1488/1253 (8.01 ha.), 1412/1013 (10.52 ha.) & 1341/1000 (13.51ha.)

Status of CA Land: Waste land (Charagah bila Darkhtan)

(UPF under Waste Land notification 1952 or UPF/DPF under IFA, 1927)

Patch no.:27

Area of Patch:32.04 ha.

Whether Proposed CA land is in vicinity to the area being proposed for diversion and/or contiguity with the existing forest area (Distance is also required):- Within 1 km of forest area.

Inspecting Officers from IRO, Shimla:

Sh. Raghveer Singh, STA

Sh. Subhash Singh, JTA

Officers/Staff from the State Forest Department present during the visit:

Sh. Prakash, VRO, Kataula

Officers/Staff from User Agency present during site visit

Sh. Rahul Sharma, Deputy Manager (Env.)

ixi. Whether land for compensatory afforestation is suitable from plantation and management point of view or not.

As per Our Observation

Area : 8.01 ha.	Area:24.03 ha.
Average slope:- 45°	Average slope:- 36°
Density:-Open	Density:-Open
Suitable for plantation.	Suitable for plantation.

ixii. Whether land for compensatory afforestation is free from encroachments/ other encumbrances.

Free from encroachment/other encumbrances

22.07.22

ixiii. Whether land for compensatory afforestation is important from Religious

Archaeological point of view.

---No---

ixiv. Land identified for raising compensatory afforestation is in how many patches, whether patches are compact or not.

Three patches

ixv. Map with details (Photograph and Google Image of CA Site:

Area:8.01 ha.

Area:24.03 ha



ixvi.

ixvii. Remarks

Suitable for plantation.

Signature with Date:

Name of the Inspecting Officer: Raghuvver Singh, STA

Designation: Senior Technical Assistant

Forest Survey of India, Regional Office (Northern) Shimla

Raghuvver Singh
23.07.22

[Handwritten signature]

36. Compensatory Afforestation:

Online Proposal no. FP/HP/HYD/8255/2014 (Thana Plaun HEP(191MW))

Detail of CA Site

Forest Division: Mandi

Forest Range: kataula

Name of Forest: BODANDHAR

Compartment/Khasra number: 284/39 (38.51 ha.), 301/299/141 (11.16 ha.) & 297/128 (53.72 ha.)

Status of CA Land: Waste land (Charagah bila Darkhtan)

(UPF under Waste Land notification 1952 or UPF/DPF under IFA, 1927)

Patch no.:21

Area of Patch:103.51 ha.

Whether Proposed CA land is in vicinity to the area being proposed for diversion and/or contiguity with the existing forest area (Distance is also required):- Within 1 km of forest area.

Inspecting Officers from IRO, Shimla:

Sh. Raghuvveer Singh, STA

Sh. Subhash Singh, JTA

Officers/Staff from the State Forest Department present during the visit:

Sh. Prakash, VRO, Kataula

Officers/Staff from User Agency present during site visit

Sh. Rahul Sharma, Deputy Manager (Env.)

Ixviii. Whether land for compensatory afforestation is suitable from plantation and management point of view or not.

As per Our Observation

Area : 38.51 ha.	Area:11.16 ha.	Area 53.72 ha.
Average slope:- 40°	Average slope:- 38°	Average slope:- 39°
Density:-Open	Density:-Open	Density:-Open
Approximately 11 ha. Area covered with trees.	Approximately 1 ha. Area covered with trees	-----
Approximately 28 ha. Area suitable for plantation	Approximately 10 ha. Area suitable for plantation	Suitable for plantation

Ixix. Whether land for compensatory afforestation is free from encroachments/ other

encumbrances.

Free from encroachment/other encumbrances

Ixx. Whether land for compensatory afforestation is important from Religious/ Archaeological point of view.

---No---

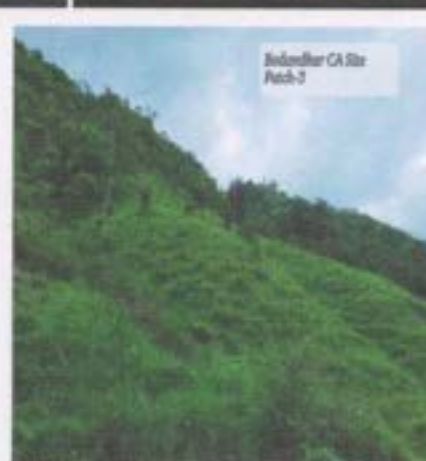
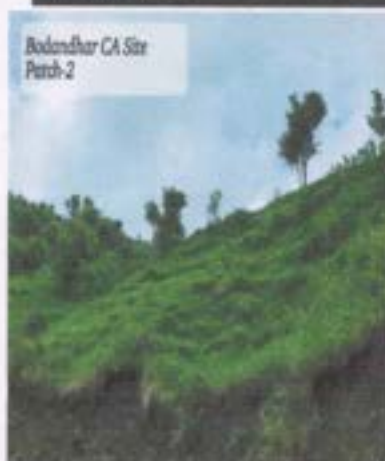
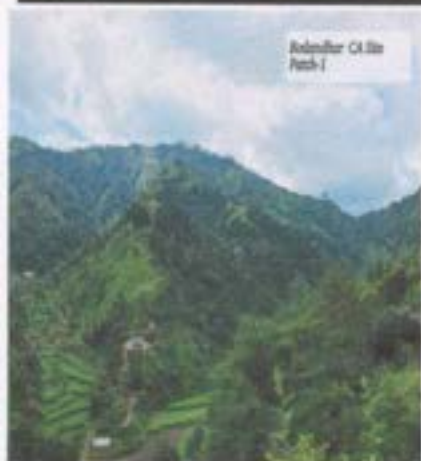
Ixxi. Land identified for raising compensatory afforestation is in how many patches, whether patches are compact or not.

Three patches

Ixxii. Map with details (Photograph and Google Image of CA Site:

Area:8.01 ha.

Area:24.03 ha



Ixxiii. Remarks

Approximately 91 ha.area suitable for plantation.

RAGHUVEER SINGH
23.07.22

Signature with Date:

Name of the Inspecting Officer: Raghuveer Singh, STA

Designation: Senior Technical Assistant

Forest Survey of India, Regional Office (Northern) Shimla

37. Compensatory Afforestation:

Online Proposal no. FP/HP/HYD/8255/2014 (Thana Plaun HEP(191MW))

Detail of CA SiteForest Division: *Mandi*Forest Range: *kataula*Name of Forest: *DPF Bodandhar*Compartment/Khasra number: *Not available*

Status of CA Land:

(UPF under Waste Land notification 1952 or UPF/DPF under IFA, 1927)

Patch no.: *15*Area of Patch: *10 ha.*

Whether Proposed CA land is in vicinity to the area being proposed for diversion and/or contiguity with the existing forest area (Distance is also required):- *Within 1 km of forest area.*

Inspecting Officers from IRO, Shimla:*Sh. Raghuveer Singh, STA**Sh. Subhash Singh, JTA*Officers/Staff from the State Forest Department present during the visit:*Sh. Prakash, VRO, Kataula*Officers/Staff from User Agency present during site visit*Sh. Rahul Sharma, Deputy Manager (Env.)*

lxxiv. Whether land for compensatory afforestation is suitable from plantation and management point of view or not.

