Initial Environmental Examination (Updated)

September 2017

India: Himachal Pradesh Skills Development Project — City Livelihood Center at Mohal Sidhbari, Kangra (Package No. HPSDP/PWD-01)

Prepared by the Government of Himachal Pradesh for the Asian Development Bank. This is an updated version of the draft originally posted in April 2017 available on https://www.adb.org/projects/49108-002/main#project-documents

CURRENCY EQUIVALENTS

(as of 4 September 2017)

Currency unit	−	Indian rupee/s (₹)
₹1.00	=	$0.01567
$1.00	=	₹63.8100

ABBREVIATIONS

ADB	–	Asian Development Bank
ASI	–	Archaeological Survey of India
CHC	–	community health center
CLC	–	city livelihood center
CPCB	–	Central Pollution Control Board
DOHE	–	Department of Higher Education
DOLE	–	Department of Labor and Employment
DOP	–	Department of Planning
DOTE	–	Department of Technical Education, Vocational & Industrial Training
DOUD	–	Department of Urban Development
DORD	–	Department of Rural Development
EIA	–	environmental impact assessment
EMP	–	environmental management plan
ESMF	–	environmental and social management framework
FSI	–	Forest Survey of India
GOHP	–	Government of Himachal Pradesh
GRC	–	Grievance Redress Committee
HPKVN	–	Himachal Pradesh Kaushal Vikas Nigam
HPSDP	–	Himachal Pradesh Skills Development Project
IEE	–	initial environmental examination
MCC	–	model career center
MOEF	–	Ministry of Environment, Forests and Climate Change
PHC	–	primary health center
PIU	–	Project Implementation Unit
PMC	–	project management consultant
PMU	–	Project Management Unit
PWD	–	Public Works Department
RLC	–	rural livelihood centers
SPS	–	Safeguard Policy Statement
TVET	–	technical and vocational education and training

WEIGHTS AND MEASURES

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

NOTES

(i) The fiscal year (FY) of the Government of India ends on 31 March. “FY” before a calendar year denotes the year in which the fiscal year ends, e.g., FY2017 ends on 31 March 2017.

(ii) In this report, “$” refers to US dollars.

CONTENTS

APPENDIXES

LIST OF TABLES

LIST OF FIGURES

EXECUTIVE SUMMARY

At the request of the Government of India and the Government of Himachal Pradesh), the Asian Development Bank (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) in Himachal Pradesh will be the executing agency for the proposed Himachal Pradesh Skills Development Project (HPSDP). The Himachal Pradesh Kaushal Vikas Nigam (HPKVN); Department of Technical Education, Vocational and Industrial Training (DOTE); Department of Higher Education (DOHE); and Public Works Department (PWD) will be the implementing agencies. The HPKVN will also function as the project management unit (PMU) for HPSDP.

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

- Output 1: TVET in Himachal Pradesh improved 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 improved.

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 Pradesh.[1] The new facilities include construction of seven city livelihood centers (CLCs), seven rural livelihood centers (RLCs), and one polytechnic for women to be constructed in Rehan, district of Kangra. Eleven employment exchanges will be upgraded into model career centers (MCCs). On average, the CLCs and RLCs will have three to four floors, and occupy about 900 square meters (m^2). The MCCs will have three to four floors on average, and occupy around 400 m^2 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 counselling programs at the proposed CLCs, RLCs, and MCCs constructed at their respective premises.

GOHP has assured the Asian Development Bank (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. The proposed project categorization has been reconfirmed by an experienced ADB environment and social safeguards consultant, who has already visited 15 sites identified by the Himachal Pradesh government to date.[2]

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[1] A detailed Environmental and Social Management Framework (ESMF) has been prepared in line with ADB's Safeguard 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.

[2] In addition to the ADB environment and social safeguards consultant, other experts including an architect, labor economist, gender specialist, plus relevant consultants from the consulting firm engaged under the project

One of the civil works subprojects included under advance contracting is a CLC at Mohal Sidhbari in the Kangra district of Himachal Pradesh. It will provide the needy urban youth of the district with skill development opportunities for gainful employment. The proposed CLC will be built within premises owned by the Department of Urban Development. The CLC will be a three-floor building including the ground floor, with a total built-up area of 758 m^2. On the ground floor, there will be a reception cum display area, two classrooms for practical vocational training, computer laboratory, counseling cum placement room, and a staff room. On the first floor, there will be space for the CLC manager's room, a computer laboratory, and a hostel for 14 men trainees. On the second floor, there will be a hostel for 14 women trainees, a hostel warden's room, a pantry, and an open terrace. This layout ensures that the women trainees will have an independent floor, along with the warden's room. The building is designed to cater to 24/7 occupancy. By locking certain doors, the hostel sections can be sealed off from the learning and administration areas.

The architectural expression of the building is in harmony with the local style of Himachal Pradesh—suitable for cool weather, long rainy season, and light snowfall. The building aims to evoke a learning-friendly atmosphere that will attract the trainees. The CLC will be barrier-free. There will be ramps and specially designed toilets to make it easy for people with disabilities. The CLC will have adequate number of modern sanitation and drinking water facilities. Concrete gutters at the end of steel sheeting roofs will direct the rainwater to underground rain water harvesting tanks. The clean rainwater run-off can be reused for horticultural purposes and replenishing groundwater.

The proposal includes for the provision of solar power panels, for which a budget of $15,215 has been allocated. The system is expected to generate about 3 kilovolt-amperes to meet the CLC's demand for lighting and running the computer laboratories. A preliminary estimate has been approved by the state government for a sum of $557,000, inclusive of taxes, contingencies, and administrative charges. The construction period will be 2 years. The preliminary estimate also budgets for a 10.5% cost escalation on this basis.

This initial environment examination (IEE) report provides details about the site, the potential environmental impact of the civil works, and ways of mitigating and addressing these.[3] Since the site is in an urban residential area, there is no protected or reserved forest area nearby. There is no natural stream or river near the site. The subproject 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 subproject location. The site is in a relatively open area. Therefore, there are no ambient air quality and noise level issues.

Since the CLC will be a relatively small building used for vocational training and livelihood development, its construction and operation are unlikely to cause any significant impact. 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 documents. **The IEE confirms that the subproject as environment category "B".** No further

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preparatory technical assistance project (IND TA 8760), have also screened these sites. ADB. 2015. *Technical Assistance to India for Supporting Skill Development in Himachal Pradesh*. Manila (TA 9060-IND).

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

special study or detailed environmental impact assessment (EIA) needs to be undertaken to comply with the ADB SPS or Government of India EIA Notification, 2006.

PWD (one of the implementing agencies as mentioned earlier) will be responsible for overall planning and implementation of the civil works under the HPSDP. It will ensure that IEEs and EMPs are prepared for all subprojects and that the ESMF is followed during project implementation. The project management consulting (PMC) firm to be engaged under the proposed loan will have experienced environment and social safeguards experts. These experts will assist PWD in preparing IEEs and EMPs for all subprojects along the lines prepared for this subproject at Mohal Sidbhari. The PMC will also assist PWD and HPKVN in preparing semi-annual safeguards monitoring reports as required by ADB.

I. INTRODUCTION

A. Background

1. Location. The subproject site for the proposed city livelihood (CLC) at Mohal Sidhbari is situated in the Kangra district of Himachal Pradesh. The latitude and longitude of the subproject site are $32^0$18' 38" N and $76^0$36' 15 " E, respectively. The nearest rail head at Pathankot is 89 kilometers (km) away. Mohal Sidbhari is well connected by roads with all the important places in Himachal Pradesh like Shimla (234 km), Palampur (27.4 km), and Hamirpur (90 km). The Kangra district is the most populous district of Himachal Pradesh. The elevation of project site is about 1,139 m above mean sea level. The Beas is the major river of the district and contributes to the fertility of plains in the district. Kangra's neighboring districts are Gurdaspur district of Punjab in the West, Lahaul Spiti in the North, Una and Hamirpur in the South, and Kullu in the east. The district lies between the parallels of 31°2 to 32°5' N and 75° to 77°45' E.

2. Present status of site. The subproject site at Mohal Sidhbari is plain land. The site belongs to the Department of Urban Development of the Government of Himachal Pradesh. There are no permanent or temporary structures on the site. Since the site has been lying vacant and unused, small shrubs have grown over time. There are also no trees at the site. Outside the project site, there are residential houses. Some photos of the site are shown in **Figure 1**.

Figure 1: Mohal Sidhbari City Livelihood Center






B. Compliance with India's Environmental Regulatory Framework

3. India's environmental rules and regulations, as relevant for this proposed subproject, are shown in **Table 1**. The Environmental Impact Assessment (EIA) notification, 2006 by the Ministry of Environment, Forests and Climate Change (MOEF), Government of India 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 human-made resources.[4]

[4] 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 MOEF,

However, MOEF's Office Memorandum (F. No. 19-2/2013-IA- III), dated 9 June 2015, exempts all educational and training institutes from obtaining prior environmental clearance. Since all the training facilities to be constructed or upgraded under HPSDP, including this proposed subproject at Mohal Sidbhari, 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 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 not apply to this subproject. Only some clearances will be required from the Himachal Pradesh State Pollution Control Board for the construction phase of the subproject.

Table 1: Environmental Regulatory Compliance

Subproject	Applicability of Acts and Guidelines	Compliance Criteria
Construction and operation of city livelihood center at Mohal Sidhbari	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 subproject 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 9 June 2015 of Ministry of Environment, Forests and Climate Change, 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 Government of India, are not triggered. – **Not Applicable**
	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 city livelihood center site at Mohal Sidhbari is not close to any monument which is protected by the 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	CFE and FO 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 or CFE will be required. – **Applicable for construction phase**
	The Wildlife Conservation Act, 1972, amended in 2003 and 2006, provides for protection and	No wildlife protected areas nearby. – **Not Applicable**

Government of India based on recommendations of an expert appraisal committee 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 subparagraph (ii) of paragraph 2; or change in product mix as specified in subparagraph (iii) of paragraph 2, but excluding those that fulfil the general conditions stipulated in the schedule, *will* require prior environmental clearance from the state or union territory Environment Impact Assessment Authority, which shall base its decision on the recommendations of a state or union territory-level expert appraisal committee to be constituted for this notification. In addition, general condition 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 10 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; and (iv) interstate boundaries and international boundaries.

Subproject	Applicability of Acts and Guidelines management of Protected Areas.	Compliance Criteria
	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 this subproject. Hence, this is not applicable. – **Not Applicable**

ASI = Archaeological Survey of India, CFE = consent for establishment, CFO = consent for operation, EIA = environmental impact assessment.
Source: Asian Development Bank.

C. Asian Development Bank's Environmental Safeguard Policy Principles

4. Since the proposed HPSDP is being funded by the ADB, it has to comply with its Safeguard Policy Statement (SPS), in addition to India's own environmental laws and regulations. The environmental safeguard policy principles embodied in the SPS aim to avoid adverse impacts on the environment and on affected people and/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 categorizes all projects into three environmental categories (A, B or C) based on their potential impacts.[5] Similarly, ADB's Rapid Environmental Assessment checklist method was followed to assess the potential impact of the proposed subproject at Mohal Sidbhari (Appendix 2). As will be explained below, the 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 consultation was an integral part of the IEE. An environmental management plan (EMP) outlining the specific environmental measures to be adhered to during implementation of the subproject is included in the IEE.

[5] As per the SPS, 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 financial institution.

D. Review and Approval Procedure

5. 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 executing 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

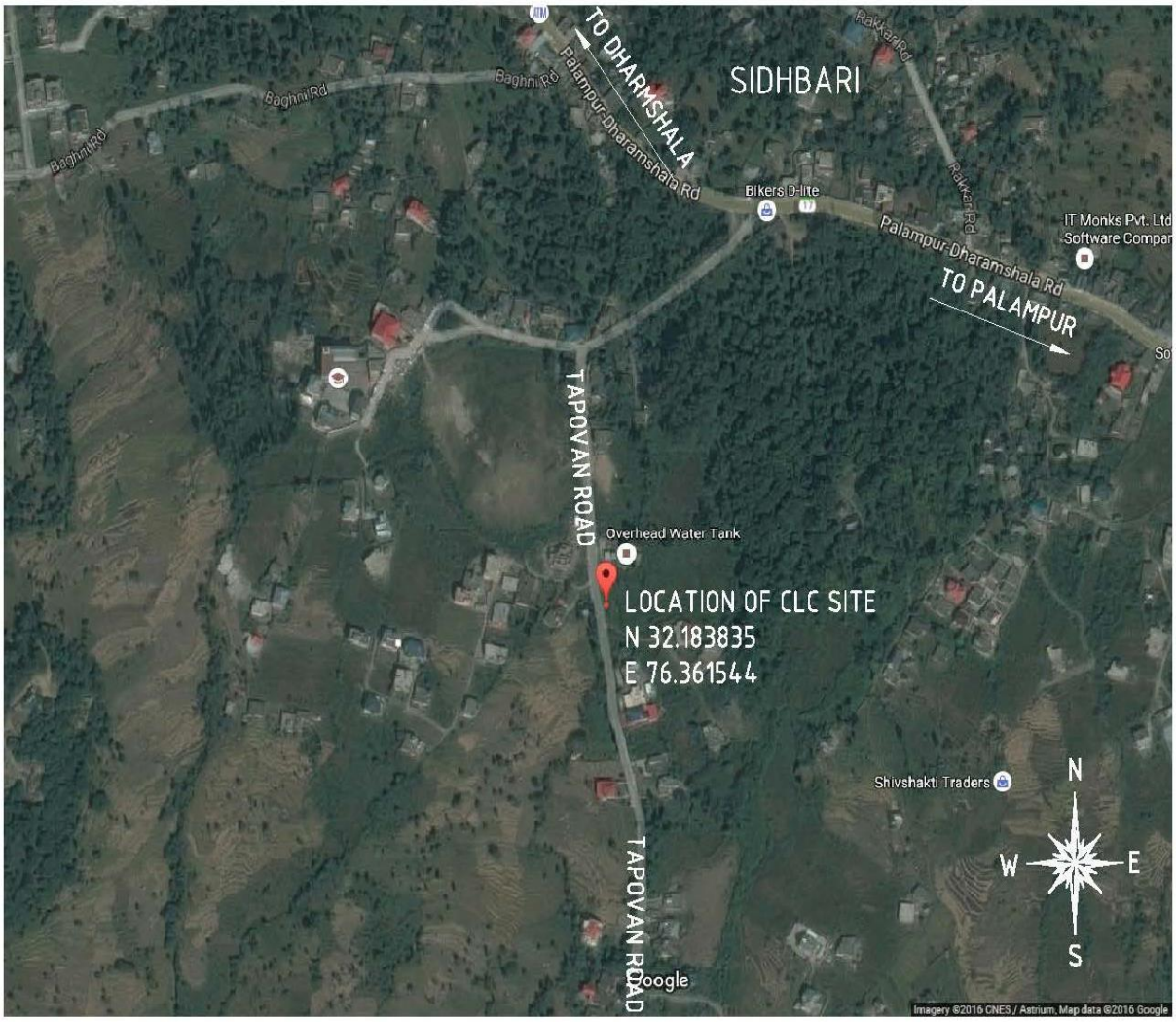
6. This report contains eight sections: (i) introduction; (ii) description of project components; (iii) description of the existing environment around the subproject; (iv) environmental impact and mitigation measures; (v) EMP; (vi) processes for public consultation and information disclosure; (vii) findings and recommendations; and (viii) conclusions.

II. DESCRIPTION OF THE PROJECT COMPONENTS

A. Components of the Subproject

7. The location of the CLC site and its surroundings are shown in **Figures 2 and 3. Table 2** summarizes the need for the subproject, and is proposed components.

Figure 1: Location of City Livelihood Center Site



CLC = city livelihood center.
Source: Asian Development Bank.

Table 2: Description of the Subproject Components

Description	Need of the Project	Proposed Components
A CLC is proposed at Mohal Sidhbari village in the Kangra district of Himachal Pradesh	• Himachal Pradesh lacks the required number of good quality facilities for imparting technical and vocational education and training to the Himachali youth. • The proposed CLC will provide the needy urban youth of the Kangra district with good quality skills training and livelihood development opportunities. The hostel facilities will enable out-station trainees from small towns and remote villages to enroll for residential programs at the Mohal Sidbhari CLC.	The main subproject components include: (i) The CLC will be a three-storey training facility. It will have a lobby cum waiting area on the ground floor. (ii) There will be a computer laboratory and training class rooms on the first floor. (iii) The hostel will be on the first and second floors. (iv) Sanitation facilities have been planned on all floors. (v) A septic tank will be provided for 50 users. (vi) Solar panels will be installed on the roof with potential to generate 3 kilovolt-amperes of power. (vii) The total electricity load has been estimated as 25 kilowatts (viii) Water consumption has been estimated as 8,280 liters per day. Water source will be from the municipal supply. (ix) The solid waste generated will be integrated with the waste disposal system of Dharamshala City.

CLC = city livelihood center.
Source: Asian Development Bank.

8. The layout plan of CLC is shown below in **Figure 3**.

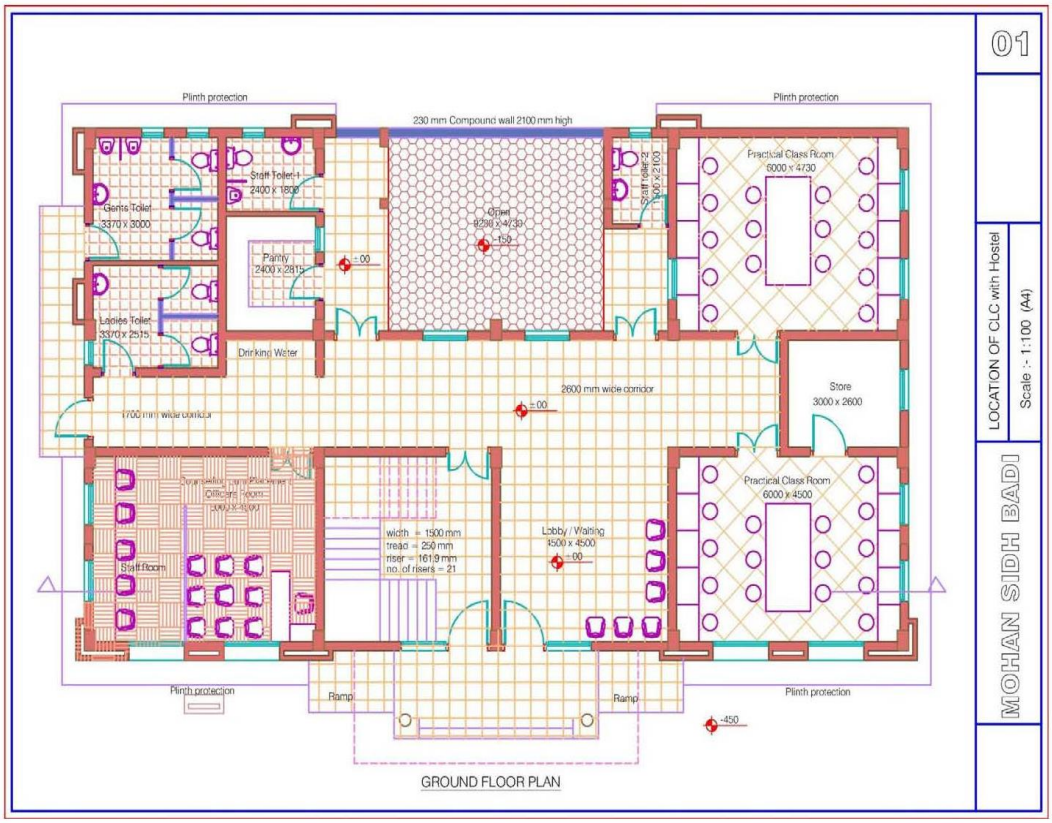
Figure 3: Layout Plan of City Livelihood Center

Source: Asian Development Bank.

