

Social Impacts and their Severity on the construction of Dhaulasidh Hydro Electric Project, Himachal Pradesh

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ABSTRACT

This paper seeks to assess, in advance, the social repercussions that are likely to follow from the project undertaken to promote development in the project affected zone. This can help decision-makers foresee the possible negative impacts of their actions, so that step necessary to prevent or at least contain them could be taken in time in various schemes for developing hydropower pan India. As an aid to the decision-making process, the paper provides information on social and cultural factors that need to be taken into account in any decision that directly or indirectly affects people's lives in the project area to administration/project authorities/public representatives of the concerned area.

Keywords- Social impact, cultural factor, Hydropower pan, Biodiversity/Environment effect.

INTRODUCTION:

Dhaultasidh H.E. Project (A unit of SJVN Ltd, a public sector undertaking) situated on Beas River near Sanotu village in Hamirpur district of Himachal Pradesh. The project contemplated a run-of-the-river scheme with small live storage to utilize it for peaking during the lean season. It envisages about 70.75m high concrete gravity dam located at about 10 km downstream from the Sujampur Tihra bridge near district Kangra. The dam site located at longitude 76o 26' 30.7" E and latitude 31o 48' 23.1" N. Presently, the dam site can be approached by a small foot track, about 4 km from RCC bridge on Salasi Khad near Jihn village. The nearest rail head is at Una and the airport is at Gaggar (district Kangra), which is about 83 km from the project site. A metalled road of about 4 km has to be constructed to approach the project site from RCC bridge on Salasi Khad near Jihn village. Dhaultasidh HEP is proposed to be completed in 43 months (excluding 11 months for pre-construction and infrastructure activities). The project would afford generation of annual energy of 258.31 GWh at the power house busbars in a 90% dependable year with 10% overloading. The basic cost, per MW installed, works out to Rs. 6.65 crores. The cost of energy generated is slightly on a higher side primarily due to higher project cost/MW. The project can be considered for next stage depending on availability of Power Purchase Arrangements.

The proposed Dhaultasidh HEP intercepts an area of 9580 sq km and lies between Latitude 76o 15'E to 77o 45'E and longitude 31o 45'N to 32o 30'N. The entire catchment comprises mountainous terrain with steep hill slopes and is very thinly populated. The daily observed discharge data at the Beas River near Sujampur & Nadaun villages are available for January' 1980 to December' 2008. Therefore the 28 years available average monthly series at Nadaun has been transposed in catchment area proportion to Dhaultasidh HEP site. The obtained water

series at Dhaulasidh HEP is proposed for the planning purpose. The peak of the design flood hydrograph for SPF and PMF worked out to 12000 and 17674 cumecs, respectively. Similarly, diversion flood of 1000 cumecs is recommended at Dhaulasidh Dam site for 1 in 25-year flood during November to May.

There is a general optimism for the upcoming Dhaulasidh HEP project in the area. The social impact assessment study undertaken by project as mandatory provision of Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013 found that 93% of the primary stakeholders were willing to surrender their land for acquisition provided appropriate compensation is paid and only 7% resisted the acquisition process. During the FGDs (focussed group discussions) with Panchayats, the villagers and secondary stakeholders were also found to have a very favorable opinion towards the project as it would bring an overall development to the entire area in terms of infrastructure development (both Social and Physical) and increase in employment and business opportunities. Also, they anticipated the increase in land prices of the area, which would be a beneficial factor for them.

However, they were also apprehensive about the negative impacts that may rise from the project if not properly mitigated. There were concerns regarding the rise in disputes among stakeholders for receiving the compensation and that the vulnerable groups may be left out or be cheated. Also, since on receiving the compensation amount, there would be a change in the financial condition of the PAFs which in turn would alter their purchasing capacity and would also increase the risk of fund miss-management as many of the landowners are not properly educated, especially regarding financial management. The project area may also experience rise in cases of frauds and cheats once the compensation amount is distributed. There are also chances of changes in cultural practices and traditions because of changes in the spending pattern.

