

Report on Environmental, Social and Economic Impacts of Madan Bhandari Highway

DECEMBER 17, 2019

NEFEJ
Lalitpur

Executive Summary

The report of the eastern section of Madan Bhandari Highway was prepared on the basis of Hetauda-Sindhuli-Gaighat-Basaha-Chatara 371 km field study, discussion with the locals and the opinion of experts and reports.

- During 2050's, Udaypur, Sindhuli and Makwanpur Village Coordination Committee opened track and constructed 3 meters width road in their respective districts with an aim of linking inner Madhesh with their respective headquarters. In the background of the first Madhesh Movement, the road department started work on the concept of alternative roads. Initially, the double lane road was planned for an alternative highway of about 7 meters width. The construction of the four-lane highway under the plan of national pride began after the formation of a new government of the federal Nepal on the backdrop of the 2072 blockade and the Madhesh movement.

The Construction of Highway was enunciated without the preparation of an Environmental Impact Assessment Report despite the fact that it required EIA before the implementation of the big physical plan of long-term importance. Only the paper works were done on the study and design of the alternative highway concept. The required reports and construction laws were abolished from the psychology that strong reporting like EIA could be a hindrance to the roads being constructed through sensitive terrain like Chure (Siwalik).

- During the widening of the roads, 8 thousand 2 hundred and 55 different trees of community forest of Makwanpur, Sindhuli and Udaypur districts are cut. According to the rules of planting, ie 25 plantations per tree, two hundred and six thousand three hundred and seventy-five trees should be planted. However, the site of plantation is unknown despite the rapid process of road construction.

Following the present nature of the Madan Bhandari Highway, the first Madhesh movement and the blockade of the second Madhesh movement are the factors. But now a campaign has been launched to link Madan Bhandari highway through Saptari, Siraha, Dhanusha, Mahottari and Sarlahi in Madhesh. The Madan Bhandari highway built through Madhesh, under the name of development, will be more dangerous to Chure destruction.

- Though the construction of the road is prioritized, sensitive geological structures of Chure, environmental aspects like the bio-diversity, wildlife corridors, forest protection are fully been ignored.

Acknowledgements

The Nepal Forum of Environmental Journalists (NEFEJ) provided the resources to prepare the report by studying about 270 kilometers from Hetauda to Chatara section of Madan Bhandari Highway under construction. Thank you to Subodh Gautam, Executive Director of NEFEJ and Durga Karki, Program Coordinator, for encouraging the team to study the effects of physical development on the environment and biodiversity. We are thankful to the technicians working in Hetauda, Sindhuli and Udaypur section under the Road Department .We express support to all those who assisted us in the study, including the Institute of Forestry, Hetauda. Thanks to the construction entrepreneur, Chhatra Bamjan, who played an important role in rescuing the team from flood at Marin River during the course of on-site studies. We have included responses of Topic experts, forest and wildlife experts, local political workers, human right activists and locals, among others. We thank them all.

1. Background of the Study

Although Madan Bhandari Highway, which is under construction, was listed in National Pride Project three years ago, the outline of it was made two decades ago. District Development Committees of Makwanpur, Sindhuli and Udaypur district, formed after 5 years of political change, made a road plan to connect the villages of Inner-Madhesh under their own scheme. Along with the investments of District Coordination and even the locals, the way was made for local connectivity through the slopes within the Chure hills. Makwanpur Village Development Committee poured about 3 meters wide temporary street track through East Rajabaas to Bagmati. Similarly, the Sindhuli District Coordination Committee of East of Bagmati proceeded as per the plan to open the road to Marin trench and East Kamla trench to the western region. According to Kumar Basnet, chairman of Ward No. 7 of Dudhuli village in Sindhuli district, construction work has begun in the Chure residential area since 2051 B.S. " At the same time 80 percent of the District Development Committee and local resources in partnership with 20 percent, the road was enunciated " Basnet said 'the Highway being construction now is upon the same track made. " According to Basnet, East of Bhiman of Sindhuli to Kataari of Udayapur, the roads were made on the support of District Development Committee and the support of locals.

The Udaypur District Development Committee proceeded under the plan to link West Sindhuli and East to Koshi river. From here, the road from East Dharan to Chatara was constructed in the thirties. For the Chure fedi settlements in Dharan, the Mahendra highway stretching east-west was far away and there were voices suggesting that social-cultural relations must also be with the nearest community. The district leader, Ramesh Kumar Basnet, of the United Marxist Leninist (UML), has been campaigning since sixties added that Campaigns were launched in the fifties to link Chure Phedi to Dharan. Ramesh Kumar Basnet of Dharan said that he had joined the campaign from the sixth decade. Initially, the settlements of Kerabaari, Letang, Jaate of Sunsari and Morang district and Shantinagar of Jhapa which are to East of Dharan were linked to Mahendra Highway but couldn't be near with each other socially and culturally, and the thought of road developed, Basnet added. Local agencies prioritized the vertical paths that connected to the Highway, he added, "We realized the need of construction of horizontal routes for Tribunal, Linguistic, Cultural coordination.

According to Basnet, work is being done with the vision to expand the local winter routes, connecting the route to Dharan and to Sindhuli via Udaypur once bridge is constructed in Koshi river of Dharan-Chatara Route. After the Bardibas Dhulikhel

BP Highway came into operation, it seems that there is a plan to connect the Bhiman of Sindhuli directly from Dharan in the alternative to the situation of the Mahendra highway. " Feeling the necessity of road connecting the foot of Chure to East-West, we started lobbying to the power centers up to the capital " Basnet said ' We brought KP Oli of Jhapa, Jhala Nath Khanal, and Subhas Nemwang of Ilam, who play a key role in Nepali Politics, to an agreement. Since they too were concerned and was their issue of interest too, they agreed. '

The situation changed after the Madhesh Movement of the 2007 when local Lobbying was not taking shape. Expressing the need for an alternative highway, the Department of Roads seems to have begun expanding its investment, on the roads laid by the District Coordination Committees. Work of constructing bridge over Koshi River of Chatara, Kamala, Bagmati, Marin River over a decade seem intensified.

The idea of an alternative highway seems to have taken shape after the Madhesh movement and blockade politics of the 2072 B.S. In this same mess, political activists of Ilam, Sindhuli and Udaypur gathered and formed the Ilam-Sindhuli Mahabharata and Chure Area Roads Committee. Oli, Khanal and Nemwang were included in the committee for conservation. In the political socio-economic climate behind the blockade, alternative ideas were shaped by the old plan and on February 2, when KP Oli became the Prime Minister of the Federal Nepal, the old ideas and alternatives turned into a comprehensive plan. The result was a plan to construct a highway parallel to the Mahendra highway from Jhapa to Kanchanpur, the highway was named Madan Bhandari and the government started work under the scheme of national pride. The area of the proposed study, called the eastern section of the highway from Hetaunda in Makawanpur to Basaha in Udaypur, is being planned to complete all the construction work by October 2020.

1.1 Alignment

According to the Madan Bhandari road project, a total of 1,200 Km proposed road works is underway at different stages. This field of study, however, is aimed at black topping all roads up to November next year, where Hetaunda - Sindhuli - Udaypur, Makwanpur, has been working intensively. Madan Bhandari road project has called it the Eastern Section. Shrestha says construction work on the sector has proceeded very well, starting from Basaha in Udaypur and passing through Gaighat to Bhimaan in Sindhuli, a sector about 134 km and 115 km from Sindhuli headquarters to West Hetaunda. The Chatara Hetaunda section is now the most prioritized area of Madan Bhandari road, which is our area of

study. According to road projects, out of the total budget allocated for Madan Bhandari highway in this current fiscal year, Rs. 3 Billion 50 million is to be expended out of 4 Billion and 50 million.

