

**RFQ-cum-RFP for development of Aerial Passenger Ropeway from Kharsali (Uttarkashi) to Yamunotri Temple, Uttarakhand, India on DBFOT basis through PPP**

Preliminary Feasibility Report (PFR) is attached as an Annexure.



**UTTARAKHAND TOURISM DEVELOPMENT BOARD**

Government of Uttarakhand

**YAMUNOTRI ROPEWAY PROJECT**



**Preliminary Feasibility Report**

**October 2019**



**UTTARAKHAND INFRASTRUCTURE PROJECTS COMPANY LIMITED**

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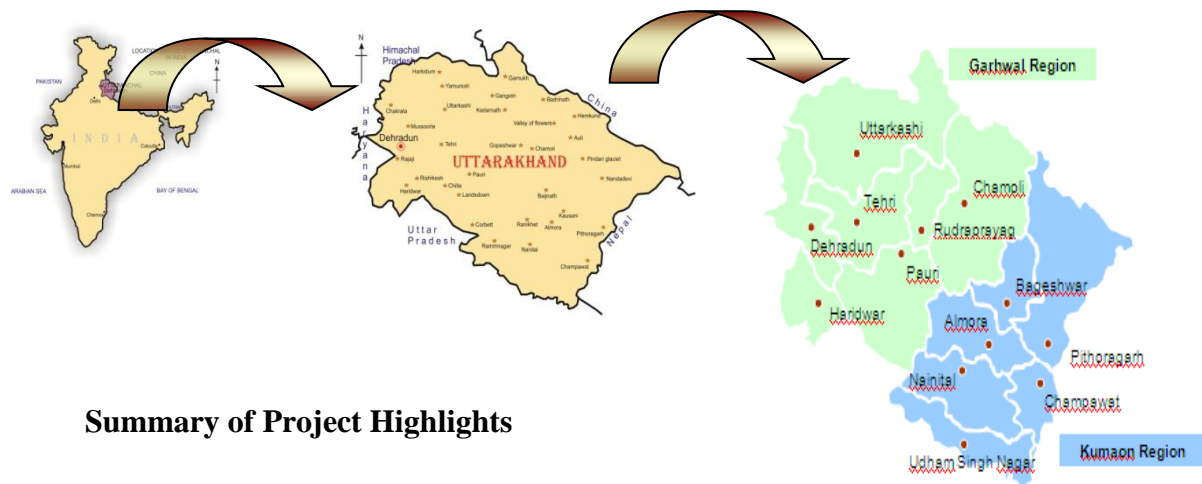
## **1. PROJECT BACKGROUND**

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- 1.1 Uttarakhand is the land of natural beauty with high Himalayan range and glaciers, snow-clad mountains, lakes and rivers, valley of flowers, skiing slopes and dense forests; this abode of Gods includes many holy shrines and places of pilgrimage.
- 1.2 The tourism industry is major contributor to the economy of Uttarakhand and its widespread diversity has always attracted both foreigners as well as domestic tourists. The Tourist Inflow was almost negligible after the June 2013 tragedy at Kedarnath. But the tourist traffic is picking up very fast. During the year 2018, the total domestic and foreign visitors to the state were approximately 36.7 million and 0.15 million respectively.
- 1.3 The Government of Uttarakhand with the objective to promote tourism in the state have formalized an agreement with Infrastructure Leasing & Financial Services Ltd. (IL&FS) for development of tourism infrastructure in Uttarakhand. A 50:50 joint venture company namely Uttarakhand Infrastructure Projects Company (P) Limited (UIPC) has been incorporated.
- 1.4 Despite boasting of nestling within itself everything to appeal to the senses of all kinds of tourists be it adventure, pilgrim or plain leisure there are various potential sites yet to realize its full potential both in terms of the number as well as quality of tourists. The main reason for this is lack of quality infrastructure and new attractions within the regions & destination.
- 1.5 The state includes the holiest places & shrines like Haridwar, Rishikesh, Yamunotri and Gangotri. Kedarnath, Badrinath. Hemkund Sahib, Pran Kaliyar. Amongst the shrines, the Yamunotri Temple which is highly revered by the Hindus. Large numbers of devotees visit the shrine from all over the country, especially during when the temple gates are opened for the public from months of May- Oct.
- 1.6 In line with the terms of the MoA, a Special Purpose Vehicle (SPV), “Yamunotri Projects Company (P) Ltd.” has been formed to develop this project, which is a wholly owned subsidiary of UIPC.
- 1.7 The proposed Yamunotri ropeway project aims at development of Yamunotri as an all year tourist destination, with primary attention on enhancing its religious significance through provision of requisite facilities and infrastructure to support and sustain the consequent tourist traffic.

