

Subject : UPPER LANTH MEDIUM IRRIGATION PROJECT

1. The State Government of Orissa vide their letter no. **10F (Con)146/2018/19054/F&E** and date **31-08-2018** submitted the above mentioned proposal to obtain prior approval of central Government, in accordance with Section-2 of the Forest(Conservation)Act,1980.

2. Details indicated in the proposal submitted by the Government of Orissa are as below

FACT SHEET

1.	Project Details	
(i)	Proposal No	FP/OR/IRRIG/25941/2017
(ii)	Name of the Proposal	UPPER LANTH MEDIUM IRRIGATION PROJECT
(iii)	Short Narrative of the proposal and Project/scheme for which the forest land is Required	The proposed Upper Lanth irrigation project is located near village Chikili in Belpara and khaprakhol block in Patnagarh Sub-division of Bolongir district in the state of Odisha. It envisages construction of earth dam with central concrete spillway across Lanth, a tributary of river Tel in Mahanadi
(iv)	Category	Irrigation
(v)	Total Area of the Forest Land (in ha.):	341.23
(vi)	Total period for which the forest land is proposed to be diverted(in years)	100
2.	Location:	
(i)	State	Orissa
(ii)	District	Bargarh
3.	Detail of user agency	
(i)	Name of the user agency	UPPER LANTH MEDIUM IRRIGATION PROJECT
(ii)	Shape of forest land proposed to be diverted	Hybrid
(iii)	Legal status of User Agency	State Government

4. Legal status of forest land proposed for diversion

S. No.	Division	Forest Land(ha.)	Legal Status
1	Bolangir	341.23	Reserved Forest

5. Land use plan

Component wise breakup			
S.no	Component	Forest Land(ha.)	Non-Forest Land(ha.)
1	Right Main Canal	3.982	14.762
2	Left Main Canal	8.698	37.909
3	Dam	11.847	17.976
4	Reservoir	316.7	146.39

6. Vegetation

(i) Species-wise and diameter class wise enumeration of trees

S. No.	Scientific Name	Local Name	(0-30)cm.	(31-60)cm.	(61-90)cm.	(91-120)cm.	(121-150)cm.	(>150)cm.
1	Tectona Grandis	Teak	-1	37	19	12	9	23
2	Dalbergia Latifolia	Sisso	-1	33	20	9	7	0

3	Shorea Robusta	Sal	-1	1738	1368	568	220	53
4	Adina cordifolia	Hadan	-1	1241	743	264	87	29
5	Albizia Procera	Tentra	-1	315	395	143	57	17
6	Arjun	Arjun	-1	328	309	377	91	92
7	Diasporus Melanoxyton	Kendu	-1	1157	899	423	193	167
8	Madhuca indica	Mahul	-1	1471	1527	902	329	219
9	Anogeissus latifolia	Dhaura	-1	408	467	277	128	44
10	Terminalia Chebula	Harida	-1	1905	1226	602	395	133
11	Tamarindus Indica	Tentuli	-1	2550	1707	849	261	136
12	Mangifera indica	Mango	-1	4260	4128	1232	462	119
13	Schleichera oleosa	Kusum	-1	550	496	452	290	120
14	Terminalia belerica	Bahada	-1	1652	770	661	171	108

(ii)	Density of Vegetation	0.4
(iii)	Eco Class	Eco 3
(iv)	Total numbers of trees to be filled	42436
(v)	Total Tree to be retained .	Less than 60(in cm.) : 17631 Greater than 60(in cm.): 24805
7.	Vulnerability of area to soil erosion	The Catchment area treatment plan is enclosed.
8.	Approximate distance of proposed site for diversion from boundry of forest (in Km.)	0
9.	Significance of the forest land proposed for diversion from wildlife point of view	
(i)	Details of wildlife present in and around the forest land proposed for diversion	0
(ii)	Whether forms part of national park, wildlife sanctuary, biosphere reserve,tiger reserve, elephant corridor, wildlife migration corridor etc.	No
(iii)	Whether the forest land proposed for diversion is located within eco-sensitive zone(ESZ) of the Protected Area notified under Wildlife(Protection) Act,1972 (Note: In case, ESZ of a Protected Area is not notified,then,10kms distance from boundary of the Protected Area should be treated as ESZ)::	No
(iv)	Whether any national park, wildlife sanctuary, biosphere reserve, tiger reserve, elephant corridor, wildlife migration corridor etc., is located within 1 Km. from boundary of the forest land proposed for diversion :	No
(v)	Whether any rare/endangered/unique species of flora and fauna found in the area :	No
10.	Whether any protected archaeological/ heritage site/ defence establishment or any other important monument is located in the area. if so, the details thereof with NOC from competent authority, ifrequired.	No
11.	Whether the requirement of forest land as proposed by the User Agency is unavoidable and	Yes

	bare minimum for the project.if no,recommended area item-wise with detailes of alternatives examined.								
12.	Whether any work in violation of the Act has been carried out(yes/No),if yes,details of the same including of the work done,action taken on erring officials. Whether work in violation is still under progress.	No							
13.	Details of compensatory afforestation scheme								
(i)	Patch wise details of non-forest or Revenue forest land to be provided by User Agency for CA								
	Patch Wise Details								
	S.no	District Name	Village	Area(in ha.)					
	1	Balangir	Baguadar,Bileimara,Bindhanaphara,Dahimal,DamkipalliJailia,Karlabahal,Karlamal,Khalipathara,Parlimal	341.562					
(ii)	Patch wise details for Degraded Area (To be earmarked by DFO)								
	No Data								
(iii)	Total Financial Outlay for C.A(lacs):	0							
(iv)	Whether the land identified by User Agency is suitable for CA and from managementpoint of view:	No Data							
14.	Documentary evidence in support of settlement of rights in accordance with the provisions of the scheduled Tribes and other Traditional Forest Dwellers(Recognition of forest Rights) Act,2006 on the forest land proposed to be diverted enclosed.	Given							
15.	Whether the project requires envirmnt Clearance	(a). Status of the Environmental Clearance to the Project: EC application yet to be submitted							
16.	Catchment Area Treatment Plan	Catchment Plan is given							
17.	Rehabilitaion of Outstee								
(i)	Number of SC Families	22							
(ii)	Number of ST Families	110							
(iii)	Number of Backword Families	210							
(iv)	Copies of R&R Plan	Approved R and R Plan has not been given							
18.	Cost Benefit Analysis	Cost benefit analysis is given and cost benefit is 1:1.844							
19.	Total cost of the project(in crore):	4899							
20.	Employment Potential	Permanent Employee : 30 Temporary Employee : 350 Total Employee : 380							
21.	Details of Mining lease	No							
22.	Undertaking to bear the cost of CA and NPV	Given							
23.District Profile									
S.no	District	Geographical	Forest area	Total forest area	No. of	Forest Land	Progress of	Forest	Non-