Observing the drawing of the road, the road is drawn through the most northern part of the Chure. The study area has been constructed from Hetauda in Makwanpur to Basaha in Udaypur , and in some places the Chure hill has been dug up and road built around the Mahabharat hill. Assuming Chaughada of Hetauda as starting point and the road heading East, the road touches Hatiya, Sukechaur, Tripura, Chhatiban, Jurelithaam to Bagmati. Though the construction began a decade ago, due to the bridge that left uncompleted, one has to return Hetauda, then to Bardibas via Mahendra Highway and to Sindhuli via BP Highway then back to the Bagmati river via West Margin Bagmati through valleys to observe Hetauda-Sindhuli road. Starting from Hetauda the highway moves ahead through Chhatiban, Phurkechaur, Shripur cutting the Chure Hills. The either side of the road is paved with plenty of soil due cutting of Chure Hill. Madan Bhandari road crosses the fast track in Phurke chaur area. How to fasten the tracks to the crossing of a fast track has not yet been finalized. The Chure hills are cut at a width of about 50 meters compared to the Madan Bhandari highway, while digging the fast track. In this area, the young Chure can be seen as badly repulsed for road construction. Engineers point out that the lotus rock, which is unstable on the wings, will become increasingly stable. Most of the roads, around Hetauda Bagmati, about 48 km are in preparation. One-third has been black topped and the rest is on the process of being black topped.

There is a danger of further weakening of the Chure, once the road is constructed. During the monsoon, the caravan, which has been degraded by the roads, may be collected by rivers and transported to the Terai. We are facing the challenge of erosion from Chure and challenge of huge amount of soil being settled at terai. Against the backdrop of intense erosion from Chure on a yearly basis, the proposed road seems likely to encourage more erosion. In addition, the impact of this road on the north-south flow of water during the rainy season has not been analyzed. The roads are not constructed on the basis of comparative details of the structures, including bridges constructed for drainage of rainwater at Madan Bhandari, North-East Highway and Postal Highway.

1.2 Objectives of the study

- To study the overall impacts (bio-diversity, water, forest area) caused by proposed Madan Bhandari highway construction project to Chure region.
- To review and examine the faults/weaknesses of government approved EIA report in the context of examining the environmental, biological, social effects.
- To analyze to what extent the relevant acts, rules have been followed?
- To analyze the effects of Madan Bhandari Highway to Terai.
- To review the impact caused by the highway on biological diversity.
- To keep information upon the number of trees cut down.
- To analyze whether Madan Bhandari Highway is a much - needed highway or not and the bases of the necessity.

1.3 Method of Study

- Study of the reports, such as EIA, IEE study report, including the Madan Bhandari Highway pertinent reading materials.
- Discussions, talks and interviews with concerned people including government officials, local elected representatives, political parties, civil society representatives, environmentalists, experts, researchers, conservationists.
- Interview with experts researching on forest, environment and biological impact.
- Field study as well as interaction with local stakeholders benefited/harmed from Madan Bhandari Project.
- Study of Magazines, published Online articles, interviews, newspapers.

1.4 Limitation of the Study

- The study / analysis will be based on objective fact.
- The study will focus on environmental and biological conservation angles.
- The study will apostle with intention of not underestimating biological/environmental aspects.

2. Current Scenario

From the Hetaunda of Makwanpur to the Bashaha of Udaypur, called the eastern section of the Madan Bhandari highway, the road department has divided the project into four sections. Hetauda Project Office looks after Hetauda-Bagmati 48.6 km section, Sindhuli-West Bagmati 66.4 km, a total of 115 km West Bagmati.

Likewise, the Gaighat Project Office is looking at the 135 km stretch of East of Bhiman of Sindhuli to Gaighat of Udaypur.

According to Hetauda-Sindhuli road project Engineer Keshav Ojha, 60 percent of the overall work like black topping, construction of support, walls, bridges, including construction of roads has been completed. Out of the 33 bridges in the Hetauda-Sindhuli sector, two have not been started due to local dispute. Twenty-one bridges are in preparation, and construction of ten bridges have been started, Ojha said. The bridge over the Bagmati River on the roadside is a tricky part of the project. The bridge, which has not been completed since its inception decades ago, has been contracted differently than any other bridge. According to Ojha, work is on at 1.8 billion for this financial year. The Swachhand Construction Service has obtained a contract for the Bagmati Bridge. The new contract is given by breaking the old contract. Other bridges have been contracted by ZIECE Company while Kalika Swachhand Karnek JV is engaged in road construction work.

Under the Hetauda project, the work on the Hetauda section appears to be smooth, out of the two sections Hetauda-Bagmati and the Sindhuli-Bagmati. Although much of the road's elevation has gone through Chure ditches, the Chure hills have been cut in some places. Since the Madan Bhandari route is widening as the Makwanpur District Development Committee is drawing the foundation of the drawing that was made two decades ago, there are new wounds in the stagnant hills and there is danger of landslides and erosion in the rain. Along 66 kilometers of the Sindhuli-West Marin stretch, only road drawing work has been done. It is possible to have black sheets and black tops at 10, 11 km, and another 10, 11 kilometers.

The first phase of black topping has been completed in one third of 134 km east of Sindhuli. Work has been done in other areas to widen the road, black topping the road and so on. About 11 km of road widening work has only been partially done. Danuwar Beshi is already on track, widening has not been done yet. Govinda Dumar, Information Officer of the Project, said that the road work has been completed at 60 percent so far. Similarly, 90 per cent of the work was done in favor of the bridge. According to him, due to the local dispute, there is no work in progress at Danuwar Beshi and Rajabaas section. Of the 43 bridges under the

project, 37 have been leased out, 3 have been progressed while only 3 have been started. The construction work of Dharan-Chatara-Gaighat-Sindhuli-Hetauda road, which started from November, is being accelerated with the nomination of Madan Bhandari Highway in the budget of Fiscal Year 2074, Dumaruru said.

ZIECE Sharma Lama Joint Venture has received the contract for the road work. Similarly, Kovac's Rasuwa Joint Venture is in the work. He informed that the contract for this financial year is Rs. 1.96 billion.

About 25 percent of the total length of the road is cut into the Chure hills. In the past year, there was a landslide through the cut-off section of Chure Hills, the retaining wall broke is due to flood. By comparison, the hill cutting in Bhiman-Basaha road section is more visible.

2.1 Problems in the city

Although construction work on the Madan Bhandari highway is in full swing, in some places, the track of road is not yet decided. Based on the drawing drawn from the past, District Development Committee and the local level for their needs, the government plans to construct a four-lane highway, there is politics of protest and acceptance from locals. Especially in urban areas where land prices are expensive, there is confusion. Chaughada of Makwānpur which is said to be zero kilometer of the road, there is a problem. Due to the problem at Hatiya of Hetauda sub-metropolis for about 4 km from the mouth of Hetaunda, the road extension work has been postponed. Similarly, the Dhura Bazaar of Sindhuli, where there is a road of about 4 meters width and a market on both sides of the road, seems to have caused problems due to the map of Madan Bhandari highway. The locals appear to be divided into two factions. One faction is lobbying for the road to go as per the design, and the other faction is lobbying to come up with a choice. Particularly in the Dhura Bazaar, homeowners are in favor of alternatives, while those who are behind the market conform to the idea that the road should be built according to design. Those behind the market are manipulating that there is a possibility of street may be facing their home, in the case of a front home/shop being demolished. Government policy of providing compensation in case of collapse of physical infrastructure including houses, but no compensation on vacant land is complicating the situation. The dispute appears to be upto 6 km to the west of Sindhuli Bazaar. Meanwhile, the dispute over the width of the road in the East Ranibaas area from Bhiman in Sindhuli has not been resolved. Similarly, work has been stopped due to land dispute in Danuwar Besi area of Kataari-Gaighat section. Civil engineer Govinda Dumaruru says efforts are being made at the local

level to resolve disputes. Deputy Mayor of Sindhuli, Kamalamai Municipality Manju Devkota said that the dispute has been created in some places due to the width of the road. " The ROW is 15 meters on the left-right of the designed road, on the other hand, there are things that directly affect people ' Manju says ' there is a first design of the road and there is a different survey that leads the road through different place. At the local level, the initiative is taking into account the geographical conditions, environmental impacts and other factors within the plan. '

Meanwhile, the Mayor of the Municipality Baldev Chaudhary said the Madan Bhandari Highway has touched Triyuga 1, 2, 7, 8, 9, 11, 13 number wards and that dispute resolution steps have already been taken into account on how the road will be passed through the municipality. According to Chaudhary, it has been decided that the road will pass through the market area of the city and the market will not be affected much and the width of the road will not be too low. " We do not have a real problem, the agreement has been done with the local level and road projects, the road to be only 25 meters wide," says Chaudhary. "Since the Highway is the lifeline of the country connecting Mechi to Mahakali, the local level had to play a role, we did that. " The municipality's president-7 Bishwaraj Bhattarai added there is no problem in expanding their city. " There were some disputes, it was settled after discussion, " Bhattarai added. " It has been agreed to move the road ahead with minimal damage to the market, but the road project has not start edit's work. '

2.2 No EIA report

Madan Bhandari Highway is one of the projects of national pride. The highway, which is being constructed through Nepal's weakest geography, plans to extend from East Mechi to West Mahakali. But it is unfortunate that without the preparation of Environmental Impact Assessment, EIA report, highway is under construction. Planning officials do not want to open their mouth regarding EIA Report. There is no EIA report on the road department. They have been working on the highway construction on the basis of single IEE Report.

