THE BIRDS HAVE LOST THEIR WAY

Essays on Hydropower and Climate Change issues of Sikkim

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About the Book

The eight essays featured in this book were first published as part of the "Spotlight" series in Gangtok-based English daily, SummitTimes, in April-May 2018. The series was an attempt to highlight issues surrounding hydel projects and climate change in and around Sikkim.

While 'environment' is often part of discussions in Sikkim at various levels, deeper investigations into what is happening on ground remain sparse. The series, therefore, hoped to draw attention towards the need for such enquiries and to underline their importance in understanding the impact of climate change and the environmental concerns of developing hydropower projects. The essays cover the beginnings of hydropower generation in Sikkim to climate change impacts on ground, stories we hope can add to and explain the already existing knowledge on these subjects.

The idea for the series leading up to the book was born out of a workshop, "Enhancing media landscapes for sustainability and justice in the Eastern Himalaya," hosted in Darjeeling on 27 and 28 April 2017 by DLR-Prerna under the CoCooN Project under Dr. Deepa Joshi.

The workshop, it was explained, sought to serve as an interface between media houses and environmental activists, environmental journalists, academia and civil society to strengthen bridges between the various players to enable capacities for critical environmental journalism in the Eastern Himalaya.

The workshop was invigorating in the diversity that the organizers had brought together, and it was from those discussions that the possibility of putting together a newspaper series focused on the hydel story of the region and climate change became not just an exciting, but also a real possibility.

The spontaneity with which Dr Joshi received the idea and the easy profes-

sionalism with which Roshan Rai of DLR-Prerna facilitated the project have made this series possible. Thank you.

It is no secret that journalism in the region is not as hamstrung by professionalism as it is by the pressure of deadlines and the myriad stories that individual journalists need to cover, not leaving enough time or energy to invest in stories that need more work or be lavished with the indulgence of a travel budget and time. Support from all the organizations credited in earlier pages for backing this project made this journey possible. That said, the inadequacies you might notice are all on us.

The idea behind the series was simple – collating stories which most must already be familiar with, but which have not been adequately compressed into a series to give it some context and put things in perspective. These are mostly stories that have been covered in newspapers before, but mostly as incidents which occurred, receiving a daylong shelf-life before other headlines occupied the newsprint. We hoped that drawing these stories together into individual essays and compiled into a series format and now also a book, would highlight the voices that have spoken often about these issues and record them better for posterity. Admittedly, we have been only partially successful in this endeavour but draw solace from the fact that a start has been made.

We are also grateful to all the people who have given us these stories, indulging us with their time and opinions to provide that nuance and felt-realities that made the process of putting these essays together such a rewarding experience.

Thanks are also due to the Publisher of SummitTimes, Dr Roma Kanti Alley, and Editor Puran Tamang for providing the space in their newspaper for these essays and believing that these were important stories to share. These are not indulgences which too many journalists enjoy nowadays.

It is expected for this section to also introduce the essays, but we remain convinced that these are important pieces, all of which should be read, hence will dispense with the formality of introducing them here. Do read them. Mull over them. Wonderful if you appreciate them, and if you disagree or dislike, do send in your feedback so that we factor those in as well when we return to the stories.

Tshering Eden Pema Wangchuk

Gangtok - Sikkim

Teestamukh, Chilmari, Bangladesh

A Tryst With the Teesta

GAURI NOOLKAR-OAK

Our speedboat whirs to a stop on the brown waves of the mighty Brahmaputra in the northern extremities of Bangladesh. Lalbhai and Atahur stand up and point to a strip of greyish-blue water lapping between two char islands under the canopy of a bright, blue sky.

"Teestamukh!" Lalbhai exclaims. "But there's no water."
"What are you saying, Lalbhai?" I ask confused.
"There is so much water!"

In response, Atahur pulls out of nowhere, a bamboo pole, about

Lincolnbhai's Museum, Kurigram, Bangladesh.