Due to the acquisition, there would also be loss of both private assets and public infrastructure like residential and commercial structures, cremation grounds, roads, existing water and irrigation facilities including IPH Infrastructure, and also loss of common property resources like drinking water sources like dugwells and tubewells, forests, grazing grounds, temples, etc. A total of 19 private structures are getting lost under the proposed acquisition which will result in displacement of 8 PAFs and a livelihood loss for 10 PAFs. In these structures there are five residential houses, 131 Shops, one office, five independent toilet structures, one separate kitchen structure, one independent store and one cowshed. Among other assets attached to the land under acquisition, a total of 7,724 fruit bearing trees, 17,280 non-fruit bearing trees are also getting impacted due to the proposed acquisition. Similarly, 77 public assets are getting lost under the proposed acquisition for the DSHEP. These include two temples, Sewerage system of Sujapur, 29 cremation grounds, 25 water supply infrastructure including IPH Schemes, pumphouses and tubewells, 1 Gharat, 2 Bauris, one well, village footpath at Bhulander and 15 electric poles. The village wise details of the loss to infrastructure and assets has been discussed in chapter 4. The PAPs and the villagers, were concerned about how alternates would be provided to them by the acquiring body such that it would not hamper their daily routine. The villagers also have a dependency on the adjoining grazing land and forest for cattle fodder and fuelwood. During the construction phase of the project, the stakeholders had a positive outlook towards the project as it would generate suitable direct and indirect employment and business opportunities for them. Due to in-migration, they would witness increased consumption of goods, which would benefit the local economy.

PROBLEM FORMULATION:

- 1- What are the various impacts which would be incurred at different development stages of the project?
- 2- What are the possible impacts on Landowners?
- 3- What impacts as perceived by PAP's?
- 4- What is the nature and intensity of the impacts?

1. Description of impacts at various stages of the project

- 1.1 Migration:** The construction phase of any project is rather an unsettled stage characterized by uncertainties and disorders. The basic problem relates to the management of a large population that migrates to the construction area in search of jobs. The project is estimated to generate total employment of 600, which would include 500 workers and about a 100 technical staff during its peak construction phase. Taking an average household size of 4 it is estimated that about 2400 persons will inhabit the area during the construction phase, which is expected to last for about 3-4 years. Those who would migrate to this area are likely to come from various parts of the country having different cultural, ethnic and social

backgrounds. Such a mixture of population has its own advantages and disadvantages. The advantages include exchange of ideas and cultures between various groups of people which would not have been possible otherwise. Due to longer stay of this population in one place, a new culture, having a distinctive socio-economic similarity would develop which will have its own entity. The benefits however, are not certain and depend on several factors. Often, they are directly related to the way the construction phase is handled by the project authorities and their sensitivity to various socioeconomic problems that could develop during this phase.

