

कार्यालय प्रभागीय निदेशक वन एवं वन्यजीव प्रभाग, पीलीभीत
पत्रांक- 3290 /15-1, पीलीभीत, दिनांक 19 अप्रैल, 2022

सेवा में,

वन संरक्षक/फील्ड डायरेक्टर,
पीलीभीत टाइगर रिजर्व,
पीलीभीत।

विषय :- जनपद-पीलीभीत में राष्ट्रीय राज मार्ग रूढ़ता-पीलीभीत सेक्शन के 731K कि०मी० 137.250 से 183.380 (पैकेज-IV) के निर्माण कार्य में प्रभावित 44.376 है० संरक्षित वन भूमि के गैर वानिकी प्रयोग एवं बाधक 26427 वृक्षों के पातन/ट्रान्सप्लान्ट की अनुमति के सम्बन्ध में। प्रस्ताव संख्या- FP/UP/Road/49626/2020

सन्दर्भ :- भारत सरकार पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय लखनऊ का पत्रांक- 8वीं/यू०पी०/06/29/2022/एफ०सी०/785 दिनांक 31.03.2022 एवं कार्यालय मुख्य वन संरक्षक नोडल अधिकारी, उ० प्र०, लखनऊ का पत्रांक-2790/11-सी/ FP/UP/Road/49626/2020 दिनांक- 01.04.2022

महोदय,


भारत सरकार का उक्त संदर्भित पत्र जो मुख्य वन संरक्षक/नोडल अधिकारी उत्तर प्रदेश लखनऊ को सम्बोधित तथा नोडल अधिकारी का उक्त संदर्भित पत्र जो कि अधोहस्ताक्षरी एवं आपको भी पृष्ठांकित है, के द्वारा प्रस्ताव में कमियों का उल्लेख करते हुए उनकी सूचना/अभिलेख उच्च स्तर को प्रेषित करने के निर्देश प्राप्त हुए हैं जिसके क्रम में प्रयोक्ता एजेन्सी ने अपने पत्र दिनांक- 12.04.2022 जो इस कार्यालय में दिनांक-19.04.2022 को प्राप्त हुआ है के द्वारा कमियों का निराकरण कर अभिलेखों सहित सूचना उपलब्ध करायी गयी है। प्रयोक्ता एजेन्सी से प्राप्त आख्या एवं अधोहस्ताक्षरी द्वारा मुख्य वन संरक्षक/नोडल अधिकारी उत्तर प्रदेश लखनऊ के पत्रांक-2501/11-सी दिनांक- 24.05.2016 द्वारा प्रेषित निर्धारित प्रारूप में निम्नानुसार अनुपालन आख्या 04 प्रतियों में संलग्न कर प्रेषित है।

Sl. no.	Observations	Compliance
1	As per observation raised by Nodal Officer while recommending the proposal about reducing the width from 3 to 1.5 meter proposal needs to be modified.	It is to submit that PROW of the proposed National Highway has been kept at minimum 20m for 2lane+PS and 30m for 4lane considering environment, NH standard and minimum land acquisition. Further, Forest department has suggested to reduce width of 20.0m PROW. In this regard, it is to mention that as per TCS-2 of the project, proposed roadway width is 14m. Further, the level difference between finished road level

		(FRL) and original ground level (OGL) varies between 1.0-1.5 m at most locations. To ensure stability of soil and road safety, embankment slope of 1V:2H is taken as per Ministry's norms. Further, beyond this embankment, utility shifting is to be carried out and unlined drain is proposed for drainage. Hence, ROW is proposed as 10.0 m from centreline on each side of road. Reducing, ROW width by 1.5 m on each side will adversely affect safety and stability of road and location may turn into an accident prone zone. It is also to mention that 3(D) land acquisition has been completed and 3(G) award is under progress. Hence, it is kindly requested to consider the same and accord Stage-I clearance.
2	Detailed muck calculation and muck disposal scheme as approved by concerned DFO needs to be submitted.	As submitted at Form A-Part I-Muck Disposal Plan -S.No.7, this office has given an undertaking that since the alignment of the said project is entirely located in plain area having no scope of tunnelling or hill cutting/deep excavation, hence no muck generation will take place due to widening of project road. Further, some construction debris which are likely to be generated due to widening of project road will be utilized in project work and no disposal is required.
3	Plantation scheme for roadside plantation needs to be submitted.	In this regard, it is to mention that Roadside plantation will be carried out at available locations within ROW.
4	Cost benefit analysis needs to be reworked in view of revised rates of NPV.	Enclosed as Annexure-I