	Name	area of the district (in ha.)	of the district (in ha.)	diverted since 1980 (in ha.)	Approved Cases	including penal C.A. (in ha.)	compensatory afforestation as on(date)	land (in ha.)	forest land (in ha.)
1	Balangir	657500	118277.92	5673.63	13	0	31/08/2017	182	5381.63

24.	Total area proposed for afforested since 1980 -	Degraded forest land - 0 Penal CA over Forest land - 182 Non-Forest land - 5381.63 Total- 5563.63
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26.Site Inspection Report

Division	Circle	Site Inspection By	Date Of Visit	Brief Details of SIR at DFO
Bolangir	Bhawanipatna	DFO	15/09/2017	It is justified to divert 341.23 ha. of Forest Land for Upper Length Irrigation Project, which irrigate approximate 4700 ha. of land.
	Bhawanipatna	CF	19/07/2018	It is very much essential to divert 341.23 ha of forest land under Bolangir Forest Division for construction of the project which will provide irrigation facilities approximately 4700 ha of land in Bolangir District. Hence, the project recommended for approval of the Govt. of India, MoEF & CC.
		Nodal Officer	30/07/2018	Recommended for diversion of 341.230 ha of forest land (Bender-I & II RF-285.260 ha + Revenue Forest-55.970 ha) for construction of Upper Lanth Medium Irrigation Project under Balangir Forest Division of Balangir District, Odisha by Executive Engineer, Padampur Investigation Division, Padampur for approval under section 2 of Forest (Conservation) Act, 1980.

27.Recommendation with Specific conditions,(if any)

DFO/CF/PCCF/Nodal Officer

Division	Circle	Recommendation By	Recommendation	Remarks/Conditions
Bolangir	Bhawanipatna	DFO	Recommended	It is justified to divert 341.23 ha. of Forest Land for Upper Length Irrigation Project, which irrigate approximate 4700 ha. of land.
	Bhawanipatna	CF	Recommended	It is very much essential to divert 341.23 ha of forest land under Bolangir Forest Division for construction of the project which will provide irrigation facilities approximately 4700 ha of land in Bolangir District. Hence, the project recommended for approval of the Govt. of India, MoEF & CC.
		Nodal Officer	Recommended	Recommended for diversion of 341.230 ha of forest land (Bender-I & II RF-285.260 ha + Revenue Forest-55.970 ha) for construction of Upper Lanth Medium Irrigation Project under Balangir Forest Division of Balangir District, Odisha by Executive Engineer, Padampur Investigation Division, Padampur for approval under section 2 of Forest (Conservation) Act, 1980.

28. Specific recommendation of the State Government

State	Recommendation By	Recommendation	Remarks/Conditions
Orissa	State Secretary	Recommended	recommended vide letter no 19054 dated 31.08.2018.

29.	Forwording Letter for Nodal Officer	
30.	Forwording Letter for State Government	

Brief detail of SIR by RO

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Comments of Additional Information By :

i. TO Remarks

ii. AIG Remarks

iii. IG Remarks

iv. ADG Remarks

v. DG Remarks

vi. Secretary Remarks

vii. MOS Remarks

viii. MEF Remarks

Back

Print

3. State Govt. vide their forwarding letter no. 10F(Con)146/2018/19054/F&E dated 31.08.2018 provided the following information for instant proposal:

i. Brief Description

Bolangir district, one of the most drought prone districts of Odisha, require immediate augmentation of irrigation facility. Although the annual rainfall is satisfactory in good years, but due to its erratic nature, most of the area very often suffer from loss of crop. It is an irony that in spite of adequate total rainfall, crops fail for want of timely rain at the critical flowering stage. The district often experiences long dry spells during September and October which results in crop failure, almost once in every two or three years. In the year 1996-1997, this district witnessed the severe drought resulting in large scale migration. As a drought proofing measure and to provide extensive irrigation. Upper Lanth Medium Irrigation Project has been contemplated to provide relief to a tribal pocket in the district which has only 3% irrigation coverage.

This Project has been cleared by the Advisory Committee of Central Water Commission, GoI on Irrigation, Flood Control and Multipurpose Projects in their 73rd meeting held on 31st May 2000 at New Delhi with an estimate cost of Rs. 48.99 crores with an irrigation potential of 4700 ha and minutes of the meeting communicated vide Letter no. 16/27/2000/PA(M) dated 12th June 2000. The salient features of the project is enclosed. The technical clearance of the CWC was subject to the following conditions.

Forest clearance from the Ministry of Environment & Forest for diversion of 394.94 ha of forest land.

Clearance of R&R Plan from the Ministry of Tribal Affairs.

Concurrence of State Finance Department.