As per Our Observation

Area:-10 ha.
Average slope:- 39°
Density:-Open
<i>Suitable for plantation but this CA site is already considered as Bodandhar waste land CA site</i>

lxxv. Whether land for compensatory afforestation is free from encroachments/ other encumbrances.

Free from encroachment/other encumbrances

lxxvi. Whether land for compensatory afforestation is important from Religious/ Archaeological point of view.

----No----

m A P
23.07.22



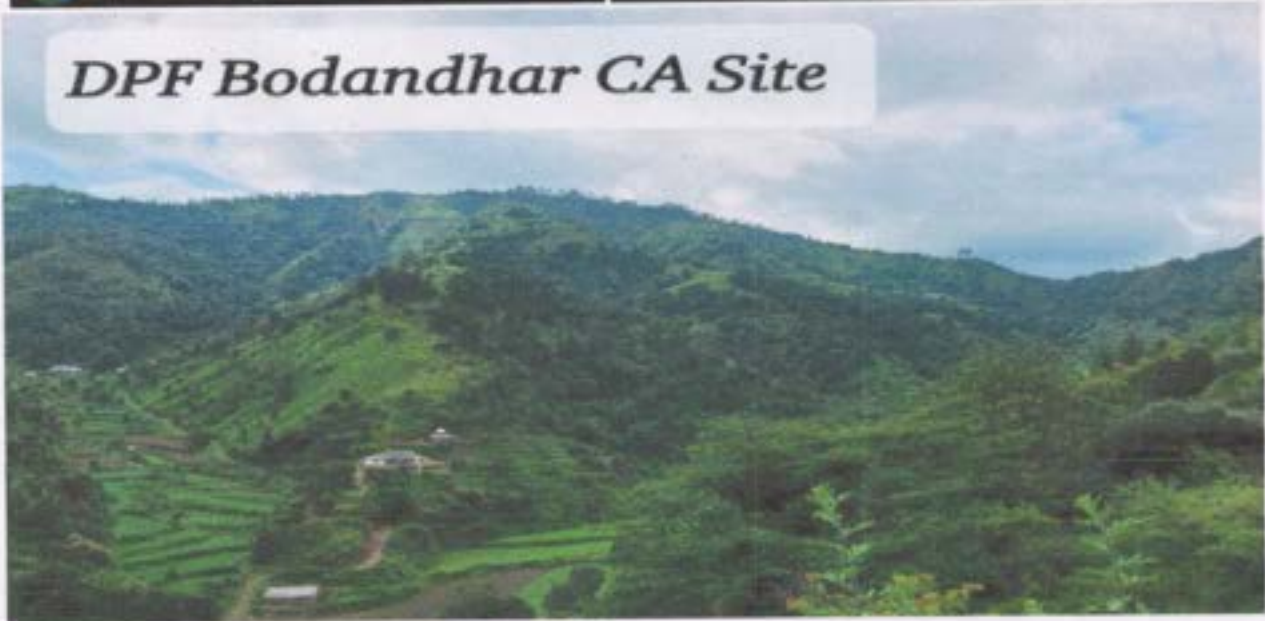
Ixxvii. Land identified for raising compensatory afforestation is in how many patches, whether patches are compact or not.

Single compact patche

Ixxviii. Map with details (Photograph and Google Image of CA Site:



DPF Bodandhar CA Site



Ixxix.

Ixxx. Remarks

DPF Bodandhar CA site is overlapped with Bodandhar waste land CA site.
According to VRO Kataula this CA site belongs to Revenue Department.

Signature with Date:

Name of the Inspecting Officer: Raghuvveer Singh, STA

Designation: Senior Technical Assistant

Forest Survey of India, Regional Office (Northern) Shimla

M. A. Singh
23.07.22

38. Compensatory Afforestation:

Online Proposal no. FP/HP/HYD/8255/2014 (Thana Plaun HEP(191MW))

Detail of CA Site

Forest Division: Mandi

Forest Range: kataula

Name of Forest: DPF Badaun

Compartment/Khasra number: Not available

Status of CA Land: Not available

(UPF under Waste Land notification 1952 or UPF/DPF under IFA, 1927)

Patch no.: 16

Area of Patch: 10 ha.

Whether Proposed CA land is in vicinity to the area being proposed for diversion and/or contiguity with the existing forest area (Distance is also required):- Within 1 km of forest area.

Inspecting Officers from IRO, Shimla:

Sh. Raghveer Singh, STA

Sh. Subhash Singh, JTA

Officers/Staff from the State Forest Department present during the visit:

Sh. Prakash, VRO, Kataula

Officers/Staff from User Agency present during site visit

Sh. Rahul Sharma, Deputy Manager (Env.)

lxxxii. Whether land for compensatory afforestation is suitable from plantation and management point of view or not.

As per Our Observation

Area:-10 ha.
Average slope:- 38°
Density:-Open
Suitable for plantation but this CA site is already considered as Bodandhar waste land CA site

lxxxiii. Whether land for compensatory afforestation is free from encroachments/ other encumbrances.

Free from encroachment/other encumbrances

lxxxiiii. Whether land for compensatory afforestation is important from Religious/

M. A. Singh
23-07-22



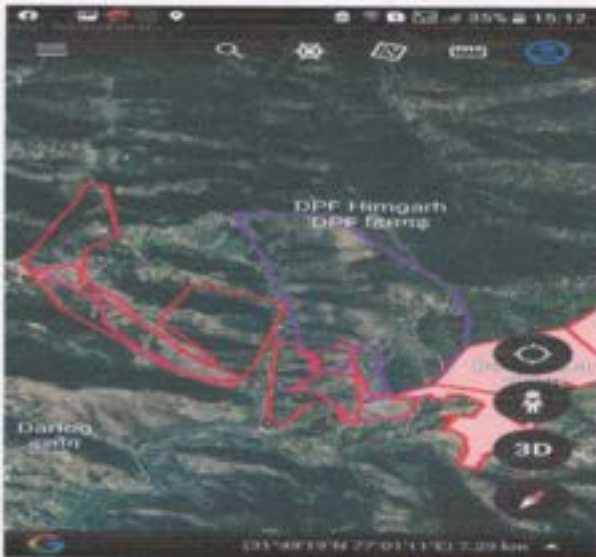
Archaeological point of view.

---No---

lxxxiv. Land identified for raising compensatory afforestation is in how many patches, whether patches are compact or not.

Single compact patche

lxxxv. Map with details (Photograph and Google Image of CA Site:



lxxxvi. Remarks

DPF Badaun CA site is overlapped with Bodandhar waste land CA site.
According to VRO Kataula this CA site belongs to Revenue Department.

M A Singh
28.7.22

Signature with Date:

Name of the Inspecting Officer: Raghuvver Singh, STA

Designation: Senior Technical Assistant

Forest Survey of India, Regional Office (Northern) Shimla

A handwritten signature in blue ink, appearing to be 'Raghuvver Singh'.