संलग्नक-यथोपरि।

भवदीय



(संजीव कुमार)

प्रभागीय निदेशक,

वन एवं वन्यजीव प्रभाग, पीलीभीत

पत्रांक- 3290 /15-1, तददिनांकित।

प्रतिलिपि सहायक अधिष्ठासी अभियन्ता परियोजना कार्यान्वयन इकाई शाहजहाँपुर को उनके पत्र दिनांक 12.04.2022 के क्रम में सूचनार्थ प्रेषित।


(संजीव कुमार)

प्रभागीय निदेशक,

वन एवं वन्यजीव प्रभाग, पीलीभीत

Government of India
Ministry of Road Transport & Highways
Project Implementation Unit, Shahjahanpur
 B-15, Garden Estate, IPSA, Shahjahanpur-242001
 Email: piunorthshahjahanpur@gmail.com

दिनांक: 12.04.2022

सेवा में,

प्रभागीय निदेशक,
 वन एवं वन्यजीव प्रभाग,
 जनपद- पीलीभीत।

विषय:-जनपद पीलीभीत में राष्ट्रीय राजमार्ग-730C, 730B एवं 731K (रदैता-बीसलपुर-पीलीभीत खण्ड) के निर्माण कार्य में संरक्षित वन भूमि पर बाधक वृक्षों के पातन की अनुमति हेतु प्रस्ताव संख्या-FP/UP/ROAD/49626/2020 में उप वन महानिदेशक (केन्द्रीय), लखनऊ द्वारा इंगित कतिपय सूचनाओं के स्पष्टीकरण के सम्बन्ध में।

महोदय,

कृपया अपने कार्यालय पत्रांक-3184/15-1 पीलीभीत, दिनांक 08.04.2022 का संदर्भ ग्रहण करने का कष्ट करें जिसके माध्यम से भारत सरकार पर्यावरण वन एवं जलवायु परिवर्तन मंत्रालय, एकीकृत क्षेत्रीय कार्यालय लखनऊ के पत्र दिनांक 31.03.2022 द्वारा इंगित कतिपय टिप्पणी का निराकरण कर सूचना/अभिलेख उपलब्ध कराये जाने का आग्रह किया गया है।

2. इस सम्बन्ध में अवगत कराना है कि प्रस्तावित मार्ग को मंत्रालय द्वारा वर्ष 2018 में राष्ट्रीय राजमार्ग घोषित किया गया है। राष्ट्रीय राजमार्ग में परिवर्तित किये जाने के उपरान्त राष्ट्रीय राजमार्ग के मानकों के अनुसार विकसित करना अपरिहार्य है। उल्लेखनीय है कि राष्ट्रीय राजमार्ग हेतु प्रचलित मानकों के अनुसार सड़क में निहित भूमि की चौड़ाई लगभग 45 मीटर (खुले क्षेत्रों में) तथा आबादी क्षेत्र में लगभग 30 मीटर वांछनीय है, परन्तु भूमि अधिग्रहण एवं पर्यावरण क्षति को यथावश्यक न्यूनतम रखने के दृष्टिकोण से सम्बन्धित खण्ड में प्रभावी Typical cross-Section (TCS) के अनुरूप, सड़क के मध्य से यथा आवश्यक दोनों तरफ 10 मी० एवं 15 मी० भूमि में बाधक वृक्षों को चिन्हित किया गया है जो सड़क के चौड़ीकरण हेतु न्यूनतम आवश्यकता है। प्रस्तावित सड़क के संरेखण का प्रस्ताव, वर्तमान वस्तुस्थिति का निरीक्षण किये जाने एवं तकनीकी अध्ययन के उपरान्त सड़क सुरक्षा को दृष्टिगत रखते हुए किया गया है।

3. यह भी अवगत कराना है कि उक्त खण्ड में प्रभावित वृक्षों की कुल संख्या-46274 थी। वन संरक्षक एवं क्षेत्रीय निदेशक, सा०वा० बरेली वृत्त, बरेली एवं आपके निर्देशानुसार प्रस्तावित सड़क संरेखण Typical Cross-Section (TCS) के अनुसार तटबंध को यथाआवश्यक न्यूनतम करते हुए वन विभाग के सम्बन्धित अधिकारियों/कर्मचारियों द्वारा परियोजना सलाहकार एवं इस कार्यालय के प्रतिनिधि के सहयोग से पुनः स्थलीय निरीक्षण किया गया जिसमें कुल 26427 वृक्ष निम्नानुसार प्रभावित है जो उक्त सड़क निर्माण हेतु न्यूनतम बाधक हैं-

