

भारत सरकार / Government of India

पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय / Ministry of Environment, Forest & Climate Change

क्षेत्रीय कार्यालय, भुवनेश्वर / Regional Office, Bhubaneswar ए/३, चंद्रसेखरपुर / A/3, Chandrasekharpur

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No.SO/KOL/SIR/ODISHA/2024/FC/709

Dated 16th September, 2025

To

The Addl. Director General of Forests (FC),

Ministry of Environment, Forest & Climate Change, Indira Paryavaran Bhawan, Jor Bagh Road, Aliganj, New Delhi – 110 003.

Sub: Proposal for of 87.52 ha of forest land in favour of Water Resource Department, Government of Odisha for construction of Hidsing Irrigation Project including alternate road under Angul Forest Division in Angul District of Odisha (Online proposal No.FP/OR/IRRIG/28837/2017) – reg.

Sir,

With reference to the subjects cited above, I am directed to inform that the site inspection of the above project was carried out by the undersigned on 10^{th} - 11^{th} September 2025 and the site inspection report along with recommendation of the DDGF (C) is enclosed herewith for kind information and necessary action.

Encl: As state above.

Yours faithfully,
Digitally signed by
Sujoy Dutta
Date: 16-09-2025
09:26:58
(Sujoy Dutta)

Assistant Commissioner (Forestry)

RECOMMENDATION OF THE DEPUTY DIRECTOR GENERAL OF FORESTS (CENTRAL) FOR PROPOSAL NO.FP/OR/IRRIG/28837/2017

The proposal pertains to the diversion of 87.52 ha of forest land in favour of the Water Resources Department for the construction of the Hidsing Irrigation Project in Angul district, Odisha.

The site inspection was carried out by Mr. Sujoy Dutta, Assistant Commissioner (Forestry), Sub-Office Kolkata, Regional Office Bhubaneswar, MoEF&CC, on 10-11 September 2025.

I concur with the findings of the Site Inspection Report (SIR). In view of the recommendation of the State Government and the larger public interest, the proposal is recommended for consideration under the Van (Sanrakshan Evam Samvardhan) Adhiniyam, 1980, subject to the following conditions:

- 1. The User Agency (UA) and the State Forest Department (SFD) shall ensure that Compensatory Afforestation (CA) sites are cleared of encroachments before the commencement of plantation activities. Any shortfall in the plantation target on non-forest CA land shall be met on degraded forest land as per the approved Working Plan prescriptions.
- The State Forest Department shall implement the Site-Specific Wildlife Conservation Plan (SSWLCP) for the project, as approved by the Chief Wildlife Warden (CWLW), Odisha, at the cost of the User Agency.
- As the project area falls within an Eco-Sensitive Zone (ESZ), the User Agency shall obtain the requisite wildlife clearance and comply with all conditions stipulated therein.
- 4. Since the project area lies within the Mahanadi Elephant Reserve, the State Government shall, at the cost of the User Agency and, if necessary, in consultation with appropriate agencies, implement suitable mitigative measures to facilitate the free movement of elephants, as mandated for projects in such reserves.
- The User Agency shall maintain adequate water flow downstream of Bauli
 Nallah to sustain aquatic fauna.

- 6. The approved Catchment Area Treatment (CAT) Plan shall be implemented by the State Government at the cost of the User Agency.
- 7. The State Government shall ensure compliance with all provisions of the Dam Safety Act, 2021, including prescribed regulations for the design, construction, operation, and maintenance of the dam.
- The approved Resettlement and Rehabilitation (R&R) Plan shall be implemented by the User Agency at its project cost.

(Dr. S. Senthil Kumar)

Dy. Director General of Forests (Central)

Site Inspection Report in respect of proposal for diversion of 87.52 ha of forest land in favour of Water Resource Department, Government of Odisha for construction of Hidsing Irrigation Project including alternate road under Angul Forest Division in Angul District of Odisha (Online proposal No.FP/OR/IRRIG/28837/2017).

Name of the Inspecting Officer: Sujoy Dutta, Assistant Commissioner (F), Sub Office at Kolkata, Regional Office Bhubaneswar, MoEF&CC

Date of Inspection: 10th - 11th September 2025.

Officials present from the State Forest Department:

- (i) Shri Nitish Kumar, DFO, Angul Forest Division
- (ii) Miss Rashmi G, DFO, Deogarh Forest Division
- (iii) Ms. Swadhinata Sahani, ACF, Deogarh Forest Division

Officials present from the User Agency:

- (i) Mr Pramod Kumar Naik, Additional Chief Engineer, Cuttack Investigation Department.
- (ii) Mr Manoj Kumar Nanda, Assistant Executive Engineer, Cuttack Investigation Department.
- (iii) Ms Saraswati Mahanta, Superintending Engineer, Angul Investigation Division.