- 1.2 Aggregation of labour:** Most of the labour would live in dormitories provided by contractors. Improperly planned labour camps generally tend to become slums, with inadequate facilities for potable water supply and sewerage treatment and disposal. This could lead to an outbreak of epidemics of waterborne diseases. Proper sanitary facilities need to be provided in these camps. An adequate surveillance and immunization schedule needs to be developed for the labour population migrating into the project area. The locals and PAPs also showed concerns regarding the in-migration of labour for the project. It would raise the pressure on existing infrastructure like health facilities, educational facilities, roads, etc. There may be chances of a rise in conflicts among the locals. The in-migrants and the stakeholders also opined that there are chances in rising in crime rates and anti-social activities in the area because of migration. The site may also witness cultural mixing.
- 1.3 Increased incidences of water-related diseases:** The construction of the proposed reservoir would enhance the potential breeding sites for various disease vectors. There are chances that the incidence of malaria may increase as a result of the construction and operation of the proposed project. In addition to the construction of the reservoir, factors such as Aggregation of Labour, Excavation, Inadequate facilities in labour camp, muck disposal sites too may lead to the increased incidence of malaria in and around the project area if not adequately mitigated.
- 1.4 Muck Disposal:** Normally, muck disposal is done at low lying areas, which get filled up due to the stacking of muck. This can sometimes affect the natural drainage pattern of the area leading to the accumulation of water or partial flooding, providing ideal breeding habitat for mosquitoes. Moreover, muck disposal sites are vulnerable to dust/air pollution and also prone to unchecked open dumping of waste from the vicinity, thereby degrading the local environment.
- 1.5 Soil Erosion/Increased Siltation:** Heavy siltation may reduce the photosynthetic activity to some extent. This is likely to harm the primary productivity of the affected stretch of river Beas and its tributaries. Since river Beas has sufficient flow, the impact on this account are not expected to be significant. However, some adverse effects are anticipated on the streams and nallahs which have flow during lean season.
- 1.6 Impact of fog due to the construction of the reservoir:** there would be a considerable rise in humidity levels during summers and increased frequency and endless hours of moisture during winters. Consequently, this would alter the productivity of crops and fertility of the soil in the area. This will have a more severe effect in some villages like Bulli, Laungni, Balehu, Mathan, Dalli, Gaagla and Bhulander. The fog may also impact the health of the locals and consequently would increase expenditure on human and animal health on account of increased fog & infestation of diseases and pest. However, during summer people may get relief from heat due to cool climate.
- 1.7 Impact on bridges, roads, and culverts:** As per the requiring body, no bridges are going to be impacted by the proposed dam-reservoir as the water level in the reservoir is going to remain well below the safe limits. As per the study, there are six bridges, one culvert and one road which falls in close vicinity of the reservoir area and are vulnerable to impact. Further, there would also be a problem with traffic, air and noise pollution because of the heavy transport vehicles, material transport, and construction. The area may even witness a rise in health problems due to fog, construction, and quarrying activities.

Table 1- Impacts during various stages of a project

Stage	Social Impacts	Economic Impacts	Cultural Impacts
Pre-construction Stage	<p>Disputes among stakeholders for receiving compensation may arise.</p> <p>Doubts and fear of the upcoming changes such as rise in water levels, humidity, increased landslides, etc.</p> <p>Loss of cremation grounds</p> <p>Loss of temples</p> <p>Loss of common property such as water resources, gharats, etc. will harm the quality of life.</p>	<p>Prices of land in the surrounding area may increase due to the upcoming project.</p> <p>Sudden change in the financial condition of the PAFs due to the compensation awarded, their purchasing capacity may change and would also increase the risk of fund miss-management.</p> <p>Loss of infrastructure such as existing irrigation facilities, etc. will harm the economy of the project affected and surrounding areas</p> <p>The diversion of forest land will negatively impact the villagers since they have a high dependency on the collection of fodder and fuelwood.</p>	<p>With the change in spending patterns of people getting benefitted due to the upcoming project, there would be an impact on cultural practices and traditions.</p>
Construction Stage	<p>In-migration of construction workers and technical staff will increase the burden on existing health care centres, hygiene.</p>	<p>Increased employment and business opportunities for the locals and PAFs.</p>	<p>Due to in-migration, people will come from other states and bring their own culture,</p>