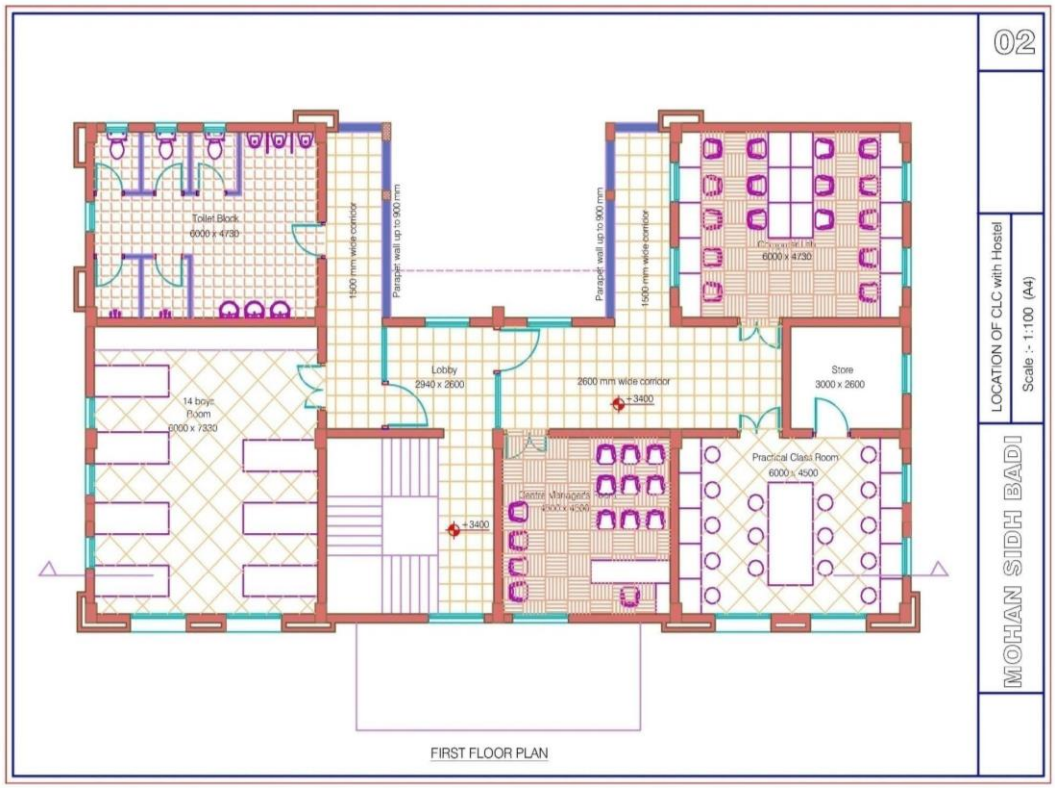
Figure 4: Site Plan of City Livelihood Center Building

3D View of CLC Building

Ground Floor Plan of CLC Building

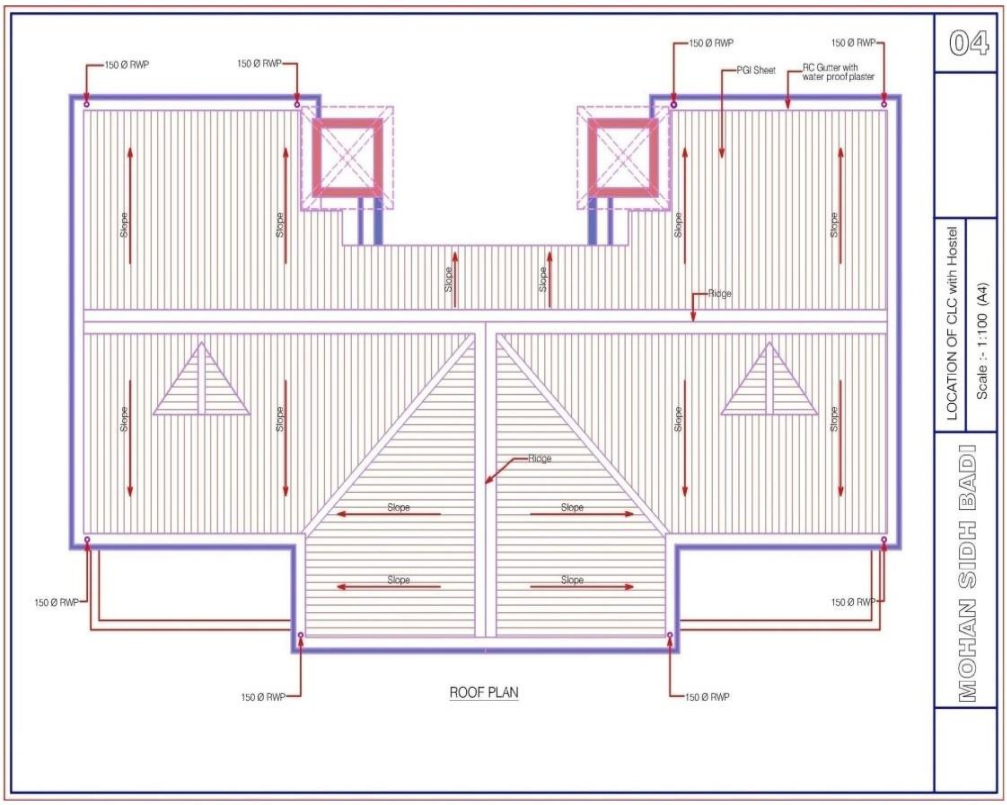


First Floor Plan of CLC Building

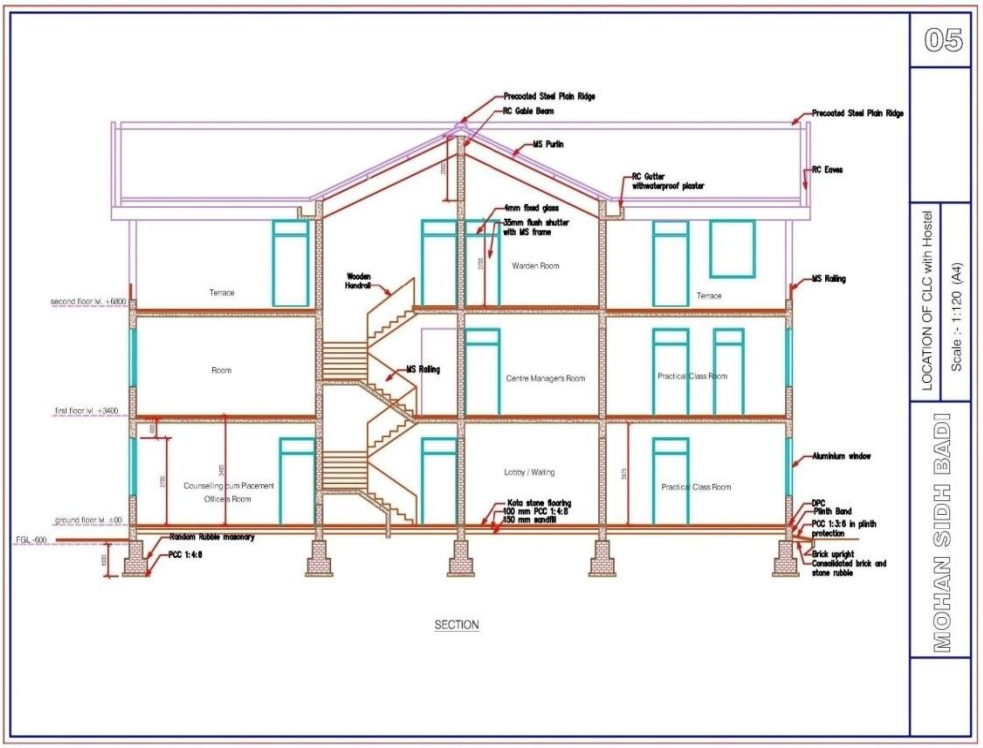


Second Floor Plan of CLC Building

Roof Plan of CLC Building



Sectional View of of CLC Building



CLC = city livelihood center.
Source: Asian Development Bank.

B. Executing and Implementing Agencies

9. At the request of the Government of India and the Himachal Pradesh government, ADB will offer $80 million in loan assistance to modernize and reform Himachal Pradesh's TVET programs, and scale up training capacity. The Department of Planning (DOP) of Himachal Pradesh will be the executing agency for the proposed Himachal Pradesh Skills Development Project (HPSDP). The Himachal Pradesh Kaushal Vikas Nigam (HPKVN); Department of Technical Education, Vocational and Industrial Training (DOTE); Department of Higher Education (DOHE); and Public Works Department (PWD) of the Government of Himachal Pradesh will be the implementing agencies. HPKVN will also function as the project management unit (PMU) for the project. The PWD will be responsible for overall planning and implementation of the civil works under the HPSDP. They will ensure that IEEs and EMPs are prepared for all subprojects and the ESMF is adhered to during project implementation. The project management consulting firm to be engaged under the proposed loan will have experienced environment and social safeguards experts. The PMC will assist PWD and HPKVN in preparing semi-annual safeguards monitoring reports. HPKVN will consolidate these safeguard reports and submit them to ADB semiannually.

C. Implementation Schedule

10. The implementation period for the proposed subproject is 18 months. The preliminary drawings for CLC have been prepared for approval and have been approved. The bidding process for the subproject is expected to start in February 2017. The subproject will be awarded for construction by May 2017. The contractor is expected to be mobilized by June 2017. The construction work is expected to be completed by February 2019.

III. DESCRIPTION OF THE EXISTING SUBPROJECT ENVIRONMENT

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

A. Environmental Profile

1. Air and Noise Quality

12. No air pollution sources (point or nonpoint) have been seen in the surroundings of subproject influence area. The subproject site is at the outer skirts of Dharamshala town. The subproject site is not on any national or state highway. Traffic on the road connecting to the site is low. Hence, insignificant vehicular emission is expected. There are no industrial establishments near the subproject site. The ambient air quality and noise data for the subproject are not available. However, the levels are expected to be well within the stipulated limits since there are no sources of air or noise pollution near the site. Ambient air quality monitoring and noise level monitoring will be conducted by the contractor prior to start of construction works with the aim of establishing baseline conditions.

13. It was observed that ambient noise scenario in the study area is quite low in general. There are no industrial establishments in and around the project area. As the traffic density is very low, the noise either from point or nonpoint sources is not expected in the project area. Moreover, there will be not much rise in the noise due to the proposed CLC activities since it only includes teaching activities, and CLC will have hostel facilities. There is no noise baseline data available for the subproject site. But the levels are expected to be well within the stipulated limits due to no major source of noise pollution at the site. Noise level monitoring will be conducted by the contractor prior to start of construction to establish baseline conditions.

14. Climate. The climate in Kangra district varies from cold temperate, to tropical, to subtropical. The summer season begins March and lasts till mid-September. The winter is mild and starts from mid-December till mid-March. The monsoon season starts end of June and lasts till end of September. October and November are transition months, while the winter season starts December and ends in February.

15. Temperature. The temperature exhibits seasonal variation, lowest 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 38°C and the minimum temperature falls to about –1.9°C. **Table 3** shows monthly weather in Dharamshala.

Table 3: Average, Maximum, and Minimum Temperature at Dharamshala

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Maximum °C	23.1	28	31.4	35.3	38.6	38.3	35.3	31.5	30.6	30.5	26.6	22.9
Minimum °C	–1.9	–1.6	2.4	7.3	8.8	12.8	15.4	16.0	11.2	8.0	4.8	–1.0

Source: Government of India, Ministry of Earth Sciences, India Meteorological Department. New Delhi.

16. Rainfall. The area experiences maximum rainfall during monsoon season from June to September while as least rainfall is received in November and December. The monthly average rainfall observed in last two decades is presented in **Table 4**.

Table 4: Average Monthly Rainfall at Dharamshala (millimeters)

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Rainfall	114.5	100.7	98.8	48.6	59.1	202.7	959.7	909.2	404.837	66.3	16.7	54.0

Source: Government of India, Ministry of Earth Sciences, Indian Meteorological Department. New Delhi.

17. Humidity. Based on long-term climatology data of the Kangra district, it is found that relative humidity increases rapidly with the onset of monsoon and reaches a maximum (82% in the morning and 70% in the evening) in August, the peak of the monsoon period. Relative humidity is minimum during the summer months (April–June) with May being the driest month (12% in morning and 19% in evening). Skies are heavily clouded during the monsoon months and for short spells when the district is affected by western disturbances.

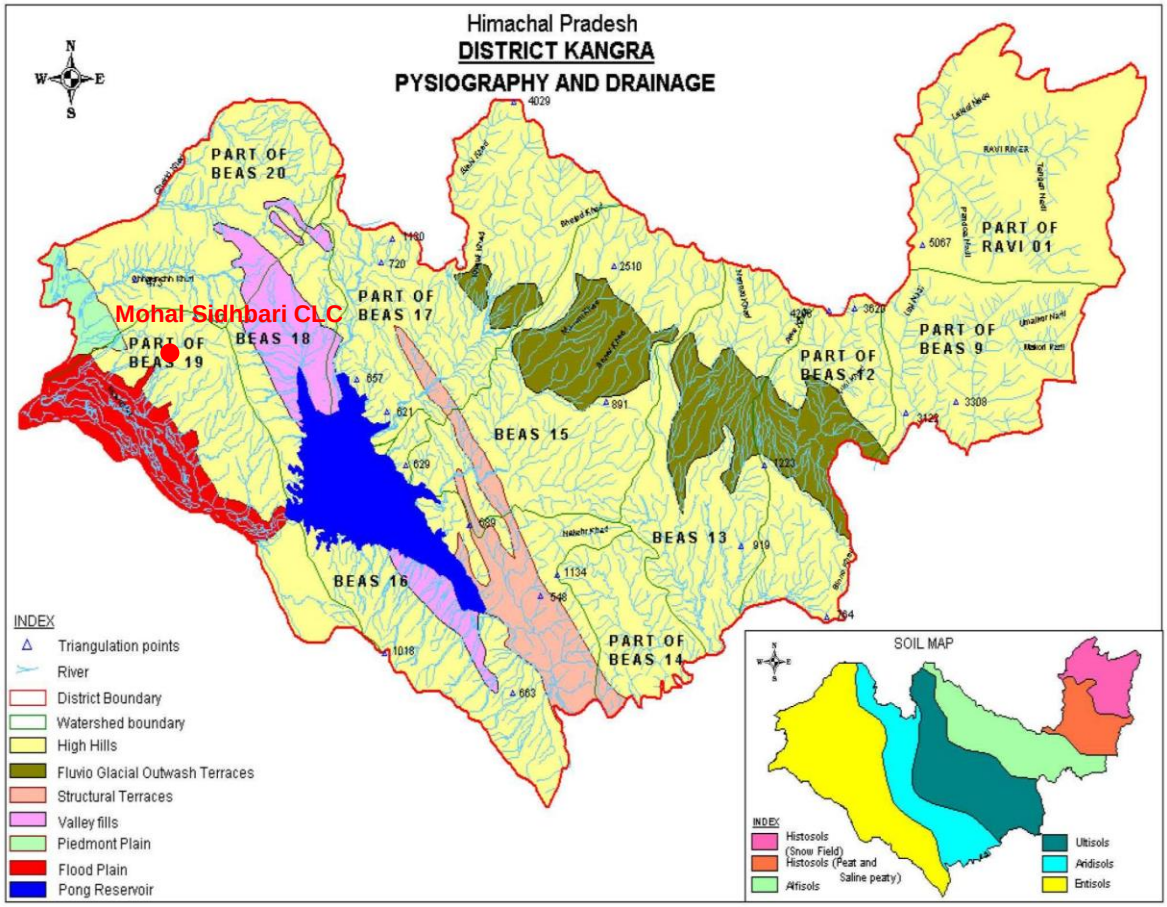
18. Wind speed and direction. Two broad wind patterns are observed in the district, the southeast to northwest (January–May), and south westerly to north easterly (June–October). The average wind speed is minimum (0.8 kph) in July–October. The wind speed goes up to 10.8 kph in summer months.

2. Topography and Soils

19. Kangra district presents an intricate mosaic of mountain ranges, hills, and valleys. It is primarily a hilly district, with altitudes ranging from 350 m above mean sea level (amsl) to 4,880 m amsl in the hills of Dauladhar. The elevation of subproject site is 846 m amsl. Physiographically, the district can be divided into six units: (i) high hills, which cover almost 60% of the district; (ii) fluvio glacial outwash terraces, which is located in the northeastern part of the district; (iii) structural terraces, in the central part; (iv) valley fills; (v) piedmont plain; and (vi) flood plain.

20. Six types of soils are observed in the district, which are (i) histosols (snow field, peaty, and saline peaty); (2) ultisols (brown red and yellow); (3) alfisols (submountain); (4) ardisols (gray brown); (5) entisols (younger alluvium). The soils at the subproject site are alfisols. The soil map of the district is shown in **Figure 5**. The soils are generally brown, alluvial, and grey brown podzolic. The soils are light textured with neutral pH and good fertility status.

Figure 5: Soil Map of Kangra District



Source: Government of India, Ministry of Water Resources, Central Ground Water Board. *Ground Water Information Booklet Kangra District*. New Delhi.