1. Legal status of the forest land proposed for diversion:

Total land involved in the proposal is 437.33 ha, comprises with 87.52 ha Forest land, 62.231 ha Government land and 287.579 ha Private land.

Total Land required

:437.33 ha

Forest Land

:87.52 ha

Non-Forest Land

:349.81 ha (62.231 ha Govt. land & 287.579 ha

Private land

Legal status of the Forest Land involved:

RF & PRF

:38.619 ha

DLC Forest

:19.55 ha

Private Forest

:21.902 ha

Revenue Forest

:7.449 ha

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

The User Agency has furnished component wise break up of forest & Non-forest land as follows:

SI	Component	Forest	Non-Forest	Total Area
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No.		(Ha)	(Ha)	(Ha)
1	Reservoir Area	58.487	214.290	272.777
2	Right Main Canal	9.401	20.247	29.648
3	Left Main Canal	6.238	112.534	118.772
4	Alternate Road	13.394	2.739	16.133
	Total	87.52	349.81	437.33

During site visit, the User Agency informed that owing to the presence of natural banks (hill slopes) on two sides of the Bauli Nallah, the proposed reservoir site is considered suitable from both a cost-effective and positional advantage perspective. Consequently, only a single-sided earthen dam, measuring 933 meters in length and 32.50 meters in height, has been proposed.

It was further informed that an alternate road along the northern side of the reservoir embankment has been proposed to compensate for the submergence of a section of the Angul–Tikarapada Road (SH-23) and to ensure the continuity of SH-23.

During the site visit, the length of the main canal was reported as 8.46 km on the right side and 17.70 km on the left side.

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

During the site visit, the user agency informed that the no permanent construction of building including residential building are proposed within the forest area.

4. Total cost of the project at present rates:

During site visit, it was reported by the representative of the User Agency that the total estimated cost of the project is <u>Rs.245.49 Cr</u>.

5. Wildlife: During the site visit, no animals were observed within the proposed area. However, instances of solar fencing around agricultural lands were notices, installed by locals to protect crops from elephant depredation. It was informed that wildlife such as Elephant, Leopard, Barking Deer, Indian Hare, Cobra, Python, and avifauna including Indian Peafowl, Blue Jay, Egrets, Kingfisher, and Drongo are commonly sighted within the applied area and in the surrounding forest landscape, particularly in the Satkosia Tiger Reserve.

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

The proposed forest area lies within the Mahanandi Elephant Reserve and also falls within the Eco-Sensitive Zone (ESZ) of the Satkosia Tiger Reserve. During site visit it was informed that elephants occasionally visit the proposed forest area. It was also clarified that at present, no resident

tiger population exists within the Satkosia Tiger Reserve. However, tigers may be reintroduced in the future considering the existing population of deer in the reserve.

It was further stated that the proposed irrigation project since located at the fringe of the Tiger Reserve, the project is not expected to hinder the free movement of wildlife within the reserve or in the adjoining forest areas and it could serve as a potential water source for wild animals.

During the site visit, it was also informed that the User Agency has provided an undertaking to bear the full cost of implementing the Site-Specific Wildlife Conservation Plan (SSWLCP), which is aimed at mitigating any adverse impacts of the project on wildlife and their habitat. The SSWLCP is presently under preparation.

6. Vegetation:

The proposed area falls under the Tropical Moist Deciduous Forest category.

The vegetation density of the proposed area has been reported as 0.4. While the Reserved Forest (RF) patches possess fairly dense vegetation, the other categories of forest patches were observed to have comparatively lower canopy density.

(a) Total number of trees to be felled:

A total of 4425 number of trees and 1598 number of poles (< 30 cm girth) have been enumerated within the proposed forest land. 7042 number of trees enumerated in the non-forest Government land. During the site visit, it was observed that the forest land is predominantly dominated by Teak, most of which have a girth exceeding 60 cm.

Important species: Major tree species available in the proposed forest area are – Teak, Halanda, Karada, Bela, Ankula etc.

(b) Effect of removal of trees on the general ecosystem in the area:

The removal of trees is likely to have an adverse impact on the general ecosystem of the area. It may lead to loss of habitat for various faunal species, reduction in canopy cover, disturbance to soil stability, and decline in overall biodiversity. However, the proposed Catchment Area Treatment Plan and site-specific conservation measures are expected to mitigate these impacts over time.

