Defending Nature, Defending Lives:

Activists' Stories Of Resisting Hydropower Projects

CCMCC-NWO project, "Hydropower development in the context of climate change: Exploring conflicts and fostering cooperation across scales and boundaries in the Eastern Himalayas

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Introduction

Stories are important. The twin acts of narrating our experiences and of empathising when others narrate theirs is what defines us as a species. Stories inform[1], inspire, and develop a relationship between the narrator and her/his audience. Despite this, stories often are lost in the statistics-rich, 'big-data' enamoured world of today. This is a shame because data presents information; the other functions of inspiration and relationship-building are only possible with personal narratives.

Each of the peoples' movements described in this book has received its share of media and research(er) attention. The bare facts of the movement- the cause, the situation, the many letters written and petitions filed, the marches- have been reported countless times by countless "others". Some of these movements have also been the focus of rigorous academic research. All these outcomes - news articles academic papers have an important role to play and inform uniquely different audiences. However, none of these outcomes allowed the key actors in these movements to tell their stories, in their own words. The inspiration underlying this book was simple - to allow stories to be told by the actors who planned and lived these movements, stories that would not be tailored and recrafted by others.

Beyond this simple objective of enabling a platform for sharing these stories which are both profoundly personal as well as public, we realized that there was also very little known about these movements among the local communities in these regions. Access to "media" reports published in English, far-away print media and even more so to academic outputs by researchers – is limited for local communities, including activist groups. Providing information about a struggle in words told by the key actors of these conflicts helps to inform people living in these sites of conflict. For example, much has been written about the struggle against dams on the Teesta by the group, the Affected Citizens of Teesta (ACT). Since 2006, the Lepchas of Dzongu in Sikkim gathered together as the ACT have been campaigning against the construction of dams on the Teesta. As part of their protests, ACT have subjected themselves to brutal hunger strikes, presented their case at various platforms themselves and also written several petitions against large dams. The protest has had its share of victories- the movement successfully demanded the commissioning of a basin-level cumulative impact study, which led to the cancellation of five dams in Dzongu. This struggle has been written about extensively in the many articles, reports and research papers – which have positioned the Lepcha movement on the Teesta on the global stage. This has made it easier for these activists to make their voice heard. But yet, these stories rarely reach local audiences, both in Sikkim and/or elsewhere. Also, the activists themselves are rarely enabled to tell their own stories and nearly all the literature on ACT has been written by people outside the movement.

At the initial meetings where this book was discussed, disenchantment with such documentation processes was evident among the activists. As K K Chattardhara from the Subansiri movement said, "People come, take away our documents and photos, and we never hear from them again." Soumitra Ghosh of North Eastern Society for Preservation of Nature and Wild Life (NESPON) argued against us (academics/ developmental actors) summarizing their stories, "Please do not package and/or try to analyse and summarise our stories to meet your theoretical frameworks and objectives". The activists made a strong argument for

1 Czarniawska-Joerges, Barbara. "Narration or science? Collapsing the division in organization studies." *Organization* 2.1 (1995): 11-33.

narrating their stories themselves, in their own words and to not have an analytical introduction collating and comparing these stories. They said, and justifiably so, that no one knows their stories better than they do. Hence, this booklet does precisely what it aimed to do – bring together these stories as they have been written by the activists.

This book was conceived in the course of the research project, "Hydropower development in the context of climate change: Exploring conflicts and fostering cooperation across scales and boundaries in the Eastern Himalayas", which attempts to understand the intersections between hydropower and climate change[2]. Deepa Joshi, the project lead explained during the early stages of this story writing process, that a decade after the World Commission on Dams proved that large dams are not 'economically, socially or environmentally benign', dams and hydropower are increasingly being promoted as climate change mitigation interventions. This posing of dams as climate mitigating is problematic because of the very real threats that dams continue to pose to local communities and ecosystems. Indeed, as Patrick McCully argued in 1996, 'water is renewable, yet dams are not'. The project attempts to map and analyse how the supposed climate mitigating effects of large hydropower projects intersect with local climate experiences and initiatives, and how these global-local gains and impacts play out. As Deepa explained, "a key objective of this project is to understand the tensions and contradictions between hydropower and climate change. In that context, we aim to understand how civil society actors have responsed to these developments. There is a lot of attention being paid to hydropower impacts, but much is from outside, with comparative silence among local communities. Why is this? Some local movements like ACT (Affected Citizens of Teesta) are singled out as successful, but many other stories remain unknown. The project aims to build capacity of local actors - to dialogue, share and network and revision". These are some of the project aims – that support such a story-telling process.

The first discussions around this book took place in Kalimpong at a capacity building workshop for Civil Society in March 2016. At the conclusion of this workshop, the participants had a discussion on what could be the next steps. K.J. Joy of the Water Conflicts Forum pointed out that the strength of the group was that "we have people from both academia and activism. CSOs bring life and blood into academics. Knowledge is important for activism. A coalition between activists and academia is important, and each should engage with the other. We may not be able to resolve conflicts, but we can definitely make then tractable." This was acknowledged by several participants, with the consensus being that the activists would document their struggles in the Himalayas and create a single publication that can be easily shared across movements.

Following this discussion, there was another meeting organised at Siliguri in November 2017, where the details of the process were fleshed out. Several options for the writing process were discussed, such as having help with the writing, and developing a template to ensure cohesiveness among the chapters. At the end of this discussion, it was agreed that the activists would write their own narratives and without a template. When the activists discussed the narratives they planned to write about - of the movements they were a part of, each had a different facet they wanted to highlight. Providing a 'cookie cutter' template would significantly impact their ability to address the issues they wished to. Instead, it was agreed that only minimal editing support (mainly for language) would be extended.

The authors also decided upon an iterative process where they could give and receive feedback from each other. Rather than the outsider editors' stipulating changes to the drafts,

2 https://www.wur.nl/en/show/Hydropower-development-clean-energy-and-climate-change-in-the-Himalayas.htm

each initial draft (after proofreading) would be shared with two other authors. After incorporating the suggestions from two colleagues, the activists met again and the case study drafts were discussed among the entire group in Kalimpong in February 2018. This proved to be a rich experience, with the activists being able to draw upon the collective experience and insights of the group.

This book presents the stories of six hydropower related movements in the Eastern Himalayas. Two of the authors are from Nepal, while the others live in various states in the North Eastern region of India. The conflicts these actors are part of and describe here, are at various stages in their life cycles with the Ithai barrage in Manipur being operational for decades to the West Seti hydropower project being stalled at the land requisition stage, now for two decades since the first MoU was signed between the Government of Nepal and West Seti Hydropower Limited. The means of protest range from hunger strikes in the Teesta basin to impounding turbines in Subansiri. One very effective way in which the protesters prevented work progressing on the Lower Subansiri Dam was by preventing the passage of construction material to the site. At one point, they impounded the trucks carrying turbines and so stalled work. All this diversity is reflected in the chapters that the authors have drafted.

We feel compelled here to acknowledge a glaring lack of attention to gender. All the authors are male. This is in many ways, also indicative of the way in which women are represented in such movements. While women have played a crucial role in many of these movements, these movements, like all other institutional structures continue to be dominantly male-led. We want to add here that these movements have adopted diverse means to make different voices heard. Some of these attempts are highlighted in these narratives. On the other hand, the movements needed to balance the needs of making certain individuals prominent with the necessity of keeping people (activists) safe from public gaze and scrutiny. They have chosen to do this in various creative and diverse ways. Nonetheless, societal factors such as the leadership roles adopted by women[3] and the extent of their taking on the role of recording a movement do play a role in this omission; but we could also have tried to work around this limitation and get the voices of women heard better.

On another note, as you will read, these stories are not all grim stories of resistance and coercion. They are also stories of inspiration, of support, of solidarity across borders. ‘People everywhere love us Lepchas’ said Tseten, of the Affected Citizens of Teesta. Tseten explained how at the height of the movement’s peaceful protests in Gangtok, the capital of Sikkim, the ACT received unprecedented “unofficial support” from diverse actors, including high level officials and law enforcement agencies, who might have acted officially in one way, but had their hearts aligned to the ACT otherwise. This he feels was partly because the movement made a conscious decision to not engage in any activities that were violent, aggressive. In a true Gandhian philosophy – they had chosen the path of peace and non-violence, no matter what. Tseten explains how this culture resulted in support from various actors and has now allowed them to address several related environmental and social (in)justice issues such as compensation for land, relief and rehabilitation, the 2011 earthquake and the death of wildlife.

3 Drew, Georgina. "Mountain women, dams, and the gendered dimensions of environmental protest in the Garhwal Himalaya." *Mountain Research and Development* 34.3 (2014): 235-242.

There are many different stories and narratives. In Manipur, the displaced Meitei fishers in the Loktak lake, have found an unlikely weapon in the form of their dugout canoes which are fast, agile and available to all the fishers. They are also nature friendly in comparison with a motor boat that uses fossil In his essay, Ram speaks about how the lives of those affected by the Ithai Barrage have altered and narrates how the dugout canoes have become tools of resistance. According to Soumitra in West Bengal, the story of the Teesta Lower Dam is that of 'a movement that never happened'. He speaks about how divisive forces within a community can use ethnic identities to break alliances. A large part of the affected villages were against the dam. However, the incidental fact of one of the movement leaders being of a community other than that of the project affected people served to break the resistance. On the other hand, in Subansiri, Chatradhara speaks of an unexpected process – of many groups, from student's unions to women's groups, that formed part of the anti-dam movement. He speaks of the evolution of a community perception that was built around dams.

The Saptakoshi High Dam is another such catalyst for alliances. Rabin writes that the people affected by a 1965 flood on the Koshi and the people threatened by the proposed dam have formed a joint committee to protest the dam. At the same time, they are also forming networks across the India-Nepal border with Indians living along the Koshi. The story of West Seti is that of trying to get information. Ratan narrates the long and frustrating process of obtaining documents that should be made freely available to project affected communities. This is a stark example of how project developers use language and technical jargon to deny local activists their rights.

In sum, all these stories and narratives are different. They do not subscribe to a template, and rightly so- because the work, lives and contextual realities of these six activists does not follow a template. They have all differently sought to make sense of their unique situations; use the tools at their disposal to speak on behalf of their communities and their ecosystems. Different alliances have been formed or broken among communities and there were different outcomes from a movement that never happened to a movement that grows and evolves into new community initiatives. As a last word, the three of us, Chicu, Joy and Deepa simply served to facilitate the telling of these diverse stories. In the process, we learnt so much and are increasingly humbled by all that we did not know and understand from the clutter and chatter that we mostly encounter in stories constructed by others about these movements. This process has re-educated us to step and stand back, to support and not to claim. We sincerely hope that the knowledge production enterprise in the days to come would create spaces for the activists to tell their stories unedited.

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May 2018

Evolution of resistance in Subansiri Valley- Conflict focuses global attention on downstream impacts

-K K Chatradhara

The 2000 Megawatt Lower Subansiri Hydropower Project is touted as one of the dream projects for the people of the country as it is a long pending demand enlisted in Assam Accord 1985. The project was conceptualized during sixties. The prime objective was to prevent downstream floods with an additional irrigation component. However, the project was controversial from its conception and it was halted several times for a number of reasons from 1980. The NHPC transformed the project from a multipurpose to a single-purpose power generating project; this has been highly criticized. The environmental clearance process opened the eyes of people in Subansiri basin and made them rethink the project. Would it benefit both upstream and downstream local people?

This led to a sustained movement against the Lower Subansiri Hydropower project. The movement demanded a mandatory downstream impact study. This strategic entry raised the issues of safety and security for the downstream communities living on the banks of river Subansiri from dam site to the confluence with river Brahmaputra. Thus, this move included downstream communities in the movement. Due to this, the dynamics of the anti dam movements has been changed from only concentrating on the upstream submergence and displacement to inclusion of downstream impact.

As a pioneer of downstream anti dam movement, the Lower Subansiri movement was able to highlight major doubts about the structural design and feasibility of big dams in the eastern Himalayan region. The socio-economic, cultural and environmental issues have also been highlighted during the strong resistance. The indigenous people's rights over land and resources and their continued existence of identity with the river became the key factor to catalyze the resistance. The involvement of local communities, almost all the leading political and non-political organizations, and diverse individuals reflects the strength of the issues connected to Subansiri movement.

This paper tries to analyse all above consequences. It describes how the disagreements on Lower Subansiri project were able to focus global attention on the downstream impacts of a large dam and tries to capture the obscured story of a struggle in the eastern most part of the Himalaya, where most of the existing rivers are still flowing freely.

"Subansiri Hunar Nadi Yuge Yuge boi jay, duyupare hunar guri satiai yuge yuge boi jay". This Assamese song written and sung by artist Ganesh Pegu in the mid-eighties says, "the golden river Subansiri, flowing for ages shall never stop, throwing particles of gold's into its banks". Later, an additional verse was added saying, "Gerukatu Bandh Habo, Pahar Bhaiam ak hobo" means there will be a Dam in Geruka (present dam site) and because of that the hills and plains are going to be united.

The song influenced me a lot and encouraged me to argue with my colleagues who labelled us as underdeveloped during those days. "You will see where we will be, when the dam is commissioned"was enough to stop their voices. This was in the nineties. But after completion of college life everything changed suddenly. We came to know some of the possible impacts of large dam through Monoj Gogoi and tried to understand the politics of natural resources. We started to look at the development paradigm in Northeast India and Lower Subansiri project from a different angle.

The Northeast

With the 'seven sisters and one brother' states of Assam, Nagaland, Manipur, Mizoram, Tripura, Arunachal Pradesh, Meghalaya and Sikkim, stands in a wide space of 2,62,264 sq. km. The region is part of both the Himalaya (the Eastern Himalaya) and the Indo-Burma biodiversity hotspots- one of the 35 biodiversity hotspots in the world. Geo-ecologically, it's a part of the Eastern Himalayas known for its richness in water resources, biodiversity, and ethnic and cultural diversity. he Northeast shares its boundaries with Nepal, Bhutan, Myanmar, China and Bangladesh. Only 2 % of its boundary is attached to the greater periphery of India.

The Northeast, a hub of more than 250 ethnic groups, has its own kind of linguistic identity with its unique cultural, heritage and economic foundations. Moreover, this region is globally known host to the self determination movements since independence[4]. The instability of in northeast India is characterized by two distinct factors- ethnic clashes among the indigenous group and political movement against the Union Government[5].

The region suffers from a deep sense of economic neglect, believing that Mainland India and the Hindi heartland represented in India's power structure do not seem very concerned about the region[6]. Yet 100-150 years ago, the Brahmaputra Valley was the vanguard of Indian Development. Its alluring and ever-expanding tea production and exports triggered a variety of investments with backward and forward linkages. The discovery of oil and coal in Upper Assam resulted in the development of mining and forestry. The coal was required to fuel the steam vessels and the railways that brought up heavy machinery and took back tea for export. Timber was need for sleepers and tea chests[7]. After the treaty of Yandaboo in 1826, the British administration took up the reins of development of this region and started exploiting the national resources to achieve its ends[8].

A report brought out by the Indian Chambers of Commerce at its 3rd Northeast and East Power Summit 2010 stated that Northeast states together hold 75 percent of the India's coal reserves[9], along with plenty of petroleum, uranium, gas and chromites. Above all, water is the most precious resource as it is easy to convert to cash. Trans-Boundary river flows in the Brahmaputra basin have been eyed for a long time. As a result strategies have been planned to exploit each and every pristine river of the region.

We now know that structures were planned not just across the Subansiri, but across each and every free flowing river of the Northeast. We had not experienced the impact of dams when the Lower Subansiri project was annnounced. . We had merely seen the huge boulders in the gorge of the river Subansiri and the blasting exercises executed by Brahmaputra Flood Control Commission in the riverbed. We heard that there is a dam construction going on in the upstream of River Ranganadi. There were notmany options for me to speak with the

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4 Chatradhara KK, Swarna Upatyakar Para Mitryu Upatayakaloi, Assamese, Guwahati, Bristi Publications, 2012.

5 Conflict in the Northeast; Internal and External Effects, Ed. by Sanjoy Hazarika and VR Raghavan, New Delhi, Vij Books India Pvt. Ltd, 2011, pp. ix.

6 Udayan Mishra 2014, India's Northeast; Identity Movements, State and Civil Society, Oxford pp 5.

7 B. G. Verghese, India's Northeast Resurgent, Delhi: Konark Publishers Pvt Ltd. 1996, PP 336.

8 Ajoy Kumar Mishra, Look east policy and Northeast India, the growing prospects; Look east policy and Northeast India Achievement and constrains; Ed. by Utpal Kumar De, Concept, 2016, pp113.

9 Indian Chambers of commerce report 2010, http://www.pwc.in/assets/pdfs/Publications-20110/Energy_Utilities_9_Feb.pdf.

project authority or with the officials, explore more about impacts of dams, what Subansiri means to our life, its surrounding ecosystem and how it is linked to our socio-economic and cultural identity.

Structural intervention in the basin

The Central Electricity Authority (CEA) conducted a survey in 2001 which presented the possibility of installing 87 hydro power projects in Arunachal Pradesh. In 2003, the then Prime Minister Atal Bihari Vajpayee undertook a plan of producing 50,000 MW of hydroelectricity. On the basis of the primary report, 46 Hydel power projects were commissioned during his tenure. Later, the government was compelled to lessen the targeted production to 21,000 MW through 19 Hydel power projects that would be set up at Siang, Subansiri, Kameng, Dikrong and Dibang. The Late Dorjee Khandu led government signed a Memorandum of Agreement for 108 projects[10] without considering the repercussion that might come as an aftermath. Later the number of projects was increased to 159.

Fig 1: Site of the Lower Subansiri Dam (Source: Chicu)

Large hydropower project planning in the Brahmaputra basin evolved in early seventies. River bank erosion and floods due to the rivers from Arunachal Pradesh is a natural phenomenon in its downstream area. For the check of these floods, plans for big dams were initiated in the upper reaches of Siang, Subansiri and Dibang, the major tributaries of River Brahmaputra.

The Rastriya Barh Ayog (RBA) and the Regional Task Force for Flood management recommended and agreed to a long term and permanent solution to curb the flood problem in the region by construction of storage reservoirs in the upstream reaches. Brahmaputra Board was constituted in December 1981 to carry out survey and investigation work for preparing the master plan for flood control, irrigation, Hydropower, Navigation and Other beneficial purposes by utilizing the water resources of Brahmaputra Valley[11].

Initially two projects were conceived, one in Subansiri River with an installed capacity of 4800 MW and other in Siang River with 2000MW installed capacity. These projects have not been executed due to the objections from Arunachal Pradesh government on accounts of submergence of land and consequence displacement of inhabitants. The then Chief Minister of the state Gagong Apang played a major role in opposing those structural interventions on those mighty rivers.

To avoid the submergence of township, Brahmaputra Board in the 23rd special adjourned meeting held on 27th June 1995 at Guwahati decided to take up investigation of new dam site. As per the new investigation, three new dams were planned, namely Upper Subansiri(213m), Middle Subansiri(265m) and Lower Subansiri(116m) in Subansiri River. Preparation of DPR on Lower Subansiri Project had been taken up by Brahmaputra Board in the year 1998-99

10 Hydropower policy of Arunachla Pradesh.

11 EIA, Lower Siang H.E Project,P-3, Jaypee Arunachal Power Limited

with target date for submission of DPR as March 2000. The DPR could not be submitted and the ministry of Water Resources transferred the Subansiri along with other five projects in Subansiri and Siang Basin to NHPC Ltd. vide letter dated 22nd March 2000 and subsequent order of Ministry of Power No. 16/23/99/DO(NHPC) dated 1st May 2000[12].

The project got the final clearance from Ministry of Environment and Forest in 2004; however local witnesses allege that the NHPC has started work on the project from 2000. The project was scheduled to be completed by 2012, but it has been delayed due to continuous opposition from civil societies and organisations from the downstream. NHPC rescheduled the completion target to 2014, but has been unable to meet its targets as all construction works have been halted by the protest.

Sl	River	Project	MW	MoU/ Alott.	Company
1	Rangandi	Ranganadi-I	405	April/1987	NEEPCO
2	Ranganadi	Ranganadi-II	180	-	
3	Subansiri	Subansiri Lower	2000	17/01/2010	NHPC Ltd
4	Dikrong	Pare HEP	110	21/09/2006	NEEPCO
5	Subansiri	Subansiri Upper	2000	18/03/2010	KSK Electricity Financing India Pvt. Ltd.
6	Subansiri	SubansiriMiddle	1600	28/08/2009	Jindal Power Ltd (JV and HPDCAPL)
7	Subansiri	Siken	8	27/08/2010	Gopeng Enterprise
8	Subansiri	Panyi	24	27/08/2010	Sowbhagya Energy Pvt.Ltd
9	Subansiri	Panyor	80	25/02/2009	Raajratna Energy Holding Pvt. Ltd.
10	Subansiri	Keyi	5	19/05/2010	Hydropower & Developers Pvt. Ltd.
11	Subansiri	Naba	1000	21/06/2010	Abir Construction Private Ltd.
12	Subansiri	Panyor	80	25/02/2009	Rajratna Energy Holding Pvt. Limited,
13	Subansiri	Pein	10	20/09/2008	Nido Energy System Pvt. Ltd, A Pradesh
14	Subansiri	Oju-I	700	21/06/2010	Navayuga Engineering Company Ltd.
15	Subansiri	Oju-II	1000	21/06/2010	Navayuga Engineering Company Ltd.
16	Pare	Turu HEP	90	21/06/2007	ECI Engineering & Construction Com
17	Dikrong	Par HEP	65	26/12/2007	KVK Energy & Infrastructure Pvt. Ltd.

12 Executive Summary, Lower Subansiri Project, National Hydroelectric Power project.

18	Dikrong	Dardu	60	26/12/2007	KVK Energy & Infrastructure Pvt. Ltd.
19	Dikrong	Chenkgi	2	06/04/2011	TK Energy Consortium Pvt. Ltd
20	Dikrong	Panyor Lepa	21	18/08/2010	JDM Power Solutions
21	Dikrong	Poma	12	12/12/2008	Patel Tours and Travel Ltd.
22	Dikrong	Papum	15	12/12/2008	Patel Tours and Travel Ltd.
23	Dikrong	Papumpam 25 Meena		19/09/2008	Entrade and Engineering Pvt. Ltd.
24	Dikrong	Adum (U.panyor)	45	16/12/2009	BBS Arunachal energy Dev Pvt. Ltd.
25	Subansiri	Senkhi			T.K. engineering Consortium Pvt. Ltd.
26	Subansiri	Dengser	552		Coastal Infrastructure, Vishakapatanam
27	Subansiri	Niare	800		Coastal Infrastructure, Vishakapatanam
28	Subansiri	Chomi	80		Adveta Power Pvt. Ltd.
29	Subansiri	Chela	75		Adveta Power Pvt. Ltd.
30	Subansiri	Doimukh HEP	175		Nyimi Hydro Carton and Energy Pvt. Ltd.
31	Subansiri	Palin		11/06/2010	TT Power Project Developer Pvt. Ltd.
32	Kurung	Hegio	250	-	
33	Kurung	Kurung-I	200		
34	Kurung	Kurung-II	115	-	
35	Kurung	Milli	75	-	
36	Kurung	Sape	38	-	
37	Payem	Nyepin	32	-	
38	Payem	Hiya	41	-	
39	Siu	Tammu	56	-	
40	Kale	Tago-I	55	-	

Source: Hydropower policy Arunachal Pradesh, different MoA and others

Fig2: List of proposed and under construction project in Subansiri basin:

The Golden River and life on Subansiri

There was considerable confusion about the origin of the Subansiri till 1877. It was thought Subansiri is the main stream of the large Brahmaputra. Captain Withdrop's journey along the Subansiri was able to clear the confusion[13]. The Bhagvad Purana records that on the occasion of Pandavas *Rajsuya Yagya*, the Kings of Brahmaputra valley offered Yudhistira a huge load

13 For details see Discovering Himalaya, tourism of Himalayan Region by K. S Gulia, Gyan Publication, Page-114

of gold shipped on elephant back. According to legend, these tons of gold were extracted from the bed of Subansiri.

During the period of Ahom Kingdom (1228-1826), Sonowal Kacharies (an ethnic group of Assam) were engaged in extracting gold by washing sand of the river. Oral histories recount that till 1906-07 the chutia's[14] living on the banks of Subansiri extracted gold using traditional methods. There are living eye witnesses who saw people gathering gold particles in the river sand. Etymologically, the name Subansiri, as coined by the Shastrakars, was Swarnashri. The term, in course of time, has transformed into a soft sonance in Modern Indian Languages like Assamese. Novelist Rajanikanta Bordoloi, being mesmerized by the beauty of the river, received his inspiration for his novel Miri Jiyori. This flamboyant novel has celebrated the natural beauty of the river and has enriched the repository of Assamese Literature.

Among the Himalayan River system the Brahmaputra river system is formed with its Siang river as a main channel and major tributaries Dibang, Lohit, Suabnsiri, Manas, Kulshi, Dhansiri, Champawati, Sunkosh and Digaru river[15]. Subansiri is one of the largest tributaries of Brahmaputra. It originates from the south of the Po Rom peak of Tibet, at 5591 metres above sea level. The Subansiri then enters Assam's border through a gorge in Gerukamukh, drains through North Lakhimpur district upto Jengraimukh (Majuli), meets Kherkata River and mingles with Brahmaputra in the borderline of Golaghat and Sonitpur district, contributing 11% of the Brahmaputra's flow. The length of Subansiri is about 520 km, of which, 190 km flows through Tibet, 120 km flows through Arunachal Pradesh, and the rest 130 km flows through Assam. The river bed is composed of black sand mixed with 50% of pebbles and 10% boulders. The mean daily discharge of the Subansiri at Gerukamukh is 138842 m3/sec (Goswami,1997). The average annual sediment yield at Chauldhoaghat is 94.83 X 103 m tones (WAPCOS 1993). The Subansiri River System has a catchments area of 39,000 sq. km at the dam site and of this catchments area about 14,000 sq. km is located in Tibet and the rest in India.

The channel of the Subansiri greatly changed during after the Great Assam Earthquake (1950). That caused severe landslides in the mountains, and the Subansiri River channel was temporarily blocked by rock debris at Sipomukh, about 2.5 km upstream from the foothill regions. The huge naturally created dam obstructed the entire monsoon discharge of the river for nearly three days. Subsequently, sudden outburst of the dam created a catastrophic flood, the greatest ever in the recorded history of the river.

Location	**Date**	**Earthquake Magnitude**	**Depth (in km)**
Shillong earthquake	12th June-1897	8.7	20-30km
Kangra earthquake	4th April-1905	8.0	30-40km

14 A community comes in the region around 300 AD.

15 VK Srivastava, River Ecology in India: Present Status and future Research Strategy for Management and Conservation; p-255/2007.

Bihar-Nepal earthquake	15th Jan-1934	8.3	~30km
Assam earthquake	15th Aug-1950	8.5	~20km

Fig: Major earthquake in the region Source: IMD & Kayal: 2011

Existence in Subansiri downstream: Through the ages, Subansiri has bestowed her abundances for the life and livelihoods of the people living within its proximity. From the age of gold hiving to today's age of stone crushing, thousands of people have depended on Subansiri for their livelihood. More than fifteen different communities breathe close to the waves that flow through the river.

Fig 2: A fishing festival on the Subansiri (Source: Chicu)

The stone and sand mining quarries, more than 150 different species of fishes, agriculture activities, dairy farming, livestock rearing are the sources of livelihood that people engage with. Any form of disruption in flow regime in Subansiri will disintegrate this system that people live on.

The dominant community of the valley, Mishing believed the river is their mother (Anne; in mishing language). With the threat posed by Lower Subansiri Project, their livelihood, economy and the cultural existence is also threatened. Despite this, not a single line about Mishing community has been mentioned in the project's impact assessment. The public hearing for the clearances process inflicted serious injustice to local communities. The consent of the people has been misled andocal sentiment has been ignored.

The entry point to the present dam site was one of the beautiful landscapes of the country. It has now been sealed, and access denied to local people. Ranjit Pegu a citizen, Ghagarmukh, Baligaon said "In the year 2000, the river was narrow at that area. It has widened due to mass erosion now. In addition, the area lacks fish and river timber. All the river centered commerce has stopped since 2005. In the flood of 2010-11, all the livestock farms, which had 200-250 buffaloes, were washed away. About 3-4 liters of milk were produced from a buffalo, and now, the production has limited to 0.5-1 litre." Seventy years old Padmabati Pegu of Kumaliya Chapari notices since 2005 how alluvium deposition has reduced resulting in decline of hay production. The scarcity of hay has led to its being replaced with rice straw in construction of houses. Construction materials like timber wood were collected from the river. But since 2005, the flow of these timbers has been disrupted. People have yet to find alternatives like bamboos and trees in sand bars. Up to the year 2000, a significant amount of hay was found in the sandbars of Subansiri. An approximate amount of one lakh bundles of hay was gathered by a person who lived in the foothills of Gerukamukh. No trace of hay is seen in that area now. Likewise, an abundant amount of hay was available in Dulung and

Kalakptkar area. The production of hay in that region is not nearly wiped out due to erosion.[16]

All the above impacts, the damage due to water releases from NEEPCO's Ranganadi Hydroelectric Power Project, and devastation in the downstream of Lakhimpur opens up the eyes of downstream community. This raised several questions in the minds of the people. They wondered for whom is this energy? For whom are they sacrificing their traditions, beliefs, culture, identity, economy? Appeals through traditional or the constitutional safeguard measures did not yield results, and the people felt these safeguards seemed for the sake of project authority only. Humiliations by the administration put more fuel on this anger. Finally people started to get together to show their anger and tears in the street.