3. Surface Water and Groundwater

21. The subproject site is located in catchment area of the Beas River. In the close vicinity of

site, there are no streams or any water body. The ground water sources in the subproject area are dug wells, hand pumps, and tube wells. To establish the baseline scenario, ground water quality data was obtained from the Central Ground Water Board. The water quality data for the project region is given in **Table 5**.

Table 5: Ground Water Quality in Subproject Area (mg/l)

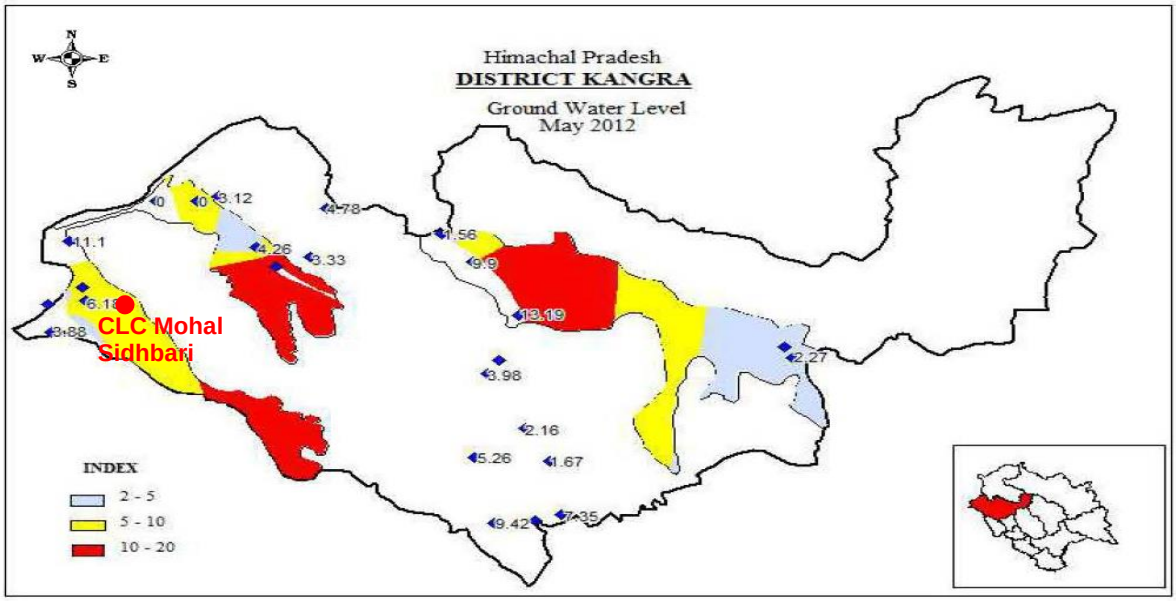
Parameter	pH	EC µS/cm at 25°C	HCO3	Cl	So4	NO3	F	Ca	Mg	Na	K	Total Hardness as CaCO3
Minimum	7.55	120	37	7.09	Tr	Tr	Tr	10	3.6	6.3	0.6	45
Maximum	8.6	910	513	110	71	28	0.54	112	56	105	38	370
Drinking Water Standard Value	6.5-8.5	No limit specified	600	1000	400	<45	1.5	200	100	No limit specified	No limit specified	600

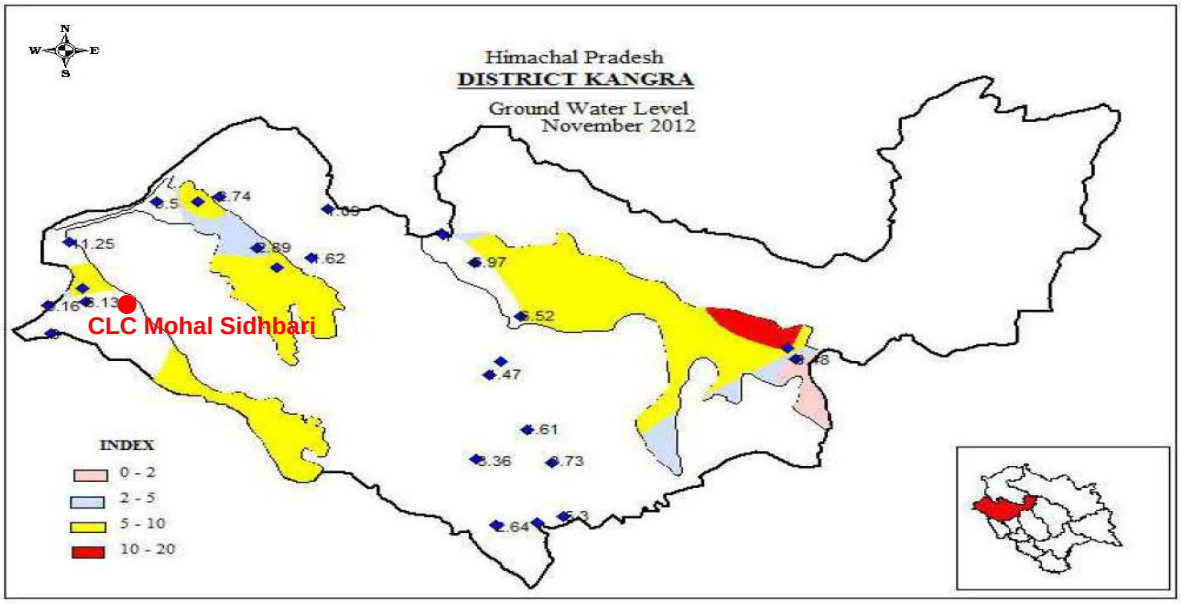
Tr = traces.
Source: Government of India, Ministry of Water Resources, Central Ground Water Board.

22. Due to the absence of any water polluting source in the area, it is clear that all parameters of water quality are within the permissible limits specified by the Bureau of Indian Standards for drinking and irrigation. These water samples were drawn by the Central Ground Water Board from different locations across the district. The nearest location is within 2 km from the subproject site. The water quality was monitored in the year 2013. Water quality monitoring will be conducted by the contractors prior to the start of construction works.

23. Based on 2012 data, the depth of water level during premonsoon months ranged from 1.56 m to 15.44 m below ground level. During postmonsoon months, it ranged from 0.48 to 12.30 m below ground level. The variation of groundwater table depth is shown in **Figure 6**. The stage of groundwater development in Indaura valley of Kangra district, where the subproject site located, is 50.03% and falls under the safe category. This indicates that groundwater has not been overexploited and that it is restored regularly.

Figure 6: Variation of Groundwater Table in Subproject Area





Source: Government of India, Ministry of Water Resources, Central Ground Water Board. *Ground Water Information Booklet Kangra District.* New Delhi.

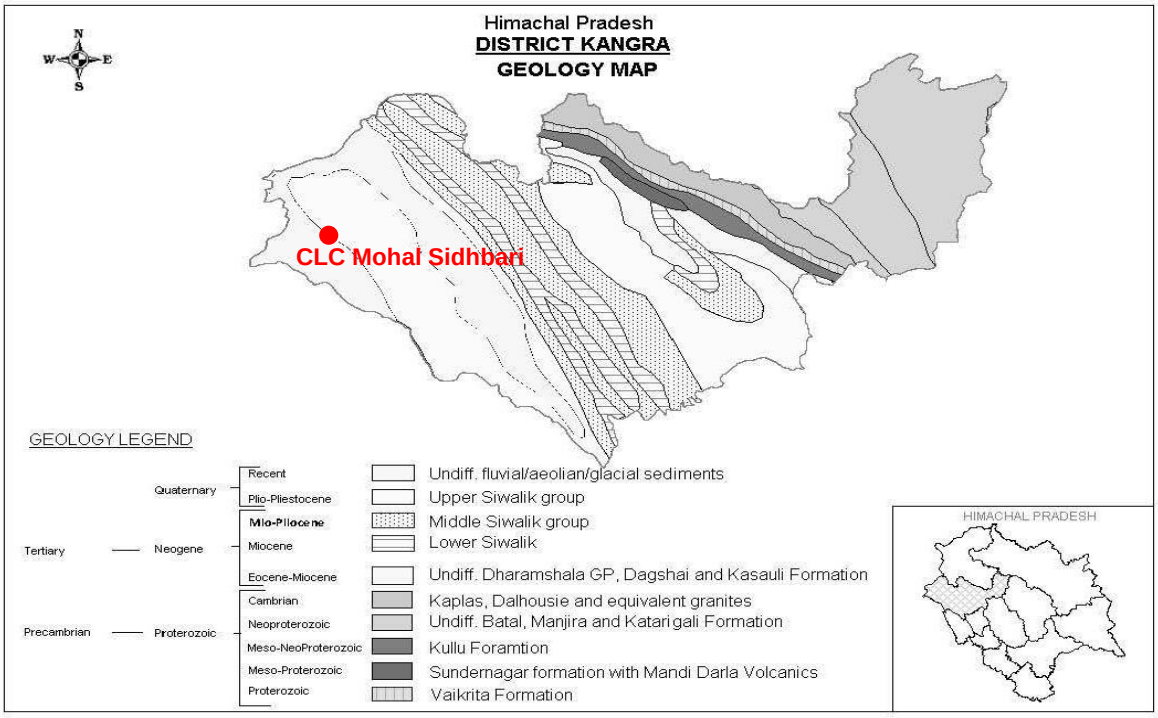
4. Geology and Seismology

24. In Himachal Pradesh, geological history goes back to the Archaean Proterozoic transition although the actual Himalayan Mountain building took place only during Cenozoic era. The Himalayas are a classic example of continent and continent collision due to convergent movement of the Indian plate toward the Eurasian plate. It comprises two contrasting tectogens with their own distinctive geological history. The dividing lines between these two tectogens represent a major tectonic discontinuity and are designated by several local names. However, it

can be collectively refer to as a main central trust and on either side of this thrust the tectogens display contrasting stratigraphic and tectonics features indicating convergence of two alien blocks. These are the lesser Himalayan tectogens and the Tethys Himalayan tectogen.

25. The siwalik group in the Himachal Himalaya forms a parallel foot-hill belt in the sub-Himalayan zone, extending along the southern margin of the Palaeogene Sirmour group belt from the Ravi to the Yamuna. Within Himachal Pradesh, the Himalaya has maximum width between Hoshiarpur and Jogindernagar. The Siwalik sediments, though occurring as an independent structural belt, are also seen to overlie the Muree in the Jammu sector of the Kashmir Himalaya and the Kasauli in the Himachal Himalaya. Pilgrim (1910) recorded a gradual trasition from Muree beds to Lower Siwalik in the Rawalpindi and Jhelum districts of Pakistan and from Kasauli to Lower *siwalik* (Nahan) in the Himachal Himalaya. This fact assumes importance because there is a tendency to ignore this normal relationship between the *siwalik* and *sirmour* groups at Dharamsala, Sarkaghat, and Nalagarh. At Haritalyangar near Bilaspur, the Lower Siwalik is seen resting on the Dagshai with an unconformity, which is described as the most striking discordance in the whole sequence of fresh water deposits and evidently representing a period of considerable earth movements (Pascoe 1964). The main tectonic elements of the project region include the central thrust, and boundary fault. Several NE-SW lineaments are also known from the area and these traverses across different tectonic zones. Seismically, the state constitutes one of the most active domains of the Himalayan region. The geological map of project region has been given in **Figure 7**:

Figure 7: Geological Map of Project Region



Source: Government of India, Ministry of Water Resources, Central Ground Water Board. Ground Water Information Booklet Kangra District.

26. India's seismic code divides the country into five seismic zones (I to V). The subproject stretch comes under seismic zone V as defined by Urban Earthquake Vulnerability Project and the Atlas prepared by the Building Materials Promotion and Technology Council 2q,

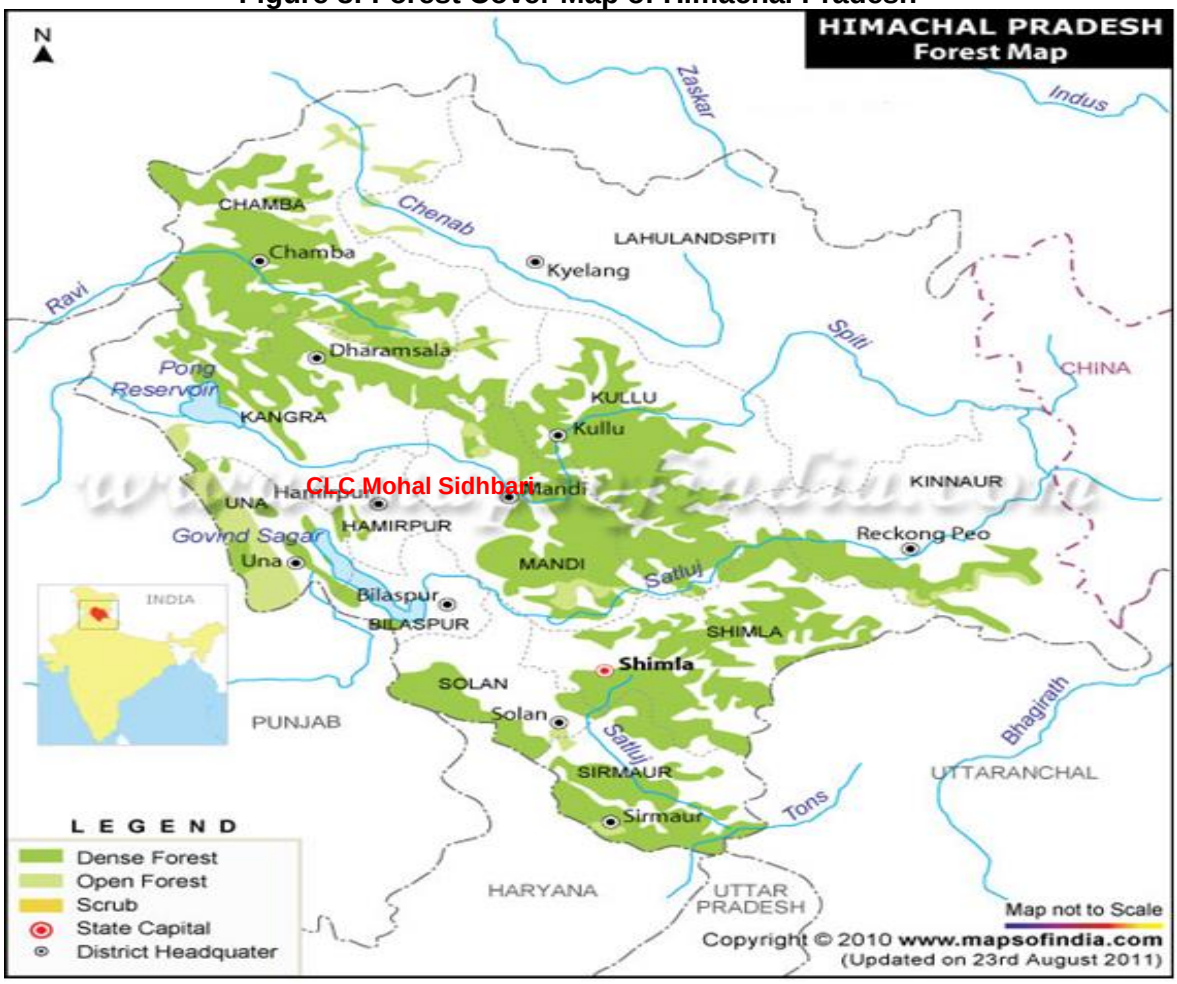
Government of India and UNDP (IS 1893 [Part I: 2002]). All structures will be designed considering seismic zone V.

B. Ecological Resources

1. Forests

27. Forests in Himachal Pradesh currently cover an area of nearly 37,691 km^2 (14,553 sq miles), 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 cover 28.52%, and unclassed forests constitute 0.35% of the total forest area. Kangra district has about 66.23% of its geographic area under forests and most of it is managed by the Forest Department. The forests of the district can be classified into six main categories, namely (1) tropical dry deciduous forests; (2) sal forests; (3) chir forests; (4) oak forests; (4) deodar, fir, and spruce forests; and (5) the Alpine pastures. The forest cover map is shown in **Figure 8**.

Figure 8: Forest Cover Map of Himachal Pradesh



Source: Forest Department, Government of Himachal Pradesh.

28. The subproject site location does not fall within any reserved, protected, or revenue forest. 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. Majority of the area is covered by Himalayan subtropical broadleaf forests. Apart from this, the state has some of the vegetation that is abundant with sal, sisham, chir pine, dry deciduous, and moist broad-leafed forests. The landscape that 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.

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

30. Himachal Pradesh is home to approximately 1,200 birds and 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.

31. Since the subproject area of Mohal Sidbhari is located in the urban habitation of Dharamshala, there are no protected areas within a 10 km radius. Around the subproject site, one only finds domesticated fauna and common trees such as shisam, manago, neem, and sal.

32. The water bodies of Kangra District are seasonal in nature because of swift flow. There is not much presence of aquatic life in the water bodies close to the subproject site.

2. Protected Areas

33. The list of protected areas (National Parks and Wildlife Sanctuaries) in Himachal Pradesh is given in **Table 6**. Two wild life sanctuaries falling within Kangra district, but they are located more than 20 km away from the proposed CLC site at Mohal Sidbhari.

Table 6: Protected Areas in Himachal Pradesh

Sl. No.	Sanctuaries	District	Area (km²)
1	Bandli	Mandi	32.11
2	Chail	Solan	16.00
3	Chandra Tal	Lahaul and 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	2,220.12
13	Kugti	Chamba	379.00

Sl. No.	Sanctuaries	District	Area (km²)
14	Lipa Asrang	Kinnaur	31.00
15	Majathal	Solan	30.86
16	Manali	Kullu	29.00
17	Nargu	Mandi	278.00
18	Pong Dam Lake	Kangra	207.59
19	Rakchham-Chitkul	Kinnaur	304.00
20	Renuka	Sirmour	4.00
21	Rupi-Bhaba	Kinnaur	503.00
22	Sechu-Tuan Nalla	Chamba	390.29
23	Sainj	Kullu	90.00
24	Shikari Devi	Mandi	29.94
25	Shimla Water Catchment	Shimla	10.00
26	Simbalbara	Sirmour	27.88
27	Talra	Shimla	46.48
28	Tirthan	Kullu	61.00
29	Tundah	Chamba	64.00
30	Water Supply Catchment	Shimla	10.00
National Parks			
1	Great Himalayan National Park	Kullu	765.00
2	Pin Valley National Park	Lahaul and Spiti	675.00
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.