A drying Teesta in Bangladesh.

10 feet long, and dips it into the water. When he pulls it out, barely two or three feet of it is wet.

The water is indeed very shallow.

There is no water in the Teesta – how many times must I have heard those words in the past few days! The lack of a sharing agreement over the Teesta between India and Bangladesh is pricking our bilateral relations, while the river herself is on the verge of extinction.

Lalbhai is hosting me at his haveli-like house in Kurigram in the Rangpur province of northern Bangladesh. His brother, Lincolnbhai, is the Public Prosecutor of Kurigram and a history enthusiast who has turned the haveli into a museum preserving North Bangladesh's history and culture.

The 'North Bengal Museum', or Lincolnbhai's Museum as I call it, hosts a collection of photographs, notes, letters, news clippings and artefacts from the Liberation Movement and the War of 1971. A few articles predate the struggle.

Lincolnbhai has travelled all over North Bengal and interviewed hundreds of freedom fighters, students, farmers, and villagers who trusted him with their stories and artefacts, which he now preserves in his museum. Till date, more than 5,000 people have visited the place. Lincolnbhai welcomes them all and doesn't charge any fees.

I notice a few Indians in some pictures.

"Indians too played a huge role in our culture and history," he says gravely. "That is why the name of the museum is North Bengal, not North Bangladesh. Bengal is on both sides of the border, and our history and culture is also on both sides of the border. Indian Bengalis have contributed here too."

I tell him about my day at Teestamukh.

"Yes, there is no water in the Teesta," he says apologetically.

"It is sad because the river was once the protector of our Liberation forces. In her heyday, an unshackled Teesta was a monster. Crossing the Teesta was no child's play, and for the Pakistani soldiers who came from a drier land, the ordeal of crossing the Teesta, Brahmaputra, Dharala rivers was very real. In 1971, when they tried to

Upstream side of the Dalia Barrage, Bangladesh.

capture the airport and railway junction at Lalmonirhat, they were resisted by the locals, as well as the river, which delayed their conquest by eight days. They managed eventually, but the river slowed their progress. Our rivers have always been our natural protectors," he finishes with a smile.

The next day, I begin my travel upstream the Teesta.

A team from Solidarity, Lalbhai's NGO, takes me to Khitab Khan, a riparian village of the Teesta. We are greeted with an uproar and the villagers quickly huddle up around us.

Then, the stories start coming. The Teesta is hard on Khitab Khan; agriculture, fisheries and navigation suffer due to extreme variability in Teesta's flow throughout the year. This leaves the villagers, most of them farmers doubling up as fishermen post monsoons, with very few avenues for livelihood. Young men end up migrating to Dhaka and Chittagong for work. The elderly folk narrate stories of displace-

ment from their homes, twice or even thrice in their lifetimes. Poverty and scarcity, I speculate, must have set the stage for economic conflicts within the community, but I am touched by their response.

"Food and water scarcity are routine, but whatever is available is shared among all. We do not compete; we share everything, including the losses."

In that moment, I remember everything I have ever read about water cooperation. 'Deficit sharing' is a cornerstone of effective transboundary water cooperation, and the last place I expect to stumble across it in such a natural, casual manner, is a poor Bangladeshi village ravaged by droughts and floods on the banks of the Teesta.

We proceed to the town of Ulipur for a meeting at the Press Club. As we gather around a round table of journalists and activists, a bespectacled man in a crisp Safari suit tells me about a movement to revive the Buri Teesta, a distributary of the Teesta. After the collapse of one of its sluice gates thirty years ago, the river has been silting rapidly, harming fisheries, navigation and agriculture in the area. It is almost a dead river now, and the residents of Ulipur have come out on the street demanding that their government restore the river's flow immediately.

I ask whether the issue has cropped up because India holds back Teesta's waters.

There is an abrupt silence.

"That is a government problem," someone mutters.