As indicated by the user agency, the clearance of MoTA, GoI on the R&R Plan had already obtained. In order to have forest clearance for this irrigation project, the Chief Engineer PPF&I in his letter dt. 18.07.2016 has accorded his approval in favour of the Superintending Engineer, Northern Investigation Circle, Burla for an amount of Rs. 1,48,51,859/- for the work "Documentation and processing of forest diversion proposal for Upper Lanth Medium Irrigation Project under Patnagarh Block in the district of Bolangir". Forest Diversion proposal for obtaining forest clearance pertaining to forest kism land involved in this project, has been filed in the instant proposal. As intimated, the administrative approval for this project and concurrence of the State Finance Department shall be obtained after having forest clearance for this project. The Principal Secretary, Water Resources Department vide his letter no. 22952 dt. 29.08.2018 has also requested to process the forest diversion proposal for forest clearance.

The proposal Upper Lanth Medium Irrigation Project is located in Belpara and Khaprakhhol Blocks of Patnagarh Sub-Division of Bolangir District in the State of Odisha which is inhabited mostly by people belonging to SC, ST and other backward classes. The proposed irrigation project would improve the agriculture output and economy of the region. The site is located 75 Km away from Bolangir town. The nearest rail head Kantabanji of South Easter Railway is only 32 Km. away from the site. River Lanth originating from Gandhamardan mountain range forms the western boundary of the Bolangir district and it is tributary of river Tel which drains into river Mahandi in Mahandi basin of Odisha. It envisages construction of earth dam with central concrete spillway across of river Lanth.

It has been reported that the project is planned with an intercepted catchment area of 189sq. km. at the proposed site. The dam is so located that the idle length of canals area avoided and the two canals on either side provide irrigation soon after they take off from the dam.

Within the scope of this medium irrigation project, it is proposed to construct a homogenous rolled earth filled dam of 2495 m long and 23.5 m height with FRL at 295.5m. The dam has a gross storage of 46.50 MCM and a live storage of 40.86 MCM.

A central ogee type spillway of 99.0m length will be constructed with 7 nos. of radial gates each having size 12.0m x 6.5m with crest level at 289m and having flood discharge capacity of 1865cumec. There shall be two unlined canals of 6.66km in the right side and 16.08km on the left side with head discharge of 0.53 cumec and 3.67 cumec respectively. Both canals would jointly provide irrigation facility to 6105ha. annually.

The project has Gross Command Area (GCA) of 6170ha. And 4700ha as Culturable Command Area (CCA). Thus, on completion will provide irrigation to an ayacut of 4700 ha Belpara Block of Balangir District with Kharif & Rabi intensity of 85% and 45% respectively. Area under irrigation during Rabi crops will be 2115 ha. Whereas 3990ha.area would be irrigated during Khariff. It will also address the acute drinking water problem of a large population of 30,000 of nearby villages for whom 2.19 mcm of water has been earmarked. A mini hydel project for generating 210 kw. of electricity has also been planned in the project taking advantage of the natural topography.

The total land requirement for this Medium irrigation Project is 877.203 ha which includes 341.230ha of forest land and 535.973ha of non-forest land including private land of 396.141ha. The forest land of 341.230ha includes 285.259ha. of RF land and 55.971ha. of Revenue forest land spread over 13 villages of Belpada dn Kharprakhhol Tahasil of Bolangir district. Detailed land scheduled of the project including forest land duly authenticated by the Tahasildars concerned area at page 188-366/DP. The concerned Tahasildars of Belpara and Kharprakhhol have also furnished the status of land as on 25.10.1980. The project is located near village Chikilli and delineated at Latitude 20⁰-38'-20" North and Longitude 82⁰-53'-20" East in Survey of India topsheet F44W14. Out of total land of 12.682ha. of forest and 52.671ha of non-proponent, the Right Main canal requires 3.982ha of forest land where as Left Main canal is having 8.698ha of forest land. Similarly Dam of proposed project requires an extent of 29.822 ha of land in Belpada Tahasil comprising of 11.847 ha. of RF land 17.975ha. of non-forest land. More importantly this irrigation project will Kharprakhhol tehsil/block of Bolangir district, Submerged area is comprising of 271.533ha. of RF and 45.168ha. of Revenue forest and 465.327ha. of forest land.

As reported by the DFO, Bolangir Forest Division, the proposed area does not form part of National Park/Wildlife sanctuary/ Biosphere Reserve/Tiger Reserve. Availability of rare and endangered Species of flora and fauna has not been reported by the Divisional Forest Officer in the area. No Protected archaeological/heritage site/ defence establishment is located in the project area. The Divisional Forest officer has specifically reported that forest area applied for diversion is barest minimum and unavoidable. The total cost of the project is Rs. 4899 lakhs. However, this estimate was made in the year 2000. Project cost is likely to be increased by many folds considering the enhanced cost on construction of project at present rate including cost on account of forest an environment clearance for the project. The Project will generate a regular employment for 30 persons. In addition, the temporary employment of 350 persons is expected to be created in course of construction of the project.

Due to the construction of this project, land of two villages namely; Pandikimal and Jamjuri in the district of Bolangir will come under submergence. Thus the project involves displacement of human habitation. As per R&R Plan submitted by the project proponent, 342 nos. of families are to be rehabilitated which includes 22 families of SC category, 110 families of ST category and the remaining 210 families belonging to other communities. However, it has been submitted by the user agency that R&R scheme earlier prepared during March 2001 as per Govt. of Odisha R&R Policy 1994, was approved by MoTA, GoI. In view of latest demographic figure. It has been ascertained that 975 families will be displaced owing to this irrigation project. The user agency has undertaken that revised R&R scheme will be prepared and got approved before displacement of habitation for execution of project work. The rehabilitation and resettlement of above families is proposed to be implemented as per approved R&R policy of Govt. of Odihsa.

- ii. **Justification for locating the project in forest area:** This being a non-site specific project, details of justification for locating the project on forest land has been furnished by the user agency as required under para 2.1(3) of the Forest Conservation Act guidelines. Three different sites were examined for this irrigation project. Details area as under.