7. Background Note on the proposal

The Hidsing Irrigation Project is a proposed reservoir-based irrigation scheme located in the Brahmani Basin, specifically on Bauli Nallah, a perennial tributary of the Lingara Nallah, which ultimately merges into the Brahmani River.

Geographical Context:

- Bauli Nallah originates from the hill ranges of Balanga in Angul Block, Angul District, Odisha.
- The nallah flows in a north-eastern direction, traversing through predominantly rural and drought-prone areas.
- Lingara Nallah, into which Bauli drains, is a significant tributary of the Brahmani River, one of Odisha's major river systems.

Project Location and Need:

- The proposed reservoir site falls within the Angul Block of Angul District, which is officially recognized as a drought-prone region.
- The area frequently experiences agricultural distress due to erratic and insufficient rainfall, making farming highly vulnerable.
- Agriculture is the primary source of livelihood for the local population, but currently, only one seasonal crop is cultivated due to lack of irrigation.
- Due to the absence of any water storage infrastructure, the abundant water flow during the rainy season goes unutilized, rendering the region dependent solely on monsoon rains.
- As a result, agricultural productivity remains low, and the financial condition of the local communities is poor.

The project envisages construction of a 933 meter long and 32.50 meter height earthen dam and a central spill way at the centre of the river gap portion. The project also includes two main Canals (Right & Left) with its distributaries and an alternate road due to compensate for the submergence of a section of Angul-Tikaraoada Road SH-23. The project received administrative approval from the Central Water Commission (CWC), Government of India, in 2013.

8. Compensatory afforestation:

In lieu of 87.52 ha of forest land proposed for diversion, State Govt. has identified 94.216 ha of non-forest Government land under Deogarh Forest Division. Based on DSS Analysis, the details of proposed NFL for CA, are as follows:

SI.	Village	Area	Classification by DSS					Kissam
No		(ha)	VDF	MDF	OF	NF	Scrub	

Tot	al	94.216	11	44	24	14	0	
5	Tanugola SH-4	10.21	3	3	4	0	0	Patita
4	Baradihia SH-4	23.974	0	17	1	5	0	Parbat-3
3	Kadambinipur	37.11	0	14	15	8	0	Parbat-2
2	Bardiha SH-3	6.119	0	3	3	0	0	Parbat-3
1	Bardiha	16.803	8	7	1	1	0	Parbat-3

The State Government has proposed Assisted Natural Regeneration (ANR) plantation at the rate of 500 seedlings per hectare over 36.00 ha, Soil and Moisture Conservation (SMC) activities over 94.216 ha, along with provision of barbed wire fencing. It was further informed that the financial outlay of the approved Compensatory Afforestation (CA) Scheme is ₹4,23,36,600/-.

The State Government has informed that the proposed NFL can accommodate 18,000 nos of seedlings (36 ha @ 500 seedlings per ha). To accommodate the balance of 69,520 seedlings (87,520 – 18,000), an extent of 140.743 ha of degraded forest land in three patches under the Dhenkanal Forest Division has been identified. The details of the proposed 140.743 ha DFL for Additional CA are as follows:

SI. No	Village	Area (ha)	Classification by DSS					
	Village	Alca (lla)	VDF	MDF	OF	NF	Scrub	
1	Bega RF	80.002	0	0	20	49	11	
2	Lahada RF	36.741	0	0	14	23	0	
3	Kapilash RF (two adjacent patch)	24.00	0	0	2	22	0	
Total		140.743	0	0	36	94	11	

As per DSS analysis, the identified forest area proposed for Addl.CA has been categorized as Open Forest, Non-Forest & Scrub, and is found encroachment free. It has been observed that the proposed number of seedling can be accommodated in the degraded forest land as per the proposed plantation model i.e. ANR plantation @ 500 seedlings per ha. The financial outlay of the approved CA Scheme is Rs.4,89,61,100/-.

As per the DSS analysis, the 55 ha of the proposed Government nonforest land is categorized as MDF & VDF, i.e. 55 ha of proposed CA land bears vegetation of 0.4 canopy density or more. Para 13 of Van (Sanrakshan Evam Samvardhan) Rules, 2023 elaborates that if the nonforest land being made available for compensatory afforestation already bears vegetation of 0.4 canopy density or more, there shall not be an additional requirement of planting of trees on such land but a programme for improvement of the forest crop shall be implemented by the Forest Department in a time-bound manner.