In general, the reader may assume that the either of EIA or IEE prepared may work. But it is not so. Laws have made EIA report mandatory for big physical plans. IEE is a report to be used during the execution of a plan.

According to section 2(f) of the Environment Protection Act, 1997, "Initial Environmental Examination" means a report on analytical study or evaluation to be prepared to ascertain as to whether, in implementing a proposal,

the proposal does have significant adverse impacts on the environment or not, whether such impacts could be avoided or mitigated by any means or not.

Initial Environment Examination Reports are usually intended for small projects. It does not require scoping. There is no need of an environmental management plan, public hearings. The approval shall be granted by the concerned body. Approval by the Ministry is not required. Environmental Auditing is not required. Additional assessments may be required.

According to section 2(g) of the Environment Protection Act, 2053, "Environmental Impact Assessment" means a report on detailed study and evaluation to be prepared to ascertain as to whether, in implementing a proposal, the proposal does have significant adverse impacts on the environment or not, whether such impacts could be avoided or mitigated by any means or not.

The Environmental Impact Assessment Report consists mainly of 5 steps. Accordingly, Screening; Scoping; Prediction and Mitigation; Management and Monitoring and Environmental Auditing are the 5 major steps. EIA Reports are prepared for large projects. Environmental Management Plans (EMP) is a must. A public hearing is a compulsory requirement. The approval of the concerned body as well as the ministry is required.

EIA Report preparation requires detailed study, is a time consuming and expensive process whereas IEE Report carries out only analytical studies and evaluation work and the process is cheaper and less time consuming. Due to this, there seems to be an attempt to construct a highway with means of supplementary IEE Report. According to section 18 of the Environment Protection Act 1997, there is a clear provision that if the prescribed proposals are implemented without getting approved from the concerned agency or ministry, such work can be stopped immediately and the person or organization doing such act can be fined from Rs. 500 thousand to 2.5 million.

According to Environment Protection Act 1997, section 4, there is a clear provision of prohibition on implementation of proposals without getting it approved from the concerned agency or the ministry. In case if any person carries out any act without getting a proposal approved under section 4 or any act contrary to the approved proposal, according to section 18, the prescribed authority, may close down such act immediately, and if any person or organization has done such act, may according to the degree of offense punish him with a fine ranging from 500 thousand to 2.5 million rupees. In the event of an act contrary to the Act, Rule or Directive, the designated officer may terminate such action immediately and

according to the degree of offense punish him with a fine up to one hundred thousand rupees.

In accordance with Rule 3 of the Environment Protection Rule 1997, it is clear that in the case of proposals in Schedule 1, the IEE Report should be prepared and EIA should be assessed in favor of the proposals mentioned in Schedule 2. According to Schedule 2 D, it is clearly stated that EIA should be assessed in case of national highways and major auxiliary roads.

Since Madan Bhandari is also a highway, Rule demands EIA. However, the supplementary IEE appears to have been prepared by dividing the highway into sections and upgrading existing roads. EIA of the project must be done even if there is permanent settlement, transfer or rehabilitation of more than one hundred population due to other changed structure or unit. Since this is a mega project with extensive plans for Mahabharata, Chure and Terai Madhesh population, which is envisaged for permanent settlement, relocation or rehabilitation of more than one hundred population, the highway cannot be constructed on the basis of the IEE.

According to Schedule 1D, IEE is enough for construction of major bridges, tunnels for the roads and for upgrading, rehabilitation and reconstruction of main feed roads and highways. Supplementary IEE appears to have been misinterpreted by this provision. Clarification part of Rule 4 of the EPR 1997 envisages the provision of a Supplementary EIA. But there is no provision of Supplementary IEE report in the EPR.

There is a provision for the submission of an Environmental Management Plan (EMP) with additional effects to be caused on the environment and its mitigation measures. According to Section 8 of the EPA, 1997 Environmental Inspectors are solely responsible for monitoring whether EMP has been effectively implemented or not. Environmental acts and regulations have clearly defined the functions, duties and powers of Environmental Inspectors, according to which they can inspect as to whether or not the acts of mitigation, avoidance or control of pollution have been carried out in accordance with the act or the rules framed under the act; to inspect whether or not sound, heat or wastes have been disposed or emitted from any place; to examine and inspect as to whether or not the acts have been carried out in accordance with the terms mentioned while granting approval to implement a proposal; to submit to the prescribed authority a report of the matters found while inspecting. Environment Inspectors have power to impose a fine up to 15 thousand rupees if concerned person, organization or proponent refuses to render necessary assistance and a fine up to 20 thousand if inhibit son the works while on inspection.

2.3 Lack of Environmental Inspectors

There are currently 19 environment inspectors in Nepal, one environmental inspector with the road department. The Environment Department, under the Ministry of Environment of Nepal, has a rating of 16 environmental inspectors. Of these, only 11 environmental inspectors appear to be able to handle the entire project as some of them are inactive. Therefore, they are unable to inspect whether the projects conducted have a direct impact on the environment using the powers conferred by the Act.

2.4 Bioengineering - nominal

The cut off hills are yet to become stable and one can see landslide and soil eroding. Bio-Engineering are yet to done on the bare walls and hills to stop landslides that have potentiality of blocking roads. In some places, Bio-engineering work has been completed but retaining walls are still required in most places. The task of bioengineering to prevent erosion is still incomplete.

2.5 Socio-economic aspects

The Madan Bhandari Highway is believed to be a boon for locals of Chure Phedi of Makwanpur, Sindhuli and Udaypur districts, in eastern Nepal. The big brothels of the three districts are full of enthusiasm. According to the locals, they have started commercialization in agriculture along with road construction in Makwanpur, Sindhuli and Udaypur. Prices of land touching the road are skied. In some places, there is also concern that this road, which is a boon for the development of the Inner-Madhesh of the three districts, could be the leading cause of the Chure destruction. There is no shortage of people who are eyeing to get maximum benefit by extracting stone, ballast and sand from the Chure (Siwalik) after the road is constructed. It is not just a matter of traffic and market, behind the urgent road that is being constructed from Saptari, Siraha, Dhanusha and Sarlahi of Madhesh to connect Madan Bhandari highway. Chure stones, ballast sand and limestone of Mahabharat are equally at risk.

Pramod Kumar Rai, a teacher of Makwanpur Rai village, said that after the construction of the road, there was significant development in terms of economic, social cost. He said it was easy to come from any place of the country even though the highway hasn't passed through Rai Village. "Though there was a road before 2 decades, it was not easy to walk and travel, especially during rainy days. Due to landslides, the road used to get blocked for 2, 4 days " Rai says ' Still the distance

is same but now takes less time to travel, so is easy'. The locals, who had returned from Sindhuli in the evening by walking from Rai village in the evening, are now in a condition of being able to come to the district headquarters within four hours.

According to President of the CPN, Bagmati village committee Arun Bal, 'locals have been able to appropriate price of their agricultural products' and added 'Initially, there was difficulty even in selling rice, maize. Now no such problem exists! Stating that the price of land has increased along the way, the market is expanding, Arun says, 'The lifestyle of people has started to change, the people of remote villages of Bagmati, Rai village and Makwanpur are very happy. '

"At present, there is talk of commercialization at the local level. There is a perception that agriculture and livestock farming should be taken forward in a commercial way, " says Arun. "There was no market for milk in the past, now a milk collection center has been established, estimate of 1 thousand 5 hundred to 2 thousand 5 hundred Liters of milk daily goes to Hetauda. On the question of whether Chure is destroyed along with the construction of roads, Arun says, " Here the community forest has conserved forests. They should be given responsibility. It's also important to pay attention to while settling the market. '

President of Marin Village Committee of Sindhuli, Phaniraj Bamjan is convinced that the highway would play a catalytic role as Marin has land rich in cultivable fields. Stating that he has been very enthusiastic about the construction of Madan Bhandari Highway, Bamjan says, "There is a huge potential for agriculture, fisheries, dairy products, vegetables, fruits."The villagers have adopted the strategy of commercializing agriculture, " he said. " We have invested 4 million per each ward for agricultural enterprises ' Bamjan says 'Local government isn't just focusing on production but also in marketizing products of farmers. '

Discussing the plans of proper management of tendencies of extension of markets and increment of settlements alongside the roads once it's completion, Bamjan says, ' It is said that once the road is built, dry cargo returns unoccupied once it delivers the good, we won't let situation come where cargo returns unloaded. '

Buddhimaya Rai of Hariharpurgadhi, Ratanpur-2, Sindhuli, was found in ward office while registering business. Rai, who has been operating a general grocery store for a long time, has been enthusiastic after having built a wide road from her own home. " The traffic would flow as roads have been built, therefore business will grow, market will flourish. She feels that her normal grocery shop too will grow and would eventually convert it into restaurant, therefore is registering her business."