Site-I: This site was selected at Lat 20° 39' 31.77972" and Long 82° 50' 34.08396" on river Lanth. It covers 1238.3 ha. of RF area with FRL of 320mt to achieve the target of irrigation of 4700ha. CCA. It was also found that more than 16 villages will be affected and more than 1200 families will be displaced if the dam is constructed at this site. The density of forest is found to be more than 0.8 to 0.9. Taking all these facts into consideration, this site was not found to be suitable for this project.

Site-II: Another site located at Lat 20° 39' 20.4744" and Long. 82° 51' 37.794996" was examined. It was found that 1944.4ha. of RF is required to be acquired for FRL of 320mt. Besides 16 no. of revenue villages are to be severely affected involving displacement of more than 1250 families. Thus, this site was also not found suitable for this project.

Site-III: This site is located at 20° 38' 20" and Long 82° 53' 20" was examined then. It is found that this site involves minimum displacement of human habitation and least extent of forest land and maximum utilization of waste land. Although initially an area an area of 394ha. of RF land was estimated to be used for this project, after survey of the area, forest land to be used is found to be 341.23 ha including around 280ha. of RF land which will be barest minimum of forest land required for this project, 13 villages are going to be affected out of which only 2 villages will be submerged in the project, Availability of stable foundation grade rock (Granite) at smaller depths ranging from 1 mt top 5.80mt makes this site economical. Project cost on R&R will be reduced as only 2 villages will come under submergence due to creation of reservoir at FRL 295.50mt. Moreover, idle length of canal is avoided as the canals enter the plain land and provide irrigation just after it emerges from the reservoir at this location. All these locational advantages of this site make it geo-technically feasible. In view of this, Site III was finally selected for this irrigation project.

iii. **Maps:** The user agency has furnished maps dully authenticated by all concerned.

4. Forest land : The total land required for this Medium irrigation Project is 877.203 ha. Which includes 341.203ha of forest land and 535.973ha. of non-forest land including private land of 396.14 ha. The forest land of 341.203ha. includes 285.259ha. of RF land (Bender-I RF 39.760ha. + Bender-II RF 245.499ha.) and 55.971ha. of Revenue forest land spread over 13 villages of Belpada and khaprakhhol Tahasil of Bolangir district. Out of total forest land required for the project, the canals are having 12.682ha. of forest land (1.879ha. of RF and 10.803ha. of Revenue forest), fam comprising of 11.847ha. of RF land and Reservoir area is comprising of 271.533ha. RF (231.773ha. in Belpada tahasil and 39.76ha. in khaprakhhol Tahasil) and 45.168ha. of Revenue forest (32.ha. in Belpara and 13.168ha. in Khaprakhhol Tahasil).

The break-up of total land involved in this project is indicated as under.

Forest Division	Forest land involved (in Ha)						Non-forest land involved (in Ha)			Grand Total (in Ha)
	RF	PRF	VF	DLC	Revenue Forest	Total	Govt. land	Pvt.Land	Total	
Balangir	285.259 (Bender-I RF-39.760 ha & Bender II RF-245.499 ha)	-	-	-	55.971	341.230	139.832	396.141	535.973	877.203
Grand Total (in Ha)	285.259	-	-	-	55.971	341.230	139.830	396.141	535.973	877.203

The abstract of the area involved in Upper Lanth Irrigation project is furnished below.

Name of the District	Name of the Division	Area involved	Tahasil/ Block	Forest Area (in ha)			Non-forest Area (in ha)			Total Area (in ha)
				RF	Revenue forest	Total Forest Area	Govt. Land	Pvt. Land	Total	
Bolangir	Bolangir	Sub-merged area	Belpada	231.773	32.000	263.773	74.363	266.195	340.558	604.331
		Canal		1.879	10.803	12.682	13.243	39.428	52.671	65.353
		Dam		11.847	-	11.847	0.598	17.377	17.975	29.822
Sub-Total				245.499	42.803	288.302	88.204	323.000	411.204	699.506
		Sub-merged Area	Khapra-khol	39.760	13.168	52.928	51.628	73.141	124.769	177.697
Grand Total				285.259	55.971	341.230	139.832	396.141	535.973	877.203

5. Flora & fauna : The proposed forest area comes under forest Type- (1) Northern Tropical Dry Deciduous Forest (5B), Sub-Type- Dry Peninsular Sal Forests (Clc) and Edaphic Sub-type i.e. Dry Bamboo brake (E9). Tree species noticed in this area are Sal (*Shorea robusta*), Bel (*Aegle marmelos*), Dhaura (*Anogeissue latifolia*), Mango (*Mangifera indica*), Amla (*Embllica officinalis*), Teak (*Tectona grandis*), Neem (*Azadirachta indica*) etc.

As reported by the divisional forest Officer, Bolangir Forest Division there is no rare and endangered species of flora and fauna in the area. Wild mammals like sloth bear (*Melursus hirsinus hirsinus*), Hyena (*Hyena*), Jackal (*Canis aureus*), Squirrel (*Furambrius palmarum pelmamer*), Indian hare (*Lupus nigricollis nuficundata*), Common longoor (*Presbytis entellus entellus*) etc, birds like Mynas (Grey headed myna) (*Sturuks malubarcus*), Myna (Black headed myna) (*Sturnys pagedarum*), Parkeet (*Psittacula cyanocephala*), Dove (*Streptopelia chinensis*), Sparrow (*Passer domesticus*), reptiles like Cobra (*Naza naza*), Common Krait (*Bungarus ciferuleus*), Banded Krait (*Bungarus fasciatus*), Indian Garden Lizard (*Colotes versecolor*) are seen in the area.

The applied area does not form part of any National Park/ Wildlife Sanctuary / Tiger Reserve/ Biosphere Reserve.