39. Compensatory Afforestation:

Online Proposal no. FP/HP/HYD/8255/2014 (Thana Plaun HEP(191MW))

Detail of CA Site

Forest Division: *Mandi*

Forest Range: *kataula*

Name of Forest: *DPF Algan*

Compartment/Khasra number: *whole*

Status of CA Land: *DPF Under IFA, 1927*

(UPF under Waste Land notification 1952 or UPF/DPF under IFA, 1927)

Patch no.: *Not available*

Area of Patch: *10 ha.*

Whether Proposed CA land is in vicinity to the area being proposed for diversion and/or contiguity with the existing forest area (Distance is also required):- *Within 1 km of forest area.*

Inspecting Officers from IRO, Shimla:

Sh. Raghuvver Singh, STA

Sh. Subhash Singh, JTA

Officers/Staff from the State Forest Department present during the visit:

Sh. Naresh Kumar, Forest Guard, Kataula

Officers/Staff from User Agency present during site visit

Sh. Rahul Sharma, Deputy Manager (Env.)

lxxxvii. Whether land for compensatory afforestation is suitable from plantation and management point of view or not.

As per Our Observation

Area:-10 ha.
Average slope:- 44°
Density:-Open
<i>Suitable for plantation</i>

lxxxviii. Whether land for compensatory afforestation is free from encroachments/ other encumbrances.

*24/7/19
24-07-22*

Free from encroachment/other encumbrances

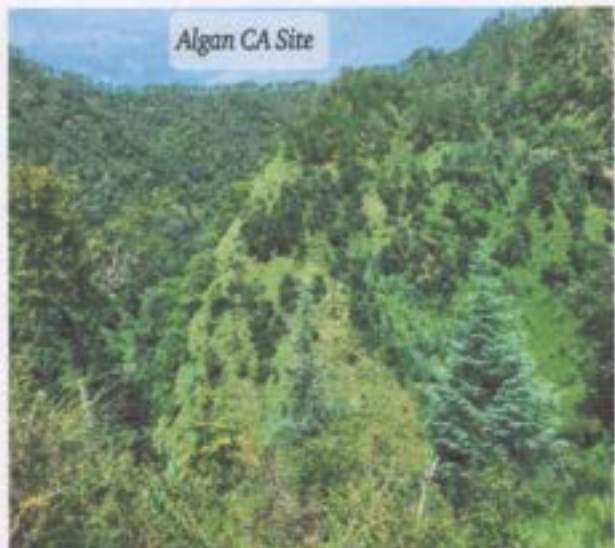
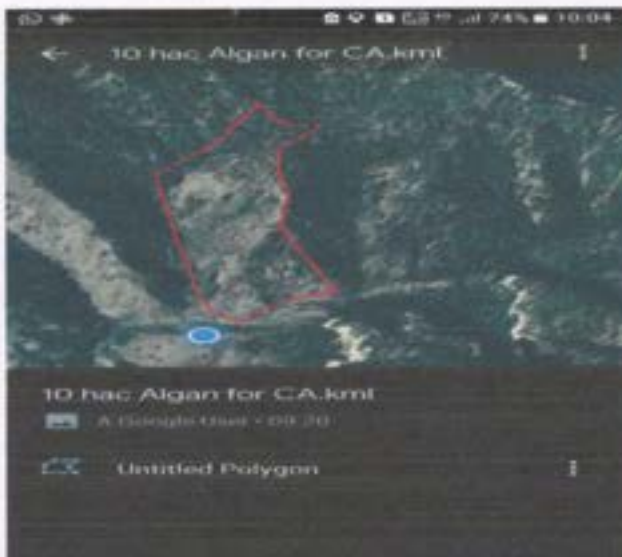
lxxxix. Whether land for compensatory afforestation is important from Religious/ Archaeological point of view.

---No---

xc. Land identified for raising compensatory afforestation is in how many patches, whether patches are compact or not.

Single compact patch

xc. Map with details (Photograph and Google Image of CA Site:



xcii. Remarks

*M. A. P. S.
24.07.22*

According to Sh. Rahul Sharma Deputy Manager (Env.)
DPF Bunga CA site has been rejected. This CA site is selected in place of DPF Bunga.

Signature with Date:

Name of the Inspecting Officer: Raghuvver Singh, STA

Designation: Senior Technical Assistant

Forest Survey of India, Regional Office (Northern) Shimla

40. Compensatory Afforestation:

Online Proposal no. FP/HP/HYD/8255/2014 (Thana Plaun HEP(191MW))

Detail of CA SiteForest Division: *Mandi*Forest Range: *kataula*Name of Forest: *DPF Bairoo*Compartment/Khasra number: *whole*Status of CA Land: *DPF under IFA, 1927**(UPF under Waste Land notification 1952 or UPF/DPF under IFA, 1927)*Patch no.: *9*Area of Patch: *10 ha.*

Whether Proposed CA land is in vicinity to the area being proposed for diversion and/or contiguity with the existing forest area (Distance is also required):- *Within 1 km of forest area.*

Inspecting Officers from IRO, Shimla:*Sh. Raghuveer Singh, STA**Sh. Subhash Singh, JTA*Officers/Staff from the State Forest Department present during the visit:*Sh. Naresh Kumar, Forest Gaurd, Kataula*Officers/Staff from User Agency present during site visit*Sh. Rahul Sharma, Deputy Manager (Env.)*

xciii. Whether land for compensatory afforestation is suitable from plantation and management point of view or not.

As per Our Observation

Area:-10 ha.
Average slope:- 37°
Density:-Open
<i>Suitable for plantation</i>

xciv. Whether land for compensatory afforestation is free from encroachments/ other encumbrances.

M. A. L.
24.7.22

[Signature]

Free from encroachment/other encumbrances

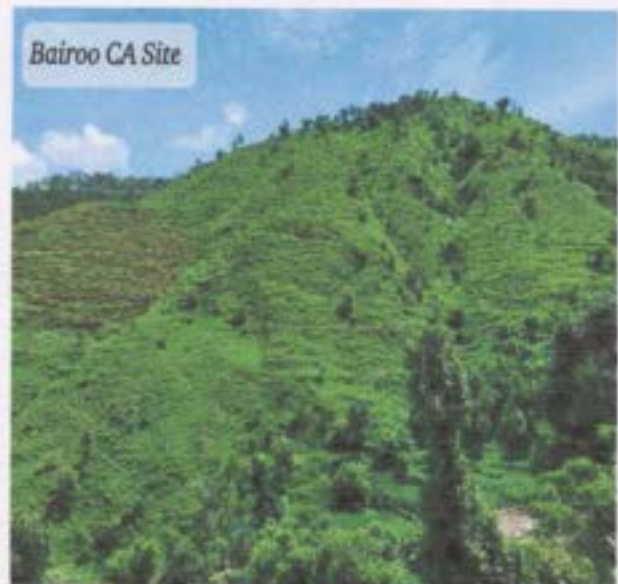
xcv. Whether land for compensatory afforestation is important from Religious/ Archaeological point of view.

---No---

xcvi. Land identified for raising compensatory afforestation is in how many patches, whether patches are compact or not.

Single compact patch

xcvii. Map with details (Photograph and Google Image of CA Site:



xcviii. Remarks

Suitable for plantation

m. P. Singh
24.7.22

Signature with Date:

Name of the Inspecting Officer: Raghuvveer Singh, STA

Designation: Senior Technical Assistant

Forest Survey of India, Regional Office (Northern) Shimla

41. Compensatory Afforestation:

Online Proposal no. FP/HP/HYD/8255/2014 (Thana Plaun HEP(191MW)

Detail of CA SiteForest Division: *Mandi*Forest Range: *kataula*Name of Forest: *Nandal waste land (Charagah bila Darkhtan)*Compartment/Khasra number: *702/355*Status of CA Land: *waste land (Charagah bila Darkhtan
(UPF under Waste Land notification 1952 or UPF/DPF under IFA, 1927)*Patch no.: *14*Area of Patch: *5.18 ha.*Whether Proposed CA land is in vicinity to the area being proposed for diversion and/or contiguity with the existing forest area (Distance is also required):- *Within 1 km of forest area.*Inspecting Officers from IRO, Shimla:*Sh. Raghuvveer Singh, STA**Sh. Subhash Singh, JTA*Officers/Staff from the State Forest Department present during the visit:*Sh. Prakash, VRO, Kataula*Officers/Staff from User Agency present during site visit*Sh. Rahul Sharma, Deputy Manager (Env.)*

xcix. Whether land for compensatory afforestation is suitable from plantation and management point of view or not.