पूर्व में प्रस्तावित वृक्ष		पुनः स्थलीय निरीक्षण के उपरान्त प्रभावित वृक्ष	
व्यास श्रेणी 0-10	4045	व्यास श्रेणी 0-10	2428
व्यास श्रेणी 10-20	13335	व्यास श्रेणी 10-20	7856
व्यास श्रेणी 20 से अधिक	10267	व्यास श्रेणी 20 से अधिक	6068
योग	27647	योग	16352
प्राकृतिक रूप से पनपे पौधे एवं रोपित पौधे	18627	प्राकृतिक रूप से पनपे पौधे	6305
		रोपित पौधे	3770
कुल योग	46274	कुल योग	26427

4. उप वन महानिदेशक (केन्द्रीय), पर्यावरण वन एवं जलवायु परिवर्तन मंत्रालय, एकीकृत क्षेत्रीय कार्यालय लखनऊ के पत्र दिनांक 31.03.2022 में आवश्यक बिन्दुवार सूचना निम्नवत् है:-

क्र.	आपत्ति/प्रदत्त सूचना	निराकरण/आख्या
1.	As per observation raised by Nodal Officer while recommending the proposal about reducing the width from 3 to 1.5 meter proposal needs to be modified.	It is to submit that PROW of the proposed National Highway has been kept at minimum 20m for 2lane+PS and 30m for 4lane considering environment, NH standard and minimum land acquisition. Further, Forest department has suggested to reduce width of 20.0m PROW. In this regard, it is to mention that as per TCS-2 of the project, proposed roadway width is 14m. Further, the level difference between finished road level (FRL) and original ground level (OGL) varies between 1.0-1.5 m at most locations. To ensure stability of soil and road safety, embankment slope of 1V:2H is taken as per Ministry's norms. Further, beyond this embankment, utility shifting is to be carried out and unlined drain is proposed for drainage. Hence, ROW is proposed as 10.0 m from centreline on each side of road. Reducing, ROW width by 1.5 m on each side will adversely affect safety and stability of road and location may turn into an accident prone zone. It is also to mention that 3(D) land acquisition has been completed and 3(G) award is under progress. Hence, it is kindly requested to consider the same and accord Stage-I clearance.
2.	Detailed muck calculation and muck disposal scheme as approved by concerned DFO needs to be submitted.	As submitted at Form A-Part I-Muck Disposal Plan - S.No.7, this office has given an undertaking that since the alignment of the said project is entirely located in plain area having no scope of tunnelling or hill cutting/deep excavation, hence no muck generation will take place due to widening of project road. Further, some construction debris which are likely to be generated due to widening of project road, will be utilized in project work and no disposal is required.
3.	Plantation scheme for roadside plantation needs to be submitted.	In this regard, it is to mention that Roadside plantation will be carried out at available locations within ROW.
4.	Cost benefit analysis needs to be reworked in view of revised rates of NVP.	Enclosed as Annexure-I

5. उक्त परियोजना, विश्व बैंक द्वारा वित्त पोषित, भारत सरकार की अत्यंत महत्वाकांक्षी परियोजनाओं में एक है जिसको समयबद्ध तरीके से निर्धारित समय के अन्तर्गत पूर्ण किया जाना लक्षित है। उल्लेखनीय है कि उक्त कार्य के निष्पादन हेतु मंत्रालय द्वारा संवेदक के चयन की कार्यवाही पूर्ण किये जाने के उपरान्त चयनित ठेकेदार को Letter of Acceptance (LoA) भी दिया जा चुका है। अनुबन्ध की शर्तों के अनुसार परियोजना की 90 प्रतिशत भूमि अबाधित होने के उपरान्त ही संवेदक को कार्य प्रारम्भ तिथि (Appointed date) दी जा सकती है। अतः उक्त बाधक वृक्षों के पातन की अनुमति में विलम्ब होने की स्थिति में परियोजना पर प्रतिकूल प्रभाव पड़ेगा।

