

Environmental Concerns: Linear Projects in Himalayas

1.1. INTRODUCTION

The Indian Himalayan Region (IHR) or the mountain ecosystem passes through 11 states (table 1) in India. Mountains cover 24% of the total land area of India. The erstwhile planning commission emphasized on Hill Area Development approach and now the NITI Ayog, on various occasions suggested preparing ‘mountain policy’ to mitigate disasters and check haphazard developments, which is the root cause of natural calamities. But the moot question is whether making ‘mountain policy’ alone will solve the ills of road construction in the Himalayas. What more needs to be done?

Table 1 Indian Himalayan Region – At a Glance

S N	State	Area (sq km)	Population
1.	Arunachal Pradesh	83,743	13,82,611
2.	Assam	78,550	3,11,69,272
3.	Hill District of West Bengal	3,149	18,42,034
4.	Himachal Pradesh	55,673	68,56,509
5.	Jammu & Kashmir	222,236	1,25,48,926
6.	Manipur	22,347	27,21,756
7.	Meghalaya	22,720	29,64,007
8.	Mizoram	21,081	10,91,014
9.	Nagaland	16,579	19,80,602
10.	Sikkim	7,096	6,07,688
11.	Tripura	10,492	36,71,032
12.	Uttarakhand	53,566	1,01,16,752

1.2. ACUTE NEED OF A COMPREHENSIVE MOUNTAIN POLICY

Roads act as lifeline in the Himalayan Region for movement of material and humans, help enhancing interface with the administration as well markets. Roads have also become indicators of development and have also invited commercial land use around them, the road density is considered as the indicator of road development (Uttarakhand has a road density of 48 km per 1000 sq. km). *High road density might be a good indicator for road network penetration but it is setting a bad precedent on environmental damage and ill management.* PMGSY has boosted village network connectivity with the higher hierarchy of roads. On the same hand, the new routes have also triggered landslides, instability, induced risks for existing facilities thus making it one of the sectors creating impacts along its length and equally making the riverine environment vulnerable. Here we briefly discuss about border roads

Growth of Roads in Uttarakhand (in Kms)

S.No.	Category of Road	Road length as on 1.4.2000	Road Length as on 31.3.2016
1	National Highway	526.00	2186.00
2	State Highway	1235.04	4521.07
3	Major District Road	1364.15	2151.81

4	Other District Road	4583.01	2651.40
5	Village Road	7446.23	19537.38
6	Light Vehicle Road	315.77	732.21
7	Bridle Roads/ Border Tracks	3970.00	3186.00
	TOTAL	19440.2	34965.87

The staggering increase in road network after the formation of Uttarakhand is obvious from the table above. There has been tremendous expansion in different categories. Uttarakhand shares borders with Nepal and China, many roads are managed by Borders Road Organisation (BRO) – a Government of India undertaking. The state of Uttarakhand like many other states has already undergone several road improvement programmes, several are underway and several under implementation with the support of multilateral agencies like the Asian Development Bank (ADB) and the World Bank (WB).

S.No.	Projects	Length (km)
1	Uttarakhand State Highway Improvement Project (USHIP)	1005.115
2	Uttarakhand State roads investment programme (Three sub projects) - ADB	2500 (approx.)
3	Uttarakhand Disaster Recovery Initiative – a programme initiated with the help of financing from multilateral banks	3300 (approx.)

Owing to this high growth and requirement of roads for rural connectivity, tourism potential and security needs, the road sector lacks effective framework to address the environmental impacts from road construction. The Asian Development Bank, for example has its own categorization of projects (Environment Assessment Guidelines 2003) and it brings out initial environment examination (IEE) and in case the project has no expansion of Right of Way and do not encroach on to any Environmentally Sensitive Areas (ESAs) declared as per government policy, EIA is not prepared. For instance, large scale development of linear projects (roads, railways, high-power transmission lines) in fragile Himalayan Ecosystem have intensified forest-felling/deforestation, accelerated soil erosion manifold, destroyed surface and underground drainage system leading to drier conditions, and initiated mass-movement at places neighbouring the infrastructural development pointing to destabilization overcast stretches.

1.3 SCOPING AND PUBLIC CONSULTATION: DONE AWAY FOR THE HIGHWAY

In the Indian environment regulation (or rather clearance) system, the adopted process comprise of four stages viz. screening, scoping, public consultation and appraisal. Each stage holding relevance of its own in the final decision making. But what if set clearance norms get milder with every passing year.

In the 2006 EIA notification, expansion of roads and highways which do not involve any further acquisition of land remains exempted from public consultation¹. As per amendment to EIA Notification 2006, dated 03.02.2015² furtherance to the list of exemptions is done for the road and highway projects. Now ‘all linear projects such as highways, pipelines, etc. in border states’ are exempted from public consultation. With increasing emphasis on regional/inter & intra country communication linkages and long distance pipeline projects (oil/gas), this exemption allows escape route to the linear projects from public scrutiny. There is no denying the fact that connectivity must improve and people get benefits but not in a lop sided manner.

Similarly as per the regulations, projects require scoping i.e. providing terms of reference for any project to assess impacts. August 2013 notification (to amend the EIA 2006 notification) exempted ‘all highway expansion projects’ from the scoping process. It required EIA and EMP report on the basis of model TOR specified by Ministry of Environment and Forests. In the 2015 notification further amendments were made to which say that Highway projects in border states as well as expansion projects in border states are exempted from scoping. This will mean giving a skip to the localised conditions based on which impacts were to be assessed and evaluated.