As per Our Observation

Area:-5.18 ha.
Average slope:- 47°
Density:-Open
<i>Suitable for plantation</i>

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28.07.22

c. Whether land for compensatory afforestation is free from encroachments/ other encumbrances.

Free from encroachment/other encumbrances

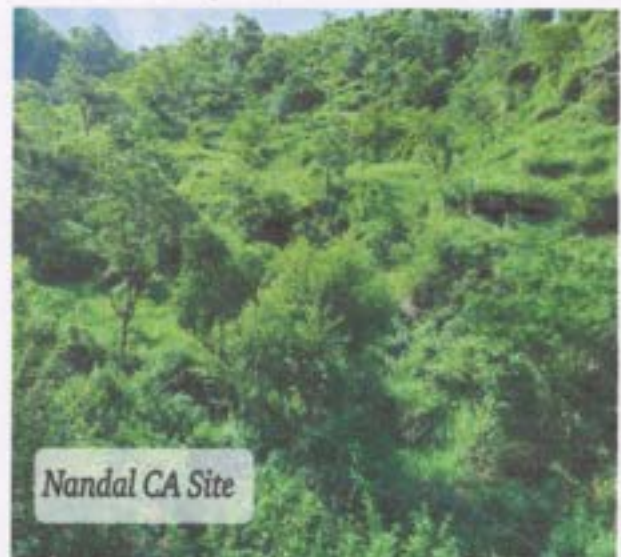
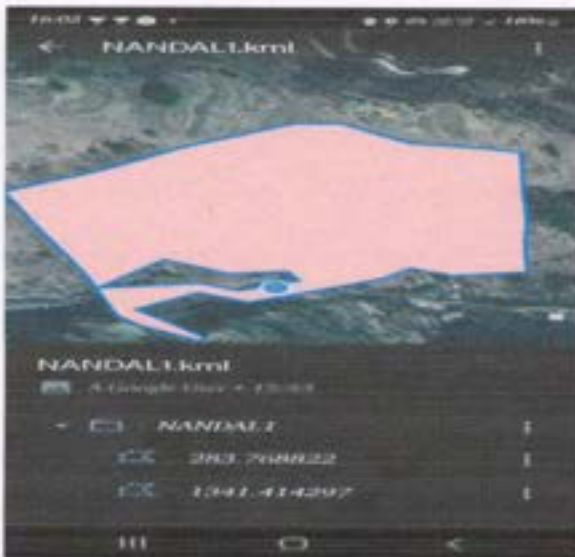
ci. Whether land for compensatory afforestation is important from Religious/ Archaeological point of view.

---No---

cii. Land identified for raising compensatory afforestation is in how many patches, whether patches are compact or not.

Single compact patch

ciii. Map with details (Photograph and Google Image of CA Site:



civ. Remarks

Suitable for plantation

Signature with Date:

*~ 1/1/22
23.7.22*

Name of the Inspecting Officer: Raghuvver Singh, STA

Designation: Senior Technical Assistant

Forest Survey of India, Regional Office (Northern) Shimla

42. Compensatory Afforestation:

Online Proposal no. FP/HP/HYD/8255/2014 (Thana Plaun HEP(191MW))

Detail of CA Site

Forest Division: *Mandi*

Forest Range: *kataula*

Name of Forest: *Arnehad (Waste land)*

Compartment/Khasra number: *768 (8.41 ha.) & 660 (6.39 ha.)*

Status of CA Land: *waste land (Charagah bila Darkhtan (UPF under Waste Land notification 1952 or UPF/DPF under IFA, 1927))*

Patch no.: *5*

Area of Patch: *14.85 ha.*

Whether Proposed CA land is in vicinity to the area being proposed for diversion and/or contiguity with the existing forest area (Distance is also required):- *Within 1 km of forest area.*

Inspecting Officers from IRO, Shimla:

Sh. Raghuvveer Singh, STA

Sh. Subhash Singh, JTA

Officers/Staff from the State Forest Department present during the visit:Officers/Staff from User Agency present during site visit

Sh. Rahul Sharma, Deputy Manager (Env.)

- cv. Whether land for compensatory afforestation is suitable from plantation and management point of view or not.

As per Our Observation

Area:-8.41 ha.	Area:-6.39 ha.
Average slope:- 45°	Average slope:- 39°
Density:-Open	Density:-Open
<i>Suitable for plantation</i>	<i>Suitable for plantation</i>

- cvi. Whether land for compensatory afforestation is free from encroachments/ other encumbrances.

Free from encroachment/other encumbrances

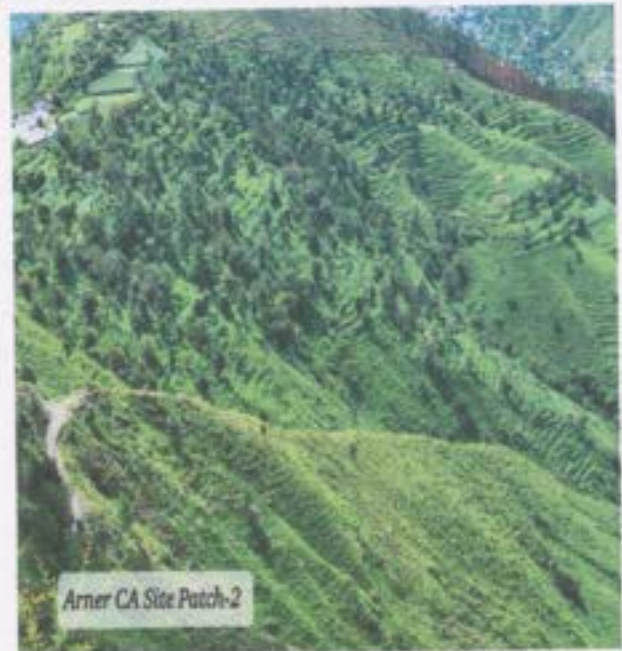
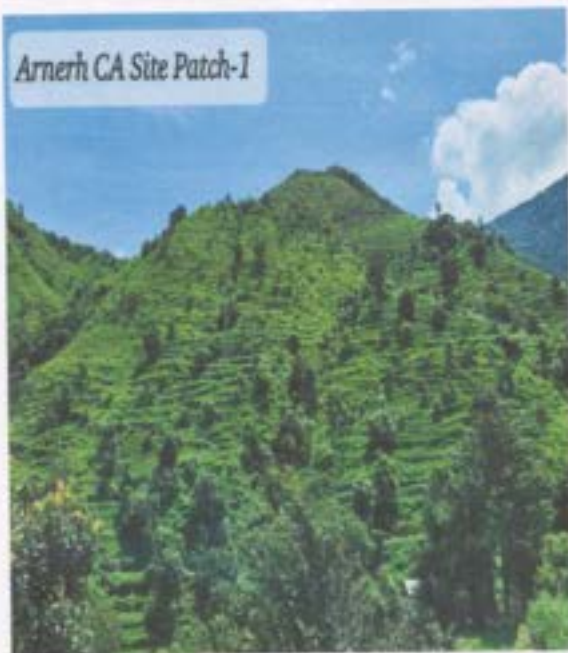
- cvii. Whether land for compensatory afforestation is important from Religious/ Archaeological point of view.

