

Initial Environmental Examination

Project Number: 49108-002
March 2019

India: Himachal Pradesh Skill Development Project Sub-project– Rural Livelihood Center at Bijahi, Thunag Tehsil, Mandi District

Prepared by the Government of Himachal Pradesh for the Asian Development Bank

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ABBREVIATIONS

ADB	-	Asian Development Bank
ASI	-	Archaeological Survey of India
CPCB	-	Central Pollution Control Board
CLC	-	City Livelihood Centre
CPR	-	Common property resources
DOLE	-	Department of Labor and Employment
DOTE	-	Department of Technical Education, Vocational and Industrial Training
DOP	-	Department of Planning
DOT	-	Department of Tourism
EA	-	Executive Agency
DOUD	-	Department of Urban Development
EIA	-	Environmental Impact Assessment
EMP	-	Environmental Management Plan
FSI	-	Forest Survey of India
GOHP	-	Government of Himachal Pradesh
GOI	-	Government of India
HPSDP	-	Himachal Pradesh Skill Development Project
IEE	-	Initial Environmental Examination
IA	-	Implementing Agency
ITI	-	Industrial Training Institute
IUCN	-	International Union for Conservation of Nature
MOEFCC	-	Ministry of Environment, Forests and Climate Change
MCC	-	Model Career Center
NP	-	National Park
OM	-	Operations Manual
PA	-	Protected area
PD	-	Project director
PIU	-	Project Implementation Unit
PMC	-	Project Management Consultant
PMU	-	Project Management Unit
PUC	-	Pollution under Control
PWD	-	Public Works Department
RLC	-	Rural Livelihood Centre
REA	-	Rapid Environmental Assessment
SEIAA	-	State Environment Impact Assessment Authority
SLEC	-	State-level Empowered Committee
SPCB	-	State Pollution Control Board
SPM	-	Suspended Particulate Matter
SPS	-	Safeguard Policy Statement 2009
UNESCO	-	United Nations Educational Scientific and Cultural Organization
WLS	-	Wildlife Sanctuary

CURRENCY EQUIVALENTS

(As of 3 September 2017)

Currency unit	–	Indian rupee (₹)
Re1.00	=	\$0.01429
\$1.00	=	₹71.000

WEIGHTS AND MEASURES

µg	–	microgram
dB(A)	–	weighted decibel
km	–	kilometer
km ²	–	square kilometer
m	–	meter
m ²	–	square meter

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EXECUTIVE SUMMARY

1. At the request of the Government of India and the Government of Himachal Pradesh (GOHP), ADB will offer \$80 million in loan assistance to modernize and reform Himachal Pradesh's technical and vocational education and training (TVET) programs, and scale up training capacity. The Department of Planning (DOP), GOHP, will be the executing agency for the proposed Himachal Pradesh Skill Development Project (HPSDP). The Himachal Pradesh Kaushal Vikas Nigam (HPKVN), the Department of Technical Education, Vocational & Industrial Training (DOTE), Department of Higher Education (DOHE), and the Public Works Department (PWD) will be the implementing agencies. HPKVN will also operate as the project management unit (PMU) for HPSDP. For the civil works component, it will be assisted by PWD officials who are well aware of the state and India's building codes and environmental regulations.

2. The impact of HPSDP will be a more productive work force in Himachal Pradesh equipped with market-relevant technical and vocational skills created, in alignment with the Himachal Pradesh Skill Development Policy (Him Kaushal), 2016. The outcome will be improved employment and livelihood development opportunities for those trained under the project. This will be achieved through the following outputs:

- Output 1: TVET in Himachal Pradesh modernized, expanded, and aligned to national standards
- Output 2: Market-aligned skills ecosystem created
- Output 3: Access to quality training institutes improved.
- Output 4: TVET institutional structure reformed and improved.

3. Output 3 of the Project will involve construction of new training facilities and upgrading of some existing buildings to improve the access of TVET programs across Himachal Pradesh¹. The new facilities include construction of 7 city livelihood centers (CLCs), 7 rural livelihood centers (RLCs), and 1 Polytechnic for women. Eleven employment exchanges will be upgraded into model career centers (MCCs). The MCCs will have 3 to 4 floors on average, and occupy around 400 m² each. **The Department of Urban Development (DOUD), Department of Rural Development (DORD), and the Department of Labor and Employment (DOLE) will help HPKVN in running livelihood development and counseling programs at the proposed CLCs, RLCs, and MCCs respectively.**

4. GOHP has assured ADB that the proposed new infrastructure will be built, either within premises owned by the government, or on vacant and unencumbered land owned by the government. No new land will be acquired, nor will anyone be displaced in anticipation of ADB funding. Sites located within or near environmentally-sensitive areas and tribal areas of Himachal Pradesh will not be considered. No project related activity will have any adverse impact on indigenous peoples or impede their cultural and human rights. Hence, from a safeguards perspective, the Project is categorized as 'B' for environment, 'C' for involuntary resettlement, and 'C' for indigenous peoples.

5. One RLC has been planned at Bijahi village in Thunag Tehsil of Mandi district. The RLC site is on unencumbered GOHP owned land. The RLC will help rural youth in getting trained through various job oriented skill training programs run by it for gainful employment. The training programs have been designed keeping in view industry and market needs. The

¹A detailed Environmental and Social Management Framework (ESMF) has been prepared in line with ADB's Safeguards Policy Statement (SPS), 2009, to guide the executing agency and implementing agencies in mainstreaming environmental and social concerns into the design and implementation phases of HPSDP.

RLC will be a three-storey building. It will have Counseling cum Placement office, RLC Manager's room, waiting area, toilet for ladies and gents, dormitory and dining area and production halls in 3 numbers on the ground floor. On first floor, there will be practical class rooms in 3 numbers, Computer laboratory and dormitory for 12 students, Toilets for ladies and gents and production hall in 2 numbers. On the second floor there will be production halls and dormitory for 15 students. The Sanitation facilities have been planned on all floors. The built-up area of RLC exclusive of hostel area is 950 m². The built up area for hostel/dormitory is 750 m². In RLC building a septic tank will be provided for 100 users. Solar panels will be installed on the roof with potential to generate 5 kW.

6. The architectural expression of the RLC building is in harmony with the local style of Himachal Pradesh - suitable for cool weather, with a long rainy season. The building aims to evoke a true guiding, learning and facilitation centre for Himachali youth in getting employment. The RLC building will be a barrier-free building. There will be ramps and specially designed toilets to make it easy for people with disabilities. The RLC building will have adequate number of modern sanitation and drinking water facilities. Concrete gutters at the end of steel sheeting roofs will direct the rain water to underground rain water harvesting tanks. The clean rainwater runoff can be re used for horticultural purposes and for flushing in the toilet.

7. The cost for RLC has been estimated about **INR 37.773 millions**. Any waste generated on account of operation and maintenance of solar PV Cell will be taken up by the supplier, who will also be maintaining the PV cell, for possible recycle and reuse.

8. The enclosed **Initial Environmental Examination (IEE)** report provides details about the RLC site, the potential environmental impacts of the civil works, and suggests ways of mitigating and addressing these². Since RLC site is close to village Bijahi habitation area, therefore, there is no existence of any protected, reserved or revenue forest areas nearby. There is one natural stream at a distance of about 200 m from RLC site. The RLC site is on a plain terrain. There are no protected areas (national parks, bird sanctuaries, tiger reserves, etc.), wetlands, mangroves, or estuaries in or near the sub-project location. The site is in a hilly state, so, there are no ambient air quality and noise level issues.

9. Since the RLC will be a small building (built-up area around 1700 m²) for conducting skills developing training program, placement facilitation and small production center for local produces, therefore, construction of RLC building and its operations are unlikely to cause any significant impacts. These routine and localized effects associated with construction and operation of the new building can be mitigated easily by following the measures laid down in the **Environment Management Plan (EMP)** included in the IEE. The EMP will be included in civil work bidding and contract document. **The IEE confirms that RLC building construction and functioning as environment category "B"**. No further special study or detailed environmental impact assessment (EIA) needs to be undertaken to comply with ADB SPS, 2009 or Government of India EIA Notification, 2006.

10. HPKVN and PWD will be responsible for overall planning and implementation of the civil works. They will ensure that the ESMF is followed during project implementation. The Project Management Consulting (PMC) firm has an experienced Environment and Social

²Local stakeholders were involved in developing the IEE through discussions on-site and public consultation. Their views were incorporated into the IEE, and the design of the sub-project. The IEE will be made available at public locations in the town such as Municipal office building, district administration office. It will be disclosed to a wider audience via the ADB, DOUD, and HPKVN websites.

Himachal Pradesh Skill Development Project
Initial Environmental Examination Development of Rural Livelihood Center at Bijahi (Mandi District)

Safeguards specialist. The EMP implementation will be monitored by the Environment and Social safeguard specialist of PMC.

I. INTRODUCTION

A. Background

1. **Location.** One Rural Livelihood Center (RLC) is planned at village Bijahi in Kanda Bagsiyad Panchayat of Thunag Tehsil in Mandi district. This has also been termed as RLC Seraj in HPSPDP project. The latitude and longitude of the proposed RLC are given below:

Sl. No.	Name of Facility	Latitude	Longitude
1	RLC at Bijahi village	31°33'14.34"N	77° 5'53.21"E

2. The nearest rail head at Kiratpur Sahib in Punjab is about 157 km away from RLC site. The project site is well connected to important destinations such as Shimla, Chandigarh and Delhi. The distances of important destinations is given below:

Sl. No.	Name of Facility	Altitude (m)	District	Distance from RLC site
1.	RLC, Bijahi	2075	Mandi	Kullu Airport : 61 km Dharmshala Airport : 171 Km Mandi : 38.5 Kullu : 71 km Palampur : 133 km Shimla : 163 km Manali : 110 km Sunder Nagar : 44 km Hamirpur : 108 Km New Delhi : 469 km Ambala : 246 km

3. The proposed RLC site is a vacant and unencumbered land in the ownership of Department of Rural Development (DORD), Government of Himachal Pradesh. The Mandi district geographically lies between the latitude 31°13'50 and 32°04'30" North and longitude 76°37'20" and 77°-23'15" East.

4. **Present Status of RLC Site:** The RLC site at Bijahi is located in undulating terrain. The site ownership is with DORD. There are no permanent or temporary structures on the site. There are also no trees at site. The photographs of the subproject site are shown below.



RLC Bijahi Site View



Another view of RLC Bijahi Site

B. Compliance with India's Environmental Regulatory Framework

5. India's environmental rules and regulations, as relevant for the RLC Bijahi, are shown in **Table 1**. The Environmental Impact Assessment (EIA) notification, 2006 by the Ministry of Environment, Forests and Climate Change (MOEFCC, GOI) specifies the requirements for mandatory environmental clearances. All projects and activities are broadly categorized into two categories—category 'A' and category 'B', based on the spatial extent of potential impacts on the environment, human health, and natural and man-made resources³. However, MOEFCC's Office Memorandum (F. No. 19-2/2013-IA- III), dated June 09, 2015, exempts all educational and training institutes from obtaining prior environmental clearance. Since all the training facilities to be constructed or upgraded under HPSPDP, including this RLC subproject, are meant for educational and training purposes, they will not require any prior environmental clearances according to the environmental rules and regulations of India. Further, as shown in **Table 1**, most other rules pertaining to India's regulatory framework such as Ancient Monuments and Archaeological Sites and Remains Act, 1958; the Wildlife (Conservation) Act, 1972, amended in 2003 and 2006; and the Forest (Conservation) Act, 1980, will also not apply to RLC subproject. Only some permission will be required from the Himachal Pradesh State Pollution Control Board for the construction phase of the sub-project.

Table-1: Environmental Regulatory Compliance

Sub-Project	Applicability of Acts/Guidelines	Compliance Criteria
Construction of Rural Livelihood Center at Bijahi	The EIA notification, 2006 (and its subsequent amendments till date) provides for categorization of projects into category 'A' and 'B', based on extent of impacts.	The sub-project is not covered in the ambit of the EIA notification (amended till date), either as a Category 'A' or Category 'B' project. As per the Office Memorandum dated June 09, 2015 of MOEFCC, educational and training institutions are exempted from prior environmental clearance. As a result, the categorization, and the subsequent environmental assessment and clearance requirements, either from the state or the GOI, are not triggered. Not Applicable

³ All projects or activities included as Category 'A' in the Schedule, including expansion and modernization of existing projects or activities and change in product mix, will require prior environmental clearance from the Central Government in the Ministry of Environment, Forests and Climate Change (MoEFCC) on the recommendations of an Expert Appraisal Committee (EAC) to be constituted by the Central Government for the purposes of this notification; All projects or activities included as Category 'B' in the Schedule, including expansion and modernization of existing projects or activities as specified in sub paragraph (ii) of paragraph 2, or change in product mix as specified in sub paragraph (iii) of paragraph 2, but excluding those which fulfill the General Conditions stipulated in the Schedule, will require prior environmental clearance from the State/Union territory Environment Impact Assessment Authority (SEIAA). The SEIAA shall base its decision on the recommendations of a State or Union territory level Expert Appraisal Committee (SEAC) as to be constituted for in this notification. In addition, General Condition (GC) of the notification specifies that any project or activity specified in Category 'B' will be treated as Category A, if located in whole or in part within 5 km from the boundary of: (i) Protected Areas notified under the Wild Life (Protection) Act, 1972, (ii) Critically Polluted areas as notified by the Central Pollution Control Board from time to time, (iii) Notified Eco-sensitive areas, (iv) inter-State boundaries and international boundaries

Sub-Project	Applicability of Acts/Guidelines	Compliance Criteria
	The Ancient Monuments and Archaeological Sites and Remains Act, 1958, and the rules, 1959 provide guidance for carrying out activities including conservation, construction and reuse in and around the protected monuments.	The RLC site is not close to any monument which is protected by the Archaeological Survey of India (ASI). Hence, no clearance is needed from ASI. Not Applicable
	Water (Prevention and control of pollution) Act, 1974 and Air (prevention and control of pollution) Act, 1981	Consent for Establishment (CFE) and Consent for Operation (CFO) from the State Pollution Control Board will be required during construction for installation of diesel generator set, hot mix plant, and concrete batching plant. For the operation phase, no CFO will be required. Applicable only for Construction Phase
	The Wildlife Conservation Act, 1972, amended in 2003 and 2006, provides for protection and management of Protected Areas.	No wildlife protected areas within 25 km aerial distance from the sub project site. Not Applicable
	Forest (Conservation) Act, 1980	This act provides guidelines for conservation of forests and diversion of forest land for non-forest use. It describes the penalties for contravention of the provisions of the Act. If forest land has to be acquired for the project, clearance is required from the Forest Department. No forest land is required for sub- project for the RLC construction. Hence, this is not applicable. Not Applicable

C. Asian Development Bank's Environmental Safeguard Policy Principles

6. Since the proposed HPSPDP is being funded by the ADB, it has to comply with ADB's SPS, 2009, in addition to the India's own environmental laws and regulations. The environmental safeguard policy principles embodied in SPS, 2009 aim to avoid adverse impacts on the environment and on affected people or communities; minimize, mitigate and/or compensate for adverse project impacts, if unavoidable; help borrowers to strengthen their safeguard systems and to develop their capacity in managing the environmental and social risks. The SPS, 2009 categorizes all projects into 3 environmental categories (A, B or C) based on their potential impacts⁴. Similarly, ADB's REA checklist method was followed to assess the potential impact of the proposed sub-project (**Annexure-1**). As explained in

⁴ As per SPS 2009, projects are assigned to one of the following four categories: (i) **Category A.** A proposed project is classified as category A if it is likely to have significant adverse environmental impacts that are irreversible, diverse, or unprecedented. These impacts may affect an area larger than the sites or facilities subject to physical works. An environmental impact assessment is required. (ii) **Category B.** A proposed project is classified as category B if its potential adverse environmental impacts are less adverse than those of category a projects. These impacts are site-specific, few if any of them are irreversible, and in most cases mitigation measures can be designed more readily than for category a projects. An initial environmental examination is required. (iii) **Category C.** A proposed project is classified as category C if it is likely to have minimal or no adverse environmental impacts. No environmental assessment is required although environmental implications need to be reviewed (iv) **Category FI.** A proposed project is classified as category FI if it involves investment of ADB funds to or through a FI (paras. 65-67).

Annexure-1, this subproject has been categorized as 'B'. Accordingly, this IEE has been prepared to address the potential impacts in line with the requirements for category B projects. The IEE was based mainly on baseline data generation on environmental parameters and secondary sources of information and field reconnaissance surveys. Stakeholder consultations at subproject site are an integral part of the IEE. An Environmental management plan (EMP) outlining the specific environmental measures to be adhered to during implementation of the sub-projects is included in the IEE.

D. Review and Approval Procedure

7. For Category 'B' projects, the draft environmental status report is reviewed by the relevant ADB Departments and the Executing Agency. Additional comments are incorporated into the final documents as relevant. These are reviewed by the Executive Agency and ADB safeguards team. The Executing Agency then officially submits the IEE report to ADB for consideration by the Board of Directors. The final report is made available worldwide by ADB, via the depository library system and the ADB website.

E. Report Structure

8. This Report contains eight sections including this introductory section: (i) Introduction; (ii) description of sub-project components; (iii) description of the existing environment around the sub-projects; (iv) environmental impacts and mitigation measures; (v) EMP; (vi) public consultation and information disclosure; (vii) findings and recommendations; and (viii) conclusions.

II. DESCRIPTION OF THE PROJECT COMPONENTS

A. Components of the Sub-project

9. The location of the RLC site and surroundings has been shown in **Figures 1 and 2**. **Table -2** summarizes the need for the sub-project and brief description of its components.

Figure-1: Location of RLC Bijahi site

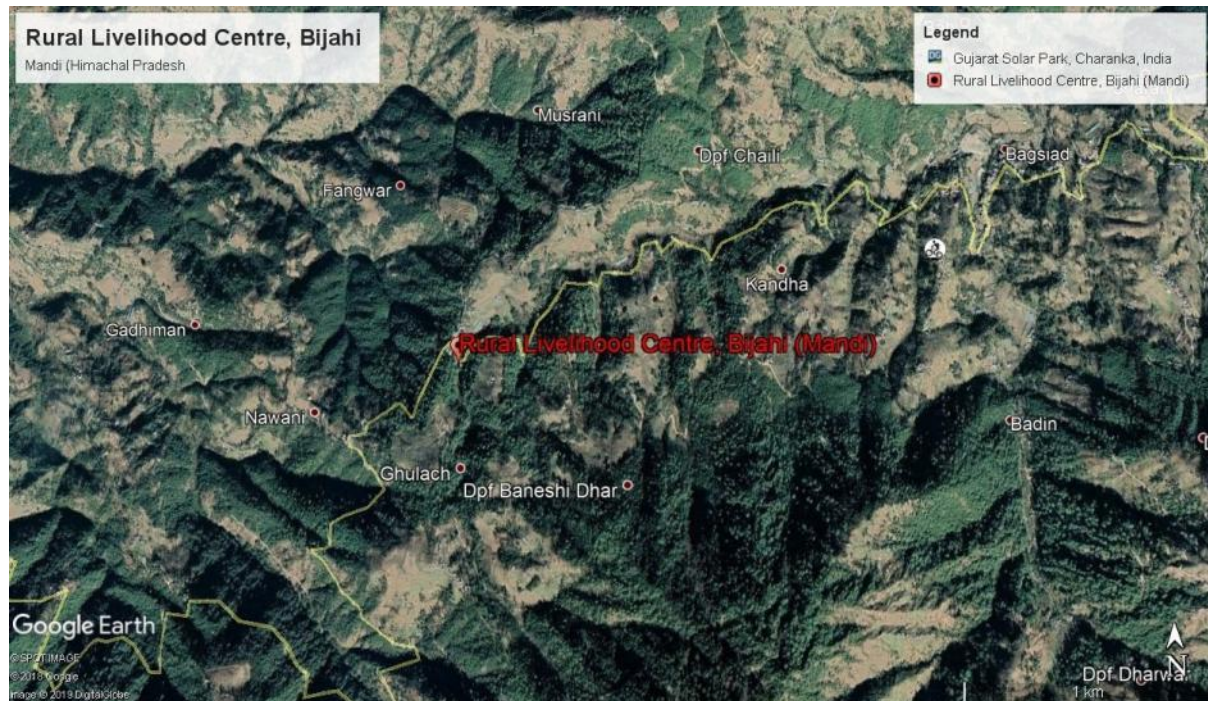


Figure-2: Location of RLC Subproject Site

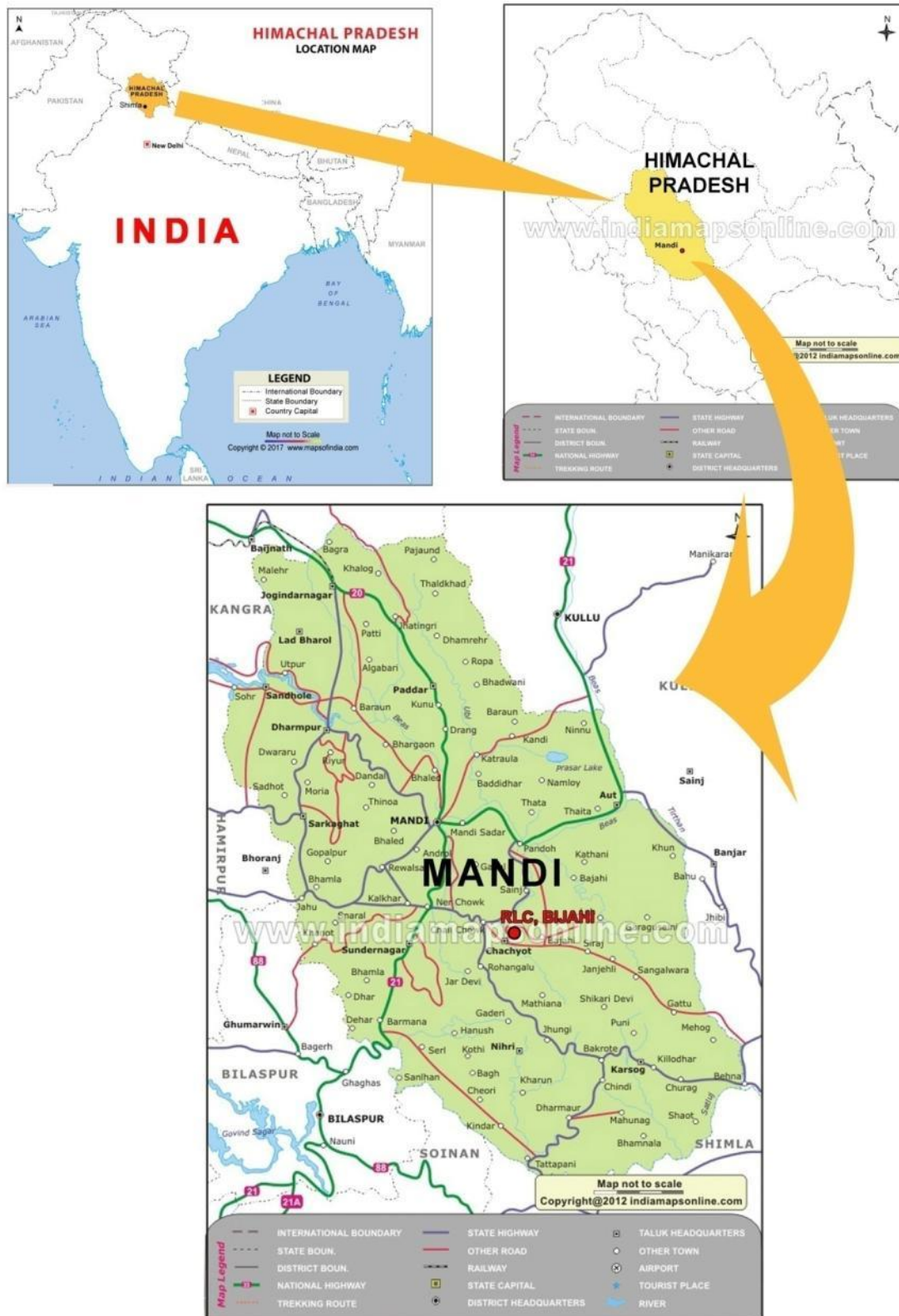
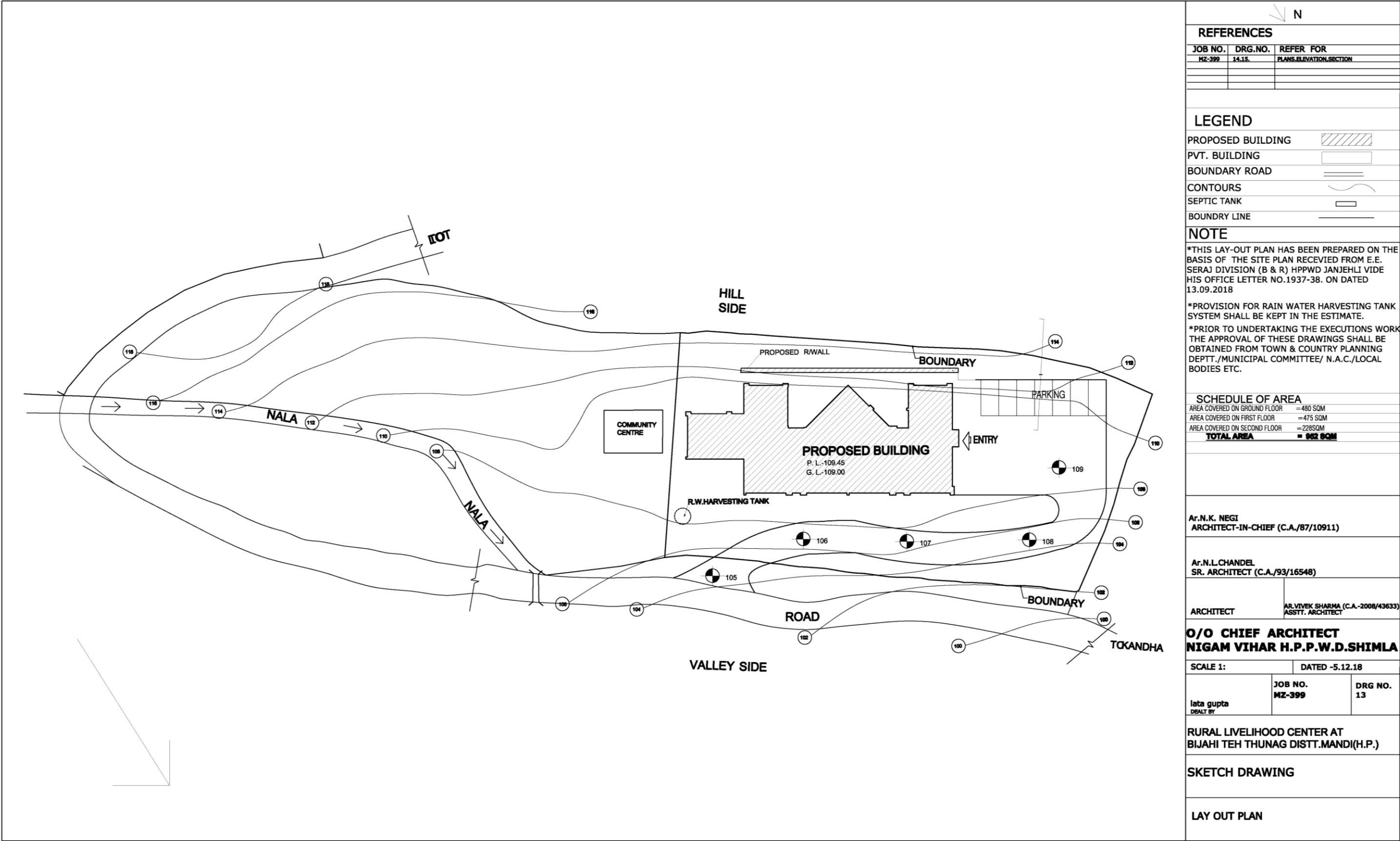