"How will your government revive Buri Teesta's flow if India doesn't release Teesta's waters?" I persist.

The table erupts with spirited chatter – I gather that even when India releases an optimum amount of water in the Teesta, the locals hardly benefit. The Bangladeshi government needs to improve domestic water management as well.

Our discussion then veers towards spirituality of the river. Sufism, they beam with pride, spread in Bangladesh through the Teesta. They tell me wistfully that the Ashtami Snaan and Durga Visarjan, important religious rituals for the Hindus, have been badly affected due to reduction in Teesta's flow. As the conversation flows, I am struck

by their emotional involvement in the Teesta's entity as a godly spirit rather than an economic resource. While I am all too familiar with South Asia relegating deityhood to its rivers, experiencing the rawness of this faith first hand takes me aback.

The next day is the final stretch, right up to the border.

As a farewell party, the members of Solidarity arrange a lovely program of Bollywood film songs and Rabindrosangeet for me. I join them in singing all the Hindi numbers, and then sit back and listen to Rabindrosangeet with fascination. I am touched when they all rise and sing 'Jana Gana Mana' – it is another rendition of the affection I have seen among common Bangladeshis for India over the last few days.

I leave with the Solidarity team, and we ride along the Teesta on motorbikes. Lush green fields and meadows adorn our route and white, sandy silt which looks like Rangoli powder laces both sides of the road. Occasionally, we discover a pond or two amidst bamboo groves and banana plantations. Small, picturesque settlements pop up intermittently. The river itself is dry in patches but carries unmistakeable signs of lost beauty. Fields of rice, jute and then maize stretch out as far as the eye can see; I find it hard to believe that this is a drought-prone area. Later, I find out that this region receives more than double the amount of rainfall in the parched areas of Maharashtra, but droughts still occur because of very high variability in the annual distribution of rainfall. Further, my companions tell me, there is a lack of water storage facilities, rainwater harvesting is not all that prevalent, and groundwater is exploited to unsustainable levels.

We ride through Lalmonirhat and Hatibandha and reach the Dalia barrage. Built in the early 1990s, the Dalia barrage is part of the Teesta Barrage Project, meant to provide irrigation to agriculture in northern Bangladesh. However, the Gajaldoba Barrage, built upstream in West Bengal, India, holds back Teesta's waters, rendering the Dalia useless. Sure enough, we can see that the Dalia barrage is quite dry both upstream and downstream, except a right-bank canal which flows with abundant, emerald-green water.

The Teesta near Jalpaiguri, West Bengal, India.

"How does this canal have so much water if the rest of the river is drying up?" I ask, surprised.

"Whatever water flows down," my companions explain, "is diverted here. This canal irrigates crops in Dinajpur district in western Bangladesh."

We reach Patgram where we put up for the night before I cross the border into India next morning. At the first crack of dawn, I am up and ready; we get back on our bikes and ride straight to Burimari checkpoint. Immigration cleared, I sprint across no man's land to Chengrabandha, India. Just as I spot the tricolour, I wave back gratefully to my companions for their support, literally up to the last inch of Bangladesh.

Oh, the feeling! I happily zip through immigration; it is brisk, everyone speaks Hindi, and there is a feeling of familiarity which instantly embraces me. I board a bus to Mainaguri. My environs now are

Upstream side of the Gajaldoba Barrage, West Bengal.

completely different: there is more traffic, a few advertisement boards in English dot the road, and the first tea plantations come into view. My first stop is the home of Dinesh Roy, from whom I learn that the tribal people of northern West Bengal such as the Mechhis and Rajbanshis attach great cultural significance to the Teesta. For them, she is ancient (an old woman, or "Buri" Teesta), a nurturer and a tyrant. They worship her through many rituals, but few are as elaborate as a song-and-dance routine carried out by the Mechhi folk.