Therefore, the actual requirement of seedling plantation works out to 32.52 ha @ 1000 (87.52 ha – 55 ha), which equals to 32520 seedlings

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

The proposed non-forest land (NFL) is predominantly hilly, with an eroded soil profile and exposed rocks at several locations. However, patches with adequate depth of sandy-loam soil are available, which are suitable for plantation with appropriate soil conservation measures. The surrounding area of the proposed NFL also resembles a forest entity.

The proposed land comprises 14 plots distributed across 5 compact patches. Officials from both the Revenue Department and the Forest Department have confirmed that the proposed area is non-forest land. Furthermore, the Joint Verification Report certifies that the land is not covered under the Section 4(1) Notification, is not categorized as DLC Forest, and does not belong to any forest kisam as per the Record of Rights (RoR) dated 25.10.1980.

As per the approved CA Scheme, the Range Officer, Pallahara under Deogarh Forest Division, will undertake the plantation activities.

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

Instances of shifting cultivation and other agricultural activities were noticed in small pockets across the four proposed non-forest land patches. The concerned Assistant Tehsildar has assured that all such encroachments will be removed before the land is handed over to the State Forest Department. Upon eviction of encroachments, the proposed number of seedlings will be accommodated in the non-forest land as per the plantation model. The identified degraded forest land proposed for Addl.CA, is found encroachment-free.

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

During site inspection no structure of religious and Archaeological importance in the proposed CA land has been found or reported.

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

The non-forest CA land identified is in five patches under Deogarh Forest Division.

The degraded forest land identified for Addl. CA is in three patches under Dhenkanal Forest Division.

(e) Total financial outlay:

The total financial outlay of the CA and ACA Schemes pertaining to Deogarh & Dhenkanal Forest Diversion amounts to Rs.9,12,97,700/- (Rs. 4,23,36,600/-+ Rs.4,89,61,100/-), as approved by the PCCF (Nodal), Odisha.

9. Whether proposal involves violation of Van (Sanrakshan Evam Samvardhan) Adhiniyam, 1980or not. If yes, a detailed report on violation including action taken against the concerned officials:

The proposal does not involve violation of Van (Sanrakshan Evam Samvardhan) Adhiniyam, 1980.

During the site visit, it was observed that a small section of the Angul-Tikarapada Road passes through the Reserved Forest (RF) area. However, the concerned Forest Official clarified that this road was constructed prior to 1980 by the PWD and is not attributable to the present User Agency. In certain portions of Private Forest land, agricultural practices were also noticed, which are not under the custody of the Forest Department.

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

The proposal involves displacement of 161 families including 63 number of Scheduled Caste families, 12 number of Scheduled tribe families. The Resettlement & Rehabilitation (R&R) Plan has been prepared and submitted by the User Agency in accordance with the applicable policies and guidelines of the Government of Odisha.

During the site visit, representatives of the User Agency confirmed that the R&R Plan will be implemented in full compliance with the approved framework. Furthermore, interactions with some of the project-affected persons indicated willingness and acceptance of the displacement, recognizing the potential benefits of the irrigation project for the broader community.

11. Reclamation Plan:

Not Applicable.

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

It was informed that the catchment area of the proposed Hidsing Irrigation project has been estimated to be approximately 7230 ha. This catchment area spans across two forest divisions namely Angul Forest Division and Satkosia Wildlife Division.

The catchment includes both hilly and undulating terrain, contributing to seasonal surface runoff that feeds into the proposed reservoir. The area is prone to moderate soil erosion, necessitating the implementation of a Catchment Area Treatment (CAT) Plan to prevent sedimentation and ensure reservoir longevity.

The details of the command area, i.e., the area that will benefit from irrigation water supplied through the reservoir and canal system, for agricultural use are approximately 3106 ha.

Catchment area treatment plan to prevent siltation of reservoir:

To mitigate the risk of siltation in the proposed reservoir and to ensure the long-term sustainability of the project, a comprehensive Catchment Area Treatment (CAT) Plan has been prepared and duly approved by the Principal Chief Conservator of Forests (PCCF), Odisha.

Key Features of the Approved CAT Plan:

- Financial Outlay: The total approved budget for the CAT Plan is ₹2,07,27,300/- for each Forest division.
- Structural Measures:
 - o Concrete bunding along hilly slopes in the catchment area to reduce surface runoff and soil erosion.
 - Construction of wire mesh and loose boulder check dams to slow down water flow and trap sediments before they reach the reservoir.
- Vegetative Measures: Implementation of Assisted Natural Regeneration (ANR) plantation @ 500 saplings per ha over an area of 30 hectares with 10 years maintenance for each division.