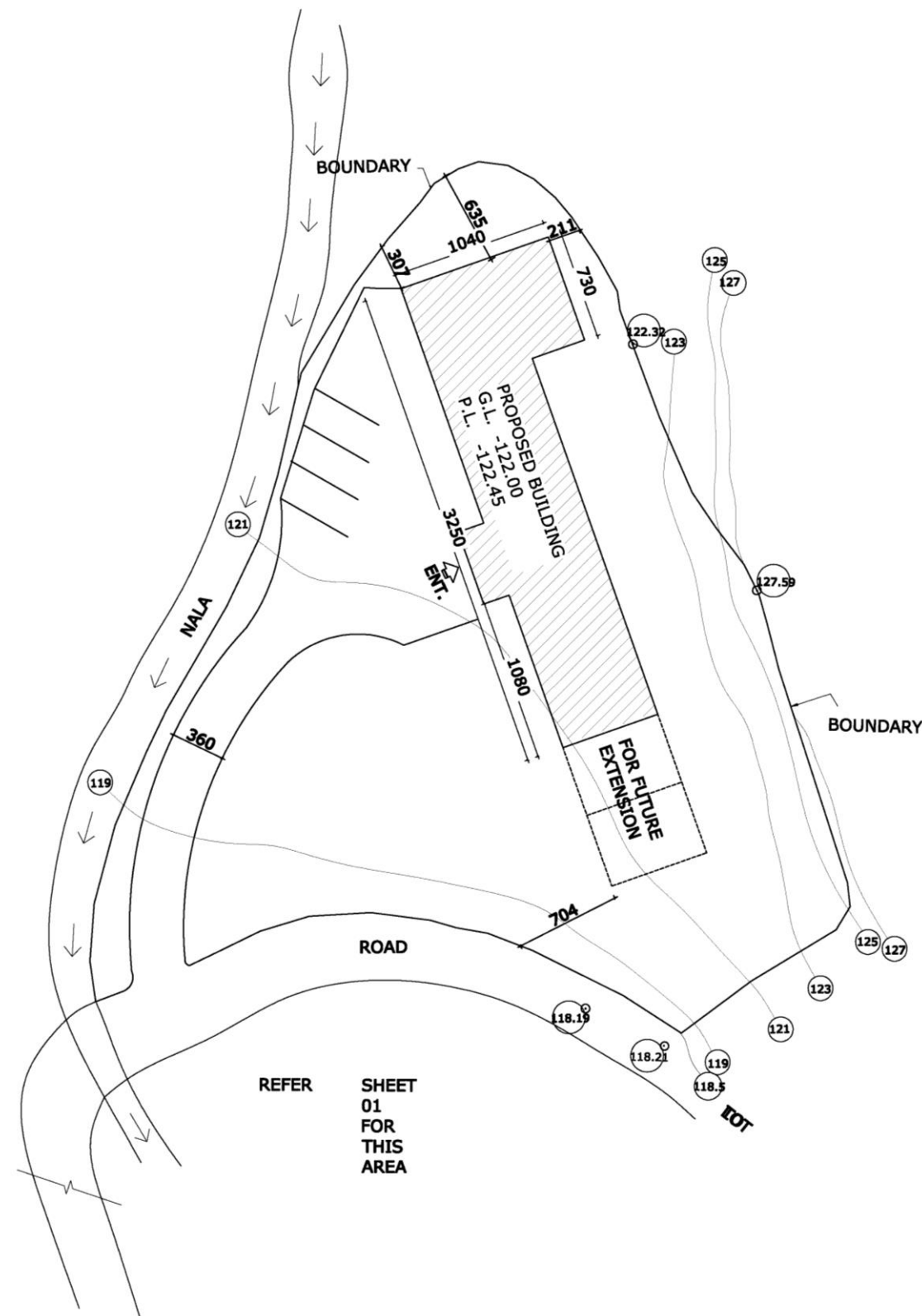
Table-2: Description of the Sub-project Components

Description	Need of the Sub-project	Proposed Components
RLC at Bijahi	<ul style="list-style-type: none"> The RLC site at Bijahi is located in remote area of Mandi district. This is in Thunag Tehsil. The students from the subproject region have to travel to Mandi or Punjab for job oriented skill courses or training. The RLC will be very effective for imparting job oriented training and skills to rural youth. The subproject will also be very helpful for female students as it is difficult for them travel longer distances for the education. 	<p>The main sub-project components include:</p> <ol style="list-style-type: none"> The RLC will be a three-storey building. The dormitory will be on all floors. Total capacity of hostel /Dormitory is 30 (3 on Ground, 12 on first floor and 15 on second floor). On the ground floor, there will be RLC Manager's room, Counseling cum placement office, Waiting area, Production Halls in 3 numbers and Ladies' and Gent's toilet. On the first floor there will be Practical Class Room three in numbers, Computer Laboratory, Ladies and Gents Toilet and Production Hall in 2 numbers. On the second floor, there will be 2 numbers production halls. A septic tank will be provided for 100 users. Solar panels will be installed on the roof with potential to generate 5 kW. The total electricity load has been estimated as 30 kilowatts Water consumption has been estimated as 4500 liters per day. Water source will be from the municipal supply. For solid waste disposal, either location will be identified close to RLC or it will be integrated with Bijahi village disposal system. The civil cost for RLC has been estimated as INR 37.773 millions.

10. The layout plans of all floors (ground, first and second) along with 3D perspective view of RLC have been shown below in **Figure-3**.

Figure-3: Layout Plan and Other Drawings of RLC Bijahi





N		
REFERENCES		
JOB NO.	DRG.NO.	REFER FOR
MZ-399	11,	G. FLOOR PLAN,F.FLOOR PLAN
MZ-399	12	SECOND FLOOR PLAN,F.ELEVATION ,SECTION A-A'
PLAN	AREA	CAPACITY
GROUND FLOOR PLAN	=260 sq.m	3 NO.
FIRST FLOOR PLAN	=245 sq.m	12 NO.
SECOND FLOOR PLAN	=245 sq.m	15 NO.
TOTAL	750 sq.m	
LEGEND		
EXIST. BUILDING		
PROPOSED BUILDING		
FUTURE EXPANSION		
CONTOUR		
BOUNDARY		
GATE		
NOTE :-		
*THIS LAYOUT PLAN HAS BEEN PREPARED ON THE BASIS OF SITE PLAN RECEIVED FROM E.E.SERAJ DIVISION (B&R) H.P.P.W.D.JANDEHLI VIDE HIS OFFICE LT. NO. 1937-38 DT. 13-9-2018.		
*PROVISION OF RAIN WATER HARVESTING SYSTEM AND SOLAR WATER HEATING SYSTEM SHALL BE MADE IN THE ESTIMATE.		
*PRIOR TO UNDERTAKING EXECUTION WORKS THE APPROVAL OF THE DRAWINGS SHALL BE OBTAINED FROM THE TOWN AND COUNTRY PLANNING DEPTT.,MUNICIPAL CORPORATION ,MUNICIPAL COMMITTEE,N.A./C/ BODIES ETC.		
NOTE :-		
THESE DRGS ARE COMPUTER GENERATED DRGS HENCE DOES NOT REQUIRE SIGNATURE.		
FOR APPROVAL & FEASIBILITY ONLY		
Ar.N.K. NEGI ARCHITECT -IN-CHIEF (C.A./87/10911)		
Ar.N.L.CHANDEL SR. ARCHITECT (C.A./93/16548)		
ARCHITECT	AR.VIVEK SHARMA ASSTT. ARCH. C/A 2008/43633	
O/O ARCHITECT-IN- CHIEF NIGAM VIHAR H.P.P.W.D.SHIMLA		
SCALE 1:		DATED:-5-12-2018
LATA GUPTA DEALT BY	JOB NO. MZ-399	DRG NO. 10
RURAL LIVLIHOOD CENTRE SERAJ AT BIZIAHI TEH.THUNAG		
PROVISION OF HOSTEL. (FOR 30 PERSON)		
LAYOUT PLAN		

REFERENCES

JOB NO.	DRG.NO.	REFER FOR
MZ-399	13	LAY OUT PLAN
-DO-	15	ELEVATIONS

SCHEDULE OF AREA

AREA COVERED ON GROUND FLOOR	= 480 SQM
AREA COVERED ON FIRST FLOOR	= 475 SQM
AREA COVERED ON SECOND FLOOR	= 2285 SQM

TOTAL AREA = 952 SQM

Ar. N.K. NEGI
ARCHITECT-IN-CHIEF (C.A./87/10911)

Ar. N.L.CHANDEL
SR. ARCHITECT (C.A./93/16548)

ARCHITECT AR.VIVEK SHARMA (C.A.-2008/43633)
ASSTT. ARCHITECT

O/O ARCHITECT-IN-CHIEF
NIGAM VIHAR H.P.P.W.D.SHIMLA

SCALE 1: DATED -05.12.18

JOB NO.	DRG NO.
MZ-399	14

DEALT BY
RURAL LIVELIHOOD CENTER ,
SERAJ AT BIJAHİ TEH.THUNAG
DISTT.MANDI (H.P.)

SKETCH DRAWING

GROUND FLOOR & FIRST FLOOR PLAN

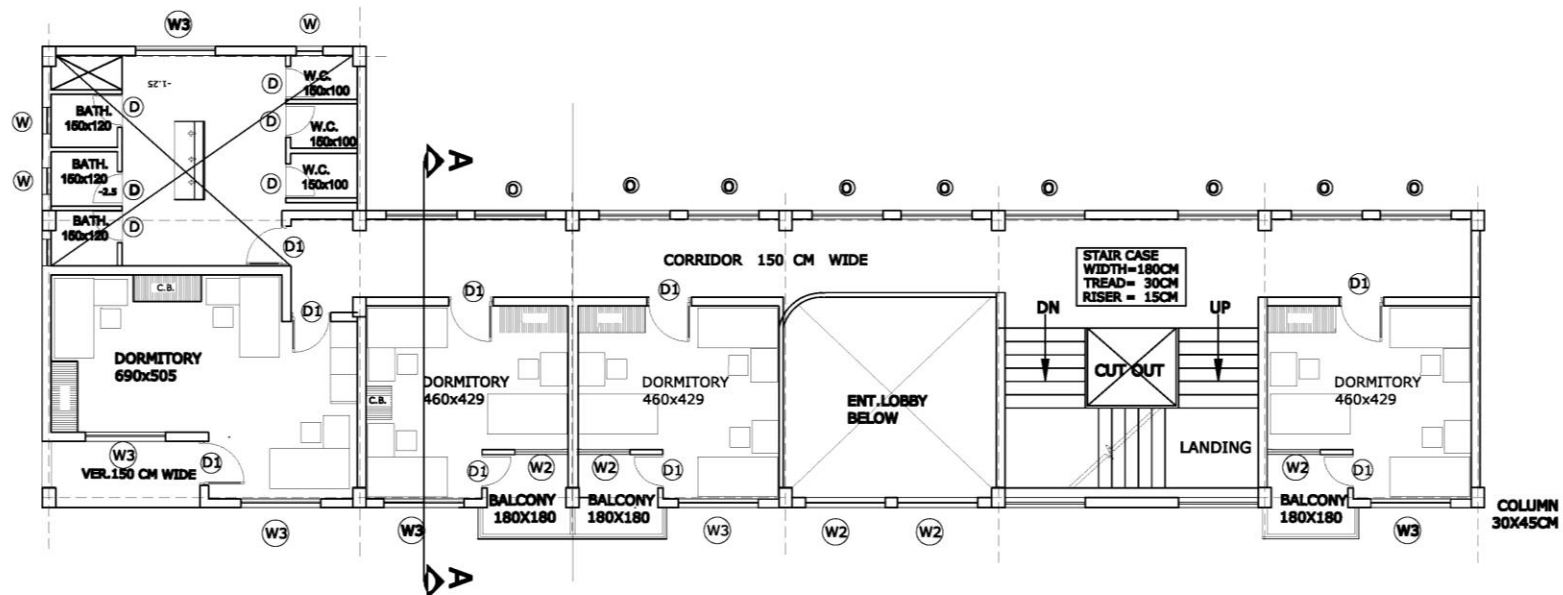
FIRST FLOOR

SECOND FLOOR

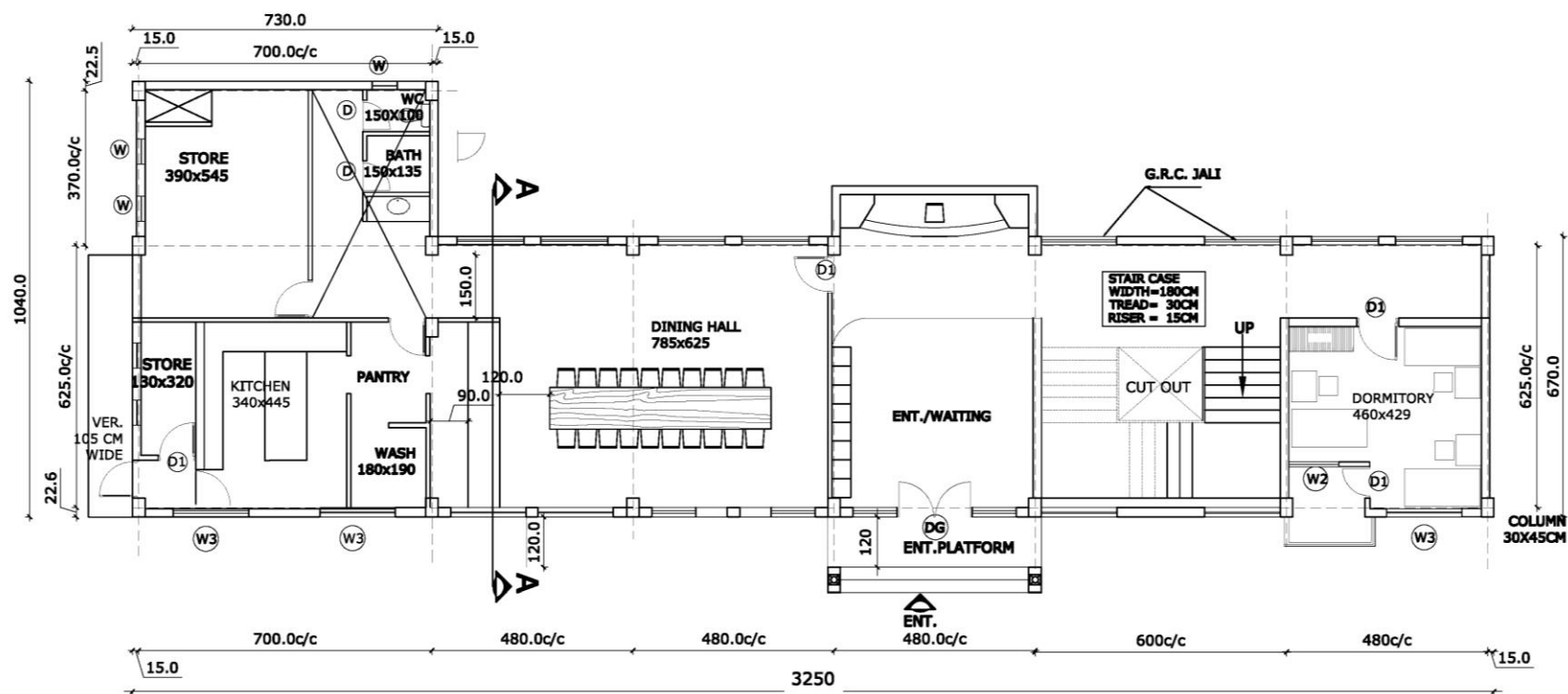
GROUND FLOOR

PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT

PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT



FIRST FLOOR PLAN
AREA-245 SQ.M.



GROUND FLOOR PLAN
AREA -260 SQ.M.

REFERENCES

JOB NO.	DRG.NO.	REFER FOR
MZ 399	10	LAY OUT PLAN
MZ -399	12	SECOND FLOOR PLAN, F.ELEVATI SECTION A-A'

SCHEDULE OF JOINARY

TYPE	WIDTH	HT.	CILL HT.	DESCRIPTION
D	75	210	-	SINGLE HUNG
D1	90	210	-	SINGLE HUNG
D2	120	210	-	DOUBLE HUNG
DG	300	255	-	BOTH SIDE GLAZING
W	60	160	105	PARTLY OPENABLE PARTLY FIXED
W1	105	180	85	PARTLY OPENABLE PARTLY FIXED
W2	120	180	85	PARTLY OPENABLE PARTLY FIXED
W3	180	300	75	75CM ABOVE LANDING LEVEL
W4	140	180	85	PARTLY OPENABLE PARTLY FIXED
O	160	180	85	OPENING
O1	160	180	85	OPENING

PLAN	AREA	CAPACITY
GROUND FLOOR PLAN	=260 sq.m	3 NO.
FIRST FLOOR PLAN	=245 sq.m	12 NO.
SECOND FLOOR PLAN	=245 sq.m	15 NO.
TOTAL	750 sq.m	

NOTE :-
THESE DRGS ARE COMPUTER GENERATED DRGS
HENCE DOES NOT REQUIRE SIGNATURE.

FOR APPROVAL & FEASIBILITY ONLY

Ar.N.K. NEGI
ARCHITECT -IN -CHIEF (C.A./87/10911)

Ar.N.L.CHANDEL
SR. ARCHITECT (C.A./93/16548)

ARCHITECT

AR.VIVEK SHARMA
ASSTT. ARCH. C/A 2008/43633

O/O ARCHITECT-IN- CHIEF
NIGAM VIHAR H.P.P.W.D.SHIMLA

SCALE 1:

DATED 5-12-2018

JOB NO.	DRG NO.
MZ- 399	11

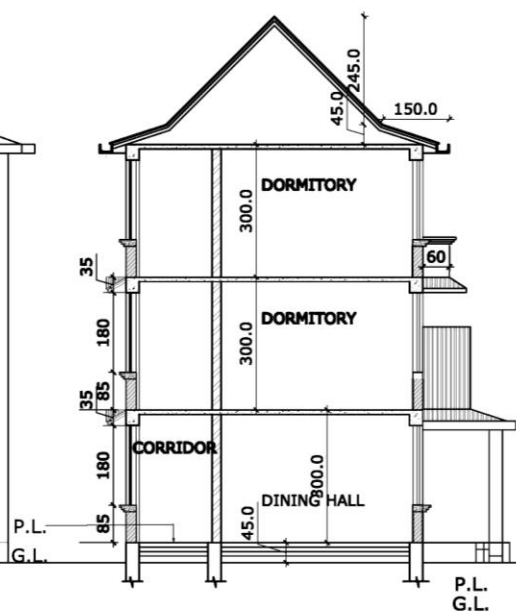
LATA
DEALT BY

RURAL LIVELIHOOD CENTRE SERAJ
AT BIJAH I TEH. THUNAG.
PROVISION OF HOSTAL BUILDING
(FOR 30 PERSON)WORKING DRAWING

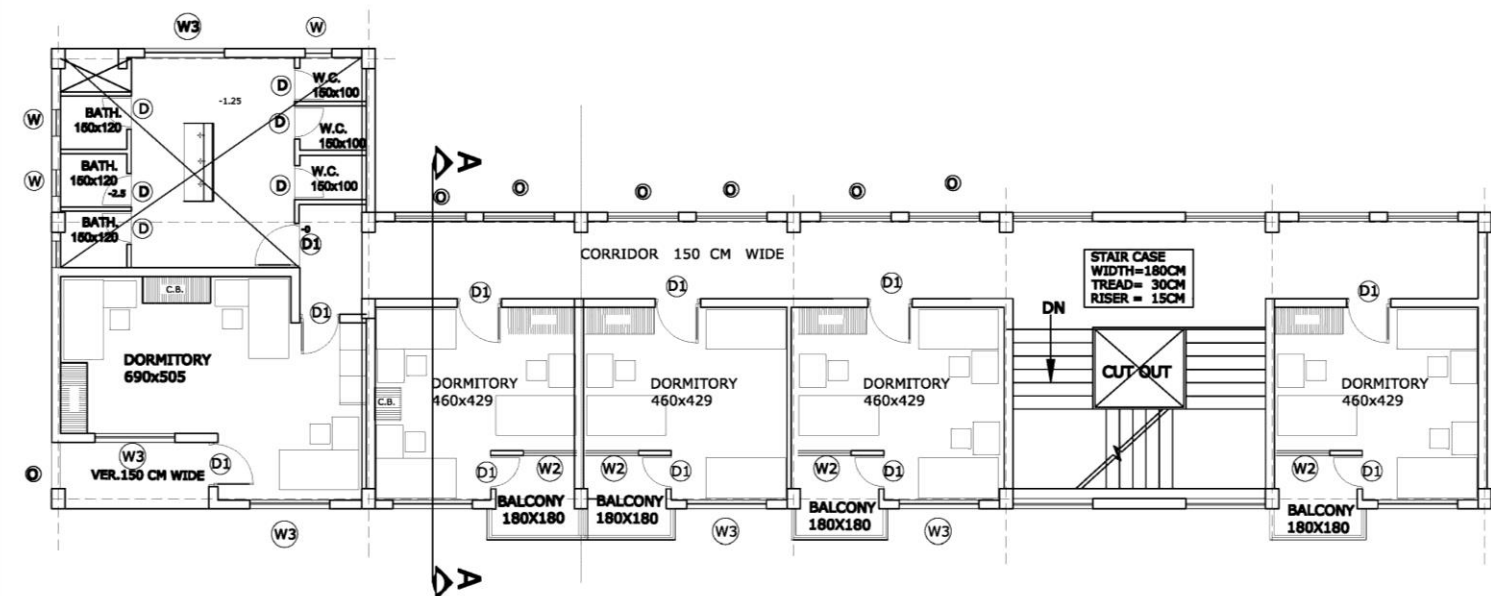
GROUND FLOOR,FIRST
FLOOR PLAN



FRONT ELEVATION



SECTION AT A-A'



SECOND FLOOR PLAN
AREA-245 SQ.M.

REFERENCES

JOB NO.	DRG.NO.	REFER FOR
MZ 399	10	LAY OUT PLAN
MZ -399	11	F. FLOOR PLAN,SECONDF.PLAN

NOTE :-
THESE DRGS ARE COMPUTER GENERATED DRGS
HENCE DOES NOT REQUIRE SIGNATURE.