That evening, I head off to Jalpaiguri. The next morning, I visit the Jalpesh temple, for that very day, it is hosting the Mecchi folk dance festival. On the way, I cross over the Teesta. There is hardly any water, and the wide river bed is pockmarked with transmission towers and sand mining equipment. I sigh; things don't seem to be great on this side of the border either.

Downstream side of the Gajaldoba Barrage, West Bengal.

The Jalpesh Temple is pretty simple – white domes with minimal design. A huge crowd has gathered to see the performances, but I find a good place among the bystanders. The dances begin. Sprightly women, wearing red-and-white sarees, elaborate makeup and ghungroos (curiously, on just one ankle) enter with jars of Teesta water and tastefully decorated umbrellas. Each dance ritual begins with placing the jar i.e. a symbolic Teesta before the audience and covering it with the umbrella. All dancers are exclusively female, and while they sing in chorus and dance, the only instruments accompanying them are a drum and their ghungroos. I watch, enchanted. Their simple and graceful steps and their kohl-lined eyes portray a kind of beauty I have never seen before.

My next destination that afternoon is Gajaldoba, the infamous barrage central to the Teesta sharing dispute between India and

The Mechhi dance ritual at Jalpesh Temple, Jalpaiguri, West Bengal.

Jalpesh Temple, Jalpaiguri, West Bengal

Bangladesh. It is exactly like I heard and imagined it to be. Upstream, there is a large expanse of water, as far as anyone could see. Downstream, the situation is drastically different: the river is mostly dry and where it flows, it does so weakly. There are two canals leading out of the Gajaldoba; the left-bank canal is dry to the bone while the east bank canal is gushing with abundant water.

Why so? I ask a young, urban boy visiting the barrage. He shrugs.

"Maybe they use groundwater in the east," he ventures. "Siliguri, which is to the west, definitely gets water from here, so that's why this canal must be full. It takes water to the Mahananda river as well."

I think of the passionate discourses on water diversion from Teesta to Mahananda in Bangladesh, and here is inter-basin water transfer, right in front of my eyes.

Next morning, I am off to Siliguri to meet Raj Basu who has filmed a documentary on the Teesta. He gives me the most fasci-

nating cultural and historical perspective of the Teesta River. There is so much I don't know! I repeatedly ask Rajda for books and other literary references, but he shakes his head.

"There are a few," he says, "but the rest – and there is a lot of it – is embedded in culture. You have to live it to know it."

Overwhelmed, I can't stop picturing the magnanimity of Teesta's existence. From being secondary to another river – Karatoya – to becoming the lifeline of about 30 million people today; from being a host to many Tantrapeeths and Tantric Buddhism, to connecting Bengal to the Silk Route; from being home to great Sufi musicians and social leaders to defining the eastern frontier of the Mughal empire – the Teesta holds in her arms a million stories to be discovered and retold. The scope of Teesta's civilisation is huge and well beyond my thirty-day pilgrimage and year-long research.

It is rainy in Siliguri, but when the sun comes out the next day, I go up to Sevoke. The bus drops me at the freshly painted Coronation Bridge. Far below, the Teesta has transformed completely; it is no more a parched river bed but flows fresh, with a greenish tinge and vibrancy that I had not experienced downstream.

On one side of the bridge, the river descends from the hills. On the other, she hits the plains and spreads out. The British, I am told, built this bridge in an arch without constructing any pillars in the river bed because the water current was simply too strong to allow any construction activity.

The Coronation Bridge is indeed one of the most geopolitically significant points for India. Situated in the 'Chicken's Neck' with proximity to four countries – Nepal, China, Bangladesh and Bhutan – it (along with the Teesta Railway bridge) connects the North East to the rest of India. The Teesta's course actually cuts the North East separate from the rest of the country; to move from one part to another without leaving Indian territory, traversing the Teesta is mandatory. The enormity of the thought sends a slight shiver down my spine.