6. अतएव उक्त तथ्यों के दृष्टगत आपसे सादर आग्रह है कि प्रस्ताव संख्या-FP/UP/ROAD/49626/2020 को अग्रिम स्तर पर प्रेषित करने का कष्ट करें जिससे संरक्षित वन भूमि पर स्थित बाधक वृक्षों के पातन हेतु स्तर-I (Stage-I) की अनुमति प्राप्त कर सड़क निर्माण कार्य अतिशीघ्र प्रारम्भ कराया जा सके।

संलग्नक- उपरोक्तानुसार।

भवदीय,

Amam Kumar Trigun
(अमन कुमार त्रिगुण)

सहायक अधिशाषी अभियंता

In-charge, परियोजना कार्यान्वयन इकाई, शाहजहाँपुर।

प्रतिलिपि:-

1. उप वन महानिदेशक (केन्द्रीय), पर्यावरण वन एवं जलवायु परिवर्तन मंत्रालय, एकीकृत क्षेत्रीय कार्यालय, 5वां तल, सेक्टर-H, अलीगंज, लखनऊ-226020
2. मुख्य अभियंता-क्षेत्रीय अधिकारी, सड़क परिवहन एवं राजमार्ग मंत्रालय, लखनऊ-226022
3. मुख्य वन संरक्षक/नोडल अधिकारी, पर्यावरण, वन एवं जलवायु परिवर्तन विभाग, राणा प्रताप मार्ग, हजरतगंज, लखनऊ-226001
4. अधीक्षण अभियंता (EAP Zone), सड़क परिवहन एवं राजमार्ग मंत्रालय, भू-तल, टॉवर-1, जीवन भारती भवन, 124, कनॉट प्लेस, नई दिल्ली-110001
5. वन संरक्षक एवं क्षेत्रीय निदेशक, सा0वा0 बरेली वृत्त, बरेली-243502
6. जिलाधिकारी महोदय, पीलीभीत-262001

(अमन कुमार त्रिगुण)

सहायक अधिशाषी अभियंता

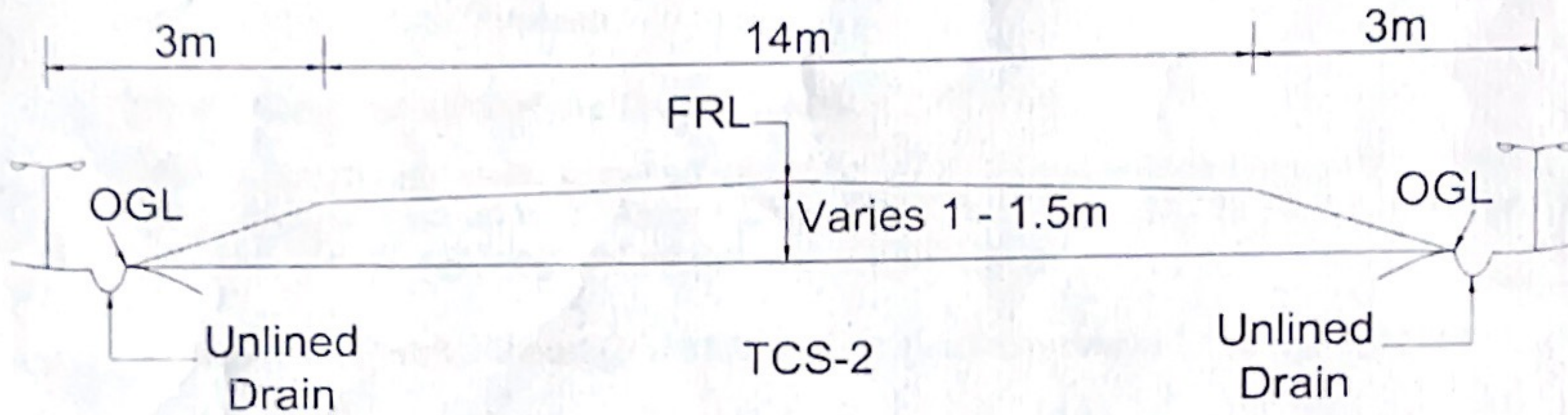
In-charge, परियोजना कार्यान्वयन इकाई, शाहजहाँपुर।

Received
19/4/22

RAC
का का करे।
पुनः



Technical Report for justification of 3m width of embankment on each side beyond roadway width in TCS -2 for said Project Rehabilitation and upgradation to 2-lane with paved shoulders configuration of Radhaita to Pilibhit Section of NH-731 K (Km 137.250 to Km 183.380) (Package-IV) in the State of Uttar Pradesh under Green National Highways Corridor Project (GNHCP) with the loan assistance of World Bank on EPC mode.