FOR APPROVAL & FEASIBILITY ONLY

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Ar.N.L.CHANDEL
SR. ARCHITECT (C.A./93/16548)

ARCHITECT ASSTT. ARCHITECT

**O/O ARCHITECT-IN- CHIEF
NIGAM VIHAR H.P.P.W.D.SHIMLA**

SCALE 1: DATED 5-12-2018

JOB NO.	DRG NO.
MZ- 399	12

LATA GUPTA
DEALT BY

**RURAL LIVELIHOOD CENTRE SERAJ
AT BIJAH I TEH. THUNAG.
ROVISION OF HOSTAL BUILDING
(FOR 30 PERSON)WORKING DRAWING**

**FIRST FLOOR PLAN,FRONT
ELEVATION &SECTION A-A'**

REFERENCES

JOB NO.	DRG.NO.	REFER FOR
MZ-399	13	LAY OUT PLAN
-DO-	14	PLANS

SCHEDULE OF AREA

AREA COVERED ON GROUND FLOOR	= 480 SQM
AREA COVERED ON FIRST FLOOR	= 475 SQM
AREA COVERED ON SECOND FLOOR	= 228 SQM
TOTAL AREA = 952 SQM	

Ar.N.K. NEGI
ARCHITECT-IN-CHIEF (C.A./87/10911)

Ar.N.L.CHANDEL
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ASSTT. ARCHITECT

O/O ARCHITECT-IN-CHIEF
NIGAM VIHAR H.P.P.W.D.SHIMLA

SCALE 1: DATED -21.03.17

JOB NO. MZ-399	DRG NO. 15
-------------------	---------------

DEALT BY
RURAL LIVELIHOOD CENTER ,
SERAJ AT BIJAHU TEH.THUNAG
DISTT.MANDI (H.P.)

SKETCH DRAWING

ELEVATIONS



HILL SIDE ELEVATIONS



ENTRY SIDE ELEVATION



VALLEY SIDE ELEVATION

B. Executing and Implementing Agencies

11. The Department of Planning (DOP), GOHP, is the executing agency for the proposed HPSPD. The *Himachal Pradesh Kaushal Vikas Nigam* (HPKVN), the Department of Technical Education, Vocational & Industrial Training (DOTE), Department of Higher Education (DOHE), and the Public Works Department (PWD) will be the implementing agencies. HPKVN will also operate as the project management unit (PMU) for the overall project implementation. For the civil works component, it will be assisted by PWD officials who are well aware of the states and India's building codes and environmental rules and regulations. HPKVN and PWD will be responsible for overall planning and implementation of the civil works. They will ensure that the ESMF is adhered to during project implementation. The Project Management Consulting (PMC) firm to be engaged under the proposed loan will have experienced Environment and Social Safeguards specialists. They will assist PWD and HPKVN in supervising the civil works, ensuring that the IEEs and EMPs are prepared for all sub-projects, and preparing semi-annual safeguards monitoring reports also. HPKVN will consolidate the semi-annual reports, and submit them to ADB. ADB will post the environmental monitoring reports on its website.

C. Implementation Schedule

12. The implementation period for the proposed sub-project is 24 months. The preliminary drawings for RLC have been prepared for approval and these are in the process of approval. The bidding process for the sub-project will be started by May 2019. The sub-project will be awarded for construction by June/July 2019. The contractor is expected to be mobilized to site by July/August 2019 and construction works of sub-project will begin in July /August 2019 and work will be completed by August 2021.

III. DESCRIPTION OF THE EXISTING SUB-PROJECT ENVIRONMENT

13. This section presents a brief description of the existing environment around the sub-project site, including its physical resources, ecological resources, socio-economic development and social and cultural resources. Broad aspects on various environmental parameters such as geography, climate and meteorology, physiographic, geology, seismology, ecology, socio-cultural and economic development parameters that are likely to be affected by the proposed sub-project are presented. Secondary information was collected from relevant government agencies like the Forest Department, State Environment Department, and State Pollution Control Board, and Meteorological Department.

A. Environmental Profile

Air and Noise Quality

14. No air pollution sources have been seen in the surroundings of RLC site as site is in open area near village Bijahi. The site is about 1.50 km from Chail Chowk- Bagsiyad road. Hence, there are no chances of any vehicular emission impacts. The locations of sub-project site being in clean hilly areas have a better quality than northern plains. In order to record baseline ambient air quality, data published by Himachal Pradesh State Pollution Control Board (SPCB) and Central Pollution Control Board (CPCB) has been referred. This data is available for Sunder Nagar (at about 44 km from site) relevant for the sub-project site. No ambient air quality data is available for project site. The data for ambient air quality has been given in **Table-3** and **Table-4**. It is clear from these tables that ambient air quality is well within the limits in respect of SO₂ and NO_x, but PM₁₀ levels are exceeding the limits. At sub-project site PM₁₀ is also expected to be within the limits as site is away from commercial areas.

Table-3: Ambient Air Quality Data for Project Area Published by Central Pollution Control Board

Sl. No.	Location	Range	Parameter (µg/m ³) Value		
			SO ₂	NO _x	PM ₁₀
1	HPSPCB, BBMB Colony, Sunder Nagar	Minimum	2	5	32
		Maximum	2	21	328
		Average	2	9	87
2	Municipal Council Office on NH-21, Sunder Nagar	Minimum	2	5	28
		Maximum	2	23	195
		Average	2	13	102
3	Applicable National Ambient Air Quality Standards		80	80	100
* BDL- Below Detection Limit Source: Ambient Air Quality , Published by CPCB for the year 2012					

Table-4: Ambient Air Quality Data for Project Area Published by Himachal Pradesh State Pollution Control Board for January 2017

Sl. No.	Location	Range	Parameter (µg/m ³)		
			SO ₂	NO _x	PM ₁₀
1	HPSPCB, BBMB Colony, Sunder Nagar	Minimum	2	4.5	30
		Maximum	2	20.84	220
		Average	2	14.35	85
2	Municipal Council Office on NH-21, Sunder Nagar	Minimum	2	4.5	44
		Maximum	2	32.75	211
		Average	2	14.35	104
3	Applicable National Ambient Air Quality Standards		80	80	100
<i>* BDL- Below Detection Limit Source: Ambient Air Quality and Noise Levels, Published by Himachal Pradesh State Pollution Control Board</i>					

Table-5: Ambient Noise Levels in Project Area

Sl. No.	Location	Noise Levels dB(A)	
		Day	Night
1	Kullu	54	66
2	Applicable Noise Level Standards	55	45
<i>Source: Ambient Air Quality and Noise Levels, Published by CPCB for 2014 for Kullu city</i>			

15. Noise levels data is not available for the subproject site. The data available for the nearest location Kullu has been referred. This data has been given in **Table-5** above. It is clear from this table that night time levels are exceeding the limits. The night time levels are higher as these measurements for noise levels were conducted by the CPCB during festival time. However, the noise levels are expected to be well within the stipulated limits at sub-project site as there are no sources of air or noise pollution near the RLC site.

16. In order to have site specific Ambient air quality monitoring and noise levels data, monitoring will be conducted by the contractor prior to start of construction works with the aim of establishing baseline conditions.

17. **Climate.** The climate of the Mandi district is sub-tropical in the valleys and tends to be temperate near the hilltops. In the higher region, the climate remains cold throughout the year. In winter snow often comes down to 1300 m above mean sea level. Normally, it starts melting from the end of March from places lying below 3300 m. In summer sub project site is quite warm. The meteorological data for subproject site is not available, so data for Mandi city has been described.

18. **Temperature.** The temperature exhibits seasonal variation with minimum during the winter and higher during the summer. April, May, June and July are the hottest months while January, February and December are the cold months. The maximum temperature rises to about 28°C in summer and the minimum temperature falls to about 4°C in winter months. The **Table-6** below shows month wise weather data at Mandi. At subproject site temperature is lower than Mandi city as it is on a higher elevation than Mandi city.

Table-6: Climatic Conditions at Mandi

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Average high °C (°F)	16.8 (62.2)	16.6 (61.9)	21 (70)	27.6 (81.7)	26.6 (79.9)	27.7 (81.9)	25.5 (77.9)	25.6 (78.1)	25.3 (77.5)	23.1 (73.6)	21.6 (70.9)	17.4 (63.3)	22.9 (73.2)
Average low °C (°F)	4 (39)	4.1 (39.4)	7.2 (45)	10.5 (50.9)	14.7 (58.5)	15.2 (59.4)	12.7 (54.9)	12.3 (54.1)	11.7 (53.1)	10 (50)	6.4 (43.5)	3.8 (38.8)	9.4 (48.9)
Average rainfall mm (inches)	30 (1.18)	30 (1.18)	22 (0.87)	15 (0.59)	15 (0.59)	85 (3.35)	240 (9.24)	220 (8.66)	130 (5.12)	25 (0.98)	10 (0.39)	10 (0.39)	832 (32.75)
Average snowy days	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0
<i>Source: 'https://www.worldweatheronline.com/' title='Historical average weather'>Data</i>													

19. **Rainfall.** The sub-project area experiences maximum rainfall during Monsoon season from June to September while as least Rainfall is received in November and December. As per local enquiry, subproject site experiences snowfall also. Average annual rainfall at Mandi is around 900 mm.

20. **Humidity.** Based on long-term climatologically data of the Mandi (India Meteorological Department -1980-2010), it is found that relative humidity increases rapidly with the onset of monsoon and reaches maximum (around 85% in the morning and 84% in the evening) during August, when peak monsoon period sets in. Relative humidity is the minimum during the summer months (from April to June) with May being the driest month (40% in morning and 33% in evening). Skies are heavily clouded during the monsoon months and for short spells when the project area is affected by Western Disturbances.

21. **Wind Speed and Directions.** Generally, light to moderate winds prevail throughout the year with speed ranging from 1 to 19 kmph. Winds are light and moderate particularly during the morning hours, while during the afternoon hours the winds are stronger. The season wise wind pattern is explained below:

(a) Wind Pattern during Pre-Monsoon Season

830 -Hours

- A review of the wind persistent data indicates that predominant winds are blowing mostly from N and NE direction.

1730- Hours

- A review of the wind persistent data indicates that predominant winds direction is mostly from SW direction followed by W.

(b) Wind Pattern during Monsoon Season

- The wind persistence is same as explained for pre-monsoon season.

(c) Wind Pattern during Post-Monsoon Season

0830- Hours

- A review of the wind persistent data indicates that predominant winds are mostly blowing from NE direction followed by N direction.

1730- Hours

- A review of the wind persistent data indicates that predominant winds are mostly blowing from SW direction followed by W direction.

(d) Wind Pattern during Winter Season

- The wind persistence is same as explained for post monsoon season.

Topography and Soils

22. Mandi district presents an intricate mosaic of mountain ranges, hills and valleys. It is primarily a hilly district with altitudes ranging from 550 m near Sandhol where the Beas River leaves the district, to about 3960 m above mean sea level near Kullu border. There is a general increase in elevation from west to east and from south to north. Master slope is south- westerly. The south western part consists of Siwalik ranges having scarped slopes. There are few small intermountain valleys; prominent among them is the Balh valley, located in the lesser Himalayan ranges, having an average altitude of about 790 m above mean sea level and have a general slope towards NNE. The valley floor is undulating and is marked by low hillocks and terraces fringing the hills and intervening low alluvial plain. The elevation of subproject site is 2075 m above mean sea level.

23. Two types of soils are mainly observed in Mandi district viz. Sub-Mountainous Soil occurring in Seraj (subproject area) and Karsog blocks and Mountainous Soil occurring in

remaining eight blocks of the district. The sub-mountainous soil is high in organic carbon, low in available phosphorous and medium in potash, whereas the mountainous soil is brown in color, medium in available nitrogen & potash and deficient in available phosphorous. The soil reaction is slightly acidic to neutral and texture in general varies from loam to sandy loam, except in low valley areas being heavy textured.

Surface water and Ground water

24. The RLC site at Bijahi is located in Beas river catchment. A local stream is flowing at a distance of about 200 m from the subproject site. To establish baseline scenario, ground water quality data was obtained from the Central Ground Water Board. The ground water quality data for Mandi is given below in **Table-7**. The water quality data of Beas River at Mandi is given in **Table-8**.

Table-7: Ground Water quality in Sub-Project Area for Mandi District

	pH	EC μS/cm at 25°C	HCO ₃	Cl	NO ₃	F	Ca	Mg	Na	K	Total Hardness as CaCO ₃
Parameter		in (mg/l)									
Min	7.38	180	67	4	0.9	0	14	6	11	2.2	108
Max	7.89	1320	214	255	98	0.3 0	66	54	102	1.6	292
Drinking Water Quality Standards	6.5- 8.5	No limit specifie d	No limit specifi ed	1000	45	1.5	200	100	No limit spec ified	No limit specifi ed	600

Source: Ground Water Information Booklet Mandi District Himachal Pradesh -Central Ground Water Board (Year-2013)

25. Due to the absence of any water polluting sources in the sub project site and surroundings, it is clear that all parameters of ground water quality are within the permissible limits, specified by Bureau of Standards (BIS), for drinking and irrigation. The water quality monitoring will be conducted by the contractor prior to the start of construction works. The map showing hydrogeology of Mandi district has been given in **Figure -4**.

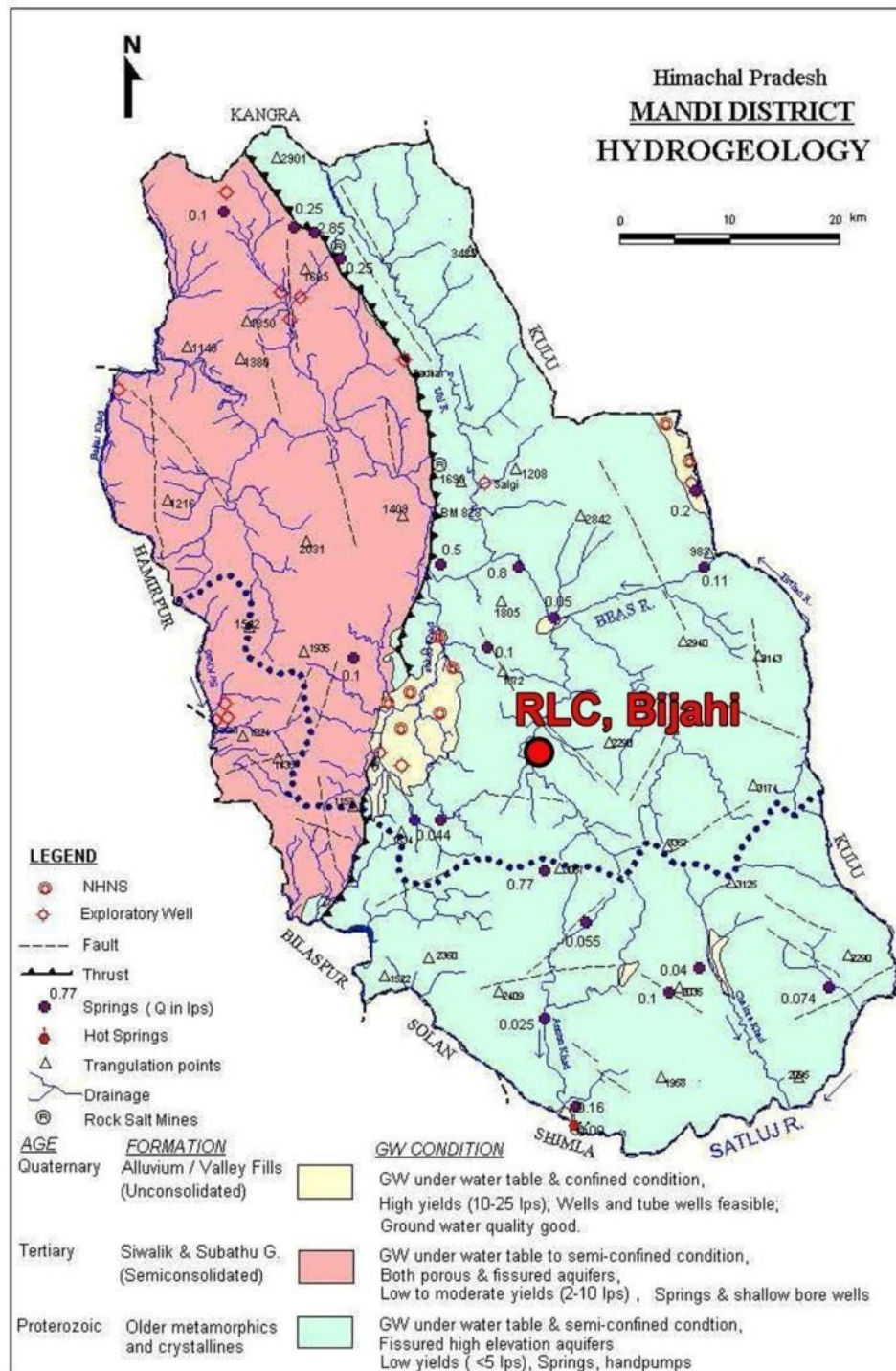
26. Based on 2012 data, the depth of water level during pre-monsoon months, in Mandi district ranged from 0.86 to 9.92 m below ground level (bgl). The stage of ground water development in Mandi district is only 15.36 % and this falls in safe category.

27. Since Beas is the only river of significance in the subproject region so water quality data of this river was obtained from Himachal Pradesh State Pollution Control Board. This data has been given below in **Table-8**. It is clear from this table that it meets 'A' class category requirements (river water fit for drinking without treatment) upstream of Mandi and it meets category 'B' (fit for outdoor bathing) and 'C' (suitable for drinking after conventional treatment) at other three locations.

Table-8: Beas River Water quality in Sub-Project Region

Sl. No.	Location	Parameters			
		pH	D.O. (mg/l)	BOD(mg/l)	Total Coliform (MPN/SPC per 100 ml)
1	Beas River (upstream of Kullu)	7.58	9.2	0.30	1600
2	Beas River (Downstream of Kullu)	7.4	9.5	0.40	>2400
3	Beas River (upstream of Mandi)	7.83	8.3	0.20	33
4	Beas River (Downstream of Mandi)	7.81	8.3	2.9	1600
5	CPCB Water Quality Criteria for (A to C Classes) for Surface Water	6.5-8.5	4-6	2-3	50-5000
<p>Note : 1- Designated Best Use -Class A: Fit for Drinking Water without Conventional Treatment but after disinfection</p> <p>2-Designated Best Use -Class B: Fit for Bathing (Organized)</p> <p>3- Designated Best Use -Class C: Fit for Drinking Water with Conventional Treatment and disinfection</p> <p>Source: Himachal Pradesh State Pollution Control Board (Year 2017)</p>					

Figure-4: Hydrogeology and Ground water Depth Map for Mandi District



Source: Ground Water Information Booklet Mandi District Himachal Pradesh -Central Ground Water Board (Year-2013)

Geology and Seismology

28. The rock formations occupying the Mandi district range from pre-Cambrian to Quaternary period. The generalized geological succession in the district is given below in

Table -9. Hard formations, form hilly and mountainous terrain and mainly comprises of igneous and metamorphic rocks, belonging to the Jutogh, Shali/ Largi and Shimla group and occupy the major part of the area in the northern, central and eastern part. Granites and gneisses are intruded in the meta-sediments of Shali/Largi and Shimla group. In the western and southern parts sediments comprising of sandstone, shale, siltstone, conglomerate, etc of Dharmshala/Sabathu group and Siwalik group of Tertiary age are observed. Alluvium, terrace deposits, fluvial deposits of Quaternary period occur in the intermountain valleys, viz., Balh valley, Sarkaghat valley etc., and constitute an important unit from ground water point of view.

Table-9: Geological Description of Mandi District

Age	Formation	Composition (Lithology)
Quaternary	Alluvium terrace and fluvial deposits	Alluvium, clay, sands, gravels, pebbles, boulders and cobbles
Lower Pleistocene to Middle Miocene	Siwalik Group	Clay, siltstones, sandstones, and boulder beds
Oligocene to Lower Miocene	Dharmshala/ Kasauli Formation (Sabathu Group)	Grey/green sandstones, splintery shale, clay etc
Permian	Basic Volcanic intrusive	-
Proterozoic	Shimla Group	Phyllites, Quartzite, limestone, shale and dolomite
	Shali / Sunder Nagar / Kullu Formation	Phyllites, Quartzite, dolomite conglomerate and limestone
	Jutogh Group	Quartzite, Schists and phyllites and Dalhousie / Kullu granites and gneisses

Source: Ground Water Information Booklet Mandi District Himachal Pradesh -Central Ground Water Board (Year-2013)

29. India's seismic code divides the country into five seismic zones (I to V).The sub-project stretch comes under seismic zone V as defined by Urban Earthquake Vulnerability Project (UEVP) and the Atlas prepared by the Building Materials Promotion and Technology Council (BMTPC), Government of India and UNDP [IS 1893 (Part I : 2002)]. All structures have been designed considering seismic zone V. It may be mentioned that intensity of earthquake increases from Zone I to V. The Zone V mainly covers Himalayan region in India and Himachal Pradesh being a hilly state lies in Himalayan region. Zones I, II and III mainly cover Central and Southern parts of Indian peninsula. It may be mentioned that after an earthquake of 7.8 intensity on Richter scale in Kangra district in 1905 no major earthquake has occurred in Himachal Pradesh.

Drainage

30. The sub-project site drained by Beas River tributary. No flooding issues have been reported at the subproject as site is on a hilly terrain and has a swift drainage pattern.

B. Ecological Resources

(i) Forests

31. Various types of forests in Himachal Pradesh currently cover an area of nearly 37,691 km², which is about 38.3% of the total land area of the state. The variation in the landscape has created great diversity of flora and fauna. From the snowbound peaks of the Himalayas to the moist Alpine scrub, sub Alpine forests, dry - temperate and moist-temperate forests to moist deciduous forests, the state possesses a wide biodiversity that in return nurtures a large multiplicity of floral and faunal forms. Reserve Forests constitute 71.11%, Protected Forests 28.52% and Un-classed forests constitute 0.35% of the total

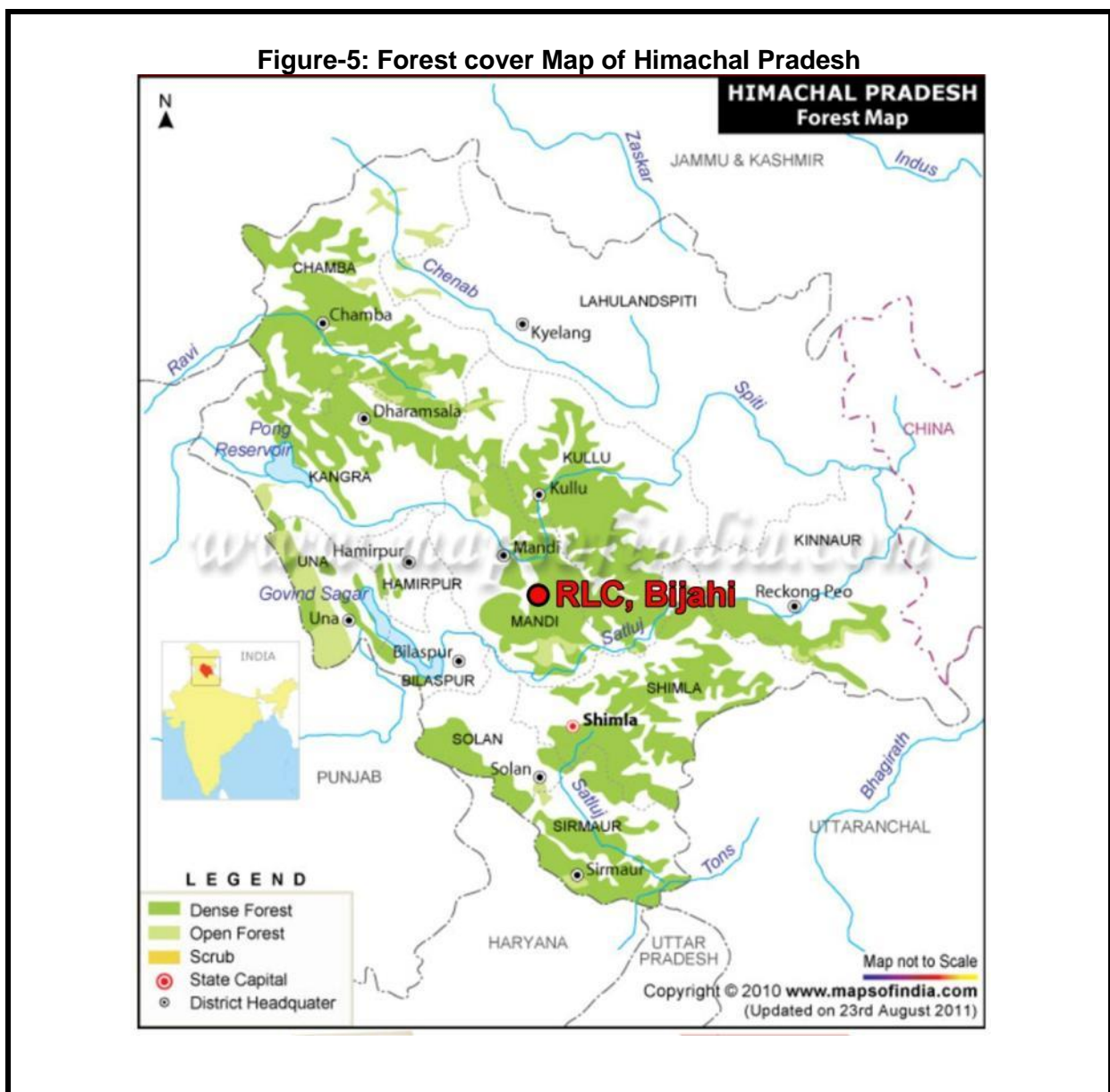
forest area. Mandi district has about 42.41 % forest of geographic area. The most portions of these forest areas are managed by the Forest Department. The forest areas under very dense, moderately dense and open category are presented below in **Table-10**:

Table-10: Different Categories of Forests Mandi District

District	Very Dense Forest Area (km ²)	Moderately Dense Forest Area (km ²)	Open Forest Area (km ²)
Mandi	373	735	567

Source : State Forest Department (Year 2017)

32. The forests of subproject district can be classified into six main categories namely: (1) the tropical dry deciduous forests, (2) the sal forests (3) the chir forests, (4) the oak forests, (4) the deodar, fir and spruce forests, and (5) the Alpine pastures. Forest cover map for Himachal Pradesh is shown in **Figure -5**.