	<p>Migration may increase pressure on the existing Educational Institutes also.</p> <p>A social divide may be created between people who benefit from the project and people who remain unaffected.</p> <p>Living standards of the habitants may improve due to the overall development of the area because of the upcoming project</p> <p>A sense of safety and security may decrease among locals as a result of in-migration.</p> <p>Conflict may arise with outsiders, and the area may see a rise in crime and anti-social activities.</p> <p>The area may witness a rise in health problems and diseases due to construction, quarrying.</p> <p>Heavy transportation during the construction phase may lead to increased air and noise pollution in the adjoining villages.</p>	<p>Increased disposable income with the locals.</p> <p>Increased economic activities and consumption patterns. Due to in-migration, the area would witness increased consumption of goods and services, thereby benefitting the local business.</p> <p>Negative impact on the productivity of crops and fertility of land due to increased humidity and fog</p>	<p>beliefs, religious practices, clothing patterns, etc. which may impact existing cultural practices and traditions of the local habitants.</p>
<p>Post-construction Stage</p>	<p>Pollution caused by construction activities will reduce, and the area may witness a better living environment.</p> <p>People may face difficulty maintaining the living standards set forth due to the increased income level during the construction phase.</p> <p>Apprehensions about the substantial increase in the population of snakes and other dangerous reptiles, the insect pests; etc. after constructing a dam and persistent fog.</p>	<p>Due to a drop in construction activities, there would be less employment and business opportunities for locals and may also lead to unemployment for the temporary workforce involved in the project.</p> <p>The area may witness sudden fall in local economy due to out migration of the temporary workers involved in construction stage.</p>	<p>Cultural stability maybe seen during this phase.</p>

	<p>Impact on health and health expenditure on humans and animals due to increased humidity and persistent fog</p> <p>Change in micro-climate of the area due to fog and humidity.</p>	<p>Due to funds like LADA area may witness further improvement in infrastructure development even after construction phase.</p> <p>Risk of accidents and landslides</p> <p>Decrease in productivity of crops and fertility of soil due to persistent fog.</p>	
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Source: SIA study DSHEP, Hamirpur/ ADB (Asian Development Bank)

2. Possible impacts on Landowners

- 2.1** Out of the total private land of 246.8062 Ha being acquired only 9% land is cultivable and the remaining 91% land is uncultivable. Therefore, the practice of agriculture on the land being acquired was not found to be intense. In fact, although the share of private land seems to form the majority of the total land requirement it is mainly because the PAFs (Project Affected Families) are having ownership of land right on the river banks and in many areas on the river bed itself which remains of no use most of time in the whole year. The anticipated impacts will be loss of land which will deprive the affected families of their agricultural income, income from Shops and alter the way of life. Further, the project involves construction work which will affect the adjacent landowners and others due to air and water pollution. The PAFs (project affected People) were found to carry out Agriculture/horticulture activities on the land under acquisition, however the activity was not found to be very intense as a majority of the landholdings were found to be on or near to the river bed. Only 22.78 Ha of the total area under acquisition is cultivable land. Although agriculture did not form a major economic activity of the PAFs, but a combination with livestock rearing, horticulture activities and collection of fodder and fuelwood generate a substantial economic support for them.
- 2.2 Impact of Fog:** Due to the creation of reservoir the area would witness change in its microclimate which would include alteration in its peak temperatures (both max. and min.) both during summers and winters. There would also be considerable rise in humidity levels during summers and increased frequency and lasting hours of fog during winters. Consequently, this would alter the productivity of crops and fertility of soil in the area. This will have more severe effect in some villages like Bulli, Laungni, Balehu, Mathan, Dalli, Gaagla and Bhulander. According to an estimate by the Department of Agriculture Economics, CSK Krishi Vishvavidyalay Palampur in 2011 the productivity of crops (field) and fruits valued at Rs 1500/ha in case of field crops like wheat and Rs. 7500/ha in case of fruits may decline by 10% from this project. The fog may also impact the health of the locals and consequently would increase expenditure on human and animal health on account of increased fog & infestation of diseases and pest is estimated to be Rs. 300/ to Rs. 200/head, respectively. People also have also apprehensions about the substantial increase in the population of snakes and other dangerous reptiles, the insect-pests; etc after the construction of dam and persistent fog.
However, during summer people may get relief from heat due to cool climate.
- 2.3 Increased Incidences of water related diseases:** The magnitude of breeding sites for mosquitoes and other vectors in the impounded water is in direct proportion to the length of the shoreline. The construction of the reservoir would increase the shoreline by many times as compared to the pre project shoreline of river Beas under submergence. Thus, the construction of the proposed reservoir would enhance the potential breeding sites for various diseases vectors. There are chances that incidence of malaria may increase as a result of the construction and operation of the proposed project.