C. Economic Resources

1. Industries

34. Being a hilly state, Himachal Pradesh has few large industrial units. As shown in **Table 7** below, the Kangra district also mainly has micro, small, and medium enterprises focusing on agro-products, textiles, furniture, etc.:

Table 7: Details of Existing Micro and Small Enterprises and Artisan Units in the District

NIC Code No	Type of Industry	Number of Units	Investment (lakh ₹)	Employment
20	Agro-based	3,203	9,004.22	1,376
22	Soda water	–	–	–
23	Cotton textile	32	75.70	197
24	Woolen, silk, and artificial thread-based clothes	–	–	–
25	Jute and jute-based	2	1.00	8
26	Ready-made garments and embroidery	18	75.60	69
27	Wood and wooden-based furniture	300	561.30	1,150
28	Paper and paper products	48	162.00	130
29	Leather-based	22	292.85	328
31	Chemical and chemical-based	130	4,524.04	1,338
30	Rubber, plastic, and petro-based	59	450.29	295
32	Mineral-based	150	765.77	1,942
33	Metal-based (steel fabrication)	05	131.01	29

NIC Code No	Type of Industry	Number of Units	Investment (lakh ₹)	Employment
35	Engineering units	362	10,231.30	6,286
36	Electrical machinery and transport equipment	48	120.03	617
97	Repairing and servicing	352	4,389.01	1,156
01	Others	60	30.08	320
	Kachori Making	80	160.04	272

Source: Government of Himachal Pradesh, District Industry Centre. Dharamshala.

2. Transportation

35. Mohal Sidbhari is well connected by roads with all the important places in Himachal Pradesh like Shimla (234 km), Palampur (27.4 km), and Hamirpur (90 km). The nearest rail head at Pathankot is 89 km away.

3. Land Use

36. A study of the land use (Table 8) shows that majority of the district is under forest cover followed by land under cultivation. The land under permanent pastures and grazing is also significant (855 hectares). The barren land area is quite low. Overall it is concluded that land under agriculture is maximum due to plain areas in the district and these plain areas are close to Punjab border. The subproject site land use is residential and it is well within municipal limits of Dharamshala town**.**

Table 8: Land Use Pattern of Kangra District

Land Use	**Area** (hectare)
Area under forest, dense and open forest	2,317
Barren and unculturable land	150
Nonagriculture area	781
Permanent pasture and other grazing	855
Land under miscellaneous tree, crops, and groves	82
Culturable wastes	285
Other fallow land	119
Net area sown	1,150

37. Agricultural Development. Agriculture is the main occupation of the people in Kangra district. However, intensive cultivation is not possible as significant part of the 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.

4. Electrification

38. Most of the villages (93%) in Kangra district have been electrified. More than 95% of the villages in Panchrukhi, Bhawarna, Lambagaon, and Sulah have been electrified.

D. Social and Cultural Resources

1. Population and Communities

39. The total geographical area of Kangra district is 5,739 km^2, which is 10.31% of the total area of Himachal Pradesh. Area-wise, district Kangra is next only to Lahaul and Spiti (13,835 km^2), Chamba (6,528 km^2), and Kinnaur (6,401 km^2). At 1.3 million, the district accounts for the highest share (22.01%s) of the total population in the state. Along with Hamirpur and Mandi, this district (1,025) is among the chosen three districts that have a favorable sex ratio of above 1,000. The Kangra district has a fairly high population density of 233 persons per km^2 as compared to the average statewide density of 109 persons. As regards the other demographic indicators, while literacy (80.1%) in the district was higher than state (76.1%) figure, it performed below the state with respect to birth rate and death rate statistics. Average population per village stood at 350 persons in the district.

40. The native people are the Kangri people. The native language is Kangri, which is very similar to Punjabi. The majority of the people are Hindu Brahmin, Rajputs, Banias, and scheduled castes and scheduled tribes. There are also minority populations of Sikhs, Muslims and Christians. The traditional dress for men is the *kurta*, *pyjama*, and a woolen jacket used in winter. Women generally wear the *salwar kameez*.

2. Health Facilities

41. Kangra district has one health subcenter for every 3,117 persons in the district. Likewise, one primary health center (PHC) is catering to the health needs of 17,345 persons in the district. These figures are slightly higher for the district when juxtaposed against the state level figures. On the other hand, when seen in terms of area coverage, while there is one subcenter for every 13.22 km^2 of area in the district, for the state one subcenter has to cater almost double the area of 26.91 km^2. The same is is true for PHC and community health center area coverage. In terms of number of inhabited villages coverage by these sub-center, PHCs and community health centers, there is not much difference for the district and the state. One subcenter is meeting the health needs of 8.34 inhabited villages in the district. Likewise, there is one PHC for 46.40 villages in the district.

3. Education facilities

42. In the Kangra district, there are 923 primary schools, 135 middle schools, 119 secondary and senior secondary schools, 16 colleges, 12 technical institutions to provide quality education.

E. Archaeological Resources

43. There are no heritage sites notified by Archaeological Survey of India (ASI) within or near the subproject 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 by the proposed subproject.

IV. ENVIRONMENTAL IMPACT AND MITIGATION MEASURES

A. Environmental Impacts

44. 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 subproject, namely “City Livelihood Center at Mohal Sidhbari” 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 preconstruction 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.
(iv) **Operation and maintenance impacts.** Impact associated with the operation and maintenance of the infrastructure built in the subproject.

45. ADB’s Rapid Environmental Assessment checklist for Buildings was used while screening the site and recommending mitigation measures.

B. Location Impacts

46. The subproject site is located on unencumbered land owned by the Department of Urban Development (**Appendix 6**). No new land has been acquired for the subproject, nor has anyone been displaced in anticipation of the proposed ADB project. There are no significant ecological resources in the surroundings of the CLC site. There are no heritage sites notified by ASI (state archaeological department) within the subproject area or in the immediate surroundings. No significant impacts can arise due to project location as the CLC building components will not impinge upon any area of ecological, archaeological or historical importance. The site of CLC is in residential area and within the municipal limits. Hence, there is no requirement for change of land use. The site photographs are shown in **Appendix 5**.

47. The CLC site is located within seismic zone V. and even a small magnitude earthquake may damage the CLC building.

C. Impacts during Design and Preconstruction Phase

48. As noted above, the proposed subproject site is owned by the Government of Himachal Pradesh. There are no issues arising due to land acquisition or involuntary resettlement. No tree cutting is anticipated except clearing of the shrubs. Based on the environmental screening of the subproject area, there are no significant adverse environmental impacts during the design and preconstruction phases.

D. Impacts during Construction Phase

49. All construction activities to be undertaken at the 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.

50. **Impact due to stock piles of construction materials.** Improper stockpiling of construction materials in and around the CLC site could obstruct movement along access roads and nearby drainage. Hence, due consideration will be given for proper material storage on construction sites. Stock piles will be covered to protect from dust and erosion. Waste materials will be disposed at identified and approved locations.

51. **Disposal of construction waste.** The construction waste could lead to untidy conditions at site and may find its way to local urban drains and natural streams and siltation and obstruction to natural flow in these drains and streams. In the proposed subproject, it shall be mandatory for the contractors to ensure proper disposal of the construction waste at the disposal site as designated by the PWD.

52. **Quarry and/or borrow pits operations.** Since the civil works are of a small size, all construction material will be procured from. There will not be any need for direct procurement of stones and building material from quarries.

53. **Increase in noise levels.** Noise levels in the immediate proximity of CLC site are expected to increase somewhat during construction. However, these will be largely imperceptible as civil works will be confined to relatively small area. The duration of construction will also be relatively brief. Transportation of construction materials will be confined to daytime, depending upon extent of construction activity. The increase in noise levels is expected to be between 5%–10% of ambient noise levels. This increase will be felt up to a distance of 500 m only. This noise will be intermittent in nature, and will last only during the construction phase. The construction noise will be felt by the residential houses located close to the CLC site but this 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.

54. **Impacts on biodiversity during construction phase.** No major impacts are expected on the biodiversity during the construction phase as the sub project site is open, and no trees will have to be cut. Some of the wild shrubs will have to be cleared for the construction of the CLC building. As part of compensatory plantation, 18 trees will be planted in the vacant space along the periphery of the CLC. Around 30 shrubs will also be planted along the internal roads.

55. **Disturbance to traffic during construction phase.** At the time of construction, there will be some temporary inconvenience due to transportation of building material and clearance of debris by trucks. However, since the scale of civil works is relatively small, the inconvenience caused will be relatively minor and limited only to the construction phase. A sample Traffic Management plan is attached in **Appendix 7.**

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

57. **Groundwater**. 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 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.

58. **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 and gaseous emissions (nitrogen oxide, sulfur dioxide, carbon monoxide, etc.). However, transportation of construction materials will be confined to a few trips per day depending upon the extent of construction activity. Therefore, impact at this stage will be temporary and restricted to the close vicinity of the construction site only.

59. All vehicles and construction equipment operating for the contractor and the consultant will obtain and maintain “Pollution under Control” certificates. To control dust emissions, vehicles deployed for transporting material, 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 will comply with standards. The contractors will submit emission monitoring results as a compliance with environmental monitoring plan.

60. **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 construction. Waste generated during construction and demolition will be disposed off as per law to the satisfaction of the engineer. The clean-up and restoration operations will be implemented by the contractor prior to demobilization. The contractor will clear all temporary structures and dispose off all garbage from construction site. All construction zones used and affected by the subproject will be left clean and tidy, at the contractor’s expense as per the satisfaction the engineer.

61. 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 camp.

E. Environmental Impacts during Operation Phase

62. Since only vocational training and counselling will be undertaken at the CLC, there will not be any adverse environmental impact during operation. The CLC 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 design. The solid waste generated at CLC during operation phase will be segregated. Its disposal will be integrated with Dharamshala town waste disposal. There may be generation of some waste on account of maintenance and operation of solar PV cell. The supplier of the solar PV cell will be responsible for collecting the waste for possible reuse and recycling.

63. Given the relatively small size of the CLC and the hostel, there will not be any significant vehicular increase on account of its operations. Most students and staff 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 Pollution Control Board.

64. **Safety measures.** The design of the CLC 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 CLC 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 CLC 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 the disaster management plan of Himachal Pradesh.
- Necessary first aid facilities will be provided at the CLC building.

65. **Socioeconomic impacts.** The CLC will have a positive development impact since it will provide market-relevant vocational training to needy urban youth, and help them in improving their livelihoods and/or getting formal jobs.

66. **Flora and fauna.** Since the CLC will be located within Dharamshala town, no adverse impact on fauna and flora is anticipated due to its operation. To enhance the natural look of the CLC, planting of shrubs and landscaping will be taken up along the pathways and vacant space. Eighteen trees will be planted in the vacant space between the boundary and building. About 30 shrubs will be planted on the side slopes of internal roads.

F. Description of Planned Mitigation Measures

67. Screening of environmental impacts is based on the magnitude and duration of the impact. **Table 9** provides the potential environmental impacts and the mitigation measures including the institutional responsibilities for implementing the same. The subproject site is located sufficiently away from protected areas and the components proposed will not impact any environmentally sensitive or protected areas. All subproject activities including construction and operation will take place within available government lands.

Table 9: Summary of Environmental Impacts and Planned Mitigation Measures

Sl. No.	Potential Environmental Issues	Duration / Extent	Magnitude	Proposed Mitigation Measures	Institutional Responsibilities
1: Location Impacts					
1.1	Lack of sufficient planning to assure long-term sustainability of the CLC building and ensure protection specially from earthquakes and other natural disasters	Permanent	Major	The design of CLC building has been done considering earthquake coefficient of zone V. The site is not on the bank of any river or major stream.	PWD
2: Design and Preconstruction Impacts					
2.1	Consents, permits, clearances, NOC, etc.	Permanent	Major	Obtain all necessary consents, permits, clearance, NOCs, etc., prior to start of civil works. Acknowledge in writing and provide report on compliance all obtained consents, permits,	PWD

Sl. No.	Potential Environmental Issues	Duration / Extent	Magnitude	Proposed Mitigation Measures	Institutional Responsibilities
				clearance, NOCs, etc. Include in detailed design drawings and documents all conditions and provisions, if necessary.	
2.2	Layout of components to avoid impact on the aesthetics of the site	Permanent	Major	Project components will not have any adverse impact on aesthetics of site as it involves construction of a building. Hence, no mitigation measures are warranted.	Not Applicable
2.3	Slope stability-related issues	Permanent	Minor	The CLC site is on plain land. No stability issue is involved. No mitigation measures are warranted.	Not applicable
2.4	Increased storm water runoff from alterations of the site's natural drainage patterns due to landscaping, excavation works, construction of parking lots, and addition of paved surface	Permanent	Moderate	Design of proposed CLC will allow efficient drainage at the site and maintain natural drainage patterns	PWD
2.5	Integration of energy efficiency and energy conservation programs in design of CLC	Permanent	Moderate	The following measures have been included in the design to enhance energy efficiency: • Usage of recyclable materials like wood substitutes • Installation of Bureau of Energy Efficiency-certified equipment • Usage of energy-efficient lighting fixtures (LED and solar) • Provision of solar power generation	PWD
3: Construction Impacts					
3.1	Construction camp—location, selection, design and layout	Temporary	Moderate	The construction camp will be located within the CLC site. It 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	Contractor, PWD

Sl. No.	Potential Environmental Issues	Duration / Extent	Magnitude	Proposed Mitigation Measures	Institutional Responsibilities
				discharged outside.	
3.2	Traffic circulation plan during construction	Temporary	Moderate	Prior to commencement of site activities and mobilization on ground, the contractors will prepare a traffic circulation plan for safe passage of local traffic during the construction stage. This will include alternative access routes, traffic regulations, signages, etc. The contractors will get these plans approved by the PWD engineer The contractor will disseminate the traffic circulation plan around the sub project site.	Contractor, PWD
3.3	Impacts on flora and fauna	Temporary	Moderate	Conduct site induction and environmental awareness. Limit activities within the work area. Prepare site landscape and shrub or tree plantation plan (for 18 trees and 30 shrubs.)	Contractor, PWD
3.4	Site clearance activities, including delineation of construction area	Temporary	Moderate	The commencement of site clearance activities will be undertaken with due permission from the environment specialist of the PWD or HPKVN to minimize environmental impacts. All areas used for temporary construction operations will be subject to complete restoration to their former condition with appropriate rehabilitation procedures	Contractor, PWD
3.5	Drinking water availability	Temporary	Major	Sufficient supply of potable water will be provided and maintained. The drinking water will be obtained from the market through authorized tankers. This water will be stored in a tank of suitable size to ensure uninterrupted water	Contractor, PWD

Sl. No.	Potential Environmental Issues	Duration / Extent	Magnitude	Proposed Mitigation Measures	Institutional Responsibilities
				supply	
3.6	Waste disposal	Permanent	Major	Location of disposal site for construction waste will be finalized by the environmental specialist of PWD or HPKVN. 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, PWD
3.7	Stockpiling of construction materials	Temporary	Moderate	Stockpiling of construction materials does not impact nor obstruct drainage. Stockpiles will be covered to protect from dust and erosion.	Contractor, PWD
3.8	Soil erosion	Temporary	Moderate	Temporary slope protection may be required during construction at the excavated areas. Adequate measures will be taken up so that there is no soil erosion causing risks in the vicinity.	Contractor, PWD
3.9	Soil and water pollution due to fuel and lubricants, construction waste	Temporary	Moderate	The fuel storage and vehicle cleaning area 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, 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 any streams near the subproject site. Extraneous construction wastes will be transported to the pre-identified disposal site for safe disposal.	Contractor, PWD
3.11	Generation of dust	Temporary	Moderate	The contractor will take every precaution to reduce the levels of dust at construction site.	Contractor, PWD
3.12	Emission from construction vehicles,	Temporary	Moderate	Vehicles, equipment, and machinery used for construction will conform to	Contractor, PWD

Sl. No.	Potential Environmental Issues	Duration / Extent	Magnitude	Proposed Mitigation Measures	Institutional Responsibilities
	equipment and machinery			the relevant standard and will be regularly maintained to ensure that pollution emission levels comply with the relevant requirements.	
3.13	Noise pollution	Temporary	Moderate	Noise limits for construction equipment used in this project will not exceed 75 dB(A).	Contractor, 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, PWD
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 will construction waste be disposed of around the project site and especially in vacant plots in the locality.	Contractor, PWD
3.16	Safety measures during construction	Temporary	Moderate	Adequate safety measures for workers during handling of materials at site will be taken up. The contractor has to comply with all regulations	Contractor, PWD

Sl. No.	Potential Environmental Issues	Duration / Extent	Magnitude	Proposed Mitigation Measures	Institutional Responsibilities
				for the safety of workers. Precaution will be taken to prevent danger to 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.	
3.17	Clearing of construction of camp and restoration	Temporary	Major	Contractor to prepare site restoration plans for approval by the engineer. 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 burned, 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 satisfaction of the engineer.	Contractor, PWD
4: Operation and Maintenance impacts					
4.1	Environmental Conditions	Temporary	Moderate	Air, water, noise and soil quality will be monitored periodically as per the environmental monitoring plan prepared.	DOUD
4.2	Safety risks	Temporary	Major	• Proper demarcation and flagging of the area requiring safety observations. • Necessary precaution measures to be observed by visitors will be printed on boards and will be prominently put inside the CLC building.	DOUD
4.3	Unhygienic conditions due to poor maintenance of sanitation	Temporary	Severe	DOUD will carry out maintenance of the toilets, and carry out the regular collection and disposal of	DOUD

Sl. No.	Potential Environmental Issues	Duration / Extent	Magnitude	Proposed Mitigation Measures	Institutional Responsibilities
	facilities and irregular solid waste collection			waste to the local disposal site. The septic tanks will be emptied regularly.	
4.4	Waste generated on account operation and maintenance of Solar PV Cells	Intermittent	Minor	The supplier of solar PV cells will maintain the system. Any waste generated will be collected by the supplier for possible reuse and recycling. For this, necessary agreement will be prepared at the time of supply and installation.	DOUD

CLC = city livelihood center, DOUD = Department of Urban Development, HPKVN = Himachal Pradesh Kaushal Vikas Nigam, LED = light emitting diode, NOC = no objection certificate, PWD = Public Works Department.
Source: Asian Development Bank.

G. Land Aquisition and Resettlement

68. The proposed CLC will be located on land owned by the DOUD. Hence, there will not be any acquisition of private land. Since the proposed site is unencumbered land, there is no acquisition any private assets. At the subproject site, there are no squatters or encroachers. Hence, there is no requirement for any rehabilitation and resettlement.