Source: State Forest Department (Year-2018)

33. The RLC sub-project site does not fall within any reserved, protected, or revenue forest areas. The complete vegetation of Himachal Pradesh relies on two factors - height and rainfall. The southernmost part of the state is at a lower altitude level and it contains both humid and subtropical dry broadleaf woodlands, along with subtropical moist broadleaf forests. The majority of area is covered by Himalayan subtropical broadleaf forests. Apart from this, the state has some of the vegetation which is abundant with sal, sisham, and chirpine, dry deciduous and moist broad-leafed forests. The landscape which falls in temperate regions has trees like oak, deodar, blue pine, fir and spruce. The trees found in higher elevations include Alders, birches, rhododendrons and moist alpine scrubs.

34. Himachal Pradesh has abundant growth of fruits like apple, peaches, plums and berries. It is rightly called the 'fruit bowl of India'. There are plenty of fruit orchards and fruits and these fruits are transported to various parts of the country and exported abroad also. The pleasant climate also helps numerous flower varieties like gladiolas, lilies, chrysanthemums, roses, marigolds, carnations, etc. to grow in abundance.

35. Himachal Pradesh is home to approximately 1200 birds along with 359 animal species. This includes leopards, ghoral, snow leopard, musk deer (state animal), and Western Tragopan (state bird). The state is an ideal tourist destination for animal lovers as it hosts 12 main national parks and sanctuaries. It has two major national sanctuaries -the Great Himalayan National Park and the Pin Valley National Park.

(ii) Flora and Fauna around Sub-project Site

36. Since the sub project site is within the urban limits of Mandi city, therefore, there are no protected areas within 20 km radius. Around the sub-project site, one only finds domesticated fauna. The common trees in the surroundings of sub-project sites are West Himalayan Fir, Deodar, West Himalayan Spruce, Tree of heaven, White Siris tree, Silk Cotton Tree, Bill Toon, Indian Rosewood, Bakli, Crepe myrtle, Persian Lilac, Chir pine, Black Poplar, Behara, Harada, Toon, etc.. The medicinal and fruit trees include Bengal quince, Horse Chestnut, West Himalayan Alder, Indian Spindle Tree, Laurel, Beleric Myrobalan and Chebulic Myrobalan. Other fruit yield plants are Nettle tree, Himalayan Strawberry Tree, Wild fig, Silver Oak, Mango, Box myrtle, Indian Olive, Indian gooseberry, Armenian plum, Wild Himalayan cherry, Himalayan Bird Cherry, Wild pears, Himalayan Pears, Soap nut tree and Indian plum. There is no endangered or rare species flora at sub-project site. There are no trees at the subproject site.

37. The fauna in the surroundings of sub-project site includes- Birds such as Bagula, Tota, Koel, Crow, and Mayna. Among the mammals main animals are Jungel Rat, common squirrel, Moles, Shrews, cow, goat, etc. The main reptiles found are Girgit, Dhaman, etc. There are no endangered or rare species fauna as RLC site is located close to village Bijahi.

38. The water bodies around sub project sites are seasonal in nature because of swift flow. There is not much presence of aquatic life in the water bodies close to the sub-project site.

(iii) Protected Areas

39. The list of protected areas (National Parks and Wildlife Sanctuaries) in Himachal Pradesh is given in **Table 11**. Three protected areas are there in Mandi district, but these are located more than 25 km away from the proposed RLC site.

Table-11: Protected Areas in Himachal Pradesh

Sl. No.	Sanctuaries	District	Area (km ²)
1	Bandli	Mandi	32.11
2	Chail	Solan	16
3	Chandra Tal	Lahaul & Spiti	38.56 +(11.53 for Consideration)
4	Churdhar	Sirmour	55.52
5	Daranghati	Shimla	171.50
6	Dhauladhar	Kangra	982.86
7	Gamgul-Siyabehi	Chamba	108.40
8	Kais	Kullu	12.61
9	Kalatop-Khajjiar	Chamba	17.17
10	Kanawar	Kullu	54.27
11	Khokhan	Kullu	14.94
12	Kibber	Lahaul & Spiti	2220.12
13	Kugti	Chamba	379
14	Lipa Asrang	Kinnaur	31
15	Majathal	Solan	30.86
16	Manali	Kullu	29
17	Nargu	Mandi	278
18	Pong Dam Lake	Kangra	207.59
19	Rakchham-Chitkul	Kinnaur	304
20	Renuka	Sirmour	4
21	Rupi-Bhaba	Kinnaur	503
22	Sechu-Tuan Nalla	Chamba	390.29
23	Sainj	Kullu	90
24	Shikari Devi	Mandi	29.94
25	Shimla Water Catchment	Shimla	10
26	Simbalbara	Sirmour	27.88
27	Talra	Shimla	46.48
28	Tirthan	Kullu	61
29	Tundah	Chamba	64
30	Water Supply Catchment	Shimla	10
National Parks			
1	Great Himalayan National Park	Kullu	765
2	Pin Valley National Park	Lahaul & Spiti	675
Conservation Areas			
1	Shilli Conservation Reserve	Solan	1.49
2	Shri Naina Devi Conservation Reserve	Bilaspur	17.01
3	Darlaghat Conservation Reserve	Solan	0.67

Source: Himachal Pradesh State Forest Department (Year 2017)

C. Economic Resources Industries

40. Being a hilly state, Himachal Pradesh has few large industrial units. As shown in **Table-12** for Mandi district, there are micro, small, and medium enterprises focusing on agro-products, leather, textiles, wood, etc.:

Table-12: Details of Existing Micro and Small Enterprises and Artisan Units in Mandi District

NIC No	Code	Type of Industry	Number of Units	Investment (Lakh Rs.)	Employment
20		Agro based	1009	2835.29	4036
22		Soda water	3	8.43	12
23		Cotton textile	-	-	-
24		Woolen, silk & artificial Thread based clothes.	477	1340.37	1908
25.		Jute & jute based	-	-	-
26.		Ready-made garments & embroidery	37	103.97	148
27.		Wood/wooden based furniture	399	1121.19	1596
28.		Paper & Paper products	90	252.9	360
29.		Leather based	11	30.91	44
31.		Chemical/Chemical based	25	70.25	100
30.		Rubber, Plastic & petro based	51	143.31	204
32.		Mineral based	-	-	-
33.		Metal based (Steel Fab.)	92	258.52	368
35.		Engineering units	-	-	-
36.		Electrical machinery and transport equipment	29	81.49	116
97.		Repairing & servicing	138	387.78	552
01.		Others	644	1809.64	32540

Source: Brief Industrial Profile of Mandi District, Ministry of MSME, Government of India (Year 2011-2012)

Transportation

41. The subproject site is well connected with Shimla, Chandigarh, and other destinations in Himachal Pradesh through various national highways and state highways. The nearest rail head is Kiratpur Sahib in Punjab. The distance from subproject site is 157 km. The nearest operating airport is close to Kullu city at Bhuntar from the RLC site and its distance is about 61 km. No clearance or permission from Airport Authority of India (AAI) is needed for RLC construction as proposed building for RLC is of low height (Ground plus two) and at sufficiently away distance.

Land Use

42. A study of the land use (**Table-13**) shows that majority of the area Mandi district is under forest cover and none agriculture use. The land under permanent pastures and grazing is also significant. The barren land area is quite low. The land use of subproject site is urban residential. If land use of sub project sites is to be seen in terms of classification of **Tables 13**, it will fall 'Land put to none agriculture uses'.

Table-13: Land Use Pattern of Mandi District

Land use	Area (In 000' hectare)
Geographical Area by Village Papers	397.80
Forest land	175.2
Misc. Tree Crops, Groves (Not included in Net Area Sown)	0.40
Permanent Pastures and Other Grazing Land	96.3
Culturable Waste land	4.5
Land put to None Agriculture Uses	16.20
Barren and Uncultivated land	8.9
Current Fallows	9.5
Other Fallows	0.3

Source: District Census Handbooks 2011

43. **Agricultural Development.** Agriculture is the main occupation of the people in Mandi district. However, intensive cultivation is not possible as significant part of Mandi district is mountainous. Agricultural activities are common on the gentle hill slopes and in relatively plain, broad river valleys. Fruits and cash crops are a major source of income. The chief food crops cultivated include wheat, maize, rice, barley, seed-potato, ginger, vegetables, vegetable seeds, mushrooms, chicory seeds, hops, and fig.

Electrification

44. The Rural Electrification in Mandi district is 99.72 (2842 villages out of 2850 inhabited villages (as per Census 2011)).

D. Social and Cultural Resources

Population and Communities

45. In district Mandi as per Census 2011, total population has been registered as 9,99,777, which is consisted of 4,98,065 males and 5,01,712 females. Out of the total population in the district, 9, 37,140 (73.7 percent) is rural population, comprised of 4,66,050 males and 4,71,090 females and remaining 62,637 (6.3 percent) is urban population, consisted of 32015 males and 30,622 females. In terms of total population at district level Mandi ranks second, while Kangra has highest population in the state. Total population of the district forms 14.56 per cent share of total population of the state. The rural population is distributed in its 17 Tehsil/Sub-tehsils and urban population resides in total 4 towns of the district. Amongst total 3,338 villages of the district, 2,850 villages are inhabited and remaining 488 are uninhabited. Concentration of population is thicker in the areas having lower elevations and it is comparatively thinner in the higher areas. Tehsil Mandi Sadar has the highest population at tehsil/sub-tehsil level in the state. According to Census 2011, density of population or the number of persons per sq. km. has turned out as 253 in district Mandi, which is more than double against the state average figure of 123. Sex ratio or the number of females per 1,000 males in the district is 1,007, which is much above the state average of 972. According to 2011 Census, Scheduled Castes population in Mandi district is 3,93,739 and Scheduled Tribes population has turned out as 12,787, forms 29.4 percent and 1.3 percent, respectively, proportion of the total population. The share of Scheduled Castes population and Scheduled Tribes population in total population in rural areas is higher than

the urban areas of the district, these rates in rural areas are 29.94 percent & 1.32 percent and in urban areas these proportions are 21.01 percent & 0.68 percent only. As per 2011 Census data, in total population of 9,99,777 in the district. 9,81,412 (98.16 percent) have stated their religion as Hindu , 9,460 (0.95 percent) Muslims , 4,081 (0.41 percent) are Sikhs, 2,628 (0.26 percent) Buddhists while 1,191 (0.12 percent) persons have not stated any religion .Christians are only 876 (0.09 percent) and the district has only 43 persons of Jain religions. 86 persons are from the category of other religion and persuasions.

Health facilities

46. There are good health facilities in Mandi district. The Mandi district has 6 allopathic hospitals, 2 Ayurvedic hospitals, 9 community health centers, 59 public health centers and 311 sub health centers. In addition to above mentioned government run health facilities, there are many privately owned facilities available in major urban centers of the district.

Education facilities

47. Mandi district has good educational facilities. In Mandi district has 1699 primary schools, 369 Middle Schools, 334 Senior Secondary Schools and 8 colleges. There is many a number technical education training institutes. The current HSDP project will also contribute towards skills development and employability of Himachali youth.

Archaeological Resources

48. There are no heritage sites notified by Archaeological Survey of India (ASI) within or near the sub-project area. Similarly, no common property resources such as public wells, water tanks, play grounds, common grassing grounds or pastures, market areas and community buildings will be affected due to construction of RLC building.

IV. ENVIRONMENTAL IMPACT AND MITIGATION MEASURES

A. Environmental Impacts

49. Any project creating physical infrastructure will cause some minor impacts on the environment. This IEE examines the potential impacts anticipated during the construction and operation of the RLC including:

- (i) **Location impacts:** Impact associated with site selection including effect on the environment and resettlement or livelihood related impacts on communities;
- (ii) **Design impacts and Pre-Construction Impacts:** Impact arising from project design, including the technology used, scale of operations, discharge standards, topographic survey, geotechnical survey, etc.;
- (iii) **Construction impacts:** Impact resulting from construction activities including site clearance, earthworks, civil works, etc.; and
- (iv) **Operation and Maintenance impacts:** Impact associated with the operation and maintenance of the infrastructure built in the sub-project.

50. ADB's REA checklist for Buildings was used while screening the site and recommending mitigation measures.

B. Location Impacts

51. The RLC site is located on unencumbered land owned by DORD, Government of Himachal Pradesh. The RLC building will be constructed on a vacant plot near village Bijahi in Kanda Bagsiyad Pachayat of Thunag Tehsil of Mandi district (**Annexure- 2**). No new land has been acquired for the proposed RLC building, nor has anyone been displaced in anticipation of the proposed ADB project. There are no significant ecological resources in the surroundings RLC site as it was already in use by the DORD. There are no heritage sites notified by ASI or State Archaeological Department within the delineated subproject area or in the immediate surroundings. No significant impacts can arise due to sub-project location as RLC building components will not impinge upon any area of ecological, archaeological or historical importance. The subproject site will also not require change in land use as being within municipal limits, building construction is as per master plan. The RLC site is not in the immediate vicinity of national highway or state highway. The distance from Kanda- Bagsiyad road is about 2.0 km, so air and noise pollution impacts on RLC not anticipated on account of vehicular traffic.

52. The subproject site is located within seismic zone V and even a small magnitude earthquake may damage RLC building.

C. Impacts during Design and Pre-Construction Phase

53. As noted above, the proposed RLC site is owned by GOHP. There are no issues arising due to land acquisition or involuntary resettlement. There are no issues pertaining to tree cutting also. Based on the environmental screening of the site, it is concluded that there are no significant adverse environmental impacts during the design and Pre-construction phases.

D. Impacts during Construction Phase

54. All construction activities to be undertaken at the subproject site will be approved by the PMU. The construction stage impacts due to the proposed project components are generic to the construction activities. The EMP emphasizes on the construction impacts and

necessary mitigation measures to be strictly followed by the contractor and supervised by the PWD and PIU. The key potential impacts are covered in the following paragraphs.

55. **Impact due to stock piles of construction materials.** Improper stockpiling of construction materials in and around the RLC could obstruct movement along access road. Hence, due consideration will be given for proper materials storage at construction site. Stockpiles will be covered to protect from dust and erosion. Waste materials will be disposed off at identified and approved locations.

56. **Disposal of construction waste.** The construction waste could lead to untidy conditions at site and may find its way to local drains of residential area where RLC is located. In the proposed sub-project, it shall be mandatory for the contractor to ensure proper disposal of the construction waste at the disposal site as designated by the PWD.

57. **Quarry and Borrow pits operations.** Since the civil works are of a small size, all construction material will be procured from market. There will not be any need for direct procurement of stone dust and sand and other building materials from quarries.

58. **Increase in noise levels.** Noise levels in the immediate proximity of RLC construction site are expected to increase somewhat during construction. However, these will be largely imperceptible as civil works will be confined to relatively small area and site will be well fenced with MS Sheet. The duration of construction will also be relatively brief. Transportation of construction materials will be confined to day-time, depending upon extent of construction activity. The increase in noise levels is expected to be between 3-5 dB (A). This increase will be felt up to a distance of 100-200 m only. This noise will be intermittent in nature, and will last only during the construction phase. The construction noise will not be felt by the Bijahi village as residential houses are at distance of more than 200m. As mentioned earlier that construction noise will be intermittent in nature and at these locations noise levels are not anticipated to exceed the stipulated limits of Residential areas. But necessary monitoring of noise levels will be taken up as part of environmental monitoring plan.

59. **Impacts on biodiversity during construction phase.** No major impacts are expected on the biodiversity during the construction phase as RLC site is in an open area. There are no endangered or rare species of flora and fauna in the surroundings of proposed RLC site.

60. **Disturbance Due to traffic during construction phase.** At the time of construction, inconvenience to locals is not anticipated as site is located on a wide road and away from habitation. Further, the scale of civil works being relatively small, the inconvenience, if at all caused, will be relatively minor and limited only to the construction phase. A sample Traffic Management plan is attached in **Annexure- 3**.

61. **Impact on cultural properties.** The proposed RLC subproject of HPSPDP will not have any impact on any religious structure or any other structure of historical and/or cultural significance.

62. **Ground Water.** Ground water will not be extracted and used for construction purposes. The contractor will arrange for water from the market. It will be supplied by the authorized water tankers. The problem of ground water contamination is also not anticipated during the construction phase since there will be proper disposal of the waste water.

63. **Ambient Air Quality.** Generation of dust is anticipated during transportation, excavation, and construction activities. Some dust and gaseous emissions will also be generated during the construction period from machines such as mixers, and vehicles

engaged in transportation of construction materials. Pollutants of primary concern at this stage include respirable and suspended particulate matter (RSPM) and gaseous emissions (NO_x, SO₂, CO, etc.). However, transportation of construction materials will be confined to a few trips per day depending upon extent of construction activity. Therefore, impact at this stage will be temporary and restricted to the close vicinity of the construction sites only.

64. All vehicles and construction equipment operating for the contractor and the consultant will obtain and maintain "Pollution under Control" (PUC) certificates. To control dust emissions, vehicles deployed for borrow materials, sand and aggregate haulage, will be covered with tarpaulins to prevent spillage. Regular sprinkling of water during excavations, loading, unloading, vehicular movement, and raw material transport will prevent spread of dust and other contaminants. Periodic air quality monitoring will be conducted to ensure that emissions comply with the vehicle emission standards specified by the Government of India and ambient air quality standards specified by the Central Pollution Control Board. The contractor will submit emission monitoring results as a compliance with environmental monitoring plan. Air pollution related construction impacts will be felt at neighboring residential houses if RLC site is not properly barricaded.

65. **Construction Waste.** Some waste will be generated due to excavated earth material and waste from construction. Debris and excavated earth material can be reused subject to the approval of the PWD Engineer during the construction. Waste generated during construction and demolition will be disposed off as per law and to the satisfaction of the Engineer. The clean-up and restoration operations will be implemented by the contractor(s) prior to demobilization. The contractor will clear all temporary structures and dispose off all garbage from construction site. Entire construction site and surrounding vacant area will be left tidy, at the contractors' expense as per the satisfaction of the Engineer.

66. The contractor is likely to engage local labor for various construction activities. However, in case of migrant labor has to be engaged, the contractor will establish properly designed labor camps with all basic amenities such as potable drinking water supply and sanitation facilities (septic tanks and soak pit). Dust bins will be placed in adequate numbers. The EMP lays down some measures to address likely adverse impacts associated with the labor camps. Since the RLC site is Bijahi village, so it is quite likely that contractor will hire a house for the accommodation of construction work force in the village.

E. Environmental Impacts during Operation Phase

67. Since only vocational training, counseling, and small production (as part of practical vocational training) of local produces will be undertaken at the RLC, there will not be any adverse environmental impact during operation. The RLC design provides for adequate parking, accommodation, and safe disposal for waste water and solid waste. Toilet blocks with septic tank and soak pits have been included in the building design of RLC. The solid waste generated at RLC during operation phase will be segregated. Its disposal location will be finalized in consultation with village Panchayat members and probably at a location where Bijahi village solid waste is being disposed off. Since septic tanks have been proposed for disposal of waste water, therefore, regular maintenance and cleaning of these needs to be undertaken as part of RLC operations. There may be some waste on account of operation and maintenance of solar PV cell. The supplier of PV cell will be responsible for collection of waste for possible recycle and reuse.

68. Given the relatively small size of the RLC, there will not be any significant vehicular traffic increase on account of functioning of RLC. Most job seekers will be using public transport. A diesel generator will be required, but only during power cuts. The generator will be of the silent type, and will comply with the levels stipulated by Central Pollution Control Board.

69. **Safety Measures.** The design of RLC includes structural and seismic safety measures required by India's latest building codes (in seismic zone V). The other safety features are explained below:

- The RLC will be equipped with fire-fighting systems with portable fire extinguishers and smoke detectors. The staircase will have adequate width to allow for people to exit the RLC building during any fire-related or other eventuality.
- During natural calamities, the operations will be stopped. The trainees and staff will be safely evicted as per Disaster Management plan of Himachal Pradesh.
- Necessary first aid facilities will be provided at the RLC building.

70. **Socioeconomic Impacts.** The RLC functioning will have a positive socio-economic impact since it will provide rural youth an opportunity to enhance skills in job oriented areas. The production centers will also provide opportunity to trainees to start their own enterprises with local produces after completion of training.

71. **Flora and Fauna.** Since RLC will be constructed on the land that was already in use by the DORD, so no adverse impact on fauna and flora is anticipated due to RLC construction and functioning as no tree and vegetation removal is required. Hence flora and fauna impacts are not anticipated. Further, to enhance the natural look of the RLC building and premises, plantation of shrubs and landscaping will be taken up along the pathways and vacant space. There is no existence of any wild life park, bird sanctuary, national park or any other area notified by the GoHP or MoEFCC for ecological importance within an aerial distance of 25 km from the RLC site.

72. **Emergency Plan for Accident and Natural Hazards-** For operation phase onsite emergency plan will be prepared by the head of the RLC team. For natural calamities the Disaster Management Plan prepared by DORD will be followed. The Disaster Management Plans have been prepared by the respective departments of GoHP as per provisions of Disaster Management Act 2005 of Government of India.

F. Description of Planned Mitigation Measures

73. Screening of environmental impacts is based on the magnitude and duration of the impact. **Table-14** provides the potential environmental impacts and the mitigation measures including the institutional responsibilities for implementing the same. The sub-project site is located sufficiently away from protected areas and the components proposed will not impact any environmentally sensitive or protected areas. All sub-project activities including construction and operation will take place within available government land.