It was quite challenging for me to change my position from pro to anti dam; it took a lot time. The first and foremost challenges came from my own people who believed that the dam on the Subansiri will bring enormous opportunities for them. Initially, people were not satisfied with our position on Lower Subansiri Project. As a result when we put first banner against the Project in Gogamukh Chariali, it was damaged the same night.

People's movement in Subansiri Valley

The people's perception on dams was so positive; they thought dams will bring immense development to the region. They believed that flood control by creating a reservoir through large dam is possible. In Subansiri valley, this hope gave birth to a movement during 1988 to push forward the building of 2000 MW Lower Subansiri project. A peoples'committee was formed as Lower Subansiri Dam Demand Committee (Nammani Subansiri Bandh Dabi Sammittee) to look after the progress of the project. This demand committee was active till 1996

But the noticeable discrimination and the downstream impact cause by existing projects in the region and experiences from around the globe, caused people- including members of the dam demand committee- to rethink the dam. The peoples' fears become visible for the first time during 2000-2003 in Subansiri Valley. Later on most of the committee member join the anti dam position. Downstream impacts become one of the major issues of large dam history.

Initially the movement against the Lower Subansiri HEP began to demand local employment, allotment of contractual works to the locals by various organizations like All Assam Student Union (AASU). On Feb 2nd, 2003 Takam Mising Parin Kebang (TMPK)[17], organized a public meeting to discuss the discriminating approach of construction authority. In that meeting an organization called Subansiri Valley Indigenous Peoples Forum (SVIPF) formed lead by Paramananda Chayengia to protest National Hydropower Corporation limited's (NHPC Ltd.) anti-local approaches. They did a series of awareness camps in the valley. But the organization did not survive for long. After SVIPF disbanded, TMPK took the responsibility of the movement. Similarly a tabloid by a youth group[18] published a series of articles on Lower Subansiri Projects and its impacts.

16 From the field survey conducted by Anirban B Gohain on support from Action Aid India.

17 TMPK, the students' organisation of the riverine Mishing community.

18 Pabitra Handique, Basanta Borah and Binay Krishna Tamuli Phukan had been publishing a 12-pages fortnightly tabloid 'Pakhekia Amar Sangbad' from Gogamukh in Dhemaji district, an immediate downstream area of the project since June 21, 2003. This publication, continued for three years, carried out enormous stories on environmental issues and highlighted the downstream impacts of the LSHEP.

The anti Lower Subansiri Project movement really began after the formation of Peoples' Movement for Subansiri Valley (PMSV)[19] in 2004 lead by Monoj Gogoi. At the same time Subansiri Sanrakshak Naari Santha[20] (SSNS) lead by Kalpana Hazarika formed to protest against the Project and join all the activities of the PMSV. People believe both the organisations have contributed immensely to spark the movement against the Lower Subansiri Project.

Both the organization's demanded for a downstream impact[21] study in 2005. This become prime demand for every organization involved in Subansiri movement. Later on AASU lead the movement and was able to form the expert group to study the downstream impact study of Lower Subansiri Project. At the same time KMSS which was involved with land right movement led by Akhil Gogoi got connected with PMSV. With Girin Chetia of Jorhat , they were able to understand the threats of big dams and put it in their agenda.

In 2008, Asom Jatiyatabadi Yuva Chatra Parishad (AJYCP)[22], came into the picture. In 2009, the AJYCP formed a conglomeration of 32 anti-dam organisations called 'Alliance against Lower Subansiri Hydroelectric Project[23]' lead by Kiran Ban Deori. The AJYCP lead by Manoj Baruah took the matter and started demand for cumulative downstream impacts study of all the hydroelectric projects coming up in the Arunachal Pradesh.

"Coming together on a single platform" is impossible for human society. The Subansiri movement is no different. At meetings, facilitating the ideas tat are put forward is a very lively activity. Perhaps this discussion starts work and causes things to happen. The Subansiri movement is able to amalgamate many of differing by the use of separate platform with different sets of demand.

The Krishak Mukti Sangram Samiitee (KMSS)[24], AJYCP, TMPK with other organisations launched a NHPC construction materials blockade programme, from where the strength of the anti- large dam movement grew significantly. Explaining the event Monoj Gogoi wrote, "At Pahumara in the Lakhimpur district in December last year, the programme turned violent and spread to other places of the district after a police attack on the protesters on the midnight of December 16. People swarmed in thousands to the NH-52, and engaged in a scuffle with the police at Ghagornagar, Chauldhuwa and Thekeraguri in the district. The police vainly resorted to blank fire, rubber bullets and cane charges to disperse the protesters

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19 Peoples' Movement for Subansiri Valley (PMSV), presently known as Peoples' Movement for Subansiri-Brahmaputra Valley (PMSBV) was formally formed on February 18, 2004; its members started their activities much earlier. This group formed a network through internet with the anti-dam groups of other places who also supplied few of the study materials." Immediately after its inception the PMSBV, the members of the PMSBV started a campaign in the downstream areas of the project. In 2004, the PMSBV distributed thousands of awareness leaflets in the local language and sticked up posters and banners in the populated public places.

20 SSNS is a women organization, which was formed by a group of women of Halakhbari village near Gerukamukh in 2004 after the devastating Tsunami.

21 Till 2003, there was not even a single organisation in the downstream areas of the project who directly opposed the project. We heard about the SVIPF and the AASU but instead of opposing the project, they asked the NHPC to fulfil some of their demands. They basically demanded local employment. In that situation, after acutely studying the various aspects of hydroelectric projects, few youths started a networking at various levels against the LSHEP in 2003.

22 AJYCP is one of the key youth organizations of Assam demanding total autonomy and dual citizenship from last 35 years.

23 Alliance's major activities were public meetings, bike rally, distribution of awareness leaflets etc. due to the ideological differences the conglomeration could not last long.

24 KMSS is a farmer organization formed in 20th July 2005 lead by Akhil Gogoi.

at Thekeraguri on January 13. The protesters completely blocked the NH-52 by burning fire, felling tree and the scattering pebbles on the road. The blockade of NHPC construction materials compelled the NHPC to stop all construction activities of the project since mid-December. To restart the halted construction, the Assam government deployed more than 400 additional Assam Police Battalion (APBn) personnel in the district of Dhemaji and Lakhimpur, particularly between Gogamukh of Dhemaji and Boginadi of Lakhimpur. But in the latter half of March, the government upgraded the security replacing the APBn personnel with the Central Reserve Police Force (CRPF) personnel".

After 2011, all the leading organizations of Assam and Northeast joined the organizations mentioned above to oppose the Subansiri Project and other projects proposed in Arunachal Pradesh in the tributaries of River Brahmaputra. A partial list of the organizations is as follows:

1) Subansiri Valley Indigenous Peoples Forum (SVIPF)
2) Takam Mising Parin Kebang(TMPK)
3) Peoples Movement for Subansiri Brahmaputra Valley (PMSBV)
4) Subansiri Sangrakshak Nari Santha (SNSS)
5) Manab Adhikar Sangram Samittee (MASS)
6) Krishak Mukti Sangram Samittee(KMSS)
7) All Assam Student Union (AASU)
8) Asom Jatiyatabadi Yuba Chatra Parishad (AJYCP)
9) Alliance against Lower Subansiri Project
10) Mising Minag Kebang (MMK)
11) All Tai Ahom Student Union (ATASU)
12) All Assm Chutia Student Union (AACSU)
13) Karbi Student Union (KSU)
14) Tiwa Yuba Chatra Parishad
15) All Assam Karbi Student Union.
16) Uttar Kachar Parbatya Khilangiya Chatra Santha
17) All Assam Tribal Sangha.
18) Asom Sah Janajati Student Union.
19) All Konch Rajbanshi Student Union
20) All Tiwa Student Union
21) All Dimasa Student Union
22) All Assam Sonowal Kachari Student Union
23) All Assam Saraniya Kachari Student Union
24) All Assam Adibashi Student Union
25) All Rabha Student Union
26) All Assam Tribal Youth Lig
27) All Maran Student Union
28) All Assam Deori Student Union
29) All Assam Motak Yuba Chatra Sanmilani.
30) All Assam Madahi Student Union.
31) All Assam Gurkha Student Union
32) Karbi Student Union
33) Asom Sanmilita Mahasangha
34) All Assam Muslim Students' Union (AAMSU)

Role of Political parties

All political parties like Asom Gana Parishad (AGP), Sanmilita Ganasakti, Asom. AIUDF openly oppose the project. BJP and left parties also organized rallies against the project. On Jan 21-22, 2010 a two days workshop was organized by Assam Gana Parishad (AGP) invited all the prominent persons from the state to look at concerns of Large Hydropower projects. On Sept 3rd, as a follow up to that workshop, 2009 AGP members organized a big rally near the Dam site of Lower Subansiri Project. On 17th Nov, 2010 BJP also organized a rally with more than ten thousand people. The then Party president Rajnath Singh also joined that rally and made a statement against the Project blaming Congress Government. He said "Big dams should be built under special circumstances to solve the problem of drinking water and irrigation, and not for generating power only. 32 out of 168 dams, which are to be constructed in the province arebig dams, and no big dam should be built in Arunachal Pradesh, which falls in the seismic zone"[25] During Lokshabha election it became an issue in the valley. Present Prime Minister Narendra Modi made a statement against the big dam during his election campaign in Pasighat commenting "I know citizens of Arunachal Pradesh are against the large projects. I respect your sentiment in this respect. But protecting the environment, using environmental technology, the hydropower can also be harnessed using smaller projects."[26]

From the Upstream

Arunachal Citizen Rights (ARC) lead by Bamang Antony (Tago) and the NEFA Indigenous Human Rights Organisation (NIHRO) lead by Domin Loya were the two organizations working on the impact of large dams in its upstream. Oyer Gao generated awareness and fought against the project for over two decades. Later on in Siang valley a strong opposition arose and was able to stop the construction on Lower Siang project. The Adi Kebang, one of the strong traditional bodies in that area took a strong resolution against dams in Siang River. The Siang Bachao Federation led by Zaddikk Tali in Along (Aloo) also fought against the dam.

Ozing Tasing the former General Secretary of the Arunachal Pradesh Student Union (APSU) with Bijoy Taram of Pasighat took the responsibility of spreading the movement to other parts of the state. Adi Student Organisation (ADiSU) and Galo Student Union also started to oppose the projects. In the Dibang and Lohit Valleys the main opposition faced by the construction companies was from the Iddu Mishimi groups and from the people living downstream of the project. An organization called Dolok Bango Indigenous Peoples forum (DBIPF) was formed by the 14 foothill villages of Arunachal Pradesh lives in the foothill near Assam-Arunachal border near Dhemaji. PMSBV and the DBIPF in 2006 jointly demonstrate against the Subansiri project. That was the first coming together and joint sitting demonstration for any organizations from both the state.

The people's movement in Subansiri valley in its downstream can be sketched in four phases.

1. **Demand for the project (1970-2000):** During this period people were happy with the proposal. They thought that the problem of natural flood and erosion can be solved with Subansiri project. Several livelihood opportunities will be there in the project site, and lots of local development will take place. The problem of electricity shortage will be solved; this was a major incentive since at that time most of the downstream areas were not connected with grid.

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25 *BJP slams construction of big dams in Assam, Arunachal Pradesh,* By *ANI* | *ANI* – Thu 18 Nov, 2010)

26 Narendra Modi, Pasighat, Arunachal Pradesh, 22Feb , 2014, http://www.bjp.org/media-resources/speeches/speech-shri-narendra-modi-addressing-vijay-sankalp-abhiyan-rally-at-general-ground-pasighat.

2. **Confusion with the project (2001-2006**): When people realised there was actually very less space for local people in construction site, they were confused about the realities of employment opportunities from the project. Organizations start demand to employ local youth on the site. Free access to the project site landscape was threatened. Bad manners of the security guards and the project staff started heating local emotions. The blockade of elephant corridor and huge amount of muck disposed in the riverbed violating honorable Supreme Court directive threatened the ecological diversity of the area. Local youth from the area start to rethink the development approach. For whom is this development? This led to the beginning of a self awareness exercise among the local youth to critique large hydropower projects as a means of development. They then conceived the idea for a downstream impact study.

3. **Opposition and negotiation (2006 onward**): People were in a dilemma and stood in four different corners- one group backed the idea of a project with no downstream impact, a second group strongly opposed the project in its entirety with the stand of no big dams in Subansiri basin, a third group of people was still confused and took no stand at all, and lastly, a very few people remined in favour of the project. Suspicion, confusion and emotion make the movement violent and force the project to halt from 2011 onwards.

4. **Yet to come:** Incubation of movement during the present quiet is serving to accumulate angriness with the possibilities out of a flareup anytime. Parallel strategies to overcome the situation are being maintained. There are three kinds of situations to envisage- A project with the assurance of no downstream impact may be constructed, the present project may halt for a long period only to start again, and lastly, the opposition to the project is defeated and withdrawn. In all the situations uncertainties are waiting for the people of Subansiri Valley.

Upshots from the disagreement

Strategic response to the struggle was well managed by Government; otherwise it would have been be far more violent than present reflection. After the DDRP recommendation, it was agreed to increase the base width of the dam from 171m to 271m. This was an excellent example of achievement for the resistancewho were able to change the structural design of the project and succesfully challenge the hubris of the engineers.

Downstream impact study is the best result from the negotiation table. For the first time in the country, a project authority agreed to carry out a downstream impact study of a large hydropower project. It was PMSBV's conception, and AASU's involvement in 2006 generated awareness for demanding such kind of study. The demand drew academic and media attention, and created an awareness about downstream impact among the communities.

As a part of the process new committees were introduced one after another to overcome the situation. Out of several committees and reports the most significant are,

Expert Group(EG) for downstream Impact Study: Govt. of Assam (GoA) and NHPC constituted an EG in May'2008 to evaluate the downstream impacts of the Project, membership included professors from IIT-Guwahati (IITG), Guwahati University and Dibrugarh University. The EG presented its report in March 2011.

Joint Steering Committee (JSC) was formed by NHPC in April, 2011 as per the suggestions of Govt. of Assam and Ministry of Power, Govt. of India with reference to the letter No.WR(G)47/2009/Pt./107, dated 2nd March, 2011 and letter No.2/4/2004-NHPC(D/S study), dated 8th April, 2011 respectively to examine Part-II recommendations of the Expert Group, Assam on downstream issues related to Subansiri Lower Project.

Technical Expert Committee (TEC) was appointed by planning commission to examine the technical aspect of the project submitted report in July 2012. At the instance of PMO, the Planning Commission constituted a Technical Experts Committee (TEC) with Dr. C. D. Thatte and Dr. M. S. Reddy as Members to review the status of SLP. TEC submitted their report in July 2012.

Dam Design Review Panel (DDRP) to examine the issues involved viz. foundation competency, seismic aspect, dam design review and existing ground conditions. The Ministry of Power (MOP), Government of India (GOI) constituted a Dam Design Review Panel (DDRP) for Subansiri Lower H.E. Project (SLP) vides Office Memorandum (OM) no. 2/4/2012-NHPC dated 10th Dec, 2012. The DDRP is headed by Chairman CWC with representative/experts drawn from CEA, CWC, GSI, IIT-Roorkee, CWPRSPune, and NHPC. DDRP submitted their report in May 2013.

Assembly House Committee have constituted by the Honorable speaker of Assam assembly under Rule 260 E of the rule of procedure and conduct of business in Assam legislative Assembly, to examine the impacts of the downstream areas of the river in the state of Assam due to the construction of big dam. The all party house committee presented their report in 31st March 2010.

Group of Ministers (GoM) have constituted by the government of Assam dated 17th Dec 2011, to advice the government on the issues of Hydropower Project in totality with an inter-disciplinary approach. The GoM submitted their report in April 2012.

Project Oversight Committee (POC) constitutes by Ministry of Power (MoP), Government of India to provide guidance/ oversight to examine and resolve the issues related to LSHEP consists four members from EG and four experts from Government of India in 13th Jan 2015. Due to the contradiction within the group member EG members submitted their report separately. The report also not was made public due to the ongoing cases in NGT.

In 2010, the Expert Group (EG) submitted their interim report. The report concluded with "considering serious shortcoming on the NHPC's Detail Project Report (DPR) regarding our recommendations, we believe that the main dam construction should be temporarily stopped till the submission of our final report of the study". The concluding remark provided the struggle with a strong objective to oppose the project and was strongly emphasized by agitating groups to stop the project with immediate effect. The final report was submitted by EG in March, 2011. The report comes out in two parts of suggestions.

Part-I highlighted the feasibility and the safety concerns of the Dam. The Expert Group recommended

1. The present investigations carried out to examine the downstream impact of the Lower Subansiri Hydroelectric dam project reveal gross inadequacy in the relevant facts relating to construction of the dam at the present site by the concerned authorities. The selected site for the mega dam of the present dimension was not appropriate in such a geologically and seismologically sensitive location. The seismic design parameter is not properly chosen for the project. According to the investigation, the recommended seismic design parameter is at 0.5 or more. Therefore, it is recommended not to construct the mega dam in the present site.

2. Further, from geological, tectonic and seismological points of view the Expert Group suggests **not to consider the Himalayan foothills, south of MBT for any mega hydropower project.**

3. It is recommended to redesign the project by sufficiently reducing the dam height and production capacity."

These recommendations raised several questions about the reliability of pre-feasibility reports as done by the project authorities.

Even after redesigning of the dam, its operation will have many environmental and socio-economic problems in the downstream[27]. To minimize these impacts, certain recommendations were advised to be adopted by the concerned authorities in part II (Annex-I) of the Expert Group report. These are listed in Annexure 1.

Just as the World Bank ignored the World Commission of Dam (WCD) report, the Expert group recommendations were partially ignored by NHPC Ltd.

We do not foresee the ending of this struggle in the near future. There will be more diverse stands. One of the big achievements of the resistance including the issue of downstream impact in decision making level. It also led to an improving of the attitude of bureaucrats and technocrats by forcing them to accept the people's perceptions related to downstream impact as valid. This acceptance significantly reduced tensions on both sides. I consider Subansiri movement as one of the more successful community struggles in terms of accomplishing the set objectives by including many diverse groups of people. It is an instance of divergence led empowerment to diminish gap between tradition and technology.

27 Report On Downstream Impact Study Of The Ongoing Subansiri Lower Hydroelectric Power Project At Gerukamukh Of National Hydroelectric Power Corporation Limited Submitted by the Expert Group Downstream Impact Study of the ongoing Subansiri Lower Hydroelectric Power Project Gauhati University, IIT Guwahati, Dibrugarh University.

Those Who Live on Floating Huts

Ram Wangkheirakpam

It was in early part of 2000 that I visited the Loktak wetlands system as part of my M.Phil Dissertation[28], and it required me to canoe to where the 'floating' population of Loktak lives. During this time, the Narmada Bachao Andolan (NBA) was strong in the Narmada valley, and this had also got my attention. This inspired me to write my paper on the affected people of Loktak Hydro Electric Project. During my childhood in the 80s, the only thing that I remember of Loktak is its vast water where my father and his friends used to take us to the Sendra hillock for picnics. I cannot remember either in class or any discussion where the topic of impact of the Ithai barrage was mentioned. After I wrote my dissertation, I joined the anti-Tipaimukh Dam struggle. I consider this movement as one of those successful campaigns where the upstream and downstream collaborated against the dam. This was a life changing moment for me and marked my unending association with many struggles for land, water and forest not only in Manipur but also in North East India and beyond.

When I began exploring Loktak, the impact of the dam was already felt and by then there was little or no organized resistance against the dam except for private stories or in some occasional meetings. The resistance was manifesting itself on demands for compensation for the agricultural land submerged or for the right to live and fish in this reservoir. The power relationship is such that those powerless knew that it would not be meaningful to utter any direct opposition. Asking for compensation is not outright resistance. But it is also possible to argue that seeking 'proper' compensation is a covert form of resistance. Dams are built in places where dam builders might say it is feasible geologically, but it also generally known to be built in where the inhabitants cannot resist.

This paper will try to give a perspective on a fishing population that primarily lives on huts built on floating biomass. The issues around Loktak are tremendous. One can write about the beauty of Loktak as many poets have done or the songs that were inspired; one can also write about the forgotten cosmo-genesis of the lake and its Moirang civilization[29]. There are also those whose key interest lies in counting the migratory birds each winter which indicates the health of the wetland. But to me the most fascinating story from Loktak will be of this 'floating population' whose concepts of land will differ from those of ours with fixed directions and legal titles. Their struggle to belong to Loktak and to continue to fish are exemplary.

Locating the Wetland

In order to locate the story, we need to have some descriptions of the actors, laws, and policies of local, national and international nature that govern the lake. Such descriptions are found in most reports and books written on Loktak and their authenticity and accuracy are based on the knowledge and expertise of those who have written them. However, I've made efforts to present an accurate picture.

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28 *"DAMS & DISCONTENTS: A Case study of Ithai Barrage in Manipur"*. Ramananda Wangkheirakpam M.Phil Dessertation Submitted to JNU. 2000.

29 A thorough treatment on this can be read in "The Cosmo-Genesis of Loktak Lake", A Research Report by Dr N. Vijayalakshmi to The Indiragandhi National Center for Arts, New delhi. March 21, 1997.

The state of Manipur, with an area of 22,327 Sq.km, falls within the Indo-Burma biodiversity hotspot[30]. The ecosystem in Manipur consists of two interrelated biomes, wetlands and forests. The Loktak Lake, located towards the southern portion of the central Manipur valley, and its associated wetlands constitute an important asset of Manipur's natural heritage.

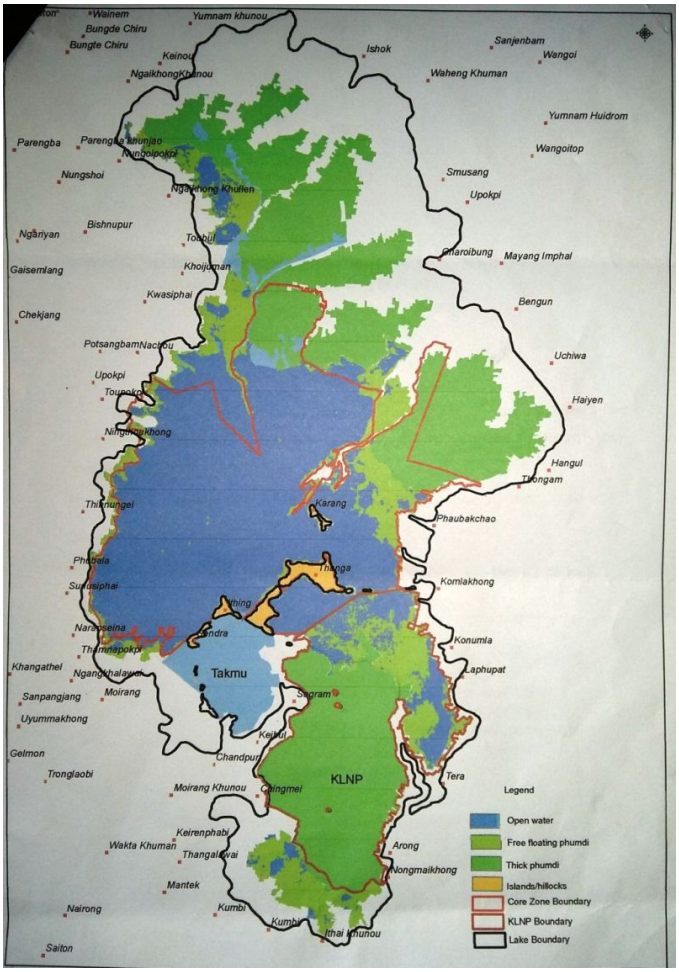

Fig 3: Map of Loktak (Source: Ram)

Loktak wetlands system[31] is situated about 38 km south of Imphal, the capital. It is oval in shape with its long axis running north to south with no definite shoreline and its extent and depth varies with season.

This feature was more prominent before the Ithai Dam was constructed in 1979. But with the construction of the barrage, and even later, there has been reduction of the area thus reflecting some confusion on the size of this wetlands system.

According to the 'Loktak' Newsletter published by Loktak Development Authority (LDA) and Wetlands International, October 1999, Vol-1 edition, the maximum length of the lake is 26 and 13 kms in width which equals to 338 Sq. Km. However, according to LDA in 2016, the new size of the lake is 236.21 Sq Km. This means that the lake has shrunk of about 102 Sq Km in just seven years!

This is an important issue to discuss as it will have several consequences such as on the need to protect the lake from further shrinking from encroachment. This issue must be addressed together with people who live around the lake and with the government so as to ensure that the lake is saved from further siltation or for regular-de-siltation and to ensure that the lake is not further encroached by and/or through local elites or by 'development' mongers.

Understanding the lake requires going back to history prior to the construction of Ithai Barrage, where there were patches of water bodies which during monsoon became one body called Loktak. These smaller bodies of water were 'separate' lakes with separate names. They were named according to certain 'owners' based on first use or of clans or sub-clans[32]. The

30 http://www.biodiversityofindia.org/index.php?title=Biodiversity_hotspots_in_India

31 Loktak is a generic name for several *Pats* or wetlands that comprise the Loktak Wetlands system. *Pat* is the Manipuri word for land and water continuum where monsoon water gets accumulated and then released gradually to streams and rivers. Apart from Loktak, there are adjoining Pats or wetlands such as Phigei Pat, Thingom Pat, Yawa Pat, Birahari Pat, Ngakra Pat, Melleibi Pat, Goda Pat etc. During dry season(s), these wetlands were used for agriculture and latter when monsoon water fills up, all these 'separate' pats become one and is christened Loktak Wetlands system.

32 See above.

Ithai Barrage has kept the water level high all the time as to feed the turbines. Due to this, the natural rhythmic water cycle has been entirely disturbed. This also means that the land use system has changed. During the lean season, those local seasonal farmers cannot use the land for agriculture anymore. This has forced the farmers to completely to shift their profession to fishing instead.

At an altitude of 768.5 m., the annual rainfall varies from 982.21 mm. to 980.8 mm., from April to September. The Loktak *pat*[33] acts as the only natural reservoir for the rivers and streams of the valley and the hills of Manipur[34]. The main rivers that flow into the Pat are the Nambul, Yangoi Macha/Nambol, Tagjoi Macha, Thongjarok, Ningthoukhong and Khuga.

The areas around this wetland include Moirang, Lammangdong (Bishnupur), Mayang Imphal and the islets of Thanga, Karang, Sendra and Ithing situated within the lake. These areas include 65 villages and an almost contiguous stretch of phumdi land (floating vegetation) of about 40 sq. km. forming the present Keibul Lamjao National Park. The park is considered to be the only natural floating national park in the world and also the only habitat of the endangered deer Cervus eldi eldi known locally as Sangai.

The *pat*, comprising water, fauna and flora and the typical phumdi land (thick, floating vegetation), has to be understood in terms of the common property resources system. According to Chongtham Budhi Singh, the traditional inheritance of fishing rights was distributed through agnatic inheritance systems within a small community of traditional fisherfolk. Though the government, for political gains, has de-reserved some areas to distribute them to the local people who are not traditional holders, much of the pat areas continue to be held, in practice, under the traditional system.

Other than the various streams, the other pats situated nearby are filled by monsoon water from the Manipur river, connected by the Khordak channel. The importance of pat to the people of Manipur is such that without these the densely populated valley will be submerged during the monsoon and drought-affected in the dry season (De Roy, R. 1992). In 1997, the floods affected over 50,000 ha. of paddy-land and thousands became homeless. In August 2002, heavy rain pushed the lake to the 768.5 m. mark, while the water reservoir capacity rose to 518.75 million cubic litres. NHPC was so obsessed with maintaining the water level of Loktak lake to generate power that it overlooked the potential dangers of a flood. By the time the NHPC authorities were forced to open the gates of the barrage, it had already devastated the Manipur valley.

The Manipur river further downstream is ‘blocked’ by the Sugnu Hump, an eight-metre-high rocky barrier, which deflects some of the water back into the Loktak. During the lean season, the Khordak channel also served as an outlet from Loktak, maintaining a delicate balance of water levels. This was when one could identify the various pats that make up the vast water body of the Loktak. The barrage has permanently blocked the passage of water to and from Loktak, except when the dam personnel open the gates. There are reports of locals fighting for the sluice gates to be opened as it floods many areas surrounding Loktak during the monsoon.

The lake is rich in biological diversity and plays an important role in the ecological and economic security of the region. Loktak is the largest freshwater inland natural reservoir in the East and has been identified as a major Indian wetland by the International Conservation Union (IUCN). Loktak and its related wetlands constitute a habitat for a vast variety of biological life forms ranging from the smallest micro-plants to larger vertebrates including

33 *Pat* is the Meitei word for Lake and will be used interchangeably and here it will mean Loktak Lake

34 The other main outlet from Manipur is Barak River that runs into Assam then to Bangladesh.

human kind. The lake was recognized as a Ramsar site of international importance in 1990. The lake is also recognized as an Important Bird Area (IBA) site considering the wide diversity of migratory and local resident avifauna and waterfowl population, some species arriving here for their winter rest from as far as Europe and China.