Tek Bahadur Bamjan of Harihargadhi-2 says, ' Once the road is constructed, there will be increment in the production of agricultural products like paddy, corn and green vegetables and will be good value of those products.' Bamjan added, ' We had to carry food stuffs even during rainy seasons, from places 2 to 4 hours far," says Bamjan. "Now we can ship our products across the country.

Kumar Basnet, President of Dudhauri village ward 7, Sindhuli, says entrepreneurs are coming to establish a cement industry after the widening of the highway.' We believe Agricultural products and Livestock will now get a good market 'Basnet said ' Agricultural production such as animal husbandry, fishery, Mango, Litchi, pineapple will raise and the products will get a good market." Basnet said, ' It will be easier to transport stone, gravel and sand to the market. "Public transport has also started in West Sindhuli, Kathmandu and Hetauda and East Gaighat, Dharan, even though the road is still under construction" Basnet said.

Raju Basnet, contractor by profession, of Triyuga municipality, Gaighat, Udaypur, says, ' Madan Bhandari Highway has made him easy to travel Mechi to Mahakali. Especially it has made him easier to travel Kathmandu via Sindhuli and back.' According to Basnet, 'district products will easily access the market and for this the local government should take initiative. There were some disputes over 3,4 km in the city area, especially Baruwapul to Eye Hospital. To settle the dispute, local agreement was made, according to which 25 meters width is maintained for the road so as least expatriates are likely to be " Basnet said ' If 30 meters width was maintained for the highway as per Road Act, Gaighat market would have been ruined. Consensus was reached despite quarrels, disputes and suits, which is a good sign for commencement of road construction. Now the road construction has to take pace. There are no works in the city area yet. ' He added.

2.6 Anxiety of Destruction

Madan Mandari Highway, which is built between the inner Madhesh ie Chure and Mahabharat, can be considered a great achievement in terms of physical development. The politicians, officials of the road projects discuss the plan that links Mechi-Mahakali with a road of 11 meters width as a national pride event. Those who are aware of the environment, conservationist and experts are anxious over's the concerns of Madan Bhandari Highway being catalyst for Chure destruction. Vijay Yadav, Head of the Institute of Forestry, Hetauda, considers the highway a government plan, without a detailed plan. Constructing highway without EIA report from a fragile region like Chure is a shame!' Yadav added ' No

one has freedom to do whatever one wants in the name of development. " The government is recklessly destroying the forest, the one which the government itself had kept in national priority. It is forecasted to create additional problem in upcoming days," In accordance with government policy, work had to be assigned keeping in mind, Chure as protected area but construction, demolition works are being done. Chure is sensitive to landslides and soil erosion, which affects Terai Madhesh, this whole thing has been ignored. '

Golaab Kumar Chaudhary, an environmentalist at the same institute, points out that the development going on in Chure can cause big negative impact on Terai Madhesh. " If the upper part of Chure is conserved, people beneath the Chure will be benefited, in such a case Levi from the Lower locals and state government can be collected for the local and state government of upper part of Chure." After the construction of the road, the expansion of the market, the increase of settlements, the operation of the transport will affect the Chure environment, humane croachment and will create huge negative impact on wildlife and forest," said Chaudhary. "In terms of sensitivity of Chure, Madan Bhandari Highway isn't the potential plan" Chaudhary says "Neither there is EIA report nor there is any other body to monitor, Chure is sliced in the name of construction of road. This is sure to invite disastrous consequences which is unseen. Chaudhary added, ' Lack of proper management after completion of the project, will lead to the destruction of forests, soil erosion would be sharp and pointed out to the risk on underground water. Now there is no alternative except that all parties need to be sensitive in conservation of Chure and road should be operated keeping in mind the welfare of Chure. '

Sadhuram Chaulagai, a member of the Community Forest Federation, is worried that the developmental plans, including the roads that are going on in Chure, will create dire conditions. Chaulagai, who is active in the forest conservation campaign, says, " If you go ahead like this, a hundred years later, I fear whether Chure hills and the plains of Hetauda will be the same ?" Since Chure is a very sensitive area, special precautions need to be taken when working on such terrain. 'After the construction of the road, now the settlements will increase, the market will expand. " Chaulagai says, ' Local government should play a crucial role in not allowing weak areas for human settlements and establishment of markets. '

Forest Officer of the Udaypur Forest Office, Jageshwor Sah, however, said that the area where the road is now being constructed is a biological corridor, obstructing the passage of wildlife and Koshi wildlife reservation. "The Inner-Madhesh regions the route of elephant especially Sindhuli-Ranibaas zone. " Sah says, " The

road is made almost the same way the elephant moves in the region Koshi to Bagmati. After blocking their natural route, elephant from time to time cause physical damage to the human and bring ivory-chaos. '

Sah is more concerned with the campaign of joining the Terai Madhesh districts with Madan Bhandari Highway, Sah says, 'Now there is a campaign of joining Saptari, Siraha, Dhanusa, Sarlahi districts of Terai Madhesh to North Madan Bhandari Highway. Ebbs factorization of Chure leads to destruction, causing serious impact on wildlife, vegetation and biological diversity. So north-south roads need to be abandoned. '

Chief of the Division Forest Office Sindhuli, Narayan Shrestha, said that road construction was underway in the elephant corridor. The elephant has started to settle in the area of Ranibaas of Sindhuli after the situation has not been reached in its own way. 'There must be a strong report of the highway and all the studies must have been done before the road is constructed.' he believes and says " I have corresponded to the project office of Hetauda, asking for EIA report' Shrestha adds, ' I would do my best as soon as EIA report comes in my hand. '

Nobody, including those concerned in conservation, believes that there is no EIA Report of the Nation Pride Project that passes through sensitive Chure, and that belief is in Shrestha too.

2.7Incision/Laceration/Slices on Chure

By pointing to the need for another highway through the Madhesh agitation, the strategy of keeping Madan Bhandari Highway in priority and mobilizing resources is now in vain. With the weak terrain Chure, the construction of the Mechi-Kali Highway seems to be on the brink of a glorious project of the government. For example, when the citizens of Dharan or North of Dharan should come to Kathmandu, they need to plunge to Itahari of Sunsari and from there they needed to travel Bardibaas of Mahottari via West Sunsari, Saptari, Siraha, Dhanusha, and finally to Sindhuli. On the scenario of Madhesh Movement, necessity of Highway passing only through Hills was felt the existing East-West Highway route used to travel was very curled and time-consuming. Connecting Saptari, Siraha, Dhanusha, Mahottari and Sarlahi districts with the alternative Highway have already taken shape in the Chure being constructed at the highway level (excluding the alignments) .The construction of the north-south highway has cut Chure from place to place.

The construction of Gaighat in Udaipur by cutting the north Chure from Rupani in Saptari is being done through the government budget. Road connecting Nepaltar from Lahan of Siraha is also being constructed. The road initiated in Siraha by MP Padma Narayan Chaudhary from budget of Parliamentary Development Fund, the road right now is upgraded by the government itself and the track is opened. The road, which is about 25 km long, is sure to connect the Madhesh with the Chure valley. However, during the construction of the road, the weak and narrow hills of Chure, which is about 10 km, are being made more vulnerable by imposing dozers on the slants. Churning through alternate highways may be an option, in the event of a disruption on the North East Highway. Trade between Lahan and Nepaltar may increase, it is another matter. However, Chure is sure to suffer the most. The tippers, which have got easy access to the Chure south, will now find their way to the Mahabharat along with the Chure. Mithilesh Yadav, a journalist in Siraha, who is using a pen against xploitation of Chure, says: "The Chure laceration is sure to be used more for extraction of rocks and gravel sand their trafficking than for common people and commercial purpose. "By setting up a President Chure-Terai-Madhesh Conservation Development Committee, the government is moving ahead with plans to conserve Chure on the one hand, and on the other hand, connecting Madan Bhandari highway through the east-west highway by lacerating the Chure are all accompanying in almost district with great speed.