Table-14: Summary of Environmental Impacts and Planned Mitigation Measures

Sl. No.	Potential Environmental Issues	Duration or Extent	Magnitude	Proposed Mitigation Measures	Institutional Responsibilities
1	Location Impacts				
1.1	Lack of sufficient planning to assure long term sustainability of the RLC building and ensure protection specially from earthquake and other natural disasters	Permanent	Major	<p>The design of RLC building has been completed considering earthquake coefficient of zone V.</p> <p>The RLC site is not on the bank of any River or stream, so any slope stability; flooding or other issues related to building stability are not anticipated.</p>	PMU and PWD
2	Design and Pre-construction Impacts				
2.1	Consents, permits, clearances, no objection certificates (NOC), etc.	Permanent	Major	<p>Obtain all necessary consents, permits, clearance, NOCs, etc. prior to start of civil works.</p> <p>Acknowledge in writing and provide report on compliance with all the obtained consents, permits, clearance, NOCs, etc.</p> <p>Include in detailed design drawings and documents all conditions and provisions if necessary</p>	PIU and PWD
2.2	Layout of components to avoid impact on the aesthetics of the RLC site	Permanent	Major	The RLC components will not have any adverse impacts on aesthetics of site as these involve construction of building within the existing residential area of building. Hence, no mitigation measures are warranted.	Not Applicable
2.3	Slope stability related issues	Permanent	Minor	The RLC is planned on plain area. No slope stability issue is involved in the construction of sub- project building.	Not Applicable
2.4	Increased storm water runoff from alterations of the site's	Permanent	Moderate	Design of proposed RLC building will allow efficient drainage at the site and maintain	PMU and PWD

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Sl. No.	Potential Environmental Issues	Duration or Extent	Magnitude	Proposed Mitigation Measures	Institutional Responsibilities
	natural drainage patterns due to landscaping, excavation works, construction of parking lots, and addition of paved surface.			natural drainage patterns.	
2.5	Integration of energy efficiency and energy conservation programs in design of RLC building	Permanent	Moderate	Following measures have been included in the design to enhance energy efficiency: <ul style="list-style-type: none"> • Usage of recyclable materials like wood substitutes. • Installation of BEE certified equipment • Usage of energy efficient lighting fixtures (LED and solar). • Provision of Solar power generation 	PMU and PWD
2.6	Impacts on Flora and Fauna	Permanent	Minor	The construction of RLC does not require cutting of trees and also no removal of vegetation as site was in use by the DORD. Hence no impact on flora and fauna anticipated. Further, a positive impact is expected as there will be plantation of shrubs on side slopes of internal roads of RLC as well as tree plantation in the vacant space along the boundary.	PMU and PWD
3	Construction Impacts				
3.1	Construction Camps - Location, Selection, Design and Layouts	Temporary	Moderate	Construction camp at the RLC site will be located within the vacant space of plot, as far as possible. The construction camp will not affect the day-to-day activities of local residents. Adequate sanitation facilities shall be provided at camp site and no waste water will be discharged outside.	Contractor and PIU
3.2	Traffic circulation plan during construction	Temporary	Moderate	Prior to commencement of site activities and mobilization on ground, the contractor will prepare a traffic circulation plan for safe passage of local traffic during construction stage. This will include alternative access	Contractor, and PWD

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Sl. No.	Potential Environmental Issues	Duration or Extent	Magnitude	Proposed Mitigation Measures	Institutional Responsibilities
				<p>routes, traffic regulations, Signages, etc. The contractor will get these plans approved from the PWD (the Engineer),</p> <p>The contractor will disseminate the traffic circulation plan around the sub- project site.</p>	
3.3	Impacts on flora and fauna	Temporary	Moderate	<p>The PMC will conduct site induction and environmental awareness programs at the RLC site.</p> <p>The construction related activities will be limited within the work areas.</p> <p>Storage of construction materials will be within the sub-project site limits.</p> <p>RLC site specific landscape and shrubs and tree plantation plans will be prepared at the end of construction period and necessary landscaping, tree plantation and shrubs plantation should be carried out as per this plan.</p>	Contractor and PWD
3.4	Site clearance activities, including delineation of construction areas	Temporary	Moderate	<p>The commencement of site clearance activities will be undertaken with due permission from the Environment Specialist of the PWD/ PMU to minimize environmental impacts.</p> <p>All areas used for temporary construction operations will be subject to complete restoration to their former conditions with appropriate rehabilitation procedures.</p>	Contractor and PWD
3.5	Drinking water availability	Temporary	Major	Sufficient supply of potable water will be provided and maintained at the construction site and construction camp. If the drinking water is obtained from an intermittent public water supply, then storage tanks will be provided.	Contractor and PWD

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Sl. No.	Potential Environmental Issues	Duration or Extent	Magnitude	Proposed Mitigation Measures	Institutional Responsibilities
3.6	Waste disposal	Permanent	Major	Location of disposal site for construction waste will be finalized by the Environmental Specialist of the PWD and PMU for the RLC site. He will confirm that disposal of the material will not impact the water body or environmentally sensitive areas. He will also ensure that no endangered or rare flora is impacted by such materials.	Contractor and PWD
3.7	Stockpiling of construction materials	Temporary	Moderate	Stockpiling of construction materials should not impact or obstruct the local drainage and Stockpiles will be covered to protect from dust and erosion.	Contractor and PWD
3.8	Soil Erosion	Temporary	Moderate	There may be requirement for temporary slope protection during construction at the excavated areas. These requirements should be met. The slope protection measures for the current finalized RLC site should be assessed and if need is felt, detailed drawings should be prepared. Adequate measures will be taken up at this site so that there is no soil erosion causing risks in the vicinity.	Contractor and PWD
3.9	Soil and Water Pollution due to fuel and lubricants, construction waste	Temporary	Moderate	The vehicle cleaning and storage of fuel should be avoided at RLC site as far as possible. In case of unavoidable circumstances, fuel storage and vehicle cleaning area at RLC site will be stationed such that water discharge does not drain into the local drain. Soil and water pollution parameters will be monitored as per monitoring plan.	Contractor and PWD
3.10	Siltation of water bodies due to spillage of construction wastes	Temporary	Moderate	No disposal of construction wastes will be carried out into natural stream in the vicinity of site. Extraneous construction wastes will be transported to the pre-identified disposal sites for safe disposal.	Contractor and PWD

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Sl. No.	Potential Environmental Issues	Duration or Extent	Magnitude	Proposed Mitigation Measures	Institutional Responsibilities
3.11	Generation of dust	Temporary	Moderate	The contractor will take every precaution to reduce the levels of dust at construction site. The site will be properly barricaded with prefabricated MS sheets.	Contractor and PWD
3.12	Emission from Construction Vehicles, Equipment and Machinery	Temporary	Moderate	Vehicles, equipment and machinery used for construction will conform to the relevant Standards (vehicular emission standards of Government of India and CPCB specified standards for equipment and machinery) and will be regularly maintained to ensure that pollution emission levels comply with the relevant requirements.	Contractor and PWD
3.13	Noise Pollution	Temporary	Moderate	Noise limits for construction equipment used in this project will not exceed 75 dB (A). The site will be properly barricaded with prefabricated MS sheets to avoid noise impacts on surrounding residential houses.	Contractor and PWD
3.14	Material Handling at Site	Temporary	Moderate	Workers employed on mixing cement, lime mortars, concrete, etc., will be provided with protective footwear and protective goggles. Workers, who are engaged in welding works, will be provided with welder's protective eye-shields. Workers engaged in stone breaking activities will be provided with protective goggles and clothing. The use of any toxic chemical will be strictly in accordance with the manufacturer's instructions. The Engineer will be given at least 6 working days' notice of the proposed use of any chemical. A register of all toxic chemicals delivered to the site will be kept and maintained up to date by the Contractor.	Contractor and PWD

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Sl. No.	Potential Environmental Issues	Duration or Extent	Magnitude	Proposed Mitigation Measures	Institutional Responsibilities
3.15	Disposal of Construction Waste	Temporary	Moderate	Safe disposal of the construction waste will be ensured in the pre-identified disposal locations. In no case, any construction waste will be disposed off around the sub-project site and especially in vacant plots in the locality.	Contractor and PWD
3.16	Safety Measures During Construction	Temporary	Moderate	Adequate safety measures for workers during handling of materials at the sub-project sites will be taken up. The contractor has to comply with all regulations for the safety of workers. Precaution will be taken to prevent danger of the workers from fire, accidental injury, etc. First aid treatment will be made available for all injuries likely to be sustained during the course of work. The Contractor will conform to all anti-malaria instructions given to him by the Engineer.	Contractor and PWD
3.17	Clearing of Construction of Camps and Restoration	Temporary	Major	Contractor at the sub-project site will prepare site restoration plan for approval by the Engineer (PWD). These camp site restoration plans are to be implemented by the contractor prior to demobilization. On completion of the works, all temporary structures will be cleared away, all rubbish burnt, excreta or other disposal pits or trenches filled in and effectively sealed off and the site left clean and tidy, at the Contractor's expense, to the entire satisfaction of the Engineer	Contractor and PWD
3.18	Onsite emergency plan for minor accidents and mishaps and Disaster Management Plan for Natural Calamities	Temporary	Major in case of natural calamity and minor in case of accidents or mishaps at construction site	The onsite emergency plan will be prepared by the contractor in consultation with PWD and PMC. For natural calamities, disaster management plan prepared by the PWD under the provisions of Disaster Management Act 2005	Contractor

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Sl. No.	Potential Environmental Issues	Duration or Extent	Magnitude	Proposed Mitigation Measures	Institutional Responsibilities
				will be followed.	
4	Operation and Maintenance impacts				
4.1	Environmental Conditions	Temporary	Moderate	Air, water, and noise levels will be monitored periodically as per the Environmental Monitoring Plan prepared. Adequate height boundary wall shall be constructed around RLC for the building safety.	DORD
4.2	Safety risks	Temporary	Major	All safety features provided as part of RLC building construction will be maintained.	DORD
4.3	Unhygienic conditions due to poor maintenance of sanitation facilities and irregular solid waste collection	Temporary	Severe	The RLC will carry out maintenance of the toilets, and carry out the regular collection and disposal of wastes to the local disposal site. The septic tanks will be maintained and emptied regularly.	DORD
4.4	Onsite emergency plan for minor accidents and mishaps and Disaster Management Plan for Natural Calamities	Temporary	Major in case of natural calamity and minor in case of accidents or mishaps at construction site	The head of RLC with the assistance of team working under him will prepare on site emergency plan for possible minor accidents and mishaps during operation phase. For natural calamities, the disaster management plan prepared by DORD will be followed.	Head RLC Seraj
4.5	Waste from operation and maintenance of Solar PV Cell	Occasionally	Minor	The supplier of Solar PV cell will collect any waste generated on account of operation and maintenance for possible recycle/reuse/disposal as operations will be maintained by the supplier.	Operator Solar PV Cell

G. Land Aquisition and Resettlement

74. The proposed RLC building is planned on the land owned by DORD, GoHP. The revenue records showing ownership of GOHP for the proposed RLC site have been given in **Annexure-2**. Hence, there will not be any acquisition of private land. The proposed plot for RLC building construction is unencumbered land; therefore, there is no acquisition any private assets. At the RLC site, there are also no squatters or encroachers. Hence, there is no requirement of any rehabilitation and resettlement for constructing RLC building.

V. ENVIRONMENT MANAGEMENT PLAN (EMP)

A. Institutional Arrangements for Project Implementation

75. The Government of Himachal Pradesh through DOP is the executing agency. The executing agency (i) assumes overall responsibility for the execution of the project and reporting; (ii) engage adequate permanent or fixed-term staff to implement the Project; (iii) setup a state-level project management unit (PMU) and project implementation units (PIUs) at local sub-project level; (iv) provides overall strategic guidance on technical supervision and project execution; and (v) ensures overall compliance with the loan covenants.

76. The implementing agencies in the project are HPKVN, DOTE, DOHE and PWD. The implementing agency responsibilities include (i) project planning and budgeting; (ii) day-to-day assistance, supervision and guidance for the project implementation units and their consultants; (iii) review sub-projects for due diligence requirements and approve sub-project proposals; (iv) bidding, evaluation and contract award; (v) managing and disbursing funds; (vi) review compliance with loan covenants, contract specifications, work plans and quality control; and (vii) consolidate and submit progress reports, finance and accounting / audit reports, and matters requiring higher level decision to state-level empowered committee (SLEC) and ADB.

77. A State-level empowered committee (SLEC) has been established in Himachal Pradesh. This committee is chaired by State's Chief Secretary, with Principal Secretary/Secretary of the Department of Planning as Member Secretary and Secretaries from relevant line departments (PWD, DOUD, DORD and DOLE) and HPKVN Managing Director as members. The SLEC has been empowered to take all decisions on behalf of the State and will (i) act as a policy making body, (ii) provide overall advice and guidance to the State's executing agency and PMU, and (iii) accord all approvals under the project.

78. DOP will establish a PMU, headed by a full-time Project Director (PD) at HPKVN, and consisting of personnel drawn from relevant line departments and market. This PMU will also have safeguards expert (social and environment). The PMU will be supported by the Project Management Consultants (PMC). The PMU will be the nodal agency for overall management of all program activities and will be responsible for: (i) project planning and budgeting; (ii) providing day-to-day assistance, supervision and guidance for the PIUs and PWD; (iii) reviewing sub-projects to satisfy ADB's due diligence requirements and approving sub-project proposals submitted by PIUs and line departments; (iv) bidding, evaluation and contract award; (v) managing and disbursing funds; (vi) reviewing compliance with loan covenants, contract specifications, work plans and quality control; (vii) consolidating and submitting progress reports, finance and accounting/audit reports, and matters requiring higher-level decision, to the SLEC and ADB.

79. The sub-project will be implemented by the Project Implementation Units (PIU) at local level, comprising of personnel drawn from relevant line departments on deputation and outside of government and will be headed by a Project Manager. The PIU will be responsible for: (i) prioritizing and preparing sub-project proposals; (ii) providing day-to-day assistance, supervision and guidance to the PWD and an agency to be hired for quality check; (iii) conducting detailed assessments and surveys including public consultation and input from stakeholders; (iv) preparing detailed designs, specifications, schedule of quantity, bidding documents, and related documentation; (v) implementing civil works and related activities; (vi) reporting to PMU; (vii) preparing regular progress reports for the SLEC, the executing agency and ADB through PMU; and (viii) supervising construction, conducting quality control, approving progress payments to contractors; and (ix) maintaining records and accounts on an up-to-date basis and making these available to ADB, its missions, or auditors for inspection.

80. The Project Management Consultant (PMC) is proposed to be engaged to provide support to the PMU in overall planning, risk management, implementation, monitoring and evaluation of projects under the HPSPDP. The PMC will also assist the PMU and PIUs in meeting the relevant requirements of ADB, GOHP, and GOI for project implementation. The PMC will report to and work under the overall guidance of the PMU. The scope of services of the PMC's will include but not necessarily be limited to: (i) planning, reporting, and communication; (ii) establishment of procedures and systems; (iii) review and preparation of plans, manuals and reports; (iv) overall project management, monitoring and implementation of MIS; and (v) social, environmental, archaeological, occupational health and safety, community participation and gender action compliance monitoring.

81. The executing agency will engage one agency for the quality check and to meet timeline requirements. This agency will work under the PMU. The scope of services of the agency will include but not necessarily be limited to: (i) surveys, verification of feasibility studies and base maps; (ii) project planning and management support to the PIU; (iii) finalization of design criteria, preparation of manuals, guidelines and systems; (iv) preparation of detailed design and bid documents; and (v) construction management and contract administration.

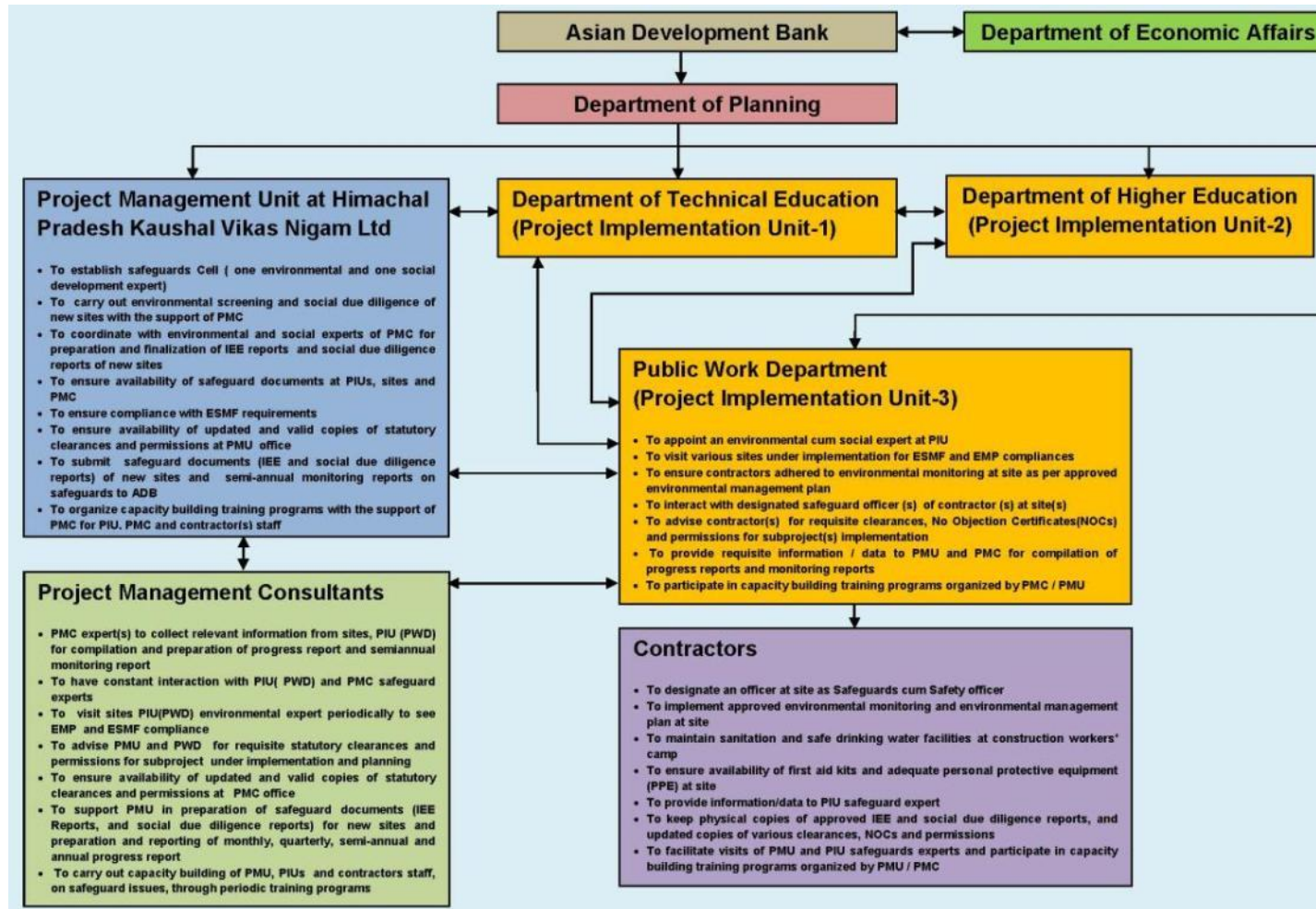
82. In order to ensure effective implementation of safeguard related components in the project PIU at PWD will include a safeguard expert (an environmental cum social expert) in the team. This safeguard expert will ensure compliance with ESMF requirements, and implementation of environmental management plans of sub-projects at sites through contractor(s).

83. The PMC will also have safeguard experts in their team to support PMU in reporting, safeguards related documents preparation, disclosure and capacity building of PIUs, PMU and contractor(s). The PMU at HPKVN will establish a safeguard cell comprising of an environmental expert, and a social development expert.

84. The contractor in the current RLC subproject site will designate one officer as safeguard cum safety officer for the implementation of IEE and EMP requirements at site. The project implementation arrangement for safeguard compliance has been shown below in **Figure -6**.

85. The EMP for RLC Seraj for Pre construction, a construction and operation phase is given in Tables-**15 to 17**.

Figure-6: Project implementation arrangement for safeguard compliance



B. Responsibility for updating IEE during Pre-Construction and Construction

86. **Responsibility for monitoring.** During construction, the Environmental Specialist of the Safeguards cell at PMU (at HPKVN) and the designated representative engineer of the PWD will monitor the contractor's performance. During the operation phase, monitoring will be the responsibility of the PMU. The Environmental specialist PMU will prepare semi-annual reports.

87. **Responsibility for Reporting.** PMU at HPKVN will submit semi-annual reports on the implementation of the EMP to ADB. It will permit ADB to field environmental review missions to examine in detail, the environmental aspects of the project. Any major lapses in adhering to the ESMF and IEE and / or EMPs for specific sub-projects should be reported to ADB immediately. The PMC's Environment Safeguard Specialist will assist the PMU in finalizing the semi-annual and annual progress reports. For any non-compliance observed corrective actions will be taken in a time bound manner. The cost for mitigating non-compliance will be borne by the contractor as per contract provisions. In case of mitigation costs not coming in scope of contract, these will be met out of contingencies built in EMP cost and in overall project cost.

Table-15: Pre-Construction Phase Environmental Management Plan for RLC Seraj

Sl. No.	Environmental Issues	Mitigation Measures	Parameters (Indicators for Compliance)	Responsible for Implementation	Responsible for Supervision	Frequency for Monitoring	Sources of Fund for Implementing Mitigation Measure
1	Lack of sufficient planning to assure long term sustainability of the improvements and ensure protection of the assets created.	Design has included provisions for ensuring effective maintenance and protection of the assets to be created so as to ensure the long term sustainability. The long term sustainability has been ensured by taking into consideration appropriate Bureau of Indian Standards Codes (BIS) for design, Seismic Zone V coefficient, appropriate wind load factor (corresponding to 39 m/s wind speed), and detailed design after carrying geotechnical investigations and topographic survey at RLC Seraj site.	Verification of site specific design parameters	PWD	PMU and PMC	Review after completion of DPR	Part of PWD and PMC Professional Fee
2	Layout of components to avoid impacts on the aesthetics of the of the RLC site and surroundings	The site and layout of RLC have been finalized at vacant land under the ownership of DORD, GOHP. The exterior of RLC building will well mix with the existing buildings.	RLC Seraj building's exteriors	PIU and PWD	PMU and PMC	Review after completion of detailed design	Part of PWD and PMC Professional Fee
3	Slope stability related issues	The RLC Seraj site is flat, however, during construction any exposed slopes at excavated areas will be covered and slope protection	Slope protection measures on side slopes of access path, internal roads,	PIU and PWD	PMU and PMC	Review of recommended slope protection measures	Part of PWD and PMC Professional Fee

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Sl. No.	Environmental Issues	Mitigation Measures	Parameters (Indicators for Compliance)	Responsible for Implementation	Responsible for Supervision	Frequency for Monitoring	Sources of Fund for Implementing Mitigation Measure
		measures will be provided specially at side slopes of internal roads.	etc.				
4	Increased storm water runoff from alterations of the site's natural drainage patterns due to landscaping, excavation works, construction of parking lot, and addition of paved surfaces	Design of proposed RLC building at Bijahi enables efficient drainage of the plot. The storm water generated will be diverted to local drain through a properly constructed drainage system. Since RLC site is in hilly region, therefore, there is swift flow and drainage is not an issue.	Arrangement for proper diversion of storm water runoff	PIU and PWD	PMU and PMC	After mobilization of contractor at the RLC site and during establishment of construction camp.	Incidental to construction cost
5	Integration of energy efficiency and energy conservation programs in design of sub-project components	The detailed design for the proposed RLC at Bijahi has ensured the environmental sustainability principles, including energy efficiency, resource recycling, waste minimization, etc. The design considers the following energy efficiency measures: <ul style="list-style-type: none"> • Usage of recyclable materials like wood substitutes. • Installation of BEE certified equipment • Usage of energy efficient lighting fixtures (LED) • Provision of P-V cells on roof top for solar power. 	Specifications of rain water harvesting structures, electrical fixtures, details of water heating system	PIU and PWD	PMU and PMC	During finalization of detailed design	Part of project cost
6	Consents, permits,	Obtain all necessary	Consents,	PIU and DORD	PMU	Check consent	Project cost

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Sl. No.	Environmental Issues	Mitigation Measures	Parameters (Indicators for Compliance)	Responsible for Implementation	Responsible for Supervision	Frequency for Monitoring	Sources of Fund for Implementing Mitigation Measure
	clearances, no objection certificate (NOC), etc.	consents, permits, clearances, NOCs, etc. prior to start of civil works. Acknowledge in writing and provide report on compliance all obtained consents, permits, clearances, NOCs, etc.	permits, clearance and NOCs Records and communications			for establishment of construction camp at RLC site, approval of RLC drawings from civic authorities any other local permission required.	
7	Establishment of baseline environmental conditions prior to start of civil works	1-Conduct documentation of location of components, areas for construction zone (Camp, staging, storage, stockpiling, etc.) and surroundings (within direct impact zones). Include photos and GPS coordinates 2- Carry out environmental monitoring at RLC site for ambient air quality, water quality and noise levels to establish baseline environmental monitoring for the parameters indicated in the monitoring plan	Records and Photographs, baseline environmental monitoring results	Contractor	PIU and PWD	Once prior to start of construction works	Contractor
8	Finalization of landscaping and tree plantation plan	Landscaping and tree plantation plan is to be prepared based on finalized and approved layout of RLC.	Locations of tree plantation and shrubs plantation plan preparation	PIU	PMU	After finalization and approval of layout	Project cost

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Sl. No.	Environmental Issues	Mitigation Measures	Parameters (Indicators for Compliance)	Responsible for Implementation	Responsible for Supervision	Frequency for Monitoring	Sources of Fund for Implementing Mitigation Measure
		In this plan locations of tree plantation and landscaping should be clearly marked.					
9	Utilities	<ul style="list-style-type: none"> The locations and operators of utilities to be impacted should be identified and documented in detailed design documents to prevent unnecessary disruption of services during the construction phase. Require contractor to prepare a contingency plan to include actions to be done in case of unintentional interruption of services. Obtain from the PIUs and/or PWD the list of affected utilities and operators; If relocations are necessary; contractor will coordinate with the providers to relocate the utility. 	<p>List and maps showing utilities to be shifted</p> <p>Contingency plan for services disruption</p>	<ul style="list-style-type: none"> PWD will prepare preliminary list and maps of utilities to be shifted During detailed design phase, contractor to (i) prepare list and operators of utilities to be shifted; (ii) contingency plan 	PIU and PWD	Pre-Construction Phase	Contractor
10	Social and Cultural Resources	<ul style="list-style-type: none"> Consult Archaeological Survey of India (ASI) or Himachal Pradesh State Archaeology Department to obtain an expert assessment of the 	Chance find protocol	<ul style="list-style-type: none"> PMC to consult ASI or HP State Archaeology Department PMC to develop protocol for 	PMU	Prior to start of construction activities	PMC

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Sl. No.	Environmental Issues	Mitigation Measures	Parameters (Indicators for Compliance)	Responsible for Implementation	Responsible for Supervision	Frequency for Monitoring	Sources of Fund for Implementing Mitigation Measure
		<p>archaeological potential of RLC site although no such potential is seen.</p> <ul style="list-style-type: none"> Consider alternatives, if the RLC site, is found to be of medium or high risk. Include state and local archaeological, cultural and historical authorities, and interest groups in consultation forums as project stakeholders so that their expertise can be made available. Develop a protocol for use by the contractors in conducting any excavation work, to ensure that any chance finds are recognized and measures are taken to ensure they are protected and conserved. 		chance finds			
11	Construction Camp- Locations, Selection, Design and Layout	<p>Sitting of the construction Camp at RLC site shall be as per the guidelines below and details of layout to be approved by PWD.</p> <p>The potential sites for labor camp and construction camp shall be identified by the contractor and this identified site shall be visited by the</p>	Construction Camp sites, and locations of material storage areas, sanitation facilities	Contractor	PWD and PIU	At the time of construction camps establishment and finalization of storage areas	Contractor