As seen from above TCS -2, level difference between FRL and OGL at most locations varies between 1 to 1.5 m.

1. As per IRC-SP 73-2018 clause no. 4.2.3.2, side slope shall not be steeper than 2H: 1V. Hence, minimum 3 m width is required for construction of embankment beyond roadway width.
2. Beyond embankment, unlined drain needs to be provided throughout the length and beyond drain, utility such as electric pole and water pipe lines etc. needs to be shifted which will require sufficient width beyond roadway width to avoid any fatal accident.
3. Reducing embankment width will lead to slope failure and location will turn into an accident prone zone.
4. Width also required for extra widening for manoeuvring of commercial vehicles.

Considering above facts, minimum 3m width on each side beyond roadway width is necessary. Hence, 3m width of embankment on each side beyond roadway width is justified.


प्रभागीय निदेशक
सामाजिक वानिकी प्रभाग
पानोभीत


PROJECTS CONSULTANCY (P) LTD.


Aman Kumar Tripathi
Assistant Executive Engineer
Ministry of Road Transport & Highway
Project Implementation Unit,
Shahjahanpur

COST BENEFITS ANALYSIS IN ACCORDANCE WITH GOI FC GUIDLINES NO 7- 69/2011-FC DATED 01-08-2017

Name of Project: Rehabilitation and Upgradation to 2-lane with paved shoulders configuration of Radhaita to Pilibhit Section of NH-731K (Km 137.250 to Km 183.380) (Package-IV) in the State of Uttar Pradesh under Green National Highways Corridor Project (GNHCP) with the loan assistance of world Bank on EPC mode.

Nature of Proposal: Diversion of 44.376 ha of forest land for Rehabilitation and Upgradation to 2-lane with paved shoulders configuration of Radhaita to Pilibhit Section of NH-731K (Km 137.250 to Km 183.380) (Package-IV) in the State of Uttar Pradesh under Green National Highways Corridor Project (GNHCP) with the loan assistance of world Bank on EPC mode in favor of the Project Director, Project Implementation Unit, MoRT&H Shahjahanpur -Uttar Pradesh.

Total Design Length of the Project Road: 46.130 Kms

The proposed road starts from Radhaita of Km 137.250 and passes through the District of Shahjahanpur and ends at Assam Chauraha Pilibhit Km 183.380 in the State of Uttar Pradesh. The Design length of project road is 46.130 km.

Number of District through which project road traverses- 1 No i.e., Pilibhit District

Total forest area proposed for diversion: 44.376 ha

Purpose: The cost Benefit Analysis is being undertaken as the required forest land is > 20 hectare for proposed diversion of forest land being affected due to widening of existing road for above said project.


प्रभागीय निदेशक
सामाजिक वानिकी प्रभाग
पीलीभीत


Aman Kumar Tripathi
Assistant Executive Engineer
Ministry of Road Transport & Highway
Project Implementation Unit,
Shahjahanpur

COST BENEFITS ANALYSIS IN ACCORDANCE WITH
GOI FC GUIDLINES NO 7- 69/2011-FC DATED 01-08-2017

Guidelines for conducting cost-benefit analysis for projects involving forest diversion


(i) While considering proposal for diversion of forest land for non-forestry use, it is essential that ecological and environmental losses and economic distress caused to the people who are displaced are weighted against economic and social gains.

(ii) Whenever the forest land is involved in the development projects, the cost of ecosystem services and fragmentation of habitat of wildlife and economic distress caused to the people dependent on forests and the cost of settlement of people dependent on forest should also be added as the cost of forest diversion in addition to the standard project cost which would have been incurred by the user agencies without involvement of forest land while conducting the cost benefit analysis of the project. Similarly, the benefits from the project accruing due to diversion of forest land and used in the project should also be accounted for in the benefits component in addition to the standard benefits of the project which would have been accrued without involvement of forest land while conducting the cost benefit analysis and determining the benefit and cost ratio (BC ratio).