The lake not only provides food and shelter to hundreds of families living in the peripheral shores, it also shelters many species of fish, aquatic plants, endangered mammals and migratory birds. It provides sources of livelihood for thousands of people directly or indirectly dependent on its resources. It plays an important role in making the valley fertile and productive. The lake is the foundation of several legends, myths and historical events that provides insights into ancient Manipur.

Cultural History

Loktak has been a central theme in Meitei folklore and culture, which has been captured in oral literature, spiritual rituals, songs and ballads. The birth of the legendary Khamba-Thoibi romance, which is a core part of Meitei culture in terms of dance, music and religious functioning, originated from this lake. Hijam Anganghal's 'Khamba-Thoibi Seireng', a poem of 39000 lines is considered to be a national epic of the Meitei indigenous people. It elaborates on the centuries old ballads, stories and ritualized practices of the people of the Moirang Principality of Loktak Lake area.

It is closely associated with the myths and legends of the kings and the ancient principalities of Moirang, Khuman, Luwang in their relationship with the Ningthouja dynasty who ruled at Kangla. Loktak and Moirang are sources of oral tradition and literature that are valuable assets of the Manipuri civilization. The *Moirang parva* ballad is a tradition that has been continuing for the past many centuries, enfolding in its narrative the legends of Thoibi the Princess of Moirang and Khamba the orphan. The narrative provides us a panoramic view of the life that existed in and around the lake some three hundred to four hundred years back. The narrative is important in detailing the history of Loktak Lake and Moirang.

But all these narratives of the past interrelationships seems too far away in the present time. What I noticed during my many conversations with several people was that the invoking of this past happens only in meetings or some introductory remarks of a tourism brochure. But how these translate into some present day actions is uncertain.

People and Livelihood

According to a case study done by the Wetlands International South Asia, titled *Integrated Wetland and River Basin Management – a case study of Loktak Lake*, "Loktak Lake ..has been referred to as the lifeline of the people of Manipur due to its importance in the socio-economic and cultural life. It plays an important role in the ecological and economic security of the region. The lake has been the source of water for generation of hydroelectric power, However the promised irrigation and water supply component has not been as fruitful." The report further points out the importance of Loktak to the food security of the region. The lake has been also the breeding ground of a number of riverine fishes and is a vital fisheries resource.

As many as 50,000 people are directly dependent on the lake's resources for their food sources and livelihood. Results of a field survey done by Abha Lakshmi Singh and Khundrakpam Moirangleima (2009)[35] in selected villages located around the Loktak Lake showed that 54 percent of the households were dependent on the lake water for the purpose of drinking and other domestic uses. Most of the households were involved in fishing, fish farms and fish marketing (57 percent), fishing and agriculture (24 percent), weaving lake products

35 http://www.gjournals.org/GJPS/GJPS%20PDF/2012/October/Abha%20and%20Khundrakpam.pdf

(6 percent) and boat ferrying (4 percent). This, more than 90 percent of the households were dependent on the Loktak Lake.

When I visited Nupi Keithel in central Imphal, I realized how important Loktak is not only for those who catch fish, but for the many people in the chain who are involved in the sale of fish and vegetables. When fresh fish lands up in the main market there could be at least three to four people who are hooked to the chain making their small margins. What saddened me is the lack of space for fishers from Loktak who still do not have vending space in the main market(s) either in Ningthoukhong or far away Nupi Keithel in Imphal. Here they have to depend on the whims of the bulk buyers thus fetching much less space. This is one of the reason why I've been pushing for a Loktak fishing Cooperative that can do collective bargaining. By now we have a Cooperative body registered and its launch is awaiting.

Phum-khangpok

A characteristic feature of the Loktak Lake is the presence of floating biomass locally called 'phumdi'. This is a heterogeneous collection of various vegetation, aquatic and semi-aquatic plants. The local fishermen utilize the floating biomass for different purposes including building of huts on thick phumdi and for athaphum fish 'culture' ponds to harvest fish. Athaphum normally refers to the 'artificially' laid strips of phumdi in a circular pattern for fishing purpose.

A unique feature of Loktak are floating huts built on floating vegetations. The tradition of human habitations on the floating phumdi vegetation known as Phum Khangpok is believed to have originated centuries ago. These floating huts are primarily shelter huts used for fishing, both for short and long term stay, which not only protects fishing families from rain and sun, but also allows for longer stay inside the lake to catch fish and also raise their families. It is here that fishing families interact and build their own fishing communities or Leikai. The huts are built with locally available material like thatch, bamboo splits, water reeds, and sometimes reinforced with plastic sheets to ward off the strong wind and rain. Usually, a hut is made to accommodate four to five persons. Personal belongings including sleeping mats, fishing gears, cooking utensils and material for smoking the caught fish are contained in the huts. In the present times, fishermen families sheltering in these huts use solar lamps to lit their huts. The only means of transportation is by dugout canoe.

In 1886, the Manipur Gazetteer[36] recorded that the wetland was dotted with floating islands used by the inhabitants for fishing. In 1986, 207 khangpok (a hut or shed) were reported on the phumdi. In 1999, the LDA put the number at around 800. The number of khangpok on the pat increased four-fold from pre-dam numbers.

There is no reliable data available on the number of families whose lands have been inundated, but an approximate figure can be arrived at by observing the increase in the number of khangpok and the people who are now engaged in fish farms in the inundated areas. Many of the additional floating hut-dwellers are 'newcomers' who were displaced from their traditional livelihoods by the project.

My interactions with many of these people in the field confirms a change in occupation from a primary tillers of the soil to fishers. This increasing population now dependent on fisheries has created an additional demand on the already depleted resources. Thus, both the depletion of resources and the increase in the khangpok population are primarily due to the project itself. Research and accounts from the fishers confirm that the fish population has declined tremendously and that traditional aquatic vegetation, once a main food item and source of income, has largely vanished from the wetland. As a result, they now have to market all the fish they catch in order to buy essentials, leaving little or nothing for direct consumption.

36 Dun, E.W. (1886), Gazetteer of Manipur

Increasing population, a dwindling resource base and increased marketing of fish are having severe consequences on the wetland and its people.

The altered ecology of the wetland and dwindling natural resources has resulted in increased migration to towns and cities in search of employment. Earlier, the wetland was not a 'free access' resource for everyone, but rather a 'commons', governed by community laws and ethics. There are already signs of degeneration as the wetland turns into a free access resource, looked after by no one and exploited by all.

This is a result of both government laws on common property and the construction of the dam. Traditionally, it was an accepted norm among the fisherpeople that fingerlings would not be caught, but today, such rules are not adhered. Anything and everything that can be consumed or taken to the market is extracted using any means, as each individual strives to catch and market as much fish as possible. Traditional methods are also being 'abandoned', with the fishers switching from small cotton nets to larger nylon ones that enable them to increase their catch. Added to all this, the number of fishers have also increased dramatically with the construction of the barrage. In any commons environment, when community laws break down, resource use can become unsustainable and destructive.

This is not to say that there has been a total breakdown of community life among the people of Loktak. There are still unwritten and commonly accepted laws to manage the wetland. The practice of extending help to others to lay large nets or repair their khangpok is still in practice.

Ithai Barrage, LHEP and its Impact

The multipurpose Loktak Hydroelectric Power Project (LHEP) was initiated by the Ministry of Irrigation and Power, Government of India in 1971. The Project was executed by the National Hydroelectric Power Corporation (NHPC) and was commissioned in 1983. The Project involved the construction of the Ithai Barrage (10.7m high, with 5mx10m span water ways) downstream of the confluence of Manipur River and Khuga River. The barrage creates an impoundment and backflow of water into the Loktak Lake through the Khordak and the Ungamel channels.

The project was estimated at Rs.115 crores, with a capacity of 105 MW (3x35 MW). According to the NHPC website, lift irrigation facilities were to be provided to 24,000 ha. of land. As in most cases of paradoxical 'multipurpose' projects, irrigation promises were never fulfilled. This dam has permanently raised the water level of this wetland and has blocked the natural flow of water to and/or from the wetland, severely altering a delicately balanced hydrological system. Before the construction of the Ithai barrage, the natural dredging process continuously cleared the silt brought down by the various streams and rivers from the valley and the hills. The roots of phumdi and other aquatic vegetation during the lean season touched the bottom and absorbed its nutrients. During the monsoon, the water level and the vegetation rose, bringing silt up with it. Much of this silt was drained out through the Manipur river along with the river current, and together with some of the vegetation or phumdi. The almost permanent high water level has the ability of this wetland to absorb floods.

Unlike many dams I've visited, this Ithai Barrage looks like a midget with just some iron doors that can be easily pulled up to release the water. By definition it is a Barrage and this project comprises a 10.7M high, 58.8M long Barrage which is suppose to raise water level to be used 'immediately' unlike a reservoir. However, this barrage stores up water submerging large tracts of land for generating hydro-electricity. This storage capacity is stated to be 0.353 MAF between RL 2525 ft and 2516.6 ft. indicates that this dam is not just a barrage but a large dam. Often when I interacted with NHPC officials, they tend to belittle this dam as just

a benign barrage. At closer look, the impact of this dam is tremendous as we shall explore in this story.

The Loktak basin was not adequately surveyed in the planning of the project. The data mainly relied on the survey done by the Survey of India in the 1960s. this means that there were no environmental impact studies and hence no environmental mitigation/management plan. This flaw led to severe impacts in the peripheral areas of the lake when the Ithai barrage was commissioned.

During the last three decades and more, the Loktak wetland ecosystem has degraded considerably as a direct consequence of the commissioning of Ithai Barrage of the 105 MW Loktak Hydroelectric Power Project.

Some visible impacts of Ithai Barrage on people and environment:

Changes in hydrological regimes of the Loktak and the Manipur River, thereby affecting ecological processes and functions of the wetland;
Very quick silting up, eutrophication and pollution.
Loss of fish population and diversity as fish route is blocked.
Permanent submersion of cultivable land and human habitation, approximately 50,000 to 80,000 hectares[37].
It has caused the disappearance of over 20 species of aquatic plants.

Much like the lack of conducting environmental impact assessment, when the Loktak hydel project was conceived there was no provision of resettling and rehabilitating the affected people. More than four decades down the line, there are still affected people living in the peripheral shores or inside fighting for their rights – the right to be fairly compensated or the right to live inside, the right to fish and the right to belong to this water known as Loktak. The story of those who live on Phumdis is one such story.

The Manipur Loktak Lake (Protection) Act of 2006

The Manipur Loktak Lake (Protection) Act, 2006 was enacted by the Government of Manipur "to provide for administration, control, protection, improvement, conservation and development of the natural environment of the Loktak Lake and for matters connected with as incidental thereto".

According to Section 20 of the Act, certain activities in the 'Core Zone' area of the lake were prohibited by law, such as (i) cultivation of athaphum; (ii) building huts on phumdi (floating biomass) inside the lake; and (iii) engaging in athaphum fishing in the lake. 'Athaphum' is the use of floating biomass to harvest fish. This is the more popular form of fishing culture in the Loktak Lake. The Core Zone incidentally covers most part of the lake water surface traditionally used by the local fishermen for harvesting fish and for other fishing activities.

Again, Section 31 of the Act which deals with 'Right to fisheries' define that the Authority may, with the approval of the State Government and notification in the Official gazette, declare any part of the Lake to be a fishery, and no right in any fishery so declared shall be deemed to have been acquired by any person or group of persons, either before or after the commencement of this Act, except as provided in the rules framed under this Act. Read with Section 20, the provisions in the Act outright restrict access to and use of the lake's water resources for any form of activity, including fishing practices, inland transportation and use

37 The Ithai barrage submerged between 20,000 to 83,000 ha. of cultivable lands. The government's estimate of 20,000 ha. is widely held to be an understatement and the 83,000 ha. estimate given by S. Ibomcha seems to be slightly exaggerated (Singh, N. L., 1993). A proper survey and estimation has not been conducted by any of the parties involved. De Roy (1992) estimates that 30% of the cultivable lands along the wetland got submerged and some 12,000 local people are now no longer able to use shallow fishing techniques.

for domestic purposes. This impacts upon the lives of the local fishermen and their earning capability, thus reducing their livelihood options and sustenance.

I believe that the this Act of 2006 was passed in a hurried manner without proper discussion even among the law makers. There were no consultations with different key stakeholders such as those who directly depend on this wetland for their livelihood.

The Act defines the fishing community as 'occupiers'. This reflects a lack of understanding of how wetlands system works. Ramsar convention too clearly recognizes communities who depend on wetlands and the need to take them along in conservation activities. Most importantly, the Act reflects the hidden agenda of state government and NHPC to cleanse lake people from the reservoir.

Action by the Authority

From 15 to 25 of November 2011, LDA backed by Manipur Police launched an eviction drive of Phum dwellers wherein several floating huts were burnt to ashes. The Authority forcibly evicted around 777 huts out of an approximate 1147 phum-huts during this period. Compensation of a mere Rs.40,000/- per family was given by the Government. It was an occasion for the fishing families to come together as one, to fight as one family against the multiple tyranny of the state. They knew that unless they stand together they will be thrown out of the this lake space forever. This 'battle' for Loktak is best captured in the documentary 'Phumshang' by Pawankumar.

Fig 4: Boat rally organised by ALLAFUM (Source: Ram)

Despite the strong protests by the local fishermen families, the LDA went ahead with the eviction and 14 more phum-huts were destroyed in January 2012 without any prior notice. Between 8th March, 2012 to 29th March, 2013 the LDA had destroyed 56 more phum-huts in contravention to a High Court's order of 25th January, 2012 staying the eviction. On 16th February, 2013 a contempt notice was issued against the LDA for violating the court orders. However, another arbitrary effort at eviction by the Authority was attempted again on 29th March, 2013.

Learning from this hard lesson, the fishers are now well coordinated to ensure that no one comes inside the core floating settlement areas (particularly of Langol Sabi and Komjao villages) without their consent. If any motor boats or other unknown persons are seen sailing in, any of the fishers will spread the alarm via mobile phone and then the whole network of ALLAFUM will be activated. Announcement will also be made from the ready sound system. They will leave whatever they were doing and then row to the place where they are called. The organizing skills are tremendous in not only in resisting 'outsiders' but also in arranging meetings, protest rallies…and today I can assert that ALLAFUM a well organized and powerful resistance group.

Ramsar Convention and Loktak

Loktak wetlands system is included in the Ramsar[38] list, meaning that it is governed by certain international norms agreed by parties (Countries) such as India who is a member of this Convention. Ramsar Convention has included Loktak in their list due to the following reasons:

"International and National importance: Loktak Lake is an ancient lake and plays an important role in the economy of the Manipur State. Without the lake, the valley would be subjected to high floods during monsoon and drought during the dry season. It is a source of water for hydro-power generation, irrigation and drinking water supply. The livelihood of the rural population around the lake is dependent to a great extent upon the fish of the lake. - Changes in ecological character: Due to deforestation in the catchment area and denudation of vegetation, soil erosion rate has increased considerably during recent years and this has resulted in siltation of the lake. Severe infestations of the lake by water hyacinth compounded with the problem of phumids present in the lake greatly interferes with the water circulation resulting in increasing rate of siltation and pollutants getting deposited in the lake ecosystem".

Because of the contractual need, India and hence Manipur needs to fulfill certain international obligations for saving this wetland. However, there is little or no proactive action from the government in its commitment. This is known from the fact that there has been no reporting from the government since 1992 and that no RAMSAR representatives have been invited to visit the site.

Role of women fishers in Loktak Lake

Livelihood activities along with fishing are largely a women's domain. They play multiple roles- from catching to processing to transportation to marketing. During the season when fish are available in abundance, women spend several nights working to preserve them in various forms for use during off- season or for sale the next day.

The most common activities done by women are fishing, marketing and processing (smoking). Although men do assist in large scale operations which are very rare case, in general women independently undertake the smaller scale activities. Fish marketing is generally undertaken by women and in an exclusive domain of women in retail trade sector. It is the fisher women who also supply the unique edible aquatic vegetation to the larger markets as fishing is not limited to only catching fish and Loktak provides immensely.

As women are involved with fish trading the major part of the day, they are hard pressed for time to accomplish other activities. Women face enormous problem in the transportation of fish in the early hours of the day. The most severe problem is rowing a boat in the wee hours and that of frequent strikes by different groups which result in loss of several days a month. With no cold storage facilities in place and no production of ice, women face hardship to preserve the fish that weren't sold. Smoked fish is a common means of preserving fish. No man ever smoked fish, its the women who do this tedious task.

Besides the day to day activities, fisherwomen also play an important role in the struggle and protest to repeal the Loktak Protection Act 2006. Since the protest started many women have suffered injuries and faced brutality of the Manipur Police. One of such incident happened on 19th Dec 2011 when Manipur police assault fisherwomen physically while the women were campaigning against the Manipur Loktak Lake Protection Act 2006 and the subsequent displacement at Thanga, Bishnupur District where ten women were injured seriously.

38 https://www.ramsar.org/

Women have been visible in every form of protest and dissent in Manipur for the past decades and Loktak is just another theatre. The state response has been consistently of violence and repression. In certain cases where persons of influence or projects with high economic returns like tourism were involved, the police would come out in force and resort to teargas firing and lathi-charge. There is very little formal documentation of this form of extensive state condoned or perpetrated violence against women.

Politics of Conservation

There are layers of 'conservation' efforts by several interest groups that begin from the local fisher group to anti-dam groups, local state government, national and international bodies. There are also conservation groups beginning from bird watchers to Wetlands International to IUCN who believes that this wetland must be saved from further degradation. NHPC, who uses this water, also have keen stake in keeping the reservoir clean. But how are they different from each other and where do they intersect?

There seem to be a broad consensus that there is continuous siltation, waste inflow from urban areas and agricultural residues and increased human activities. A major problem faced by lake conservationists is the enormous silt load content that is carried by the feeder streams which flow down into the lake directly from its western catchment. Siltation causes gradual rise in the level of the lake bed, thus perpetuating water spillage in the lake shoreline particularly during the monsoon season. This results in water inundation of settlement and agricultural lands in the peripheral villages. The silt load and lake degradation seem an unforeseen situation. In 1988, just about five years from commissioning, the North Eastern Council (NEC) hired Water and Power Consultancy Services (WAPCOS) to prepare a report for remedial measures.

From RTI response by NHPC[39] with regard to Detailed Project Report (DPR) on the project, it is reported that there is no DPR but one 'Report and Estimates' which was prepared by the government of Manipur. This document indicates (by the name 'Report and Estimates) that it is not a proper assessment of the environmental impact or management plan. It is possible that there were no mandatory laws that govern dam building during that time, however, one can speculate that there was utter lack of planning that went into this project[40]. In order to deal with silt, it is natural that adjoining hills will have to be 'forced' to adopt certain catchment area treatment. In other words, the government will involve many villages in conservation effort. This in turn means that many of the traditional food production system such as shifting cultivation have to be curbed thus disturbing the livelihood.

There is a tendency of the government and NHPC to blame the local fishing population for all the ills of the lake including for over fishing, dirtying the lake or for increase in floating vegetation. Such a view is also held by urban dwellers whose interest lies in getting electricity. In other words there is an inherent of a certain category of people who benefits from keeping the reservoir clean, and at the same time preserving nature devoid of people. It is this class of people that have special interest in enclosing the Keibul Lamjao National Park

39 RTI response from NHPC Dated 14/09/2010 to Shri Sanasam Sarat Singh

40 In an PIL Order Dated 12/11/1999 Passed by the Guwahati High Court, Imphal Bench with regard to Loktak Project Affected Areas Action Committee Vs The National Hydro Electric Power Corporation (NHPC) et al. clearly states that, inter alia, "while preparing the scheme the respondent did not take in to account of the factors which are likely to accelerate the shortening of the storage capacity……..". "The Project Report prepared by the Union of India and taken up by the Respondent No. 2 have not taken into account of the facts that the Loktak Lake has no definite boundary and it expand well into town and villages……..".

(KLNP) for saving the Sangai Deer, and it's the same who are now proposing to safeguard Loktak sans people. The enclosure process that began with KLNP has now covered all the lake area by enacting the Loktak Protection Act 2006 categorizing the lake into core and buffer zone. Conflicts arising out of these 'conservation' policies and activities are frequently visible and the most prominent one is the burning down of 777 floating houses in November 2011 by Loktak Development Authority (LDA).

Response from People

In July 1985, people of the fifteen affected constituencies formed the *'Loktak Flood Control Demand Committee (LFCDC)"* to protest against the inundation of cultivable land by the dam. In response, the state government constituted the *'Loktak Development Authority (LDA)'* in 1986. De-silting and de-weeding efforts by the LDA did not address the problem and in 1991, social scientists, activists and local people formed the *' Action Committee – Loktak project affected areas, Manipur'*. The fishing community of Thanga village also formed an association called the *'Loktak Khangpok Fisherman Association"* in 1992 to protect the social, economic, and cultural life of the inhabitants at Thanga Island. In the same year, in view of the increasing deterioration of the socio-economic problems of the affected people, various organizations and academicians of the state constituted the *'All Manipur Ithai Barrage Peoples Organization' (AMIBPO).* The main aim was to mobilize people to pressurize the government to formulate mitigation measures. Recent developments include demands for compensation for inundated land by the Loktak Project Affected Peoples Organization. Under their initiative, the Gauhati High Court directed the Government of Manipur to constitute a Committee of experts to assess the losses/damages suffered by people. The directive was carried out but the petitioners claimed it was a farce and conducted without their participation, and they petitioned the court again for a proper survey. I had participated, without invitation, in one of the pre-survey meetings by government authorities and found that they were only concerned with *patta* (titled) lands only whereas major part of the Loktak and its shore is primarily governed by the local common property laws.

All Loktak Lake Area Fishermen's Union Manipur (ALLAFUM) was formed in May 2011 as a result of threat of Loktak Protection Act 2006 to the fishing community particularly to those living in Phum-Khangpok. Its members consist mostly of those living in the lake and have been very successfully defending their rights. Highly committed members have given time and resources to mobilize within Loktak as well as beyond. Letters, press releases, legal action, networking, fish auctioning, rallies, protests etc have been adopted to raise their issue. To me it is one of those very successful resistances that has helped them to continue to live inside the lake. However, the threat has not left with the Loktak Protection Act of 2006 still in place.

As I write this, the government just announced that this draconian Act will be reviewed and at the same time the Loktak Development Authority (LDA) will be renamed as State Wetlands Authority as mandated by Wetlands (Conservation and Management) Rules, 2017. ALLAFUM has responded on 31 January through a press conference that just renaming LDA cannot transform it into an adequate body that can manage all the wetlands in the state. LDA has an inherent crisis of lack of local representation in its structure and lack of expertise in its composition. It is this inherent flaw that has resulted in the far reaching degradation of the lake and encroachment by vested parties. ALLAFUM also maintained the new Bill (for Revision of the Act) must be translated into Manipuri language for consultation and at a period of least six months to one year should be allowed for consultation.

I would also like to share few thoughts on the group we generally label as Activists; these are an important set of men and women who are generally instrumental in many such movements. They are generally from outside that specific contested space. While some

NGOs do convert to movements as part of their project, activist tend to also 'impose' their ideas on movements. From their various national and international networks, they bring in ideas, worthy and not so worthy ones, suitable and so suitable ones, to the movement on the ground. Say for example, they come with a purely anti-dam agenda and they completely overlook the sufferings and immediate concerns of the 'affected' people. Protest pictures and reports suits their funders and/or their counterparts and networks. I write this because I've seen people do that with little or no concern of the hard life fishers go through everyday. The difficulties in catching and disposing those catch in far away markets and yet at the same time to contribute money and time for the next protest is something that gets no attention from an activist.

I do also feel that the issues surrounding Loktak has not found its way into the minds of the citizens of Imphal where much of the decisions are made or where all the big civil society organizations reside. Despite the many rallies, protests, press conferences and lobbying by Loktak based organizations there has not been a single coordinated effort coming out of the capital in order to save this wetland. While the reason for this could be that in Manipur environmental issues are secondary to human rights abuses, there is a need to recognize the close inter-relationship between the two.

Tools of resistance

To me the best tool adopted is the dugout canoe which no person who lives on land can easily use.

It is like a motor bike or a car where you can reach anywhere in the lake in very little time. NHPC, Government officials, police or other urban dwellers cannot even sit on a canoe without fear of drowning. I have seen groups of children going to school by their canoe and a lone woman coming back in the evening from Ningthoukhong with firewood and rice bag. Each family will at least have two canoes, one for the husband and the other for the wife. It's the lifeline, it is their communication, it is their way to connect to land to market. It is this tool of life that helps them defend their life space.

When in 2011 the LDA with police came to burn their huts down, it is the women and men that came in their boats, surrounded and ran after the motor boats that carried the LDA officials and police[41].

Since that spiteful event, ALLAFUM have developed laws of the lake. The law is simple – you cannot use motor boats on the lake. They know that motor boats can be used by anyone but the canoe as a tool cannot be easily used by outsiders. ALLAFUM also argues that introducing motor boats will mean contaminating the water with drops of oil and hence destroy the lake environment. This has the strategic significance of allowing only tools that the fishers can control.

Beyond the idea of oil spill and destroying the water, the fishers know that once they allow motor boats there will be outsiders who can dominate them in the water either for fishing or for tourism and for evicting them finally. Last month in December 2017, to economically strengthen themselves, they have formed a fishing cooperative known as Loktak Fishers Multipurpose Cooperative Society with the key objective of doing away with middle men and money lenders that have kept them in poverty so far.

It is again a new experiment in resistance and gaining what is rightfully theirs.

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41 A must watch docu-film 'Phumshang' by Haobam Pawan Kumar that clearly shows the use of canoes in their fight against the police. https://www.youtube.com/watch?v=HZefRw2Dll4

Development through coercion and untruth: The tale of Teesta Low Dam Project-Stage III and IV in Sub-Himalayan North Bengal

Soumitra Ghosh

Knowing Teesta

I first saw Teesta when I was barely five; it was during a family trip to Kalimpong. We started late and the river gorge from Sevoke onwards was full of thick dark shadows. The hills were high and green, the river swift and turbulent, the road narrow and tortuous. I was afraid of the dark, the river and the precipitous hillsides that fell straight to the water. The first memories were of fear. Teesta was a fearsome river.

The fear stayed with me as I grew up in my Terai hometown of Siliguri. Though one could not see the river from the town, it was never far away—it flowed past the neighbouring town of Jalpiguri (and ravaged it at will). Though in sub-Himalayan North Bengal the monsoonal floods were routine, something which one grows up with or keeps hearing about, everyone knew that Teesta was different and not to be trifled with. Memories of deluge and disasters haunted the people who lived beside or near the river. Let it not be angry, people prayed, let it not come down on us with swirling masses of grey water, sweeping aside houses, people and animals, devouring land and forests and trees. I didn't really see such devastation from up close, but heard about it plenty, particularly during the great flood of 1968 when the entire town of Jalpiguri , and more than half of the district, went under water. Up in the hills, whole slopes turned into debris of mud and rock and came hurtling down as slides. Though not as big or overwhelming, there would be many other disasters in future. Teesta, fearsome and angry, flowed on.

But was Teesta only about fear and disaster? Was it a perpetually angry demon that demanded only obeisance and needed propitiation? The Rong or the Lepcha people in the hills held it in great reverence. In the plains, the Rajbangshis lovingly called it 'Buri'(daughter/mother). Both communities worshipped the river, which is intrinsically woven into the folk culture, the stuff of fables, legends and songs.

With time, I learnt to know and see Teesta as the people hereabouts do. Teesta is fearsome and furious, yes. At the same time it is primordial nature, beautiful, majestic and serene. Bountiful and beneficial too: take away the river and life in the mountain valleys as well as floodplains and catchments downstream simply ceases to be—without the river water and alluvial silt the monsoonal floods bring, there is no cultivation, the forests don't grow and the grasslands don't survive. Teesta, like many other rivers, symbolizes life. It, in fact, is life.

Learning is a slow process and it took me years to know all these, bit by bit, little by little. I learnt as I fell into love with the river—it was not far from where I stayed and a short bus ride would take me to Sevoke, where Teesta descends to the plains. A morning or afternoon walk upstream from Sevoke would lead to a wonderland where, flanked by deeply wooded hills, the emerald-green river winds along its bed of grey-brown rocks covered with moss and

lichen, colourful stones and pebbles and perfect stretches of sparkling silvery sand. There were quaint roadside places such as Kalijhora and Riyang where green and blue rivulets and rivers flowed into Teesta. On the other side of the river, there was PurbiKhola, a short trek away from the Sevoke Coronation Bridge. In all such places, one could go down to the water, listen to birdcalls and other forest noise, pick a pebble or two and sit and walk or camp on the sand. In winter, picnickers thronged the roadside areas.

I kept going back to Teesta as long as I could. In spring, when the red cotton flowers bloomed. In summer, when the Sal trees leafed. In the rains, when the river turned into a muddy grey and wisps of clouds came right down to the gorge bottom. In autumn, when the forest started to change colour and the river became green once more. In winter, when the sand was whitest.

I kept going to Teesta as long as the river was there. On its two banks, people came and went, villages and small bazaars were set up, trees were cut and planted, roads were built. The landscape was changed, tampered with. But not so much that it became unrecognizable. So long as the river flowed, the landscape around it survived. Not anymore, though. Because Teesta the beautiful and fierce, giver and wrecker, no longer exists. It was killed, maimed, destroyed. It was dammed.