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Sl. No.	Environmental Issues	Mitigation Measures	Parameters (Indicators for Compliance)	Responsible for Implementation	Responsible for Supervision	Frequency for Monitoring	Sources of Fund for Implementing Mitigation Measure
		environmental expert of PMU safeguards cell along with environmental expert of PWD and one having least impacts on environment will be approved by the PWD and PMU. As far as possible, construction camp and labor camp will be established at vacant land in RLC plot or adjoining vacant land to avoid impact on private land. Locations for storage of construction materials shall be identified at the site or at existing building close to RLC site. Sanitation facilities at construction camps shall be adequately planned.					
12	Sources of construction materials	<p>Use quarry sites and sources licensed by the GOHP.</p> <p>Verify suitability of all material sources and obtain approvals from PIU.</p> <p>If additional quarries are required after construction has started, obtain written approval from PIU.</p> <p>Submit to PWD on a monthly basis documentation of sources of materials.</p>	Permits issued to quarries and sources of materials	Contractor PMC and PWD to verify sources (including permits) if additional is requested by contractor	PMU and PIU	Upon submission by contractor(s)	PMC and PWD as part of consultancy fee

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Sl. No.	Environmental Issues	Mitigation Measures	Parameters (Indicators for Compliance)	Responsible for Implementation	Responsible for Supervision	Frequency for Monitoring	Sources of Fund for Implementing Mitigation Measure
13	Access for Construction material transportation	<p>Plan transportation routes so that heavy vehicles do not use narrow local roads, except in the immediate vicinity of RLC site.</p> <p>Schedule transport and hauling activities during non-peak hours.</p> <p>Locate entry and exit points in areas where there is low potential for traffic congestion.</p> <p>Keep the sites free from all unnecessary obstructions.</p> <p>Drive vehicles in a considerate manner. Coordinate with the Traffic Police Department for temporary road diversions and for provision of traffic aids if transportation activities cannot be avoided during peak hours.</p>	Traffic management plan	Contractor	PIU and PWD	During Delivery of construction materials	Contractor
14	Occupational health and safety	<p>Comply with IFC EHS Guidelines on Occupational Health and Safety. Develop comprehensive site-specific health and safety (H&S) plans. The overall</p>	Health and safety (H&S) plan	Contractor	PMU and PMC, PIU and PWD	During Pre construction phase	Contractor

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Sl. No.	Environmental Issues	Mitigation Measures	Parameters (Indicators for Compliance)	Responsible for Implementation	Responsible for Supervision	Frequency for Monitoring	Sources of Fund for Implementing Mitigation Measure
		<p>objective is to provide guidance to contractor on establishing a management strategy and applying practices that are intended to eliminate, or reduce, fatalities, injuries and illnesses for workers performing activities and tasks associated with the project.</p> <p>Include in H&S plan measures such as: (i) type of hazards at RLC construction site; (ii) corresponding personal protective equipment for each identified hazard; (iii) H&S training for all site personnel; (iv) procedures to be followed for all site activities; and (v) documentation of work-related accidents.</p> <p>Provide medical insurance coverage for workers.</p>					
15	Stakeholder consultations	Continue information dissemination, stakeholder consultations, and involvement/participation of stakeholders during project	<p>-Disclosure records</p> <p>- Consultations</p>	PMU,PMC PIU,PWD and Contractor	PMU and PMC	<ul style="list-style-type: none"> • During updating of IEE Report • During preparation of 	PMU and Contractor

Sl. No.	Environmental Issues	Mitigation Measures	Parameters (Indicators for Compliance)	Responsible for Implementation	Responsible for Supervision	Frequency for Monitoring	Sources of Fund for Implementing Mitigation Measure
		implementation.				site- and activity-specific plans as per EMP • Prior to start of construction • During construction	

Table-16: Construction Phase Environmental Management Plan for RLC Seraj

Sl. No.	Environmental Issues	Mitigation Measures	Parameter (Indicators for Compliance)	Responsible Implementation	Responsible Supervision	Frequency for Monitoring	Sources of Fund for Implementing Mitigation Measure
1	Sanitation and drinking water facilities at construction Camp RLC Seraj	The contractor shall provide sanitation facilities at the camp site. These facilities will include dust bins in adequate numbers for solid waste collection, drinking water facilities, and separate toilets for male and females. These toilets facilities shall be maintained and	Construction camp sanitation and drinking water facilities	Contractor	PWD and PIU	Regularly during construction phase	Contractor

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Sl. No.	Environmental Issues	Mitigation Measures	Parameter (Indicators for Compliance)	Responsible Implementation	Responsible Supervision	Frequency for Monitoring	Sources of Fund for Implementing Mitigation Measure
		septic tanks/soak pits shall be provided at the toilets. The dust bins shall be regularly emptied and waste from camp site shall be disposed off at designated locations.					
2	Traffic Circulation plan during construction phase	Prior to commencement of site activities and mobilization on ground ,the Contractor will prepare and get approved from the Engineer (PWD), circulation plan during construction for safe passage of public vehicles so that locals are not at inconvenience. The Contractor with support of the PIU will carry out dissemination of these information and	Safe movement of Traffic	Contractor	PWD and PIU	Every day during construction phase	Contractor

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Sl. No.	Environmental Issues	Mitigation Measures	Parameter (Indicators for Compliance)	Responsible Implementation	Responsible Supervision	Frequency for Monitoring	Sources of Fund for Implementing Mitigation Measure
		circulation plan at RLC site					
3	Site clearance activities, including delineation of construction area	Only ground cover shrubs, if any, that impinge directly on the permanent works or necessary temporary works shall be removed with prior approval from the Environmental Experts of PWD and PMC. All areas used for temporary construction operations will be subjected to complete restoration to their former conditions with appropriate rehabilitation procedures. The photographic records shall be maintained for the temporary sites used for construction. These will help in	Pre-construction records of site and vegetation in area of construction	Contractor	PWD and PIU	Duration of site preparation	PWD and PIU

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Sl. No.	Environmental Issues	Mitigation Measures	Parameter (Indicators for Compliance)	Responsible Implementation	Responsible Supervision	Frequency for Monitoring	Sources of Fund for Implementing Mitigation Measure
		proper restoration.					
4	Drinking water availability at Construction camp and construction site	Sufficient supply of cold potable water to be provided and maintained. If the drinking water is obtained from an intermittent public water supply then storage tanks will be provided. For this contractor will submit plans how availability of drinking water shall be assured. In case it is obtained from the natural spring then permission from local authorities shall be obtained.	Water supply source and availability of water, permission of local authority if obtained from local spring	Contractor	PWD and PIU	During Construction phase regularly	Contractor
5	Waste disposal	The pre-identified disposal location shall be part of Comprehensive Waste Disposal Plan. Solid Waste Management Plan to be prepared by the Contractor in	Waste Disposal sites, waste management plan	Contractor	PWD and PIU	Regularly during construction phase	Contractor

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Sl. No.	Environmental Issues	Mitigation Measures	Parameter (Indicators for Compliance)	Responsible Implementation	Responsible Supervision	Frequency for Monitoring	Sources of Fund for Implementing Mitigation Measure
		consultation with local civic authorities. The Environmental Specialist of PWD shall approve these disposal sites after conducting a joint inspection on the site with the Contractor. Contractor shall ensure that waste shall not be disposed off near water stream in the surroundings of site and along the access path.					
6	Stockpiling of construction materials	Stockpiling of construction materials will be done in such a way that it does not impact and obstructs the drainage. The stockpiles will be covered to protect from dust and erosion.	Stockpiling sites at RLC Seraj site	Contractor	PWD and PIU	Regularly during construction phase	Contractor
7	Arrangement for	(i) The Contractor shall provide a list	Water availability at	Contractor	PWD and PIU	Regularly during	Contractor

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Sl. No.	Environmental Issues	Mitigation Measures	Parameter (Indicators for Compliance)	Responsible Implementation	Responsible Supervision	Frequency for Monitoring	Sources of Fund for Implementing Mitigation Measure
	Construction Water	of locations and type of sources from where water for construction shall be acquired. (ii)The contractor shall use ground/surface water as a source of water for the construction with the written consent from the concerned Department. (iii)To avoid disruption/ disturbance to other water users, the Contractor shall arrange water from market or from local municipality and consult PWD before finalizing the source.	identified water source locations			construction phase	
8	Soil Erosion	Slope protection measures will be undertaken as per design to control soil erosion especially on side slopes of access and	Locations of slope protection	Contractor	PIU and PWD		Contractor

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Sl. No.	Environmental Issues	Mitigation Measures	Parameter (Indicators for Compliance)	Responsible Implementation	Responsible Supervision	Frequency for Monitoring	Sources of Fund for Implementing Mitigation Measure
		internal roads.					
9	Water Pollution from Construction Wastes	The Contractor shall take all precautionary measures to prevent entering of waste water into local stream during construction.	Sub-project site	Contractor	PIU and PWD	Regularly during construction phase	Contractor
10	Water Pollution from Fuel and Lubricants	1-The Contractor shall ensure that all construction vehicle parking locations, fuel/lubricants storage sites, vehicle, machinery and equipment maintenance and refueling site shall be located at least 500 m away from the natural stream. 2-Contractor shall ensure that all vehicle/machinery and equipment operation, maintenance and refueling shall be carried out in such a manner	Vehicle parking, refueling sites, Oil interceptor functioning	Contractor	PIU and PWD	Regularly during construction phase	Contractor

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Sl. No.	Environmental Issues	Mitigation Measures	Parameter (Indicators for Compliance)	Responsible Implementation	Responsible Supervision	Frequency for Monitoring	Sources of Fund for Implementing Mitigation Measure
		<p>that spillage of fuels and lubricants does not contaminate the ground.</p> <p>3- Waste water from vehicle parking, fuel storage areas, workshops, wash down and refueling areas shall be treated in an oil interceptor before discharging it on land or into surface water bodies or into other treatment system.</p> <p>4-The monitoring of ground and surface water quality will be taken up as per monitoring plan.</p>					
11	Soil Pollution due to fuel and lubricants, construction wastes	The fuel storage and vehicle cleaning area will be stationed such that spillage of	Vehicle maintenance and parking area, soil quality	Contractor	PIU and PWD	Regularly during construction phase	Contractor

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Sl. No.	Environmental Issues	Mitigation Measures	Parameter (Indicators for Compliance)	Responsible Implementation	Responsible Supervision	Frequency for Monitoring	Sources of Fund for Implementing Mitigation Measure
		fuels and lubricants does not contaminate the ground. Soil and water pollution parameters will be monitored as per monitoring plan.	monitoring results				
12	Siltation of water bodies due to spillage of construction wastes	No disposal of construction wastes will be carried out into the surface water bodies. Extraneous construction wastes will be transported to the pre-identified disposal sites for safe disposal.	Water bodies specially natural streams	Contractor	PIU and PWD	Regularly during construction phase	Contractor
13	Generation of dust	The contractor will take every precaution to reduce the levels of dust at construction site. All filling works to be protected/covered in a manner to minimize dust generation. In	Sub-project site, air quality monitoring results	Contractor	PIU and PWD	Regularly during construction phase	Contractor

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		order to minimize impacts on Bijahi village, the RLC site will be properly barricaded with prefabricated MS sheets of adequate height (3-4 m).					
14	Emission from Construction Vehicles, Equipment and Machinery	All vehicles, equipment and machinery used for construction shall conform to the relevant Bureau of India Standard (BIS) norms. The discharge standards promulgated under the Environment Protection Act, 1986 shall be strictly adhered to. The silent/quiet equipment available in the market shall be used in the RLC construction. The Contractor	PUC certificates of vehicles and machinery	Contractor	PIU and PWD	Regularly during construction phase	Contractor

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Sl. No.	Environmental Issues	Mitigation Measures	Parameter (Indicators for Compliance)	Responsible Implementation	Responsible Supervision	Frequency for Monitoring	Sources of Fund for Implementing Mitigation Measure
		shall maintain a record of PUC for all vehicles and machinery used during the contract period which shall be produced for verification whenever required.					
15	Noise Pollution	The Contractor shall confirm that all Construction equipment used in construction shall strictly conform to the MoEFCC and CPCB noise standards and all vehicles and equipment used in construction shall be fitted with exhaust silencers. At the construction sites noisy construction work such as crushing, operation of DG sets, use of high noise generation equipment shall	Certificates of vehicles conforming noise standards, noise monitoring results	Contractor	PWD and PIU	Regularly during construction phase	Contractor

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Sl. No.	Environmental Issues	Mitigation Measures	Parameter (Indicators for Compliance)	Responsible Implementation	Responsible Supervision	Frequency for Monitoring	Sources of Fund for Implementing Mitigation Measure
		be stopped during the night time between 10.00 pm to 6.00 am. Noise limits for construction equipment used in this project will not exceed 75 dB (A). The RLC site will be properly barricaded with MS Sheets of adequate height to avoid impacts of noise generated due to construction activities.					
16	Impacts on flora and fauna	Minimize impacts on flora and fauna during construction phase by limiting site clearance bare minimum and limiting all types of pollution generation. Take compensatory plantation works and shrubs plantation works at the end of	Environmental monitoring reports, Trees and shrubs planted at RLC site	Contractor	PWD and PIU	Regularly during construction phase	Contractor

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Sl. No.	Environmental Issues	Mitigation Measures	Parameter (Indicators for Compliance)	Responsible Implementation	Responsible Supervision	Frequency for Monitoring	Sources of Fund for Implementing Mitigation Measure
		construction as per landscape plan and tree plantation prepared in pre construction phase.					
17	Material Handling at Sub-Project site	<p>Workers employed on mixing cement, lime mortars, concrete, etc., will be provided with protective footwear and protective goggles. Workers, who are engaged in welding works, will be provided with welder's protective eye-shields.</p> <p>The use of any toxic chemical will be strictly in accordance with the manufacturer's instructions. The PWD will be given at least 6</p>	Data on available personal protective equipment	Contractor	PWD and PIU	Regularly during construction phase	Contractor

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Sl. No.	Environmental Issues	Mitigation Measures	Parameter (Indicators for Compliance)	Responsible Implementation	Responsible Supervision	Frequency for Monitoring	Sources of Fund for Implementing Mitigation Measure
		working days' notice of the proposed use of any chemical. A register of all toxic chemicals delivered to the site will be kept and maintained up to date by the Contractor.					
18	Disposal of Construction Waste, and Debris	The Contractor shall confirm that safe disposal of the construction waste will be ensured in the pre-identified disposal locations. In no case, any construction waste will be disposed off around the RLC site	Disposal site	Contractor	PIU and PWD	Regularly during construction phase	Contractor
19	Onsite emergency plan for minor accidents and mishaps and Disaster Management Plan for Natural Calamities	The onsite emergency plan will be prepared by the contractor in consultation with PWD and PMC. For natural calamities,	Onsite emergency plan document and Disaster Management Plan document of PWD	Contractor	PWD	Mock Drill every quarter	Contractor

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Sl. No.	Environmental Issues	Mitigation Measures	Parameter (Indicators for Compliance)	Responsible Implementation	Responsible Supervision	Frequency for Monitoring	Sources of Fund for Implementing Mitigation Measure
		disaster management plan prepared by the PWD under the provisions of Disaster Management Act 2005 will be followed.					
20	Safety Measures During Construction	Adequate safety measures for workers during handling of materials at the proposed RLC site will be taken up. The contractor has to comply with all regulations for the safety of workers. Precaution will be taken to prevent danger of the workers from accidental injuries, fire, etc. First aid treatment will be made available for all injuries likely to be sustained during the course of	Records of availability of personal protective equipment, availability of first aid kits	Contractor	PIU and PWD	Regularly during construction phase	Contractor

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Sl. No.	Environmental Issues	Mitigation Measures	Parameter (Indicators for Compliance)	Responsible Implementation	Responsible Supervision	Frequency for Monitoring	Sources of Fund for Implementing Mitigation Measure
		work. The contractor will conform to all anti-malaria instructions given to him by the Engineer.					
21	Clearing of Construction of Camp and Restoration	Contractor to prepare site restoration plans for approval by the Engineer (PWD). The plan is to be implemented by the contractor prior to demobilization. On completion of the works, all temporary structures will be cleared away, all rubbish burnt, excreta or other disposal pits or trenches filled in and effectively sealed off and the site left clean and tidy, at the Contractor's expense, to the entire satisfaction of the PWD	Restoration plan, and records of pre-construction of temporary sites	Contractor	PIU and PWD	End of construction phase	Contractor

Table-17: Operation Phase Environmental Management Plan for RLC Seraj

Sl. No.	Environmental Issues	Mitigation Measures	Parameter (Indicators for Compliance)	Responsible Implementation	Responsible Supervision	Frequency for Monitoring	Sources of Fund for Implementing Mitigation Measure
1	Environmental Conditions	The periodic monitoring of the ambient air quality, noise levels, and water quality will be taken up as per monitoring plan through an approved monitoring agency.	Monitoring results and relevant standards	DORD through Pollution Monitoring Agency	PIU	As per monitoring Plan	DORD and PMU
2	Unhygienic conditions due to poor maintenance of sanitation facilities and irregular solid waste collection	The DORD through hire agency and/or staff will carry out maintenance of the toilets at RLC Seraj and carry out the regular collection and disposal of wastes to a designated waste treatment site. For solid waste disposal suitable site will be identified or waste will be disposed off at location where Bijahi village waste is being disposed off. Septic tanks will be maintained and regularly emptied.	Maintenance schedule of RLC building and facilities created	DORD	PIU	Every Quarter	DORD and PMU
3	Maintenance of compensatory plantation and shrubs plantation	For first three years survival rate of compensatory plantation and shrubs planted shall be monitored. New saplings will be planted for the numbers identified for non survival. This shall be done before onset of monsoon.	Saplings and shrubs not survived.	DORD	PIU	Every year before onset of monsoon for first 3 years.	DORD and PMU
4	Natural Disasters	Necessary procedures to be followed by the visitors, RLC staff and trainees during the natural	Warnings of disasters by Meteorological	District Administration	PIU	During Disasters	Government of Himachal Pradesh

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Sl. No.	Environmental Issues	Mitigation Measures	Parameter (Indicators for Compliance)	Responsible Implementation	Responsible Supervision	Frequency for Monitoring	Sources of Fund for Implementing Mitigation Measure
		disasters shall be written at prominent locations.	Department				
5	Waste from operation and maintenance of solar PV Cell	The supplier of Solar PV cell will collect any waste generated on account of operation and maintenance for possible recycle/reuse/disposal as operations will be maintained by the supplier.	Waste generated from operation and maintenance of Solar PV Cell	Supplier and Operator of Solar PV Cell	RLC Manager /Head	As per schedule of maintenance	Fee of Solar PV Cell Supplier
6	Onsite emergency plan for minor accidents and mishaps and Disaster Management Plan for Natural Calamities	The Head /Manager RLC Seraj will prepare onsite emergency plan for possible minor accidents and mishaps for operational phase. For natural calamities, the disaster management plan prepared by DORD will be followed.	Onsite Emergency plan document and Disaster Management Plan document	Manager/Head RLC Seraj	DORD	Mock Drills every quarter	RLC operation cost

C. Environmental Monitoring Plan

88. Environmental monitoring will be undertaken during construction at three levels. Environmental monitoring (covers EMP implementation and compliance with all of the Government of Himachal Pradesh's rules with respect to the environment, and handling of solid and liquid waste) at site will be undertaken by the contractor during preconstruction and construction Phases, and will be supervised by PWD and PMU(through PMC). Environmental monitoring during operation phase will be undertaken by the DORD and will be monitored by HPKVN. The Environment and Social Safeguards Specialists of the PMC will ensure that IEE and EMP are updated for any changes in design in accordance with ADB's and GOHP's requirements. These PMC staff will also coordinate between PWD, HPKVN, and DORD to ensure that all the provisions of the EMP are being adhered to by the contractor.

89. To ensure the effective implementation of mitigation measures and EMP during construction and operation phase of the RLC, it is essential that an effective Environmental Monitoring Plan is followed as given in **Table 18**. The proposed monitoring of all relevant environmental parameters, with a description of the sampling stations, frequency of monitoring, applicable standards and responsible agencies are presented in this table.

Table-18: Environmental Monitoring Plan for RLC Seraj for Preconstruction, Construction and Operation Phases

Sl. No.	Field (Environmental Attribute)	Phase	Parameters to be Monitored	Locations	Frequency	Responsibility	Cost (INR/US\$)
1	Air Quality	During pre-construction phase	CO, NO _x , PM ₁₀ , PM _{2.5} , and SO ₂	RLC Construction site	Once in the pre-construction phase to establish baseline	Contractor, PWD, PMU, and DORD through approved Monitoring Agency	INR130,000/ US \$ 1900
		During Construction Phase			Once in a season (except monsoon season) during construction phase (24 months construction phase)		
		Operation Phase			Once in a season except monsoon season for first 2 years of operation phase		
2	Water quality	During pre-construction phase	TDS, TSS, pH, Hardness, BOD, Faecal Coli form	Ground water close to RLC construction site and surface water from local stream flowing near RLC site	Once in pre-construction phase to establish baseline	Contractor, PWD, PMU, and DORD through approved Monitoring Agency	INR260,000/ US \$3800
		During Construction Phase			Once in a season (except monsoon season) during construction phase		
		Operation Phase			Once in a season except monsoon season for first 2 years of operation phase		
3	Noise Levels	During pre-construction phase	Noise quality as per National Ambient Noise Standards on dB(A) scale	Noise levels at RLC Site	Once in pre-Construction phase to establish baseline	Contractor, PWD, PMU, and DORD through approved Monitoring Agency	INR 39,000/ US \$ 600
		During Construction Phase			Once in a season (except monsoon season) during construction phase		
		Operation Phase			Once in a season except monsoon season for first 2 years of operation phase		

Summary of Site- and Activity-Specific as per RLC EMP

90. **Table-19** summarizes site- and activity-specific plans to be prepared as per EMP tables.

Table-19: Site- and Activity-Specific Plans/Programs as EMP

To be Prepared During	Specific Plan/Program	Purpose	Responsible for Preparation	Responsible for Implementation
Pre-Construction phase	Environmental monitoring program as per detailed design	Indicate sampling locations, methodology and parameters to the contractor	PMU, PIU, PMC and PWD	Contractor
Pre-Construction phase	List and maps showing utilities to be shifted	Utilities shifting	PWD during preliminary design and pre construction phase	Contractor
Pre-Construction Phase	Contingency plan for interruption of services	Mitigate impacts due to interruption of services during utilities shifting	Contractor	Contractor
Pre-Construction	Chance find protocol	Address archaeological or historical chance finds	PMU and PMC	Contractor
Pre-Construction Phase	List of pre-approved sites for construction camp, stockpiles, and waste disposal sites	Location/s for construction camp for RLC site, areas for stockpile, storage and disposal for minimization of impacts	PMC, PMU, PWD and PIU	Contractor
Pre-Construction phase	Waste/Spoil management plan	Mitigate impacts due to waste generation	Contractor	Contractor
Pre-Construction phase	Spill prevention and containment plan	Mitigate impacts of accidental spills of oil, lubricants, fuels, concrete, and other hazardous materials	Contractor	Contractor
Construction phase	Traffic management plan	Mitigate impacts due to transport of materials and project related traffic movement	Contractor	Contractor
Construction phase	Health and Safety (H&S) plan	To comply with IFC EHS Guidelines on Occupational health and safety	Contractor	Contractor
Construction phase	Erosion control and re-vegetation plan	Mitigate impacts due to erosion and vegetation removal at RLC site	Contractor	Contractor
Construction Phase	Environmental Monitoring Plan Implementation	To check efficacy of mitigation measures	PMC, PMU, and PWD	Contractor
Operation Phase	Maintenance of sub-project sites landscape,	To maintain RLC plantation and to carry out environmental	PMU, and DORD	DORD

To be Prepared During	Specific Plan/Program	Purpose	Responsible for Preparation	Responsible for Implementation
	and plantation and environmental monitoring plan	monitoring to check environmental conditions at site		

91. The guidelines for preparation of site specific traffic management plans have been provided in **Annexure-3**.

D. Capacity Building

92. In addition to the primary objective of skills enhancement of Himachali youth and guidance to them for proper selection career, the HPSPD sub-project will also raise awareness about environmental conservation amongst trainees, implementing agencies, and local communities. The project will have the opportunity to build capacity in environment protection for the above mentioned stakeholders.

93. The Environmental Specialists at PMC and safeguards cell at PMU will provide the basic training required for environmental awareness. Specific modules customized for the available skill set will be devised after assessing the capabilities of the members of the Training Program and the requirements of the project. The training would cover basic principles of environmental assessment and management; mitigation plans and programs, implementation techniques, monitoring methods and tools. The proposed training program along with the frequency of sessions is presented in **Table 20** below.