'There is risk of sedimentation of sand and ballast on Terai Madhesh fertile land due to increment of human encroachment in Chure as the number of Highways tolls up. ' Yadav says,' New Road seems to be constructed each year for stone, ballast, sand traders rather than common people, so as to reach baseline of Chure and valleys across Chure hills.'

According to journalist Tanka Chhetri of Sarlahi, 'The Chure area is in danger due to the digging of roads from Sarlahi district to Chure area. The Chure area is at risk due to dredging of roads using dozers, excavator equipments. Experts say, ' Not only Chure is at risk, there is also a risk of transformation of the Terai region, known as country's food stocks, into a desert due to the roads dug in the Chure area and the cultivation of the locals.

Eight roads have been excavated to connect various places of Sindhuli to Mahendra highway and to different villages of Sarlahi, on the Chure hill, stretched about 38 km east - west. All roads are dug using dozer, excavator, including the device. Since all roads are damaged by the avalanche of sky water, there is no traffic during the rainy season.

According to Chhetri, the road connecting the various villages of Sindhuli district through Bagmati of Sarlahi through Hariharpurgadhi village of Sindhuli has been running for about five years. Via the route that connects East -West Madan Bhandari Highway, Entrepreneurs and Residents of Raigaunof Makwanpur, Phaparbari, Mahendra jhyadi, Jhanjhane , Hariharapur gadhi and other places come to fill the market. On that road, millions of budgets are also invested under the District Road Assistance Program, a joint investment of the Swiss Government and the Government of Nepal. There is no traffic during rainy season on the road, dug with a excavator, as it gets blocked due to the damage caused by water.

Likewise, road in the Kauwa, Sanokauwa, Daapdada etc. of Hariharpur gadhi village of Sindhuli from Panityanki Chowk of Bagmati Municipality-1, has also been dug using excavator.

Likewise, a road connecting Kerabari of Hariban Municipality - 1, via Dhimiledaada to Kyaneshwor of Sindhuli has been dug. From Kyaneshwor, road that joins Marin, Chhapto Nepalthok of the BP Highway, is undergoing construction.

The Hariban - Kyaneshwor road, under the Mahendra highway connecting the Kyaneshwor of Sindhuli from Hariban Bazaar is also on operation. This road section is the most traffic, as residents of about one and half dozen villages including Sindhuli's Marin, Chhap, Kyaneshwor, Paantale, Kemanchuli reach Hariban Bazaar for shopping.

According to Bal Krishna Nepal, president of Hariharpur gadhi VDC - 1, Kyaneshwor, 12 million Rupees has been invested in four years under the District Road Support Program, which is a joint investment of the Government of Nepal and Swiss Government. Similarly, at past Sindhuli District Development Committee and Sarlahi District Development Committee and currently Hariban Municipality and Hariharpurgadhi Municipality had already invested millions. He said that the road touches Madan Bhandari highway and transportation is being operated upto Sindhuli Headquarter and digging of road to link Nepalthok under the BP Highway is being done rapidly. "The DPR of this road has been prepared too," said President Nepal, adding, "We have already submitted a document, including DPR demanding budget for road upgrades to the federal government and state government. "

Similarly, another road has been dug from Hariban Municipality - 1 to reach Sakhuwani village in Chure area. Currently, there is no traffic due to the damages in the road dug for 12 - 15 households.

Likewise, a road has been dug in the Chure area from Haribanagar Municipality-1, Atrauli to connect the Kemanchuli of Sindhuli. Due to the erosion, the road that was dug by the excavator is not functioning properly due to lack of budget.

Similarly, a road connecting Lalbandhi Bazar to Lakhandehi river and Narayankhola to Sindhuli's Marin is under operation. This road, which runs through Lakhandehi river, doesn't have any traffic during the rainy season. Likewise, the road connecting Lalbandi Municipality-1, Parwanipur to Chure through Marin village of Sindhuli is also under operation. The road does not operate during the rainy season.

The road connecting the Kamalamaisthan temple of Sindhuli from Ishwarpur Municipality - 1 Kalinjor, the easternmost part of the district is in smooth operation. According to Nagendra Pakhrin, the head of Ishwarpur Municipality - 1, the road, which passes Pipal damaar of Sarlahi via Gharibathan of Kalinjor, Bankekhola was extended to Kamalamaisthan by digging 4 km towards Sarlahi and 9 km of Chure region towards Sindhuli.

The Chure area is constantly being subjected to encroachment due to the densely populated roads in the Chure hills and to the neighboring Sindhuli villages. Chure has become the main source either for the stones, ballast, sand needed for construction and development works or grass and wood needed for livelihood.

Bipin Kumar Jha, Chief Senior Reservoir Management Officer at the Land and Water Resources Management Office, Rautahat Chandranigah pur, said that act of continuously taking from Chure than giving to Chure is being done. 'No one is serious on conservation; instead people are competing for exploitation of Chure despite the fact that Chure has weak geo-structures. "If exploitation continues, not only Chure but the Terai will also desolate together.'

Due to works like digging road without any EIA, extracting stone, gravel, sand in an unplanned manner, cutting down trees for timbers etc. instead of planting trees for the sake of fulfilling one's greed, Chure is being exploited Jha says. "Chure is made up of sandy soil, gravel, very delicate rock mixed with stones," he said, "It's a sin to cultivate and cut down trees in such a sensitive area but people are competing for the same.'

Particularly, without the EIA, uncontrolled excavation of roads would play a major role in the destruction of the Chure hills. "Due to eroding of Chure, the river surface is rising in the south, so there is higher risk of flood in village and cultivable land," Jha said, "Due to destruction of Chure which was the primary source of recharging of water level, sources of water have started to dry up. Then

the day isn't far for scarcity of drinking water if this situation persists. Experts have warned that, " Due to continuous exploitation of Chure, there is constant flow of soil from Chure to south river, each year, the soil level being raised by 25 to 30 cm . Due to this reason water sources are drying up, and the surface has deepened."

'Without any detailed study in Chure, dozer and excavator are being used everywhere in an uncontrolled manner in digging road sand extracting stone, gravel, sand, timbers. If the work is not stopped, the desertification of the Terai and eventually the nation would suffer the greatest loss ' Jha said,' Lack of coordination between forest, environment, soil, land, development office, protection authorities and concerned stakeholders working for the conservation of Chure is also aiding to destruction of Chure.'

'Activities of federal, state and local government like allocating budget even for two houses for digging road without any study, NEA providing poles and wire to them and Water Supply Offices expanding pipeline are also the reasons of problem' according to Community Forest Users Federation Nepal Sarlahi former President Uttar Kumar Mainali. "Unbridled manner of road expansion in the name of development, extraction of stones, gravel, sand is not only causing destruction of Chure but is also parallely increasing the risk of desertification of Terai, which is also known as food store of nation', he said ," Lack of sincerity of the local police administration and political leadership are also the factors responsible for exploitation being done. '

According to Rajanikanth Jha, a former principal who is also active in social sector,' Due to uncontrolled exploitation of natural resources, including roads that have been dug up, hundreds of acres of land is chopped and Village drowned by Bagmati, Lakhandehi, Jhimanadi in the southern region every year.'

Out of the total area, 1 lakh 25 thousand 900 hectares of the district, the Chure area occupies 23 thousand 493.3 hectares of land. According to the data cited in the website of President Chure Tarai Conservation Development Committee, there are only 10,922 households living in the Chure area. The Chure area, which ranges from 60 to 695 meters above sea level, stretches about 38 km from east of the Banke River in the district to the West Bagmati River.

According to information, though President Chure Tarai Conservation Development Committee has been working for the protection and development of Chure area for some years, the protection work is not effective.

2.8 Rush Cut of Trees! Plantation date not fixed yet!

A large number of trees have been cut in Makwanpur, Sindhuli and Udaypur districts during expansion of Madan Bhandari Memorial Highway, a project of national pride.