Upstream of Sevoke, the landscape changes dramatically; lush green, towering mountains vying for the skies hide the horizon. I reach Kalimpong, the beautiful but less noticed sister of the glam-

orous Darjeeling. I decide to play tourist in Kalimpong and the first thing I do is go down to Melli for river rafting. It is quite an experience; the Teesta is bluish green, swirling and rushing, throwing up white waves and spray in the air. The water is icy cold and instantly refreshing. As we bob on gentler waves, I put my cupped hands into the river and drink a little of what I can gather- it is cold, sweet, delicious! Later in the day, I check out gardens, monasteries, and temples, but what really stays with me is the cool, refreshing touch of the Teesta on my bare skin. Contrary to everyone's advice, I do not wash it off; I want a bit of Teesta on me forever.

From Kalimpong, I board a bus to Singtam; there are no seats, but the driver happily arranges a few cushions for me next to him. Once we leave Kalimpong, the Teesta joins us and is a very consistent companion throughout the journey. Trees, houses and sudden turns make us lose sight of her, but she keeps flowing and comes back to greet us every time. Occasionally, the path clears, and we see her far ahead, meandering down rapidly amidst green mountains stacked alternatively against each other, forming a steep and gorgeous valley.

At the confluence of the Rangeet and Teesta, the driver tells me, "Rangeet is the boy and Teesta is the girl. They are in love, and they meet here." I smile at his imagination, only to discover that this is a popular folklore in the hills.

From Singtam, I catch a jeep to Mangan. Once we leave Singtam behind, the Teesta begins to disappear from view. I know she is still flowing down there and going by the signboards of the NHPC, I also know she is dammed, but our route has hardly any view of the river or her dams. It is finally at Dikchu that I get a clear view of the river flowing abundantly, which, I later learn, was because the Teesta V dam had just released water. By now, I am aware of the dam-building spree and the local resistance to it in Sikkim. Intrigued, I try hard to get more first-hand perspectives, but I am short on time, and have to wait all the way till I get home to learn in detail about the entire situation.

It is late afternoon by the time we reach Mangan, and I head straight for Joe Sir's homestay. That evening, Joe Sir and I discuss

the logistics of my Tso Lhamo trip over some delicate Sikkimese tea. I am disheartened to find out that the final leg of my trip, from Lachen to Tso Lhamo, is going to be quite expensive. I have very little cash, and the few ATMs in Mangan are under risk from the global WannaCry ransomware attack.

With a sinking feeling, I wonder what to do, when Joe Sir offers to help.

"How much is convenient for you?" I ask falteringly.

"How much do you need?" he counter questions me calmly. "Ten thousand?"

My eyes as big as saucers, I nod meekly.

It is extraordinary that he is ready to trust me with such a large amount of money with such little acquaintance and simply my word that I would return it when I am back. I am amazed at his faith and conviction and thank him profusely. Joe Sir simply smiles.

"We were an independent country till 1975," he says a while later in a thoughtful manner, "and the sentiment is still there. But that generation is fading away. Once they are gone… well, all of us, the youngsters, my daughter, we are Indians."

He speaks about his community, the Lepchas, quite briefly, but with fondness and a tinge of melancholy. "There was an influx of different communities in Sikkim. We are outnumbered in our own land and stay in protected areas. Our culture is fading." We then talk about my fellowship and the need for transboundary co-operation over Teesta's waters before I turn in.

I wake up early and even catch the sunrise on Kangchenjunga peak. With a permit to visit Tso Lhamo lake and the cash which Joe Sir hands over to me on his own accord, I board the only jeep to Lachen.

The road to Lachen is dangerously narrow at many places, and each time a vehicle swerves ahead of us, my heart skips a beat. I have always dreaded the vulnerability of travelling in the mountains, and the Himalayas for me are the ultimate reminder of the fragility of human life: they can take it, but they have also been sustaining it

through their silt and water, for millennia. In them I see a divinity which I am yet to see in any place of worship.