6. Tree enumeration : As reported in the site inspection reports of RCCF, Bhawanipatna Circle and DFO, Bolangir Division, 32,177 no. of trees in Bender I RF, 63,742 no. of trees in Bender II RF and 5,625 no. of trees in Revenue Forest of different species and sizes have been enumerated within the forest area applied for diversion in Bolangir Forest Division. These trees may be required to be felled in the proposed project area for which necessary marking of tree has been completed. The abstract of tree enumeration has been enclosed. The Forest area has been put under Eco-value-class-III with density of vegetation being 0.7 in Bender I RF & Bender II RF and 0.5 in Revenue Forest.

The User Agency has furnished an undertaking to submit tree enumeration in the forest land during compliance to Stage-I approval order and tree enumeration over non-forest land before Stage-II approval for this project.

7. Wildlife Management Plan : Even though the proposed area does not form a part of National Park/ Wildlife Sanctuary/ Elephant Corridor, Yet the wildlife of different species are seen in the area. In order to mitigate adverse impact of felling such large nos. of trees on wildlife and their habitat, adequate mitigative measures are to be taken along with soil & moisture conservation in adjoining forest area. Therefore, a Site-Specific Wildlife Conservation plan for the project as well as its impact area is to be prepared as per guidelines of CWLW, Odisha and the same needs to be approved by PCCF(WL) & CWLW, Odisha for its implementation at project cost.

8. Compensatory Afforestation:

An area of 341.238 ha of non-forest land has been identified in 13 no. of villages under Ptnagarh and Belpada Tahasil of Bolangir District for the purpose of raising compensatory Afforestation in lieu of 341.230 has of forest land proposed for diversion for this irrigation project. It has been reported by PCCF, Odisha that out of the 341.238 ha non-forest land, 292.845 ha of non-forest land has already been mutated in favour of State Forest Department. The RoRs of the land are at page 94-111/DP. The Collector, Bolangir vide his Letter No. 460/Rev, dated 27.05.2018 has also approved site selection proposal for Upper Lanth Irrigation Project pertaining to the balance 48.393 ha of Gochar land in village kapani and Budamunda for the purpose of Compensatory Afforestation. The mutation process for the allotted balance non-forest land is reportedly under progress. The Tahasildar, Belpada has also intimated in his letter dt. 9.8.2018 that such land is free from encroachment.

The village wise area identified for Compensatory Afforestation is furnished below.

Sl.	Name of Village	Area identified (in ha)
1	Damkipali	61.599
2	Rahenmal	15.293
3	Podachhapar	38.296
4	Karlamal	38.341
5	Katipathar	13.306
6	Dahimal	10.308
7	Jalia	16.034
8	Bindhar Pathar	15.084
9	Baguadara	33.715
10	Bileimara	10.911
11	Karlabahali	39.158
12	Kapani	27.203
13	Kapani Budamunda	21.190
Total		341.238

Land schedule for identified non-forest land for compensatory Afforestation duly authenticated by DFO. The RoRs of mutated Non-forest land are at page 94-108/DP. The DGPS map of the compensatory Afforestation land indicating identified compensatory afforestation land is appended. The shape/KML file of CA land in CD form is also attached to the DP. The DFO, Bolangir has furnished the land suitability certificate pertaining to non-forest land identified/mutated for the purpose of compensatory afforestation which is enclosed. He has also indicated at page 125 that the identified/allotted NF land is free from encroachment and encumbrance.

In line with GoI, MoEF&CC guidelines dt. 8.11.2017, a compensatory afforestation scheme has been prepared by DFO, Balangir Division take up ANR with Gap Plantation over 341.230 ha @ 1000 plants/ ha with 10 years maintenance laongwith fencing around the plantation is enclosed. The species selected for plantation under compensatory afforestation scheme include *Syzgium cumini* (Jamu), *Adina cardifolia* (Kuruma), *Anogeissus latifolia* (Dhaura), *Accacia catechu* (Khair), *Dalbergia sissoo* (Sissoo), *Azadirachta indica* (Neem), *Gmelina arborea* (Gambar), *Terminalia belerica* (Bahada), *Terminalia chebula* (Harida), *Pongamia pinnata*(Karanja), *Emblica officinalis* (Amla) etc. The compensatory afforestatio scheme has been technically approved by PCCF, Odisha with a total financial outlay of Rs. 3,56,23,600/- only at current wage rate of Rs. 224.30 per manday. The User Agency has furnished an undertaking to pay entire amount of compensatory afforestation which is enclosed.

9. Resettlement & Rehabilitation : Due to the construction of this project, land of two villages namely; Pandikimal and Jamjuri in the district of Bolangir will come under submergence. The project involves submergence of 782.031 ha of land at FRL of 295.50m including 316.703 ha of forest land.

As per R&R Plan submitted by the project proponent, 342 no. of families are to be rehabilitated for this project which includes 22 families of SC category, 110 families of ST category and the remaining 210 families belonging to other communities. The rehabilitation and resettlement of above families is proposed to be implemented as per approved R&R policy of Government of Odisha at the project cost.

The R&R plan of Upper Lanth Medium Irrigation Project has been submitted by the User Agency which is enclosed. However it has been submitted by the user agency at page 477/DP that R&R scheme earlier prepared during March 2001 as per Govt. of Odisha R&R Policy 1994, was approved by MoTA, GoI. In view of latest demographic figure, it has been ascertained that 975 families (ST 595, SC 39 and others 341) will be displaced owing to this irrigation project. The user agency has undertaken that revised R&R scheme will be prepared and got approved before displacement of habitation for execution of project work. The rehabilitation and resettlement of above families is proposed to be implemented at project cost as per approved R&R policy of Government of Odisha.

10. Environmental clearance : Since the project is medium irrigation of Category-B, the Environmental Clearance is required for this project as per MoEF, GoI Notification No. J-11013/56/2004-IA-II (I) dated 14th September 2006. The State Level Expert Appraisal Committee, Odisha vide their letter No. 130 dt. 3.3.2018 have prescribed ToR for conducting EIA study and information to be included in EIA/EMP report for this irrigation project.