On the west side of Dharan - Chatara road on Madan Bhandari highway, a total of 116.775 hectares of forest with 4 thousand three hundred and four trees were cut down. It is mentioned in agreements to cut 1 thousand 2 hundred 86 trees of 33.75 hectares of forest of Makwanpur and 3 thousand 18 trees of 86.025 hectares of forest in Sindhuli.

The cut tree: plantation ratio mentioned in the agreement is 1: 25 (25 trees are planted when cutting a tree). According to Achyut Lamichhane, assistant forest officer of the Division Forest Office, Makwanpur, the responsibility of planting one lakh seven thousand six hundred saplings is under the project.

Of these, 32 thousand 1 hundred and 50 trees have to be planted in Makwanpur and 75 thousand 4 hundred and 50 in Sindhuli. However, Lamichhane, assistant forest officer of the Division Forest Office, Makwanpur, said that the district forest office has not yet planted the trees due to lack of the land at the designated place.

" It's a challenging and very difficult job to find the land for plantation," he said, " A single plantation site is needed for whole plantation work, but we are just finding out small Plots in pieces. "

The Community Forest Consumers Federation is unaware of the tree-cutting, plantation. When asked for data, federation was unable to fetch.

The decision of the then Council of Ministers on May 4, 2017 ordered the cutting of trees in the area of 147.77 hectares of the Udaypur section of the highway. Under which the technical report was sent to the road department by the then District Forest Office, Udaypur to cut the trees of 35 Community Forest Consumers group of 3 thousand 9 hundred 51 trees. According to the Division Forest Office, Udayapur, the agreement to plant more than 25 times per cut tree on the highway was done on May 6, 2017.

According to Division Forest Officer (DFO) of Gaighat, Naresh Thakur, the report was sent to the department on February 11, 2019 along with a technical estimate to cut 3 thousand 9 hundred and 51 trees with a value of 73,787 cubic feet of timber in the highway of Udaypur section. According to DFO Thakur, the government has fixed the provision of planting 25 trees equal to one tree for cutting highway

trees. Local streets have been cut down as the highway touched Belka, Chaudandigadhi, Triyuga and Katari municipalities of Udaypur and community forests within Rautamai and Udayapurgadhi village.

Assistant Forest Officer of the division, Jageshwar Prasad Sah, said that highest number of trees is cut from Chiyabari Community Forestry Consumer Group in Udayapurgadhi village as highway touched it. According to him, order has been issued to cut 657 trees of timber amounting to 10,386 cubic feet of that group. Similarly, an order has been issued to cut 755 trees of Kauwai Devi group at the then Beltar-6 of Chaudandigadhi and a cut of 70 trees amounting to 5,900 cubic feet of timber has been ordered from the former Chisapani Community Forest at Triyuga Municipality-3. Sah said officials need to cut down the trees by looking at the place, in few numbers of some group and some in high.

According to Sah, 'Although there is an agreement to plant a new tree in the tree, it is not yet certain who will plant it the division office, the highway office or the department or construction professionals. This is also one of the reasons for being late to plant the trees as they are unsure of whom to plant the new plant. According to him, a total of 98 thousand 7 hundred and 75 new seedlings of the same type has to be planted as per 1:25 ratio. Plantation program couldn't be commenced as the construction of the highway was not completed, but discussions with the department and the highway office have begun on the issue of starting soon.' Division Forest Office said.

Madan Bhandari Highway Superintendent Engineer, Umesh Bindu Shrestha said that the new tree plantation has not been started. He said that it would be easier to give the cost of planting than to plant by the directorate itself, but it was not decided yet. "We do not plant trees, it's not our work but I think we should handover the cost required for plantation", Shrestha said, "As both of the departments are governmental, so one should act as giver and the other taker, while handing over amount required for plantation. The department has not yet made a decision on this.

The estimated amount for planting the seedlings will be Rs. 19 million 69 thousand 8 hundred and 72 as per Division Forest Office, Gaighat.

3. Expert opinion

3.1 Obstacles to the arrival of wildlife

Ramdev Chaudhary, Warden, Koshi Wildlife Reserve

The policy of how to protect wildlife is essential when building physical infrastructure including roads. The lives of the wildlife pass away on a daily basis as they out from Bardiya National Park to the road. Therefore, in the area where there is a wildlife reservation, the impact on humanity as well as the wildlife and flora should be evaluated. However, this is not where we are. In the course of physical construction, such as road construction, wildlife scopes and structures need to be studied by studying the wildlife's natural pathway.

Now let's talk about the Koshi Wildlife Reserve. This reservation, called Koshi Tappu, is surrounded by livestock, farmland and large estates. It has nothing to do with Chure Mountain. We have not allowed the wildlife to move to their biological path. Chure is the biological pathway of wildlife including elephants. After the road and other structures get completed, naturally there would be road traffic, increment in human settlement, encroachment of forest due to the maneuverings which ultimately obstructs the biological paths of wildlife, is still happening. The wildlife and humanitarian conflicts of the Koshi Wildlife Reserve are now on the rise. The biological pathway has been encroached upon due to the roads, which are obstacles to wildlife path, that are being constructed in Chure. Various developmental works are taking place in the middle of Koshi Tappu, where wildlife is not thought of.

The Koshi Tappu extends to 175 square kilometers. We had prepared feasibility study reports suggesting expansion of area of Koshi Tappu and sent it to the wildlife department in 2015. To the northwest of Koshi is an extended area called Sri Lanka Island. That area is of about 105 square kilometers and to the south of Koshi Barrage, dolphins can be found. Our plan is to expand 49 square kilometers that side. Eleven hundred families of Ejar tribals are living in the north of Sri Lanka, most of the temporary settlements in Sri Lanka. If the settlement is cleared and is brought to Sri Lanka island reservation, then the area of Koshi Tappu is connected to the Chure. Once connected, wildlife, including elephants, can locomote freely from Chure to Parsa wildlife and even farther to Chitwan National Park and across Mechi to the east. Extending the reservation to the island of Sri Lanka isn't sufficient. Some settlements on the biological route need to be relocated. We watched movement for a year by adding a radio collar to the elephant named Mukhuna of Tappu. Mukhuna heads to north as leaves the Tappu. The elephant, which reaches up to 500 meters below the Koshi bridge built on the Chatara. The large human settlement does not allow the elephant to proceed. The large settlement of Belka Municipality-7 became an obstacle for

connecting the elephant to the biological path. If the elephant were allowed to go to Chure, the elephant could travel east-west freely through the jungle, far away. But as they are left unconnected, elephants begin to drift into the village on the south side of Saptari and start destroying human settlements and farms. In the last financial year, we disbursed Rs. 2.58 million. We have a policy of disbursing 1 million in case of human loss, lifetime medical expenses in case of serious injury, 20 thousand for injuries, 20 thousand for physical damages and 10 thousand for damage caused to Crop-yields.

However, such things are not taken into account during physical construction, including roads. The animals here are like fish of a lake. Hereditary traits appear to be depleted. As wildlife has nowhere to go from the Tappu, there is no exchange of genes due to lack of mating with the wildlife of other reserves. So, the hereditary risk is increasing. We are also blind to the things that need to be taken into account when building infrastructure including roads.

3.2 Impact on Terai

Achyut Koirala, Geological Engineer

Having made a journey through Madan Bhandari Highway from Hetauda to Chatara, I can say something about this. This road runs on a common and easy field terrain. There don't seem many obstacles for construction as it runs on the base and notch of Chure. In my opinion, the road on its way cuts 25%-30% of Chure Mountain. That shouldn't be considered a big problem. However, with road, flow of human increases, market expands, and the traffic congestion might have adverse effects on Chure. Growth of human settlements will definitely affect the forest. Currently the settlement around the region is less dense, but with road developments, it is sure to increase, as it has already started.

It is crucial to pay attention whether the impact can result in land erosion and landslides, if the development is to bring havoc. Such burning questions haven't been examined. Above all, it does not appear Environmental Impact Assessment (EIA) of this road has been done. It was essential to do EIA for the road stretching East Mechi to West Mahakali through the most vulnerable land of the nation, Chure. The road may have been divided without the necessity of EIA. Chure, itself is a weak geographical terrain and its direct affects can be seen in southern plain terrain, terai of Chure. During the construction of roads, its financial benefits, facilitation to the public and financial transactions are given importance in our country. We must be sensitive on the impacts and affects caused by physical

construction on the environment and bio-diversity. No such responsibility has been taken during the construction of this road. In my view, 4 lane highways is being constructed on the base of preliminary study reports. Initially, work was done on the estimate of 2 lane alternative way. Realization of an alternative way through Chure seems to work after the 2062-2063 Madhesh Movement. But after the blockade, idea of constructing highway carried out the construction of alternative way.