----No----

cviii. Land identified for raising compensatory afforestation is in how many patches, whether patches are compact or not.

Single compact patch

cix. Map with details (Photograph and Google Image of CA Site):



ex.

cxi. Remarks

Approximately 1 ha. Area is overlapped with DPF Bairoo CA site.

Suitable for plantation

Signature with Date:

Name of the Inspecting Officer: Raghuvver Singh, STA

Designation: Senior Technical Assistant

Forest Survey of India, Regional Office (Northern) Shimla

m A S
24.07.22

43. Compensatory Afforestation:

Online Proposal no. FP/HP/HYD/8255/2014 (Thana Plaun HEP(191MW))

Detail of CA Site

Forest Division: *Mandi*

Forest Range: *kataula*

Name of Forest: *DPF Jammu tunker (Sakaryar DPF)*

Compartment/Khasra number: *C1*

Status of CA Land: *DPF under IFA, 1927*

(UPF under Waste Land notification 1952 or UPF/DPF under IFA, 1927)

Patch no.: *8*

Area of Patch: *8 ha.*

Whether Proposed CA land is in vicinity to the area being proposed for diversion and/or contiguity with the existing forest area (Distance is also required):- *Within 1 km of forest area.*

Inspecting Officers from IRO, Shimla:

Sh. Raghuvveer Singh, STA

Sh. Subhash Singh, JTA

Officers/Staff from the State Forest Department present during the visit:

Sh. Naresh Kumar, Forest Gaurd, Kataula

Officers/Staff from User Agency present during site visit

Sh. Rahul Sharma, Deputy Manager (Env.)

cxii. Whether land for compensatory afforestation is suitable from plantation and management point of view or not.

As per Our Observation

Area:-8 ha.
Average slope:- 37°
Density:-Open
<i>Suitable for plantation</i>

M. A. S. S.
24-07-22

cxiii. Whether land for compensatory afforestation is free from encroachments/ other encumbrances.

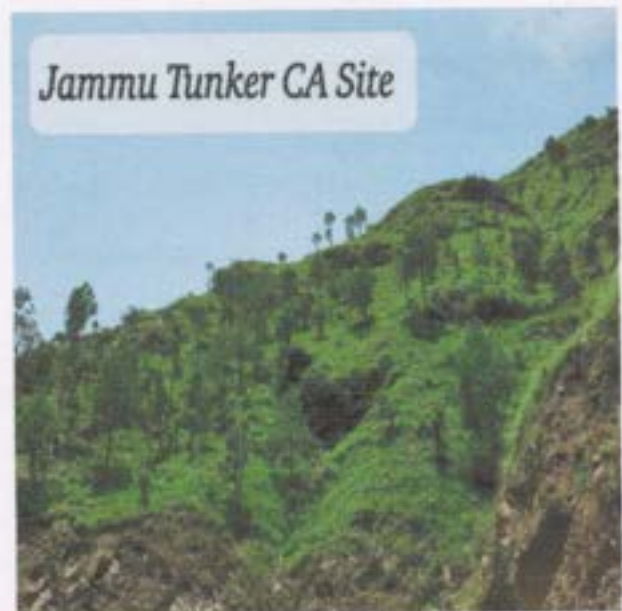
Free from encroachment/other encumbrances

cxiv. Whether land for compensatory afforestation is important from Religious/ Archaeological point of view.

---No---

cxv. Land identified for raising compensatory afforestation is in how many patches, whether patches are compact or not.
Single compact patch

cxvi. Map with details (Photograph and Google Image of CA Site:



cxvii. Remarks

Suitable for plantation

M. A. H. S.
24.07.22

Signature with Date:

Name of the Inspecting Officer: Raghuvver Singh, STA

Designation: Senior Technical Assistant

Forest Survey of India, Regional Office (Northern) Shimla

44. Compensatory Afforestation:

Online Proposal no. FP/HP/HYD/8255/2014 (Thana Plaun HEP(191MW))

Detail of CA Site

Forest Division: *Mandi*

Forest Range: *Sadar Mandi*

Name of Forest: *DPF Gandharv*

Compartment/Khasra number: *CIIb*

Status of CA Land: *DPF under IFA, 1927*

(UPF under Waste Land notification 1952 or UPF/DPF under IFA, 1927)

Patch no.: *7*

Area of Patch: *20 ha.*

Whether Proposed CA land is in vicinity to the area being proposed for diversion and/or contiguity with the existing forest area (Distance is also required):- *Within 1 km of forest area.*

Inspecting Officers from IRO, Shimla:

Sh. Raghuvver Singh, STA

Sh. Subhash Singh, JTA

Officers/Staff from the State Forest Department present during the visit:

Sh. Rajesh Thakur, RO, Sadar Mandi

Officers/Staff from User Agency present during site visit

Sh. Ishant Rai, Junior Officer (Env.)

cxviii. Whether land for compensatory afforestation is suitable from plantation and management point of view or not.

As per Our Observation

Area:-10 ha.
Average slope:- 44°
Density:-Open
<i>Under Growth: Dense</i>

cxix. Whether land for compensatory afforestation is free from encroachments/ other encumbrances.

Free from encroachment/other encumbrances

25.7.22

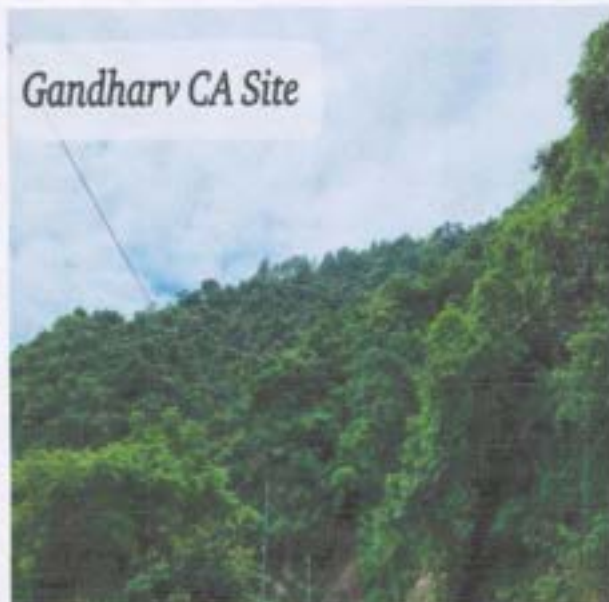
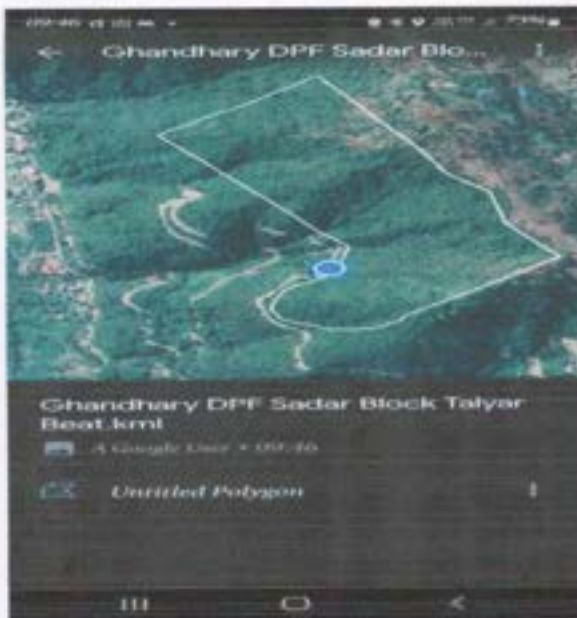
cxx. Whether land for compensatory afforestation is important from Religious/ Archaeological point of view.