- 2.4 Impacts on public services and utilities (SIA Study):** Loss of access to commonly owned assets (forestlands, water bodies, grazing lands, gharats, cremation grounds, temples and schools) is often overlooked and uncompensated, particularly for the asset less as they are considered to be providing indirect benefits to the community which could not be quantified. But absence of the same do affect the quality of life of the community. Since the acquisition of land is taking place linearly along the river therefore, apart from private land the adjoining forest area is also coming under the project on both banks. The study found that the villagers have dependency on forests for collection of cattle fodder and collection of firewood. Moreover, these areas are also used by villagers as grazing grounds. Similarly, 77 public assets are also being lost under the proposed acquisition which include, 2 temples, 1 sewerage system of Sujampur, 29 cremation grounds, 25 water supply infrastructure including IPH Schemes, pumphouses and tubewells, 1 Gharat, 15 electric poles, 2 bauris, 1 well and village footpath in Balunder village. Since there would be loss of pumphouses and bauris in many of the villages, it would impact their existing irrigation and drinking water facilities. Similarly, due to loss of electric poles in Pargana village, the area would be vulnerable to electricity blackout unless proper alternate measures are taken beforehand to provide electricity to the villages before removing the existing poles. In addition, 2 temples at Alampur and Jangal Jeehan of Choru Panchayat respectively and 29 cremation grounds would be impacted in most of the villages since they are located mostly on river banks. Loss of these utilities would bear a direct negative impact on the economic and sociocultural lives of the affected population.
- 2.5 Impacts on health, culture and social cohesion:** There may occur impact on health of villagers in the project area due to increased humidity, increased frequency and lasting hours of fog, vulnerability to water borne diseases, increased air and noise pollution, increased stress on existing health facilities. The respondents were also apprehensive about chances of rise in conflicts among the locals and the in-migrants. They opined that there are chances in rise in crime rates and anti-social activities in the area because of migration. The area may also witness cultural mixing. However, due to in migration the area would also witness increased consumption of goods which would benefit the local economy.
- 2.6 Gender based impacts:** One of the possible impacts of proposed acquisition of land can be unavailability of work opportunities to the females in project area due to the loss of land. Even if the females are educated, they do not prefer to go out of the village to earn livelihood. Another impact possible is degradation of economic status of females since many of them don't have any legal claim on papers over the land hence they might not qualify for compensation of land-loss and they fall in the category of indirectly affected PAPs (project affected people).

As per SIA study of DSHEP it was observed that women of the household too participate in carrying out the agricultural activities in the area along with men. Apart from agriculture, during the day women were found to be more involved in carrying out other activities such as managing the shops, maintenance of cattle and poultry, collection of cattle fodder and firewood for the household etc. Although these activities play a crucial role towards the economic wellbeing of any household, however to quantify the same becomes difficult. Out of the total

10946 PAPs, 5401 are women. There are 763 widows among the PAPs out of which 74 are titleholders. Women especially widows are highly vulnerable and require particular attention during award of compensation.

3. Impacts as perceived by PAP's (project affected people) and proposed mitigation measures.

3.1 The respondents of SIA study of DSHEP, Hamirpur shared that there would be some positive impacts due to the DSHEP activities. These includes an increase in the employment and income opportunities within the project and in the ambit of the forward and backward linkages. The increase in the value of land is another positive impact according to the respondents. Majority of them also believed that it will create scope for increase in business opportunities. Also, some of them are hopeful that due to a better road network there would be an increase in the average vehicular speed and increased frequency of transportation services. Most of the PAPs were also positive about the overall development especially infrastructural development (social and physical) that would occur in the project villages due to the upcoming HEP. The respondents also seemed to be worried about some of the negative impacts. The main among these was the loss of land. This in itself carries a huge impact on their livelihoods, way of life and social relationships. Next impacts are related to the influx of in-migrants from different parts of the state or from different states- that may instigate conflict between the locals and the outsiders, an intrusion to their culture and social life, more pressure on the existing natural resources and on the infrastructure. Further, due to the acquisition.