My estimate of work psychology, work being done, is to dig the road and leave other in matter of details.

In some places, Chure Hills seems to have been done extensive adjustments. Generally, engineers while constructing road have this belief that soil gets stable once the dug soil is displaced away. Here also, similar policy has been adopted by road department. No such consideration has been taken seeing the sensitivity of Chure geographical structure. Some engineers call bio-engineering solution of slope. It's not the case. Bio-engineering is just to stop soil erosion. After the construction of Madan Bhandari Highway, the agenda is to connect Madan Bhandari Highway to Terai East-West highway. The North-South road chopping is being done from the budget of local levels, State government and Member of Parliament fund of Saptari, Siraha, Dhanusha, Sarlahi district. Such work needs to stop. The north-south incision brings further destruction. It is said, incision on Chure is causing Terai' sunder-groundwater resources level to further decrease. That has an impact. The source of underground water in Terai is said to be going down in itself. Road construction, increase of human flow in Chure will clear away forest and cause to deepen down the source of underground water in terai and leave it to desertification. Even if a road is to be built, one must be aware and informed about the impact on the geological structure.

Madan Bhandari Highway is in a difference of 15 to 20 kilometers from Mahendra Highway and Mahendra Highway and Postal Highway are also 10-15 kilometers apart. In other words, is it our necessity to have east to West extending 3 roads in a distance of 40 kilometers apart? These are to be considered at the policymaking level. Roads are in its way to construction. Our today concern is to control the negative effects that can result from the road construction.

3.3 Unawareness of President Chure Terai Madesh Protection Development Committee

Moti Rizal, Member of President Chure Terai Madesh Protection Development Committee

Associate Professor, Central Department of Geology, Kirtipur

Except to read in news about the construction of Madan Bhandari through Chure, the Committee has not received any formal notice. There are provisions in law for prior approval to be taken from the committee before any development work on Chure is to be done. But psychology here is to build roads through any measures. EIA report is necessary before executing big projects. Such reports include Environmental, humanitarian impacts and its benefits and conservation measures to be taken during construction. However, only construction of road has been given priority. Such things are unfavorable and against law. Such wrong deeds in the name of development should not be done.

Chure is a Sensitive geographical region. Special attention should be given while carrying out development activities in this region. The technology and techniques that doesn't disturb the natural flow of water, surroundings of soil-water should be used.

Road drifts the process of migration. Once the road is built, it is not that only vehicles will run. Human settlement increases, Market expands. Similarly, In case of Madan Bhandari Highway, all these pressurize Chure. Chure falls on encroachment. Similarly, how has the mountain cut been done? What technological measures have been taken in the cut section for stabilities? are the important things to consider during road construction. Highway engineers see solutions on the support wall. However, due to varying nature of Chure Mountain, location specific technological solutions are required. Otherwise, the newly built road can become the leading cause of landslides and soil erosion.

At present, a trend can be seen to connect Terai Madhesh Chure to Madan Bhandari highway. Such North South road will be more dangerous and deadly development works than Madan Bhandari Highway. In that case, natural flow of rivers originating from Chure will suffer, the fertile land of Terai plains will be covered with sand and pebbles and river water will enter the village. Is the steep road being dug so that one can use the stone, ballast, sand from Chure and limestone from Mahabharat?

4. Comments

4.1 Request to stop road construction

Chief Guest, Former President Ram Baran Yadav, of the IME Nepal literary Festival, organized for the purpose of publicizing tourism year in Janakpurdham appeared in a furious temper. Speaking on the topic 'Chure Chinta', Former president Yadav said that Cursor Don took capture of Chure. "Chure has been captured by the Cursor Mafia" he added, "They have secured political protection. All parties also give them tickets." Yadav criticized that in past, Chure suffered deforestation and now illegal evacuation of ballast and sand is taking place but still, none of the three levels of government takes any action. "All levels of government is responsible for the destruction of Chure" he said adding "Party's leaders as well as activist are involved in it". He expressed his dissatisfaction on being unable to make law timely even after Chure Conservation Plan.

"I forwarded the President Chure Conservation but government is the one to implement it" He said "A 20 year Master plan is made but there is no one to legislate it." He requested to raise the forgotten Chure issue on the House of Representative pointing towards Former Prime-Minister Madhav Kumar Nepal. He suggested federal and state government to bring necessary laws through intense discussions with expert for Chure Conservation. "There is dozer terror in Chure, Chure is still bulldozered" he said adding " Isn't it time for government to take effective steps to stop instead of protecting it?"

4.2 Destruction in name of Development

Yadav said that the country is in destruction in the name of development. He told there is no benefit of foundation of development without proper consultation of experts and research. He opposed the development of International Airport in Nijgadh, Fast track from Nijgadh to Kathmandu and ongoing Madan Bhandari Highway. "Instead of protecting Chure, the government is crushing it down", he added further "Madan Bhandari Highway is being built hampering Chure. This will ultimately take Chure and the nation towards destruction".

He advised government to conduct scientific study on the feasibility of Nijgadh International Airport. "If the airport is built at the place, the remaining forest will also exhaust. So, we have to move 4 kilometers east or west. What is the use of worshipping Churiyamai as God-Goddess, if we can't conserve the motherland Chure ? He questioned adding "The name of development should be ruined. One must look for alternatives."

4.3 Let's stop Madan Bhandari Highway

In the same program, NCP Senior leader and Former Prime minister Madhav Kumar Nepal argued on the optimum benefit Madan Bhandari Highway. He questioned expressing his dissatisfaction about the numbers of Highways and roads being built from Mechi to Mahakali destroying forest. “If population of Nepal reaches 100 million then what number of Highways is needed? How many required should the Highway be to transport agricultural and industrial product? How many Highways are necessary to travel North-South and Mechi-Mahakali? There is no concern to this question. Roads are being built without proper consideration” He said adding “There is no use of another Highway when all these East-West, Postal and Mid-Hill Highways are already built. Three numbers of Highways is enough, adding a railway line alongside East-West Highway” He concluded.

5. Analysis

Madan Bhandari Highway is one thousand and two hundred kilometers long under construction Highway running through Inner Madhesh from Mechi to Mahakali. Our study is from Chatara, Sunsari to Chaughada, Makwanpur. This report is prepared after the field survey of around 350 Kilometer under construction region and interaction with the locals, concerned authorities, project technician, forest and wildlife officials and geological technician of Chure.

During the study, three major perceptions about the highway were found.

First, at the local level, the construction of 11meters wide highway has aroused enthusiasm. Economic, Social development and ease of transportation has found significance in the Locals. Local Level representatives and citizens doesn't seem to be aware about the construction of road in the sensitive geography of Chure. They believe to have agricultural entrepreneurship. The current scenario is that land price is skyrocketing. After the road construction, price hiking of land close to Highway can be observed. People residing far away in the hills of Chure and Mahabharata start migrating towards the Highway area.

Second, Office of Road Division

The national pride project is to upgrade and widen the roads prepared two decades before on the basis of alignment done by the local District Development Committee. Technicians are in a plan to complete work within coming month of Kartik. They aren't concerned about the sensitivity of Chure. They believe to resolve landslide problems through support wall and physical work of engineering. Project engineer Keshav Ojha points out the maintenance and repair cost and effort will exceed that of other normal roads.

“In case of slides and erosion support wall should be installed, according to necessity we also plan to do Bio-engineering” Ojha said adding “Due to weak geo structure of Chure, more challenges of maintenance will result in this particular road section.”

Most importantly, the rules and regulation and laws and policies amended by the government, to be followed during the construction of infrastructure development has been violated. After first Madhesh Movement 2063/2064, a necessity of alternative highway through inner Madhesh was felt and Road department worked on the idea of building single lane road. For this purpose, preliminary feasibility survey was carried out for the single lane road. But now, same feasibility survey is being used to construct 4 lane highways. According to experts, even the DPR of

route has been done. There is no such concrete EIA report made on a sensitive terrain like Chure.