11. Cost-Benefit analysis: As submitted by the User Agency the total benefit of this project comes to ₹ 19481.00 lakh and the loss in forest including environmental loss, NPV cost etc. comes Rs. 10563.488 lakh. Hence, the cost benefit ratio is **1:1.844**. This will however be revised after final DPR for this irrigation is prepared.

12. Catchment Area Treatment Plan : Catchment Area Treatment Plan for this irrigation project has been furnished by the user agency as per para 4.8(i) of F.C. Act guidelines copy of which is enclosed at page 155-186/DP. CATP has been formulated for an outlay of 135.36 lakhs. The said plan has been verified by DFO, Bolangir. CATP has provision for ANR plantation @ 200 plants/ha over 45 ha. and AR plantation @ 1600 plants per ha. over 76ha. grassland development including grass cover over 15 ha and other SMC measures. Addl. PCCF (Forest Diversion) & Nodal Officer, FC Act has accorded technical approval to the CATP with an estimated cost of Rs. 1,52,34,900/- at current wage rate of Rs 224.30/- per manday. This CTAP shall be executed by user agency at project cost.

13. Violation :As reported by the DFO, Bolangri Forest Division in the site inspection reports, no violation has been committed by the user Agency under Forest (Conservation) Act, 1980.

14. Geo-referenced digital map of forest area :Ministry of Environment and Forests, Government of India in their letter F.No. 11-9/98-FC dated 08.07.2011 have issued guidelines that all applications seeking prior approval of the Central Government under Forest (Conservation) Act, 1980 for diversion of forest land for non-forest purpose must be accompanied with Geo-referenced boundary in shape file pertaining to forest land proposed for diversion. These documents/Maps are required to ensure accurate delineation of the forest area to be diverted. The User Agency in compliance to this order, has submitted the required DGPS maps of the forest area proposed for diversion duly verified by ORSAC and authenticated by DFO, Bolangir Division which area enclosed at Plate-I to 22A/DP in separate volume along with the soft copy in CD form of Sharp file and KML file.

15. Certificate under Forest Right Act guidelines of MoEF&CC, Govt. of India :In Compliance to guidelines on FRA prescribe by MoEF&CC from time to time, the Collector, Bolangir has issued the required certificate in the prescribed format for the 341.229 ha of forest land required for construction of Upper Lanth Medium Irrigation Project over Lanth river under Khaprakhol and Belpada Tahasil in Balangir District. The Gram Sabha Resolutions of Bhaluchuan dt. 14.7.2017, Bender dt. 13.7.2017, Kumbharkhun dt. 10.7.2017, Ghagurli dt. 7.7.2017, Pandikimal dt. 07.07.2017, Jamjur dt. 07.07.2017, Patrapali dt. 06.07.2017, Chhuinara dt. 06.07.2017, Kapani dt. 05.07.2017, Malijhar dt. 06.07.2017, Mundagaon dt. 05.07.2017, Parlimal dt. 04.07.2017, Munapali dt. 04.07.2017 in Odisha

language along with their English version, proceedings of SDLC meeting dt. 03.10.2017 and DLC meeting dt. 16.05.2018 are enclosed to the DP in separate volume.

16. **Others :** Net Present Value for forest land involved in this project is required to be deposited by the user agency. The user agency has furnished an undertaking to pay the NPV which is enclosed in the DP. The basic information in respect of Bolangir District, Bolangir Forest Division, and the State of Odisha duly signed by the PCCF, Odisha are enclosed at page 444-446/DP. The Site Inspection report of the Divisional Forest Officer, Bolangir Division and RCCF, Bhawanipatna area at page 86-87/DP and page 145-147/DP respectively.

Principal Chief Conservator of Forests, Odisha has recommended the proposal.

All parts of the statutory proforma have been duly filled in and all relevant maps have been enclosed.

In view of the above, it is requested that Government of India, Ministry of Environment, Forests & Climate Change may kindly examine this proposal for diversion of 341.23 ha of forest land in the Bolangir Forest Division under Bolangir district, Odisha for construction of Upper Lanth Medium Irrigation Project and convey their approval under Section-2 for Forest (Conservation) Act, 1980 in favour of the User Agency to this department subject to the following stipulation.

- A) The User Agency shall pay towards cost of removal of trees enumerated before commencement of work on forest clearance and tree felling should be taken up in phases strictly as per requirement under the supervision of the Divisional Forest Officer, Bolangir Forest Division.
- B) The project needs to have environment clearance before construction activities take place in the project site.
- C) Detailed tree enumeration report of Forest as well as non-forest land of the project shall be furnished.
- D) Revised R&R Plan duly approved by competent authority shall be furnished.
- E) Detailed Project Report as per present cost-estimate along with administrative approval for this project shall be furnished.
- F) Duly approved CATP shall be implemented at project cost.
- G) Revised C:B analysis shall be furnished.
- H) Canal Bank Plantation on either side of the two canals shall be raised and maintained at project cost. The relevant scheme shall be approved by DFO, Bolangir.

4. SITE INSPECTION REPORT : The site inspection of the above project was carried out on 18.09.2018 and 19.09.2018 by Shri Suman Mohapatra, CF(Central), RO, Bhubaneswar along with DFO, Bolangir Forest Division, Range Officer, Lathor Range, Shri K. Sethy, Executive Engineer, Water Resources Department, Shri Prithviraj Pattnaik, Consultant, DCS Pvt. Ltd. and others from user agency. The SIR is reproduced below:

I. Legal status of the forest land proposed for, diversion:

Legal Status	Forest area (in ha)
Reserved Forest	285.259 ha
Revenue Forest	55.971 ha
Total	341.230 ha

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

The item wise details of forest land proposed for diversion is furnished below:

Legal Status	Forest area (in ha)
Reserved Forest	285.259 ha
Revenue Forest	55.971 ha
Total	341.230 ha

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

As stated in Point No 2.

IV. Total cost of the project at present rates:

As reported the estimated cost of the project is Rs 4899 lakhs.