1.8 The findings of the Preliminary feasibility project Report is being presented in the sections that follow.



### **Summary of Project Highlights**

**Project :** Yamunotri Ropeway Project

#### **Project Components:**

Ropeway Project: Ropeway from Kharsali to Yamunotri, 3850m (approx..)

➤ **Lower Terminal Point (LTP) at Kharsali :**

- Ropeway station building,
- Ticket Counter,
- Waiting Lounge/ Passenger Holding area.
- Public Conveniences,
- Children Play Area,
- Emporium, shops & Restaurant,.
- Basic infrastructural facilities like sewage system, drinking water, medical facilities, electricity, telecommunication etc.
- Gondola parking space,
- D.G. Room,
- Vehicle Parking & Tourist accommodation,
- Eateries

➤ **Upper Terminal Point (UTP) near Yamunotri Temple:**

- Ropeway station building,
- Ticket counter,
- Restaurant cum waiting lounge,
- Public Convenience,
- Tent Accommodation
- Ropeway Tower and Terminal Station (Boarding and De-boarding platforms,
- Basic infrastructural facilities like sewage system, drinking water, medical facilities, electricity, tele communication etc.

**Yamunotri Ropeway Project  
Preliminary Feasibility Report**

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- Tourist accommodation / Guest House,
- Eateries

**Cable Car Capacity:** 500 persons per hour @ max speed

**Days of Operation:** 350 days per annum (Maximum Possible)  
During the Temple Opening.

**Market:** Domestic and International

## **Brief Description:**

### **1. About the Yamunotri Temple**

**Yamunotri** is the source of the Yamuna River and the seat of the Goddess Yamuna in Hinduism. It is situated at an altitude of 3,152 meters (10,340 ft) in the Garhwal Himalayas and located approximately 30 kilometers (19 mile) North of Uttarkashi. It is one of the four sites in India's Chhota Char Dham pilgrimage. The sacred shrine of Yamunotri, source of the river Yamuna, is the westernmost shrine in the Garhwal Himalayas, perched atop a flank of Bandar Poonch Parvat. The chief attraction at Yamunotri is the temple devoted to the Goddess Yamuna and the holy thermal springs at [Janki-Chatti](#).

The temple of Yamuna, on the left bank of the Yamuna, was constructed by Maharaja Pratap Shah of Tehri Garhwal. The deity is made of black marble. The Yamuna, like the Ganges, has been elevated to the status of a divine mother for the Hindus and has been held responsible for nurturing and developing the Indian civilization. The Yamuna is often called Yami in the Vedas and in later literature, she is known as Yamuna and Kalindi ("the dark one"). This is the rationale for the black marble idol of the goddess at Yamunotri temple.

Close to the temple are hot water springs gushing out from the mountain cavities. Surya Kund is the most important kund. Near the Surya Kund there is a shila called Divya Shila, which is worshipped before puja is offered to the deity. Devotees prepare rice and potatoes, tied in muslin cloth, to offer at the shrine by dipping them in these hot water springs. Rice so cooked is taken back home as prasadam.

### **2. History & Legends:**

According to the ancient legend, sage Asit Muni had his hermitage here. All his life, he bathed daily both in the Ganges and the Yamuna. Unable to go to Gangotri during his old age, a stream of the Ganges appeared opposite Yamunotri for him.

The temple and the place open every year on the auspicious day of the Akshaya Tritiya, which generally falls during the last week of April, or the first week of May. The temple always closes on the sacred day of Diwali in mid-October - first week of November, with a brief ceremony. The temple staff returns to their villages and for the rest of the time the valley is gripped in no-man silence and covered with a white sheet of snow. With the melting of the snow next summer, the temple re-opens.

Sangya is the birthplace of the Yamuna in the Champasar Glacier (4,421 m) just below the Banderpoonch Mountain. The mountain adjacent to the river source is dedicated to her father, and is called Kalind Parvat, (Kalind being another name for the sun deity - Surya). Yamuna is known for her frivolousness, a trait that she developed because, according to a common story, Yamuna's mother could never make eye contact with her dazzling husband.