V. ENVIRONMENT MANAGEMENT PLAN

69. The EMP translates recommended mitigation and monitoring measures into specific actions that will be carried out by the contractors and proponent. The EMP deals with management measures, implementation procedure of the guidelines, and enhancement measures to avoid, minimize and mitigate foreseen environmental impacts of the project. For each mitigation measure to be taken, its location, timeframe, implementation, and overseeing and/or supervising responsibilities are listed in the EMP. **Tables 10** to **12** present a generic EMP to guide the contractor in mitigating environmental impacts.

70. The PWD will supervise the civil works, monitor the performance of contractors, and prepare monthly reports covering environment and safeguard issues. During the operation phase, DOUD will undertake operation and maintenance of the facility and prepare periodic reports covering environment and safeguard issues. HPKVN will consolidate the above reports from implementing agencies and prepare a semiannual report on project implementation 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 or EMPs for specific subprojects will be reported to ADB immediately. The PMC's environment and social safeguard consultants will assist HPKVN and PWD in preparing semi-annual and annual progress reports.

Table 10: Environmental Management Plan for Preconstruction Phase

Sl. No.	Environmental Issues	Mitigation Measures	Parameter / Indicator for Compliance	Responsible for Implementation	Responsible for Supervision	Frequency for Monitoring	Fund Sources 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 to ensure their long-term sustainability. The long-term sustainability has been ensured by taking into consideration the appropriate Bureau of Indian Standards Codes 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.	Verification of design parameters	PWD	PWD	Review after completion of detailed project report	Project cost
2	Layout of components to avoid impacts on the aesthetics of the site	• The project components sighting will avoid impacts on the aesthetics of the site and surroundings, and the CLC building will blend well with local buildings.	CLC building exterior	PWD	PWD	Review after completion of detailed project report	Project cost
3	Slope stability related issues	• The plot area for CLC building is flat, however, during	Slope protection measures on side slopes of	PWD	PWD	Review of recommended slope protection	Project cost

Sl. No.	Environmental Issues	Mitigation Measures	Parameter / Indicator for Compliance	Responsible for Implementation	Responsible for Supervision	Frequency for Monitoring	Fund Sources for Implementing Mitigation Measure
		construction any exposed slopes at excavated areas will be covered and slope protection measures will be provided specially at side slopes of internal roads.	access path, internal road, etc.			measures	
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 CLC building enables efficient drainage of the plot and maintains natural drainage patterns. The storm water generated will be diverted to local drains through a properly constructed drainage system.	Arrangement for proper diversion of storm water runoff	PWD	PWD	After mobilization of contractor at site and during establishment of construction camp	Incidental to construction cost
5	Integration of energy efficiency and energy conservation programs in design of subproject components	• The detailed designs for the subproject have ensured that environmental sustainability principles, including energy efficiency, resource recycling, waste minimization, etc. The design considers the following energy efficiency measures: - Usage of recyclable materials like wood	Specifications of rain water harvesting structures, electrical fixtures, details of water heating system	PWD	PWD	During finalization of detailed project report	Project cost

Sl. No.	Environmental Issues	Mitigation Measures	Parameter / Indicator for Compliance	Responsible for Implementation	Responsible for Supervision	Frequency for Monitoring	Fund Sources for Implementing Mitigation Measure
		substitutes. - Installation of Bureau of Energy Efficiency-certified equipment - Usage of energy efficient lighting fixtures (LED) - Provision of photovoltaic cells on roofs for solar power.					
6	Consents, permits, clearances, NOC, etc.	• Obtain all necessary consents, permits, clearance, NOCs, etc. prior to start of civil works. • Acknowledge in writing and provide report on compliance all obtained consents, permits, clearance, NOCs, etc.	Consents, permits, clearance, and NOCs' records and communications	PWD	PWD	Check consent for establishment of construction camp and approval from civic authorities for CLC construction	Project cost
7	Establishment of baseline environmental conditions prior to start of civil works	• Conduct documentation of location of components, areas for construction zone (camp, staging, storage, stockpiling, etc.) and surroundings (within direct impact zones). Include photos	Records and photographs	Contractor	PWD	Once prior to construction	Contractor

Sl. No.	Environmental Issues	Mitigation Measures	Parameter / Indicator for Compliance	Responsible for Implementation	Responsible for Supervision	Frequency for Monitoring	Fund Sources for Implementing Mitigation Measure
		and GPS coordinates.					
8	Utilities	• The locations and operators of utilities to be impacted should be identified and documented in detailed project report 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 PIU and/or PWD the list of affected utilities and operators. • If relocations are necessary, contractor will coordinate with the providers to relocate the utility.	• List and maps showing utilities to be shifted • Contingency plan for services disruption	• 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	PWD	Preconstruction Phase	Contractor
9	Social and Cultural Resources	• Consult Archaeological Survey of India or Himachal Pradesh State Archaeology Department to obtain an expert assessment of the archaeological potential of site. • Consider alternatives if	Chance find protocol	PWD	PWD	Prior to start of construction activities	Project cost

Sl. No.	Environmental Issues	Mitigation Measures	Parameter / Indicator for Compliance	Responsible for Implementation	Responsible for Supervision	Frequency for Monitoring	Fund Sources for Implementing Mitigation Measure
		the 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 construction contractor in conducting any excavation work, to ensure that any chance finds are recognized and measures are taken to ensure they are protected and conserved.					
10	Construction camp—location, selection, design and layout	• Sighting of the construction camp shall be as per the guidelines below and details of layout to be approved by PWD. • Potential sites for the labor camp will be lined up to be visited by the environmental expert of Safeguards Cell. The one having least impacts on the	Construction camp site, and locations of material storage areas, sanitation facilities	Contractor	PWD	At the time of construction camp establishment and finalization of storage areas	Contractor

Sl. No.	Environmental Issues	Mitigation Measures	Parameter / Indicator for Compliance	Responsible for Implementation	Responsible for Supervision	Frequency for Monitoring	Fund Sources for Implementing Mitigation Measure
		environment will be approved by the PWD and Safeguards Cell. As far as possible, the construction camp will be established on vacant land near the CLC plot to avoid impact on other land. • The storage location of construction materials shall be at the CLC site or any building close to the CLC site. • Construction sanitation facilities shall be adequately planned.					
11	Sources of construction materials	• Use quarry sites and sources licensed by the Government of Himachal Pradesh. • Verify suitability of all material sources and obtain approval from PIU. • If additional quarries are required after construction has started, obtain written approval from PIU. • Submit monthly to PWD a documentation of sources of materials.	Permits issued to quarries or sources of materials	Contractor PWD to verify sources (including permits) if additional is requested by contractor	PWD	Upon submission by contractor	Project cost
12	Access for construction	• Plan transportation routes so that heavy	Traffic management	Contractor	PWD	During delivery of construction	Contractor

Sl. No.	Environmental Issues	Mitigation Measures	Parameter / Indicator for Compliance	Responsible for Implementation	Responsible for Supervision	Frequency for Monitoring	Fund Sources for Implementing Mitigation Measure
	material transportation	vehicles do not use narrow local roads, except in the immediate vicinity of site. • Schedule transport and hauling activities during nonpeak hours. • Locate entry and exit points in areas where there is low potential for traffic congestion. • Keep the site free from all unnecessary obstructions. • 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.	plan			materials	
13	Occupational health and safety	• Comply with International Finance Corporation Environmental, Health, and Safety Guidelines on Occupational Health and Safety in developing	Health and safety plan	Contractor	PWD	During construction phase	Contractor

Sl. No.	Environmental Issues	Mitigation Measures	Parameter / Indicator for Compliance	Responsible for Implementation	Responsible for Supervision	Frequency for Monitoring	Fund Sources for Implementing Mitigation Measure
		comprehensive site-specific health and safety plan. The overall objective is to provide guidance to contractors 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. • Include in the health and safety plan measures such as (i) type of hazards in the construction of the CLC building, (ii) corresponding personal protective equipment for each identified hazard, (iii) health and safety training for all site personnel, (iv) procedures to be followed for all site activities, and (v) documentation of					

Sl. No.	Environmental Issues	Mitigation Measures	Parameter / Indicator for Compliance	Responsible for Implementation	Responsible for Supervision	Frequency for Monitoring	Fund Sources for Implementing Mitigation Measure
		work-related accidents. • Provide medical insurance coverage for workers.					
14	Public consultations	• Continue information dissemination, consultations, and involvement or participation of stakeholders during project implementation.	Disclosure records; consultations	PWD	PWD	• During update of IEE report • During preparation of site- and activity-specific plans as per environmental management plan • Prior to start of construction • During construction	Project cost

CLC = city livelihood center, IEE = initial environmental examination, NOC = no objection certificate, PIU = project implementation unit, PWD = Public Works Department.
Source: Asian Development Bank.

Table 11: Environmental Management Plan for Construction Phase

Sl. No.	Environmental Issues	Mitigation Measures	Parameter / Indicator for Compliance	Responsible Implementation	Responsible Supervision	Frequency for Monitoring	Sources of Fund for Implementing Mitigation Measure
1	Sanitation facilities at construction camp	• The contractor shall provide sanitation facilities at the camp site. These facilities will include dust bins in adequate numbers for solid waste collection, and separate toilets for	Construction camp sanitation facilities	Contractor	PWD	Regularly during construction phase	Contractor fee

Sl. No.	Environmental Issues	Mitigation Measures	Parameter / Indicator for Compliance	Responsible Implementation	Responsible Supervision	Frequency for Monitoring	Sources of Fund for Implementing Mitigation Measure
		men and women. • Toilet facilities shall be maintained and septic tanks or soak pits shall be provided. The dust bins shall be regularly emptied and waste from camp site shall be disposed of at designated locations.					
2	Traffic circulation plan during construction	• Prior to commencement of site activities and mobilization on ground, the contractor will prepare and get approval from the engineer (PWD) for a circulation plan during construction for safe passage of public vehicles so that locals are not inconvenienced. • The contractor with support of PIU will disseminate these information and circulation plan at the site and at key access roads to the CLC site.	Safe movement of traffic	Contractor	PWD	Every day during construction phase	Contractor fee
3	Site clearance activities, including delineation of construction areas	• Only ground cover or shrubs that directly affect the permanent works or necessary temporary works shall	Preconstruction records of sites and vegetation in area of construction	Contractor	PWD	Duration of site preparation	Contractor fee

Sl. No.	Environmental Issues	Mitigation Measures	Parameter / Indicator for Compliance	Responsible Implementation	Responsible Supervision	Frequency for Monitoring	Sources of Fund for Implementing Mitigation Measure
		be removed with prior approval from the environmental expert of the Safeguards Cell. • All areas used for temporary construction operations will be subjected to complete restoration to their former condition with appropriate rehabilitation procedures. • Photographic records shall be maintained for the temporary sites used for construction. These will help in proper restoration.					
4	Drinking water availability at construction camp and construction site	• Sufficient supply of cold potable water to be provided and maintained. The drinking water will be obtained from the market. No public supply source in the vicinity of sub-project will be used for drinking or construction purposes. The drinking water will be stored in a suitable size storage tank to	Water supply source and availability of water, source of water used by the tankers	Contractor	PWD	Regularly during construction phase	Contractor fee

Sl. No.	Environmental Issues	Mitigation Measures	Parameter / Indicator for Compliance	Responsible Implementation	Responsible Supervision	Frequency for Monitoring	Sources of Fund for Implementing Mitigation Measure
		ensure uninterrupted availability. • Contractor will submit his plan on how availability of drinking water shall be assured. The original source of the water supplied by the tankers will be recorded.					
5	Waste disposal	• The pre-identified disposal location shall be part of the comprehensive waste disposal plan. • A solid waste management plan will be prepared by the contractor in 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 of near natural streams in the surroundings of the site and along the	Waste disposal sites, waste management plan	Contractor	PWD	Regularly during construction phase	Contractor fee

Sl. No.	Environmental Issues	Mitigation Measures	Parameter / Indicator for Compliance	Responsible Implementation	Responsible Supervision	Frequency for Monitoring	Sources of Fund for Implementing Mitigation Measure
		access path.					
6	Stockpiling of construction materials	• Stockpiling of construction materials will be done in such a way that it does not impact and obstruct the drainage. • Stockpiles will be covered to protect from dust and erosion.	Subproject stockpiling sites	Contractor	PWD	Regularly during construction phase	Contractor fee
7	Arrangement for construction water	• The contractor shall provide a list of locations and type of sources from where water for construction shall be acquired. • • To avoid disruption or disturbance to other water users, the contractor shall arrange water from the market through authorized tanker suppliers or from the local municipality and consult PWD before finalizing the source.	Source of water used by the tankers	Contractor	PWD	Regularly during construction phase	Contractor fee
8	Soil erosion and water ponding on account of excavation	• Slope protection measures will be undertaken as per design to control soil erosion especially on side slopes of access and internal roads.	Locations of slope protection	Contractor	PWD		Contractor fee

Sl. No.	Environmental Issues	Mitigation Measures	Parameter / Indicator for Compliance	Responsible Implementation	Responsible Supervision	Frequency for Monitoring	Sources of Fund for Implementing Mitigation Measure
		• The excavation works will be avoided during monsoon months to avoid soil erosion, stagnation of water, and vector - borne diseases.					
9	Water pollution from construction wastes	• The contractor shall take all precautionary measures to prevent entry of waste water into any local stream during construction.	Subproject sites	Contractor	PWD	Regularly during construction phase	Contractor fee
10	Water pollution from fuel and lubricants	• The contractor shall ensure that all construction vehicle parking locations; fuel and lubricants storage sites; vehicle, machinery, and equipment maintenance, and refueling sites shall be located at least 500 m away from the natural streams. • Contractor shall ensure that all vehicles and machinery, as well as equipment operation, maintenance, and refueling shall be carried out in such a manner that spillage of fuels and lubricants	Vehicle parking, refueling sites, oil interceptor functioning	Contractor	PWD	Regularly during construction phase	Contractor fee

Sl. No.	Environmental Issues	Mitigation Measures	Parameter / Indicator for Compliance	Responsible Implementation	Responsible Supervision	Frequency for Monitoring	Sources of Fund for Implementing Mitigation Measure
		does not contaminate the ground. • Wastewater 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.					
11	Soil pollution due to fuel and lubricants, construction wastes	• The fuel storage and vehicle cleaning area will be stationed such that spillage of fuels and lubricants does not contaminate the ground. • Soil and pollution parameters will be monitored as per monitoring plan.	Vehicle maintenance and parking area, soil quality monitoring results	Contractor	PWD	Regularly during construction phase	Contractor fee
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 especially natural springs near subproject site	Contractor	PWD	Regularly during construction phase	Contractor fee

Sl. No.	Environmental Issues	Mitigation Measures	Parameter / Indicator for Compliance	Responsible Implementation	Responsible Supervision	Frequency for Monitoring	Sources of Fund for Implementing Mitigation Measure
13	Generation of dust	• The contractor will take every precaution to reduce the levels of dust at construction sites. Water will be sprayed as required, on locations of excavations, internal unfinished roads/walkways and locations of sand and sub grade storages. The water for spraying will be used from the water stored for construction. The water spray records will be maintained at site. • All filling works are to be protected or covered in a manner to minimize dust generation. • The air quality monitoring will be conducted as per monitoring plan	Subproject site, air quality monitoring results, water spray records	Contractor	PWD	Regularly during construction phase	Contractor fee
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 norms. • The discharge	Pollution under control certificates of vehicles and machinery	Contractor	PWD	Regularly during construction phase	Contractor fee

Sl. No.	Environmental Issues	Mitigation Measures	Parameter / Indicator for Compliance	Responsible Implementation	Responsible Supervision	Frequency for Monitoring	Sources of Fund for Implementing Mitigation Measure
		standards promulgated under the Environment Protection Act, 1986 shall be strictly adhered to. The silent or quiet equipment available in the market shall be used in the subproject. • The Contractor shall maintain a record of pollution under control 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 shall strictly conform to the Ministry of Environment, Forests and Climate Change and Central Pollution Control Board noise standards. • Contractor must ensure that all vehicles and equipment used in construction shall be	Certificates of vehicles conforming noise standards, noise monitoring results	Contractor	PWD	Regularly during construction phase	Contractor fee

Sl. No.	Environmental Issues	Mitigation Measures	Parameter / Indicator for Compliance	Responsible Implementation	Responsible Supervision	Frequency for Monitoring	Sources of Fund for Implementing Mitigation Measure
		fitted with exhaust silencers. • At the construction sites, noisy construction work such as crushing, operation of diesel generator sets, use of high noise generation equipment shall be stopped during the night time between 10:00 p.m. to 6:00 a.m. • Noise limits for construction equipment used in this project will not exceed 75 dB(A) at 1 m distance. However, noise levels as specified in ambient noise standards (55 dB(A) during day time and 45 dB(A) during night time) will be adhered to during the construction phase. • Noise level monitoring will be carried out as per monitoring plan.					
16	Impacts on flora and fauna	• Conduct site induction and environmental awareness. • Limit activities within the work area.	Record barricades along excavation works. Note trees and shrubs	Contractor	PWD	Regularly during construction phase	Contractor fee

Sl. No.	Environmental Issues	Mitigation Measures	Parameter / Indicator for Compliance	Responsible Implementation	Responsible Supervision	Frequency for Monitoring	Sources of Fund for Implementing Mitigation Measure
		• Plant trees and shrubs in the area/space marked for plantation in the layout.	planted by the project.				
17	Material handling at site	• Workers employed on mixing cement, lime mortars, concrete, etc., will be provided with protective footwear and protective goggles. • Workers engaged in welding works will be provided with welder's protective eye shields. • The use of any toxic chemical will be strictly in accordance with the manufacturer's instructions. The PWD 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.	Data on available personal protective	Contractor	PWD	Regularly during construction phase	Contractor fee
18	Disposal of construction waste, debris, cut material	• The contractor shall confirm that safe disposal of the construction waste will be ensured in the pre-identified disposal	Disposal site	Contractor	PWD	Regularly during construction phase	Contractor fee

Sl. No.	Environmental Issues	Mitigation Measures	Parameter / Indicator for Compliance	Responsible Implementation	Responsible Supervision	Frequency for Monitoring	Sources of Fund for Implementing Mitigation Measure
		locations. • In no case will any construction waste will be disposed of around the project site indiscriminately.					
19	Safety measures during construction	• Adequate safety measures for workers during handling of materials at 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 to workers from accidental injuries, fire, etc. First aid treatment will be made available for all injuries likely to be sustained during work. • The contractor will conform to all anti-malaria instructions given to him by the engineer.	Records of availability of personal protective equipment, availability of first aid kits	Contractor	PWD	Regularly during construction phase	Contractor fee
20	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	Restoration plan, and records of preconstruction of temporary sites	Contractor	PWD	End of construction phase	Contractor fee

Sl. No.	Environmental Issues	Mitigation Measures	Parameter / Indicator for Compliance	Responsible Implementation	Responsible Supervision	Frequency for Monitoring	Sources of Fund for Implementing Mitigation Measure
		demobilization. • On completion of the works, all temporary structures will be cleared away, all rubbish burned, 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.					

