SUSTAINABLE AND ECO-FRIENDLY MECHANISM OF HUMAN DEVELOPMENT-A CASE STUDY OF NEOGAL HYDRO POWER PROJECT

Naresh Kamal
Assistant Professor (Geography)
Government College Kullu (H.P.)

Abstract

Water is the life supporting resource for human beings and prime input for the development. The utilization of water is increasing at a fast pace with the increase in population. The availability of fresh water resources is a major issue before our country and throughout the world. The United Nations General Assembly at its 58th session in December 2003 agreed to proclaim the years 2005-2015 as the International Decade for Action, “Water for Life”. The present paper presents the case study on the environmental problems associated with the development of the micro hydro power project on Neogal River at Palampur, Himachal Pradesh. It is an attempt to show the condition of local population in the state of Himachal Pradesh, struggling for water share and stressing for adopting eco-friendly mechanisms during the process of development of the hydro power projects. The paper suggests some ways to adopt sustainable and eco-friendly mechanism of human development for saving the natural beauty of the Himalayan valleys.

Keywords: Sustainable, Eco-friendly, Utilization

INTRODUCTION

With the increase in population of India the pressure on available water resource is increasing at a fast pace. The dwindling availability of fresh water resources is major issue in many parts of the world. Keeping in view the United Nations declared the year 2003 as the International year of fresh water and subsequently the General Assembly at its 58th session in December 2003 agreed to proclaim the years 2005-2015 as the International Decade for Action, “Water for Life”. The per capita water availability in India is reducing progressively due to increase in population and rapid industrialisation. The Indian population, which was 361 million in 1951, increased to 1.21 billion in 2011, and is expected to be 1.37 billion by 2020 as per census of India. The per capita availability of fresh water was 5177 cubic meters during the year 1951, has dropped to 1816 cubic meters as per 2001 census and further reduced to 1545 cubic meters as per 2011 census (Press Information Bureau, 2013). India has 17.5% of the world’s population but global water resource is only 4% per cent as such India is classified as ‘water stressed’, i.e., less than 1,700 cubic meter / person / year.

The demand for establishing hydroelectricity projects is one of the priorities of the state and central governments for meeting the power requirement in the country. As socio economic development of any country depends upon the power sector. Himachal Pradesh is going through the process of large scale hydro projects development and challenges associated with the construction of hydro projects as large number of projects are being executed under 11th & 12th five year plans from 2007 to 2017. In the phase of hydro power projects development, the construction activities play havoc with the nature, destroy natural water resources, damage drinking water supply schemes, indulge in illicit felling of forest trees etc. The present paper is an attempt to
show the condition of local population in the state of Himachal Pradesh, struggling for water share and stressing for adopting eco- friendly mechanisms during the process of development of the hydro power projects.

NEOGAL RIVER AND MICRO HYDRO POWER PROJECTS

Located in the Kangra Valley of Himachal Pradesh, the Neogal is a perennial tributary of the Beas River. It originates from the Dhauladhar hills and is a snow and rain fed river, forming the Neogal Watershed comprising of riverine terraces and plains fields as well. The key characteristic of the river is the heavy dependence on it for drinking water and irrigation. A traditional, well developed *Kuhl* (irrigation channel) system exists in the Palampur area, whereby villages have channelized water of the Neogal River for irrigation purposes. Almost 40 such large and small *kuhls*, managed as common property resources, have catered to the irrigation needs of over a 100 villages in the watershed (Baker, 2005).

Apart from this, Palampur town and villages upto 30 Kms downstream about 30000 population depend on the water of the Neogal River and Bohal spring (originating in the same watershed) for drinking purpose. Twelve water supply schemes are being run by the IPH on the river.

Neogal Hydro Electric Projects are a run-of the river type hydro power project on Neogal Khad, a tributary of river Beas in Kangra District of Himachal Pradesh in northern part of India. Two of the projects, coming up on the Neogal River include the 15 MW projects being developed by Om Power Corporation and another 4.5 MW project by the Astha group of companies. The project is a run of the river scheme with a 3.5 km long headrace tunnel. The TEC to the project was first accorded in 1991-92 by the CEA. At the time the project was planned by the Himachal Pradesh State Electricity Board. The MoU was signed with M/S Om Power Corporation in Aug.1993. Implementation Agreement was signed in July, 1998. Draft PPA between the company and the HPSEB has been signed in Dec.1993. The installed capacity of the project is 15MW and expected gross energy generation is 87670 MW per annum. The project activity would utilise potential energy available in flowing water for power generation. Natural river bed fall and water available at the location are the inputs for power generation. The electricity produced at 11 kV will be stepped up to 33 kV and evacuated through 12 KM long 33 kV transmission line to HPSEB sub-station at Dehan. The project activity comprises Civil structures such as diversion weir, intake structure, headrace tunnel, surge shaft, penstock, power house, tailrace channel, switchyard, electro-mechanical components such as 2 Nos of Pelton turbines, synchronous generators, transformers, switchgear equipment, power plant control systems and fire fighting equipment. Project cost is estimated at Rs. 982.77 millions. The project is expected to generate net energy of 82848 MW to India’s NEWNE Power Grid. The Project will avoid 69599 tons of CO2 greenhouse gases (GHGs) annually by avoiding future capacity expansion of fossil fuel-based generation. These projects will have far reaching impacts on the ecology as well as local livelihood systems of the region.