The Padma Purana narrates the story of two brothers who lived a life of indulgence and lust and gave up the virtuous ways. They finally plunged into poverty and resorted to robbery and were killed by beasts in the forest. Both of them reached Yama's court for judgement. While the elder brother was sentenced to Naraka (hell), the younger was granted Svarga (heaven). Astonished, the younger brother asked the reason for it as both lived similar lives. Yama explained that the younger brother had lived in the ashram of a sage on Yamuna's banks and bathed in the sacred river for two months. The first month absolved him of sins and the second one granted him a place in heaven.

### **3. The Project**

The project is designed to develop & promote Yamunotri Temple, one of the religious pilgrimages among the holy shrines of Uttarakhand, located on the top of a hill at an altitude of 3152 m into a tourist attraction with the installation of a non-polluting ropeway system. Yamunotri is at a distance of 13 km from Hanuman Chatti, 107 km from Dharasu, 149 km from Tehri.

The existing approach to the Yamunotri temple is a combination of road and trek. The pilgrims have to track a distance of about 5 km from Jankichatti .Village. The elevation of Yamunotri from Jankichatti is about 650 m and the journey is tiresome. The construction of a ropeway system shall provide comfort and fast journey. As majority of the tourists come during the season from May - Oct, it is proposed to develop a ropeway from Kharsali to Yamunotri to ease the journey of the pilgrims.

The proposed project involves development of pilgrimage tourism in the area. To facilitate the pilgrims, a ropeway connecting Kharsali, very near to Jankchatt,i and Yamunotri temple is proposed. The length of the proposed ropeway will be approximately 3850 m and the travel time taken will be 15 to 20 minutes. The carrying capacity of the proposed ropeway will be 500 PPH. Basic infrastructure facilities like budget accommodation and restaurants are also proposed at Terminal Stations.



## **2. THE PROJECT DEVELOPMENT**

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### **2.1. Concept**

- 2.1.1. Amongst other places of religious significance, Yamunotri temple is also a highly revered shrine among the Hindus. Large numbers of devotees visit the shrine from all over the country, during the season from May –Oct when the temple gates are opened for public. However, the approach to the temple is extremely difficult with a 5 km trek from Janki Chatti.
- 2.1.2. The 5 km trek from Jankichatti to Yamunotri is traversed by the pilgrims on foot and pilgrims reach the temple in 3-5 hours. The elevation difference from Jankichatti to Yamunotri is around 650 m. The pilgrims to Yamunotri consist of middle aged to elderly persons including children, and for them the journey of 5 km whether on foot or by other means is quite tiresome.
- 2.1.3. UTDB has therefore decided to construct an aerial ropeway system from Kharsali to Yamunotri to provide a comfortable and fast mode of transport. The journey by the ropeway shall be less tiring and besides undertaking the journey to save time and energy, the pilgrims can also enjoy the ride in the ropeway system through the mountains flanking the proposed ropeway alignment.
- 2.1.4. The length of the proposed ropeway will be approximately 3850 m and the travel time taken will be 15 min. to 20 minutes. The carrying capacity of the proposed ropeway will be 500 pph. Basic infrastructure facilities like budget accommodation and restaurants are also proposed to be developed at terminal stations.

### **2.2. Tourism Profile : Yamunotri**

The shrine of Yamunotri, situated at an elevation of about 3,152 m is a point of paramount religious importance for Hindus and an essential pilgrimage. Situated in the direction opposite to Gangotri, the road bifurcates from a place called Dharasu, somewhere between Rishikesh-Uttarkashi and goes on to Yamunotri. The shrine can also be visited via Mussoorie.



Yamunotri in the Garhwal Himalayas in the state of Uttarakhand is the first stopover for the Char Dham Yatra (Four Religious Places Journey). Yamunotri is the western most shrine of Char Dhams. The shrine attracts devotees in large numbers from May to October. The temple remains closed from November to April.

Dedicated to Goddess Yamuna, Yamunotri Shrine is perched atop a flank of the Bandar Poonch peak (3165 mts above sea level). The temple of Yamunotri falls on the left bank of River Yamuna. The present temple was built by Maharani Guleria of Jaipur in the late nineteenth century.