----No----

cxxi. Land identified for raising compensatory afforestation is in how many patches, whether patches are compact or not.

Single compact patch

cxxii. Map with details (Photograph and Google Image of CA Site:



cxxiii. Remarks

Entire area is not suitable for plantation and only gap plantation is possible if bushes are removed.

Signature with Date:

M. D. Singh
25.7.22

Name of the Inspecting Officer: Raghuvver Singh, STA
Designation: Senior Technical Assistant
Forest Survey of India, Regional Office (Northern) Shimla

45. Compensatory Afforestation:

Online Proposal no. FP/HP/HYD/8255/2014 (Thana Plaun HEP(191MW)

Detail of CA Site

Forest Division: Mandi

Forest Range: kataula

Name of Forest: BADAUN

Compartment/Khasra number: 121 (9.71 ha.), 220 (24.19 ha.) 266/237 (16.67 ha.), 281/258/22 (17.48 ha.) & 282/260/253 (10.6 ha.)

Status of CA Land: Waste land (Charagah bila Darkhtan)

(UPF under Waste Land notification 1952 or UPF/DPF under IFA, 1927)

Patch no.: 4

Area of Patch: 78.64 ha.

Whether Proposed CA land is in vicinity to the area being proposed for diversion and/or contiguity with the existing forest area (Distance is also required):- Within 1 km of forest area.

Inspecting Officers from IRO, Shimla:

Sh. Raghuvveer Singh, STA

Sh. Subhash Singh, JTA

Officers/Staff from the State Forest Department present during the visit:

Sh. Prakash, VRO, Kataula

Officers/Staff from User Agency present during site visit

Sh. Rahul Sharma, Deputy Manager (Env.)

cxxiv. Whether land for compensatory afforestation is suitable from plantation and management point of view or not.

As per Our Observation

Area:-74.64 ha.
Average slope:- 36°
Density:-Open
Approximately 1 ha. Area covered with trees.
Suitable for plantation

21/1/22
23.07.22

cxxv. Whether land for compensatory afforestation is free from encroachments/ other encumbrances.

Free from encroachment/other encumbrances

cxxvi. Whether land for compensatory afforestation is important from Religious/ Archaeological point of view.

---No---

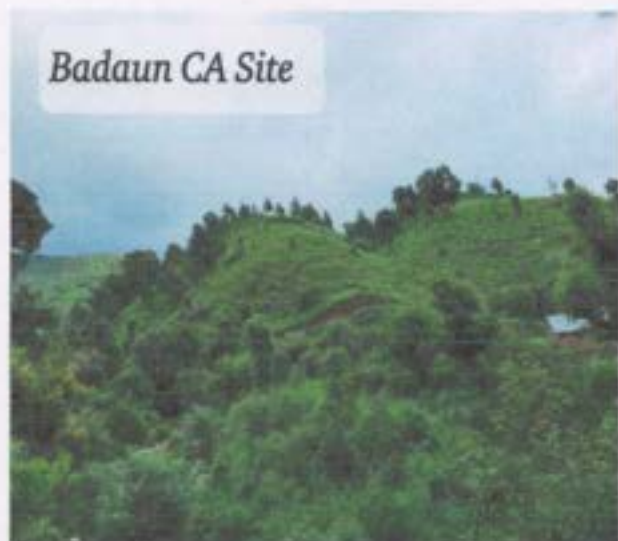
cxxvii. Land identified for raising compensatory afforestation is in how many patches, whether patches are compact or not.

Five patches

cxxviii. Map with details (Photograph and Google Image of CA Site:

Area:8.01 ha.

Area:24.03 ha



cxxix. Remarks

Suitable for plantation.

Signature with Date:

Name of the Inspecting Officer: Raghuvver Singh, STA

Designation: Senior Technical Assistant

Forest Survey of India, Regional Office (Northern) Shimla

RAGHUVVER SINGH
23.07.22

Minutes of the 20th Meeting of the Expert Appraisal Committee for River Valley & Hydroelectric Projects held on 27.11.2018 at Teesta Meeting Hall, First Floor, Vayu Wing, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi-3.

The 20th meeting of the re-constituted EAC for River Valley & Hydroelectric Projects was held on 27.11.2018 with the Chairmanship (Acting) Dr. D.K. More in the Ministry of Environment, Forest & Climate Change at Teesta Meeting Hall, First Floor, Vayu Wing, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi-3. The following members were present:

- | | |
|-----------------------|-------------------------|
| 1. Dr. D.M. More | - Chairman (Acting) |
| 2. Shri Sharvan Kumar | - Representative of CEA |
| 3. Shri N.N. Rai | - Representative of CWC |
| 4. Dr. J.A. Johnson | - Representative of WII |
| 5. Shri T.P. Singh | - Member |
| 6. Prof. S.R. Yadav | - Member |
| 7. Dr. S. Kerketta | - Member Secretary |

Dr. S.K. Jain, Shri Chetan Pandit, Dr. A.K. Sahoo, Dr. Vijay Kumar, Prof. S.K. Kohli and Dr. (Mrs.) Poonam Kumria could not be present due to pre-occupation.

The deliberations held and the decisions taken are as under:

Item No. 20.0 Confirmation of minutes of 19th EAC meeting.

The Minutes of the 19th EAC (River Valley & Hydroelectric Projects) meeting held on 26.10.2018 were confirmed.

Item No. 20.1 Cumulative Impact Assessment and Carrying Capacity Study of Beas River Basin, Himachal Pradesh- Reconsideration of the study report before the EAC

Further to discussion on Cumulative Impact Assessment and Carrying Capacity Study of Beas River Basin, Himachal Pradesh in 19th EAC meeting, where Directorate of Energy, Government of Himachal Pradesh had made a presentation on the pending concerns of EAC. EAC deliberated in detailed and sought further information from Directorate of Energy to which they made presentation before EAC on the pending issues. As per the presentation including the facts presented by the Director of Energy, the Committee discussed the following:

Jobrie HEP (12 MW) – Govt. of Himachal Pradesh (GoHP) confirmed that as recommended by EAC, the HEPs will be developed as per the applicable norms and restrictions of project development in protected areas and Eco-sensitive Zones.

Manalsu HEP (21.9 MW) - A newly identified project falls within Manali WLS and was therefore recommended for dropping. However, on representation by the PP, EAC had asked State Govt. to submit the details of the locations of the project features of the Manalsu HEP *vis-a-vis* the boundary of the Manali WLS for further consideration of the EAC. Government of Himachal Pradesh submitted that

(Signature)
(Signature)

Accordingly, the CWC revised the DPR and submitted it to J&K Govt. in December, 2017. As per revised DPR, the Maximum Water Level (MWL) is 609.5 m, Full Reservoir Level (FRL) is 608.00 m. The area under submergence has decreased to 34.50 km² from 41 km² and number of families affected due to submergence decreased to 1698 from 2235. The total cost of the project as envisaged in DPR is Rs 4750 crores and B.C. ratio is 1.062.