(iii) The cost of Compensatory afforestation and its maintenance in future and soil & moisture conservation at present discounted value and future benefits from such compensatory forestation accruing over next 50 years monetized and discounted to the present value should be included as cost and benefits respectively of compensatory afforestation while conducting the cost benefit analysis and determining the benefit and cost ratio (BC ratio).

(iv) Table A list the details the types of projects involving forest land for which cost benefit analysis will be required, Table-B Lists the parameters according to which the cost aspect of forest land diverted for the development of projects will be determined, while Table C lists the parameters for assessing the benefits accruing to the project using forest land.

(v) A cost benefits analysis as above should be accompanying the proposals sent to central Government for forest clearance under the Forest Conservation Act.


प्रभागीय निदेशक
सामाजिक वानिकी प्रभाग
पीलीभीत


Assistant Executive Engineer
Ministry of Road Transport & Highway
Project Implementation Unit,
Shahjahanpur

**COST BENEFITS ANALYSIS IN ACCORDANCE WITH
GOI FC GUIDLINES NO 7- 69/2011-FC DATED 01-08-2017**


Table A: Cases under which a Cost -benefit analysis for forest diversions are required


Sl	Nature of Proposal	Applicable/Not Applicable	Remarks
1	All Categories of proposal involving forest land up to 20 hectares in plains and up to 5 hectares in hills	Not Applicable	These proposals may be considered a case-to-case basis and value judgments.
2	Proposed for defense installation purpose and oil prospecting only	Not Applicable	In view of national priority accorded to these sectors, the proposal would be critically assessed to help ascertain that the utmost minimum forest land is diverted for non-forest use
3	Habitation, establishment of industrial units, tourist lodge complex and other building construction	Not Applicable	These activities being detrimental in protection and conservation of proposals would be rarely entertained.
4	All other proposal involving forest land more than 20 hectares in plain and more than 5 hectares in hills including roads, transmission line, minor, medium and major irrigation projects, hydro projects, mining activity, railway line, location specific installations like microwave stations, auto repeater centers, TV tower etc.	Applicable	These are cases where a cost benefit analysis is necessary to determine when diverting the forest land to non-forest use in the overall public interest.

Since the proposal is for diversion of forest land measuring less than 20 hectare in plain area for the road project cost benefit analysis report is not applicable

Table B: Estimation of Cost of forest diversion


S. No	Parameters	Given Guideline	Evaluation
1	Ecosystem services loses due to proposed forest diversion	Economic value of loss of ecosystem services due to diversion of forest shall be the net present Value (NPV) of the forest land being diverted as prescribed by central Government (MOEF & CC) Note: In case of National parks the NPV shall be ten (10) times the normal NPV and in case wildlife Sanctuary the NPV shall be	NPV value has been taken as Rs 12.2859 lakhs per hectare Therefore losses = $12.2859 \times 44.376 = \text{Rs } 545.1991$ Lakhs


प्रभागीय निदेशक
सामाजिक वानिकी प्रभाग
पीलीभीत


Assistant Executive Engineer
Ministry of Road Transport & Highway
Project Implementation Unit,
Shahjahanpur

**COST BENEFITS ANALYSIS IN ACCORDANCE WITH
GOI FC GUIDLINES NO 7- 69/2011-FC DATED 01-08-2017**

		five (5) times the normal NPV or otherwise prescribed by the ministry or any other competent authority	
2	Loss of animal husbandry productivity, including loss of fodder	To be quantified and expressed in monetary terms or 10% of NPV applicable whichever is maximum	<p>Loss of Animal husbandry due to proposed diversion is very, moderate and calculated below.</p> <p>Gross Loss @5 ton/Ha/Year @ Rs.100/- per tonne. Therefore, loss of fodder as estimated for about 44.376 ha. will be 44.376X5X100X50 Years =Rs. 1109400</p> <p>10% of NPV =44.376X12.2859X0.1=54.51991 lakhs. So considered amount is Rs 54.51991 Lakhs.</p>
3	Cost of human resettlement	To be quantified and expressed in monetary terms as per approved R & R plan.	Nil human resettlement is required since no family residing in forest land.
4	Loss of public facilities and administrative infrastructure (Roads, buildings School, dispensaries, electric lines, railways etc.) on forest land, or which would require forest land if these facilities were diverted due to the project.	To be quantified and expressed in monetary terms on actual basis at the time of diversion.	<p>No Loss of public Infrastructure and administrative infrastructure (roads, buildings, schools, dispensaries, electric lines, railways, etc.) on the forest land.</p> <p>All public utilities affected will be shifted by MoRTH at cost. of Rs 1040 Lakhs</p>
5	Possession value of forest land diverted	30% of environment costs (NPV) due to loss of forests or circle rate of adjoining area in the district should be added as a cost component as possession value of forest land whichever is maximum	<p>The circle rate of adjoining area in the district is about 62 Lakhs per hectare where as 30 % of NPV is 3.686 lakhs. Which is more than 62 lakh per ha.</p> <p>Therefore, Procession Value of forest land will be =62X44.376=Rs 2751.312 lakhs</p>
6	Cost of Suffering to oustees	The social cost of rehabilitation of Oustees (in addition to the cost likely to be incurred in providing residence, occupation and	Nil as no Resettlement and Rehabilitation is required in forest land. Which is proposed to be diverted.