**Saptarishi Kund:** This is the source of Yamuna but difficult to access; few people go there and most offer their prayers in the temple itself. A twelve kilometer difficult trek route takes pilgrims to Saptrishi Kund. A natural glacial kund, the trek upto Saptrishi Kund eases out around the base of Kalinda parvat. Dark blue waters, slate stones on the banks, and a rare variety of lotus adorning the water, Saptrishi Kund is a sight to behold.



**Surya Kund:** Close to the temple is this hot water spring called Surya Kund, Surya or Sun being the mythological father of Yamuna. People not only refresh here but also make prasad for offering. The temperature of the springs is as high as 88 degrees.

**Divya Shila:** This is a stone that is worshipped before entering the temple.

### **2.3. Project Site : Yamunotri**

- 2.3.1. Since there is very little that can be accomplished ‘around’ the temple core, it was necessary to identify areas ‘nearby’ villages at starting points for the implementation of this project. But, to attract a large number of tourists, there was a need to find an appropriate site.
- 2.3.2. It was decided that first and foremost, the site should have convenient and quick access. It should also be a place of inherent beauty and unparalleled charm. Besides, the site had to cover a rather substantial area.
- 2.3.3. The road head for Yamunotri is connected by bus services of Samyukt Rotation Yatayat Vyavstha Samiti to Rishikesh, Haridwar and other major centers in the region.

### **2.4. Location & Accessibility**

Air – Nearest airport is at Jolly Grant, 185 kms away

Train- Nearest railhead is at Rishikesh, 145 kms away.

Road – Motor able road upto Jankichatti

### **2.5. Activities Completed Till Date**

- Area has been finalized and land cases at various terminal stations along the ropeway From Kharsali to Yamunotri have been acquired (Land use change for the forest land completed and amount directed by Forest Department have been paid.).
- Environmental Impact Assessment- EIA clearance has been accorded, the last extension of EIA clearance was valid upto 07.09.2018. New extension has been requested from the Ministry of Environment, Forest & Climate Change
- Potential private investors are being identified.

### **3. PROJECT DEVELOPMENT SCHEME**

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#### **3.1 Ropeway System**

Two alignments were identified; the detailed survey and project feasibility for both the alignments has been done. The Upper terminal Location is same, for both the alignments i.e near to the Yamunotri Shrine in the vicinity of Forest Rest House. In first alignment which is also the old alignment, the Lower Terminal point has been proposed at downstream of the Kharsali Village while as in the second alignment the lower Terminal Station is proposed to be constructed upstream of the Khasali village at the abandoned Kharsali Helipad. The main advantage for the second proposal is that the Lower Terminal Station is connected with the Jankichaati village by through a bridge across Yamuna River and the pilgrims coming from JankiChatti will have easy access to the ropeway also the ropeway will start upstream of Kharsali village, so the resident of Kharsali Village will not be affected by the movement of .ropeway cabin above the village. Also in second option length of the ropeway will be reduced by approximately 450 and the rest of the alignment in this case will remain as that of first alternative. In the second alternative, a road has to be developed from the proposed hotel/ parking upto the Lower Terminal point along the boundary of the Kharsali Village.

While considering the alignment, the following approach and methodology was adopted for selecting the most favorable alignment with the following guidelines been considered:

- Availability of adequate space for proposed UTP/ /LTP for the system.
- From the point of view of easy land acquisition
- Depending upon the places to be connected, it should have minimum possible infringement.
- The route selected should be feasible for selection of suitable ropeway system matching with traffic projections.
- Easy connectivity from the site and from place of boarding.
- Minimum rehabilitation and minimum tree cutting.
- It should be feasible from construction point of view.

The recommended system for ropeway proposed is Mono-cable Detachable Gondola system with appropriate capacity of passengers @ 500 pph. The total travel time will be 15 minutes.to 20 minutes. However, the selected developer is free to use any other ropeway system instead of Mono-cable Detachable Gondola system or enhance the carrying capacity of the ropeway.