Table-20: Training Modules for Environmental Management

Program	Description	Participants	Duration	Training Conducting Agency
A. Pre-Construction Stage				
Sensitization Workshop on Environment	Introduction to Environment: environmental assessment and social due diligence requirements in the project, Regulatory Clearances, and permission requirements in the project, and EMP Implementation, Introduction of ADB SPS 2009, and ADB Guidelines on Environmental considerations in planning, design and implementing projects	DOUD, DOLE and DORD officials, Environmental specialist of PWD and other Engineering staff associated with the HPSPD sub-projects, PIU staff and HPKVN PMU staff	½ Working Day	Environmental Specialist of the PMC
Session 1	Environmental impacts due to sub-projects in construction and operation phases, pollution generation activities during pre-construction and construction phases Environmental Management, Environmental Mitigation Provisions in the Contract, Implementation Arrangements, Methodology of Assessment Good engineering practices to be integrated into contract documents	All PIU, HPKVN, DORD and PWD Staff associated with RLC Seraj	½ Working Day	Safeguards Specialist of the PMC

Program	Description	Participants	Duration	Training Conducting Agency
B. Construction Stage				
Session 2	Roles and Responsibilities- Roles and Responsibilities of Implementing Agencies officials, associated contractors and consultants towards protection of environment. Implementation. Arrangements for EMP and Environmental Monitoring during construction phase	Engineers and staff of line departments of the Government of GOHP, DORD, DOUD, PIUs, PMC, PMU and HPKVN	½ Working Day	Safeguards Specialist of the PMU
Session 3	Monitoring and Reporting System	Engineers and staff of implementing agencies , and PMU/PIU	¼ Working Day	Safeguards Specialist of PMU

DOLE= Department of Labor and Employment, DOUD = Department of Urban Development, DORD= Department of Rural Development, ES = Environment Specialist, HPKVN= Himachal Pradesh Kaushal Vikas Nigam Limited, PIU = Project Implementation Unit, PMC = Project Management Consultant, PMU = Project Management Unit, PWD = Public Works Department.

E. Environmental Budget

94. Most of the mitigation measures require the contractor to adopt good site practices, which should be part of their normal procedures already, so there are unlikely to be major costs associated with compliance. Only those items not covered under budgets for construction are included in the IEE budget. The IEE costs include mitigation, monitoring and capacity building costs. The summary budget for the environmental management costs for the sub-project is presented in **Table 21**.

Table-21: Environmental Management and Monitoring costs (INR)

Monitoring Component	Rate	Amount (INR)	Source of Fund
Pre-Construction and Construction Phase			
Air Quality - one location at RLC site , thrice a year (one sample pre construction and 6 samples during construction phase; total 7samples)	10,000	70,000	Contractor
Water Quality- One ground water sample from RLC construction site , thrice a year (one sample pre construction and 6 samples during construction phase; total 7 samples) and one surface water sample from natural stream flowing near RLC site (one sample pre construction and 6 samples during construction phase; total 7 samples)- Total samples (Ground and Surface water)=14	10,000	140,000	Contractor
Noise Quality-One location at subproject site , thrice a year (one sample pre construction and 6 samples during construction phase; total 7 samples)	3000	21,000	Contractor
Training for Capacity Building of stakeholders	Covered in the consultancy cost of PWD and PMC		
Total Pre Construction and Construction Phase Monitoring Cost (A)		231,000	Project for and

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Monitoring Component	Rate	Amount (INR)	Source of Fund
			contactor for monitoring
O & M Phase			
Air Quality -one location at RLC site thrice a year for first 2 years (3 samples per annum, total 6 samples)	10,000	60,000	PMU, and DOLE
Water Quality -one ground water sample at RLC thrice a year, for first 2 years (3 samples per annum, total 6 samples) and one surface water sample from natural stream flowing near RLC site (3 samples per annum, total 6 samples)-Total samples (Ground and Surface water)=12	10,000	120,000	PMU, and DOLE
Noise Quality-one location at RLC, thrice a year for first 2 years (3 samples per annum, total 6 samples)	3000	18,000	PMU, and DOLE
Total O&M Phase Monitoring Cost (B)		198,000.00	PMU, and DOLE
Total Cost (A+B)		429,000.00	
Contingencies @ 5 %		21,450.00	
Total Budgeted Cost (INR)		450,450 (Say 500,000)	

F. Environmental Monitoring and Reporting

95. The PMU with the assistance of PMC will monitor and measure the progress of EMP implementation during construction phase. During operation phase PMU safeguard cell will take care of EMP implementation. PWD environmental cum social expert will undertake site inspections and document review to verify compliance with the EMP and progress toward the final outcome. PWD will submit monthly monitoring and implementation reports to PMU at HPKVN and to the concerned departments (in present case to DORD), who will take follow-up actions, if necessary. PWD will also submit quarterly, semi-annual and annual monitoring and implementation reports to PMU. The PMU will submit semi-annual monitoring reports to ADB. Monitoring reports will be posted in a location accessible to the public.

96. ADB will review project performance against the EA's commitments as agreed in the legal documents. The extent of ADB's monitoring and supervision activities will be commensurate with the Project's risks and impacts. Monitoring and supervising of social and environmental safeguards will be integrated into the project performance management system. ADB will monitor projects on an ongoing basis until a project completion report is issued.

VI. PUBLIC CONSULTATION AND INFORMATION DISCLOSURE

A. Process For Consultations Followed

97. The construction and operation of RLC does not involve any elements, which could have an adverse impact on the community. There is no deprivation of any sort for the residents or displacement of any groups. Particularly, with regard to environmental impacts, this subproject can be characterized as innocuous.

98. In view of this, the need for holding a public hearing(as defined in EIA Notification 2006 of Government of India) is not perceived at this stage. However, in compliance with the ADB's guidelines, focused public consultations were undertaken during the site visit to Bijahi. Resident of the village was informed about the RLC building construction and subsequent functioning in their area and their views were obtained. During the preparation of this IEE, consultations have been held with the officials of DOP, HPKVN, Forest Department, DOUD, DORD and DOLE.

99. The process of consultations was taken up, as an integral part of the sub-project design and environmental assessment, in accordance with ADB Guidelines and following objectives:

- To educate the general public, specially potentially impacted or benefited communities, individuals and stakeholders about the proposed RLC activities;
- To familiarize the people with technical and environmental issues of the RLC Bijahi subproject for better understanding;
- To solicit the opinion of the communities and individuals on environmental issues and assess the significance of impacts due to the proposed development;
- To foster co-operation among officers of EA and IAs, the community and the stakeholders to achieve a cordial working relationship for smooth implementation of the sub- project and
- To identify the environmental issues relating to the proposed activity.

100. During the consultations local residents opined that there is need to develop skills of local youth and at the same time guide them properly to select the suitable job. The subproject planned will help skilled rural youth in getting training and skills enhancement for job oriented fields. The local demanded fast implementation of the sub-project. The dates of consultations and stakeholders consulted have been summarized below in **Table 22**. The views, comments and suggestions of stakeholders and their incorporation in project design are presented in **Tables 23 and 24**. The records of consultations (list of participants with signatures) and consultation photographs are given in **Annexure- 4**.

Table-22: Dates and Stakeholders Consulted

Sl. No.	Stakeholders Consulted	Dates of Consultations
1	Himachal Pradesh Forest department	23 December 2015
2	Department of Rural Development, Department of Labor and Employment and Department of Higher Education	21 December 2015, May 10, 2016
3	Himachal Pradesh Pollution Control Board	23 December 2015
4	State Department of Environment, GOHP, HPKVN and DOP	14 -18 March 2016
5	Department of Technical Education, GOHP	12 December 2015 and, 16 and 17 March 2016

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Sl. No.	Stakeholders Consulted	Dates of Consultations
6	Local Public at RLC Site	March 06, 2019

101. It is clear from Tables 23 and 24 that most of the suggestions of stakeholders have been taken care in the project design.

Table-23: Views, Comments, and Suggestions of Stakeholders at RLC Seraj Site and Considerations in Sub-Project Design

Sl. No.	Place	Date	Consultations held with	Issues discussed	Outcome of discussions and consideration in project design and Implementation
1	RLC Site, Seraj	06/03/2019	With local Bijahi village residents, DORD, PWD and HPKVN officials and Village Panchayat elected representatives	RLC Building Layout and RLC components, RLC benefits, implementation schedule, environmental and social impacts during project implementation, etc.	<ol style="list-style-type: none"> 1. Participants welcomed the construction of RLC building and subsequent functioning and told the consultants that RLC will help in enhancing their skills through oriented courses/training programs. This RLC will be of immense help to female youth as area being remote, female students face difficulty in perusing training and job oriented courses. 2. DORD and HPKVN officials also welcomed the establishment of RLC at Bijahi as they said that there was long standing demand of local population for RLC to the elected representatives from the area. 3. One participant suggested that during construction waste water and construction waste should not be disposed off in the natural local stream flowing close to project site to avoid water contamination. To this, environmental specialist replied that during construction, adequate sanitation facilities will be provided at workers' camp and construction site. RLC building design has provisions of sanitation facilities on each floor and septic tanks have also been planned for waste water collection. These septic tanks will be regularly emptied. The waste will be collected during construction and will be utilized to the extent possible, any remaining waste will be disposed off at site identified and approved by PWD and HPKVN PMU. For operation phase also, waste disposal site will be identified. 4. The environmental expert informed the participants that as part of RLC building design tree plantation and landscaping plan has been prepared. This will be implemented during construction phase. 5. The local villagers informed the team of consultants and GOHP officials participating in consultations that local youth is not getting employment as their qualifications are not job oriented. The team of officials replied that RLC will have job oriented training programs and these will help local youth in getting the employment.

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Sl. No.	Place	Date	Consultations held with	Issues discussed	Outcome of discussions and consideration in project design and Implementation
					6. The Panchayat elected representatives suggested that locals should have preference in employment during construction. The HPKVN official replied that site being in remote, outside labor force is not expected so locals will automatically get preference during construction.

Table-24: Summary of Stake Holder Consultations at Institutional Level

Sl. No.	Place and date	Consultations held with	Issues discussed	Outcome of discussions and consideration in project design and Implementation
1	Shimla, 23/12/2015 and 18/3/2016	Conservator Forest Cum Nodal Officer CAMPA, State Forest Department	Clearances, permissions and No Objection Certificates (NOCs) - requirements from the State Forest Department and suggestions for the project	<ol style="list-style-type: none"> 1. The ADB Environment and Social Safeguards consultant briefly explained the project concept to the state department officials. 2. It was informed by the officials that for any site falling under forest land, clearance is required either under the 'Forest (Conservation) Act, 1980 or under the 'Schedule Tribe and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006. 3. For vocational training purposes, GOHP can give clearance up to 1.0 hectare land. If application is submitted under the Forest (Conservation) Act, 1980, then the net present value (NPV) of the land and cost for compensatory forestation are to be paid by the State Government. 4. If the application is submitted under Forest Rights Act 2006, then for educational institutes, payment of NPV and compensatory afforestation costs are exempted for the land up to 1.0 hectare. The clearance can also be issued at Divisional Forest Officer level. 5. The Forest Officials suggested that application may be made under Forest Rights Act for faster clearance if any site falls under the forest. 6. The ADB Environmental consultant assured everyone that sites on forest land will not be considered to the extent feasible. However, under unavoidable situations, applications for clearances will be submitted as suggested. 7. The land transfer for Women's Polytechnic at Rehan in Kangra

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Sl. No.	Place and date	Consultations held with	Issues discussed	Outcome of discussions and consideration in project design and Implementation
				district is also completed. The land has been transferred by the revenue department in the name of DOTE (This point pertains to other sub-project under HPSPDP- Women's Polytechnic at Rehan in Kangra district).
2	Shimla, 23/12/2016	Senior Environmental Engineer, Himachal Pradesh Pollution Control Board	Clearances and Permissions required from Himachal Pradesh Pollution Control Board (HPPCB) and Department of Environment	<ol style="list-style-type: none"> 1. The ADB Environmental consultant provided an overview on HPSPDP. 2. He enquired about the types of permissions and clearances required from the HPPCB and State Department of Environment. <p>The senior Environmental Engineer, Department of Environment, replied that educational and training institutes are exempted from the environmental clearance process. Therefore, there is no requirement for prior environmental clearances for CLCs, RLCs, MCCs and the Women's Polytechnic planned under HPSPDP. He explained that Consent to establish and Operate has to be obtained from HPPCB only if a residential complex is planned at any of the sites. In case hazardous waste is generated, then a management proposal has to be submitted to the HPPCB for Hazardous waste authorization and disposal.</p> <p>The ADB Environment and Safeguard consultant replied that none of the planned training facilities will generate hazardous waste, either during construction or operation.</p>
3	Sunder Nagar, 22/12/2015, 14/03/2016, and 15/03/2016	Director, DOTE, and other officials	ITI selected for up gradation, locations of RLCs and CLCs selected at ITI campus and site of proposed Women Polytechnic at Rehan in Kangra district	<ol style="list-style-type: none"> 1. The ADB Environment and Safeguard consultant enquired whether any of project sites under DOTE are planned in forest areas or within buffer or core zones of national park or bird sanctuary. Director, DOTE, replied that CLC/RLC sites planned are within the vacant sites within the premises of existing industrial training institutes. Only the site for the Women's Polytechnic in Kangra falls within revenue forest land. For this site NOC from Forest Department has been received. 2. The ADB Environment and Safeguard consultant suggested that DOTE should submit land ownership details/revenue records for all sites planned under the ADB funding for due diligence. He noted that DOTE should also start the process of getting NOC

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Sl. No.	Place and date	Consultations held with	Issues discussed	Outcome of discussions and consideration in project design and Implementation
				from the Forest Department and land transfer in DOTE name for the site in Rehan, Kangra, where the Women's Polytechnic is planned (This point pertains to other sub-project under HPSPDP- Women's Polytechnic at Rehan in Kangra district).
4	Shimla, 21/12/2015	Department of Labor and Employment (DOLE)	Locations of MCCs planned, approximate area required for MCCs	<ol style="list-style-type: none"> 1. The ADB Environment and Safeguard consultant enquired about the proposed locations of MCCs. The officials replied that with ADB assistance, 11 MCCs planned. The planned locations are Hamirpur, Shimla, Bilaspur, Kullu, Dharmshala, Mandi, Nahan, etc. As per Government of India guidelines, the built up area of around 3,000 sq.feet is needed for MCCs. 2. The ADB Environment and Safeguard consultant noted that the revenue record of land ownership should be provided to the ADB team for due diligence.
5	Shimla, 21/12/2015	Department of Rural Development (DoRD)	Locations of proposed RLCs, environmental and social safeguard issues, tree cutting, etc.	<ol style="list-style-type: none"> 1. The ADB Environment and Safeguard consultant enquired about probable locations of RLCs planned. 2. The environmental expert suggested that no sites with temporary or permanent occupation should be identified and revenue records showing ownership details should be provided for the social due diligence. Further, any site involving tree cutting, necessary tree cutting permission should be obtained. 3. The environmental expert also suggested that sites should be at least 300 m away from buildings/monuments of heritage importance and those declared as protected monuments by the State Archaeological Department or by the Archaeological Survey of India (ASI). The officials noted the suggestions.

B. Future Consultation And Information Disclosure

102. To ensure continued public and stakeholder participation in the sub-project life cycle, periodic consultations and focus group discussion should be continued. A grievance redressal committee will be formed within the PIU (at PWD) and also at PMU Level to register grievances of the people regarding technical, social and environmental issues. This participatory process will ensure that all views of the people are adequately reviewed and suitably incorporated in the design and implementation process. Further, to ensure an effective disclosure of this RLC subproject proposal to the stakeholders and the communities in the vicinity of site, an extensive project awareness campaign will be carried out.

Information Disclosure

103. Electronic version of this IEE will be placed in the official websites of the DORD, HPKVN, GOHP and the website of ADB after approval of the documents by the GOHP and ADB. On demand, any person seeking information can obtain a hard copy of the complete IEE document by paying cost of photocopy from the office of the PMU and PIU, on a written request.

104. The PMU will issue notification on the disclosure mechanism in local newspapers, ahead of the initiation of implementation of RLC construction at Bijahi, providing information on the project, as well as the start dates, etc. The notice will be issued by the PMU in local newspapers one month ahead of the implementation works. This will create awareness of the project implementation among the public.

C. Grievance Redress Mechanism

105. The affected person(s)/aggrieved party can give their grievance verbally or in written to the local site office(s) of sub-project(s). Grievances of affected person will first be brought to the attention of the site in charge, who can resolve the issue at the site level. If the matter is not solved within 7 days period by the site in charge, it will be brought to the Grievance Redress Committee constituted for the purpose in PIU (PWD). This GRC shall discuss the issue in its monthly meeting and resolve the issues within one month of time after receiving the grievance. If the matter is not resolved by GRC at PIU level within stipulated time, it shall be referred to GRC at PMU level by Project Manager of PIU.

106. GRC at PMU shall discuss the issue and try to resolve it and inform the PIU accordingly. If the matter is not resolved by the GRC at PMU level within one month of time the matter will be referred to State Level Empowered Committee (SLEC), who will resolve the complaint within one month. However, the aggrieved person/party can bring the matter to the Court of Law any time after filing the complaint either at PIU level or PMU level. The PIU and sub-project site office shall keep records of all grievances received including contact details of complainant, date of receiving the complaint, nature of grievance, agreed corrective actions and the date these were affected and final outcome. For this a complaint register will be maintained at each sub-project site. The grievance redress process is shown below. The cost for functioning of Grievance Redress Mechanism will be accounted for in project cost as part of PMU or PIU functioning.

107. Further, person(s) / aggrieved party who are, or may be, adversely affected by the subproject may submit complaints to ADB's Accountability Mechanism. The accountability mechanism provides an independent forum and process whereby people can voice, and seek a resolution of their problems, as well as report alleged violations of ADB's operational policies and procedures. Before submitting a complaint to the Accountability Mechanism, affected person(s) / aggrieved party should first make a good faith effort to solve their problems by working with the ADB South Asia operations department including the India

Resident Mission.

D. Composition and functions of GRC

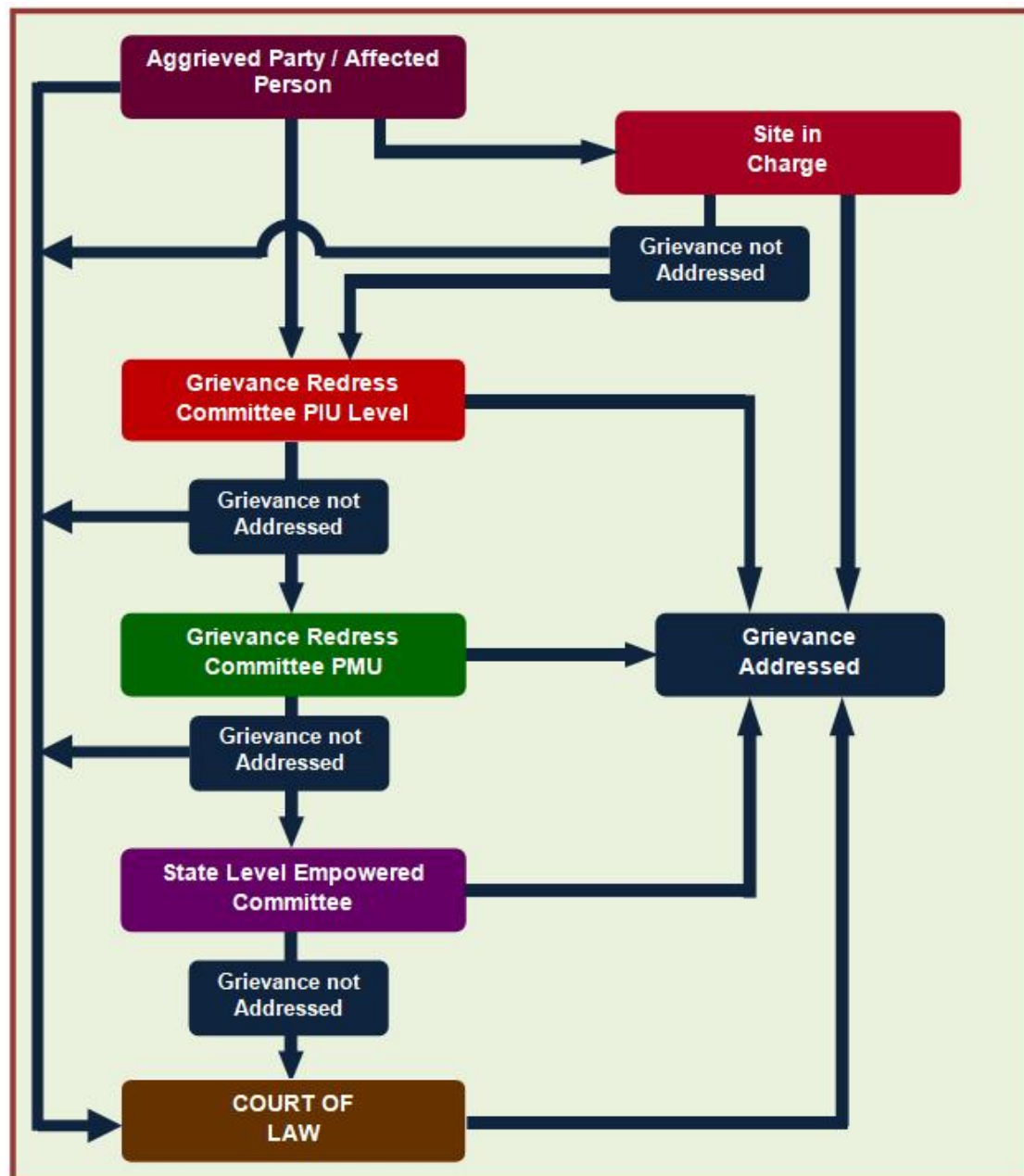
108. **PIU Level Grievance Redress Committee (GRC- PIU)** – This committee will comprise of Project Manager, Site In charge and one officer from contractor team. The GRC- PIU will be headed by Project Manager (PIU). It will meet at least once a month. The agenda of the meeting will be circulated to all the members and the affected persons/aggrieved party along with venue, date and time at least a week prior to the meeting. The matters shall remain with GRC at PIU level for one month.

109. **GRC at PMU.** There shall be one GRC in PMU. GRC at PMU will include the Managing Director, HPKVN, and Project Manager PIU (PWD at Shimla Head Quarters), safeguard specialists (Environmental and Social) of the PMU, and one representative from concerned Department (DOTE/DOLE/DOHE/DORD). The Committee shall be headed by the Managing Director, HPKVN. This committee shall look into the matters, which are referred to and not resolved by GRC at PIU level. If the matter is not resolved by the GRC at PMU level within one month of time, then the aggrieved person or party can bring the matter to State Level Empowered Committee (SLEC) which is in-charge of the overall HPSPDP.

110. **Approach to GRC.** Affected person or aggrieved party can approach the GRC for redress of his/their grievances through any of the following modes:

- Web based: A separate corner will be developed at the HPKVN website so that public and affected person can register their complaints in the online column.
- Telecom based: A telephone number will be displayed at the web site of HPKVN and the construction site of sub project so that general public can register their complaint through telephone and mobile phone to the PIU and PMU office. One complaint register will also be maintained at sub-project site.
- Construction site. The grievance redress mechanism for the HPSPDP for safeguards related issues has been shown below in **Figure-7**:

Figure-7: Grievance Redress Mechanism (HPSDP Project)



VII. FINDINGS AND RECOMMENDATIONS

111. The proposed, RLC Bijahi, subproject components do not involve any interventions in and around the natural and cultural heritage destinations and have less significant (direct and indirect) environmental impacts. It is expected that the proposed sub-project will provide necessary support by providing training on job oriented courses. This training will help them in getting gainful employment in Himachal Pradesh, outside Himachal Pradesh in other States and abroad.

112. This IEE has identified minor likely impacts on water, air and noise during construction and operation period and has defined mitigation measures. Those mitigation measures will be implemented and monitored during the sub-project execution. The overall environmental quality of RLC surroundings will not be affected as a result of functioning of RLC as adequate sanitation facilities have been planned.

113. The specific management measures laid down in the IEE will effectively address any adverse environmental impacts due to the sub-project. The effective implementation of the measures proposed will be ensured through the building up of capacity towards environmental management within the PMU supplemented by the technical expertise of Safeguards Specialists of the PMC. Further, the environmental monitoring plan provides adequate opportunities towards course correction to address any residual impacts during construction or operation stages.

VIII. CONCLUSIONS

114. On the basis of the IEE, it is expected that the proposed RLC Bijahi subproject components have only minor, localized, temporary and insignificant environmental impacts. These can be easily mitigated through adequate mitigation measures and regular monitoring during the design, construction and post construction phases of the sub-project. Negative impacts on water, air quality and noise levels during civil works & operation phase, which will be appropriately monitored and adequately mitigated. This report has not identified any comprehensive, broad, diverse or irreversible adverse impacts caused by the sub project. Based on the findings of the IEE, the classification of the sub-project as Category “B” is confirmed. No further special study or detailed EIA needs to be undertaken to comply with ADB SPS (2009).