प्रभागीय निदेशक
सामाजिक वानिकी प्रभाग
पीलीभीत



Anam Kumar Trigun
Assistant Executive Engineer
Ministry of Road Transport & Highway
Project Implementation Unit,
Shahjahanpur

**COST BENEFITS ANALYSIS IN ACCORDANCE WITH
GOI FC GUIDLINES NO 7- 69/2011-FC DATED 01-08-2017**

		social services as per R & R plan) be worked out as 1.5 times of what oustees should have earned in two years had he not been shifted	
7	Habitat fragmentation Cost	While the relationship between fragmentation and forest goods and services is complex, for the sake of simplicity the cost due to fragmentation has been pegged at 50% of NPV applicable as a thumb rule.	Habitat fragmentation Cost is 50% of NPV i.e., = $12.2859 \times 0.5 \times 44.376 = \text{Rs } 272.5995 \text{ Lakhs.}$
8	Compensatory afforestation and soil & moisture conservation cost	The actual cost of compensatory afforestation and soil & moisture conservation and its maintenance in future at present discounted value	The actual cost of compensatory afforestation has been provided by DFO Chitrakoot of the proposed CA area i.e., 282.54 Lakhs.

Table C: Existing Guidelines for estimating benefits of forest land diversion in CBA


S. No	Parameters	Given Guideline	Evaluation
1	Increase in productivity attributable to the specific project	To be quantified and expressed in monetary terms avoiding double counting	<p>The proposal project for which diversion of forest land is sought is for widening of existing road. The project road will improve accessibility to the region. This will help in both economic & social development in the region.</p> <p>The project will enable smooth accessibility in the region by which people of the region will be directly benefited. This will accelerate industrialization /commercialization in region and the same will directly generate maximum employment opportunities in these areas and boosting up the economy of the region and state. Again, directly the project will have the potential for temporary employment generation for local people 200 for years generating $200 \times 365 \times 2 = 146000$-man days during the construction period.</p>


प्रमोदीय निदेशक
 सामाजिक वाणिज्य
 पोस्ट

Aman Kumar Trigun
 Assistant Executive Engineer
 Ministry of Road Transport & Highway
 Project Implementation Unit,
 Shahjahanpur

**COST BENEFITS ANALYSIS IN ACCORDANCE WITH
GOI FC GUIDLINES NO 7- 69/2011-FC DATED 01-08-2017**

2	Benefits of economy due to the specific project	The incremental economic benefit in monetary terms due to the activities attributed to the specific project.	<p>Economic benefit in terms of increase in trade, saving in vehicular operation and maintenance cost better connectivity, safer journey to commuter and saving of travel time.</p> <p>Improved road connectivity helps in better implementation and management of government schemes .it will provide last and economical transport of goods, after completion of project, the local people and industries situated in the area will be greatly benefited. The widening of project road will provide safe and fast, economical and environment friendly transportation to the State, which in term will accelerate the rate of growth in this area.</p> <p>In addition to that there are several other benefits that may accrue due to saving in fuel, reduction in time to commute, vehicle maintain race, reduction in carbon emission etc.</p> <p>"However, they have not been quantified as it will be a function of various emission variables". Exact quantification of the value is not possible as it is time and policy dependent.</p>
3	No. of population benefited due to specific project	As per the detailed project report	The project road passes through Pilibhit District, which has 2031007 Population. The entire population of the district and adjoining districts would be benefitted by the project.
4	Economic benefits due to of direct and indirect employment due to the project.	As per the detailed project report	Directly employment generation for local people 200 for 2 years generating $200 \times 365 \times 2 = 146000$ -man days during the construction period and indirect employment as a result of development of infrastructure and will also provide direct benefits to small scale industrial units
5	Economic benefits due to Compensatory Afforestation	Benefits from such compensatory forestation accruing over next 50 years monetized and discounted to the present value should be included as benefits of compensatory afforestation.	In lieu of total trees to be remove from proposed Row in forest land along the project road it is proposed to undertake at least twice of affected area as Compensatory afforestation and forest conservation act 1980 So the net productivity will increase. The Compensatory Afforestation will be done in $44.376 \times 2 = 88.752$ hectare of degraded forest land. Which is down the line would be having a density of minimum 0.3 The