Based on the reconnaissance and actual surveys and system capacities, the broad ropeway parameters are as under:

**Table 3.1: Broad Ropeway Parameters**

<b>Description</b>	<b>Parameters</b>
Ropeway System	Detachable Grip Mono Cable Cabin Ride
Length of the Alignment (approximate)	3850 meters
Capacity (Designed), PPH	500 @ max speed
Horizontal distance between stations	3350 m (approx.)
Vertical rise , m	565
Cabin capacity, passengers	8 or as proposed by the selected developer
Travel Time One Way, min	15 min to 20 minutes
Type of cabin	Fully enclosed cabin with ventilation
Hauling rope	as proposed by the selected developer after detail design of ropeway
Power availability	At the drive terminals would be availed from the sub-station at Hanuman chatti, this is 5-6 kms away from Janki Chatti / Kharsali village

### **3.2 Lower Terminal Point (LTP) at Janki Chatti**

The following components are envisaged for development at Lower Terminal Point / Station:

➤ **Lower Terminal Point (LTP) at Jankichatti :**

- Ropeway station building,
- Ticket Counter,
- Waiting Lounge/ Passenger Holding area.
- Public Conveniences,
- Children Play Area,
- Emporium, shops & Restaurant,.
- Basic infrastructural facilities like sewage system, drinking water, medical facilities, electricity, telecommunication etc.
- Gondola parking space,
- D.G. Room,
- Vehicle Parking & Tourist accommodation,
- Eateries

#### **3.2.1 Area Statement for project components at the proposed lower terminal Point**

1. Emporium	200 Sqm,
2. Waiting Hall	200 Sqm,
3. Public Convenience	100 Sqm
4. Boarding and De-boarding platforms, D G Room set. Ticket Counter, Administrative Block, Parking of Cabins, Medical aid etc.	800 Sqm
5. Parking	200 ECS = 5000 Sqm
6. Tourist accomodation & Restaurants	1,000 SQm,
7. Childern Play Area	1000 Sqm,
<b>Grand Total</b>	<b>16,500 Sqm,</b>

### **3.3 Upper Terminal Point (LTP) near Yamunotri Temple**

The following components are envisaged for development at Upper Terminal Point / Station:

➤ **Upper Terminal Point (UTP) near Yamunotri Temple:**

- Ropeway station building,
- Ticket counter,

- Restaurant cum waiting lounge,
- Public Convenience,
- Guest House & Restaurants
- Ropeway Tower and Terminal Station (Boarding and De-boarding platforms,
- Basic infrastructural facilities like sewage system, drinking water, medical facilities, electricity, tele communication etc,
- Approach track from Upper Terminal Station to Yamuna Bridge along the track route,

**3.2.1. Area Statement for project components at the proposed Upper terminal Point**

1. Waiting Hall	200 Sqm,
2. Public Convenience	100 Sqm
3. Boarding and De-boarding platforms, Ticket Counter, Parking of Cabins, Medical aid etc.	600 Sqm
4. Reconstruction of Forest Guest House	100 Sqm,
5. Pilgrim Accomodation & Restaurants	800 Sqm
6. Pathway, Park, Lanscape, Open Spaces (if available)	1000 Sqm,
<b>Grand Total</b>	<b>8900 Sqm,</b>

#### **4. TERMS OF DEVELOPMENT**

S. N.	Key Information	Details
1.	Project Title	Yamunotri Ropeway Project
2.	Location	Uttarkashi District, Uttarakhand, India
3.	Grantor of Concession	Uttarakhand Tourism Development Board (UTDB), on behalf of Government of Uttarakhand (GoU)
4.	Nodal Department for project	Uttarakhand Tourism Development Board (UTDB), on behalf of Government of Uttarakhand (GoU)
5.	Project area / Project Site	(a) Lower Terminal point (LTP) at Kharsali Village (b) Upper Terminal Point (UTP) at Yamunotri (c) Right of Use (RoU) for Ropeway Corridor
6.	Proposed Project Components (The selected developer is free to use the ropeway system and cabins as per his convenience)	ROPEWAY: <ul style="list-style-type: none"> <li>❑ Detachable Grip Mono-cable Cabin Ride</li> <li>❑ Length: 3846 mts</li> <li>❑ Public Convenience</li> <li>❑ Basic infrastructural facilities like sewage system, drinking water, medical facilities, electricity, telecommunication etc.</li> </ul>
7.	jjhnt Institutional Structure for Implementation	Through a Special Purpose Vehicle (SPV) – Yamunotri Projects Company (P) Limited incorporated as on July 23rd, 2007 under the Company’s Act of India, 1956.
8.	Concession Format	Build, Operate and Transfer (BOT)
9.	Concession Period	30 (thirty) years (including construction period) from the appointed Date, with a provision of automatic renewal for another 20 (twenty) years.
10.	Compliance Date for the	Maximum of Six months; from the date of