CLC = city livelihood center, NOC = no objection certificate, PIU = project implementation unit, PWD = Public Works Department.
Source: Asian Development Bank.

Table 12: Environmental Management Plan for Operation Phase

Sl. No.	Environmental Issues	Mitigation Measures	Parameter / Indicator for Compliance	Responsible Implementation	Responsible Supervision	Frequency for Monitoring	Sources of Fund for Implementing Mitigation Measure
1	Environmental conditions	• Periodic monitoring of the ambient air quality, noise level, surface water quality, soil quality in the subproject area as suggested in the monitoring plan through an approved monitoring agency.	Monitoring results and relevant standards	DOUD through Pollution Monitoring Agency	HPKVN	As per monitoring plan	DOUD
2	Unhygienic condition due to poor maintenance of sanitation facilities and irregular solid waste collection	• DOUD will maintain toilets, and carry out the regular collection and disposal of wastes to a designated waste treatment site. • Solid waste disposal will be integrated with Dharamshala City waste disposal. Septic tanks will be regularly emptied.	Maintenance schedule of CLC building and facilities drawn up	DOUD	HPKVN	Every year during tourist season	DOUD
3	Natural disasters	• Necessary procedures to be followed by the visitors, CLC staff and trainees during the natural disasters shall be written at prominent locations.	Warnings of disasters by the Meteorological Department	District administration	HPKVN	During disasters	Government of Himachal Pradesh
4	Waste Generation on account of maintenance and operations of solar PV Cell	• The solar PV cell will be maintained and operated by the supplier. Any waste generated will be taken by the supplier for possible reuse and recycle. For this, necessary agreement will be made at the time of supply.	Waste generated from the operation and maintenance of solar PV cells	DOUD and supplier of solar PV cells	HPKVN	During entire operation phase	DOUD

CLC = city livelihood center, DOUD = Department of Urban Development, HPKVN = Himachal Pradesh Kaushal Vikas Nigam, PIU = project implementation unit, PWD = Public Works Department.
Source: Asian Development Bank.

A. Emergency Response Plan

71. The Government of India enacted the Disaster Management Act in 2005. To implement this Act, the National Disaster Management Authority has been established at the central level and State Disaster Management Authorities (SDMA) were established in each state including Himachal Pradesh. The Chief Minister is the chairman of Himachal Pradesh SDMA.

72. As per Section 40 of the Disaster Management Act, 2005, each government department, in conformity with the guidelines laid down by the SDMA, shall draw up their own disaster management plans.

73. Accordingly, a general disaster management plan for the entire state was prepared by the Public Works Department (PWD) in 2015.

74. Similarly, the Town and Country planning department, which falls under the Directorate of Urban Development, prepares disaster management plans focusing on their own facilities falling in urban areas.

75. These plans prepared by PWD and DOUD cover natural calamities including earthquakes, floods, cloud bursts, landslides, and avalanche as relevant. They also lay down clear procedures which have to be followed during natural calamities.

76. Further, all public and private structures have to be designed on the basis of the seismic zoning and structural engineering standards prescribed by the Bureau of Indian standards and the provisions of India's National Building code. These codes cover all aspects of building construction including administrative regulations, development control rules; fire safety requirements; stipulations regarding materials, structural design and construction (including safety).

77. Himachal Pradesh has adopted robust standard operating procedures (SOP) for responding to any disaster. It has also established an incident response system, which is activated after any event for search, evacuation, rescue, relief and rehabilitation. The. SOP lays down, in a comprehensive manner, the specific actions required to be taken by various departments and agencies of Government of Himachal Pradesh, as well as organizations under the control of Government of India for responding to natural disasters. The SOP covers the preparedness, early warning, response, relief and restoration phases of disaster management for effective and efficient response.

78. During the construction phase (around 18 to 24 months), the CLC at Mohal Sidhbari will be under PWD's jurisdiction. Hence, PWD will be responsible for ensuring that the civil contractors follow relevant building codes and safety norms.

79. During the operation phase, the CLC will come under DOUD's jurisdiction. Therefore, it will be responsible for following the relevant aspects of the disaster management plan prepared by the Town and Country department.

80. Hence, instead of preparing a separate emergency response plan for the project or any sub-project (and might be redundant exercise), all statutory provisions of GOHP and the Government of India, including those pertaining to disaster mitigation and response requirements, needs to be adhered to.

B. Environmental Monitoring Plan

81. Environmental monitoring (covers EMP and 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 post construction stages, and be monitored by PWD. Environmental monitoring during post construction will be undertaken by the DOUD and be monitored by HPKVN. The environment and social safeguards specialists of PMC will coordinate with PWD and DOUD to ensure environmental parameters are monitored and reported.

82. An EMP has been prepared to ensure the effective implementation of mitigation measures to address all the environmental issues during construction and operation phase of the subproject. 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 the EMP as given in **Table 13**.

Table 13: Monitoring Plan for Mohal Sidhbari Subproject at Preconstruction, Construction, and Operation Phases

Sl. No.	Field (environmental attribute)	Phase	Parameters to be Monitored	Locations	Frequency	Responsibility	Cost (Rs/$)
1	Air Quality	During preconstruction phase	Nitrogen oxide, sulfur dioxide, carbon monoxide, particulate matter (both 10 micrometers and 2.5 micrometers or less in diameter)	CLC construction site	Once in the preconstruction phase to establish baseline	Contractor through approved monitoring agency	Rs130,000/ $2,000
		During construction phase			Once in every 3 months (except monsoon season) during construction phase (24 months construction phase)		
		Operation phase			Once every season except during monsoon season during first 2 years		
2	Water quality	During preconstruction phase	Total dissolved solids, total suspended solids , pH, hardness, biochemical oxygen demand, fecal coliform	CLC construction site groundwater	Once in preconstruction phase to establish baseline	Contractor through approved monitoring agency	Rs130,000/ $2,000
		During construction phase			Once in every 3 months (except monsoon season) during construction phase		
		Operation phase			Once every season except during monsoon season during first 2 years		
3	Noise levels	During preconstruction phase	Noise quality as per National Ambient Noise Standards on dB(A) scale	CLC construction site	Once in preconstruction phase to establish baseline	Contractor through approved monitoring agency	Rs39,000/ $600
		During construction phase			Once every 3 months (except monsoon season) during construction phase		
		Operation phase			Once every season except monsoon season for first 2 years		

CLC = city livelihood center.
Source: Asian Development Bank.

C. Summary of Site- and Activity-Specific Plans

83. **Table 14** summarizes site- and activity-specific plans to be prepared as per EMP tables.

Table 14: Environmental Management Plan—Site and Activity Plans and Programs

Preparation Phase	Specific Plan/Program	Purpose	Responsible for Preparation	Responsible for Implementation
Preconstruction phase	Environmental monitoring program as per detailed design	Indicate sampling locations, methodology and parameters	PWD	Contractor
Construction phase	Erosion control and revegetation plan	Mitigate impacts due to erosion	Contractor	Contractor
Detailed design phase	List and maps showing utilities to be shifted	Utilities shifting	PWD during preliminary stage; contractor as per detailed design	Contractor
Detailed design phase	Contingency plan	Mitigate impacts due to interruption of services during utilities shifting	Contractor	Contractor
Preconstruction	Chance find protocol	Address archaeological or historical finds	PWD	Contractor
Preconstruction phase	List of preapproved sites	Location/s for work camp, areas for stockpile, storage and disposal	PWD	Contractor
Preconstruction phase	Waste or spoil management plan	Mitigate impacts due to waste generation	Contractor	Contractor
Construction phase	Traffic management plan	Mitigate impacts due to transport of materials and pipe-laying works	Contractor	Contractor
Construction phase	Health and safety plan	Occupational health and safety	Contractor	Contractor
Preconstruction phase	Spill prevention and containment plan	Mitigate impacts of accidental spills of oil, lubricants, fuels, concrete, and other hazardous materials	Contractor	Contractor

PWD = Public Works Department.
Source: Asian Development Bank.

84. An indicative traffic management plan is attached in **Appendix 7.**

D. Capacity Building

85. In addition to the primary objective of skills enhancement of Himachali youth, the current subproject will also raise awareness about environmental conservation among trainees, implementing agencies, and local communities. The project will have the opportunity to build capacity in environment protection for the abovementioned stakeholders. 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 15**.

Table 15: Training Modules for Environmental Management

Program	Description	Participants	Duration	Training Conducting Agency
A. PRECONSTRUCTION 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 • Environmental management plan implementation, introduction of ADB Safeguard Policy Statement, 2009, and ADB Guidelines on Environmental considerations in planning, design and implementing projects	DOUD officials, environmental specialist of PWD and other engineering staff associated with the subproject, PIU staff and HPKVN PMU staff	½ working day	Environmental specialist of project management consulting firm
Session 1	• Environmental impacts due to subprojects in construction and operation phases, pollution generation activities during preconstruction and construction phases • Environmental management, environmental provisions, implementation arrangements, methodology of assessment good engineering practices to be integrated into contract documents	All PIUs, HPKVN staff	½ working day	Safeguards specialist of project management consulting firm
B. CONSTRUCTION STAGE				
Session 2	• Roles and responsibilities of officials, contractors, consultants toward protection of environment • Implementation arrangements and environmental monitoring during construction phase	Engineers and staff of line departments of the Government of Himachal Pradesh, PMU, and PIU	½ working day	Safeguards Specialist of PMU
Session 3	• Monitoring and reporting system	Engineers and staff of implementing agencies, PMU, and PIU (including the environmental specialist)	¼ working day	Safeguards Specialist of PMU

ADB = Asian Development Bank, DOUD = Department of Urban Development, HPKVN = Himachal Pradesh Kaushal Vikas Nigam, PIU = project implementation unit, PMU = project management unit, PWD = Public Works Department.
Source: Asian Development Bank.

E. Environmental Budget

86. Most of the mitigation measures require the contractors 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 initial environmental examination (IEE) budget. The IEE costs include mitigation, monitoring, and capacity building costs. The summary budget for the environmental management costs for the subproject is presented in **Table 16.**

Table 16: Environmental Management and Monitoring Costs

(Rupees)

Monitoring Component	Rate	Amount	Source of Fund
PRECONSTRUCTION AND CONSTRUCTION PHASE			
Air Quality One location at construction site, thrice a year (one sample at pre-construction and six samples during construction phase; total: seven samples)	10,000	70,000	Contractor
Water Quality One ground water sample from construction site (one sample at pre-construction and six samples during construction phase; total: seven samples)	10,000	70,000	Contractor
Noise Quality One location at project site (one sample at preconstruction and six samples during construction phase; total 7 samples)	3000	21,000	Contractor
Training for Capacity Building of stakeholders	Covered in the consultancy cost of the Public Works Department and the project management consulting firm		
Total Construction Phase Monitoring Cost		**161,000**	**Contractor**
OPERATIONS & MAINTENANCE (O&M) PHASE			
Air Quality One location at CLC site, thrice a year, for first 2 years (three samples a year, total of six samples)	10,000	60,000	PMU
Water Quality One ground water sample at CLC site, thrice a year, for first 2 years (three samples a year, total of six samples)	10,000	60,000	PMU
Noise Quality One location at CLC site, thrice a year, for first 2 years (three samples a year, total of six samples)	3,000	18,000	PMU
Capacity Building Expenses (five sessions)	90,000	450,000	PMU
Total O&M Phase Monitoring Cost		**588,000**	**PMU**
Total Cost		**749,000**	
Contingencies @ 5%		**37,450**	
Total Budgeted Cost		**786,450 (around 800,000)**	

CLC = city livelihood center, PMU = project management unit.
Source: Asian Development Bank.

F. Environmental Monitoring and Reporting

87. The PWD will monitor and measure the progress of EMP implementation while supervising civil construction activities. PWD will undertake site inspections and document review to verify compliance with the EMP and progress toward the final outcome. PWD will submit monthly EMP monitoring and implementation reports to DOUD and HPKVN, who will take follow-up actions, if necessary. The HPKVN will review and consolidate the monthly reports to prepare semiannual monitoring reports to ADB.

88. ADB will review project performance against the executing agency's commitments as agreed in the loan 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

89. This subproject does not involve any elements that could have an adverse impact on the community. There is no deprivation of any sort for the residents or displacement of any groups. Particularly as to environmental impacts, the subproject can be characterized as innocuous.

90. In view of this, the need for holding a public hearing (as defined in EIA Notification 2006 of the Government of India) is not perceived at this stage. However, in compliance with ADB's guidelines, focused public consultations were undertaken during the site visits in subproject areas. Residents of the area were informed about the proposed subproject and their views were obtained. During the preparation of this IEE, consultations have been held with the officials of DOP, HPKVN, MOEF, DOUD, and other stakeholders such as Dharamshala Municipal Council and nongovernment organization in Dharamshala. The process of consultations was taken up as an integral part of the subproject in accordance with the following objectives:

(i) Educate the general public, especially potentially impacted or benefited communities, individuals, and stakeholders about the proposed subproject activities.
(ii) Familiarize the people with technical and environmental issues of the subproject for better understanding.
(iii) Solicit the opinion of the communities and individuals on environmental issues and assess the significance of impacts due to the proposed development;
(iv) Foster cooperation among officers of PIU, the community, and the stakeholders to achieve a cordial working relationship for smooth implementation of the subproject.
(v) Identify the environmental issues relating to the proposed activity.

91. During the consultations, local residents identified the need to develop the skills of local youth as there are limited employment opportunities in the state. The subproject building construction will lead to infrastructure creation for skill development. They demanded fast implementation of the subproject. The dates of consultations and stakeholders consulted are summarized in **Table 17**.

Table 17: Stakeholder Consultations and Dates

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
3	Himachal Pradesh Pollution Control Board	23 December 2015
4	Department of Environment, Government of Himachal Pradesh; HPKVN; and Department of Planning	14–15 March 2016
5	Department of Technical Education, Government of Himachal Pradesh	12 December 2015 and 16–17 March 2016
6	Local public at city livelihood center site at Mohal Sidhbari	3 May 2016

HPKVN = Himachal Pradesh Kaushal Vikas Nigam.
Source: Asian Development Bank.

92. The views, comments, and suggestions of stakeholders and their incorporation in project design are presented in **Tables 18 and 19.** The records of consultations (list of participants with signatures) and consultation photographs are given in **Appendix 8.** It is clear that most of the suggestions of stakeholders have been taken care in the project design.

Table 18: Views, Comments, and Suggestions of Stakeholders in Subproject Sites Addressed in Project Design

Sl. No.	Place	Date	Stakeholders	Issues Discussed	Outcome of Discussions and Consideration in Project Design and Implementation
1	City livelihood center site, Mohal Sidhbari	3/5/2016	Local nongovernment organizations, people residing near the site	• CLC proposal • Project benefits • Implementation schedule • Environmental and social impacts during project implementation • Disruption to utility services	• The participants welcomed the project consultants. They emphasized that there is urgent need for promoting skills and livelihood development in the Kangra district. Mr. Sandeep, the NGO Chairperson, noted that most Himachali youth would prefer not to migrate out of the state for low-paying jobs. Hence, it is important to provide them with the right skills so that they can tap sustained livelihood opportunities within the state. • The local participants noted that during construction and operations, locals should be given preference for employment. The consultants and DOUD representatives assured them that under the proposed subproject, people from within Himachal Pradesh will be given priority. • The local participants wanted skilling opportunities to focus on locally available materials such as bamboo and pine products. This would help to invigorate the

Sl. No.	Place	Date	Stakeholders	Issues Discussed	Outcome of Discussions and Consideration in Project Design and Implementation
					local economy and create jobs. • The ADB environment and social safeguard consultant asked the participants about suggestions to reduce pollution during construction and operation of CLC. The participants emphasized the need to control dust and noise. They also noted that solid waste collection and disposal should be handled properly. The ADB consultant assured them that the Environmental Management Plan will include specific measures to address these useful suggestions. • Representatives of the local community were informed by the consultants that no disruption to utilities is foreseen. However, in case of any disruption, adequate advance notice will be given.

Source: Asian Development Bank.

Table 19: Summary of Stakeholder Consultation at Institutional Level

Sl. No.	Place and date	Stakeholders	Issues Discussed	Outcome of Discussions and Consideration in Project Design and Implementation
1	Shimla, 23/12/2015	Conservator Forest cum Nodal Officer CAMPA, State Forest Department	Clearances, permissions and No Objection Certificates - requirements from the State Forest Department and suggestions for the project	• The ADB Environment and Social Safeguards consultant briefly explained the project concept to the state department officials. • Officials advised 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. • For vocational training purposes, the Government of Himachal Pradesh can give clearance up to 1.0 hectare land. If application is submitted under the Forest (Conservation) Act, 1980, then the net present value of the land and cost for compensatory forestation are to be paid by the state government. • If the application is submitted under Forest Rights Act 2006, then for

Sl. No.	Place and date	Stakeholders	Issues Discussed	Outcome of Discussions and Consideration in Project Design and Implementation
				educational institutes, payment of net present value and compensatory afforestation costs are exempted for the land up to 1.0 hectare. The clearance can also be issued at the level of the divisional forest officer. • The Forest officials suggested that application may be made under the Forest Rights Act for faster clearance if any site falls under the forest. • The ADB 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. • Only the proposed women's polytechnic site at Rehan in Kangra district falls within forest area. Under the Forest (Conservation) Act, 1980, clearance is required for forest land diversion. This has been received as of 6 July 2016.
2	Shimla, 23/12/2016	Senior Environmental Engineer, Himachal Pradesh Pollution Control Board	Clearances and permissions required from HPPCB and Department of Environment	• The ADB consultant provided an overview on the Himachal Pradesh Skills Development Project (HPSDP). He enquired about the types of permissions and clearances required from the HPPCB and State Department of Environment. • 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 HPSDP. 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. • The ADB consultant replied that none of the planned training facilities will generate hazardous waste, either during construction or operation.
3	Sunder	Director,	ITI selected for	• The ADB consultant enquired whether

Sl. No.	Place and date	Stakeholders	Issues Discussed	Outcome of Discussions and Consideration in Project Design and Implementation
	Nagar, 22/12/2015, 14/03/2016, and 15/03/2016	DOTE, and other officials	upgrade, locations of RLCs and CLCs selected at ITI campus and site of proposed Women Polytechnic at Rehan in Kangra district	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 and 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. • The ADB consultant suggested that DOTE should submit land ownership details and revenue records for all sites planned under the ADB funding for due diligence. He noted that DOTE should also start the process of getting clearances from the Forest Department for the site in Rehan, Kangra, where the Women's Polytechnic is planned.
4	Shimla, 21/12/2015	Department of Labour and Employment	Locations of MCCs planned, approximate area required for MCCs	• The ADB 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, Dharamshala, etc. As per the Government of India guidelines, the built- up area of around 3,000 sq feet is needed for MCCs. • 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	Locations of proposed RLCs, environmental and social safeguard issues, tree cutting, etc.	• The ADB Environment and Safeguard consultant enquired about probable locations of RLCs planned. • 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. • The ADB consultant also suggested that sites should be at least 300 m away from buildings and monuments of heritage importance and those declared as protected monuments by the State Archaeological Department

Sl. No.	Place and date	Stakeholders	Issues Discussed	Outcome of Discussions and Consideration in Project Design and Implementation
				or by the Archaeological Survey of India. The officials noted the suggestions.