Further, due to the acquisition of forest land on which the villagers were dependent for collection of fodder and fire wood would now be lost and therefore equivalent alternatives need to be provided. There would also be increased humidity due to creation reservoir and rise in water levels, risk of water borne diseases, impact of fog on productivity of crops, fertility of land and health of humans and animals, rise in air and noise pollution, possible rise in water pollution due to construction, rise in traffic esp. heavy vehicular traffic etc. The increase in the vehicle speed and more cars on the roads would lead to more road accidents.

The villagers were also concerned about the impacts which would be created due to loss of cremation grounds. Another concern was the impact on the villages due to loss of their water resources such as IPH infrastructure, streams, wells and bawdis and also loss of Gharats. Few of the respondents also opined that the chances of HIV/AIDS and risks of trafficking could increase.

3.2 Mitigation measures proposed by the PAPs and during FGDs (focussed group discussions) and public hearings held with panchayats:

1. Better connectivity in terms of roads, bridges and digital network including upgradation of village and link roads to all weather metalled roads
2. Proper drainage facilities in all panchayats of the project area
3. Job opportunities in upcoming HEP project for PAPs.
4. Development of village in terms of infrastructure, services and facilities.
5. Better school and higher education facility within village.
6. Technical education institutions for the project area and surroundings
7. Compensation against acquired land with circle rates.
8. Better health care including ambulance services, ambulance roads, better infrastructure of PHCs, clinics and hospitals facilities with in village.
9. Vocational training centres for income restoration.
10. Provide Skill upgradation trainings to the working-class population under various government schemes
11. Continuous check on pollution level caused by proposed project.
12. Business opportunities for local villagers in upcoming project and otherwise such as contracts for construction, supply and transportation.
13. Street lighting in all panchayats of the project area
14. Electricity at special subsidized rates to PAPs and panchayats being affected by the project.
15. Proper Irrigation facility in all project affected Panchayats.
16. Assistance/ Loan from other ongoing development scheme
17. Ex-servicemen truck union have requested that since after the acquisition of their office in Pargana the members would not have any parking space for their vehicles, they have requested to be provided with additional land of 6 Marla in Jol panchayat as an alternate.
- 18) In case the Government is unable to compensate the villagers as per the appropriate rates, a few people suggested that alternative land of same category may be provided to them through allotable pool or the deficit be met by the government through public welfare funding.

4. Nature and intensity of the impacts

Table-2

Impact Area	S. No.	Impact Identified	Stage of Project cycle	Nature of Impact	Intensity of Impact
Social	1	Disputes among stakeholders for receiving compensation	Pre-construction	Temporary	Short term
	2	Social divide created between people who are getting benefitted from the project and people who remain unaffected.		Temporary	Short term
	3	Impact on existing cultural practices and traditions of the local habitants due the in migration.	Construction Phase	Temporary	Long term
Land/ Structure	4	Loss of agricultural land	Construction Phase	Permanent	Long term
	5	Landlessness among PAPs		Permanent	Short term

	6	Loss of shelter for PAPs		Permanent	Short term
	7	Loss of public infrastructure like gharats, footpath, IPH/pump houses/water tanks, schools, aanganwadi, temples, baudis, sewerage system, cremation ground and electric poles.		Temporary	Short term
	8	Loss of common property		Temporary	Short term
Livelihood/ Income	9	Loss of agricultural income	Pre-construction Phase	Permanent	Long term
	10	Loss of agricultural income		Temporary	Short Term
	11	Increased consumption of goods due to in migration benefitting the local economy.	Construction Phase	Temporary	Short Term
	12	Job opportunity for local villagers and PAPs in construction work.	Construction Phase	Temporary	Short Term
	13	Increase in land prices	Construction and Post Construction Phase	Permanent	Long term