In the pre-2013 notification, scoping was limited to ‘expansion of National Highways greater than 30 KM, involving additional right of way greater than 20m involving land acquisition and passing through more than one State’ but after the 2013 notification the threshold limit for highway length has been increased from 30 to 100 kms and RoW/land acquisition limit has been increased from 20 to 40m and 60 m has been proposed for re-alignment or by passes. These upper limits form the new criteria for scoping of Highway projects. As a matter of project implementation strategy, the implementing authorities break down the projects in sections containing within the threshold limit and thus escaping scrutiny.

Tanakpur-Jauljibi Highway – Sectional Approach to Avail Clearance

Most of the Himalayan states have international border and lack of a mountain policy has led to disastrous consequences, as corroborated by recurring calamities.

Though aim of Border Area Development Plan include focused attention to the creation of infrastructure like roads (among others) but past experiences shows that in the absence of a policy framework coupled with a lack of vision, infrastructural development will also create irreversible impacts.

For instance, large scale development of linear projects (roads, railways, high-power transmission lines) in fragile Himalayan Ecosystem have intensified forest-felling/deforestation, accelerated soil erosion manifold, destroyed surface and underground drainage system leading to drier conditions, and initiated mass-movement at places neighbouring the infrastructural development pointing to destabilization overcast stretches.

¹ “Public Consultation” refers to the process by which the concerns of local affected persons and others who have plausible stake in the environmental impacts of the project or activity are ascertained with a view to taking into account all the material concerns in the project or activity design as appropriate.

² S.O. 382(E) dated 3rd February 2015, New Delhi

The tanakpur-Jauljibi road is proposed (135 km approx.) with several Border outposts enroute and will cut down distance to Jauljibi by nearly half. The road is awaiting decision on the Pancheshwar Dam's final feasibility before a decision on its complete work order is approved. So far the 12 km stretch from Kakrali Gate to Thuligad has been double laned. Further to it the stretch from Thuligad to Rupaligad is proposed which is around 43 kms. This cuts off the total length of 135 kms for the last section i.e Rupaligad to Jauljibi at $[135-(12+43)] = 85\text{km}$. This way the project is broken into several sub projects and being a border state, all the exemptions proposed in the 2015 notification on public consultation and highway projects and their expansion are applicable. As land acquisition is a problem for highway projects, so is environmental management. Beyond Thuligad this will be an almost new alignment and will be a long (in kilometres) riverward activity for which issues of access, debri & muck management, controlled blasting, triggering of landslides, tree cutting and many more issues need answers.

From Kakraligate to Thuligad, 3.8 hectares land for widening of 1 ½ lane to 2 lane has got Forest Clearance in January 2016 whereas from Thuligad to Rupaligad 49.7 hectares land is expected for diversion. More than 6000 trees are expected to be chopped off in this section alone.



Hill side cutting in progress

Self Made Alternatives but at a cost

Town 'Dharchula' in India and 'Darchula' in Nepal are located on the opposite banks of river Mahakali. The only mode of transport across the river is either through ropeway or through the tubes, locally known as 'tuins.' Every year many Nepali and Indian villagers lose their life to the perilous journey – to the extent that it is no more a news. People crossing river on a *tuin* are constantly rocked by the fear of getting drowned in the river or falling down from ropeway into the Mahakali River and drowning.

Locals of Rapla, Sunsera, Dhaulako, Huti, Pipalchauri and Hikila use tuins to cross the river. Apart from them, they are also used in Dumling, Maal, Rithan, Bartibagad, Malghat, Madgau, Syaku, Dokat, Tirgam, Spagadha and Huti.

Sowan Singh Khati of Sunsera village says – “We have no choice. We know that we may fall in the river, too. It is always a narrow escape from death every time we use it. And during *Dashain* (Dushahara) the movement is more than the rest of the year as people go across the border to buy things and many return home from India.” Khati lamented - “If essential commodities and facilities were available in our own villages, we would not have to make such risky journeys to

India often. We don't have even schools and hospitals in our place. So we have to put life at risk every now and then.”



First and foremost, within the prevailing paradigm of development and global macro-economic policies, mere policy changes will not save the mountains in general and Himalayas in particular. A paradigm shift is acutely needed for reorienting developmental-economic policies. The following tenets will constitute a pro-people, environmentally-ecologically sensitive sustainable policy, aimed towards the conservation of Himalayas, deriving from the policy failure so far.

The linear projects have brought disaster and destruction in this fragile ecological zone, as these are insensitive towards local ecology and environment. It highlights the need to explore newer modes of connectivity, especially when mountain people don't require high frequency of physical mobility. Digital connectivity (for keeping in touch) and ropeway development (for transportation) emerge as better alternatives.

Strict environmental regulatory regime in ecologically fragile regions like the Himalayas which is a storehouse of resources and supports downstream communities. The risk framework in the current context is required for assessing valuation of ecosystem services and the rights which will be at loss. Alongwith it must weigh impacts and social desirability for looking at least-impacting alternatives to connect people.

It is often found that road construction, especially in the mountains and Himalayas moderates/influences the drainage network, leads to deforestation. Rivers become 'sinks' due to the physiography of the ecosystem. Technology shift, strict compliance and oversight by communities and administration are few options for reducing and streamlining this sector to the vulnerabilities of region.