ANNEXURE-1: RAPID ENVIRONMENTAL ASSESSMENT (REA) CHECKLIST

Instructions:

- (i) The project team completes this checklist to support the environmental classification of a project. It is to be attached to the environmental categorization form and submitted to the Environment and Safeguards Division (RSES) for endorsement by Director, RSES and for approval by the Chief Compliance Officer.
- (ii) This checklist focuses on environmental issues and concerns. To ensure that social dimensions are adequately considered, refer also to ADB's (a) checklists on involuntary resettlement and Indigenous Peoples; (b) poverty reduction handbook; (c) staff guide to consultation and participation; and (d) gender checklists.
- (iii) Answer the questions assuming the "without mitigation" case. The purpose is to identify potential impacts. Use the "remarks" section to discuss any anticipated mitigation measures.

Country/Project Title:

India/ Supporting Skill Development in Himachal Pradesh

SAHS

Sector Division:

Screening Questions	Yes	No	Remarks
A. Project Siting Is the project area adjacent to or within any of the following areas?			The subproject involves construction of building for RLC at Bijahi village in Thunag Tehsil of Mandi district. This RLC will provide job oriented training programs to rural youth of the region. The RLC site is located beyond 25 km distance from the (a) core and buffer zones of national parks, sanctuaries, tiger reserves, and biosphere reserves, etc. There are no protected structures or monuments of archaeological importance within the aerial distance of 300 m from the proposed RLC site.
▪ Underground utilities		√	The RLC Bijahi site is under the ownership of DORD -GOHP. There are no underground utilities at the subproject site. The site is in rural area.
▪ Cultural heritage site		√	No cultural heritage site within 25 km distance from the proposed RLC site.
▪ Protected Area		√	No protected areas within 25 km distance from the RLC site.
▪ Wetland		√	No wet land within 25 km aerial distance of RLC Bijahi site.
▪ Mangrove		√	Since site of RLC Bijahi is away from coastal area and in hilly terrain, so no question of Mangroves.

Himachal Pradesh Skill Development Project
Initial Environmental Examination Development of Rural Livelihood Center at Bijahi (Mandi District)

Screening Questions	Yes	No	Remarks
▪ Estuarine		√	Site is in hilly area and away from shore.
▪ Buffer zone of protected area		√	The site is in open area near rural habitation and away from protected areas.
▪ Special area for protecting biodiversity		√	Since site is rural habitation (Bijahi village), so there is no existence of any special areas for bio-diversity protection.
▪ Bay		√	The RLC site is away from coastal line and bay.
B. Potential Environmental Impacts Will the Project cause...			
▪ Encroachment on historical/cultural areas?		√	The RLC site is beyond 300 m distance from archaeologically protected historical and cultural areas.
▪ Encroachment on precious ecology (e.g. sensitive or protected areas)?		√	The proposed RLC site is in an urban habitation and away from sensitive or protected areas.
▪ Impacts on the sustainability of associated sanitation and solid waste disposal systems?		√	The sanitation facilities will be self-sustained as septic tanks have been planned at RLC location and solid waste collection and disposal will be integrated either with the Bijahi village waste disposal system or a new site will be identified.
▪ Dislocation or involuntary resettlement of people?		√	The proposed site for RLC is on Government owned land. The land ownership is in the name of DORD, so no Involuntary Resettlement issues.
▪ Disproportionate impacts on the poor, women and children, Indigenous Peoples or other vulnerable groups?		√	No such impacts are anticipated.

Himachal Pradesh Skill Development Project
Initial Environmental Examination Development of Rural Livelihood Center at Bijahi (Mandi District)

Screening Questions	Yes	No	Remarks
▪ Accident risks associated with increased vehicular traffic, leading to loss of life?		√	The proposed RLC site at Bijahi is away from road and in open area, there for traffic related accident risk is not anticipated. The connecting road to site has almost nil traffic. During operation also traffic increase is not anticipated as locals will be coming to RLC and adequate parking has been planned as part of RLC building design. However, to rule out any accident due to project related vehicular traffic, if required, flagmen will be deployed near the sub-project construction site to regulate the traffic. Traffic Management Plan will be prepared for the construction phase.
▪ Increased noise and air pollution resulting from increased traffic volume?		√	Since increase in the traffic is not anticipated, therefore, no increase in air and noise pollution.
▪ Occupational and community health and safety risks?		√	The RLC activities during operation and construction phases will not cause any occupational and community health and safety risks.
▪ Risks and vulnerabilities related to occupational health and safety due to physical, chemical, biological, and radiological hazards during project construction and operation?		√	No such risks are anticipated
▪ Generation of dust in sensitive areas during construction?	√		No generation of dust during the operation phase. Minor dust generated during construction activities will be controlled through dust suppression measures and through implementation of Environmental Management Plan (EMP).
▪ Requirements for disposal of fill, excavation, and/or spoil materials?	√		The proposed site for RLC is on plain land. No filling is required. Minor excavations for foundations will be done. Any spoil generated will be utilized in construction and remaining, if any, will be disposed off at the identified site. The site for disposal will be identified during the construction phase.
▪ Noise and vibration due to blasting and other civil works?		√	No blasting is planned. The noise due to construction activities will be controlled within the stipulated limits through implementation of EMP.

Himachal Pradesh Skill Development Project
Initial Environmental Examination Development of Rural Livelihood Center at Bijahi (Mandi District)

Screening Questions	Yes	No	Remarks
▪ Long-term impacts on groundwater flows as result of needing to drain the project site prior to construction?		√	No requirement for draining of water from RLC site is needed as site is plain and having no accumulated water.
▪ Long-term impacts on local hydrology as a result of building hard surfaces in or near the building?		√	The proposed built up area of RLC is around 750 m ² and this small area will not cause any impact on local hydrology. Further, RLC site was already in use for some other purpose by DORD. So construction of RLC building is of no consequence from hydrology point of view.
▪ Large population influx during project construction and operation that causes increased burden on social infrastructure and services (such as water supply and sanitation systems)?		√	Since RLC building to be constructed is of small in size, so construction force will not exceed 25 at any time at the sub-project site. The construction workers will be mainly locals as site is in remote area of Himachal Pradesh so no influx is anticipated during the construction. During operation phase also most of the students will be locals, and RLC is designed with hostel facilities, so no influx and impacts on social infrastructure are anticipated.
▪ Social conflicts if workers from other regions or countries are hired?		√	Preference will be given to locally available labor. The construction activities are limited in nature. In case workers are hired from other regions, requisite awareness programs and consultations with the locals will be organized to avoid social conflicts.
▪ Risks to community safety caused by fire, electric shock, or failure of the buildings safety features during operation?		√	Since proposed RLC building is new, the safety measures are being planned in the building design as per national and state level requirements.
▪ Risks to community health and safety caused by management and disposal of waste?		√	During construction phase waste collection and disposal system will be planned by the contractor and it will be approved by the implementing agency (PWD). For operation phase adequate provisions have been made in the building design to take care disposal of waste water (septic tanks) and other solid waste generated. The waste collection and disposal will be integrated; either with the Bijahi village waste disposal system or a new site will be identified.

Screening Questions	Yes	No	Remarks
<ul style="list-style-type: none"> Community safety risks due to both accidental and natural hazards, especially where the structural elements or components of the project are accessible to members of the affected community or where their failure could result in injury to the community throughout project construction, operation and decommissioning? 		√	The proposed is in an open area near Bijahi village. Specific community risks are not foreseen due to operation as such RLC site has good connectivity through National and State Highways. The RLC building has been designed following applicable seismic coefficient for Himachal Pradesh to build safety in structural design. There will be periodic maintenance of building during the operation phase.

A Checklist for Preliminary Climate Risk Screening

Country/Project Title: India/Himachal Pradesh Skill Development Project (Sub-Project- RLC Building at Bijahi)
Sector: Social Development
Subsector:
Division/Department: SAHS

Screening Questions		Score	Remarks ⁵
Location and Design of project	Is sitting and/or routing of the project (or its components) likely to be affected by climate conditions including extreme weather related events such as floods, droughts, storms, landslides?	0	The proposed RLC building is on plain land, away from river and streams and not likely to be affected by floods, drought, storms and landslides.
	Would the project design (e.g. the clearance for bridges) need to consider any hydro-meteorological parameters (e.g., sea-level, peak river flow, reliable water level, peak wind speed etc.)?	0	Not Applicable
Materials and Maintenance	Would weather, current and likely future climate conditions (e.g. prevailing humidity level, temperature contrast between hot summer days and cold winter days, exposure to wind and humidity hydro-meteorological parameters likely affect the selection of project inputs over the life of project outputs (e.g. construction material)?	0	Weather conditions at RLC site do not demand usage of any specific construction material to counter act weather phenomenon.
	Would weather, current and likely future climate conditions, and related extreme	0	No, weather conditions at selected

⁵ If possible, provide details on the sensitivity of project components to climate conditions, such as how climate parameters are considered in design standards for infrastructure components, how changes in key climate parameters and sea level might affect the sitting/routing of project, the selection of construction material and/or scheduling, performances and/or the maintenance cost/scheduling of project outputs.

**Himachal Pradesh Skill Development Project
Initial Environmental Examination Development of Rural Livelihood Center at Bijahi (Mandi District)**

	events likely affect the maintenance (scheduling and cost) of project output(s)?		site do not require specific scheduling for maintenance.
Performance of project outputs	Would weather/climate conditions and related extreme events likely affect the performance (e.g. annual power production) of project output(s) (e.g. hydro-power generation facilities) throughout their design life time?	0	Not Applicable

Options for answers and corresponding score are provided below:

Response	Score
Not Likely	0
Likely	1
Very Likely	2

Responses when added that provide a score of 0 will be considered low risk project. If adding all responses will result to a score of 1-4 and that no score of 2 was given to any single response, the project will be assigned a medium risk category. A total score of 5 or more (which include providing a score of 1 in all responses) or a 2 in any single response will be categorized as high risk project.

Result of Initial Screening (Low, Medium, High): Low Risk

Other Comments: None

Prepared by: Shreeniwas Verma, Environmental Safeguard Specialist

**ANNEXURE-2: LAND RECORDS CERTIFIED BY THE REVENUE DEPARTMENT
OFFICIALS SHOWING GOHP OWNERSHIP**

DRDA No/Floriculture/ 1491

From:

Distt. Rural Development Agency
Mandi Distt. Mandi (HP)

To

✓ The Chief executive Officer,
State Rural Livelihood Mission,
Department of Rural Development,
Himachal Pradesh- Shimla- 171002

Dated Mandi 175001 the 21st May 2018.

Subject: Regarding identification of land and supply of Revenue paper for
Establishment of Rural Livelihood Centre at Development Block Seraj District
Mandi.

Sir,

Please refer to your office letter no NRLM- 30/ 201-15- ADB- 814 dated 18th
May 2018 on the subject cited above.

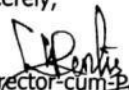
In this regard please find herewith copy of revenue papers of land identified
at DRDA Demo Farm at Bijahi, GP Kandha Bagsiad, Development Block Gohar, Distt.
Mandi.

The total Land available is 5-4-16 bigha in the name of Rural Development
Department and 2 bighas can be utilized for establishment of Rural Livelihood Centre.

This is for your information and necessary action please.

Yours sincerely,

Encls: Copy of Land Papers


Deputy Director-cum-Project Officer,
Distt. Rural Development Agency
Mandi Distt. Mandi (HP)

870
ROM : 04/05/2018

FAX NO. :

Sh. Rajesh 2018 2:20AM P1

संख्या राजस्व/एसडीएम/धुनाग/विधि/सीएम रेफरेंस/42 भाग-1/1174
उप मण्डलाधिकारी (ना0)
धुनाग, जिला मण्डी।
अतिरिक्त उपायुक्त
मण्डी, जिला मण्डी।
दिनांक 03 मई, 2018

कार्यालय परियोजना अधिकारी
जिला ग्रा० वि० अ० मण्डी (हि.प्र.)
शाखिका.....
शाखा.....
राशती संख्या...525.....
दिनांक...4-5-2018

विषय:- Revenue Papers of Development Department for Rural Livelihood Centre at Kandha Bagasaid.

गोदय,

उपरोक्त विषय पर आपके दूरभाष सन्देश दिनांक 03-05-2018 के सन्दर्भ में निवेदन है कि पटवार वृत्त काण्डा बगसयाड, मंडाल घुलाच/124 में खाता खतौनी नम्बर 49 मिन /51 मालिक सरकार हिमाचल प्रदेश, कब्जा विकास विभाग की भूमि खसरा नम्बर 66, 67 तथा 81 से 88 किता 10 रकबा तादादी 5-4-18 विधा के राजस्व नक़ुलात अक्स तलीमा तथा नकल जमाबन्दी उक्त वर्णित उद्देश्य के लिये आगामी आवश्यक कार्यवाही हेतु इस पत्र के साथ संलग्न किये जा रहे हैं।

संलग्न:- 2 वर्क

भवदीय

उप मण्डलाधिकारी (ना0)
धुनाग, जिला मण्डी, हि0प्र0।

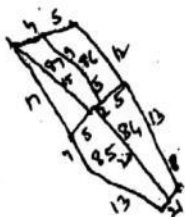
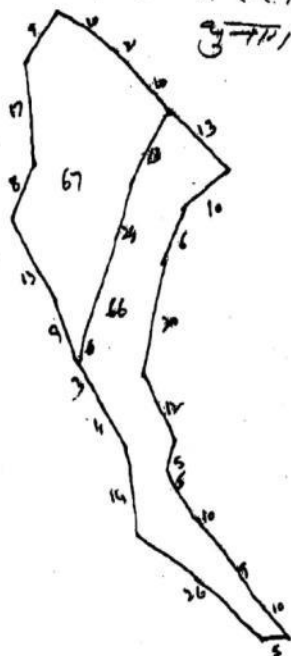
(DRDA)
3/5/18
Addl. Deputy Commissioner
Mandi Distt. Mandi (H.P.)

ROM :

FAX NO. :

3 May 2018 2:20AM P2

अमरस लेलाया राजरा गलल धुलाच/124 लहसील
धुनाग/ जिला नगी हिमालय जेपेरा
वैमाना व हिसाब 20 कर्म जल रजि



अमरस लेलाया राजरा गलल धुलाच/124 लहसील
धुनाग/ जिला नगी हिमालय जेपेरा
वैमाना व हिसाब 20 कर्म जल रजि

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[illegible]

86	0-3-12 वारकी पोखरा	5-4-16 ✓	डिवा 10
87	0-2-0 वारकी पोखरा	5-3-10	कुल
88	0-2-0 वारकी पोखरा	0-1-6	वारकी पोखरा
		1-15-5	वार.वा. कलकार
		3-8-5	

महल गा.प.स.न. ब.स.न. के स.स.न.
उपार नगर सरकार

31/5/2018
प्रमाणित
द्वारा
महल गा.प.स.न. ब.स.न. के स.स.न.
उपार नगर सरकार

3 May 2018 2:20 PM P3

FAX NO. :

FROM :

ANNEXURE-3: SAMPLE TRAFFIC MANAGEMENT PLAN

A. Principles

1. Since the scale of construction work at the sub-projects sites is relatively small, there will not be any major or prolonged disruption of local traffic. Nevertheless, it is good to prepare a traffic management plan (TMP) to minimize and avoid public inconvenience to the extent feasible. This indicative TMP will ensure the safety of all the road users along the work zone and minimize public inconvenience. It addresses the following issues:

- (i) The safety of pedestrians, bicyclists, and motorists travelling through the construction zone;
- (ii) Protection of work crews from hazards associated with moving traffic;
- (iii) Avoiding traffic congestion and
- (iv) Maintenance of access to adjoining properties.

B. Operating Policies for TMP

2. The following principles will help to promote safe and efficient movement for all road users (motorists, bicyclists, and pedestrians, including persons with disabilities) through and around work zones while reasonably protecting workers and equipment.

- (i) Make traffic safety and temporary traffic control an integral and high-priority element of every project from planning through design, construction, and maintenance.
- (ii) Inhibit traffic movement as little as possible.
- (iii) Provide clear and positive guidance to drivers, bicyclists, and pedestrians as they approach and travel through the temporary traffic control zone.
- (iv) Inspect traffic control elements routinely, both day and night, and make modifications when necessary.
- (v) Pay increased attention to roadside safety in the vicinity of temporary traffic control zones.
- (vi) Keep the public well informed.
- (vii) Make appropriate accommodation for abutting property owners, residents, businesses, emergency services, railroads, commercial vehicles, and transit operations.

C. Analyze the impact due to street closure, if required

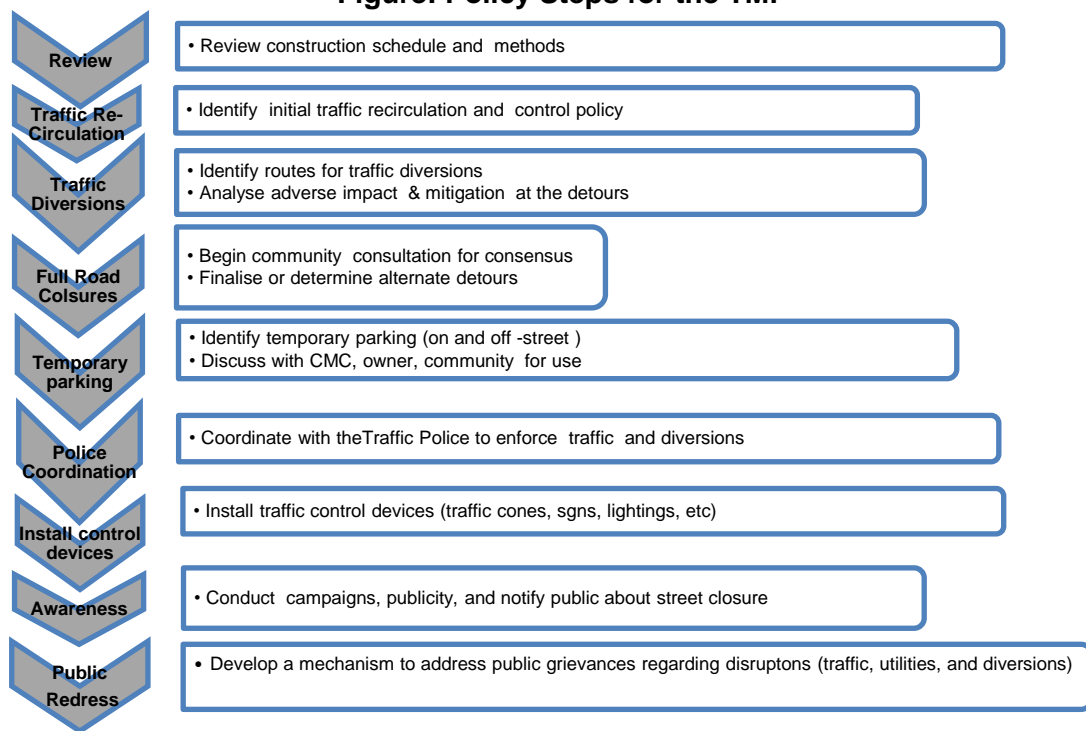
3. A final decision to close a particular street and divert the traffic should involve the following steps:

- (i) approval from the PIU and local administration to use alternative local streets as detours;
- (ii) consultation with businesses, community members, traffic police, PWD, etc, regarding the mitigation measures necessary at the detours where the road is diverted during the construction;
- (iii) determining of the maximum number of days allowed for road closure, and incorporation of such provisions into the contract documents;
- (iv) determining if additional traffic control or temporary improvements are needed along the detour route;
- (v) considering how access will be provided to the worksite;
- (vi) contacting emergency service, school officials, and transit authorities to determine if there is any effect on their operations; and

- (vii) Developing a notification program to keep the public informed. As part of this program, the public should be advised of alternate routes that commuters can take or will have to take as result of the traffic diversion.

4. If full road-closure of certain streets within the area is not feasible due to inadequate capacity of the detour streets or public opposition, then full closure can be restricted to weekends with the construction commencing on Saturday night and ending on Monday morning prior to the morning rush hour traffic.

Figure: Policy Steps for the TMP



D. Public awareness and notifications

5. The PWD and the contractors will issue timely notifications to inform the public about the following issues:

- (i) Road blockages and alternative routes along with the duration (as applicable)
- (ii) Traffic control devices placed around the construction zones (signs, traffic cones, barriers, etc.);
- (iii) Reduced speed limits to be enforced at the work zones and traffic diversions.

8. It may be necessary to conduct an awareness campaign on road safety during construction. It will target relevant groups i.e. children, adults, and drivers. Therefore, these campaigns will be conducted in schools and community centers. In addition, the project will publish a brochure for public information. These brochures will be widely circulated around the area and will also be available at the PIU, and the contractors' site office. The text of the brochure should be concise to be effective, with a lot of graphics. It will serve the following purpose:

- (i) Explain why the brochure was prepared, along with a brief description of the project;
- (ii) Advise the public to expect the unexpected;

- (iii) Educate the public about the various traffic control devices and safety measures adopted at the work zones;
- (iv) Educate the public about the safe road user behaviour to emulate at the work zones;
- (v) Tell the public how to stay informed or where to inquire about road safety issues at the work zones (name, telephone, mobile number of the contact person; and
- (vi) Indicate the office hours of relevant offices.

E. Vehicle Maintenance and Safety

10. A vehicle maintenance and safety program shall be implemented by the construction contractor(s). The contractor(s) should ensure that all the vehicles are in proper running condition, and comply with roadworthy and meet certification standards of GOHP. All vehicles should be in good condition and meet the pollution standards of Government of India and GOHP. The drivers will follow the special code of conduct and road safety rules of GOHP. They will ensure that all loads are covered and secured. Vehicles will be cleaned and maintained in designed places.

F. Install traffic control devices at the work zones and traffic diversion routes

10. The purpose of installing traffic control devices at the work zones is to delineate these areas to warn, inform, and direct the road users about a hazard ahead, and to protect them as well as the workers. As proper delineation is key for achieving the above objective, it is important to install good traffic signs at the work zones. The following traffic control devices will be used in work zones:

- Signs
- Pavement Markings
- Channelizing Devices
- Arrow Panels
- Warning Lights

11. Procedures for installing traffic control devices at any work zone vary depending on road configuration, location of the work, construction activity, duration, traffic speed and volume, and pedestrian traffic. Work will take place along major roads, and the minor internal roads. As such, the traffic volume and road geometry vary. However, regardless of where the construction takes place, all the work zones should be cordoned off, and traffic shifted away at least with traffic cones, barricades, and temporary signs (temporary “STOP” and “GO”).

12. The work zone should take into consideration, the space required for a buffer zone between the workers and the traffic (lateral and longitudinal) and the transition space required for delineation, as applicable. For the works, a 30 cm clearance between the traffic and the temporary STOP and GO signs should be provided. In addition, at least 60 cm is necessary to install the temporary traffic signs and cones.

13. Traffic police should regulate traffic away from the work zone and enforce the traffic diversion result from full street closure in certain areas during construction. Flaggers or personnel should be equipped with reflective jackets at all times and have traffic control batons (preferably the LED type) for regulating the traffic during night time.

14. In addition to the delineation devices, all the construction workers should wear fluorescent safety vests and helmets in order to be visible to the motorists at all times. There should be provision for lighting beacons and illumination for night constructions. The PIU and

contractor will coordinate with the local administration and traffic police regarding the traffic signs, detour, and any other matters related to traffic. The contractor will prepare the traffic management plan in detail and submit it along with the EMP for the final approval.

ANNEXURE-4: PHOTOGRAPHS AND ATTENDANCE SHEETS OF CONSULTATIONS

A. Photographs



B. Attendance Sheets

Stakeholder Consultations At RLC Seraj Date: 06/03/2019			
S.No	Name	Phone No.	Signature
1.	Shaverkhan Singh	8054098308	[Signature]
2.	Tamev Singh	9857446418	[Signature]
3.	Tek Singh	8894323905	[Signature]
4.	Narayan Singh	-	[Signature]
5.	Parm Dev	8091747482 98577-53833	[Signature]
6.	Mohan Singh	9459760402	Mohan Singh
7.	Padam Singh	8091747482	Padam Singh
8.	Hem Singh	9418154398	[Signature]
9.	Dhan Ram	8988316364	[Signature]
10.	Kesav Ram	9857511092	[Signature]
11.	Neeta Devi	8988264263	[Signature]
12.	Chamma Devi	8626989825	[Signature]
13.	Bhavana Devi	9857141825	[Signature]
14.	Asharkali	-	[Signature]
15.	Shakuntla Devi	8627023970	[Signature]
16.	Urmila Devi	7807509389	Urmila Devi
17.	Gandva Devi	-	[Signature]
18.	Licela Devi	-	[Signature]
19.	Kamla Devi	-	[Signature]
20.	Neelma Devi	8628093089	Neelma Devi
21.	Halya Devi	8894908679	Halya Devi
22.	Purva Devi	9857248265	[Signature]
23.	Meera Devi	8988731920	Meera Devi
24.	Dharmendra	9882603199	[Signature]
25.	Chandra Devi	-	[Signature]

26	Yashpal Malik	9015040458	Yashpal Malik
27	Kapil Bhandari	9805006907	(B) Bhandari
28	Shamsher Singh	9841224458	Shamsher Singh