The Govt. has approved the implementation of Ujh MPP as per revised DPR.

The EAC after the detailed presentation by the PP observed that earlier Ujh MPP proposal for accord of TOR was appraised in Expert Appraisal Committee (EAC) for River Valley & Hydro Electric Power Project (RV&HEP) in its meeting held on 11-12th December, 2014. TOR was issued vide No. J-12011/39/2014-IA-I dated 30.01.2015 with validity of 3 years up to 29.01.2018. Project Proponent informed to the Ministry that EIA studies could not be initiated due to direction for reducing the submergence caused by the reservoir of the project. A fresh DPR has been prepared by Monitoring & Appraisal Directorate, Central Water Commission, Jammu and was submitted to J&K Government in December, 2017. FRL has now been reduced from 614.0 m to 608.00m and reduction in submergence area from 41.00 km² to 34.5 km². Accordingly, PP has made application a fresh for the ToR.

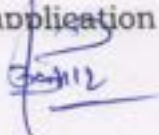
The EAC in its present meeting (20th) after detailed deliberations, recommended for the grant of ToR of the project with the additional conditions covered in TOR issued vide No. J-12011/39/2014-IA-I dated 30.01.2015.

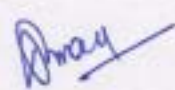
Item No. 20.7 Construction of Thana Plaun HEP (191 MW) Project in Mandi District of Himachal Pradesh by M/s Himachal Pradesh Power Corporation Ltd - for Fresh Environment Clearance- reg. F. No. J- 12011/12/2011-IA.I, Proposal No. IA/HP/RIV/75041/2013.

The proposed Thana Plaun HEP (191 MW) is a storage scheme and the water conductor system of the project is on the left bank of river Beas. The project envisages the construction of concrete gravity dam across river Beas in the Mandi District of Himachal Pradesh, with a live storage capacity of 44.93 MCM to enhance the peaking benefits during the lean months. The entire catchment comprises mountainous terrain with steep hill slopes and is very thinly populated. For construction of the project, about 444.29 hectare land, out of which forest land (forest land, Govt. (Deemed Forest Land) and private (Deemed Forest Kismvani land) altogether constituted 406.79 ha.

The Terms of Reference for carrying out the EIA studies and preparation of EMP as per the provisions of Environmental Impact Assessment Notification 2006 and subsequent Notification in 2009 was approved and permission for pre-construction activities was accorded vide letter No. J-12011/12/2011-IA-I dated 29.11.2012 for Thana Plaun HEP with installed capacity of 141 MW of Mandi District of Himachal Pradesh by M/s. HPPCL.

M/s HPPCL submitted application dated 12.09.2013 for revalidation of







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MW to revised installed capacity of 191 MW which entailed change in layout also. EAC noted that the capacity of the project has been enhanced from 141 MW to 191 MW and it is not a case of merely extension of the validity of TOR. The scope of the project has been changed as the capacity has been substantially revised to 191 MW. Therefore, the project will be reconsidered by the EAC.

The project proponent submitted Form-1 afresh and the same has been presented before the EAC at its meeting held during 20-21 February, 2014. The EAC recommended for a fresh TOR for Thana-Plaun HEP (191 MW) as per MoEF& CC norms and also recommended to use already collected base line data for the purpose of EIA/EMP studies subject to the condition that the data should not be older than 3 years and with some additional TOR conditions. The ToR was accorded on 05.06.2014 for a period of 3 years, which was further extended for one year. Hence, the validity of the ToR was up to 04.06.2018. Public Hearing for the proposed project has been conducted by the Himachal Pradesh State Pollution Control Board, Himachal Pradesh at villages Mahan, Khalanu, Kotli and Kadakalayan, Tarnosh, Kotli and Gram Panchayat Office at Barhi, Dharampur, Mandi during on 22-23 March, 2018.


PP has submitted the application for EC online on 19.05.2018. However, the base line data collected for the EIA / EMP studies is from 1st March 2013 to 31st December, 2013. EAC noted that the data collected for the study is more than three years old and hence could not be considered for appraisal of the project. After detailed deliberation, considering all the facts as presented by the project, EAC in its 15th meeting recommended that PP should collect baseline data for one more season afresh and resubmit the EC application. The following more additional information were also sought:

- I. Recommendation of E-flow and maintenance of free flow stretches between two HEPs as per the CIA and CC of Beas River Basin studies to be followed.
- II. Resultant pollution loads of all the environmental parameters be derived again for all the possible pollution sources. Based on the findings, mitigative measures be suggested including allocation of capital budgets for different heads.

PP has submitted the details sought in the 15th EAC meeting held on 28.06.2018 to the Ministry, accordingly the proposal has been considered in the present meeting wherein PP has informed to EAC that base line studies were conducted within 10km radius during monsoon season in the months of July-August-September 2018. Project Proponent committed that, E-flows have to be followed as per recommendation under CIA & CCS of Beas River Basin studies under consideration with MoEF&CC, GOI. Provisions finally approved in respect of environmental flow will be adhered by the project authorities of Thana Plaun HEP. PP also presented before the Expert Appraisal Committee impacts of the proposed project on environmental attributes such as water, air, noise, land & biological environment and social-economic environment along with mitigation measures.

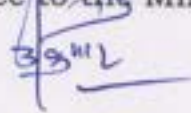
S. No.	Name of the EMPs	Proposed cost (Rs. In Lacs)
1	Catchment Area Treatment Plan	5560.00
2	Compensatory Afforestation Plan	1011.27
3	Green Belt Development Plan	20.00
4	Biodiversity Management Plan	160.00
5	Fisheries Management Plan	117.00
6	Reservoir Rim Treatment	200.00
7	Muck Management Plan	176.00
8	Restoration Plan for Quarry Sites and Landscaping	35.00
9	Plan for Public Health Delivery System	100.00
10	Energy Conservation Plan	130.00
11	Solid Waste Management Plan	160.00
12	Rehabilitation and Resettlement Plan	3522.00
13	Local Area Development Plan*	3335.00*
14	Plan for Air, Water & Noise Quality Management	50.00
15	Disaster Management Plan & Risk Assessment	80.00
16	Environment Monitoring Plan	249.00
17	Road Management Plan	21.00
Total		11591.57 say 11592.00

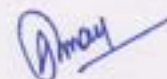
*Cost already included in the project establishment cost


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After detailed deliberations, the EAC in its present meeting (20th) recommended for grant of Environmental Clearance to the proposed project subject to the following additional conditions:

1. Environment Clearance in respect of Thana Plaun HEP (191 MW) subject to adhering with the conditions/recommendations under CIA & CCS of Beas River Basin studies under consideration with MoEF&CC, GOI.
2. Submission of FC stage I Clearance to the Ministry.