CLC = city livelihood center, DOTE = Department of Technical Education, HPPCB = Himachal Pradesh Pollution Control Board, IEE = initial environmental examination. ITI = industrial training institute, MCC = model career center, RLC = rural livelihood center.
Source: Asian Development Bank.

B. Consultation and Information Disclosure

93. **Consultation.** To ensure continued public and stakeholder participation in the subproject life cycle, periodic consultations should be held at project sites. This participatory process will ensure that all views of the people are adequately reviewed and suitably incorporated in the design and implementation process.

94. Information disclosure. Once the IEE is approved by the Government of Himachal Pradesh and ADB, an electronic version of the IEE will be placed in the official websites of DOUD, HPKVN, Government of Himachal Pradesh, and ADB. Upon written request, any person seeking information can obtain a hard copy of the complete IEE document by paying for its photocopying cost. The PMU will issue notification on the disclosure mechanism in local newspapers, ahead of initiation of implementation of the subprojects, providing information on the project, start dates, etc. The notice will be issued by the PMU in local newspapers 1 month ahead of the implementation works. This will create awareness of the project implementation among the public.

C. Grievance Redress Mechanism

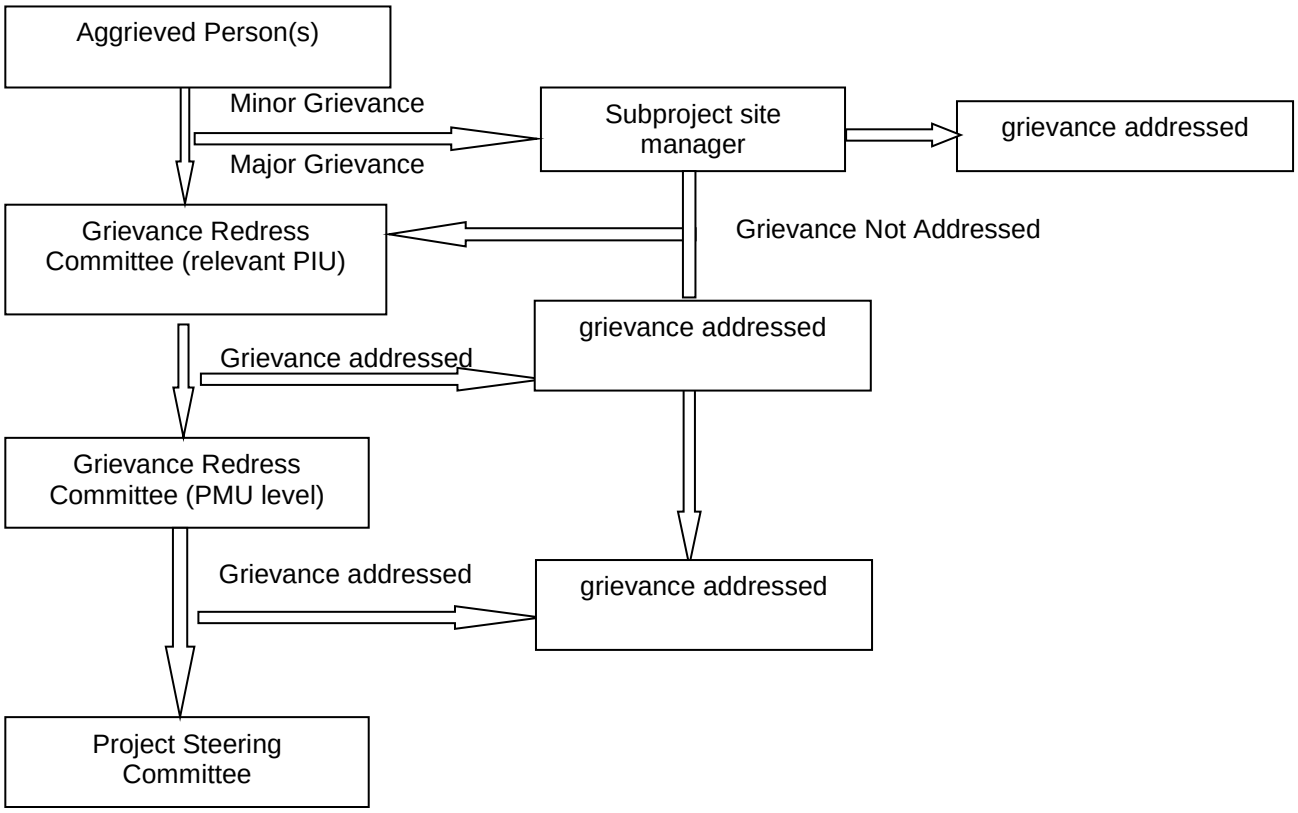
95. Considering that the subprojects of HPSDP such as the proposed CLC will not generate any major environmental or social impacts, it is expected that grievances, if any, will be relatively minor. Nevertheless, a transparent and responsive grievance redress mechanism will be established to allow any person or persons to raise grievances if any pertaining to the environmental, social, or other relevant dimensions of the HPSDP.

96. At the subproject sites where construction of the training facilities takes place, any affected person(s) will have the opportunity to complain to the contractor or local representative of PWD or of the relevant implementing agency which owns the site. A complaint register and complaint forms will be made available at the site office of each contractor, with a display board indicating availability of such facility. Complaints received (written or oral communication) will be registered in the complaint register assigning complaint number with date of receipt and nature of grievance. The field office will examine the complaint and take corrective action. The action taken will be documented in the complaint register, and the complaint will be closed if it is satisfactorily addressed, and the complainant will be informed through e-mail or over telephone. In case the grievance referred does not fall under the purview of the project, the same will be intimated to the complainant. If the local subproject level officials are not able to resolve the complaint satisfactorily within 10 days, then the matter will be brought to the notice of the chief engineer of PWD in that zone and the director of the relevant PIU. The PIU will keep consolidated records of all complaints related to the project received at various levels in the zone. . If the matter cannot be resolved at the PIU level within a month, then it will be referred to the state-wide grievance redress committee (GRC) established at HPKVN (the PMU) for receiving and

redressing grievances and complaints that may arise owing to any of the subprojects and activities of HPSDP across the state.

97. This GRC at HPKVN will headed by the managing director, HPKVN, and senior representative of PWD and other implementing agencies as relevant.[6] The concerned officers will review the grievances in detail, and try to address them promptly in line with the rules and regulations of the Government of Himachal Pradesh. The process should be gender-sensitive, transparent, and fair. Each complaint will be recorded and acknowledged by the GRC. In case the grievances cannot be resolved by the GRC within a reasonable time period, then complaint will be submitted for the review of the project steering committee which is in charge of the overall HPSDP. If the matter cannot be resolved satisfactorily by the GRC, then the aggrieved person or party can take the matter to a court of law.

Figure 2: Grievance Redress Mechanism of the Himachal Pradesh Skills Development Project



PIU = project implementation unit, PMU = project management unit.
Source: Asian Development Bank.

[6] The HPKVN website will include a link where affected person(s) can register their complaints online. A telephone number will also be on the website of HPKVN and the subproject sites, so that the general public can register their complaint with the PIU or PMU office.

VII. FINDINGS AND RECOMMENDATIONS

98. The proposed subproject components do not involve any interventions in and around the natural and cultural heritage destinations and have less significant (direct or indirect) environmental impacts. It is expected that the proposed subproject will enhance economic growth and employability of local Himachali youth through development of skills.

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

100. The specific management measures laid down in the IEE will effectively address any adverse environmental impacts due to the subproject. 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 plans provide adequate opportunities towards course correction to address any residual impacts during construction or operation stages.

VIII. CONCLUSIONS

101. Based on this IEE, it is expected that the proposed 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 subproject. Negative impacts on water, air quality, and noise levels during civil works and 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 subproject. Based on the findings of the IEE, the classification of the subproject as category B is confirmed. No further special study or detailed EIA needs to be undertaken to comply with the Safeguard Policy Statement, 2009.

APPENDIX 1: ENVIRONMENT CATEGORIZATION

A. Instructions

(i) The project team completes and submits the form to the Environment and Safeguards Division (RSES) for endorsement by RSES Director, and for approval by the Chief Compliance Officer (CCO). OM F1/OP on *Safeguard Review Procedures* (paras. 4-7) provides the requirements on environment categorization.

(ii) The classification of a project is a continuing process. If there is a change in the project components or/and site that may result in category change, the Sector Division submits a new form and requests for recategorization, and endorsement by RSES Director and by the CCO. The old form is attached for reference.

(iii) In addition, the project team may propose in the comments section that the project is highly complex and sensitive (HCS), for approval by the CCO. HCS projects are a subset of category A projects that ADB deems to be highly risky or contentious or involve serious and multidimensional and generally interrelated potential social and/or environmental impacts.

B. Project Data

Country/Project No./Project Title	:	**India/ 49108-002/ Himachal Pradesh Skills Development Project**
Department/ Division	:	SARD/SAHS
Processing Stage	:	Fact-finding mission completed (20−27 June 2016)
Modality	:	

[×] Project Loan [ ] Program Loan [ ] Financial Intermediary [ ] General Corporate Finance
[ ] Sector Loan [ ] MFF [ ] Emergency Assistance [ ] Grant
[ ] Other financing modalities:

C. Environment Category

[×] New [ ] Recategorization — Previous Category [ ]

[ ] tegory A	[×] Category B	[ ] Category C	[ ] Category FI

D. Basis for Categorization/ Recategorization (please. attach supporting documents):

[×] Rapid Environmental Assessment Checklist
[×] Project and/or Site Description
[×] Other:
1. Environmental and Social Management Framework
2. Initial Environmental Examination (Subproject – City Livelihood Centre at Mohal Sidhbari, Kangra District)

E. Comments

Project Team Comments	**SDES Comments**
The project involves construction of new training facilities and upgrade of some existing buildings to improve the access of technical and vocational education and training (TVET) facilities to the underserved areas of Himachal Pradesh. The new facilities include construction of 7 city livelihood centers (CLCs), 7 rural livelihood centers (RLCs), and 1 polytechnic for women. Eleven existing employment exchanges will be upgraded into model career centers (MCCs). One new MCC is also planned. The largest of the new constructions—the polytechnic for women to be constructed in Rehan, district Kangra, will occupy around 20,000 square	

meters (m^2). The CLCs and RLCs on average, will have 3 to 4 floors, and will occupy only about 900 m^2. The MCCs will occupy around 400 m^2 on an average, and will have three floors. Since all the buildings to be constructed or upgraded under the project are educational and training centers, according to the environmental rules and regulations of India and Himachal Pradesh, they will not require any prior environmental clearances.

Moreover, the Government of Himachal Pradesh 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.

None of the project components will be located within core and buffer zones of national parks, sanctuaries, tiger reserves, and biosphere reserves; or within 100 meters from the boundary of protected monuments of archaeological importance. Hence, the project is category B with respect to environment.

The categorization has been reconfirmed by an experienced ADB environment and social safeguards consultant, who has already visited 15 sites identified by the state government to date.[7] He has shortlisted the suitable sites and screened out the unsuitable ones. The ADB consultant has prepared initial environmental examination (IEE) reports zone-wise as shown in Appendix 4. A detailed Environment and Social Management Framework has been prepared to guide the implementing agencies going forward. The environmental impact related to the construction of new buildings will be minor in nature and mostly limited to the duration of construction. These minor impacts will be mitigated through site-specific environment mitigation plans (EMPs) to be included in the civil works contract documents.

The ADB consultant has taken relevant government staff on these site visits, and shown them how to use ADB's rapid environmental assessment checklists. He has also conducted workshops on ADB's safeguard policies and processes with the implementing agencies including the Public Works Department, which will oversee the civil works.

F. Approval

Proposed by: Shamit Chakravarti Project Team Leader: SARD/SAHS Date:	**Endorsed by**: Herath Gunatilake Director, SDES Date:	
Endorsed by: Sungsup Ra Director, SAHS Date:	**Approved by**: Chief Compliance Officer Date:	☐ Highly Complex and Sensitive Project

[7] In addition to the ADB environment and social safeguards consultant, other experts including an architect, labor economist, gender specialist, plus relevant consultants from the consulting firm engaged under the project preparatory technical assistance project (IND TA 8760), have also screened these sites.

APPENDIX 2: RAPID ENVIRONMENTAL ASSESSMENT 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 (SDES) 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/ Himachal Pradesh Skills Development Project**

Sector Division: **SAHS**

Screening Questions	Yes	No	Remarks
A. Project Sighting Is the project area adjacent to or within any of the following areas:			The project involves construction of one polytechnic for women, 7 RLC, 7 CLCs, construction 1 new MCC; as well as the upgrade of 11 existing employment exchanges into MCCs. None of the project components will be located within core and buffer zones of national parks, sanctuaries, tiger reserves, and biosphere reserves; or within 100 meters from the boundary of protected monuments of archaeological importance.
▪ Underground utilities		√	The subproject sites identified are either open land owned by the government or within the premises of existing departmental buildings.
▪ Cultural heritage site		√	
▪ Protected area		√	
▪ Wetland		√	
▪ Mangrove		√	
▪ Estuarine		√	
▪ Buffer zone of protected area		√	
▪ Special area for protecting biodiversity		√	
▪ Bay		√	

Screening Questions	Yes	No	Remarks
B. Potential Environmental Impacts Will the project cause…			
▪ Encroachment on historical or cultural areas?		√	
▪ Encroachment on precious ecology (e.g., sensitive or protected areas)?		√	
▪ Impacts on the sustainability of associated sanitation and solid waste disposal systems?		√	For waste water, septic tanks are planned as part of sanitation system in subproject buildings. The solid waste will be disposed of by integrating with the disposal systems of the local civic bodies.
▪ Dislocation or involuntary resettlement of people?		√	All sites identified for the subprojects are either within premises owned by various departments of the state government, or on vacant and unencumbered land owned. This has been reconfirmed by the ADB environment and social safeguards consultant, who has already visited 15 sites identified by the government as of 1 February 2017.
▪ Disproportionate impacts on the poor, women and children, Indigenous Peoples or other vulnerable groups?		√	This project is aimed at imparting relevant TVET skills to needy segments and women. In fact, this project is classified as a “GEN” or gender equity project. Hence, it will not have any adverse impact on them or children. The state of Himachal Pradesh is divided into 12 districts. Of these, the Kinnaur and Lahaul-Spiti districts in their entirety, and Pangi and Bharmour (now *tehsil* Bharmour and *subtehsil*, Holi) subdivisions of the Chamba district, are notified as scheduled tribal areas of Himachal Pradesh since the proportion of scheduled tribes is 50% or more. These districts are in the extreme north and northeast of Himachal Pradesh, forming a contiguous belt in the far hinterland behind high mountain passes. Given their high altitude, inhospitable terrain, harsh winters, sparsely and dispersed population, and poor connectivity (especially during winters and rainy seasons), no civil works (i.e., construction of training facilities) have been planned here. The training programs will be mainly located in the southern districts of Himachal Pradesh with better connectivity and weather where the presence of tribals is insignificant. Since the project will not have any adverse impact on Himachal Pradesh’s indigenous population, it is category C in terms of “Indigenous Peoples.”
▪ Accident risks associated with increased vehicular traffic, leading to loss of		√	The TVET facilities planned under the project will be relatively small. There would not be any effect on local vehicular traffic (or risk of accidents), either

Screening Questions	Yes	No	Remarks
life?			during the construction or operational phases. However, to rule out any accident due to project related vehicular traffic, if required, flagmen will be deployed near the subproject construction sites to regulate the traffic. A traffic management plan will be prepared for the construction phase for each subproject construction site.
▪ Increased noise and air pollution resulting from increased traffic volume?		√	As noted above, there would be no increase in traffic volume owing to this project. Hence, there would be no increase in noise or air pollution.
▪ Occupational and community health and safety risks?		√	The environmental impact related to the construction of new buildings will be minor in nature and mostly limited to the duration of construction. The impact will be confined mainly within the construction site. These minor impacts will be mitigated through site-specific EMPs. Potential occupational health and safety risks during construction will be addressed by including provisions in the contract documents and implementation of the environment mitigation plans. During the operation phase, these issues will be taken care of through formulation of safe operating procedures.
▪ Risks and vulnerabilities related to occupational health and safety due to physical, chemical, biological, and radiological hazards during project construction and operation?		√	As noted above, the environmental impact related to the construction of new buildings will be minor and mostly limited for the duration of construction. There will not be any physical, chemical, biological, and radiological hazards during project construction and operation of these TVET facilities. Adequate provisions will be included in the relevant contract documents to address potential occupational health and safety hazards during the construction and operation phases.
▪ Generation of dust in sensitive areas during construction?		√	During construction, there will be minor dust generation due to material handling and operation of construction machinery and equipment. This will be controlled through dust suppression measures e.g. water spray and through proper maintenance of construction equipment and machinery. It will also be ensured that construction equipment and machinery conform to the emission norms laid down by the Central Pollution Control Board.
▪ Requirements for disposal of fill, excavation, and/or spoil materials?	√		Since Himachal Pradesh is a hilly state, some minor cutting of slopes may be required in select sites. The cut will be used in filling to the extent possible. Remaining spoils, if any, will be disposed of at appropriate identified sites approved by project authorities. The site will be identified during the construction.
▪ Noise and vibration due to blasting and other civil works?		√	During construction, some noise will be generated due to the operation of construction equipment and machinery. Adequate mitigation measures will be stipulated in site-specific EMPs. Since the proposed

Screening Questions	Yes	No	Remarks
			buildings are relatively small, no heavy equipment and machinery will be used. No blasting will be required in the construction. Hence, there will not be any significant shaking or vibrations. Further, no construction works will be undertaken at night at the subproject sites close to habitations or residential areas. There will be periodic noise monitoring at construction sites as per the monitoring plan prepared as part of EMP.
▪ Long-term impacts on groundwater flows as result of needing to drain the project site prior to construction?		√	Since the subproject sites are in hilly terrain and have swift drainage pattern, no adverse impact on ground water flow are anticipated.
▪ Long-term impacts on local hydrology as a result of building hard surfaces in or near the building?		√	Most of the subproject sites are within the campuses of existing departments of the government. Hence, there will not be any impact on local hydrology.
▪ Large population influx during project construction and operation that causes increased burden on social infrastructure and services (such as water supply and sanitation systems)?		√	The project aims to train around 60,000 local youth over the 5-year period. The training facilities, colleges, ITIs, and polytechnics covered under the project are spread across the state in a balanced manner. Several of the RLCs and CLCs will have their own hostels. The women's polytechnic will also have its own hostel. All the students and trainees will be local from within Himachal Pradesh. Hence, there will not be any influx of people. Adequate facilities (as per specified codes) for water and sanitation have been designed for each training facility. Since the subproject sites are spread across the state, and the building sizes are small, the construction work force per site will not exceed 40 to 50. The contractors will arrange for potable water supply for the workers, and also provide adequate sanitation facilities. Hence, there will not be any burden on social infrastructure and services during the project life cycle.
▪ Social conflicts if workers from other regions or countries are hired?		√	Preference will be given to locally available labor. The construction activities are relatively small in nature, and will take place within premises owned by departments. There would be no need to hire workers from other regions or countries.
▪ Risks to community safety caused by fire, electric shock, or failure of the buildings safety features during operation?		√	Since all the proposed training facilities will be new, the latest national building codes and safety measures will be followed. In cases where existing employment exchange buildings are upgraded into MCCs, care will be taken to follow the latest national building and safety codes, and to replace old or faulty electrical equipment.