This brief narrative recounts how Teesta was dammed: events that preceded and happened after the dam-building, the new tales of development, money and power that were spun, and the old tales of nature, faith and living that were junked. We will be talking here of the so-called low dams that came up on the North Bengal side of the river. More dams have come up upstream in Sikkim, with palpable impacts on the river. But those were other stories in which this author was not directly involved.

Early days: People hear about the dams

I first came to know about the Teesta dams sometime in early 2002, from a group of friends at Kalijhora Bazaar. On behalf of NESPON, our Siliguri-based CSO, some of us were trying to help them to set up an eco-tourism centre on a broad sandy shelf halfway down the slope that runs from Kalijhora Bazaar to the river—it was part of our ongoing work with the forest communities of the region.

A few words about NESPON(North Eastern Society for Preservation of Nature and Wild Life) might not be amiss; it was a small and rather informal group of people that came together in 1992 primarily to work on forest and wild life conservation. Though NESPON started its journey as merely an appendage of the powerful forest department, seemingly sharing the ossified and colonialized departmental view of looking at forest-dependent communities as something external and harmful, it changed course not long after. Several years of abortive attempts at spreading the ‘good words’ of official conservation among the beleaguered forest communities of North Bengal later, it gradually dawned on us that it was the forest department and state and not the communities that was historically responsible for clearing forests. It followed that conservation could only happen through the active agency of forest dwellers—instead of keeping them out of forests it was necessary to recognize their role in keeping forests alive, which meant understanding and recognizing their rights over forests as well. Moving decisively away from the forest bureaucracy and its top-down and

colonial notions of conservation, NESPON started mobilizing forest communities of North Bengal from around 1999-2000 with the call for building a people's conservation movement. New people's organizations came into being and an intense grassroots campaign started that soon joined hands with similar campaigns in other parts of the country—the movement for a new forest rights act gathered steam.

In early 2002, the eco-tourism facility at Kalijhora was almost ready: the tents were pitched, the toilets built. The location could hardly be bettered, overlooking the sprawling sandy bed and the forested hills across the river. The friends at Kalijhora formed a co-operative to run it, some initial funding could be obtained through a government scheme and we were looking for further options. Despite a few hiccups, it was all going fine and we all were feeling very enthusiastic about the project. Suddenly there was this talk about the dams in the air and everybody started mentioning NHPC(National Hydro-Electric Power Corporation) and their big project on the anvil. Pratap, the leader of the Kalijhora group, himself grew restless: "Dada, what would happen once the NHPC comes?" We didn't have too many answers. Though I knew about the anti-dam struggles in other parts of the country and heard and read about the many adverse impacts of big dams, dams were still remote, something that didn't(or shouldn't) happen to our area, our rivers. Nonetheless, a visit to the local NHPC office seemed in order—what could we say unless we knew what exactly is happening?

The Chief Engineer at Siliguri NHPC Office was very cordial: there was nothing to worry, really, and he was so glad to see us! The project NHPC would build was environment-friendly and green, in fact, you didn't call it a 'dam' project at all. The project is a run-of-the-river one where the river would continue to flow and there wouldn't be any permanent storage of water, explained the beaming Chief Engineer. But won't there be dams? Well, there would be dams, of course, but only 'low' ones, not high, not the big high ones that lead to conflicts. As to the impacts, there would be an exhaustive EIA(Environmental Impact Assessment) and everything would be jolly well taken care of. That was when I first learnt that there would be not one but two hydro-electric power projects on Teesta(at 27th Mile on the Sevoke-Sikkim Highway and Kalijhora) and these were called TLDP(Teesta Low Dam Project) Stage 3 and 4.

Trying to understand dams and their impacts: the Siliguri Conference in 2002

Not really content with the claims of NHPC about the 'environmentality' of the 'low' dams, we decided to delve further into the matter. After talking to Himanshu Thakkar of SANDRP(South Asia Network on Dams, River and People) in Delhi and friends in Kolkata, it was decided that a conference on dams and their environmental and social impacts would be held in Siliguri, where we would invite not only experts, activists and civil society representatives from West Bengal and elsewhere, but also community members from the TLDP areas as well as officials of NHPC. Meanwhile, things were becoming rather warm at Kalijhora. Besides us, other activists from outside had started visiting the area, and there was a general antipathy against the dam project among the community across the political divide. Pratap and his friends, who were all members of CPIM(Communist Party of India-Marxist), the then ruling party in West Bengal, gladly joined hands with their political adversaries in CPRM(Communist Party-Revolutionary Marxist), a breakaway group from CPI(M), as well

as those sympathetic to GNLF(Gorkha National Liberation Front), which was at that point of time the most powerful political group in the Darjeeling Hills.

The Kalihjora people turned in good numbers in the Siliguri Workshop, and when the Chief Engineer of NHPC rose to speak, they tried to shout him down. I still remember the ensuing ruckus and people shouting, "We don't want dams at Kalijhora!" and "Let NHPC go away"! Because no information about the project was publicly available, we decided not to take a fervently anti-dam line from the workshop. "Let's wait until the EIA and the DPR(detailed project report) become available, and we know more about what's happening", we tried to say. Pratap and others from Kalijhora refused to heed this reasoning and left the workshop disgruntled. Despite this, the workshop seemingly went well and we thought that it could convey a lot on the impacts of big dams, besides explicitly pointing out the TLDP Dams can have similar impacts. The post-conference press release jointly issued by NESPON and SANDRP said:

The Teesta flows through tectonically unstable Himalayas. We are afraid, any form of mighty construction may induce seismicity, geological instability and consequent disaster.

The slope-failure or land-slide rate in Teesta Valley is the highest in the country, contributing huge boulder load into the river, especially during the monsoon months. Dr Subir Sarkar of North Bengal University stated in his deliberation in the Seminar that the annual sediment load of the river is estimated to be 3.5 to 4.5 million tones. This sediment load will be trapped upstream of the dams and the reservoirs are likely to be choked in no distant period. In fact, the Chief Engineer of NHPC, Mr Subhas Ray admitted during his deliberation in the Seminar that the estimated life span of these dams will be at most 50 years.

The blasting and the slope modification during the construction of dams would obviously invite further landslides threatening life and livelihood of the people. The process will expedite sedimentation in the reservoirs….Since the dams are likely to impair the dynamic equilibrium of the river, the increasing tendency of toe-erosion may trigger off further landslides…there will be drastic modification of the landscape causing serious threat to existing ecological balance…The EIA made by NBU is classified document as per statement of Dr Subir Sarkar of NBU. This and the Project DPR should be made transparent and peoples' right to information should not be denied…

This conference, after deliberations of these issues, therefore demands a through and transparent review of the whole programme pending which all kinds of construction including exploration to be stopped forthwith.

Agitation that was not there: the Kalijhora protests

Immediately after the Siliguri Conference, the Kalijhora protests started. It was an impressive show: hundreds of people took to the streets and protested against the proposed dams. A new people's committee was formed to steer the agitation which seemed to intensify. A blockade of the national highway followed, and the outside world began to pay attention. We, however, weren't taken into confidence, and while the agitation was at its peak, Pratap and friends judiciously avoided us. Therefore, we had no inkling to what really was happening. We didn't even know the actual demands of the agitators. The militant slogan of 'no dam' soon began to be supplanted with demands of adequate compensation and jobs for the local unemployed. The agitation was withdrawn barely a fortnight after it started, without offering

any reason. Though Pratap and others started talking to us again and we tried our best to kick-start our eco-tourism venture, things never became the same anymore. By then, it became public knowledge that NHPC was going to acquire the land on which the centre was being built; the Chief Engineer himself told us that much and offered generous monetary help from the project's 'community development fund'. While we politely declined the offer, the community at Kalijhora bazaar seemed to take the dam project as fait accompli, and many tried to make a quick beeline to NHPC. 'It's a big project, dada', Pratap told me, 'how could you expect us to oppose it?' Why did they start the agitation, then? The answer came not from Pratap, but an 'informed' activist who was deeply involved in the Kalijhora agitation: 'The dam cannot be stopped, dada. So why not grab what you possibly could?...the agitation helped to increase the community's 'bargaining power'. Looking at the present prosperity of some of the community leaders at Kalijhora, I tend to believe him now.

As time passed and we grew a little more wise, it was revealed that NHPC reportedly used its 'community development funds' to kill possible protests: in fact, the Kalijhora protests in 2002 were engineered, 4 years before actual project work would start. The leaders of this 'movement', in which some of the local NGOs participated, were all generously compensated. NHPC allegedly made similar 'arrangements' with other NGOs who would later raise objections during the public hearing.

The Project: How it all began

Fig 5: Teesta Lower Dam III (Source: Chicu)

National Hydroelectric Power Corporation(NHPC) started large-scale construction activity at 27th Mile on NH 31A for building of dams in 2003-2004. A project which generated controversy since inception, TLDP means Teesta 'Low Dam'—even when dam heights are 32.5 and 30 metres. The globally accepted definition framed by the International Commission on Large Dams (ICOLD), categorizes dams above 15 meters as large. One also misses the point of calling a project 'run of the river' that is going to create a reservoir, impound water and submerge several hundred hectares of forest land.

The plans for taming the Teesta River flowing through almost the entire length of Sikkim and then entering North Bengal, were not new. Since the 1970s a proposal had been in place for harnessing the river in six stages in the mountainous parts of Sikkim. Of this, only one proposal to construct a 510 MW, 96.5-m high dam in Sikkim had come through. When the

project was granted environmental clearance, one of the conditions was that no more projects would be developed on river Teesta in Sikkim until a carrying capacity study of the Teesta River Basin was completed. In the case of the two TLDP dams it would have been logical to wait for the results of the carrying capacity study mentioned above, before going ahead with the project—since the study was looking at the same river basin on which these projects are proposed.

TLDP-III had already been accorded environmental clearance by the MoEF in July 2003, and TLDP-IV not long after. The MOEF had earlier refused site clearance for the TLDP-IV on the grounds that it would entail diversion of land within Mahananda Wild Life Sanctuary, which necessitated slightly relocating the site.

A brief look at the chronology of events that marked the beginning of TLDP-III reveals how existing environmental statutes were violated at will.

The Project starts: EIA and Public Hearing for TLDP-III

Power Projects in India need mandatory clearances from the Ministry of Environment and Forests (MOEF), Government of India. These clearances are subject to the implementing agency meeting all 'statutory obligations', which include, among other things, an elaborate, 'participatory' and 'transparent' Environment Impact Assessment (EIA) exercise. This process gets overseen by State Pollution Control Boards, and 'neutral', accredited organisations are entrusted with the study. Teesta Low Dam Project EIA was done by North Bengal University, and it commissioned the Geological Survey of India, Kolkata, with the geological impact component. We will come to that later.

On November 14, 2002, West Bengal Pollution Control Board(WBPCB) issues the Public hearing notification for TLDP-III. The notification carries no mention of the EIA, and says that only the Executive summary of the Detailed Project Report (DPR) will be available for public scrutiny. Till the last week of November—10 days from the date of the notification—the Siliguri Regional Office of the WBPCB could not show the Executive Summary. The Executive Summary of the Project was not available in Nepali—the major local language—till December 6, 2002. After we at NESPON started writing letters to the Ministry of Environment and Forests(MoEF), Government of India, as well as WBPCB and NHPC, challenging the legality of the Public Hearing and the EIA process for TLDP stage–III, NHPC—and not the WBPCB—sent a copy of the EIA to the PCB Siliguri Regional Office on the evening of December 09, 2002, just 10 days before the hearing and 20 days after the publication of the Hearing notification! The EIA was available only in English.

Due perhaps to our incessant objections pointing out the various statutory and other violations in the process[42] and the possibility that the violations might get the project stuck in a litigation, a fresh public hearing notification was issued on 13.12.3003, rescheduling the programme for 3.1.2003. Point to remember: according to the EIA rules, a clear 30-day

42

NESPON wrote to MOEF, WBPCB and NHPC on 22.11.02, 05.12.2002 and 12.12.2002 and then again on 18.12.2002 and 22.01.2003. Finally a joint letter from NESPON, KALPABRIKSH and SANDRP was sent to the relevant expert committee of MOEF.

period should separate the dates of notification and hearing(which was evidently not the case here), and, on the date of the hearing, all relevant documents including the EIA and DPR should be available for public scrutiny, in major local languages.

As soon as the EIA and the DPR summary were available, I spent hours and days in the dingy and cramped office of WBPCB in Siliguri, poring over the reports, trying to make sense of those. A cursory look at the document made it clear that both reports were problematic, incomplete and full of lies and half-truths; besides, the EIA withheld important scientific information. More than half of the TLDP story consists of the EIA—how it was deliberately and knowingly tinkered with. A highly placed official in North Bengal University later told me under conditions of anonymity that NHPC had sent back the first draft of the EIA with the observation that in its present state, the report would only ensure that the project was denied clearance. Because NHPC also decided to withhold payment, this caused a flutter and ultimately forced the university authorities to reconvene its EIA team and instruct it to urgently 'revise' the report. Accordingly, the second report was made, which we saw.

TLDP-III: EIA findings distorted, suppressed

Going by the date given on the EIA report cover, North Bengal University submitted the 'complete' report in August 2002. But important portions of the GSI report (the **'Report on the geological and geotechnical investigations'** by Geological Survey of India, Kolkata, as part of the EIA—we got a copy from a local journalist friend) were not included in the Report. Landslides would increase throughout the region, the GSI report said, and the already vulnerable and unstable hill slopes on two sides of the Teesta gorge would be subject to continuous water pressure. The project would come up in an area that contains several active and dormant slides, lies along major faults and is extremely earthquake-prone. The report cautioned that any major construction work in the zone, and particularly work that would cause impoundment of water on a large scale should be preceded by careful considerations of seismicity and slope stability factors.

NBU submitted the 'complete' report in August 2002. The GSI report was based on data collected during one full field season (2001-2002). Because there was a period of just five months between the submission of this report and preparation of the EIA, a similar or parallel study could not have been conducted within this period. It became clear from the EIA that the GSI report was the sole source of geological data included in it. In this context, non-inclusion of a crucial section of the GSI report in the final EIA was inexplicable (**subsection 3.5 of the GSI report that deals with the project impacts during the operational phase).** The EIA not only excluded this section but went on to say **(subsection 8.5)** that there will be 'no land environment impact during the operational phase' of the project. The Entire Section 8 of the EIA (section titled 'summary of environmental impacts) contains no information on geological/geomorphologic impacts, as if such impacts do not exist).

Some of the significant dropped/suppressed portions from the Reports:

1.Executive Summary:

a. Structure and Tectonics

‘…. It may be mentioned here that a) neo-tectonic movements are very common for such a juvenile organic belt like Himalayas and b) the Main Boundary Thrust (M.B.T) passes through the reservoir of TLDHP-IV (-2.5-3 Km u/s of the proposed dam axis and has been reported to be non-tectonically active’.

Though the ‘dam axis’ mentioned here refers to the previously proposed site, the M.B.T location is perilously closer to the new site.

b. Landslides:

‘A number of active and dormant landslides are present within the project area due to partly to anthropogenic activities and partly to adverse geological condition/ slope morphology. **After impoundment, due to the effects of changing pore water pressure within the slope wash/debris material chances of mass movements in the form of new landslides, reactivation of fossil/dormant slides and further destabilisation of already vulnerable slopes cannot be ruled out. Proposed constructional activities may also cause landslides.’**

Chapter II

Site specific geological and geo-technical parameters

Section 2.18.

‘Though NH 31 A will be at a much higher elevation of the FRL of Stage IV dam; but in those stretches where mudstone and clay stone will come into contact with the reservoir water, stability of the existing road bench may become vulnerable.’

2.19

‘two active slides on the road section are located between 7 km and 8.3 km. Both of these are rock-cum-debris slides and their toes have reached up to the existing Tista bed level. So to protect the toe of these slides from the erosion during high discharge, protection in the form of retaining walls will have to be constructed upto the FRL.’

2.20

‘Evidences indicate that the slide at Berrik has been caused due to planar and wedge failure of intensely jointed and sheared rock mass and perhaps initially triggered by toe erosion by Tista. ….**Further there are possibilities of instability which may be caused by short duration high intensity rainfall in that area.’**

2.21

‘The most visible active landslides within the limit of the project area affecting the NH21A are at 8.3 km slide (Fig 8) and 7.1 km slide. Both the slides are rock-cum-debris slides, which have been reactivated during the Monsoon period of 2001.

The slides have severely affected the road bench of NH31A making the width of the road bench shorter. Any further destabilisation / sliding at these locations will invariably cut off the vital road-link.

Sufficient protection measures, well-planned drainage networks etc. are essential at these slides location to check further deterioration, otherwise fresh sliding would definitely enhance supply of silt into the reservoir and cause blockage of the river channel. Toe protection wall up to FRL level will have to be planned.'

3.0

'AS per BIS code is 1983-1975, design seismic co-efficient (✪h) as per seismic coefficient method in zone IV comes around 0.1. The design of all the appurtenant structures at both the project sites should be considered as per the seismic consideration mentioned above. Hence it should also be kept in mind that a) neo-tectonic movements are very common for such a juvenile organic belt like Himalaya and b) **the main boundary thrust (MBT) passes through the reservoir of TLDHP – IV (i.e., about 2.5-3 km (u/s of the proposed dam axis) and has been reported to be neo-tectonically active.'**

3.5

'After impoundment of the reservoir, the water level in the reservoir area (mostly restricted within the main Tista river valley) will rise considerably. Accordingly, the slope wash / debris at the toe will become surcharged with water and pore pressure within it may considerably increase. The condition may deteriorate when fluctuation in the reservoir level takes place. As a consequence the strength parameters of the slope mass will decrease and it may become susceptible to destabilisation. Thus triggering of new landslides, or reactivating old/dormant slides and further destabilisation of already active slides cannot be ruled out. The similar conditions also prevail for TLDHP-IV and necessary precaution may have to be taken.'

The EIA not only excluded these portions but the Entire Section 7 of the EIA (section titled ' Environmental Impacts') contained no information on geological/geomorphologic impacts, as if such impacts did not exist!

The EIA report was full of incomplete/partial data. Some of these can be cited:

1.**Section 2, subsection 2-4: Seismicity**: The EIA admitted that the site-specific seismic design parameters were being 'studied' and not yet available at the time of writing the report. Because the project area falls within the seismic zone IV, any major construction work in this zone need to have suitable seismic co-efficient incorporated in its design. If design parameters were unavailable, how could NHPC talk about construction datelines (Executive summary, DPR)?

2.**Section 2, subsection 2.5.2**: **Reservoir Sedimentation**: Though Subsection 2.7(watershed) mentioned that out of 19 watersheds/sub-watersheds in the project area 5 have high and 3 others very high priority status in sediment yield index, and none of the watersheds is safe from the danger of erosion and destabilization, the subsection on reservoir sedimentation gave no data on possible cumulative sedimentation in the reservoir. Moreover,

it arbitrarily mentioned that 'retrogressive silt flushing near the intakes is effective', and 'no separate silt exclusion arrangement has been provided'. No further explanation or clarifications for these were provided.

The EIA was based on data collected from a study area that extended to 7 Kilometers upstream from the project site. Thus it ignored all watersheds—and the slope stability factor in them—beyond that point. In a river like Teesta that flows through inherently unstable terrain and carries an average annual load of 3-4 Metric Tonnes of silt, a 7-kilometer radius can only provide incomplete sedimentation data.

The EIA said (2.5.2) that gross storage in the reservoir will be 18.36 Mcum at FRL 208 meters and live storage has been computed at 11.57 Mcum. **Hydrological data given in the DPR and EIA did not take into account the possible increase of discharge and ensuing floods caused by glacial melting in the upstream. This omission posed serious questions to the credibility of all the hydrological computations used in the DPR and the EIA.**

The EIA ignored the downstream impact factor on the pretext that because the project was run-of-the-river and supposedly would not impede the natural discharge of water, there would be no additional danger of floods downstream. The fact, however, remained that the project will cause impoundment of water on a large scale on a glacial river, in an area with perennially unstable valley slopes and with watersheds with high sediment yield index. **Moreover, this was not really a run-of-the-river scheme as the project authorities stated, because it involved impoundment of water and creation of an artificial reservoir.**

The GSI report mentioned that construction of the reservoir and continuous storage of water would increase pore pressure on the adjoining slopes, leading to toe erosion and slope destabilization, all these factors would finally affect the discharge and the sedimentation processes and might lead to the weakening of the barrage structure, thus causing serious impacts on the flow of the river downstream.

3. **Section 2, subsections 2.6, 2.21**: slope instability and soil erosion: These subsections made it clear that road building and tampering with slopes in the project area had already caused much damage: 'In many cases, roads are improperly aligned on weak and unstable rock formation increasing their susceptibility to damage by landslide. Blasting during road making is equivalent to mild seismic activity in the region causing landslides and slips.'(2.6). Further, it said ' Water disposal arrangements are not sufficient to cope with a rainfall of high intensity' (2.21). In spite of these findings the EIA gave a clean chit to the proposed construction of a total 14.5 kilometers of new roads in the area, in 10 separate stretches (Section 8, subsection 8.5), just by saying that slope stabilization work and plantation activities would be taken up. The report was silent about mitigating the impacts of construction activity during road and barrage building in an area where ' a minor tremor can act as a trigger and reduce the shear strength and initiate sand and mudflows' (2.6)?

The EIA report mentioned the Environment Management Plan(EMP) several times. The plan was not available for study before the public hearing. This showed that the project authorities anticipated no awkward questions; perhaps they thought that the authenticity and effectiveness of the plans was beyond question? The EIA said that local communities were

involved in all stages of the EMPs. Community/communities in the project area knew nothing of such EMPs, or the EIA for that matter.

In will be good to remember that at the Siliguri Conference organized jointly by NESPON and SANDRP, the then Chief Engineer of the project openly admitted that the estimated life span of the dams was fifty years. This, along with the concerns about Seismicity, sedimentation, glacial lake outburst floods and landslide induced floods raised many until now unanswered questions about the economic viability of the project.

Manipulating Truth, and Deceiving people: TLDP-IV

In other words all portions and information in the EIA report that could go against the Project and act as potential hurdles in its obtaining environmental clearance had been deliberately dropped, making the entire EIA exercise illegal, potentially deceptive and against public interest.

The same disregard for accountability and transparency accompanied the EIA process of TLDP-IV. The EIA in this case too was based on the same GSI report, and in the similar manner only an edited version was presented.

The GSI report made it clear that the dams would have severe impacts on the area; the all-important road link NH31/31A might be permanently damaged with dangers of soil erosion and landslides increasing, and faults including the main Boundary Fault touching and passing through the reservoir area, there would always be dangers of earthquakes. Because of such earthquakes, landslides and other factors like cloudburst, more rainfall and glacial lake bursts in the upstream the dam might leak, or burst, thus endangering the entire downstream population in the Teesta basin.

These were facts of which the people in the project area and in the larger Teesta basin area should have been made aware, so that they could take an informed decision about the Dams, and these were facts which the public hearings should have discussed.

TLDP-IV EIA: Full of inaccuracies, half-truths, omissions

The TLDP-IV EIA was equally full of incomplete/partial data. Some of these are:

1.Section 3, subsection 3-8: Seismicity:

The EIA admitted that the site-specific seismic design parameters were being ‘studied’ through IIT, Roorkee and not yet available. Because the Project area falls within the seismic zone IV, any major construction work in this zone need to have suitable seismic co-efficient incorporated in its design. If design parameters were unavailable, how could the NHPC authorities talk about construction datelines (Executive summary, DPR)?

Surprisingly enough the EMP for TLDP-IV said that seismic design parameters were available, but did not incorporate information on that.

In his written objections to the TLDP-IV EIA, Debashis Chatterjee, a renowned geologist, and ex-Director, GSI, Eastern Region pointed out that in the case of the Teesta, extra caution had to be exercised, because the river has an extremely high net gradient, and occupies a tectonic feature transverse to the Himalayan structural grain. This transverse feature lies along the extension of the Jamuna shear fault (along the western edge of the Meghalaya plateau), which has been identified as a major fault zone in eastern India. Dam construction along the fault zone may give rise to Reservoir Induced Seismicity. His objection note further said that at least eight earthquake events of magnitude larger than Mb 6.0 were known to have occurred between 1897 and 1990 in the "in the vicinity of this area", according to the GSI report, and also the EIA.

2.Section 3, subsections 3.3.2 and 3.3.3: Watershed and Sedimentation:

The Subsection 3.3.2 (watershed) mentioned that more than 60 % of the total watersheds/sub-watershed area in the have high and very high priority status in sediment yield index, and none of the watersheds is safe from the danger of erosion and destabilization. Despite saying that 'the initial sediment deposition rate shall be very high depending upon the sediment load generated upstream' (sedimentation 3.3.3) the EIA carried no further data on possible cumulative sedimentation in the reservoir. Moreover, it casually mentioned that 'the spillway crest..at 157m.This would ensure that sediment accumulation near the dam would not exceed beyond the spillway crest..': No further explanation or clarification was provided.

3.Hydrology:

The EIA said (3.3.3) that gross storage in the reservoir would be 36.63 MCM at FRL 182.25meters and live storage had been computed at 7.91 MCM. Beyond these, the EIA gave no hydrological data, and did not explain how these figures were obtained. The storage figures given in the DPR and EIA apparently did not take into account the possible increase of discharge and ensuing floods caused by glacial melting in the upstream.

The heavy concentration of rainfall within a short period is common in Eastern Himalaya. The dam-managers would be compelled to release water at the peak of monsoon and that would inevitably cause flash floods in the lower reaches. Information on glacial behaviour and its impacts was therefore necessary to analyse the impacts on downstream populations and the environment.

4. Flora and Fauna:

The EIA mentioned at least 7 rare and threatened plant species (4.4.7) in the study area, but said that there would be no significant impact on the plant communities, because the area under submergence harbours no such species. Apparently the EIA ignored the fact, that the impact would not be limited to the actual submergence area, and plant communities all along the Catchment area and the river gorge would be further exposed to additional anthropogenic interventions, and increased ecological instability induced by soil erosion, soil degradation and dust accumulation during both the construction and operation phases.

The project submerged 338.05 hectares of forest land rich in biodiversity.

The EIA/EMP mentioned impacts on Fish migration (10.6/EMP), but beyond suggesting a fish ladder, did not clarify how this impact would be mitigated. Among the fish species likely to be affected by the dam, there would be endangered Himalayan species like *Tor Tor* and *Tor PuiTar.*

The hoax of environmental management

The EMP listed engineering and biological measures as part of the proposed Catchment Area Treatment (CAT) Plan. Judging by the magnitude and the intensity of the problem, the proposed measures were pitifully inadequate. The EMP budget on this head allotted just Rs. 1600 per hectare (Table 5.7/B in the EMP) distributed over several years for proposed engineering measures in 11740 hectares of areas 'under very severe and severe erosion category in priority sub watersheds' (5.4.1/Table 5.6 in the EMP).

All these meant that sedimentation would not be halted, and the river as well as the reservoir would have a perpetually increasing silt load. In a river like Teesta the silt would be mixed with rocks, boulders, and trees. This load would likely be trapped upstream of the dams and the reservoir is likely to be choked in no distant period.

As part of Reservoir Rim Treatment, the EMP listed several engineering measures to tackle landslips/landslides. While the GSI report recommended 'toe protection wall up to FRL level' all along the affected stretches, the EMP suggested only 500 CuM of toe Protection wall in each Slide area, with another 500 CuM of retaining wall.

Even for a pre-dam situation, these measures were inadequate and could not be expected to ensure sustained slope stability. With dangers for toe-erosion and slope destabilization increased manifold in the post-reservoir situation, how can one reasonably expect that 500 CuMs of RCC walls would be effective in slides covering several hectares of severely degraded and unstable land? It should have been kept in mind that blasting and slope modification during the construction of dams would obviously invite further landslides, threatening life and livelihood of the people.

The project would generate 20,67,500 cuM of muck. The EMP, beyond saying that 6.75 hectares of downstream area (in two plots, 750m, and 250m downstream of the project site) would be used for muck storage, and these areas would be later restored through plantation, remains extremely vague on what measures would be taken to prevent spill over of muck into the riverbed, especially during the three-four months of monsoon.

This meant that large parts of the muck would flow into the river, polluting the river beyond redemption.

Participatory EIA?

The EIA said that local communities and NGOs were involved in all stages of the EIA process. However, such communities/NGOs were never found, neither was the methodology adopted for such participatory exercises. NHPC and WBPCB failed to furnish a list of people/organizations/institutions involved in this exercise.

The EIA/EMP showed only 11 families in Kalijhora Bazaar as project affected. But the reality is all the people in the Catchment area (25,000+ families, and especially 12700+ families residing in the Right Banks of Teesta—the EIA, 6.7.2, table 6.4) would be affected by the project that would cause severe damage to the sole road link of the area NH31/31A, and adversely impact on the overall geomorphology of the catchment area. Close proximity to the Dam site makes another 300+ families in 5 Downstream Villages along the NH31 also extremely vulnerable to flash floods and soil erosion.

This meant that the project might affect the livelihood and homes of all these people, and what use an Environment Management Plan and Relief and Rehabilitation plan that did not address these concerns?

The Farce of Public Hearing

Despite protests by NGOs, community organizations and concerned individuals, public hearings for both TLDP-III and IV were held more or less according to schedule: the first in a village called Deorali, way above the dam site, and the second one in Kalijhora Bazaar.