At Chungthang, I spot turquoise blue waters held back in the reservoir of the Teesta III HEP and am confused; I remember reading that it is a run-of-the-river scheme with no storage, but what I see here is different. I find out later that Sikkim's dams, in fact, do hold back a lot of Teesta's water in order to generate electricity at peak times, and have a strong and cascading impact on the environment and society of not only Sikkim but the entire Teesta basin.

The hotel in Lachen is dark and empty. I shiver with cold and feel terribly lonely, but I can scarcely believe I made it this far. Just one last leg, I tell myself. My spirits high, I set out for Tso Lhamo in the freezing and dark hours of dawn with no winter gear except a coat. The taxi driver is Tibetan by origin and talks about Buddhism, tourism and the Teesta. Like other locals, he isn't much impressed by the hydroelectric projects, and he laughs when I ask if they drink Teesta's water.

"Oh no, the Teesta is dirty," he points at the cheerful stream which still looks very clean to me. "We drink water from the springs which flow down from the mountains around Lachen."

As we climb higher, the verdant landscape disappears. We are now in the cold desert, on the fringe of the Tibetan plateau. The Teesta is reduced to a small trickle and the earth is draped in pure white snow. It feels surreal.

The driver is surprised; he tells me that this region does not usually see so much snow at this time of the year as it is a cold desert with "just soil and pebbles all over the place". I am lost in the enchanting surroundings when he stops abruptly and points to a greyish-blue patch on the other side of the road.

"Tso Lhamo!" he exclaims. "It's snowing though, so we need to move fast."

I am dumbstruck. I get out of the taxi and walk up to the edge of the road, towards the greyish-blue lake surrounded by snow. Obliv-

ious to the biting cold, my mind goes back to Teestamukh, a greyish-blue patch of water flanked by two silvery white char islands. How different the two are, and how similar!

In that moment, from Teestamukh to Tso Lhamo, I sense an intricate web of space and time; the changing geography of the Teesta enmeshed with the journey of her life. Her course in Sikkim is her childhood, her youth lies in northern West Bengal, and she is at a ripe, old age in northern Bangladesh. In that moment, she is neither an economic resource nor a political issue, but a deity and mother of numerous civilisations, a stunning proof that a divine power exists. In that realisation, I find indescribable solace. I kneel down, close my eyes and pray.

(All photographs accompanying this essay by the author)

Tso Lhamu, North Sikkim

Sikkim's Hydel Story

The journey from 50KW in 1927, 30MW in 1994, to 2,200 MWs in 2018

PEMA WANGCHUK DORJEE

The first hydropower project commissioned in Sikkim was a micro-hydel on Rani Khola below Gangtok in 1927. This one had an installed capacity of a mere 50 KW and later, even the first hydel of any real consequence was a small hydro venture in the year 1965 - the 2 MW Jali Power House on Sang Khola, around 30 KMs away from the capital, Gangtok, along the national highway. The most recent hydel project to begin generation in Sikkim is in the mega-hydel category – the 1,200 MW Teesta Stage III, built high in the North district at Chungthang and commissioned in the year 2017.

Much has changed in the hydel scenario in Sikkim in the 53 years between the two events (or 90 years if the 1927 project is counted as the take-off point instead). Even as late as 1978, Sikkim generated only 3 MWs from three hydel projects. It now feeds around 2,200 MW into the power grid and has around 19 projects in various stages of exploration and completion.

While big hydel in India was more about "development", industry and the march of science, in Sikkim, it is apparent that it was a luxury, almost an indulgence in the initial years, not as much linked to the economy as it was to flaunt an acquisition and service an elite sliver of the society. In fact, in the early years, Sikkim did not even feel it necessary to have a Power Department and the small hydels were kept under the charge of the Public Works Department here.

And that sentiment is how things continued right until the 2000's when hydel was served up as an economic deliverer of use for much more than electrifying every home in the State.

