

## चेक लिस्ट क्र. 08

परियोजना के संबंध में संक्षिप्त विवरण

संलग्न है।

**कार्यालय परियोजना प्रबंधक**  
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कंडिका क्रमांक 08

**प्रमाण पत्र**

**परियोजना का संक्षिप्त विवरण**

प्रमाणित किया जाता है कि आवेदक संस्थान छत्तीसगढ़ सड़क विकास परियोजना (ए.डी.बी. प्रोजेक्ट) लोक निर्माण विभाग बिलासपुर छत्तीसगढ़ द्वारा धरमजयगढ़ – कापू मार्ग का उन्नयन एवं पुनर्निर्माण कार्य प्रस्तावित है, जिसमें परियोजना के संबंध में संक्षिप्त विवरण संलग्न है।

  
(ए. के. दीवान)  
परियोजना प्रबंधक  
(ए.डी.बी. प्रोजेक्ट)  
छत्तीसगढ़ सड़क विकास परियोजना  
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## EXECUTIVE SUMMARY

### A. Introduction

1. The Chhattisgarh Road Connectivity Project will improve transport connectivity in the state by rehabilitating and upgrading Major District Roads (MDRs) & State Highways. The Project constitutes: (i) rehabilitating and upgrading of selected MDRs & State Highways, (ii) improving road maintenance and asset management, and (iii) developing an efficient accident response system. PWD, PMU, ADB PROJECT, CHHATTISGARH (Executive Agency-EA) specifically targets MDRs & State Highways to form key linkage between rural, semi urban and urban areas and complete the state roads connectivity.

2. Dharamjaygarh Kapu Road is situated in the eastern part of Chhattisgarh and traverses in Raigarh Districts with a total length of 32.596 Km. Raigarh District is surrounded by the districts of Korba and Janjgir Champa in west, Surguja in North and Mahasamund in South. This road starts from 0+000 Dharamajaygarh (Lat. 22°27'58.13"N, Long. 83°12'49.21"E, Elevation 288 metre above mean sea level) and Terminate at Kapu Tehsil 32.596 (Lat. 22°40'19.35"N, Long. 83°20'14.62"E, Elevation 571 metre above mean sea level). This road connects Tahsil Kapu (Trible area) with Mainpat in Ambikapur District which is a tourist place.

3. It is a single lane road. The existing carriageway is Intermediate lane having flexible pavement, with widths varying between 3.0 m to 7.6 m along the entire length of project road. The existing road has both paved and unpaved shoulder of varying lengths on either sides of the project road. The project involves up gradation of existing roads within available ROW to two lane.

### B. Description of Project

4. Dharamjaygarh Kapu Road is situated in the eastern part of Chhattisgarh and traverses in Raigarh Districts with a total length of 32.596 Km. Raigarh District is surrounded by the districts of Korba and Janjgir Champa in west, Surguja in North and Mahasamund in South. This road starts from 0+000 Dharamajaygarh (Lat. 22°27'58.13"N, Long. 83°12'49.21"E, Elevation 288 metre above mean sea level) and Terminate at Kapu Tehsil 32.596 (Lat. 22°40'19.35"N, Long. 83°20'14.62"E, Elevation 571 metre above mean sea level). This road connects Tahsil Kapu (Trible area) with Mainpat in Ambikapur District which is a tourist place.

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### C. Description of Environment

6. The topography of the project area is hilly and plain. Average elevation of the project influence area above mean sea level varies from 288 to 571 metre. The Mahanadi River is the principal river of near the project area. Its tributaries are Sendur, Paury, Sondur, Joan, Kharun and Shivrath.
7. The climate in Chhattisgarh is governed by a monsoon weather pattern. The distinct seasons are summer (March through May), winter (November through February), and the intervening rainy months of the southwest monsoon (June through September). The project area has a tropical wet and dry climate, temperatures remain moderate throughout the year, except from March to June, which can be extremely hot. The temperature in April-May sometimes rises above 48 °C (118 °F). These summer months also have dry and hot winds. In summers, the temperature can also go up to 50 °C. The city receives about 1,300 millimeter (51 in) of rain, mostly in the monsoon season from late June to early October. Winters last from November to January and are mild, although lows can fall to 5 °C (41 °F) making it reasonably cold.
8. Baseline data on ambient air quality including noise levels meet the national air quality standards. Water quality from hand pumps along the project road complies with the drinking water standards.
9. The proposed road is passing through forest area at various chainages while the proposed widening will require diversion of 5.633 Ha. of protected forest and reserve forest & 4.832 Ha. of revenue forest. Following table depicts the details of forest area under road stretch:

Sr. No.	Forest Range	Division	Compartment No.	Forest Type	Area in Hectares
1	Dharamjaygarh	Dharamjaygarh	360	PF	0.213
2	Dharamjaygarh	Dharamjaygarh	355	PF	0.311
3	Dharamjaygarh	Dharamjaygarh	354	PF	0.626
4	Bono	Dharamjaygarh	641	RF	0.462
5	Bono	Dharamjaygarh	629	RF	0.486
6	Kappu	Dharamjaygarh	80	RF	1.762
7	Kappu	Dharamjaygarh	35	RF	1.773
				Total	5.633

  
Project Manager  
(ADB Project)  
P.W.D., Bilaspur (C.G.)



DETAILS OF REVENUE FOREST AREA					
SR.NO.	DISTRICT	TEHSIL	VILLAGE	KHASRA NO.	AREA IN HACTARE
	Raigarh	Dharamjaygarh	Dharamjaygarh	1303/1K	0.434
				1303/1K/1	0.65
				1310/1K/1	0.344
				1311/1K/1	0.902
			Miriguda	558/1K	1.132
					0.83
				209/1K	0.54
				Total	4.832

PROTECTED FOREST	1.636
RESERVED FOREST	3.997
REVENUE FOREST	4.832
TOTAL	10.465 Ha.

Project Manager  
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The project road does not pass through any protected area, wildlife sanctuary, national park, or bio -reserve and its buffer zones. The trees identified to be cleared within the right -of-way to accommodate needed road upgrading and do not fall under rare or endangered category. There are no archaeological and historical monuments along or near the road. However, numbers of religious structure are lying along the road.

#### D. Anticipated Environmental Impacts and Mitigation Measures

##### 1. Design and Construction Phase

##### a. Impact on Physiography and Topography

10. Since proposed project is only widening of existing road within available ROW without any land acquisition, impact on the physiography of the area is not significant. The design will consider the improvement of roadside drainage conditions through the improvement of cross- drainage structures. Design of the cross drainage structures will follow IRC Guidelines.



## **b. Potential Environmental Impacts on Soil**

11. **Loss of Productive Soil.** All activities will occur within the available RoW, no adverse environmental impact is anticipated on the productive soil. Lands taken on lease for access road and for construction camp will be restored to its original land use.

12. **Soil Erosion.** Land clearing and grubbing will remove vegetation and soil cover which may cause some soil erosion during monsoon. Excavations in borrow pits may lead to loss of top soil and soil erosion. The risks of stream and river bank erosion near bridges and cross drainage works are significant. To avoid or minimize erosion, land clearing and grubbing will be conducted during dry season, productive top soils from borrow pits will be stored and reused in road embankment slope protection. Erosion control measures like silt screens will be installed along rivers and nallas.

## **c. Impact on Water Resources and Drainage**

13. Deterioration of water quality may occur near the construction camp and active construction camps. This will be minimized by timing land clearing and earthmoving during the dry season; proper handling of materials including oil, and lubricants; prohibiting the disposal of untreated sewage; and proper erosion control near rivers and nallas.

## **d. Impact on Ambient Air Quality**

14. Significant amount of dust will be generated during project construction. The following mitigation measures will also be undertaken:

- i. Asphalt and hot-mix plants will be located at least 1 km away from any inhabited urban and rural stretches along the road with the consent from Chhattisgarh Pollution Control Board.
- ii. Sprinkling of water on the active construction fronts and construction yard.
- iii. Regular maintenance of machinery and equipment.

15. Substantial noise will be generated from the use of heavy equipment and processing of rocks and asphalt. Adequate distance separating the rock crusher and hot mix plants will be required and the sourcing of "readymade" gravel and asphalt will be promoted to avoid the establishment of these plants. Along the road particularly near sensitive sites like schools and hospitals, the use of less noisy equipment, scheduling of noisy activities, and provision of noise barriers will be implemented by the contractor to minimize disturbance.

## **e. Impact on Flora, Fauna and Ecosystem**

16. Clearing and grubbing activities will result to the removal of shrubs, grasses, and some trees , majority of which are indigenous and angiosperm species. All cut trees will be compensated at the rate of 1: 3 with preference to fast growing local species that are more efficient in absorbing carbon emissions.