Nothing could have been more farcical than the so-called 'Hearings'. A large number of people from the project affected villages and adjoining areas attended the TLDP-III hearing, but they had neither any information about the project nor any idea about the EIA. In spite of a mass petition (signed by 84 community representatives present at the Hearing venue) demanding postponement of the process till the EIA report was available in local language, and objections by NESPON citing illegality of the exercise, the Hearing was conducted.

The hearing opened with a lengthy speech from the NHPC representative in praise of the project. After that, two panel members called upon the participants to not to oppose the project! In course of the Hearing the Chief Engineer of WBPCB admitted that that they could not make the necessary documents available during the first notification (14.11.2002) and apologized for it! He evaded the complaint that complete project documents were not available even at the time of the subsequent notification (13.12.2002), and moreover, the second notification did not give a fresh 30-day period for filing objections. Neither the WBPCB nor NHPC representatives could clarify why the EIA report excluded the findings of the GSI (refer to Nespon's letter to MoEF dated 12.12.2002).

Demands raised by the local people included inclusion of all villages in the project area in the RR plan as 'project affected villages', and completion of rehabilitation process much before actual commencement of the project work. More interestingly, people demanded that NHPC should enter into a legal agreement with the villagers, guaranteeing the bridge over Teesta and other amenities they were talking about (some villagers in fact brought and submitted a typed out and well-drafted agreement on court paper).

In the public hearing for TLDP-IV held in September 2004, project authorities and political parties supporting the dam ensured that truckloads of outsiders, many of them known ruffians, were visible in the venue: I was not allowed to complete my submission, a representative of a Siliguri NGO was assaulted by the local Panchayat member sitting on the podium and the chairperson of the hearing panel kept on blatantly supporting the project. Because of adverse submissions by many, the hearing went on till late evening, and I found

myself surrounded by a group of hoodlums towards the conclusion: it was a miracle that I escaped unhurt.

Environment, livelihood in danger: construction of dams and the aftermath

Construction work at TLDP-III site below 27th Mile started in 2004, and at TLDP-IV at Kalijhora, in 2006. A Monitoring Committee(the stipulation was in the environmental clearance) was constituted for TLDP-III on 31.05.2005. In both sites, the natural flow of the river was blocked, and the river was forced to pass through narrow diversion channels. Dynamite was used rampantly at TLDP-III site, and the slopes on both banks of the river—along NH 31A near 27th Mile, and Nazeok forest village—were entirely denuded of existing vegetation cover. At TLDP-IV site at Kalijhora, slopes on the left bank (downstream) were similarly affected. No slope protection activity at the dam sites, (and along the reservoir rims, and potential slide zones) was undertaken, at least not until half the roadside caved in August 2006 in a new slide just above the TLDP-III site at 27th Mile. Even then, only temporary guard walls were erected to halt the slide only at that particular site, and all other areas were left unprotected.

The six-monthly Progress Reports on environmental compliance (for TLDP-III) NHPC has been irregularly submitting to the MoEF according to one of the clearance conditions show that important environmental issues have been left unaddressed while the construction work proceeded in full swing. The EIA/EMPs for both the projects mentioned that because many of the watersheds and sub-watersheds in the project area were erosion-prone and had high sediment-yield index, catchment-protection work in form of improved drainage, new plantations and guard walls was an environmental priority. However, nothing has been done so far for catchment-protection, other than periodic payments to the forest department.

The Floods

Torrential rains continuing for days resulted in a flood on 27th July, 2007, when a swollen and angry Teesta tore through the paltry embankments, and came back to its original channels at both TLDP-III and IV sites, submerging the entire worksites at both places. Heavy dredgers and makeshift construction workers' shanties were swept away alike, and workers have to be rescued at Kalijhora. Unconfirmed Reports suggest some casualties at 27th Mile, but that could not be verified. A similar incident, but on a smaller scale, occurred on 17th July, when the river first breached the Kalijhora embankments.

There was more flooding in 2009, and in 2013, the guard walls put up since then along the highway had breached at several places just below the 29th Mile village, letting the rising dam water come directly to unguarded and fragile slopes which had a tendency to cave in as soon as there was a moderately heavy rainfall. An action alert by NESPON in July 2013 says:

People living here are scared and spending sleepless nights. Frequent landslides in this area are adding to the problem. This monsoon of July 2013, the villages Gayelkhola, 29th mile, 27th mile, Rombhi and Riyang are under threat. NHPC personnel asked the villagers to evacuate and they promised to pay rupees two thousand (Rs 2000 only) to each of the 15 families living near the river only for 4 months as house rent. It needs to be mentioned that at 29th Mile alone there are 70+ families, all of whom live in danger: continuous and heavy rains can

swallow the whole area within a few moments. The administrative is unresponsive, the political parties are apathetic; nobody is talking about rehabilitation and any permanent solution.

Fig 6: Teesta Bazaar, where the water level is very close to the settlement (Source: Chicu)

At present, the villagers are too scared of politicians and NHPC musclemen to talk about their problem publicly. Very recently an officer from the SDO Office of Kalimpong came to the village and threatened them with eviction because they are occupying GREF (defense) land. 29th Mile is a forest village and people there had already filed claims under forest Rights Act. The idea evidently is to clear the area before it goes to the river, and without paying any compensation.

Landslides

At least 20 new landslides, big and small, opened up between Kalijhora and 29th Mile, on both banks of Teesta. The 27th Mile slide is still active, and the guard walls look inadequate. The Slide starts from NH31A, and goes straight to the TLDP-III site. A new and huge slide has opened within 2 kms of the TLDP-III site, affecting the road. Between TLDP-III and IV, a new slide has opened on the right bank(downstream), and yet another on the left, near the old Berrick Slide. The new road that NHPC built to TLDP-III site was caving in. Lateral cracks could be seen in the sandy soil of the entire slope. No slope protection work was visible along the road. All old slides have worsened and more slides have opened up on NH 31A since the disastrous earthquake in Sikkim and sub-Himalayan North Bengal on September 18, 2011.

Erosion

For the first time in recent years, Teesta has started eroding its left bank forests and agricultural fields near Mongpong in 2012, in addition to the right bank, where erosion continues. The Irrigation Department Spur on the right bank was gone, affecting Chumukdangi Village in a bad way.

All villages between Sevoke and Gazaldoba Barrage further downstream are in danger from Teesta erosion, and flooding. Teesta keeps on changing its course even beyond Gazaldoba, and the river has come back near Jalpiguri Town.

Villages face displacement: Karmatt, 29th Mile, Geilkhola and Riyang

While 29th Mile and Geilkhola are roadside forest villages shown as project affected villages in the DPR(Detailed Project Report) and EIA, Karmatt is a forest village now facing destruction by impending landslides aggravated by TLDP-IV construction work just below

the village. The 29th Mile, Geilkhola and the Ryiang(located just below the TLDP-III dam) villages face certain displacement, judging by the high water mark on the Teesta gorge walls placed by NHPC, and also the steadily rising level of the reservoir in TLDP-III during the monsoon.

Violation of Forest Rights Act

In 2012, the Gramsabha of 29th mile Forest Village passed resolutions to the effect that the dam-building activities by NHPC in the 27th Mile TLDP Stage-III were in direct violation of the Forest Rights Act: 'it impinges upon our constitutional rights to live, cultivate and otherwise use the forest land in which we have been living for nearly a century now', the Resolution said, 'NHPC activities pose a direct threat to our village in total violation of the project holder's commitments as expressed in the EIA and the EMP for the project: while both documents mentioned that only the low-lying river bed areas of our village would be affected, the project in fact affects the entire village at present. We find that the water level in the TLDP-III reservoir will reach the present level of NH 31A and beyond, hence putting our village in great danger of submergence, soil erosion and fresh landslides.

... the re-alignment of the NH 31A has been affecting our village both ecologically and economically—the road construction has been affecting forests under our Gram Sabha—forest trees had been illegally felled without first seeking and obtaining any permission by the Gram Sabha, and thus the forest clearance for this has apparently been obtained under false premises. The re-alignment will also destroy our livelihoods as the present NH 31A is our economic lifeline.

'By virtue of... powers vested...by the Section 5 of the FRA', the Gram Sabha decided that 'as both the TLDP-III and the re-alignment of NH 31A directly affect our cultural and natural heritage and obstruct us in discharging our duties as prescribed in the FRA 2006, such activities must stop until the issue is amicably settled. To our utter dismay we find that work in both areas have been going on, in total disregard and utter violation of the laws of the land".

In a petition submitted to the WBFFCE[43] (West Bengal Fact Finding Commission on Environment--non-official, chaired by Justice Bhabbati Prasad Bannerjee) in Siliguri on October 12, 2012, community representatives from TLDP area raised following questions:

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43 The Commission in its order, observed:

Considering the entire situation, we are in view that the entire copy of the petition should be forwarded immediately to the NHPC for their attention and for obtaining remedial measures. State Disaster Management Dept. should also be kept informed about this situation by which the petitioners may get justice immediately..... After going through the papers and taking to the consideration of the submission we are in view that during preparation of the EIA report precautionary measures are not considered. We are inviting attention of the government that sustainable development is now the key issue of the development process wherein "precautionary principles" need to be followed otherwise during the course of development, mostly poor people or downtrodden people face the music of disaster. In this instant case downtrodden people of the locality have been badly affected(italics added)…'

1. Why did NHPC start construction without taking adequate safeguards? How could the work at TLDP-III continue without first assuring that all existing slides and vulnerable slopes are protected, especially after last year's slide at 27th Mile?

2. Why did NHPC not start the 'rim protection' measures as prescribed in the EMPs? Is it for the reason that the Project does not have sufficient funds to cover the costs? Already, the 'catchment area treatment' has been delayed for TLDP-III because the project does not have the budget to cover the costs quoted by West Bengal and Silkkim Forest Departments.

3. The TLDP-III progress Report say that compensation amount for the affected families have been arrived at through discussions. However, several families have not accepted compensation so far, and more than the compensation they want from NHPC the guarantee that nothing would happen to their village, and the road on which their livelihood depends.

The petitioners demanded 'urgent and time-bound redress' in the following:

A. Complete land-for-land rehabilitation in suitable locations and adequate cash compensation for all the bonafide residents of Geilkhola, 29th Mile and Karmatt from NHPC and the Government of West Bengal.

B. No further construction work in both project sites till NHPC adequately complies with the EMP for TLDP-III and IV, particularly at TLDP-III, in accordance with the Forest Rights Act, 2006 and the 29th Mile Gram Sabha Resolution.

C. Adequate and proper restoration of the NH 31A by NHPC. NHPC must ensure rim-protection measures, and watershed conservation work as detailed in the EMPs.

Building resistance?

The 2012 resolution by the 29th Mile Gram Sabha was merely an exception, however. The story of TLDP is not one of gritty grassroots resistance that one comes across in so many anti-dam struggles in India and elsewhere. Rather, it is a tale of vulnerability, desperation and betrayal, relieved only by occasional flashes of courage and determination. For me personally, it spells defeat, after more than one-and-a-half decade of near-futile attempts at building resistance and challenging the grim footfalls of disaster masquerading as development, lie exhibiting itself as truth.

I seem to lose track of my umpteen visits to the roadside villages of 29th Mile and Geilkhola and all those repetitive conversations we had with the villagers. The first meetings were in late 2002, after the public hearing was announced. I was with Prem Khawas, who, as the leader of the forest villagers' movement in the hills and founding secretary of HFVU(Himalayan Forest Villagers' Union--later re-organized as HFVO or Himalayan Forest Villagers' Organization), knew the area quite well and had been trying for months to convince the villagers about the dangers of the dam and the need for united resistance. In my broken Nepali, I talked about the potential impacts of the project, particularly, sharing information that we gleaned from the GSI report and EIA. The project would affect not only 29th Mile and Geilkhola but all the villages in the region, I remember telling the people, who seemed to have no idea about what a dam was, let alone what it could do. Nevertheless, those

first meetings went quite well. Or so it seemed. When HFVO gave a call for a largish public meeting at Teesta Bazaar immediately before the public hearing, many people said they would come. Hoping that there would be a good gathering and a meaningful mobilization process would begin, we assembled at the meeting venue in the morning and waited and waited, for people to pour in, protesting voices to be heard. Hardly anybody turned up, though: it was soon learnt that a certain …Lama, the local political bigwig, also the councilor of DGHC(Darjeeling Gorkha Hill Council), visited all the villages in the vicinity the night before and issued a fatwa to not to attend the meeting, more importantly, not to oppose the project at any cost. "The Bengalis from the plains are coming here to mislead you", he allegedly said, " Don't you dare listen to them!"

That was the beginning. Since then, each of our meetings in the area had promptly been followed by visits by the councilor or his henchmen, and communal rant of a similar nature, consisting of only the seemingly irrefutable logic of don't-listen-because-the-Bengalis-are-saying-it; no talk about the issues raised in our meetings, no attempt even to rationalize what NHPC was doing. I tried so much not to be disheartened. The public hearing for TLDP-III came and went, necessary clearances arrived from the MoEF despite our elaborate objections and construction duly began at 27th Mile. We kept on holding meetings, always trying to motivate and boost, hoping against hope that something would ignite someday and people would rise in unison. In 2005, from a well-attended convention in Kalimpong, a new forum called Teesta Sangharsh Samitee(TSS) was launched, with community representatives from not only TLDP-III area, but also downstream villages and affected villages from Teesta-V project area in Sikkim.
The TSS process was short-lived. NHPC project managers and local political leaders undermined and sabotaged it from the very beginning—people involved in it were in turn bribed, coaxed and threatened. The convener of TSS, a young boy from Sikkim, metamorphosed into a NHPC contractor in no time. Attempts at major mass mobilizations at TLDP-III area were countered with further threats and more communal rhetoric.

In 2012, when NHPC declared that it would close the lock-gates at TLDP-III and the dam would consequently start to fill, people in both 29th Mile and Geilkhola became understandably panicky. By then, the political situation in the Darjeeling Hills had changed and the new political party called Gorkha Jan Mukti Morcha(GJMM) had replaced the moribund GNLF. So far as the NHPC project and people affected by it were concerned, nothing much did change barring the faces of the leaders. The GJMM leaders continued to offer the project the same patronage as before, while fully aware of the damage it was causing. Sometime in 2009 perhaps, during a meeting with HFVO representatives, the supreme leader of GJMM made it abundantly clear: "Yes, we know about the incalculable harm the NHPC project is doing. But see here, what could I do? My right hand man is a big contractor of NHPC, he earns handsomely from it."

Braving their fear of the leaders, the villagers at 29th Mile met for the Gram Sabha meeting in mid-2012, and adopted the resolution against the TLDP-III project, copies of which were sent to NHPC, the local administration and the newly formed GTA(Gorkha Territorial Authority). As mentioned above, representatives of the Gram Sabha also deposed before the WBFFCE in

October 12, 2012, in Siliguri. The members of the Commission and some of us visited 29th Mile on October 13. Lock-gates at the dam were about to close next day, and the villagers seemed afraid, confused and angry. The meeting continued well into the evening, and ended with everybody saying that they were not going to take it lying down anymore; if necessary, the entire village would go down to the river and squat indefinitely in front the lock-gates. On our part, we told them that once they start the protests we would surely join. Legal options were also discussed. The atmosphere was charged, inspiring; at long last the much-desired resistance seemed to gather shape.

Well, well…and well. Next morning, we got a distress call from Meena Sherpa of 29Th Mile. For all these long years since talks about the dam had started in 2002, Meena had always been there like a rock—unwaveringly firm in her opposition to the project, the lone crusader in a landscape otherwise strewn with disharmony, betrayal and cowardice. There won't be any protests, she told us. Last evening, after the meeting ended and we all left, …Lama, the local GJMM leader and also elder brother of…Lama the councilor of yesteryears, came to the village with his entourage. He gave the villagers a thorough dressing-down, telling them that 'bad things would happen' if they continued to listen to the 'bad Bengali troublemakers who kept on misleading the simple hill folks': NHPC won't pay any compensation at all, moreover, the party high command would be very angry. "Don't let these Bengalis enter your village anymore!" the elder Lama shouted.

According to the villagers who now live in constant fear of drowning ever since the dam started to fill, the local administration(here the BDO of Kalimpong) told the residents of 29th Mile and Geilkhola that NHPC was 'considering' some relief for the affected. However, because the villages do not have tenural entitlements as yet--despite clear provision in Forest Rights Act—the administration and the forest department have continued to treat these settlements as 'encroachments'. The main political party in the Darjeeling hills apparently shared the administration's view that these were encroached villages and hence could not demand compensation legally. It was heard that party bosses told the villagers to wait till the water rises to their homes; later, another leader 'promised' a 'shifting within one month'. Movements were bad, people were told, unless the party permitted it. Because the party resented 'outside' and 'plainspeople's' interference in hill matters(which became manifest, with ugly communal overtones after WBFCCE members visited TLDP sites on October 13, 2012), I and my colleagues in NESPON could no longer go and talk to the people freely and without fear.

However, Meena and others from the village remained in touch and we had to intervene during the crisis situation in 2013. NESPON and HFVO started a campaign, mobilizing the local press and sending letters to the authorities, demanding emergent disaster control measures and adequate rehabilitation and compensation for all the affected villages. An action alert was sent to friends and colleagues in various parts of India. The memory of the Uttarakhand disaster was still fresh, and many groups and individuals from across the country responded with a joint letter sent to the district administration and other authorities, which reiterated the concerns and demands raised by the local organizations. Besides, people kept calling up the district magistrate of Darjeeling and the sub-divisional officer of Kalimpong.

Altogether, there was a general hue and cry and pressure on the authorities was mounting. Meanwhile, sensing that its violations crossed all acceptable limits, and might result in a litigation soon, NHPC was forced to modify its original project-affected families' list to include many others in 29th Mile and Geilkhola and enhance the compensation amount substantially[44]. The demand of land-for-land rehabilitation was ignored and people continue to live precariously on the edge of the reservoir.

By mid-2013, the reservoir of TLDP-III stretched from 27th Mile to Teesta Bazaar and far beyond. The TLDP-V reservoir beyond Kalijhora had also filled up since, causing the river disappear in the greater part of the 30 Km stretch between Kalijhora and Melli Bazaar. It comes back only during the monsoon months when the reservoir level rises, and the lock gates have to be kept open.

Whenever I go that way these days, I try not to look at the river that isn't there any longer, the dusty hills that keep crumbling, the puny villages that can be swept away after just a few days downpour or evicted at will. Other than decommissioning the dams, there doesn't seem to exist a lot more options to salvage the river and the locality. Also, my role in the TLDP tale seems to be finally over[45]; let others retell it or better still, start a new story.

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44 The latest Six Monthly Progress Report available with NHPC(For the period ending March 2017) mentions:

> Further, in view of safety/ stability concerns raised by some families residing along right bank of reservoir, a Compensation Committee was constituted by the Gorkha Territorial Administration (GTA) vide memo dated 20.02.2014.
>
> **The above Committee has identified additional 84 nos. house owners/ families located across three villages i.e. 53 nos. in 29th Mile, 18 nos. in Geil Khola and 13 nos. in Teesta Bazar along rim of reservoir on right bank of river Teesta.** In 1st phase, the compensation was disbursed to 13 nos. of families of 29th Mile residing in vulnerable location on 30.01.2015 and their houses were dismantled by District Administration on 21.07.2016.
>
> As per the direction of the District Administration, 50% payment of Rs. 150.83 lakhs was released to all 18 nos. of affected houses at Geilkhola on 15.09.2016. Further, compensation have been released to 8 nos. out of 13 families of Teesta Bazar and to 35 nos. out of 40 families of 29th Mile. Discussions are being held with GTA and Distt. Administration for further release of payment and relocation. An amount of Rs. 577.56 lakhs has been incurred under R&R till date.
>
> Further, 763 nos. of quarry workers have been compensated for loss of livelihoods as decided by Distt. Authority

45 Can one be really sure? In 2014, West Bengal State Electricity Distribution Company Ltd (WBSEDCL) signed NHPC a MOU at Kolkata for development of three more hydro power projects in Teesta Basin: 80 MW Teesta Low Dam-V below the Coronation Bridge at Sevoke , 81 MW Teesta Low Dam I & II combined at Tribeni, the confluence of Teesta and Rangit, 84 MW Teesta Intermediate Stage near Kirney. So far as we know, the initial surveys have started near Kirney. Shouldn't one feel worried and plan ahead—hoping to resist this new threat?

The many facets of resistance: A case study of the Teesta hydro electric Power Project Stage III.

Tseten Lepcha

The Teesta saga

Sikkim with its pristine natural Beauty has innumerable springs , rivers and lakes. The total area of the state is 7096 sq km and lies within 27°and 28° latitudes, and 88°and 89° longitudes. The two major rivers are Teesta in north Sikkim and Rangit in west Sikkim. The Teesta River originates from Zemu Glacier, in the Lachen Dzomza Administered (Traditional form of Local self Government) region as the Lachen Chu. It merges with Lachung Chu at Chungthang, in the Northern District of Indian state of Sikkim. Thereafter it flows as Teesta or (Rungnue). Other smaller rivulets and streams join the Teesta till it finally meets the River Rangit and then flows down to Bay of Bengal via the state of west Bengal.

Demographic profile of the Teesta basin

Sikkim has three main ethnic groups: the Lepchas, Bhutias and Nepalese. The Nepali community consists of diverse ethnic groups, and constitutes the largest percentage of the population.

The Lepchas, who call themselves the Mutanchi Rong Kup, are Sikkim's earliest inhabitants. The culture, customs and traditions of the Lepchas are inextricably linked to their deep bond with nature, but the changing times and modern developments are disturbing the delicate ecosystem with which they have lived so closely over centuries

Lachen chu flows through the territory of Lachen dzomza which is administered by the Pipons and inhabited by the Lachenpas (Bhutia Buddhist Tribes), and the higher pastoral passes inhabited by the nomads or the Dokpas (herders). Lachung Chu originates from the Indo-China border and flows through the Lachung Dzomza region, which is inhabited by the Lachungpa(Bhutia Buddhist Tribes)

The area inhabited by the Lepchas starts at the Munshithang plains at the Lachen sideand at Bop and Tibik on the Lachung side. Lachen Chu enters flows through this area when it enters the Chungthang Gram Panchayat region.

The Lepchas of Dzongu not only practice Buddhism, but also follow their age old practices and beliefs, being presided over by Muns, Bhongthings and Padims. Some of them have converted to Christianity. The Lepchas living in this region have lived in relative isolation, primarily depending on subsistence agriculture and the cultivation of large cardamom. Lately the production of most important cash crops like the cardamom, oranges and ginger has fallen drastically. As a result of reduced incomes, younger Lepchas have migrated to urban areas,

including to Sikkim's capital Gangtok, to pursue education and employment options, leaving behind a relatively elderly population in Dzongu.

Once The Teesta leaves Chungthang, its is met by various tributaries like the Chakungchu, Reel chu, Meyong, Manul, Rafom, Tolong chu and Rangyong. Further it flows down till it meets Rangit.

While the people living by the river are predominantly Lepchas till Dikchu, after that other communites resides on the banks of the river. Since the Lepchas are the original inhabitants of the state, the relation between the river and the people is profound and it is interlinked with all rituals and way of life.

Peoples' connection with the river

Dzongu, the heartland of the Lepcha Tribe lies in the North district. The Lepchas have been living here since time immemorial and the erstwhile King of Sikkim had reserved this territory as a protected region for the community since the 1960s. To some extent it is an proscribed area and purchase of land, commercial activities and entry by non-residents are regulated.

Fig 7: Dzongu, sacred land of the Lepchas (Source: Chicu)

It borders the Kanchenzonga National park and the Kanchenzonga Bio-sphere Reserve; this region has been recognised as a mixed world Heritage site by the UNESCO. Dzongu's elevation ranges between 800m and 6,000m above sea level. The area has panoramic views of Mount Kangchenjunga (28156 ft).

People living in the basin of the mighty Teesta River, have a strong connection with the river. For some it is a beautiful and soothing place, providing life support to many different plants and animal lives. At the same time for others it represent death and destruction, causing pain and sorrow. For some it is source of wealth and prosperity. Whichever way it connect the people, it is a permanent fixture in the lives of people living along the basin.

Being born in a village in North Sikkim, tucked away opposite to the main road leading to Lachung, our only exposure to the outside world was the sight of few vehicles moving on this road. Our contact to humanity was the sound of songs sung by girls from Lachung living in Maltim village ,which was located directly facing our village.

Many would wonder why was the village so remote? We were cut off by the surging waters of the mighty Lachung chu. The next village was a kilometre away, while in my birth place

there were only three Lepcha families. The larger hamlet of Bop was 40 minutes walk passing through fields, rivulets, cardamom fields and luxuriant jungle.

Irrespective of in which hamlet we stayed, the sound of Teesta was always there.

My own connection with Teesta

My ancestral house was in Chungthang, along the Lachen chu. Due to destructive flood the entire area was washed away and our family sifted to a safer hamlet called Bop. We also had some land at Tibik the village bordering Kedum, a village within Lachung dzomsa.

The river has an overwhelming impact on our lives as it was a natural boundary within the area. Those days there were only few bridges over which we could cross the river and in some place we had to walk for hours to reach another village due to the difficulty in crossing the river. During the monsoon it caused havoc with its thunderous flows slicing away precious cultivable land, while in the winter the icy cold water bank was a soothing place to take a break from daily chores of collecting fodder or fire wood.

I was born in a relatively privileged family as my father was the Mondol or the village Head man and it had passed down from my grandfather. He was a public representative during the Kings time, and later on an MLA during the period when Sikkim was an associate state of India as well asafter Sikkim merged with India. We grew up with lot of love and affection of the people; the environment was pristine, and mindset simple. Lives were definitely hard; we had to walk almost 8Km one way to reach school and had to collect fire wood and fodder during the holidays. Toast from Gangtok would be a feast.

My world changed once I got selected on a merit scholarship to study in Tashi Namgyal Äcademy, the only public school in the region. It was big thing then, during my vacation my relatives and people of the village would give me eggs, chicken and some even parted with the little money they had. This gesture left the one most important impression on me. I was a son of a head man, yet people showered so much love and parted with whatever little they had. Everyone expected me to be a government official and bring fame to the village. I was the first graduate from the area.

This bond instilled a deep sense of responsibility to do something for the people. Our relationship became sacrosanct; the need to guide and to protect the land and the people became a focal point of our lives.

We used to hear a few people in Chungthang talking about hydro projects that can be built on the river Teesta. The Central Water Commission(CWC) was conducting various field level tests almost all along the River and its Tributaries.

There was also the talk that when the Chogyal(King) of Sikkim was exploring the possibility of developing a Hydro electric power Project, people in New Delhi had warned him of the negative impacts. So it is believed that for long time no big Hydro projects were planned during the Kings time.

Advent of Mega Hydro Electric Power Projects

After the 2001 preliminary ranking study of hydro electric potential of river basins in India, the central government launched the hydro power initiative to produce 50,000 Mega Watt of electricity. Accordingly 28(approx) hydro power projects were identified to be developed in Sikkim, with an approximate total capacity of 8000 MW.

Six mega hydropower projects were planned on the main Teesta River starting with Teesta HEP I at Lachen,North Sikkim and ending with Teesta HEP stage VI at Serwani in Sikkim with the power house in west Bengal. These are all diversion projects. Besides these, across the border of Sikkim there are two Low dams being constructed in West Bengal; these projects get water from both Rangit and Teesta after these rivers merge at Tribeni.

Out of the proposed 28 projects, at present almost 13 projects have been scrapped due to various reasons and the 300 Mw Panan HEP and Teesta HEP stage VI are stalled.

Background of Hydropower development

The Central Water Commission (CWC) had been studying the hydrology of the Teesta River since long time. Initially the National Hydro Electric Power Corporation (NHPC) was supposed to undertake the projects. The early stage environmental impact assessment was undertaken by NEERI, Lucknow based consultant firm. However, NHPC started to develop Teesta HEP stage V and Stage III was kept in abeyance for some years.

Due to consistent opposition to NHPC for their bad handling of various issues there was a demand to try out private developers. It was after the policy to permit private developers in the Hydro generation was initiated that the issue of Teesta III was once again taken up. After the government of India called for production of 50,000/ MW electricity in the north-eastern states (mainly Sikkim and Arunachal Pradesh) through hydropower, once again the ball was set rolling for Private developers seeking to get Projects in Sikkim.

It was reported that many developers were called to the official residence of the Chief Minister and on the basis of basic power point presentation made by the developers and without any proper tender ,most of the projects were allotted through the MOU routes after issuing letter inviting expression of Interest. This deprived the state with the largest identified hydropower potential from getting the best companies of the country to develop these projects.

The letter of intent for Teesta HEP Stage III was issued to M/S Athena Project Private Ltd, with its head office 110 Jorbag, New Delhi on 26th February 2005. The letter of intent was actually a letter of allotment and it contained most of the conditions that were later incorporated in the MOU. The MOU was signed on 18th July 2005. The date of completion/commissioning of the project was 18th June 2011, two months before the 18th September 2011 earthquake.

It is important to note that M/S Athena as a company had no prior experience in terms of experience, infrastructure or finances, but yet undertook to construct the biggest Hydropower project in the state.

The Environment Public Hearing was held a year later on 8th June 2006 at Chungthang, North Sikkim.

Teesta Hydro Electric Power Project Stage III

The largest Hydro Electric Power Project in Sikkim is the 1200 MW(200x6) Teesta HEP Stage III. It is located in two Assembly Constituencies namely: Dzongu & Lachen Mangan Assembly Constituencies.