But it is not as if Sikkim did not flirt with the idea of establishing big hydel even before it merged with India in 1975.

Sikkim has lived with the ferocity of the Teesta ever since people have lived here. Stories of its floods and potential for damage pepper its myths and living memory. The river is ferocious when on a free run in Sikkim, gathering strength and megawatts of energy as it cascades from a high of around 5,200 mtrs where it is born to 300 mtrs,

the height at which it exits Sikkim, a mere 175 kms downstream.

Recognition of this hydel potential is however a rather recent discovery. That said, initial reconnaissance by the Central Water Commission in 1974 only reaffirmed what technocrats and even lay observers had noticed much earlier.

In his book, "The Life and Times of a Plantsman in the Sikkim Himalayas," respected forester and a former Chief Secretary to the Government of Sikkim, KC Pradhan, shares that the Forest Department "encountered" Teesta's stretch between Chungthang and Mangan from 1955 to1976 when timber scantlings and logs were floated down from Lachung in North Sikkim to Bardang near Rangpo in East Sikkim. The river, he recalls, was so "torrential" in the Chungthang-Mangan stretch that they would lose most of the timber in the huge whirlpool below Singhik (near Mangan in North Sikkim).

Elsewhere in the book, he also mentions how harnessing the Teesta for hydroelectricity was a "cherished dream" of the King of Sikkim who had his eyes on the same stretch of the Teesta.

This idea was, however, not explored in any earnest, probably because either the technology was not available, the logistics too challenging or the finances required too astronomical. Ironically, this is still a pending project. The Teesta Stage IV hydel project is proposed on the same site as the one which had so excited Sikkim's officers with its potential decades ago and where so much of its timber floated from the coniferous forests up north had been lost. While Teesta Stage III upstream and the Teesta Stage V a few kilometres downstream have been commissioned, Stage IV remains in animated suspension, held back by disagreement between the affected landowners and a clear disinterest in the State Government to invest the proactive engagement with which other hydel projects have been facilitated.

But we get ahead of the story here.

That the mountain rivers held tremendous hydel potential was always known, and Teesta's promise for hydroelectric development was officially endorsed for the first time by a team of experts from

the erstwhile Central Water & Power Commission following a preliminary reconnaissance survey in 1974. They believed that the river could be harnessed under a "cascade development" format and pegged the river's hydroelectric potential at 3,735 MW.

This was also the report which first proposed the cascade development approach of power generation in six stages on the Teesta, spanning nearly the entire course of the river in Sikkim. Four of these "stages" have been explored and two have since been commissioned. The remaining little over 4,000 MW potential of Sikkim were scoped on the State's other rivers and streams.

But, for whatever reason, the policy-makers in Delhi never really bothered with exploiting this potential at the time, and projects in the hills were mostly small and micro, commissioned essentially to meet local needs. Since the hill states also lacked any substantial industries, the local demand was low and the projects remained small, often times not even enough to service the domestic requirements. "Load-shedding" was a common occurrence in Sikkim in the 1990's even though its peak domestic demand could not have been any more than 30 MWs at the time. From here, one could veer off on a whole rant about how the Centre prioritises policy interventions for the margins, but we leave that for some other time. That said, as of 2015-16, as per the Sikkim State Electricity Regulatory Commission, the total connected load in Sikkim had marched ahead to around 130 MW, a substantial increase, but still way lower than what the State is now generating.

Earlier, Sikkim would meet its electricity requirements from the Chukha Hydel Project in Bhutan, Farakka Super Thermal Power Station in West Bengal, and Raman and Rangit Hydel Projects in West Sikkim. This supply used to be drawn through the West Bengal transmission system which was in rather poor condition and resulted in additional interruptions and frequent tripping.

