











always been contested (Rudd et al 1993, Lima et al 2007, International Rivers 2008b, DelSontro et al 2010). The scientific evidence impacting the Himalayan region by growing climate change with serious ramifications which can be controlling chances by discharge pattern, sediment load, snowmelt run off and intensity and frequency of flooding in Himalayan Rivers. The Brahmaputra river basin is particularly sensitive by character and responded to climate change impacts.

Since dams are designed around known of rivers and local geology, it is natural that changes in the hydrological regime triggered by climate change will affect the existence, operation and management of these projects considerably. Experts acknowledge that the present knowledge base about hydrology, climate, ecology and geology of the Himalayan region is inadequate to support large scale interventions on the Himalayan rivers (Das.Partha J. 2013). Climate change introduces an additional layer of uncertainty to this evolving knowledge base. As a result, the present development paradigm that envisages a massive expansion in large dams in the northeast is full of risk (Das.Partha J. 2005).

### 5.5 Downstream Impact

A major catalyst to trigger the larger debate on downstream impacts of dams in Assam, has been the repeated incidents of dam-induced floods across the state from upstream projects (e.g. 405 MW Ranganadi in Arunachal Pradesh) in recent years. The Kopili Hydel Power Project (KHEP), owned by the North Eastern Electric Power Corporation Limited (NEEPCO) and located at Umrangshu in the Dima Hasao district (earlier known as the North Cachar District) of Assam, is primarily about the conflict around the devastating floods caused by the project (Das Partha J., Chandan Mahanta, K. J. Joy, Suhas Paranjape, Shruti Vispute ,2013). In 2004, the excess water released from the Kopili Hydel Project devastated a vast area of the three districts of Nagaon, Morigaon and Kamrup, forcing nearly 100,000 people to flee from their homes and escape to the temporary shelters set up by the community or the administration. In fact, the issue of the flood induced by the Kopili Hydel Project became a rallying point in the general agitation against dam induced floods in the state (Patowary, Ajit, 2013). Incidents in the past have shown us how ineffective dams are for controlling floods. (Goldsmith and Hyldyard, 1984). The disastrous floods of Mahanadi River in Orissa have been caused due to Hirakund dam in 2008.

Downstream impact concerns raised in the Northeast include: loss of fisheries; changes in beel (wetland) ecology in the flood plains; impacts on agriculture on the chapories (riverine islands and tracts); impacts on various other livelihoods due to blockage of rivers by dams (e.g. driftwood collection, sand and gravel mining); increased flood vulnerability due to massive boulder extraction from river beds for dam construction and sudden water releases from reservoirs in the monsoons; dam safety and associated risks in this geologically fragile and seismically active region (Vaghlikar, Niraj and P.J. Das 2010). The Brahmaputra valley, a thickly populated narrow strip of land with hills surrounding it, has awoken to the fact that it is going to be increasingly vulnerable to risks from existing and proposed

large dams upstream. This realization has been significant for a civilisation whose cultural identity – customs, food habits, music, religious beliefs – is inextricably linked to its river systems (DelSontro, T.; McGinnis, D. F.; Sobek, S.; Ostrovsky, I. and Wehrli, B., 2010).

### 5.6 Water Dispute with Neighbouring Countries

The upstream-downstream linkages within the region and the contiguous Himalayan areas are already engendering conflicts. The issue of large scale hydropower development in the eastern Himalaya has already caused a simmering tension between China, India and Bangladesh. Similarly, India's talk of interlinking of rivers to transfer water from the "surplus" basins to the "deficit" ones has also created anxiety and tensions amongst the neighbouring countries like Nepal and Bangladesh. The perceived threat felt by Bangladesh due to India's Tipaimukh Dam in Manipur and China's alleged plan to divert the Brahmaputra elucidates the potential of transboundary conflicts over the use of water resource. The unwarranted release of water to rivers from dams both in Bhutan and within the region has caused devastating flash floods. A lack of coordination between countries sharing the river basins is a major obstacle in resolving these problems [Das, 2013].