It falls within the following Gram Panchayat Units(GPU).

a) Chungthang GPU- Damsite and tunnels with one adit point at Teng
b) Shipgyer GPU-Tunnel and one adit Point
c) Passingdang-Safo GPU
d) Singhik –Sentam – office and settlement(including Kazor,pakshak)

Fig 8: Teesta Stage III (Source: Teesta Urja)

This is one of the six projects of the cascade development on the Teesta River as envisioned by the Sikkim government. The dam is located at Chungthang and the tunnel from the dam to the underground power house at Ringdang below Salem Pakyel village is of length **13.2 km**. The staff colonies are located at Singhik and at Teng. There are adit tunnels at villages like Teng , Shipgyer , Ramom and Salim Pakyel. The Adit I at Pegong has been however cancelled. The Power house at Ringdang is connected by 10 kms road from North Sikkim Highway at Singhik.

This project is fed by the water of Teesta River. The people living in the basin of the rivers consider the confluence sacred as many rituals are connected with it; this confluence is now submerged in the reservoir of the project

The Dam/Reservoir, adit 2 and most of the tunnel lies within Chungthang GPU. This GPU is bounded by Tribal law administered region of Lachen Dzomza and Lachung Dzomza in the north, NAGA GPU, and Shipgyer GPU. While Lachen and Lachung are inhabitated by Bhutias, rest of the area is inhabited by Lepchas and a sizeable population of floating population comprising of State government employees and families, the Army & Para Military Forces, people working under the Border Roads Organization, and various other government of India agencies and private citizens. The majority of the Population follow

Ningmapa sect of Buddhism, while the floating population mostly follows Hinduism; there are some sections that follow Christianity and Islam. The Tribal Population are also Nature worshippers with their own rich cultural traditions and convention which are being practiced over centuries.

The topography of the terrain is rigid and as such, there has been less farming due to lack of good farmland. Also, most of the good land has been taken over by the army, Border Roads Organization and State government Departments.

There is definitely no territorial dispute arising of the large projects but the identification of project affected areas was totally flawed. For instance, within the Chungthang GPU village like Tsoten and Bop are not included in the project affected area , likewise the environmental management plan had missed out buffer zones like Shipgyer and Safo villages from the management plan under the Wildlife Department.

Social context

The state of Sikkim having merged with the Union of India lately has been accorded special protection under the Article 371 f of the Constitution with special focus on clause (k) which provides for the continuity of all laws that were prevalent during the Monarchy. These are normally called the old laws or premerger laws. It is due to these laws that we have protection of our distinct identity within the Constitution of the Country.

The most important laws which provide special status are the laws that govern the citizenship issues. We have the Sikkim subject certificate or Certificate of Identification as distinct identity. This enables jobs reservation, land registration, exemption of Income tax and various other facilities which are not permissible to other citizens living in Sikkim but who does not have the identity certification. There are numerous laws that are intrinsic to the indigenous Sikkimese as some are based on traditional knowledge, conventions and practices. Most of them are to protect the land, the social, cultural and religious traditions and some are for economic enhancement of the people.

North Sikkim being located in the anterior part of the state and the area being predominantly inhabited by the indigenous Bhutia, Lepcha, and the Limboos tribes, there are many laws which are specific to the region. Further, being a Border area with China, there are many travel and activity restrictions due to security reasons. While the whole district is protected by the Proclamation 3069 which prohibits settlement or business activities by any non indigenous persons, the District can be further divided in various zones like the Dzongu, the Lepcha reserve(Proscribed area), the Restricted areas between Chungthang sub-division and the operational zone above Thangu in Lachen zone(Indo-China border). In order to enforce all these laws, various Governmental organisations and traditional institution like the Dzomza are involved.

The land Revenue Department represented by the District Collectorate and the other staff manages law and order as well as acts as custodian of the land records. All the acquisition of landed properties is done through this Department with strict guidelines to ensure that the old laws are not violated. However, in the process of bringing large projects in the name of

national security and development, these guidelines are circumvented to enable acquisition of large tracts of land. This results in tribal people losing access to their ancestral land against their wishes.

The continuous violation of laws has diluted the measures meant for the security of the people. Further, due to the gradual migration of people to work on various projects and issues of national interest, the local people have almost been outnumbered. The increase in the population has caused serious damage to the environment and the demographic profile of the area. This has affected the lives of the poor and docile populace, threatened their religion and culture, and also endangered their survival in their natural habitat. For instance the people of Lachen, Lachung and Chungthang region have already sacrificed 40 per cent of their good cultivatable land in the hilly terrain for the Army and the Border Roads Organisation. In fact, some of them are almost landless.

In spite of people's concerns, the Government of Sikkim has consented to build and operate 13 large hydro projects in the ecologically fragile and demographically endangered region of North Sikkim. The Government has never bothered to provide information and seek the free, prior and informed consent of the people, whose very survival is endangered by these projects. In fact the MoUs have been signed without the knowledge of the affected people, and the Sikkimese public at large. The cumulative impact of these new projects envisaged on the Teesta and its tributaries is likely to far exceed the impacts of earlier projects.

Political landscape & institutions:

The Project area falls under Lachen Mangan Assembly Constituency & Dzongu Constituency which are reserved for the Bhutia Lepchas of Sikkim and then these areas also fall under the Sangha Constituency which is reserved for the Monks. While Lachen and Lachung Dzomza are administered by the traditional Pipon system which has tenure of one year, other GPUs are all under the ambit of Panchayati Raj institution. The Election of the Pipons is relatively free of political interference and the yearly election is conducted after submission of all accounts. The Panchayats are elected on political party basis, due to which the grass roots people are all linked to the political parties and the relationship with the party in power and the ones in opposition is a guiding factor in directing the response of the people to any issue.

Sikkim has been ruled by the Sikkim Democratic front since 1994 and so all decisions are based on the ideology of the party. All the Panchayats are affiliated to the ruling party and as such most decisions are based on the dictates of the political leaders. All activities initiated by the Goverment are supported by the panchayats and the local party workers and any expression of dissent are considered as anti-Government, anti-development. Some people with little education or knowledge label the dissenting opinions as Anti-National.

Impact on political rights:

There are also several other apprehensions such as the issue of the dilution of political rights of the people, which has not been addressed at all in the **EIA report**.

Sikkim has experienced that work force that come in to work on various projects have continued to stay in the state as it offers opportunities of work. This has affected the social, economic and political balance of the state and has put great pressure on the sparse resources and space within the state. The new entrants into the state also earn voting rights and thereby affect the political system here.

The constitution provides for 12 seats reserved for the Lepcha-Bhutia community and one for the Sangha out of 32 Assembly seats. This was done on the basis of the population ratio way back in the seventies. Since then the increase in the population of other communities, mainly due to development projects, has resulted in the questioning of the validity of the ratio of reservation of seats in the Sikkim Assembly. Any further increase of the voters will result in greater marginalization of the indigenous people of Sikkim.

In the reserved constituencies, the increase in the number of non indigenous voters will defeat the very purpose of the reservation as once the majority in a constituency is constituted by non indigenous people, the issues and concerns of the indigenous people is sidelined.

The imbalance in the percentage of voters at the grass root level is more severe. As of now, most of the Gram Panchayat /wards are constituted by small numbers of voters. Even a slight change can have serious implications on the political rights of the people at that level.

Impact on religion and scared landscape:

The local populaces, irrespective of their religious affiliation, are also nature worshippers due to which the trees, plants, mountains, streams and rocks are considered sacred. The entire natural landscape is considered sacred by people, For example, the *Leydo* or holy stone at Chungthang along with the only paddy field here is considered to be blessed by none other than the patron saint of Sikkim, **Guru Padmasambhava** in the 8th century, while he was on his way to Tibet. The stone has a footprint of the Guru and a perennial source of holy water. Another example is that of the *Tamring Ney* located little below Theng village which the Lepchas believe is a sacred tunnel connecting Theng with *Ney Go* above Shipgyer village.

The Armed Forces and Border Roads Organisation not only brought in a large number of work force from outside, but also changed the names of lakes, ridges, and villages extensively. For instance, the holy Guru Dongmar Lake was renamed the Guru Nanak Jheel. Further, the holy stone *(Leydo)* complex at Chungthang after which Chungthang was named, was changed into Changithang. The construction of Gurudwara by the Armed forces has now created a unnecessary controversy, to the extent that a case was filed in Hon'ble Supreme Court of India. The age old goodwill between the Sikhs and Buddhists has been severely threatened

The history of Sikkim's patron saint Guru Padmasambhava has been altered and attributed now to Guru Nanak. Meyong chu was renamed Hanuman chu, Tsolamu and Lhonak valleys

as is referred to as Gaigong and Kerang, Sheraythang at Chungthang as Patal Puri, and another hillock as Aakash Puri, the Tashi view point at Gangtok as Patel view point.

The National Hydroelectric Power Corporation (NHPC) is responsible for the most recent cases of neglect of the local population, when it executed the Rangit River Hydroelectric Power Project and the Teesta Hydroelectric Power Project Stage V. The NHPC not only defaced the slopes of Kewzing, but also changed the name of the place to Rangit Nagar. This unjust appropriation of the age old features of the region has caused much unrest.

The story of the movement to protest the implementation of the Project:

The first official meeting to discuss about the implementation of Teesta III was held in the Conference Hall of the Power Department ,Government of Sikkim.

While the issue of Teesta III was being taken up ,our organization the "Affected Citizens of Teesta" was already active in other parts of the State but more in Dzongu. So we more or less had a team to fight the issue.

We had few meetings in Chungthang, where majority of the people are against the project and a Gram Sabha resolution was also passed that the Project will not be allowed to come unless the demand for issue of owner ship of the Land property was granted.

But the then MLA & Power Minister, Mr Hishey Lachungpa convinced influential members of the village by saying that the Project has to be supported as it was the policy of the Government and that all those who were opposing were Opposition party people. This had some impact as my own father was influenced to support the project. My brother was the Panchayat President and he too chose to follow the directions of the Government. However, the young were not prepared to relent and there was a huge protest in the public hearing.

Further, as the Teesta III was spread over in 5 Gram Panchayat units of two constituencies, most of the public of other places were not able to present their views in Public hearing.

The classic case of the politically forced administrative action is the **public hearing.** The public hearing had its share of drama, as the government people wanted no opposition to the project. But the Affected Citizens of Teesta and the vast majority of public of Chungthang did not want a Government monopoly. The initial harassment started when the concerned authorities did not provide all the required documents readily available on time. Before the date of public hearing, the MLA and other officials campaigned with the public so that no one would raise any objections. This was carried out to such an extent that people had spread the rumour that the anti-Dam people were political opposition and that they should not supported. Sensing such activities, we had made a camp several days before the hearing. Our friends from the Pune Based environmental group **Kalpavirsk**, Mr Neeraj Vagolikar and Ms Manju Menon spent more than 6 days with us. They helped us to study the EIA and EMP, due to which we were fully conversant with the contents of these documents and could effectively raise questions.

Our founder member Mr Pemzang Tenzing and some of us prepared the posters, which were taken off next day by the Police. Meanwhile the team of Mr Athup Lepcha, President of ACT, and other senior members were harassed by the Sikkim police at the Toong check post on the pretext of checking the restricted area permit. Since we were all aware of the possible impediments that the government might impose, we were ready with all necessary documents.

While our members were asked for the permits, a large number of people from Singhik – Sentam were not even asked. The government used such measures to derail public participation in projects of national importance.

The Environment Impact Assessment for Teesta HEP stage III was done by WAPCOS. It is one of the most carelessly prepared EIAs till date. Since this was one of the first major projects, the public hearing was being conducted in a relatively casual way. The hearing was conducted by the State Pollution Control Board (SPCB) on June 8, 2006 at Chungthang, North Sikkim. Against all the norms the Public hearing was conducted like a state Government program. The allegation of us being anti-National and Anti-social was a major part of the presentation of the government people.

Based on the Public Hearing, the Moef had raised few queries, particularly concerning the dam site /reservoir of the project falling in the buffer zone of the Kanchenzonga Bio-Sphere Reserve
The queries were promptly cleared by the state government and the environmental clearance was issued on 19th July 2006 by the expert committee on River valley & Hydro electric Projects, The formal letter was issued on 4th August 2006.

Once the Environmental Clearance was issued, ACT contested it in the National Environment Appellate Authority(NEAA)

Litigation:

35) In **National Environmental Appellate Authority**(NEAA):
Since the environmental Clearance was not issued with due diligence and with attention to the concerns of the affected citizens, the same was challenged in the then National Environmental Appellate Authority(NEAA)by the Environmental Group the Affected Citizens of Teesta ,through its General Secretary Shri Dawa Lepcha. The petition was fought by Mr Ritwick Dutta and his firm the 'Life'. After a long contestation the NEAA dismissed the Petition and work on the Project started.

In Hon'ble High Court of Sikkim.

36) Mr NB Bhandhari, the former Chief Minister had filed a petition challenging the legality in granting the MOU for Teesta HEP stage III. This case was dismissed after long trial.
37) Mr Athup Lepcha had file a petition concerning issues of land. This was also dismissed by the High court.
38) PIL No W.P(PIL)No16 of 2017 has been admitted in the Hon'ble High court .

Land Acquisition:

The total land required for the project was 196.967 hectares. The most dangerous action that the state government has done in the process of acquiring the land is the circumvention of the

old laws. Since Teesta Urja is a private entity, it is not possible to transfer land to the company. The state government in order to provide land to the private developers purchased all the landed properties in the name of the Sikkim Power Development Corporation (SPDC), a Government of Sikkim undertaking. The payment was paid by the private company to the land revenue department.

The land acquisition started with huge opposition to the low rates and that point of time it was hardly Rs.3/sq ft. Local leaders competed with each other to seen as the champion of the land rates. Some smart people collected money and started registering land at higher cost so as to justify the rates that people were asking for. The people of Singhik Sentam, the power house site affected people, were well organised and submitted petition to the government demanding much higher rates.

We also felt that it was the right step to take. After all, we were fighting for peoples' rights and so joined the movement to get better rates. At a later stage we realised this was the biggest undoing of our movement against the hydro project.

For the land owners, it was good fortune as the ACT movement was picking momentum and various activities were on. The government did not want the land owners to join the anti-project movement and so they started to find ways to contain the discontent. So processes were started to increase the rates of the land in a legal way. Finally the rates that were proposed by the District Collector were accepted as a compromise between the Rs 30/sq ft demand of the people and the legally acceptable norms.

Finally, the rates were approved by the State cabinet and the news spread like a huge victory for the people. Sadly, almost everyone readily consented to part with their land seeing the amount of money they were getting.

Land Rates (specific to Hydro projects only): The Sikkim Cabinet on 1/3/2007 approved the following rates for different class of land in Teesta HEP stage III affected areas as under:

Singhik-Sentam:

a) Paddy field/dry cardamom field -290 mtrs from National highway at Rs 18/sq ft
b) Paddy field/Cardamom field beyond 200 mtr radius of National Highway at Rs 16
c) Dry field & Bango- beyond 200 mtrs- Rs 14/sqft

Chungthang :

a) Cardamom field - Rs 14/sq ft
b) Dry field & Bango- Rs 12/sqft

Shipgyer

a) Cardamom field - Rs 13/sq ft
b) Dry field & Bango- Rs 11 sqft

Salim Pakyel

a) Cardamom field - Rs 13/sq ft

b) Dry field - Rs 13/sqft

On and above the rates 30% solitium (Rehabilitation & Relocation/standing crop etc) were added.

There were different types of land ownership besides the government and registered private land. In the case of Chungthang subdivision including Shipgyer, the issue of claimed land was there.

Payment of compensation for Claimed land:

The issue of ownership of large tracts of land which were ancestral property of the indigenous people but inadvertently registered in the Name of Forest and Government in the earlier survey operation was contentious. Accordingly we were convinced that even if we cannot get the project stopped, we could get this demand fulfilled.

Sensing that this was going to be a major obstacle, the Government and the Power Project developers devised a way to pay the so called claims land with adequate compensation.

A brief back ground of the issue is as follow:

Sikkim had the first cadastral survey in 1951-52. This was conducted when Sikkim was an independent Kingdom and due to various logistic problems many areas in the state could not be covered by the survey. As there was public demand to resurvey all the properties, a cadastral resurvey and settlement was conducted in 1977-78 after Sikkim had merged with India.

At this point of time the state being in a transition period from Monarchy and Democracy, people were apprehensive of the new taxation laws as well the threat of land reform. Due to his reason most of the parts of Chungthang Sub-Division comprising of Lachen, Lachung and Chungthang along with Shipgyer could not get surveyed and the status of the land remained with Government. This became a big problem as most of the ancestral properties were not recorded in the name of the original owners and repeated requests were made to the Government.

In response of the request of the public of this region the government of Sikkim had ordered a resurvey of all the Land Records in 1996. By the time the Hydro Projects were envisaged all the land in this area were resurveyed. Documents indicating all the claim lands were issued to the land owner but the final attestation of the process was not completed due to requirement of NOC from various agencies like the Forest Department.

Since many ancestral landed properties to be acquired by the Teesta III were in possession of the public who did not have the ownership documents, the issue of completion of the Attestation process also became a strong demand of the public. The Gram Sabha of Chungthang GPU had passed a resolution that unless the resurvey process was not completed Teesta III would not be allowed.

The technicality of the claimed land was that the legal ownership was with the Forest Department as these lands were designated as Khaasmal /Goucharan Land (Public utility

land). These lands were not part of the Reserve Forest or Protected area but due to a Sikkim Forest Act with the legal ownership vested with the Forest department.

Under the circumstances, it was not possible to give the land document to the people due to need of NOC of forest department. At the same time since the land was in possession of the indigenous Tribes for generations, it was not possible to hand over the land to the power developers without a proper redressal of the land owner's claims.

In view of the complication, the government and the Power Developers devised a way out by giving compensation to all claims land but not altering the status of land and also giving compensation to the Forest Department. This ensured that there were no violation of forest laws and the people were provided their compensation. This is one reason due to which the expenditure on land was much higher in this project.

Impact: The movement managed to get better rates for the land for the ancestral land but also paved for large scale consent of the land owners to sell their land to the power Project developer.

CONSTRUCTION PHASE:

Inspite of best efforts by the members of Affected citizens of Teesta and local people, the work on the project started after the land acquisition was completed. For a brief while many were engrossed with petty construction and supply works. Meanwhile the hunger strike in Gangtok had started. It was during the foundation laying ceremony of Teesta II , the Chief Minister, declared the scrapping of 4 projects in Dzongu and as a good will gesture the second indefinite fast by Dawa Lepcha and Tenzing Lepcha was lifted, though the relay fast continued.

Once the construction work started, there was not much that we as activists could do and for a brief period of more than 3 years there was not activity in the project ,though the protest against other projects continued.

Teesta Urja had engaged three major Companies to execute the work dam site.

5. The SEW Infrastructure Pvt. Ltd
6. Navyuga Engineering Company Pvt. Ltd
7. Abir Infrastructure Pvt. Ltd.

M/s Abir Infrastructure was the main company of Teesta Urja, the other two were sub contractors. Besides these, several local contractors, labour contractors and transport companies were also working on the site.

Once the construction started, it was the turn for heavy vehicles to enter the project site along with large number of work force. The small bazaars started to buzz with activities and shops were doing brisk business. Unlike the government companies the private companies don't give work directly to the local contractors and so all the works were given on subcontract basis.

Simultaneous work started at the dam site, the power house, and the tunnels. There were many problems associated with the construction as there was no organized system to select the contractors due to which there was much discontentment with the local people. Many contractors from outside the state started to pour in and also there was the problem associated with the transportation of materials by truck owners. While the local people wanted the work to be done by them there were many large transport companies from outside who wanted to do the work.

This continued for more than two years and when the problem got more severe the people rose up to demand equitable opportunities for them. Accordingly a Steering committee was formed within the village and a systematic distribution of work was established based on the five panchayat wards. But by this time much of the work was already taken.

Blasting impact on project site:

The people of all the affected villages would be woken up by the early morning siren followed by rampant blasting. In fact it has become a way of life and it caused serious damages to the houses and the water sources.

Blasting was an issue taken up even during the first meeting to discuss the project but at that point of time the power Department Officials stated that new technology would be used to construct the tunnels and blasting usage would be minimal.

However, just days after work was started a priest was killed in the Church at Kalapathar almost a kilometre away from the work site. This was followed by damages to the houses in the project areas. It is an established fact that most of the houses in Chungthang GPU, Singhik, Shipgyer, Safo, Ramom in the Project affected area of the Teesta hydro Electric Power project stage III were severely damaged by the continuous blasting used to construct the dam, tunnel and other components of the Project. Since the damages were so severe, the public had petitioned the government to take necessary action. Accordingly the Mines and Geology Department had undertaken a study to scientifically ascertain the facts. The report of the Department published in April 2010 had categorically stated that **"Keeping in view of overall Geological and geo-Morphological condition of area, absence of any structure failure in the past, the main causative factor is ongoing activities especially due to underground blasting and tunnelling and their consequences. Main underground activities lies below Pegong, (HRT and other components) and further damages in future can't be ruled out** "The report clearly stated that the area was vulnerable and disturbed by the blasting.

As per Information received from the Deputy Chief controller of Explosives, East Circle, Kolkotta clearly states the magnitude of usage of blasting in Sikkim and the Teesta HEP stage III area. As per the information, licences have been issued for 1, 81,800 kilograms (One lakh, eighty one thousand and eight hundred kilograms) of Nitrate Mixture to different agencies for the state of Sikkim. Teesta Urja was issued licence for 20,000 kilograms nitrate mixture & 10000 metres of emulsion explosives and its sister concern Abir infrastructure Pvt Ltd was issued licence for 20,000 kilograms, making it 40000 kilograms for Teesta HEP stage III. Since 100% work is competed it is expected that at least 30-35000 kgs of blasting has been used on the fragile environment in small project affected area.

Further clean atmosphere of Sikkim has been polluted by the use of toxic materials like 94,650 Mtrs of Safety fuses, 2,17,750 mtr of detonating cord and 6,04,500 detonators (licence issued for approx quantity).

In view of this the public had demanded that all the damaged houses be compensated and that the houses be insured by the company. Accordingly a massive joint inspection was undertaken by the officials of Sikkim Power Development Corporation, Engineers of sub division, Land Revenue Officials, representatives of Teesta Urja, Panchayats and house owners.

A proper estimation of the damages was made and since physical examination can only assess external damages, it was decided that since the internal impact cannot be assessed, a total of three times the estimate of damages be provided. Finally the proposal to provide immediate compensation to houses damaged by blasting and to insure all the damaged houses was forwarded to the concerned authorities through the SDM Chungthang and DC North.

Unfortunately, damage compensation has not been paid till today nor the houses were insured. Most of these houses were either completely or severely damaged during the Massive earth quake of 18th Sept 2011. The devastation could have much less if the compensation were paid as house owners would have re -strengthened their house and if the Houses were insured all the house owner could have received good payment and within short period rebuilt their lives. But since the demand has not been fulfilled, the innocent public of the Project affected areas suffered irreversible damage to their way of life and property.

Impact: The Mines and geology report is very important for future reference as the issue of houses damages are being followed up lately.

Violation of Wildlife Act:

One of the most contentious environmental issues of the Teesta III has been the proximity of the Kanchenzonga National park and the Reservoir being located in the Buffer zone of Kanchenzonga Bio-Sphere Reserve. During the course of grant of Environmental Clearance the Expert Committee had specifically sought the clearance of the Wildlife Department. Unfortunately the Chief Wildlife Warden gave the clearance over looking all important aspect of the wild life.

The resultant act of omission by the Warden was that a Schedule I listed Animal Tahr (Hemitragus jemlahicus), was found dead in the Dam site .

FIR: On 4/6/2008 one Tahr was reportedly seen in the work site of the diversion Tunnel executed by the SEC Infrastructure ltd. The first information Report was filed by the Forest Guard, which stated that a dead thar was found in the work site and it required further investigation. It was reported that one horn of the animal was broken and also that there were blood smears in the place the animal was found. The carcass was then taken to the Sub-divisional –veterinary hospital for post mortem. The post mortem clearly mentioned that there was blood clot in the brain; the horn was broken and even that the urine in the bladder had blood. Further it also mentioned that the animal has consumed garbage materials.

Surprisingly, the Veterinary Doctors concluded that the death was due to respiratory failure /asphyxiation. How can an animal die of respiratory failure when the brain was damaged by external injury?

A case was registered against the Incharge of the Sub-Contractor who was let off with mere fine of Rs 25000/- even though the case involved a schedule I animal. This incident proved that the Chief Wildlife Warden had made a serious error while granting the NOC.

IMPACT: The wildlife Division had to register a case and initiate investigation which lead to some kind of case.

18th September 2011 Sikkim Earthquake:

Sikkim was struck with a devastating 6.8 Richter scale earth quake on 18th September 2011. The most severely affected area was Chungthang, the site of Teesta HEP stage III. 15 Houses were totally damaged while many were severely damaged. Most of the roads were totally cut off. Since the Earthquake struck on a holiday just after the Bishwakarma puja, there were not many people at the work site. But many lost their lives while coming back from immersion of the idols and trying to cross damaged roads. Some lost their lives while driving on the road and some were struck by landslide and never recovered. Till today there is no exact or proper figure of how many persons had died due to the Earth quake in the site of Teesta HEP stage III.

However, having travelled through the Tunnels on the 21st of September from Shipgyer to Chungthang , I found that there were no damage to the tunnels , the only problem was the water logging as the electric supply had been cut off and the light was not functioning . The Dam was not completely constructed and so there was no major damage. It was reported that there were some problem at Safo but the road was cut off and there were no way to reach through the tunnel.

While there is no doubt that the Earth quake had a some impact on the project , it was however more on the delay of commencement of work due to transportation of Materials and the scarcity of manpower ,as most of the labour forces had fled the project, whereas the actual physical damage of any component of the project was less.

However, since the finances of the project developers were any case under severe strain, the earthquake became a good excuse for the delay of the completion of the project.

It took the company very long to restart the work on site. The argument that the project got delayed due to the earth quake is untenable as per the MOU the project should have been commissioned on 18/7/2011 at least two months before the earthquake.

Just as the entire region was recovering from the devastation of the earthquake a flash flood caused by heavy rain hit the area on the 20th of Sept 2012. This also disrupted the road communication for some time and caused some damages in the project site .

IMPACT: Wide awareness amongst the people relating to the use of fallacies of the private developers using natural calamities as Pretext to justify cost overrun and delay in completion of the project.

Financial constraints grip the project

Work in the project again got stopped due to serious financial problem and for next three years not much work was done. It was only after the government of Sikkim through the Power Department invested 51 % and the NHPC 49 % the final phase of the work more or less got completed.

As of today, trail run of the project is on and it is believed that one turbine of 200 MW is operational but the Project on the whole which was to be commissioned by the Prime Minister is still not operational in the true sense.

As of December 2017 the project has been delayed more than 6 years with the actual time of commissioning being 18/7/2011.

Security:

Sikkim Police and the Indian Defence establishments like the Army, ITBP, Intelligence Agencies manage the security aspect. These agencies are actually critical for the movement of the workforce and settlement of new people in the area. Most of the area requires a special permit to enter and to work. These permits are issued by the check Post division of the Sikkim police which is under the Home Ministry, government of India.

Further as per the old laws most of the project affected areas are fall in proscribed areas and need special permit. All those who come have to leave the place after the expiry of permit and are supposed to intimate the concerned officials of either their exit or extension of the permit. This is critical from the point of view of demographic changes in the place. Many people who initially come for project related works stay over and take up other form of employment, very often in connivance with some locals and over period of time start to get all the rights and privileges of the local population.

Relief & Rehabilitation:

As per the MOU the relief and rehabilitation was to be undertaken by the state Government. However, in the case of Teesta III, the R& R was executed by a new NGO Bhavishaya Bharat Foundation formed by the Promoters of Teesta Urja .A R&R committee was formed by members belonging to the government agencies and the projects were selected by them on political consideration. The execution which should have been done by the government was carried forth by NGO. The NGO was staffed on hefty salaries from outside whereas the same work could be done by our own organizations.

Drawback: The R &R Not carried out as stipulated

Latest status: The Private developers could not complete the project and the State government has now taken over 51 % stake and The NHPC has 49 % The State of Sikkim is facing colossal losses due to cost over run from Rs 5000+ crores to 13 ,000 plus crores , loss of revenue from the promised 12 % free power to the State Government and 1% local area development Programme. Project is yet to be commissioned formally

If the project had been completed within the time and with marginal cost overrun, many important developmental work and social security projects could have been implemented benefiting the People of Sikkim and the Country on the whole.

It is likely that the largest Hydro Electric Power Project in Sikkim, the 1200 MW Teesta HEP III might collapse under the burden of financial constrains and be declared a sick unit.

If the Project at all fails, then this is will be greatest tragedy for Sikkim as the mountain ecology has been irreversibly damaged, conflict in the social and political life has been created and above a colossal loss of money ,which could have contributed to making Sikkim a well developed state.

Further , even if the project is able to bring in revenue to provide for materialistic infrastructure and other support, the project has caused deep rooted mistrust and conflict in the Tribal villages. The society is totally divided into those who were in favour of the project and the those who were anti-project. Further, there is divide between those who extracted maximum benefit and those who could not any tangible benifits. Lot of social,economic and political activities are also based on the divisions. The mountains have been devastated and water sources dried. The basic fabric of the society has been altered permanently. While all those who benefited from the project are living either in other parts of the state or country, all those who are affected severly are still living and facing the brunt of it. Most of land owners are now landless, as the land has been taken over and since Tribal people are not good in managing the finances. All the money received as compensation has been used. Some who constructed house with the compensation money- these houses have been damaged by the Earth quake owing to rampant blasting inflicted structural disturbances.