CHAPTER 1. INTRODUCTION, OBJECTIVE & SCOPE

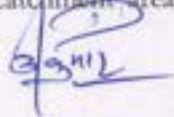
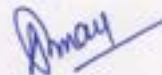
1.1. Rivers possess a delicate ecology that depends on a regular cycle of disturbance within certain tolerances. The plant and animal communities that inhabit the river and river margins have evolved to adapt to their rivers own peculiar pattern of flood and drought, slow and fast current. Dams disrupt this ecology. The first effect of a dam is to alter the pattern of disturbances on which the plants and animals of a river depend. Many aquatic animals coordinate their reproductive cycles with annual flood seasons. Every flood is valuable in that it takes nutrients from the land and deposits them in the river, providing food for the stream's residents. Floods also provide shallow backwater areas on vegetated and shaded riversides; the young of many animals depend on these backwaters to protect them from predators too large to swim in these shallow waters.

1.2. Himachal Pradesh Forest Department has embarked upon major initiatives to improve the catchment areas of all the major rivers in the state. The approach of HPFD is well expressed in a document published by the department in 2012. It is pertinent to quote this approach and objectives in the current context.

1.3. The government of Himachal Pradesh aims to become a leading power generating state by utilization of its hydrological potential. Himachal Pradesh has an achievable potential of producing more than 27,000 MW of power. The Government of Himachal Pradesh has awarded the work of development of the Thana Plaun Hydropower (191 MW) scheme for power generation using water from Beas River and Rana Khad in Joginder Nagar Mandi District to Himachal Pradesh Power Corporation Limited (HPPCL).

1.4. CATCHMENT AREA

This project is located at Kotli, downstream of the confluence of Beas River and Rana Khad. Beas is the only tributary of the Indus system confined to India. The total catchment area of Beas River is 29500 Km², which spreads in two Indian states, Himachal Pradesh (H.P.) and Punjab. Out of 29500 Km² catchment area, 12130 km² is spread within Himachal Pradesh (H. P) and remaining 17370 Km² in Punjab. The catchment area of Beas River at Thana Plaun dam site is 7378 Km². Average Annual Catchment Yield of water is 5416 million meter³. The life of a dam is directly affected by the rate of siltation which is a major threat to utility of dam. The siltation is primarily dependent on the physical and biological conditions of the catchment area of the project. The more productive the Catchment area, the lesser will be the quantity of the silt flowing to the dam site.


Name of Project: Thana Plaun HEP (191MW) in Distt. Mandi, H.P
 Name of Executing Agency: Himachal Pradesh Power Corporation Limited.
 Forest land involved: 406.79 Ha.

CHECKLIST NO:33**Cost Benefit Analysis**

Case under which a cost-benefit analysis for forest diversion are required

Sr.No.	Nature of proposal	Applicable /not applicable	Remarks
1.	All categories of proposals involving forest land up to 20 hectares in plains and up to 5 hectare in hill.	Not applicable	
2.	Proposal for defence installation purposes and oil prospecting (prospecting only).	Not applicable	
3.	Habitation, establishment of industrial, units, tourist lodges complex and other building construction.	Not applicable	
4.	All other proposals involving forestland more than 20 hectares in plains and more than 5 hectares in hills including roads, transmission lines, minor, medium and major irrigation projects, hydro projects, mining activity, railway lines, location specific installations like micro-wave stations, auto repeater centres, TV towers etc.	Applicable	Thana Plaun Hydro-electric Project (191 MW) is conceived as storage cum run-of-river scheme. The proposed Thana Plaun Hydro-electric Project located in Mandi District of Himachal Pradesh, lies between Longitude 76° 15' to 77° 45' East and Latitude 35° 45' to 32° 30' North. After detailed survey/studies the land requirement for the project has been finalised. Total Forest land required for the construction of the project is 406.79 hectares.




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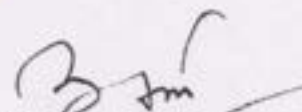


Parameters of Evaluation of Loss of Forest (Cost)

No.	Parameters	Rates of NPV (in Rs.)	Value of loss (in Rs)
1.	Ecosystem services losses due to proposed forest diversion.	6, 57,000/- per Ha.	267261030/-
2.	Loss of animal husbandry productivity, including loss of fodder.	10 % of NPV	26726103/-
3.	Cost of human resettlement	Nil	Nil
4.	Loss of public facilities and administrative infrastructure (Roads, building, schools, dispensaries, electric lines, railways, etc.) on forest land, which would require forest land if these facilities were diverted due to the project.	Nil	Nil
5.	Possession value of forest land diverted	30 % of NPV	80178309/-
6.	Cost of suffering to oustees	Nil	Nil
7.	Habitat Fragmentation cost	50 % of NPV	133630515/-
8.	Compensatory afforestation and soil & moisture conservation cost.	-----	182060121/-
	Total		689856078/-
			Or say Rs. 6898 lakh.

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**PARAMETERS OF EVALUATION OF BENEFITS NOT WITH STANDING LOSS OF FORESTS
(BENEFITS).**

Nature of Proposal			Hydro Electric Project		
Sr. No.	Parameter	Applicability vis-à-vis nature of proposal and explanation.	Quantity of Benefit	Rate in Rupees	Monetary Value of Benefit (Rs. in lakh)
1.	increase in productivity attributable to the specific project	Applicable as in case of HEP. Though irrigation is not feasible in this run of the river project hence in primary sector no benefit may accrue yet the productivity increase in secondary and tertiary sector is likely to increase. This excludes revenue from sale of power *	500 units	10 000/- unit per year	2500.00
2.	Benefits to economy due to specific project.	Revenue from sale of power annually. For the total project period ^ it would increase tremendously.	668.07 Gwh (Giga-watt-hour) or 668070000 units Per year	3.00 per unit	2004.21
3.	No. of population benefited due to specific project.	Increase availability of power will give impetus to industry and service sector as indirect employment etc ^d	5000 persons	1000 per capita per year	2500.00
4.	Economic benefit due to direct and indirect Employment due to the project.	Direct employment (for period of three years) ⁵ (construction phase)	1200 persons	150000 per year	8100.00
		Direct employment (for a period of 50 years) ⁵ (Post construction phase)	200	240000 per year	24000.00
5	Economic benefits due to Compensatory afforestation.		50 years	NIL	0
Total (Benefits)		-	-	-	39104.2 Lakh

Notes @ Explanations.

- *The benefiting units in terms of an increase in productivity vary greatly in secondary and tertiary sectors. As such this kind of distant benefit is difficult to quantify and monetize. However, the taking the beneficiary as units (whether as industries, service sectors companies or individuals) the quantity of benefit is attempted to be defined for a period of 50 years. This is highly conservative estimate.
- ^If the benefit to the economy is calculated for a period of 50 years (ie expected life of the project) then it comes to 100210.5 lac Rupees.
- #However, the indirect employment in a post construction scenario is expected to then rise as the power supply begins to the industries and urban areas. About 5000 people are expected to benefit annually for a period of 50 years in the secondary and tertiary sectors @ Rs 1000 per person in a year gaining benefit of Rs 100 lac annually.
- SDirect employment of people during construction period is to be the tune of 1200 persons @Rs 225 per day for about 300 days in a year. During the construction phase approximately 250 people in service and trade would also benefit for which no monetization is possible. The direct employment would come down drastically in a post construction phase and about 200 persons would be there for maintenance and for power supply as regular employees @ Rs 20000/-pm average salary (annual Rs 240000/-)

Cost Benefit Analysis.

	Rs in lakh
Total loss(cost)	6898 lakh
Total Benefit	39104.2 Lakh
Cost Benefit Ratio	1:5.7

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