### 5.7 People and Politics

The region's historical experience of exploitation of natural resources like land and oil, has led to apprehensions amongst a large section of people about the possible detrimental role of this capital - in the form of 'hydro dollars' as it has often been described by its votaries - towards the larger well being of the region. Civil society has pointed out that the colonial capital inflow into the region in the form of tea-plantations could hardly generate enough economic space where the local people could have participated, besides locking off huge land resources out of their reach. The same appears to be now being done with the region's water. The compelling argument being made is that the sudden rush of capital for multiple mega hydropower projects is another attempt to siphon off resources from the region which itself has a small power demand. An important element of protests in the region has been the strong involvement of youth from the Northeast. These young people certainly want development and economic progress, but they oppose the kind of development they feel will destroy their cultural and natural heritage (Vaghlikar, Niraj and P.J. Das, 2010). "Meaningful development, not destructive development" is required. According to Akhil Gogoi, of the Krishak Mukti Sangram Samiti, technical issues are important. But the dams' debate in the region cannot be restricted to these issues alone. It is a matter of rights over natural resources. These resources are being handed over to power companies and our rivers transformed dramatically by political decisions taken in New Delhi and within the State Governments of the region. This requires a political response from people of the region and that will be our focus in the coming days.

Also According to Amelie Huber and Deepa Joshi the new hydropower development discourse in the region is couched in ostensible win-win scenarios: securing energy for the rapidly developing national economy; accelerating

development in hitherto 'backward' but hydro potent areas; and generating 'clean' energy and thus taking the discourse away from the earlier dam-related critiques. The entire environmental/water governance gets "depoliticised" by transferring environmental governance from the public to the state or state-backed private technological-managerial control in the specific context of Sikkim. This is all the more serious as critical dissent from state policy is against the grain where state citizen relationships are skewed and characteristic of a process of eroding democracy and of an 'imposed...benevolent despotism' (Huber and Joshi, 2013).

## 6. Observations

- Impact of one dam may not impacting a huge changes on the environment, society, power generation and distribution related issue and also it cannot be possible to pictured the entire scenario for treating one region specially as "Future Power House" as compared to the cumulative impact of a number of dams in one region or as a cascade of dams on one river.
- The bodies of getting benefit by the different installing capacity of hydro power projects may not be generated solely by projects them self as because there are related with economic power players and also participation of Private bodies may make the conclusion reverse who will benefit most by the proposed large number of hydro projects are the project developers, but the consumers and the local people will face all the hydrological risks and economic difficulties.
- The past record of relocation and rehabilitation, adequate legal protection against displacement, exclusion of social and environmental criteria in the detailed project report (DPR), exclusion of all the stake holders from the planning and implementation process will lead to massive social and economic disruptions. A leading social activist has linked the increase in number of slums in Jabbalpur (Madhya Pradesh) to the increase in the height of Dams in Narmada project.
- The hydro dams are not renewable in a true sense, because the dam and other hydro structures have a finite life of say 50-75 years after which they will need decommissioning (Ref.2). Even though storing of water may be done away with after decommissioning, the forest wealth, which was destroyed at the time of dam building, would be lost forever (Shahi. R. V., 2008).

## 7. Conclusion

All projects is carried out, taking into account the various objections raised by academics, activists and affected people, and made available in the public domain. The manner in which the environmental impact assessments of various projects have been carried out has attracted serious criticism. There are several areas of action which need immediate attention, but the seriousness of the situation demands that there is a moratorium on dams in the region till fundamental issues are sorted out. These include:

Ensuring transparency and accountability in decision-making and governance processes related to these dams at all levels – whether related to signing MoUs, conducting impact

assessment studies or addressing trans-national issues in these river basins; building in mechanisms to get the free, prior and informed consent of local indigenous communities; learning lessons from old projects in the region such as Ranganadi, Gumti and Loktak; alternative power planning approaches at the national level; planning for genuine options-assessment and appropriate development in the ecologically and geologically fragile, seismically active, politically and culturally sensitive river basins of the Northeast.

The hydro power projects should be taken as a medium to bring development of power scenario in the north eastern region contributing towards the development in the country but not at the destruction of the natural resources of the region. The entire stakeholder should be taken in the participative mode in the implementation of the projects. The Central government as well as the state government should not try to impose the projects to the people of the region, there should be participation from the representatives of the local society specially from the villages which are directly affected, local organisation or body, technical experts from the state, the academicians etc. All should have the consensus view regarding the feasibility of such project. The projects should try to always carry a message the projects are made by the people of the region and for the people of the region.

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