As a result of mismanagement and complete callous attitude by the Government of Sikkim and the Power developers , the people of Project affected area started to feel the neglect in term of getting jobs, compensation for house damaged by blasting, filling up of toxic waste in the reservoir and other related issues. Since the demands of the public were not fulfilled, a PIL has been admitted in the Hon’ble High court to seek justice for the people.

While the rest of the citizens wait to harvest the fruit of the so called developmental projects, the people who sacrificed the most are in continued state of suffering. The often misused context of National security and Nationhood as once again created a region where people have lost faith in everything.

West Seti hydropower Project in Nepal

Ratan Bhandari

I still remember the first time that I heard about West Seti hydropower project. It was over 25 years ago when I was in high school that the news was broadcast by Radio Nepal on West Seti hydropower project in May 1991. Later when I completed my high school I saw many foreigners travelling by helicopter to my village and learnt that a 220 m high dam in West Seti river is going to be built to generate 750MW electricity. I also learnt that this dam project would submerge my village. It was terrible news for me because the project was not coming to develop my village but proposed to displace my people.

When I completed my Intermediate I went to Kathmandu for further study. In Kathmandu I started to collect news clippings, magazines, documents related to West Seti project. In February 2000, I found a very interesting booklet on West Seti hydropower project which was published by West Seti Monitoring Group. I also came to know about the Sunday Forum. At that Forum, people used to organize discussions and interaction programmes on contemporary politics, development projects, environment and various other issues. I started to attend that Forum and learnt more about big dam projects, involuntary displacement caused by big dams, issues of water and electricity rights, Indo-Nepal water treaties, riparian rights etc.

I even heard about the people's struggle to save Narmada and the campaign against destructive Tehri dam project in India. In May 2001, I had a chance to attend National Consultation on the World Commission on Dams (WCD) Report organized by the Independent Assessment of the World Commission on Dams and Society for Conflict Analysis and Resolution in New Delhi, India. In WCD Delhi meeting first time I met Narmada Bachao Movement leader Ms Medha Patkar and learnt more about Sardar Sarobar dam tragedy of people of Narmada Valley.

After the Delhi WCD meeting we Nepali participants visited Tehri dam and met the well-known environmentalist Sundarlal Bahuguna. We stayed in his Ganga-Himalaya Kuti just near the Ganga bank and listened to his experiences of how he has been fighting to save mountains, forests and rivers. I learnt more about *Chipko* movement which was lead by Bahuguna himself. After listening to Bahugunaji's experiences I was really impressed and promised to do something to save my river and communities as well.

The more I read the more I realised that the project is wrongly designed and illegally handed over to an Austrilian Multinational Company called Snowy Mountains Engineering

Corporation-SMEC for 30 years. On 31st March 2000 I sent a formal letter[46] to the Ministry of Population and Environment with a copy to the Office of the Prime Minister and Council of Ministers, Ministry of Water Resource, Nepal Electricity Authority-NEA and Electricity Development Center requesting copies of the Environment Impact Assessment-EIA and project related document of West Seti hydro. Unfortunately I did not get any response from the ministries. I however continued to disseminate project related information to my communities. In April 2000 I went to my village and formed a local group at Deura.

On 26 May 2000, the Ministry of Population and Environment published a 30 days public notice in Gorkhapatra daily (government mouthpiece) to submit comments and feedbacks on EIA of West Seti hydro project. By 26 June 2000 I submitted two pages of comments on West Seti EIA and raised the question on Ministry's role on West Seti project.[47] I have questioned to the Ministry of Population and Environment mentioning that the Gorkhapatra daily does not reach the project affected area, nobody has seen the copies of EIA, and even if they get copies of EIA they cannot understand English version of EIA. Therefore, it is not possible for local people to comment on EIA unless local language translations of the document are made available in the villages. Later when I saw approved copies of EIA of West Seti hydro project I did not see any comment submitted by me in the EIA.

On 25 March 2003 I wrote to SMEC-West Seti hydro and requested EIA copies of West Seti hydro. West Seti hydro replied saying that I have to pay NRs 50 thousand for full volume of EIA copies.[48] . Again in 2004 I wrote an email to SMEC West Seti hydro for EIA but again I was told that I have to pay 50 thousand to get copies of EIA.[49]

Background of the project

Nepal's major river basins include over 6000 rivers. Koshi, Gandak, Karnali and Mahakali basin are the major river systems of Nepal. The West Seti is one of the principal tributaries of the Karnali River, which originates from Saipal Himalayan range in Bajhang district. It drains the western side of the Karnali River Basin and finally joins Karnali River in Achham district. A hydropower dam project in West Seti river was under discussion since 1981 when the French Company Sogreah finalized a preliminary feasibility study and recommended a 37 MW run of the river scheme. This project was proposed 8 km upstream of the existing West

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46 See letter registered by Ratan Bhandari, Ministry of Population and Environment, dated on 26 June 2000.

47 See comments submitted to the Ministry of Population and Environment by Ratan Bhandari, Ministry of Pouplation and Environment, Registration No. 5094, dated on 26 June 2000.

48 see letter signed by Raj Dangol of SMEC-West Seti hydro to Ratan Bhandari, dated on 3 April 2003. Also see The Himalayan Times, April 10, 2003, Kathmandu

49 "see email sent From: SMEC WEST SETI HEP <smec@westseti.wlink.com.np>
Date: 2004/10/1
Subject: Forwarded by Return Path: re: Info on West Seti Project
To: Ratan Bhandari <bhandariratan@hotmail.com>
Dear Mr Bhandari,
This has reference to your e-mail sent to SMEC regarding the West Seti Hydroelectric Project which has been directed to me in Kathmandu. I am told by our office in Kathmandu that you had contacted our office last year regarding a copy of a copy of the Environment Impact Assessment (EIA) study. We had informed you that the copies of the EIA study are available for reading and reference in the CDO office of the 4 districts,Doti, Dadeldhurra,Baitadi and Bajhang as well as in the library of the Tribhuvan University as well as in the library of the Ministry of Environment. If you want a fresh copy for your self and your organisation for personal use, the cost of such a copy is Rs 50,000 as it has many volumes and is very expensive to print. I sincerely hope you understand this. As regards to the status of the Project, we are distributing an Information Sheet to the various VDC in the above mentioned 4 districts by the end of October and we will forward the same to you as well . Thank you for your interest in the West Seti Project and the concern for the welfare of the affected people of the area which is of major concern to us as well.
Best Regards
SMEC -West Seti hydroelectric Corporation Ltd."

Seti dam site. Subsequently, in 1987 Sogreah did another detailed study and identified a 360 MW (2,400 GWh) storage scheme at the current site.

After 1990s Nepal liberalized its economy and consequently signed away its sovereignty to a cartel of international financial institutions. It was then that the West Seti project came to be seen as reservoir-based generation scheme and feasibility studies were undertaken. In 1994, an Australian company Snowy Mountains Corporation (SMEC) which has shown interest in West Seti dam project got license for prefeasibility study. In March 1995 SMEC said that a 360 MW scheme is too small to attract international support as an export project supplying baseload power to India.

Subsequently, some Australian promoters incorporated as West Seti Hydro Limited (WSHL) under Companies Act of Nepal. It was a 100 percent subsidiary company of SMEC. In June 1997 Government of Nepal and WSHL signed a Memorandum of Understanding (MoU) to build the 750MW West Seti dam project. GoN has awarded West Seti project to SMEC under a Build, Own, Operate and Transfer (BOOT) structure with a 30 year concession. After signing the MoU, SMEC completed the Detailed Engineering Report (DER) and submitted it to the Government of Nepal. Under the terms of the 1997 MoU the Government of Nepal will receive 10 percent revenue from the sale of power through energy and capacity royalties.

West Seti hydropower project

The West Seti Hydroelectric Project (WSHP) is a 750 MW dam project in western Nepal (which includes Baitadi, Bajhang, Dadeldhura and Doti Districts) which is located 82 kilometers (km) upstream of the confluence of the West Seti and Karnali rivers. The 220 m high (from the foundation) concrete faced rock-fill dam which was proposed by SMEC at Dungad and Talara in Baitadi and Doti districts would create a 25.1 km long reservoir along the Seti river and submerge 28.0 km of five main tributaries (Chama Gad, Dhung Gad, Saili Gad, Nawaghar Gad, and Kalanga Gad). The reservoir will have a total storage capacity of 1,566 million cubic meters (m3). The peak generation flow will be 330 m3/s. This storage scheme is designed to generate peak hour energy and supposed to generate power from a head of 259 m, created by running the headrace tunnel across a river bend of the Seti River and thus diverting water around a 19.2 km river section. The average annual electricity production estimated to generate is about 3,636 gigawatt-hours (GWh). The project was designed to collect flood water during the monsoon season (June-September) and release augmented flow of water to generate peak hour energy in dry season.

The key players

SMEC had the license of West Seti project. It was playing double role as investor and contractor. However, SMEC had no money to invest in West Seti hydro. Therefore, SMEC attempted to convince Chinese Banks, Asian Development Bank-ADB, China National Machinery + Equipment Import and Export Corporation (CMEC) to invest in the project; most of the banks agreed. According to SMEC, ADB decided to invest 15 percent, SMEC 26 percent, Government of Nepal 15 percent, and IL&FS India 15 percent. The Government of Nepal would take a loan from ADB to contribute its 15 percent. Later, the Chinese Banks

were reluctant to invest as agreed initially. Because of the policy priority of the Chinese bank they withdrew their investment on the West Seti project[50]. After this, SMEC tried to secure investment from India and KfW Germany[51]. However there was no positive response from KfW Gernamy.

SMEC Developments – the project sponsor – through West Seti Hydro Limited.

China National Machinery + Equipment Import and Export Corporation (CMEC) is an agency of the Chinese Government. CMEC has been awarded the PDB (Plan, Design, Build) contract for West Seti.

The Power Trading Corporation of India (trading as PTC India Ltd), is engaged as the primary power off-taker. PTC is an Indian Government Public-Private Partnership, whose primary focus is to develop a commercially viable power trading market in India.

Infrastructure Leasing & Finance Systems of India(IL&FS), one of India's leading infrastructure development and finance companies is also planning to take a position in the project.

WSH negotiated a Power Purchase Agreement (PPA) with PTC in October 2003, incorporating a take or pay tariff for power supply from West Seti for a 25 year period from the date of commercial operations. Power would be supplied to India via a 230km transmission line from the project to the Bareilly distribution centre in Uttar Pradesh.

The project is structured on a debt to equity ratio of 75:25. It is proposed that finance will be provided by a group of banks including the Export-Import Bank of China, Industrial and Commercial Bank of China and the Bank of China. All of these are Chinese Government agencies. In addition IL&FS of India has offered to provide debt financing.

The Asian Development Bank (ADB) has indicated its intention to subscribe equity capital to the project. The ADB's involvement has been crucial in bringing the many complex project elements together.

Political Risk Insurance (PRI) for the debt financing is being sought from ADB, the China Export and Credit Insurance Corporation (Sinosure) and other PRI underwriters including MIGA, the Multilateral Investment Guarantee Agency of the World Bank.

Equity structure

The equity structure for ultimate ownership of the project currently proposed is:

SMEC	26%
CMEC	15%
ADB	15%
Government of Nepal	15%

50 West Seti in Trouble, Bimarsh Weekly (Nepali), November 16, 2007.

51 Ibid.

IL&FS	15%

The remaining equity of 14% is currently being finalised.

Debt finance

Expressions of interest have been received from the following banks:

China Exim Bank	US$400m
IL&FS	US$300m
Bank of China	US$300m
Industrial & Commercial Bank of China	US$200m
Asian Development Bank	US$50m

Source: SMEC-West Seti Hydro, 2007

Impact of the project

Land Acquisition

A total area of 2,326 ha, comprising private and Government land, will be permanently acquired for the Project. The permanently required land area encompasses the reservoir area to be flooded (2,060 ha) plus a 6 m high flood zone to cover the probable maximum flood level (106 ha), and other infrastructure/facility sites (160 ha). A total of 659 ha of private cultivation land will be acquired at permanent project sites, consisting of 619 ha in the reservoir area and 40 ha at other sites. Reservoir area land comprises irrigated cultivation (72.3%), rain-fed cultivation (26.3%), and abandoned (fallow) land (1.4%).

Socio-environmental impact

The 750MW West Seti dam will displace more than 18,269 people of 15 Village Development Committees (VDCs) of Bajhang, Baitadi, Doti and Dadeldhura districts. An additional 20 households will be displaced from the power station site. More than six schools, 20 temples, three health posts, one Nepal Food Corporation Depot in Deura, VDC offices in Dhungad and Deura, a police station in Deura and a number of private stores, six ghats (cremation sites) will be displaced. Majority of displace people are Hindus including Chhetri, Brahmin, Thakuri, and Dalit. The Dalit people, who have been historically considered 'low caste' and have been marginalized, are dependent on people belonging to the other castes for their livelihoods. Since most Dalit families do not own land, they work as labourers on farmland belong to people from the Chhetri, Brahmin or Thakuri castes. Once this project will be implemented dalit communities will be badly suffer because they will not be

compensated. The reservoir will also affect the present cultural and livelihood uses of the river. A stretch of the river downstream of the dam will run dry and fish migration will be completely blocked.

Local Concerns

The local people are the genuine owners of water and electricity. However, there was no provision that would secure local rights. The 10 percent expected royalty is supposed to go to the central level budget; it is obvious that no separate arrangement would be made for affected area, No free and prior consent has been taken from the local people. People were dissatisfied when they knew that this project was to tackle the power scarcity of the India and not for the local people. The political leaders also made some slogans of employment and development from this project without telling the real facts to the people.

Disclosure of information

From the beginning local people were continuously requesting copies of the full volume of project EIA, the project MoU and all associated plans for the West Seti Hydropower Project in Nepali Language. However, WSHP has refused to make these documents publicly available in Nepali language; they have provided only vague "information sheets" and "executive summaries". In 2009, English language versions of various documents were posted on the WSHP's website, but some of these files were "locked" and unable to print. The residents of the affected areas had neither electricity nor computer or internet, besides which most of the materials were in English. Kantipur daily reported that SMEC-WSHP has instructed their employees who were based in local information centers in the affected area not to provide any information to the journalists.[52]

Issues of royalty

There were some basic problems with cash royalty from the project. The first was the provision that Nepal gets royalty only if SMEC registers profit or if the company is able to clear all of its dues. According to SMEC, it was on the ADB's recommendation that the Government of Nepal agreed to take 10% revenue share in lieu of 'free energy'. The second issue is the gap between what Nepal was paying per unit of electricity it purchases from private producers for internal consumption, and what SMEC was offering as royalty. While SMEC has agreed to pay Nepal only 4 cents per unit of the 10 percent energy, the energy-starved nation was/is purchasing power from private run-of-river projects at over 6 cents per unit. The third was that the economic value of electricity far outweighs it's per unit price.

2007-2011

Visit to the submergence area

Between July 6-15, 2007 Yuki Tanabe from Japan Center for a Sustainable Environment and Society (JACSES) and I jointly visited the submergence areas of the West Seti Hydroelectric Project. We visited village like Deura of Bajhang district, Mori Bagad, Lekam, Harada

52 Kantipur daily, 2009 June 9

Khani, Dhungad of Baitadi district and Talara, Gopghat and Talkot of Doti District. We also visited proposed resettlement sites (Sandepani, Lamki and Narayanpur) in Kailali district. During our visit we had an interaction, meeting and talk with local affected communities. In the submergence area most of the people were completely unaware about the project. They had been given big promises by the SMEC officials. Most of the locals were worried about their future. Most of them told us that they are not ready to leave their ancestral places. They had not been given any project related information. There was no meaningful and participatory discussion among the affected people. Affected people complained that only the SMEC staff spoke at the series of meetings with affected people, and affected people could not raise their voices and questions regarding the project. Most of the affected people expressed their concerns and disagreements concerning the West Seti Hydroelectric Project. Local people claimed that they signed a participant list at a meeting with SMEC staff. However, SMEC staff forged this paper as an evidence of people's consent to the project.[53]

After returning from West Seti project site we organized a comprehensive talk programme on West Seti and presented our testimonies what we saw and found in the ground. The programme was well attended by Members of Parliament, policies makers, representatives from different political parties, water resource experts, and other stakeholders.

PIL against West Seti agreement

On 09 October 2007, seven petitioners (including me) had filed a Public Interest Litigation-PIL in the apex court, challenging the unconstitutional agreement on the West Seti project. In our petition we demanded that West Seti agreement should be ratified with two-third majority joint session of parliament as per the article 156[54] of the then Interim Constitution of Nepal, 2007. Unfortunately giving final decision on our PIL in 10 September 2008 a division bench of Justices Anup Raj Sharma and Kalyan Shrestha said that there is no need for the approval of the parliament either, as the project does not involve distribution of the natural resources of the nation. The bench added that Article 156 does not relate to the generation of electricity so the issue could not be put before the parliament. The apex court, however, directed the government and the Nepal Electricity Authority-NEA to form a permanent mechanism to rehabilitate the displaced people ensure the environment was not harmed and see that appropriate measures were taken to check floods.[55]

Maoists opposed the project

On 20 December 2007 the Communist Party of Nepal (Maoist) issued a Press Statement on West Seti project. The statement said that the nation is passing through a crisis. At a time like

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53 Tanabe, Yuki, 2007: Report on the West Seti Hydroelectric Project and ADB Policy Violations, (Version 2), Japan Center for a Sustainable Environment and Society (JACSES), Tokyo, Japan

54 Article 156(1) states that the ratification of, accession to acceptance of or approval of treaties or agreements to which the State of Nepal or the Government of Nepal is to become a party shall be as determined by the law.

Sub-section (2) reads that laws to be made pursuant to clause (1) shall, inter alia, require that the ratification of, accession to acceptance of or approval of treaty or agreements on the following subjects be done by a two-third majority of the total number of members of the Legislature-parliament.

(a) Peace and friendship;
(b) Security and strategic alliance;
(c) The boundary of Nepal; and
(d) Natural resources and the distribution of their uses.

Provided that out of the treaties and agreements referred to in the sub-clauses (a) and (d), if any treaty or agreement is of ordinary nature and which does not affect the nation extensively, seriously or in the long term, the ratification of, accession to, acceptance of or approval of such a treaty or agreement may be done at a meeting of the Legislature-Parliament by a simple majority of the members present in the House.

55 – See Nepal Kanoon Patrika (Nepal Law Journal), Writ No. 0059, Decision No. 8059, 2066 Baishak (2009 April-May), Part 51,Issue 1, p. 85,

this, the West Seti Hydropower Project should not be implemented as it is without consent of seven political parties alliance and against the direction of the Committee of Parliament on Natural Resources.. CPN-Maoist also urged the government not to implement any agreement regarding the West Seti Project.[56] Later on 01 September 2009 the Unified CPN-Maoist Seti-Mahakali State Committee decided not to allow the operation of West Seti project based on existing MoU.[57]

Local fury

In October 2008, a group of agitated local people vandalized office West Seti project in Moribagar, Baitadi. After that incident Prime Minister Puspa Kamal Dahal instructed the ministers, secretaries and senior security officials on 7 November 2008 to take necessary action to ensure security arrangement at proposed and under construction hydro projects across the country. The government took the initiative with a view to to give out a message to international investors that the authorities in Nepal are serious on creating an investment friendly environment for hydro projects.[58]

Physical attack at WSHL meeting

SMEC-West Seti Hydro had hired the former Secretary of Water Resource, Mr Surya Nath Upadhyay, as a consultant in 2008. An NGO called Jalsrot Vikas Sanstha (JVS) with affiliations to Mr.Upadhyay organized a "Interaction Programme on West Seti Hydropower Project" on 26 September 2008, at Hotel Royal Singi in Kathmandu. I was also invited to attend the programme, so I was there. The programme was chaired by Minister of Water Resources Mr Bishnu Paudel. There were two presentations, one by Mr. Bill Bultitude of West Seti Hydropower Limited (WSHL) and another one by Mr. Ratna Sansar Shrestha. After their presentations, the floor was opened for discussion. During the discussion session when I asked question and made comment on Mr Biltitude's presentation suddenly two hired goons tried to attack me and threatened me. Then the whole programme was completely disturbed. I boycotted the programme and left the venue and issued statement against physical threat and misbehavior to me. The next day, media also reported that news.[59]

Panel of Experts

We continuously raised the issue of West Seti hydro power project. There was a policy violation of ADB's. Threfore, in June 2008, the Government of Nepal and the ADB jointly formed an Independent Panel of Experts (PoE) to analyse the social and environmental aspects of the West Seti Hydroelectric Project. A statement issued by West Seti Hydro Limited stated that the panel comprises social, environmental and hydro sector experts of the country who will carry out independent analysis of the project's social and environmental status through various plans and programmes. The experts were: Prof. Hem Raj Pant, Prof. Hari Dutt Lekhak and Kirti Chand Thakur. Besides implementing plans and programmes, the team will identify solutions to social and environment problems arising at the project site. The government has given the PoE jurisdiction of cases of land resettlement, compensation for locals whose lands have been encroached, livelihood and cases relating to gender,

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56 See CPN-Maoist Press Statement on West Seti signed by Maoist spokeperson Krishna Bahadur Mahara

57 Nagarik Daily, 2009 September 2

58 The Kathmandu Post, 8 November 2008.

59 Gorkhapatra Daily,2008 October 2

indigenous communities and poor communities associated with the power project.[60] But nobody knows what kind of analysis of the project they have carried out.

Meeting with ADB Mission

We created big pressure to ADB to implement its policy and standards. Therefore, in March 2009, ADB send Fact Finding Mission to project affected area. After arriving ADB"s Fact Finding Mission in Kathmandu we had a meeting with them. We met with members of ADB's Fact Finding Mission, Takeo Koike (Investment Specialist), Kaoru Ogino (Energy Specialist) and Melissa Alipalo (Sugar Mountain Media, Manila). During the meeting we raised the issues regarding West Seti hydro. In 18 March, 2009, Fact Finding Mission of the ADB including representatives from IUCN, SMEC, CMEC-China, Save the Children-Japan, visited the project submergence area. The mission had chartered twin otter aircraft from Kathmandu to Bajhang district headquarter Chainpur. I had also joined their team and we travelled together from Kathmandu to Bajhang (my hometown). During their visit the affected communities of Deura, Bajhang district made strong protest against the ADB Fact Finding Mission. The locals alerted the ADB, one of the major investors to the project, to understand the reality before investing in the project. Locals of Deura told the ADB that the project had failed to incorporate demands of the project-affected communities and there was an absence of the government-authorised representatives to hear their voices. A protest rally also surrounded the tent of the Fact Finding Mission. The ADB Mission assured the locals that their mission to the sites was to find out the factual details from the direct interaction from the locals. They said that after the collection of the people's views, the draft would be forwarded to ADB headquarters at Manila.[61]

West Seti offices shut down

In February 2010, SMEC- West Seti Hydro Limited suspended its operations. The company management informed its staff in Kathmandu not to come for work 'until further notice'. However, SMEC had not announced the decision officially. The management had fired its staff as the project was collapsing. The SMEC had taken such decision shortly after the company's Director Himalaya Bahadur Pande returned from China. West Seti's license had expired on December 31, 2009.

2011 onward

Chinese firm in West Seti

In September 2009 Chinese company, China National Machinery Equipment Import & Export Corporation-CMEC pulled out from the West Seti Hydro Project citing that the project is not reliable and when it found that they will not get the tender for it.[62] In May 2011, two months after SMEC's withdrawal from the West Seti project, the China Three Gorges Corporation (CTGC) shown interest in West Seti and wrote a letter to the Prime Minister's Office expressing its interest in investing in West Seti Hydro-Project.[63]. However,

60 The Kathmandu Post, 2008 June 6

61 The Rising Nepal, 2009 March 19

62 *Rajdhani Daily, 2009 September 5*

63 The Himalayan Times, 2011 May 25

the government had not yet scrapped the SMEC's licence as it had not decided whether to provide six more months to the SMEC as per the contract.

West Seti License Canceled

The 10th amendment of the MoU had given deadline for financial closure till December 2010 but WSHP wrote to the government seeking another year's extension. The Government of Nepal asked WSHP to clarify why it failed to meet the deadline for the financial closure. On March 24, 2011 the SMEC-WSHP admitted that it had failed to convince the investors and requested six more months before it closed all its finances. ADB and China EXIM Bank that had earlier expressed their interest to invest in the project later said they would not. Stating that the reason given by the company for its failure to close its finances was not convincing, the government decided to scrap its license. Finally a Cabinet meeting held on 27 July 2011 decided to scrap the licence of West Seti Hydropower Ltd.[64]

MoU between GoN and CTGC

West Seti Hydro Electricity Project got a second lease of life on February 29, 2012 when the government and the China Three Gorges Corporation (CTGC) signed a memorandum of understanding (MoU) for the construction of the 750 MW West Seti hydropower project.

Joint Secretary of the Ministry of Energy (MoE) Arjun Kumar Karki and CTGC Executive Vice-president Wang Shaofeng signed the MoU at the Ministry of Energy, in Kathmandu. GoN and the CTGC agreed to develop the project under the public private partnership (PPP) model. Earlier the SMEC had signed an agreement with the Government of Nepal to build the project under the build-own-operate-transfer (BOOT) model to export electricity to India. The project will now be developed to cater to the domestic needs under the special purpose vehicle. As per the agreement, CTGC agreed to have 75 percent stake, while Nepal Electricity Authority (NEA) will have 25 percent stake in the special purpose vehicle. The CTGC also agreed to provide 2 to 5 percent share from its stake to locals around the project. Mr.Wang said the CTGC will also help NEA get concessional loan from the Exim Bank of China to invest in the project. As per the agreement, the project work supposed to start from July 2014 and completed by 2019. The CTGC has committed to complete the financial closure of the project by October 2014. As per the agreement, if the CTGC fails to complete the financial closure by then, the agreement will be cancelled.[65]

MoU Revised

Six months after signing an initial MoU, the Investment Board (IB) and CWE Investments, a subsidiary of China Three Gorges Corporation (CTGC), on 27 August, 2012 signed a revised MoU for the development of the West Seti Hydro Project and the Transmission Project. With the signing of an agreement, decks have been cleared for the development of the $2 billion (Rs 180 billion) project.

The Cabinet meeting also endorsed the MoU. The agreement has ensured 10 percent equity to the local people along with allocation of 150 MW of electricity from the project. IBN and CWE also agreed to synchronize the completion of the transmission line project with the completion of the West Seti hydro power plant[66]. Natural Resources and Means Committee of Parliament suggested making the project a multipurpose one by giving 10 percent stake to the people of the Far West and extracting maximum benefits for the country. Both the parties

64 The Rising Nepal, 2011 July 28

65 The Kathmandu Post, 2012 March 1

66 The Kathmandu Post, 2014 April 17

have jointly agreed to update the work plan and put into place contracting terms which will help avoid cost overruns and ensure timely completion of the project. The agreement has also explored new possibilities of developing an industrial hub in the Far West with technical and financial assistance from CWE's holding company, China Three Gorges Corporation (CTGC). In April 2014 the Government of Nepal has asked the Chinese government to provide it with $ 400 million in aid to invest in the West Seti Hydropower Project and the transmission line for the project..

New agreement between NEA, CTGI

Nepal Electricity Authority (NEA), the state-owned power utility, on 17 November 2017 signed the final agreement with China Three Gorges International (CTGI) Corporation, a subsidiary of China Three Gorges Corporation, to set up a joint venture to develop West Seti Hydropower Project. The pact was signed between NEA Managing Director Kul Man Ghising and CTGI Director of Investment Department Yao Fiexiong. The agreement with the CTGI was signed three days after the government scrapped a pact signed with China Gezhouba Group Corporation, which was hired to build 1,200MW BudhiGandaki Hydropower Project.

The project will cost $1.8 billion including interest charges incurred during construction period ($1.4 billion excluding interest charges), according to NEA.[67] The investment in the project will be made through West Seti Hydropower Project Development Limited, a joint venture company, which will soon be established by CTGI and NEA. The signing of agreement has paved the way for setting up of the joint venture. CTGI has agreed to arrange soft loan for NEA via China Export-Import (Exim) Bank or other financial institutions to invest in the project. CTGI has also agreed to offload up to 10 percentage points of its stake to enable people affected by the project to purchase stocks in the joint venture. CTGI may also sell another 14 percentage points of the joint venture's stake to local Nepali investors. The Chinese company had not named domestic companies which it intends to rope in, but that shares might be sold to ICTC, a consulting firm.[68] With all these divestments, the Chinese company still have 51 percent stake in the joint venture, making it the majority shareholder in the project.