	14	Sudden change in financial condition of the PAFs due to the compensation awarded, their purchasing capacity will change and would also increase the risk of fund missmanagement.	Pre-construction	Temporary	Short Term
Physical Resources	15	Loss of private assets like trees, cowsheds, shops, toilets, kitchens, stores, etc.	Construction Phase	Temporary	Short term
	16	Increased pressure on existing infrastructure such as PHC, educational institutes, roads, etc.	Construction Phase	Temporary	Short term
Biodiversity/ environment	17	Loss of forest land serving as primary source for fodder and firewood collection for people living in affected villages and neighbouring areas.	Construction Phase and Postconstruction	Permanent	Short term
	18	Increased humidity and fog due to construction of reservoir	Construction Phase and Post Construction	Permanent	Long term
	19	Increased level of air, water and noise pollution due to construction activity and quarrying.	Construction Phase	Temporary	Short term
Health	20	Risk of water borne diseases due to increased pollution level.	Construction Phase	Temporary	Short term
	21	Risk of Accidents during/ after execution of project	Construction Phase	Temporary	Short term
	22	Risk of Health Hazards (increase in incidents of HIV/AIDS and Trafficking etc.)	Construction Phase	Temporary	Short term
Quality of life	23	Rise in traffic esp. heavy vehicular traffic	Construction Phase	Temporary	Short term
	24	Possible disputes among local villagers and migrants.	Construction Phase	Temporary	Short term
	25	Compromised connectivity among various villages	Construction Phase	Temporary	Short term

26	Degradation of irrigation facility.	Construction Phase	Temporary	Short term
27	Degradation in availability of drinking water due to loss of natural spring and pumphouses.	Construction Phase	Temporary	Short term
28	Loss in sense of social security due to in migration.	Construction Phase	Temporary	Short term
29	Overall development of village.	Post-construction	Permanent	Long term

CONCLUSION:

From the above analysis it is clear that the project benefits will be extended not only to the people of the affected area but also to the entire district and State. In fact the entire northern region stands to be benefited from this upcoming project. Implementation of the Dhaulasidh HEP project will bear both positive and negative impact on the project. However, if the proposed Mitigation Plan is followed, it will help mitigate the social impacts by minimizing the negative impacts and amplify the positive impacts, thereby overshadowing the adverse social costs.

Keeping in mind the macro picture of this project which will benefit and contribute towards the development of the State and consequently the country as a whole, the paper recommends that the proposed land acquisition for the Dhaulasidh hydro-electrical project (66 MW) should be carried out, provided that all measures suggested to mitigate the various identified impacts are followed judiciously.

In district, like Hamirpur and Kangra of HP, where agriculture is practice for sustainability and miniscule of opportunities are available to youth as no major industries being installed in the area and the for employment beyond agriculture migration is only the option with the residents, therefore this project can be a boon to the area as direct and indirect employments will render less migration to other cities and huge opportunities in area of fisheries, tourism direct/indirect employment will accrue.

A mitigation plan need to adhere to strictly where the impacts/risks as perceived by people and identified from other sources shall form integral part for the amount of welfare gain by the residents of the area. Also CSR will be game changer as far as the basic amenities where the area lacks. In other words the welfare gained by the residents will overlook the risks identified hence the project need political will along with the proper mitigation of the impacts.

ABBREVIATIONS:

1.	DSHEP	Dhaultasidh Hydro Electric Project
2.	SIA	Social Impact Assessment
3.	CSR	Corporate Social Responsibility
4.	FRL	Full Reservoir Level
5.	PAFs	Project Affected Families
6.	PAPs	Project Affected Persons
7.	PDEs	Project Displaced Families

8.	R&R	Rehabilitation and Resettlement
9.	FRL	Full Reservoir Level
10.	HEP	Hydro Electric Project
11.	IPH	Irrigation and Public Health Department
12.	SPF	Standard Project Flood
13.	PMF	Probable Maximum Flood

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