#### **f. Construction Workers' Camp**

17. As the Contractor are required to source labor from the local communities along the subproject road, the size of the construction camps will be relatively small. It is the contractual responsibility of the Contractors to maintain a hygienic camp with adequate water and electric supply; toilet facilities located away from the water bodies and wells; proper disposal of domestic refuse; temporary medical facilities; pest control; clean and adequate food; and security.

#### **g. Impacts on Social Environment**

18. Construction and operation phases of project road will have some beneficial impact on social environment. Some increase in income of local people is expected as local unskilled, semiskilled and skilled persons may gain direct or indirect employment during construction phase. Since the immigration of work force during construction phase is likely to be very small, the social impacts on literacy, health care, transport facilities and cultural aspects are expected to be insignificant.

### **2. Operation Phase**

19. Increase in vehicular emissions, noise level, road crashes due to higher speed vehicular speed, and oil contaminated road surface runoff will occur during project operation phase. The impact on air quality is not expected to be significant given the low projected traffic. Community safety is enhanced through the crash barriers, speed brakes, traffic signs, and pavement markers. Oil contamination will occur but expected to be in trace amounts based on the low level vehicular traffic. To control the anticipated increase in noise level the following measures will be implemented; good road surface will reduce the road-tire noise, prohibition of horns along sensitive areas, road widening will increase capacity and decrease congestion of vehicles, and compensatory tree plantation will be located near sensitive areas.

### **E. Public Consultation and Information Disclosures**



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20. Public consultations have been carried out in the project area during the feasibility and will also be carried out at detailed design stage. Key issues raised during the consultations were:

- i. Provision of suitable drainage in the settlements areas.
- ii. Provisions of safety signage in school and settlement areas.
- iii. Suitable mitigation measures to address air and noise pollution.
- iv. Provision of Wayside amenities & street Lighting.
- v. Provision of water sprinkling during construction.
- vi. Minimize the cutting of trees & Avenue Plantation & Their maintenance.
- vii. Construction labour camps should not be located near Forest & settlement area.
- viii. Avoid borrow of earth in forest & agriculture area.
- ix. Environmental Awareness Program.

## **F. Environmental Management Plan and Grievance Redress Mechanism**

### **1. Environmental Management Plan**

21. The Dharamjaygarh Kapu Road specific Environment Management Plan has been formulated which consists of mitigation and monitoring measures, and clear definition of roles and responsibilities. The project will have one grievance redress mechanism for social and environment issues comprising a village level and district level committee. The nodal officer under the PIU will be the key person to coordinate the receiving of complaints and addressing them.

### **2. Environmental Monitoring Program (EMoP)**

22. A comprehensive monitoring plan has been prepared for all stages of the project. This includes parameters to be measured, methods to be used, sampling locations, frequency of measurements, detection limits, cost and responsibility for implementation and supervision. Construction Stage Monitoring to be carried out by contractor under supervision of Construction Supervision Consultant (CSC).

23. Monitoring will focus on air, water, noise, soil erosion, drainage congestion and compensatory tree plantation. For tree plantation, the 75% survival rate of re-plantation shall be monitored for three years of the operation phase.

### **3. Institutional Arrangement and Capacity Building**

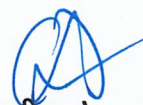


24. The implementation arrangements basically follow the ongoing ADB Projects with the following improvements: i) expansion of the Environmental and Social cell (ESC) staff from one to two with the recruitment of one environmental safeguard officer; ii) PWD, PMU, ADB PROJECT, CHHATTISGARH acting as Executive Agency (EA) will appoint an environment safeguards focal person; and iii) Construction Supervision Consultant's Environmental specialist will provide technical support to EA for implementation of environment safeguards.

25. To enable PWD officials to implement for environmental safeguard requirements effectively, a training programme will be conducted for the EA and IA of the sector loan to improve environmental awareness, construction practices, legislative compliance requirements, EMP and EMoP implementation requirements, and roles and responsibilities.

### **G. Conclusions and Recommendations**

26. The findings of the IEE show that overall the project has limited and short term environmental impacts. Effective EMP implementation will ensure elimination and minimization of identified adverse impacts. EA ensure that EMP and EMoP are included in Bill of Quantity (BOQ) and forms part of bid document and civil works contract. If there is any change in the project design the EMP and EMOP will accordingly. EA needs capacity building and practical exposure. Adequate training shall be imparted as proposed under environmental management plan to enhance the capability of concerned EA and IA officials.



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