Third, those concerned about the Chure, accuse the government silence on matters like environment, wildlife protection besides only road construction. They are worried that with the construction of highway human settlements in inner Madhesh will grow rapidly, market will expand and Chure will fall in encroachment. The report puts insight into the effect on Terai, change in natural flow of water in Terai after the road construction in Chure. Experts have also put their opinions as the deforestation and Highways will obstruct the path of wildlife, including elephants.

Under Construction Highway is 15-20 kilometer north of East-West Highway. Another Postal Highway is under construction at the south of Mahendra Highway. In this context, within 30 kilometers range, there will be three major highways. These highways are headed from East to West while the natural flow of water is from north to south.

The technology adopted varies on Highway, Madan Bhandari Highway is made similar to Mugling-Narayangadh highway by blackening the 11 meters wide and double blackening the middle 7 meters. Although it can be called Highway in technical terms but in practice it is not possible to drive in high speed as can be done in Highways. Madan Bhandari Highway may not be useful for freight vehicles and hasty passengers due to high numbers of turnings. Madan Bhandari Highway, costing more than 850 million for one kilometer, is to be limited as alternative route. It doesn't seem to be beneficial enough as per the investment.

The most dangerous aspect is the road expansion was done realizing the need of alternative routes through inner Madhesh after First Madhesh movement. But after the blockade and Third Madhesh Movement, Alternative route concept suddenly took the place of Highway in the name of National pride project. Construction work of Madan Bhandari Highway through inner Madhesh Udaypur, Sindhuli, Makwanpur took its pace. On the other hand, Saptari to Sarlahi's Local levels and State government is scrambling to link with Madan Bhandari Highway, roads being built from North to south. Budgets from Parliament Development Fund for North South under construction roads can be an achievement in socio-economic terms, the trade may grow and flow of citizens may increase, but eventually, the outcomes haven't been thought much of that may arouse causing destruction of Chure. The one looking after the stone, ballast, sand of Chure and limestone of Mahabharata must have been excited to see North-South roads.

6. Suggestions

6.1 To prevent Chure Encroachment

After the construction of a road, increment of human settlement, urbanization of village, establishment of hotels, business and traffic operations will directly influence economic, social, and cultural aspects of the society. Along the socio-economic effects seen from the outside surface, biological diversity will be struck, forest will be encroached, wildlife attacked and their reign of the road is obstructed. Natural resources and flow of water will be affected. Policy is needed to address both the use of economic social achievement and the challenges that may arise on biodiversity. Chure is considered a terrain most vulnerable to landslides, floods and erosion. The government has established Chure Development Committee giving high priority to the protection of Chure. It is necessary to consult with the Committee at the outset about the settlement of Chure, the construction of physical infrastructure, and consultation with the Committee and without any recommendation of the Committee, no legal arrangements can be made.

6.2 To prevent Chure from being Chopped/Laceration.

Madan Bhandari Highway is stretched East-West. A campaign has been launched to open new roads from Saptari, Siraha, Dhanusha, Mahottari and Sarlahi districts of the Terai Madhesh to connect this highway, which runs through to Inner-Madhesh districts, Udaypur, Sindhuli and Makwanpur. It is necessary to immediately stop incision of Chure in the name of development through the budget of the local level and state and federal parliamentary development funds connected with the Chure hills. Strict implementation of the law and order, mandatory requirement of the approval of the committee and recognized body while performing physical construction work in any of the selected areas. Preparation of reports including EIA when working in Chure and work accordingly.

6.3 To protect wildlife corridors

Considering the fact that the southern foot of Chure, also called as Bhaabar zone, is a corridor of wildlife, construction of wildlife corridor needs to be kept at high priority. By doing so, wildlife reserves of Koshi Wildlife Reserve, Parsa and Chitwan National Parks become accessible environments to the wildlife. If wildlife corridors are made possible to be clearly evacuated and an environment is created

for their free movement then, human conflicts in Jhapa, Morang, Saptari, Udaypur, Siraha, Sunsari, Sindhuli, Makwanpur and Chitwan be controlled.

6.4 To protect the forest

Community forests have played an important role in Nepal's forest conservation. However, not all community forests have been equally responsible. There is drastic change in scenario after the road are constructed. Roads are considered the leading cause of forest destruction. In this sense, forest conservation policies and plans should be formulated and implemented.

6.5 Maintenance and Repair

The main work of the road department has been considered as road construction and in practice it seems to be so. Fast track construction through Makawanpur district and Madan Bhandari highway from East Udaypur are the projects of national pride. Apart from this, Dozer Engineering, which pits roads in the name of development, seems to be a top priority in every district. There will be no closure of roads that have been constructed. But, keeping looseness of the soil of Chure, it's geo-structure including geological, biological factors in higher priority, maintenance plan needs to be made. Geographical planning like Bio-Engineering can be successful and this requires a change in the psychology of road engineers that walls are solutions to solve all problems.

7. Reference material

1. Environment Protection Act, 1997
2. Environmental Protection Rules, 1997
3. Forest Act, 1993
4. Forest Rules, 1995
5. President Chure-Terai Madhesh Conservation and Management Master Plan
6. Procedures and parameters to be followed when building development in Chure area (President Chure Terai Madhesh Conservation Development Board)
7. Supplementary Initial Environmental Examination Report of Dharan -Chatara - Gaighat -Sindhuli – Hetauda Section

8. Annex

The study team

1. Bishwamani Pokharel - Coordinator
2. Aashish Paudel - Assistant Research Officer
3. Chandra Maajhi - Nepal Environment Journalist Group
4. Swekshya Rimal - Nepal Environment Journalist Group
5. Puskar Khadka - Nepal Environment Journalist Group
6. Anil Bhandari - Journalist, Sindhuli
7. Ashok Sujana Shrestha - Journalist, Hetauda
8. Maheshwor Chamling - Journalist, Gaighat
9. Govinda Adhikari - Driver, Sindhuli Udaipur

The Subject matter Experts

1. Achyut Koirala - Geological Engineer
2. Moti Rijal - Member , President Chure-Terai Madhesh Conservation Development Board
3. Ramdev Chaudhary - Warden , Koshi Tappu Wildlife Reserve

Technical Engineers who participated in a site overview tour of the under construction road project

1. Rajesh Prasad Poudel
2. Kabis Tandukar
3. Birendra Prasad Mahato
4. Manoj Mandal
5. Manish Pokharel
6. Purushottam Sigdel
7. Manoj Bista
8. Govind Dumru
9. Chetan Kumar Mandal , Sub-Engineer
10. Bijay Yadav – Chief, Institute of Forestry, Hetauda
11. Gulab Kumar Chaudhary - Assistant Professor, Institute of Forestry, Hetauda
12. Yogendra Yadav - Deputy Professor , Institute of Forestry, Hetauda
13. Narayan Shrestha – Chief, Division Forest Office, Sindhuli
14. Jageshwar Sah - Forest Officer, District Forest Office, Udaypur
15. Narendra Kumar Mishra - Forest Officer , Divisional Forest Office, Sindhuli
16. Sadhuram Chaulagai – FECOFUN

Construction Company Representative

1. Gyanendra Prasad Rijal

Public representatives

1. Baldev Chaudhary - Mayor , Triyuga Municipality , Gaighat , Udaypur
2. Manju Devkota - Deputy Mayor, Triyuga Municipality, Sindhuli
3. Phaniraj Bamjan - Chairman, Marin Village , Sindhuli
4. Kumar Basnet - President, Dudhauri Village Ward No.7 , Sindhuli
5. Bishwaraj Bhattarai - President, Triyuga Municipality Ward No. 11, Gaighat

Locals

1. Pramod Kumar Rai - Teacher , Rai Village , Nuwakot
2. Arun Kumar Bam - Chairman , CPN Party Committee, Bagmati Rural Municipality, Nuwakot
3. Basu Mainali - Businessman, Marin, Sindhuli
4. Bimarsa Moktan - Political worker – Marin Rural Municipality, Sindhuli
5. Buddhi Maya Rai - Ratanpur , Harihargadhi, Sindhuli
6. Chet Ram Rai - Ratanpur , Harihargadhi , Sindhuli
7. Tek Bahadur Bamjan - Ratanpur , Harihargadhi, Sindhuli
8. Nirmal Khadka - Khorbhanjyang, Sindhuli
9. Raju Basnet - Construction Trader, Gaighat