In the case of Neogal power project, strong objections have been raised by the local population on carbon credits claim applied under CDM. The construction company applied for claiming the carbon credits under the Clean Development Mechanism (CDM), to the United Nations Framework for Climate Change Convention’s (UNFCCC) Executive Board highlighting the project activity’s contribution to sustainable development of the
region. The present CDM claim of the company is in validation stage. Project participant views that project activities will contribute to sustainable development of the local region. The project will contribute positively as per the indicators stipulated by Ministry of Environment and forests, Govt. of India in the interim approval guidelines for CDM project; a) Social well-being b) Economic well-being c) Environmental well-being and d) Technological well-being. There would be minor environmental impacts due to the construction of the project activity. Financial provisions are made for various environmental mitigation measures. This project is in line with the “National Conservation Strategy and Policy Statement on Environment and Development” of Host country.

ENVIRONMENTAL CHALLENGES ASSOCIATED WITH NEOGAL HYDRO POWER PROJECT

Hydroelectric projects are being strongly opposed by local population and environmentalists over the fallout of impounding of rivers and ruthless tunnelling of hills and large scale deforestation and drying up of water sources. The environmental fall-out apart, over-exploitation of hydropower potential will have long-term implications on the lives and livelihood of the local population, as the main rivers will virtually disappear from the scene (Lohumi, 2011). The ongoing construction of the Neogal Hydro power project is creating lot of environmental challenges along with ongoing conflict between the construction companies, local administration and various state government departments related with the problems. Hydro power generation can be top most priority of the central and state governments but large scale development of such projects has brought lot of problems and challenges to the local simple living villagers of the Himachal Pradesh. It has also brought lot of changes in the traditional living systems and life of the local peoples.

The project construction companies claims that project activity would generate social well being by generating additional employment to an extent of 200 persons during construction period and 20 persons during operation period for both skilled/ unskilled people. Due to various developmental activities in the vicinity of project area quality of life will improve in the area. But the local population feels that construction activity will generate employment opportunities only for some time which will not be permanent in nature. These construction companies also claim that the construction would mobilise investment to an extent of about Rs. 982.77 million in this region, which otherwise would not have occurred in the absence of the project activity. Moreover, 1.5% of the project cost would be allocated for Local Area Development by the project proponent to take up improvement measures in education, healthcare facilities, welfare facilities, preservation of culture etc. The 12% free power to government will ensure overall economic improvement in the state. All such claims were also rejected by the simple living peoples of the Palampur valley as the construction work has disturbed the living of the local population in one way or another. In the case of Environmental well being the company claims that project will meet the energy requirement of the region in an environmental friendly manner as presently major portion of energy requirement of the region is met from fossil fuel based power generation. In this case local population feels that state is already producing lot of Hydro power which is enough for the need of the state and reject the claim of dependence of state on fossil fuel based power generation. Concerned Citizens and Environment Action groups of Palampur have submitted detailed objections on the proposal by OM Power Project to claim Carbon Credits under the Clean Development Mechanism (CDM), to the United Nations Framework for Climate Change Convention’s (UNFCCC) Executive Board highlighting the serious damages caused by the 15 MW project to the Neogal river valley and the water supply systems on it. Action
group states that Neogal River is the only source of the drinking water and irrigation. The whole Palampur belt and nearby villages totally depend on this river for their basic need of water. River also feeds the traditional, well developed Kuhl (irrigation channel) system existing in the Palampur area, whereby villages have channelized water of the Neogal River for irrigation purposes. Almost 40 such large and small kuhls, managed as common property resources, have catered to the irrigation needs of over a 100 villages in the watershed.

Apart from this, Palampur town and villages up to 30 Kms downstream – close to 30000 populations depend on the water of the Neogal River and Bohal spring (originating in the same watershed) for drinking. Close to twelve water supply schemes are being run by the Irrigation and public health department of the state government on this river. But the construction work of the present project has generated serious impact due to new road construction which resulted in frequent occurrence of landslides and further resulted in negative impact on the several irrigation channels and water supply schemes which have got blocked or damaged due to the debris and loose falling boulders. The Kirpal Chand kuhl and the Diwanchand kuhl have been the most affected. The two kuhls together meet the irrigation needs of over 100 villages. These have either become heavily silted or have been blocked or dried up. For the last three years the Irrigation and Public Health Department, which officially governs these channels, has billed an amount of Rs 3 crores as penalty to the project proponents, who have paid up only about 9 lakhs as of today which has been utilised for some repair work. The bigger question, however, will be of supply of water to these two major kuhls, which draw their water from the location between the two projects being constructed by Om Power Corporation and Astha Construction Company. People also question the availability of the enough water to cater to the Hydropower project requirements as well as those of the drinking and irrigation water supply schemes in near future.