Screening Questions	Yes	No	Remarks
▪ Risks to community health and safety caused by management and disposal of waste?		√	During the construction phase, waste collection and disposal system will be carried out by the contractors. The processes being followed will be reviewed and approved by the Public Works Department. The firm to be engaged for ensuring quality of civil works will help the Public Works Department in ensuring that the required safety measures are adhered to while managing and disposing of waste. For the operation phase, adequate provisions have been made in the building designs to take care of management and disposal of waste water and other solid waste.
▪ 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?		√	Most of the subproject sites are within the premises of the departments or on land owned by the government. Specific community risks are not foreseen due to operation since these sites already have access to good roads. The buildings are being designed following applicable seismic coefficients for Himachal Pradesh. The buildings will be maintained regularly in the operation phase.

CLC = city livelihood center, EMP = environmental management plan, ITI = industrial training institute, MCC = model career center, RLC = rural livelihood center, TVET = technical and vocational education and training.
Source: Asian Development Bank.

APPENDIX 3: A CHECKLIST FOR PRELIMINARY CLIMATE RISK SCREENING

Country/Project Title: India/ Himachal Pradesh Skills Development Project
Sector: Education
Subsector: Technical Vocational Education and Training
Division/Department: SAHS/ SARD

Screening Questions		Score[a]	Remarks
Location and Design of project	Is sighting 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?	1	Since Himachal Pradesh is a hilly state, there is risk of landslides during the rainy season. However, since all the proposed new training facilities will be constructed or upgraded within premises of the government's departments, the road connectivity to these is reliable. No training facility is proposed in the extreme northern districts which are very hilly, cold, and prone to extreme weather events such as landslides and blockages during winter.
	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 selected sites do not demand usage of any specific construction material to counteract weather phenomenon
	Would weather, current and likely future climate conditions, and related extreme events likely affect the maintenance (scheduling and cost) of project output(s)?	0	No, weather conditions at selected sites do not require specific scheduling for maintenance
Performance of project outputs	Would weather or 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	0	Not applicable

Screening Questions		Score[a]	Remarks
	design life time?		

[a] Options for answers and corresponding score are as follows: not likely = 0, likely = 1, very likely = 2.
Source: Asian Development Bank.

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 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 (including 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

APPENDIX 4: HIMACHAL PRADESH SKILLS DEVELOPMENT PROJECT DESCRIPTION

The Himachal Pradesh Skills Development Project (HPSDP) is aimed at developing employment and livelihood development opportunities for the needy youth of Himachal Pradesh aged 16–35 years, aligned with the mandate of the Himachal Pradesh Skill Development Mission. The project outputs are: (i) technical and vocational education and training (TVET) in Himachal Pradesh is scaled up and aligned to national standards; (ii) market-aligned environment is created in Himachal Pradesh; (iii) access to quality training institutes is improved; and (iv) capacity of the implementing agencies is strengthened.

In order to achieve the abovementioned outputs; it is proposed to construct (i) 1 new polytechnic for women at Rehan in Kangra district; (ii) 7 new rural livelihood centers (RLCs) in rural areas, for delivering training and livelihood development support to rural youth; and (iii) 6 new city livelihood centers (CLCs) for delivering training and livelihood development support to urban youth. Eleven existing employment exchanges will be upgraded into model career centers (MCCs). One new MCC is also planned.

The sites that have already been screened and cleared (or rejected) by the Asian Development Bank's (ADB) environment and social safeguards consultant are shown in the table below. As assured by GOHP, all sites are either within premises owned by the government, or on vacant and unencumbered land owned by it. No new land will be acquired, nor will anyone be displaced in anticipation of ADB funding. The largest of the new constructions—the polytechnic for women to be constructed in Rehan, district Kangra, will occupy around 20,000 square meters (m^2). The CLCs and RLCs on average, will have 3–4 floors, and will occupy only about 900 m^2. The MCCs will occupy around 400 m^2 on an average, and will have three floors.

Since all the buildings to be constructed or upgraded under the project are educational and training centers, according to the environmental rules and regulations of India and Himachal Pradesh, they will not require any prior environmental clearances. Table A4.1 also shows the status of preparation of initial environmental examination (IEE). The environmental impact related to the construction of new buildings will be minor in nature and mostly limited to the duration of construction. These minor impacts will be mitigated through site-specific environment mitigation plans (EMPs) that will be included in the civil works contract documents. To comply with ADB's Safeguard Policy Statement, 2009 and the national and state level regulatory requirements, an Environmental and Social Management Framework (ESMF) has been prepared. All environmental assessment documents will be prepared as per the ESMF requirements. The ESMF has been prepared to effectively monitor safeguard compliance during the project life cycle.

It should be noted that the project interventions are located across all districts of Himachal Pradesh except Lahaul Spiti, the Pangi and Bharmour subdivisions of Chamba district, and the upper part of Kinnaur district. These areas have been excluded because of poor accessibility during winter season (due to snowfall), very high altitude, and sparse and scattered tribal population. None of the project components will be located within core and buffer zones of national parks, sanctuaries, tiger reserves, and biosphere reserves; or within 100 meters from the boundary of protected monuments of archaeological importance.

Table A4. 1: Proposed Himachal Pradesh Skills Development Project—Safeguards Screening of Potential Sites during Project Design (Status as of 1 February 2017)

1. Sub-project sites already screened by ADB consultants

Zone[a]	S. No.	Sites Visited	District	Status[b]	Owner Department	IEE Preparation	Designs Prepared by Architect Engaged by ADB
SHIMLA ZONE	1	RLC at Chopal	Shimla	Yes	DORD	A comprehensive IEE is being prepared for the sites within the Shimla zone	Yes. Included under advance contracting
	2	CLC at Kasumti	Shimla	Yes	DOUD		Yes. Not included under advance contracting since formalities with respect to technical sanctions are being worked out (between DOUD and the Municipal Corporation of Shimla)
	3	CLC at Nahan	Sirmaur	Yes	DOTE		Yes. Included under advance contracting
	4	RLC at Pragati Nagar	Shimla	Yes	DOTE		
	5	MCC at Rekong Peo	Kinnaur	Yes. Formalities with respect to landownership are being worked out	DOLE		No
	6	RLC at Rekong Peo	Kinnaur	Rejected, since the site does not have adequate space	DORD		No
MANDI ZONE	7	CLC at Shamshi	Kullu	Yes	DOTE	A comprehensive IEE is being prepared for the sites within the Mandi zone	Yes. Included under advance contracting
	8	RLC at Sundernagar	Mandi	Yes	DOTE		
	9	RLC at Sadayana	Mandi	Yes	DORD		

Zone[a]	S. No.	Sites Visited	District	Status[b]	Owner Department	IEE Preparation	Designs Prepared by Architect Engaged by ADB
HAMIRPUR ZONE	10	MCC at Hamirpur	Hamirpur	Yes	DOLE	A single comprehensive IEE report is being prepared for the sites within the Hamirpur zone	Yes
	11	RLC at Mahal Sasan	Hamirpur	Rejected, since the site does not have adequate space DORD is looking for an alternative site near Mahal Sasan	DORD		No
	12	RLC at the ITI campus of Naduan-at-Rail	Hamirpur	Yes. This site may be considered in the next phase if DORD is unable to propose a better site	DOTE		No
KANGRA ZONE	13	CLC at Mohal Sidhbari	Kangra	Yes	DOUD	IEE prepared and submitted for ADB's review as part of the advance contracting package	Yes
	14	RLC at Nagrota Bagwan	Kangra	Rejected as the site is close to a river. Also, construction work would involve cutting of several trees	DOTE	Not required since the site has been rejected	
	15	RLC site at ITI Shahpur	Kangra	Yes. This site may be considered in the next phase if DORD is unable to propose a better site	DOTE	IEE will be prepared after a final decision is made with respect to the construction of the RLC	No

ADB = Asian Development Bank, CLC = city livelihood center, DOLE = Department of Labor and Employment, DOTE = Department of Technical Education, DORD = Department of Rural Development, DOUD = Department of Urban Development, IEE = initial environmental examination, ITI = industrial training institute, MCC = model career center, PWD = Public Works Department, RLC = rural livelihood center.

[a] The entire state of Himachal Pradesh (12 districts) is divided into four administrative zones by PWD. Each PWD zone is under a chief engineer.

[b] Sites have been screened using ADB's environmental and social safeguards screening checklist.

Note: The ADB consultants include individual consultants (an environment and social safeguards specialist, an architect, a labor economist, and a gender specialist), plus relevant consultants from the consulting firm which has been engaged under the project preparatory technical assistance project. ADB. 2015. *Technical Assistance to India for Supporting Skill Development in Himachal Pradesh*. Manila (TA 9060-IND).

Source: Asian Development Bank.

2. Sites to be Visited by ADB Consultants between April 2017 and June 2017

Zone	S. No.	Sites to be Visited	District	IEE Preparation	Social Due Diligence Report Preparation	Designs Prepared by Architect Engaged by ADB
HAMIRPUR ZONE	1	CLC Una	Una	IEEs will be finalized by end of June 2017 after detailed site visit	Will be finalized by end of June 2017 after detailed site visit	The designs will be prepared after the architect visits these sites, and the topographic surveys are completed
SHIMLA ZONE	2	MCC Nahan	Sirmaur	IEEs will be finalized by end of June 2017 after detailed site visit	Will be finalized by end of June 2017 after detailed site visit	
	3	RLC at Bharmor	Chamba			
KANGRA ZONE	4	Site for Rehan Women Polytechnic at Rehan	Kangra	Preliminary screening of the site was undertaken in May 2016. The required clearances from the Revenue Department have been received. Topographic surveys and soil testing have been initiated. IEE will be finalized by end of May 2017 after detailed site visit	Will be finalized by end of May 2017 after detailed site visit	

CLC = city livelihood center, IEE = initial environmental examination, MCC = model career center, RLC = rural livelihood center.
Note: The ADB consultants include individual consultants (an environment and social safeguards specialist, an architect, a labor economist, and a gender specialist), plus relevant consultants from the consulting firm which has been engaged under the project preparatory technical assistance project. ADB. 2015. *Technical Assistance to India for Supporting Skill Development in Himachal Pradesh*. Manila (TA 9060-IND).
Source: Asian Development Bank.

APPENDIX 5: SITE PHOTOGRAPHS

Proposed Site for CLC at Mohal Sidhbari




Proposed MCC site at Hamirpur

Proposed RLC Site at Sadyana, Mandi

Proposed RLC Site at Pragati Nagar

APPENDIX 6: LAND RECORDS CERTIFIED BY THE REVENUE DEPARTMENT OFFICIALS SHOWING STATE OF HIMACHAL PRADESH OWNERSHIP

To Whom It May Concern

It is hereby certify that Land comprising Khata No.377.Min khatuni No. 518 Min., Khasra No. 1000/756/2, area measuring 0-11-82 Hectare is recorded in ownership of State of Himachal Pradesh and possessed by Kabza Swaym vah Bartan Daran Kabza reserve pool.

It is further certify that the aforesaid land is free from all encumbrance.

Naib Tehsildar
Dharamshala

Tehsildar
Dharamshala

APPENDIX 7: SAMPLE TRAFFIC MANAGEMENT PLAN

A. Principles

1. Since the scale of construction work at the subproject site 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 Traffic Management Plan

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. Procedures for Street Closure, if Required

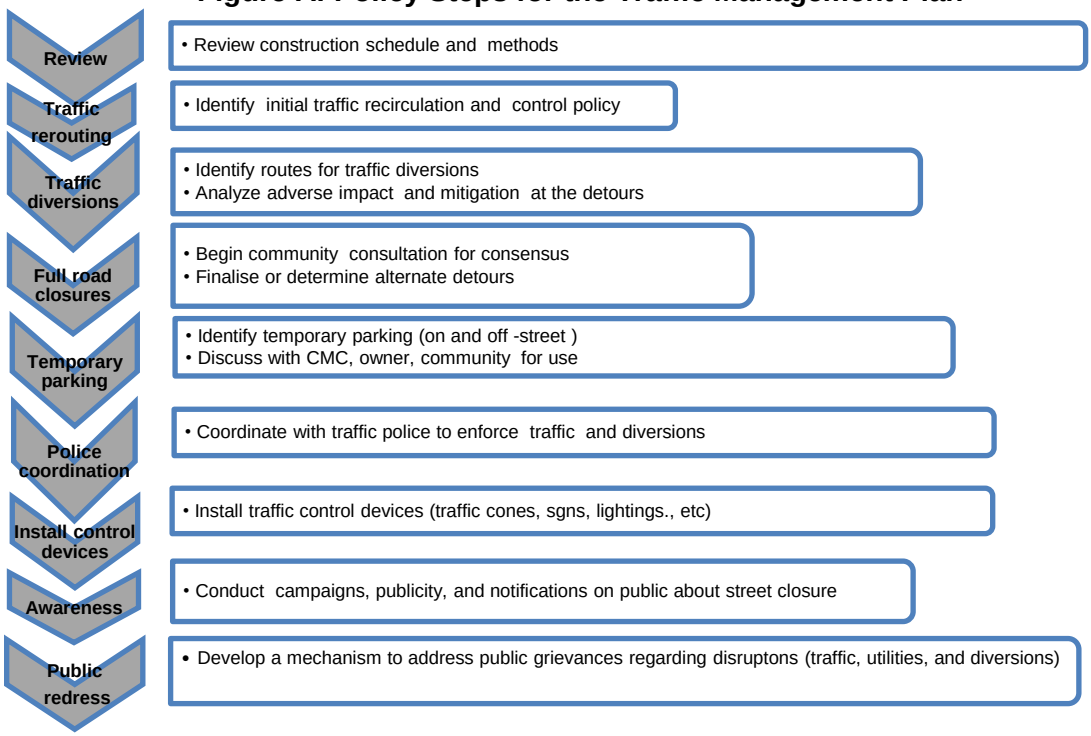
3. A final decision to close a particular street and divert the traffic should involve the following steps:

(i) approval from the project implementation unit (PIU) and local administration to use alternative local streets as detours;
(ii) consultation with businesses, community members, traffic police, persons with disability, etc., regarding the mitigation measures necessary at the detours where the road is diverted during the construction;
(iii) determining 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, and advising the public of alternate routes as a 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 A: Policy Steps for the Traffic Management Plan



Source: Asian Development Bank.

D. Public Awareness and Notifications

5. The Public Works Department and 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.); and
(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 contractor's 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 safe road user behavior at the work zones.
(v) Advise 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.
(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. The contractor should ensure that all the vehicles are in proper running condition, and comply with roadworthy and meet certification standards of the government. All vehicles should be in good condition and meet the pollution standards of the Government of India and the Himachal Pradesh government. The drivers will follow the special code of conduct and road safety rules of the Himachal Pradesh government. They will ensure that all loads are covered and secured. Vehicles will be cleaned and maintained in designed places.

F. Installation of Traffic Control Devices at 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 centimeter clearance between the traffic and the temporary STOP and GO signs should be provided. In addition, at least 60 centimeters 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 nighttime.

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 environmental management plan for the final approval.

APPENDIX 8: PHOTOGRAPHS AND ATTENDANCE SHEETS OF CONSULTATIONS

Attendance Sheet of the meeting held on 18-3-2016 at 11.00 AM in Conference Hall Yojna Bhawan, Shimla-2 with ADB consultants regarding Himachal Pradesh Skill Development Project.

Sr, No.	Name of the Officer and Designation	Mobile No. / e-mail address.	Signature
1	Krishan Sharma Deputy Dir Employment	94184-50437 dde-lep-hp@nic.in	
2.	Dr. D.K. Sharma, Sr. Env. Engineer	9418027098 pcbseeshimla@gmail.com	
3.	Dr H.K. Gupta, IFS Chief Scientific officer Deptt. of Env. S&T & Dirs of Science & Technology	9418020469 hemantkgifs@gmail.com	
4.	Er. Umesh Pathania Technical officer & Estate Officer State council Science Tech & Env. & DEST.	9418310231 umeshpathania@hotmail.com	
5.	Dr. Bhuwan Sharma. Project Director HPSLM. Deptt of Rural Development (H.P.)	94186-70325. hpslm hp@gmail.com	
6	S N Verma ADB Consultant	09842244458 etsindia2@gmail.com	
7	Rajesh Kumar I.F.S.	9418000151	
8	J Balasubramanian Prominent	9600044487	
9	Barab Banerjee TVET Expert	7838577785	
10.	DEEPAK ANGRA HOD(E) DTE Sundernagar	9418107688 angradeepak@yahoo.co.in	