S. N.	Key Information	Details
	Concessionaire	signing of Concession Agreement or from the date on which the Conditions Precedent are fulfilled by the respective parties to the Concession Agreement
11.	Construction Period	Maximum 36 (forty eight) months from Compliance date/ appointed date

## 5. FINANCIAL ANALYSIS

### 5.1 Project Cost

The total Cost of the Project which includes a rope way and other amenities at the terminal stations works out to Rs. 19,427 Lakhs including both the hard cost and the soft cost. The break-up of the total project cost is estimated as under:

**All financial figures are in Lakh of Indian Rupees**

S. N.	Name of Work	Approx. Cost	Total Cost
1	Total Land Cost	160.00	160.00
2	Alignment check Survey, Geo technical & Soil test	202.00	202.00
3	Design & Engineering of Ropeway	550.00	
4	Electro Mechanical Items (imported)	3800.00	
5	Haulage rope & other related Equipment (imported)	450.00	
6	Electrical Panel Imported	550.00	
7	Tools & Tackles, Spares, etc.	100.00	
8	C & F Charges	250.00	
	Sub Total	5700.00	
	Custom Duty @10% on 5700	570.00	
	GST @18%	1128.60	
	<b>Sub Total</b>	<b>7398.60</b>	<b>7398.60</b>
	<b>Civil Works</b>		
9	Pilgrim accommodation , restaurant, Parking & Other Civil Works at Lower Terminal Point & Upper Terminal stations	735.00	
10	Station Housing & Tower Civil Works	1500.00	
11	Erection & Commissioning @ 15%	1742.00	
	<b>Sub Total</b>	<b>3977.00</b>	
	GST on Civil Works @ 18%	715.86	
	<b>Sub Total</b>	<b>4692.86</b>	<b>4692.86</b>
	<b>Grand Total</b>		<b>12453.46</b>
	<b>Other Activities</b>		
12	Contingencies (5% of all the above cost)	622.67	
	Temporary Ropeway 2 Nos.	750.00	

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13	Financing Fees & BG etc	116.00	
14	Insurance Charges	146.76	
15	Interest on working capital / work in progress three years @ 11% on 50% project cost (assuming 30% Equity)	1742.96	
16	Success Fee & PDE etc including GST	849.60	
	<b>Sub Total</b>	<b>4227.99</b>	<b>4227.99</b>
	<b>Grand Total</b>		<b>16681.45</b>

Say INR 166.81 Crores

**5.2 Means of Finance**

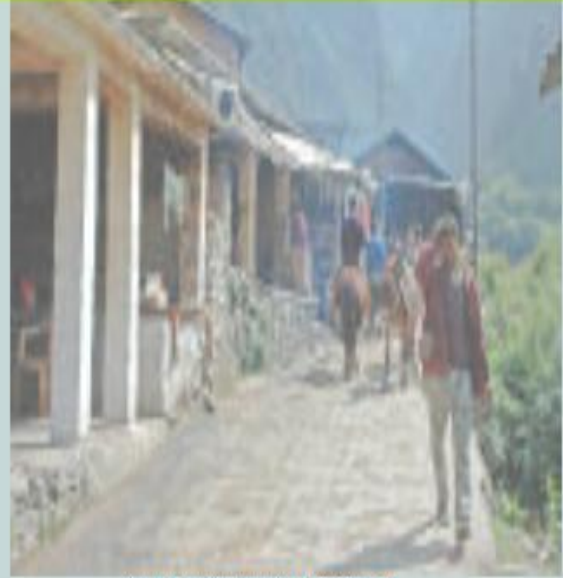
The sources of finance include the debt and the equity. A debt to equity ratio is proposed to be 70% & 30% respectively. The debt repayment is proposed to be made within 10 years of Commercial operation

**Present Site Visuals**

AREA AROUND -L.T.P.



VIEW OF JANKICHATTI



JANKICHATTI MAIN STREET



YAMUNOTRI ROPEWAY PROJECT-U.I.P.C- UTTRANCHAL



BUILDING WORKSHOP

**Proposed site at UPPER TERMINAL STATION at Yamunotri**

**AREA AROUND -U.T.P.**



YAMUNOTRI ROPEWAY PROJECT-U.T.P.- UTTRANCHAL

BUILDING WORKSHOP