CTGC threatened to pull out

After signing joint venture agreement between China Gorges Corporation (CTGC) and Nepal Electricity Authority- NEA on West Seti hydro project CTGC, has threatened to pull out if Nepal doesn't revise its guidelines regarding the power purchase rate. CTGC claimed the rate offered by the guideline doesn't make the project bankable. The development of the project is very challenging from the technological and economic point of view. CTGC said as Government of Nepal doesn't like to revise its power purchase rate policy, the project will not be financially viable, and it is not necessary to consider any next plan or action.[69]

CTGC requested that the power purchase rate be revised during a meeting with IBN and its joint venture partner the Nepal Electricity Authority (NEA) November 2017. However, the NEA said that it couldn't be done. As per the power purchase rate made public by the Energy Ministry in January 2017, reservoir type projects like the West Seti will get Rs12.40 per unit

67 The Kathmandu Post, 2017 November 17

68 ibid

69 See CTGIC letter to office of the Investment Board of Nepal dated on 2017 December 28

during the dry season which lasts from December to May, and Rs7.10 per unit during the wet season which lasts from June to November.[70]

What is happening now

Local people are still demanding project related document and asking for good compensation if they have to move from their land. In August 2017 locals of Talkot of Shikhar Municipality in Doti district refused to cede land that the government wants to acquire for construction of a sub-station for the project.[71] The project office based in Kathmandu had initiated the land requisition process on June 11 2017 by issuing a public notice to land owners urging them to contact the office with documents vouching for their right over their lands. But not a single family of a total of 135 households occupying the 160 ropani land required for the sub-station has agreed to leave their lands. Locals demand is the government should resettle them in a better place if we are to leave our lands.

70 The Kathmandu Post, 2018 January 4

71 The Himalayan Times, 2017 September 1

Saptakoshi High Dam

Rabin Ghimire

Saptakoshi river originates from Tibet of China flows through Nepal and joins the Ganga river of India and ultimately empties into the Bay of Bengal. It directly affects four countries. Saptakoshi River originates from about 7,000 meter height in Tibet of China. It is also the largest river of Nepal. Its river area lies in the east of Gosaikunda and in the west of Kanchanjanga. Its total area is about 60,400 sq. km, from which 27,863 sq. km lies in Nepal and 11,410 sq. km in India and rest on Tibet of China.

It is the major river carrying stones, sand and mud as it flows down hills .Its average annual flow in Barahachhetra of Sunsari district is 1,400 cusec. During rainy season it carries about 95 crore cubic meter mud and sand.

The literal meaning of Saptakoshi is seven rivers. Its main seven tributaries are Sunkoshi, Tamor, Arun, Indrawati, Dudhkoshi, Tamakoshi and Likhu. Among seven tributaries major three tributaries are Sunkoshi, Tamor and Arun. The Sunkoshi river is composed of small rivers like Indrawati, Dudhkoshi, Tamakoshi and Likhu.

Arun river originates from Jijabang mountain height of 8,012 meter and flows from Yebokanjel glacier. This river flows parallel from Himalayas and from 160 km north of Sagarmatha, it turns right and flows towards south. Before entering Nepal in Nangtang, it flows 80 km in Tibet. And before mixing at Triveni sangam in Saptakoshi, it has crossed the journey of 128 km in Nepal. It mainly drains Sankhuwasabha and Bhojpur district of Nepal.

Tamor river originates from Kanchanjunga glacier and flows about 200 km. It flows in southwest direction from the place of origin of Saka of Yogma tributary. It flows in east when it reaches Taplejung and mixes with Kabeli tributary flowing from east. At Aangbung it flows towards west and finally mixes with Tribeni crossing Dhankuta district.

Sunkoshi is called Bhotekoshi in its upper course. Indrawati meets Sunkoshi at Dolalghat. Arun and Tamor join Sunkoshi at Tribenighat and flows eastward from Kampughat. According to experts the river's area of flow has been shifted 120 km westward in India in the last 250 years. During 18th century, it used to flow in Purnia district of India and now flows in Saharasa district of India. The river does not change or shift its area of flow in high ranges of Himalaya but does in case of plains as it receives more freedom here. The main branch of this river used to flow westward before 1987 and now flow eastward.

Saptakoshi flow area is very large in Terai. It flows by spreading about 6 km to 10 km. And this is why the villages in the periphery of river are always in the threat of flood and reported as the victims of flood.

Saptakoshi river is not only an enormous water resource but also the source of regional civilization and culture. The Limbuwan and Khambuwan kingdoms were based in the periphery of Koshi river as evidenced by history. Hence, it undertakes an important role in indigenous culture. It is not only related to Hindu religion but also with Kirat religion along with culture and tradition. The pilgrims' areas like Manakamana, Arun valley, Barahachhetra, Haleshi Mahadev, Bishnu Paduka are situated in the periphery of this river. Hindu religion has faith that Koshi area was the place for meditation of Kaushiki Rishi.

The river has been the major basis of livelihood of Nepali society and the source of irrigation in eastern Nepal. Its proper and sustainable utilization will definitely help in national development and prosperity. More than 8 lakhs of people have been through very miserable conditions as a result of the dam and are also being threatened by foreseen losses. This is the result of weak national policy, failure of nation in give and take of water, absence of farsightedness in river management, feeble thoughts and unaddressed local peoples' rights. This issue has also raised question about national dignity and has raised many discussions. The issues are not only related to Nepal's economic and social issues but also with the political issue. Hence, it has been affected by the politics since last 5 years.

Major Issues Related to Saptakoshi:

1) **Nepal India Saptakoshi Treaty:** Nepal India Saptakoshi treaty is not equal Furthermore, nothing has been implemented that were in favor of Nepal. And the duration of this treaty is 199 years while, the time duration of any treaty above 99 years is not approved by international law.

2) **Koshi Tappu Wildlife Reserve (KTWR):** It is a protected area in the Terai of eastern Nepal covering175 sq.km of wetlands in Sunsari, Saptari and Udayapur Districts. The government is presently planning to extend its area upto Koshi barrage in the south and new bridge of Koshi river of Barahachhetra in the north, which will prohibit people from their right over natural resource. Buffer Zone Management Committee made of people is without any right and Warden (protection officer) can dismiss the chairperson and other position holders which is very awkward.

3) **Displacement:** Koshi river has displaced many households and villages of Sunsari, Saptari and Udayapur districts. Government of Nepal twice formed the commission to work for it but unfortunately left the work incomplete that is why people are living displaced life since 50 years. The Koshi river breached on the nose of spur of Paschim Kusaha on 2008 and the losses have not been compensated yet.

4) **Saptakoshi High Dam:** The Saptakoshi high dam project had been started by the East India Company but has not got a complete structure yet. The studies done for the Koshi project also reveal that this area is vulnerable to volcanic eruption and the Koshi is a sand carrying river. The hills and geography of this area are

geologically weak which can bring any kind of disaster at anytime. Due to this, earlier a small dam had been built at Chatara. But now the Indian Government wants to insist on a high dam; this is not in favor of both countries.

5) **Koshi Civilization and Culture:** Koshi river itself is an important natural resource. The culture along the Koshi is threatened by the dam

6) **Tourism and Water Transport: Raft**ing from KTWR, Arun valley and water transport from Ganga to Koshi barrage, Koshi barrage to Chatara and Chatara to hilly areas can be conducted.

Saptakoshi High Dam

The proposed high dam project of 269 meter in Saptakoshi river has increased threat to the people of that area. For this, local people have been raising different high dam related issues, materials investigation, research and studies. International high dam experience and water resource experts' views are being published. And the collection of those materials, investigation and studies has been rapidly increasing among local people.

Fig 9: The Saptakoshi river

Khosla study has been made the basis for Koshi's high dam construction feasibility study. According to this, two canals will be built for irrigation purpose, an underground power house will be built and productions of 300 megawatt of electricity are the major plans of this project. This proposed 269 meter high dam will displace 75,000 people of 82 VDCs of Dhankuta, Sankhuwasabha, Bhojpur, Khotang and Okhaldhunga. Likewise 196 square kilometer (sq. km) of land will be submerged in water in which 5,094 sq. km of fertile land, 1,698 sq. km agricultural land, 7,751 sq. km Sal trees with forest area, 5,015 sq. km other land and more than 19 bridges, water mills destruction is assumed.

The proposed dam will have direct effect on above 82 VDCs and destruction of historical heritages, wetlands and will make livelihood of people depending on Koshi river more harder.

In addition, one thousand acres of land and forest area will be included in the dam reservoir and submerged in water. Nepal has small territory and is not being able to fulfill the agricultural demand of present population. In such situation, if acres of land got submerged in water, it will create a food crisis. The proposed dam will therefore cause loss in national crop production rather than profit.

Most of this land is steeply mountainous. Construction will involve blasting the mountains to create plain land., According to geologists, the mountains of Nepal have not been permanently formed yet. Blasting can further undermine these mountains ultimately leading to great harm. With the construction of this dam, Nepal has to bear destruction of forests leading to environmental imbalance, ecological disruption, extinction of biodiversity, encroachment in habitat of animals along with other possible insecurity in future

Furthermore hundreds of families will be displaced and both Nepal and India do not have a fair policy regarding management of displaced people which is sure to create giant problem in future. Construction of the Sardar Sarovar dam of India has displaced,hundreds of families along with ecological disruption. This dam has led to a uprising from local level and,has been contested in high court of India on the leadership of Megha Patekar to save Narmada.

The proposed dam site lies in earthquake tectonic belt. A team of geologists after the study of this area has asserted that Himalaya range of India and Nepal is highly prone to earthquakes. This leads to the mconclusion that dam construction will lead to great destruction in the future. Likewise the epicenter of earthquake of 1934 was Chainpur of Sankhuwasabha and 1988 was Murkuchi of Udayapur and these are at periphery of proposed dam. If the dam gets damaged by earthquake it will lead to inundation of Sunsari, Udayapur, Saptari districts of Nepal and northern area of Bihar due to overflow of crores of cubic feet water that will ultimately cause loss of thousands of lives. The extent of damage to the crops is beyond imagination. The government does not acknowledge the destructive possibility of the dam.
Whether a high dam is useful or not can be known from India's experience. India ranks third among other countries in having the largest number of high dams. In the last 50 years, 5 crore 60 lakh people have been displaced because of high. the irrigation from high dam has lead to raise production only by 10%. Isn't it illogical?

High dams had considerable charm in the past and many countries had constructed them. But comparative analyses these days has shown that disadvantages of high dams overweigh the advantages. Construction of high dams have displaced thousands of people, inundated several lakh hectares of land, submerged many historical structures, caused the destruction of forests leading to ecological imbalance and negatively impacted biodiversity. Hence, the construction of high dams are is now reduced. Furthermore, third world countries are taking loan from World Bank to construct high dam which has resulted in a loss to those countries instead of gain.

The local people have felt that the construction of high dam has nothing to do with the welfare of Nepalese people and they also have felt that construction of high dam leads to huge loss compared to gain. Indian employees are attempting to win the favor of Nepalese people with the rumor that construction of dam will lead to speedy development, road construction, market extension, employment opportunity, fulfillment of the electricity demand and compensation to people of that area. Local people are raising questions like "Is it possible?" as they are living in the pain of displacement since 1965 and are asking to make sure about the compensation they will receive. Mostly people of Koshi river corridor are displaced and affected by the flooding since 1965 but these are not still resolved by the Indian

and Nepalese Government. People are not getting any compensation from both governments till now. Indian employees coming for survey ask them to ignore the issue of 1965. That is why people around Koshi corridor have doubt that it might be another conspiracy. People are against it and conducting different protest revolutions.

In India, it has been spread that high dam construction is compulsory to control flood in Bihar. Indian activists are not sure that high dam will control flood in Bihar. According to them in Barahachhetra watershed area of Koshi is 59,500 sq. km. But watershed area of Koshi increases to 2,266 when it reaches Bhimnagar. Likewise increases to 11,410 in Kursela and increases to 13,676 down Barahachhetra. That is why construction of high dam to save Bihar from flood will be just an illusion and rumor.

Therefore dams and plans built in past should be studied for both gain and loss. Our protest is not against all dams but is against destructive dams. What was said during construction of Koshi barrage in past, also needs to be studied. Compensation was planned in the past but was not implemented.

Increasing Revolution

As the Koshi corridor people were protesting against high dam, an interaction program was conducted in 2010.with Koshi Victim Concern Group in Chatara of Barahachhetra about high dam. Victims of Sunsari, Saptari, Udayapur, Dhankuta and Bhojpur along with concerned authorities of Koshi river and journalists were also the participants of that program. After discussion with the participants, it revealed that high dam is destructive in case of Nepal. On the basis of initial survey of dam, 82 VDCs will be submerged in water. Likewise, Sunsari, Morang and Saptari districts located downstream of the dam will also be submerged in water. And this is why the local people are conducting protest revolution against dam and their aggression is increasing. People affected by flood of Koshi and displacement due to it are known as victims. While, people who will be affected by proposed high dam are being known as possible victims or victims to be. Victims and possible victims of Koshi river are planning to conduct joint protest revolution to relieve local people from mental and physical pain. Therefore people concerning about problem of Koshi has been extended.

In order to prohibit, pressurize and warn various plans which are against nature and protested by people, Concerned Authorities Involvement Struggle Committee has been formed.

Koshi Victim Stakeholder Coordination Committee

Coordinator Dal Bahadur Poudel, Saptakoshi Flood Victim Struggle Committee Chairperson, Sunsari,
Vice-Coordinator Dev Ewahang Limbu, Saptakoshi High Dam Concern Committee, Mulghat Basin Chairperson, Dhankuta,
Secretary Bishal Rai Saptakoshi High Dam Concern Network Chairperson, Dhankuta,
Yudha Bahadur Khadka Member High Dam Concern Network Dhankuta,
Durganand Choudhary Udaypur.

Saptakoshi Concern Coordination Committee has been formed to conduct united and common protest revolution, extension and discussion for Saptakoshi issue and it's solution. It has completed Koshi Dialogue Part 1 in Sunsari and Part 2 in Kathmandu.

Issue regarding Saptakoshi and its solution has been drawing the attention of many people these days. Ten members of parliament had group visit on issue based program of Koshi on 23rd of Ashoj, 2067. Workers for human rights, journalists and local people also participated in that program. Saptakoshi corridor visit from Koshi barrage to Barahachhetra and from Barahachhetra to Prakashpur, Mahendranagar to Jhumka and Itahari was able to draw attention regarding Koshi issue and now Koshi issue is not only limited to corridor area. This issue is also related to nation's water, dams, and rights related issues. Koshi has given pain, sorrow and has made livelihood of people harder. This is the same whether they are across the river or not, whether they are Nepali or Indian. The issue of Koshi and its solution has also been the issue of Nepali and Indian victimized peoples' issue. In spite of diplomatic issues and gains between countries, this issue has direct effect on people. This is the conclusion and comprehension of the group visit program. A long interaction was also held between Koshi victims and the visit group regarding Koshi issues.

A huge protest program was conducted in Dharan of Sunsari when Prime Minister of Nepal discussed about high dam during India visit. In present situation we, the people around Koshi are aware. In case of any forceful actions we are ever ready for protest.

The proposed high dam project would have enormous loss for both India and Nepal; that is why it is better not to construct the dam. There would be no loss for Nepal in the absence of this dam. Neither is it intelligence to drag the country towards difficult circumstances nor will our country be able to bear its negative impacts.

Annexure 1: Recommendations of the Expert Group for Subansiri project

1. The inevitable siltation problem and its management are not properly addressed by NHPC. To regulate the resulting siltation problem, frequent flushing of the sediments to the downstream and dredging of river bed to maintain the original bed level is to be carried out throughout the river course. Upstream catchment treatment with maintenance of slope and plantation needs to be carried out by identifying the erosion-prone areas to minimize soil erosion.

2. As Assam witnesses flood waves during the months from May to September, flood cushioning provision should sufficiently be kept for the period. To minimize the dam-induced flash flood (like in Ranganadi project of NEEPCO), proper and adequate flood cushioning be kept in the reservoir.

3. The spillway design is based on the recorded maximum discharge of 12024cumec, whereas the maximum discharge recorded was more than 21230 cumec on11 July, 1971. So, the Expert Group recommends reexamination and redesigning of spillway as per the recorded discharge data given above.

4. In this regard, it is also recommended that no river in the region be tapped to the maximum possible extent, giving attention to the riparian rights of the indigenous people and complex biodiversity in the region.

5. The minimum discharge of the natural river be maintained through the turbines by at least one unit running continuously for 24 hours a day with a discharge of 320 cumec. The minimum mean flow during the lean period is considered as the lower boundary of environmental flow in the present study which will help in maintaining river ecology and groundwater recharging. To cope with the rapidly changing pore pressure developed due to fluctuation, it is recommended to open and close the units in sequential order and not at a time. Elevated embankments with proper protection measures should be taken from the dam site to a distance of about 15km downstream to control the river discharge.

6. The embankments of the Subansiri river be suitably raised and strengthened properly.

7. Hydrological monitoring especially during flood seasons – (i) Proper monitoring of discharge upstream of the reservoir for abnormal variation which may be related to the formation of landslide dam.

8. Installation of warning system along both banks downstream of the dam site up to confluence of the Subansiri river with the Brahmaputra river for timely evacuation of downstream population in event of catastrophic flood.

9. The reservoir level must be monitored closely by at least by two independent observatories at regular interval (hourly) so that human error can be eliminated (especially during flood) and any abnormal variation can be detected timely for taking necessary precaution.

10. Proper volume of storage water in the reservoir during flood season be maintained taking meteorological forecast of the region as well as of the catchment area. Proper network of meteorological stations be maintained by the project authority within the catchment area of the reservoir.

11. A thick vegetation cover or green belt should be developed and maintained all along the river banks so that the velocity of accidental flood water can be checked by it and resulting in less erosion, and in turn deposition of the sand fraction within the belt. This will reduce the loss of land from sand casting by high floods.

12. In order to monitor the morphological changes in due course of time it is essential to use periodic satellite data, and based on the derived information proper protection measures in the erosive area be taken.

13. Flood Shelters - Suitable raised structures are to be constructed along the bank of the Subansiri as Flood Shelters for the flood victims. These structures can be used for community welfare purpose during normal period.

14. All efforts should be made by the dam authority to convince the people about the hydroelectric power project and its outcomes so that they can gain necessary confidence over the issue. The need of people's participation in alternative developmental activities to be adopted may also be focused.

15. It is believed that the project will have negative impact on the easy availability of locally very important river related resources and as such they need to be supported by providing some better and acceptable alternative means for survival.

16. Creation of irrigation potential in all the three "zones" by suitably routing through cannels from near the outflow of the turbine will improve the present pattern of yield and output of crops in the area. This will also restore the groundwater condition and surface water availability in the wetlands of the downstream catchment of the Subansiri.

17. The entire downstream catchment is lagging behind, particularly in terms of transport, communication and marketing. The north-south linkage from the dam site to the Subansiri-Brahmaputra confluence has been too weak to promote effective interaction among the villages and outside for trade as well as other productive purposes. The river continues to play a significant role in this regard. There is, therefore, an immediate need to improve the road communication network, especially along both the banks of the Subansiri down to the confluence with the Brahmaputra as far as feasible. Feeder roads to Zone II and III from the major bank roads will substantially improve the condition of road transport and marketing of the local products in the area.

18. Monitoring and precautionary measures should be considered for vector borne disease, especially for malaria since malaria vectors are available in the project area. Moreover, volume of precipitation in the catchment area of the reservoir may be monitored during the monsoon season by establishing suitable telemetry rain-gauge network so that precautionary measures may be taken ahead of time for the smooth release of flood water to protect the dam and to reduce the flood intensity in the downstream area of the project.

19. A minimum of 3 (three) meter water depth is essential for the survival of river dolphin. Hence, this minimum depth should be maintained in the dolphin habitat area (identified as sectors-II to IV in Chapter-VI) round the year for their survival and breeding in the Subansiri river. Reduction of adequate water cover will shrink the breeding ground of river dolphin and it is feared that they will be compelled to migrate to the Brahmaputra which is not evidenced as breeding ground in recent years.

20. Long term conservation strategies like establishment of Dolphin Park, awareness programme etc. should be adopted by concerned authority for conservation and sustainable development of the critically endangered aquatic mammal.

21. Proper operational rules for maintenance of the river discharge to sustain the basic requirements of fish, wildlife (including the river dolphin) and local people should be framed.

22. It is suggested to keep provision for ecohatchery and other conservatory measures for the threatened upland species like mahseer (Tor spp), and other cyprinids.

23. Establishment of a live fish gene bank for conservation of indigenous fish species.

24. Provision for training of local youths for fish culture including the ornamental fish in seasonal water bodies.

25. To mitigate problems and maintaining a sound and sustainable terrestrial ecosystem and to protect all the Schedule-1 species available in the area and their habitats, maintaining a minimum level of river water which is known as the "environmental flow" must be maintained.

26. For restoring the ecosystems and habitats for birds and other animals, plantations of existing plants should be taken up in the affected sites.

27. Human activities within the migratory routes of Asiatic elephants will have to be stopped by protecting the areas.

28. Developing communication network including telephone, wireless system, computer network etc. to transmit the information of probable dam failure or dam breach. The systems are also useful in the event of release of excess flood water from the reservoir.

29. The officials of NHPC, social groups and selected individuals of the downstream be trained regularly so that they can perform responsibly during disaster.

30. As risk of dam failure will be there at downstream, benefit in terms of power and all round development of the downstream also should come to the people residing at the downstream. Development of better education and health facility are some of such benefits that the government should provide in that locality by utilizing the fund received from the concerned authority in terms of power benefit.

31. A disaster management cell dedicated for the area is required to be formed involving the following – (i) Subansiri Dam Authority, (ii) District Administration, (iii) Police, (iv) Public Works Department, (v) Water Resources Department, (vi) Agriculture Department, (vii)Departments related to Rural Development, (viii) Departments related to Forestry and Wildlife, (ix)Department of Health, (x) Local people and NGOs of the locality, (xi) Experts in the field

Annexure 2. Ecosystem & Biodiversity of Loktak lake

Loktak Lake is rich in biological diversity and plays an important role in the ecological and economic security of the region. Tthe biodiversity found in the Loktak Lake is diversified, inclusive of aquatic and semi-aquatic plants, weeds, insects, avifauna, waterbirds, migratory fish, etc. Loktak and its related wetlands constitute a habitat for a vast variety of biological life forms ranging from the smallest micro-plants to larger vertebrates including human kind. Some aspects of the biodiversity found in the Loktak Lake area are described as below.

Edible insects: A variety of edible aquatic insects are found in Loktak Lake. Whereas, many of these insects are said to be gradually disappearing from their natural habitat due to the process of degradation of the lake's ecosystem by reasons of pollution and eutrophication. Some examples are the *Naosek* (giant water bug *Lethocerus indicus*), *Tharaikokpi* (a genus of beetle *cybister*), *Konjeng-kokphai* (water bug *Diplonychus rusticus*), and *Long-khajing* (common pond skater *Gerris lacustris*), and *Maikhumbi* (a family of mayflies *Baetidae*), etc.

These insects are popularly eaten by the locals as raw, roasted or fried and are regarded as delicacy except in religious feasts as these are regarded as non-vegetarian food. According to a study on diversity of insect fauna in Loktak Lake, there are around 31 edible aquatic insects out of 100 species of insects found in the lake.

Edible aquatic plants: Out of 50 edible aquatic plants recorded from Loktak, 38 species are used as medicine to treat 22 diverse diseases in the traditional system, while 32 species which are economically important are generally sold in the local markets for dietary purposes. Various parts of the plants such as the shoots, aerial parts, rhizomes, roots, corms, flowers, inflorescences, leaves and fruits are consumed. Out of these, 39 percent is consumed quite commonly by the locals to treat different ailments. Thangjing (*Euryale ferox*), Thambal (*Nelumbo nucifera*), Ikaithabi (*Neptunia oleracea*), Paan (*Colocasia esculenta*) and Komprek (*Oenanthe javanica*) are the commonly consumed species. Besides, Pullei (*Alpinia nigra*), Namra (*Amomum aromaticum*), Peruk (*Centalla asiatica*), Kolamni (*Ipomoea aquatica*), Kengoi (*Persicaria posumba*), Yelang (*Polygonum barbatum*), Koukha (*Sagittaria sagittifolia*), Heikak (*Trapa natans*) and Ishing kambong (*Zizania latifolia*) are commonly consumed aquatic plants. Nungsam (*Lemanea australis*), a red algae which is found grown under water, is an expensive plant.

Fish: The International Union for Conservation of Nature (IUCN) has listed 7 fish species from Manipur as 'Endangered' freshwater fish species. These are the Ngakha meingangbi (*Puntius manipurensis*), Ngatup (*Schistura kanjupkhulensis*), Ngatup makhalama (*Schistura minutes*), Ngatup manbanga (*Schistura reticula*), Ching-ngakra (*Pterocryptis barakensis*), Ching-ukabi (*Badis tuivaiei*) and Nung-nga (*Psilorhynchus microphthalamus*).

Though no species was categorised as globally extinct or extinct in the wild, Manipur's state fish Pengba (*Osteobrama belangeri*) was reported to be regionally extinct in the wild as the route of this Myanmar origin minor carp has been disturbed with the construction of Ithai Barrage across Manipur River for the operation of Loktak hydro-electric project which had caused drastic changes in Manipur's aquatic environment forcing many species as vulnerable.

According to Prof. W.Vishwanath of the Manipur University, "Pollution, habitat loss, damming, over-exploitation besides species invasion is the major threats in Manipur. Fishes in Chindwin basin in Manipur particularly Imphal River and its tributaries are so vulnerable unlike the Brahmaputra basin where the species may find similar habitat for their survival".

In Loktak Lake, fishing is a traditional way of life for the local community. Among the Meitei Indigenous People, in every meal you will eat fish, whether in fried, dried, smoked or fresh in the dishes. They have since become an integral process of the lake's ecosystem, existing in sync with the natural processes of the lake. The fishery in Loktak Lake accounted for up to 60% of the total fish produce in the State[72]. Migratory fish species from the Chindwin-Irradawy river system in western Burma contributed about 40% of the capture fishery of the lake. With the commissioning of the Ithai Barrage of the Project, there has been a sharp change in the fish produce and in the traditional fisheries.

Migratory fishes have almost disappeared. The fish yield had declined. The state fishery department had been trying to compensate the loss by introducing exotic fish species. More than one lakh people depend directly on the fish produce of Loktak for their livelihood and sustenance. The changes brought about by the Loktak Project had greatly disturbed the traditional lifestyle as well as reducing the earning capability of the local fishermen.

This has direct implications for the lake too as the traditional restrictions for fishing has been abandoned and rampant fishing without sustainability issue.

72 Loktak. Newsletter of Loktak Development Authority. Vol. March 2003-Vol.3.

Annexure 3: Letter of Memorandum from West Seti District Concerned Committee of Bajhang to the Chief District Officer

31 August 2008

To

The Chief District Officer
District Administrative Office
Chainpur, Bhajang

We would like to inform the Government of Nepal about the disapproval of the local people over the agreement done by the Government of Nepal (GoN) and an Australian Company 'SMEC' without local peoples participation, free prior and informed consent and not providing any information to them and neglecting its effect on the local people home, land, community and public forest, temples, school, cattle field, quay, crimination site, health center, police station, post office, roads, mineral sources, herbs and its effect on the personal property, animals and birds which will be displaced in the Rayal, Sunkuda, Dangaji, Kot Bhairav, Parakatne, Koiralakot VDCs of Bhajang District which will be completely effected by the West Seti Hydropower project and its water reservoir.

Following are the main reason related with this disapproval:

Local people are not informed and their consent is not taken before the commencement of the West-Seti Hydro electric project.

1) The MoU signed between GoN and SMEC was not made public among the local people.
2) Various activities are taken by SMEC unilaterally without the participation and consent of the locals.
3) Collecting signature of locals in the blank paper by misleading them and submitting to the related place by making favorable decision for project.
4) Preparation of false fabricated and imagined Environmental Assessment Report (EIA Report).
5) Locals were completely neglected from their rights to Information.
6) Demand letter and suggestions submitted to the SMEC and GoN by the local people were repeatedly ignored by referring it saying impossible and impractical.
7) Instead of organizing the Seminar and interaction program regarding the West-Seti Hydro project in the project site most of them are conducted in Kathmandu, Nepalgunj and Dhangadi area.

In near future if West-Seti has to be constructed in favour of Nation and people of Nepal then:

1. The pre consumption rights of local people on water must be fixe
2. All the decision regarding the West Seti Hydro project should be made transparent.
3. Participation of local people and concern committee should be made compulsory on any construction work carry out by the project.
4. All the agreement done between the GoN and SMEC must be translated in easy Nepali and should be made public in the local area.
5. All the appointment of employee made by the project must be dissolve immediately and the entire employee must be appointed by the approval of local or affected people of the region.
6. Project must be implemented by the participation and approval of local people.
7. The right regarding the local resources and means and the assessment of compensation for their property must remain with the local people.
8. A different compensation should be made for the landless, Dalit (so called untouchable) oppressed and vulnerable people.
9. A share of minimum NRs 2,00,000 should be invest in the project in the name of the displaced family who will be resettle afterward.
10. The royalty which the country received should be increase to 20 percent from 10 percent which look very less in compression to the profit of 102 percent which will be earned from theWest-Seti hydro project.
11. Out of the total profit received by the country 50 percent of it must be given to the affected area for the development of the affected region and to develop the economy of the region.
12. Out of the total electricity generated by the West-Seti project 20 percent (120 MW) should be made available for the Far- Western Region.
13. SMEC has mentioned that only area which falls in the 100 meter from the base of water reservoir as an affected area. Due to the hilly precipitous region and soft land mass the region which falls within 500 meters must be determined as the affected region.

We request all concerned bodies not to implement West Seta project till all the demands mention above are fulfilled.

West Seti District Concerned Committee of Bajhang

unofficial translation