V. Wildlife:

As reported by the DFO, Bolangir Forest Division, wild mammals like Sloth Bear, Hyena, Jackal, Squirrel, Indian hare, Common langoor, birds like Myna, Parakeet, Dove, Sparrow, reptiles like Cobra, Common Krait, Banded Krait, Indian Garden lizard are seen in the area. During short duration of inspection they were however not visible.

Whether forest area proposed for diversion is important from wildlife point of view or not:

As reported by the DFO, Bolangir Forest Division, there is no rare and endangered species of flora and fauna in the area.

VI. Vegetation:

a) Total number of trees to be felled:

As reported in the site inspection reports of RCCF, Bhawanipatna Circle and DFO, Bolangir Division, 32,177 number of trees in Bender I RF, 63,742 number of trees in Bender II RF and 5,625 number of trees in Revenue Forest of different species and sizes have been enumerated all of which may be required to be felled.

The forest area has been put under Eco-value-class III with density of vegetation being 0.7 in Bender 1 RF & Bender II RF and 0.5 in Revenue Forest. This has been verified during my site inspection also.

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

As there are a large number of trees to be felled, it will naturally adversely affect the general eco-system in the area.

b) Important species:

The important species noticed in this area are Sal, Bel, Dhaura, Mango, Amla, Teak, Neem, etc.

Number of trees of girth below 60 cm.

About **19,107** numbers of trees of girth below 60 cm in the forest land.

Number of trees of girth above 60 cm.

About **82,437** numbers of trees of girth above 60 cm in the forest land.

However, the user agency has furnished an undertaking to submit tree enumeration in the non- forest land during compliance of Stage I approval order.

VII. Background note on the proposal:

As a drought proofing measure and to provide extensive irrigation, Upper Lanth Medium Irrigation Project has been contemplated to provide relief to a tribal pocket in Bolangir district which has only 3 % irrigation coverage.

The proposed Upper Lanth Medium Irrigation Project is located in Belpara and Khaprakhhol blocks of Patnagarh Sub Division of Bolangir district in the state of Odisha which is inhabited mostly by people belonging to SC, ST and other backward classes. As stated by the State Government, the proposed irrigation project would improve the agriculture output and economy of the region. The site is located about 75 kms away from Bolangir town. The nearest rail head Kantabanji of South Eastern Railway is only 32 kms away from the site. River Lanth originating from Gandhamardan mountain range forms the western boundary of the Bolangir district and it is a tributary of river Tel which drains into river Mahanadi in Mahanadi basin of Odisha. It envisages construction of earthen dam with central concrete spillway across the river.

The total land requirement of this Medium irrigation project is 877.203 ha which includes 341.230 ha of forest land and 535.973 ha of non -forest land including private land of 396.141 ha. The forest land of 341.230 ha includes 285.259 ha of RF land (Bender-I RF 39.760 ha + Bender-II RF 245.499 ha) and 55.971 ha of Revenue forest land spread over 13 villages of Belpada and Khaprakhhol tehsil of Bolangir district.

VIII. Compensatory afforestation:

State Govt. has reported that it has identified 341.238 ha of non-forest land in 13 no. of villages under Patnagarh and Belpada Tahasil of Bolangir district for raising compensatory afforestation in lieu of 341.230 ha of forest land proposed for diversion for this irrigation project. It has been reported that out of 341.238 ha of non-forest land, 292.845 ha of non-forest land has already been mutated in favour of State Forest Department. The Collector, Bolangir vide letter dated 27.05.2018 has approved site selection proposal for Upper Lanth Irrigation Project pertaining to the balance 48.393 ha of Gochar land in village Kapani and Budamunda for the purpose of C.A. The mutation process for the allotted balance non-forest land is reportedly under progress.

Land schedule for identified non-forest land for C.A. has been duly authenticated by DFO, Bolangir. The DGPS map of the identified C.A. land has been submitted.

The DFO, Bolangir has prepared a compensatory afforestation scheme to take up' ANR with Gap Plantation over 341.230 ha @ 1000 plants per ha with 10 year maintenance along with fencing around the plantation.

The CA site at Bagaudara village was visited by me during inspection. The area identified for plantation at the site is 33.715 ha. The major species noticed at the site are Karada, Dhaura, Kendu, Salai, Moi, Bheru, Koroi, etc.

a) Whether land for compensatory afforestation is suitable from plantation and management point of view or not;

The DFO, Bolangir has furnished the land suitability certificate pertaining to non-forest land identified/mutated for the purpose of C.A.

b) Whether land for compensatory afforestation is free from encroachment/other encumbrances:

As reported by PCCF, Odisha, 292.845 ha of forest land has been mutated in favour of forest department. The Tehsildar, Belpada has intimated that balance 48.393 ha is free from encroachment and encumbrance.

c) Whether land for compensatory afforestation is important from Religious/Archaeological point of view:

Not reported.

d) Land identified for raising compensatory afforestation is in how many patches, whether patches are compact or not:

State Govt. has identified 341.238 ha of non-forest land in 101 numbers of plots with compact patches (as observed through DSS) in 13 villages under Patnagarh and Belpada Tahasil of Bolangir district for raising compensatory afforestation.

e) Map with details:

Submitted.

f) Total financial outlay:

The C.A. Scheme has been technically approved by PCCF, Odisha with a total financial outlay of **Rs.3,56,23,600/-**.

IX. Whether proposal involves violation of Forest (Conservation) Act, 1980 or not. If yes, a detailed report on violation including action taken against the concerned officials:

No violation of F.C. Act, 1980 has been reported by the DFO, Bolangir.

X. Whether proposal involves rehabilitation of displaced persons. If yes, whether rehabilitation plan has been prepared by the State Government or not :

State Govt. has reported that due to construction of this project, land of two villages namely; Pandikimal and Jamjuri in the district of Bolangir will come under submergence.