प्रभागीय निदेशक
 सामाजिक वानिकी प्रभाग
 पीलीभीत


Assistant Executive Engineer
 Ministry of Road Transport & Highway
 Project Implementation Unit,
 Shahjahanpur

**COST BENEFITS ANALYSIS IN ACCORDANCE WITH
GOI FC GUIDLINES NO 7- 69/2011-FC DATED 01-08-2017**

		*For benefits of CA the guideline of the ministry for NPV estimation may be considered.	ecological value for a 50 years period for the density of 10 is Rs. 126.74 Lakhs per hectare. By considering minimum 0.3 density the ecological gain for the project would be $126.74 \times 0.3 \times 88.752 =$ Rs. 3374.529 lakhs
--	--	---	--

Summary of Cost –Benefit Analysis for the Project

S. No	Loss (in Lakh)	Benefit (Lakh)
1	Ecosystem services losses Rs 545.1991 Lakhs	Ecology gain for Compensatory Rs. 3374.529 lakhs
2	Loss of Animal Husbandry Productivity including loss of Fodder = Rs 54.51991 Lakhs.	146000 Man days will be generated assuming 500 Rs per Day as wages total benefit = $500 \times 146000 =$ 7300 Lakhs
3	Loss of Public facility Rs 1040 Lakhs	
4	Possession Value of Forest Land diverted Rs 2751.312 lakhs	
5	Habitat Fragmentation Cost Rs 272.5995 Lakhs.	
6	Compensatory Afforestation and Soil and Moisture Conservation Rs. 282.2314 Lakhs,	
	Total Loss = Rs 545.1991 Lakhs + Rs 54.51991 Lakhs. + Rs 1040 Lakhs + Rs 2751.312 lakhs + Rs 272.5995 Lakhs. + Rs. 282.2314 Lakhs, = Rs 4945.86191 Lakhs	Total Benefit Rs 10674.529 Lakhs


Benefit Cost Ratio = Total Benefit / Total Loss =

Rs 10674.529 Lakhs / Rs 4945.86191 Lakhs = 2.158274775

which is more than 1 hence project is viable.

Note 1: Net Present Value (NPV) of environment and ecosystem services loss:

The concept of NET Present Value of the forest land diverted is a scientific method of calculating the environment cost and other losses caused due to diversion of forest land for non-forestry purposes. The NPV represents the net value of various ecosystem services and other environment services in monetary terms which the forest would have provided if the forest would not have been diverted.


प्रभागीय निदेशक
सामाजिक वानिकी प्रभाग
पीलीभीत

Aman Kumar Trigun
Assistant Executive Engineer
Ministry of Road Transport & Highway
Project Implementation Unit,
Shahjahanpur

**COST BENEFITS ANALYSIS IN ACCORDANCE WITH
GOI FC GUIDLINES NO 7- 69/2011-FC DATED 01-08-2017**

Note 2: Possession Value of forest land diverted:

The forest land diverted for the project such as irrigation, hydropower, railways, roads, wind, and transmission lines and mining etc. are unlikely to be returned and remains in possession of the user agencies. Therefore 30% of the net present value (NPV) of the forest land diverted or market rate of adjoining area in the district should be added as a cost of component as "possession value of forest land" in addition to the environment costs due to loss of forests.

Anam Kumar Trigun
Assistant Executive Engineer
Ministry of Road Transport & Highway
Project Implementation Unit,
Shahjahanpur

34
प्रभागीय निदेशक
सामाजिक वानिकी प्रभाग
पीलीभीत

Assistant Executive Engineer
Project In charge,
PIU, MoRT&H, Shahjahanpur,
Uttar Pradesh
Signature, Seal & Date