Another environmental challenge generated is due to unscientific cutting of hill rocks by these construction companies which was also reported by hundreds of villagers from three panchyats of Bundla and Kandi areas who are continuously protesting against the construction hydro power projects Near Bundla. The local population is demanding immediate suspension of construction of power project as it had completely disturbed the ecology of the region. In the construction process, hundreds of trees had also been axed along with over two hundred hectares of land had been affected by cutting, whereas the construction company was allowed to restrict its activities only to fifteen hectares. The construction company was allowed to cut only 400 hundred trees but at project site more than one thousand green trees had been affected by the reckless cutting of hill rocks. The damage to the ecology is clearly visible as eyesores on a verdant landscape from tens of Kilometres away. Om Power Corporation, executing a 15 MW hydro power project has been fined Rs 64 lakh due to violation of environment norms and cutting excess number of green trees. It was also charged that the company has excavated hills haphazardly and dumped debris in the local irrigation channels and the Neugal River resulting in serious water crisis in the entire region. In June 2009 the project was fined an amount of Rs 12, 90,000 for the damages caused to the forest areas due to the muck dumping. The views expressed by the forest officials reveal that, “Most hydropower projects are violating environment laws but, the government is adopting a pick-and-choose policy to take action. It reacts only when there is a protest by local communities.” (The Tribune, 03.11.08).

The hydro power project work is also having negative impact on the economical condition of the locals. The location of the project site is in the lower slopes of the Dhauladhar range of the region. The area is significantly forested with Oak, kail, chir, pine and cedar trees. The forests are used by Gaddis for grazing their
sheep, though habitation is sparse in the region. The households located close to the power house site with Surdi village being the most impacted as a result of the dust, landslides (due to construction of road), loss of grazing land (due to unapproved dumping of debris) and also due to the loss of some of their land for the road construction. While they were compensated for the land, there has been no compensation/mitigation for the various other impacts these poor families have been facing. Another of the critical impacts was destruction of their water tank as a result of the debris from the road construction. The hydro power project work is also having negative impact on the health conditions of the local population residing in the Palampur municipal area. The waste from the workers colonies of the project at the power house as well as the tunnel site is flowing untreated into the Neogal River and contaminating the water. The heavy siltation and muck in the water, especially during the monsoons makes the river highly turbid and the water dangerous for drinking despite filtration. People residing in the (30 families) in Saan Village (also part of Bundla Panchayat) are being affected by the dust and breathing problems. The Palampur Citizens Environment Welfare Forum as well as residents of the Bundla Panchayat and users of the kuhls has raised need to protect and conserve the Dhauladhar range and the Neogal river to ensure clean and sustained development of the Palampur valley. This all clearly shows that, fast pace of human development, stress on natural resources and neglecting the eco friendly methods are playing havoc in the beautiful Palampur valley of the Himalayan regions.

CONCLUSIONS AND SUGGESTIONS

Hydro power is clean energy resource and in this case, Himachal Pradesh is rich and blessed with vast hydroelectric potential (23,000 MW) in its five river basins, namely Yamuna, Satluj, Beas, Ravi and Chenab. The hydro power projects with aggregate capacity of 7,728 MW have been commissioned and plan is to exploit the entire potential by the end of the 12th plan (2022). This shows that large scale construction of these projects will take place in near future. Hydro power projects construction and development is full of complexities and challenges. Neogal Hydro Electric Projects are a run-of the river type projects on Neogal River, a tributary of river Beas in Kangra District of Himachal Pradesh in northern part of India. Installed capacity of the project is 15MW and expected gross energy generation is 87670 MW per annum. The ongoing construction of the Neogal Hydro power projects are creating lot of environmental challenges along with ongoing conflict between the construction companies, local administration and various state government departments related with the problems. There is a need to protect and conserve Neogal River to ensure clean and sustainable development of the Palampur valley. The major problems associated with the construction of the power project in the valley include, environmental degradation, large scale deforestation, adverse health impacts on residents near project site, blockage of Irrigation Channels, Impact on drinking water quality and supply, and Muck dumping in forest areas. The local population is demanding immediate suspension of construction of power project as it had completely disturbed the ecology of the region. All such developments bring total change in the life of the local population and neglect on the part of government along with environmental challenges is a big reason of resentment in the rural simple living population of the hill state. The paper also suggests adopting sustainable and eco-friendly mechanism of human development for saving the natural beauty of the Himalayan valleys.
REFERENCES