As reported, 342 nos. of families are to be displaced for the this project which includes 22 families of SC category, 110 families of ST category and remaining 210 families belonging to other communities.

It has been submitted by the user agency that R&R Scheme earlier prepared during March, 2001 as per Govt. of Odisha R&R Policy, 1994 was approved by MoTA, Gol. In view of latest demographic figure, it has been ascertained that 975 families (ST 595, SC 39 and Other 341) will be displaced owing to this irrigation project. The user agency has undertaken that revised R&R Scheme will be prepared and got approved before displacement of habitation for execution of the project. The rehabilitation and resettlement of above families is proposed to be implemented at project cost as per approved R&R policy of Govt. of Odisha.

The revised Rehabilitation and Resettlement plan duly approved by the competent authority should be submitted by the user agency.

XI. Reclamation plan:

Not applicable.

Details and financial allocation:

Not applicable.

XII. Details on catchment and command area under the project:

Catchment Area Treatment Plan for this irrigation project has been furnished by the user agency. The CAT Plan has been formulated for an outlay of Rs.135.36 lakh. The said plan has been verified by DFO, Bolangir. The CAT Plan has provision for ANR plantation @ 200 plants/ha over 45 ha and AR Plantation @ 1600 plants per ha over 76 ha, grass land development including grass cover over 15 ha and other SMC measures. The CAT Plan has been technically approved by APCCF (Nodal), Odisha with an estimated cost of Rs.1,52,34,900/-. The CAT Plan shall be executed by the user agency at project cost.

XIII. Cost benefit ratio:

As stated by the State Government, the cost benefit ratio is 1:1.844. This will however be revised later. The revised cost benefit analysis report should be furnished by the user agency.

XIV. Recommendations of the Principal Chief Conservator of Forests/State Government:

Recommended by the Principal Chief Conservator of Forests/State Government.

XV. Recommendations of Additional Principal Chief Conservator of Forests (Central) along with detailed reasons:

The instant proposal is for diversion of 341.23 ha of forest land in the Bolangir Forest Division in the drought prone Bolangir district of Odisha for construction of Upper Lanth Medium Irrigation Project. The Site Inspection Report of the CF (C) is enclosed with his summarised observations at Point No.20 for consideration of the Ministry along with the following additional observations of the undersigned:

1. This public utility proposal aims at providing irrigation facility in a draught prone tribal district, accordingly a big water reservoir of more than 300 ha shall be created, though initially at the cost of a forest patch, but shall improve the environment, augment the water regime and promote the forests and wildlife all around in the long run.
2. The immediate impact of mass tree felling may be reduced by restricting tree felling in a phased manner and as per the minimum submergence projection.
3. The reservoir shall also add hydrosphere habitat to the ecology of the area along with the water edge ecotone for the enrichment of the existing biodiversity.
4. The Ministry may also consider to stipulate habitat promotional conditions for the user agency to explore the possibility and to execute creation of 2-3 small islands in the proposed reservoir, if feasible, as per the topography of the area for the breeding and nesting of water birds and semi-aquatic animals, augmenting biodiversity.

Accordingly, the proposal for the diversion of 341.23 ha of forest land for this project is recommended for the consideration for the grant of approval

XVI. Conservator of Forests (Central) shall give detailed comments on whether there are any alternative routes/alignment for locating the project on the non-forest land:

As reported by State Government, out of three different sites examined for the project, the forest area applied for diversion is the barest minimum and unavoidable. During inspection, it was observed that the other two alternatives contain more forest land with almost equal density.

XVII. Utility of the project:

As stated by the State Government, as a drought proofing measure and to provide extensive irrigation, Upper Lanth Medium Irrigation Project has been contemplated to provide relief to a tribal pocket in the district which has only 3 % irrigation coverage.

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

Not reported.

XVIII.

a) Whether land being diverted has any socio-cultural/ religious value:

Not reported.

b) Whether any sacred grove or very old growth trees/forests exist in the areas proposed for diversion:

Not reported.

c) Whether the land under diversion forms part of any unique eco-system:

As stated by DFO, Bolangir Forest Division, no protected archaeological/heritage site/defence establishment is located in the area.

XIX. Situation with respect to any Protected Area:

As stated by DFO, Bolangir Forest Division no protected archaeological/heritage site/defence establishment is located in the area. The nearest protected area i.e. Sunabeda Wildlife Sanctuary is about 70 km away from the project.

XX. Any other information relating to the project:

- i. As observed through DSS, the total forest land in Bender-1 RF is about 40 ha and in Bender —II RF is 245.5 ha. In Bender-1 RF, VDF covers 16 ha, MDF 19 ha, non forest land 2 ha and open forest 3 ha, whereas in Bender-II RF, VDF is 52 ha, MDF 69 ha, non forest land 46 ha and open forest 78 ha approximately. This means a little less than one fourth of the reserved forest land has density more than 0.7 and a little less than one third has density more than 0.4, The remaining part i.e. about half of the Reserve Forest involved in the project has less dense vegetation.
- ii. The user agency should pay towards cost of removal of trees enumerated before commencement of work on forest clearance and tree felling_ should be taken up in phases strictly as per the requirement under the supervision of the Divisional Forest Officer, Bolangir Forest Division.
- iii. The project needs to have environmental clearance before construction activities take place in the project site.
- iv. Detailed tree enumeration report of non-forest land of the project should be furnished before final approval.
- v. Revised R & R Plan duly approved by competent authority should be furnished.
- vi. Detailed project report as per present cost-estimate along with administrative approval for this project should be furnished.
- vii. Duly approved CAT Plan should be implemented at project cost.
- viii. The user agency should furnish revised cost benefit analysis.
- ix. Canal bank plantation on either side of the two canals should be raised and maintained at project cost. The relevant scheme has to be approved by the DFO, Bolangir.

In view of above, the facts related to the proposal may be placed before FAC in its forthcoming meeting scheduled to be held on 26.10.2018 for their examination and appropriate recommendation.