Purpose and Benefits:

- Reduce soil erosion and sediment transport into the reservoir.
- Enhance slope stabilization and improve vegetative cover in degraded areas.
- Contribute to long-term water quality management and reservoir capacity preservation.

13. Cost Benefit Ratio:

The Cost: Benefit Ratio has been reported by the User Agency is 1:71.

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

The Forest Department, Government of Odisha has recommended the proposal for diversion of 87.52 ha of forest land for Hidsing Irrigation Project.

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

Attached separately.

16. Utility of the project:

The Hidsing Irrigation Project is envisaged to:

- · Harvest and store monsoon runoff from Bauli Nallah.
- Enable irrigation during the dry (rabi) season and opening avenues for other alternate cash-crops round the year in the area,
- Improve agricultural productivity,
- Provide water security to the region.
- And enhance the socio-economic condition of the local population through stabilized and diversified farming practices.

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

Not reported within the proposed forest land. However, a temple was observed within the non-forest land that falls under the proposed submergence zone of the reservoir. During interaction with local community, it was confirmed that there is no objection from the villagers regarding the submergence of the temple. This reflects local acceptance of the project, and no significant social or cultural resistance has been identified at this stage.

(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:

There is no unique ecosystem specifically reported within the land proposed for diversion. However, it is important to note that:

- The proposed project site lies within the Mahanadi Elephant Reserve, a region designated for the conservation and movement of wild elephants.
- Additionally, the area falls within the Eco-Sensitive Zone (ESZ) of the Satkosia Tiger Reserve, which is a protected area notified for the conservation of biodiversity, including tigers and other wildlife.

18. Situation with respect to any Protected Area:

The forest area proposed for diversion lies within the Mahanandi Elephant Reserve and is also located within the Eco-Sensitive Zone (ESZ) of the Satkosia Tiger Reserve.

However, during the site visit and consultation with Forest Department officials, it was informed that no resident tiger population currently exists within the Satkosia Tiger Reserve. Despite the absence of tigers at present, the area remains ecologically sensitive due to its designation as a tiger reserve and its role in the larger wildlife corridor for elephants and other species.

19. Any other information relating to the project:

- The IA Division of the Ministry have issued Term of Reference (ToR) vide file No.J-12011/29/2024-IA-I(R) dated 26.12.2024 for Hidsing Irrigation Project.
- The User Agency has applied for wildlife clearance vide proposal no.WL/OR/IRRIG/451520/2023, which is at present pending at State.

In view of the above, it is submitted that the proposal for diversion of 87.52 ha forest land for Hidsing Irrigation Project may be considered with following stipulations:

- i. Appropriate wildlife management and mitigation measures, as well as compliance with ESZ regulations, will need to be incorporated during planning, construction, and operation phases to minimize impact on the surrounding ecological landscape.
- ii. Adequate water flow shall be maintained in the downstream of Bauli Nallah up to its confluence with the Brahmani River in order to sustain the aquatic fauna.

- iii. The State Government shall comply with all provisions of the Dam Safety Act, 2021, ensuring adherence to the prescribed regulations for the design, construction, operation, and maintenance of the dam.
- iv. The approved Resettlement & Rehabilitation Plan shall be implemented by the User Agency at their project cost.
- v. The approved Catchment Area Treatment (CAT) Plan shall be implemented by the State Government, with the cost borne by the User Agency.
- vi. "As the project area falls within an ESZ, the User Agency shall obtain approval from the State Board for Wildlife and the National Board for Wildlife (NBWL), as required, and shall comply with all conditions stipulated by the Standing Committee of the NBWL (SC-NBWL).
- vii. As the project area lies within the Mahanadi Elephant Reserve, the State Government shall, at the cost of the User Agency and, if required, in consultation with appropriate agencies, ensure the implementation of suitable mitigative measures to facilitate the free movement of elephants, as mandated for projects in such reserves.
- viii. The Compensatory Afforestation (CA) site shall be made free from all encroachments prior to the commencement of any plantation activities. The site must be adequately fenced to ensure its protection and to prevent any unauthorized access or future encroachments. Only after these protective measures are in place, the State Forest Department shall take up plantation and related afforestation works. Any shortfall in the plantation target shall be met in degraded forest land as per the approved Working Plan.
- ix. The State Forest Department shall implement the Site-Specific Wildlife Conservation Plan (SSWLCP) for the project, as approved by the Chief Wildlife Warden (CWLW), Odisha, at the cost of the User Agency.

Digitally signed by Sujoy Dutta
Date: 16-09-2025
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Assistant Commissioner (F)