Meanwhile, real interest in the resource coursing through Himalayan streams was piqued in the late 1990's when the country woke up to the mismatch between the demands of "development" and the energy required to power the aspired-for growth rate. Increasing

dependence on fossil fuel-based generation of electricity and the expanding gap between coal and hydel raised further concern. The policy makers were also convinced that the existing public sector undertakings would not be able to meet the targets and a major policy switch was promulgated.

A lot of factors came together in the 1990's leading to a major change in how the country proposed to generate electricity and meet its energy requirements. The economic liberalization effected at the time, apart from many other things, raised GDP growth rates in priority and the industrialization that it was to piggy-back on required copious supplies of energy, power which the country realized it was not generating enough of.

Once India emerged from its closed economy regime, it quickly accepted that to remain globally competitive, it would need reliable energy supply with electricity a necessary component to meet the requirement.

When the policy-makers looked around, they also noticed that the dependence on coal and fossil-fuels had grown to unsustainable levels even as the hydel resource had remained largely untapped.

Conventional energy sources in the country relied unhealthily on coal-fired thermal plants. Government records reveal that the ideal hydro-thermal ratio of 40:60 had been achieved in the 1960's, from then onwards, energy production became increasingly coal-dependent arriving at a 26:65 ratio in favour of coal in the 1990's. This dependence on non-renewable resources, and studies which revealed that 77% of the untapped hydropower potential was located in rivers in the North and Northeast regions, both of which lacked any big-ticket industries or investment in infrastructure, were underlined by consultants and experts to recommend policy changes to allow for quicker processing of hydel projects.

Apart from claiming minimal environmental impact, it was also increasingly argued that hydel generation was best suited to service the unique nature of power consumption in the country which oscillated dramatically between peak and low demands. Hydel projects could be allowed to stay idle during low demand hours, it was point-

Teesta, as it struggles out of the Stage-III HEP at Chungthang in North Sikkim

ed out, and since reservoirs allowed for them to generate electricity literally at a moment's notice (as against what must be tedious processes of firing up thermal plants), experts projected it as a "desirable asset in any power system".

The ease with which hydropower plants can be brought on stream for higher generation and backed down during off-peak periods, makes hydropower an important tool for electricity system balancing, it was explained repeatedly in vision documents and policy briefs.

The Government of India's Mega Power Policy of 1995 took heed and sought to correct this situation by opening hydropower projects to private sector development. This sector had thus far been the sole domain of public sector and governmental undertakings.

The planners in Delhi were clearly working on hydel prospects. The Central Electricity Authority in its 2001 preliminary ranking study of the hydroelectric potential of river basins in India, identified 21 large projects in Sikkim to generate 3193 MW. Following this study, the Prime Minister's 50,000 MW hydropower initiative was launched in 2003 and pre-feasibility reports for 10 projects were prepared in Sikkim.

Even the Sikkim Human Development Report published in 2001 underlined that (at that time in 2001), Sikkim had installed only 0.2% (31MW) of its potential for 8000 MW. The Report had recommended that Sikkim take up "larger hydel power stations in the Teesta basin through Independent Power Producers (IPPs)" and undertake "efficient management of the Teesta river system together with evacuation and marketing of energy from all the stages of Teesta cascade".

Meanwhile, the Mega Power Policy, apart from extending a 10-year tax exemption and import duty exemption also undertook for the government to obtain land and secure the required environmental clearances to interest private sector participation. This policy has since been further tweaked to reduce the MW production levels so that more projects could get classified as mega-projects and partake in the attendant benefits.

Perhaps of as much significance was the fact that no real experi-

ence in the field was required before venturing on hydel project development since private players had not been allowed into this field till then. Further, the introduction of the Special Purpose Vehicle mode, by which new and exclusive to the project companies could be floated for project execution provided extra cushioning for consortiums to come together and spread the risk and liabilities.

This policy arrived in Sikkim along with the North East and other Himalayan states in the year 2006 with amendments which made the entry of private players even easier and relaxed the procedures further. To get a sense of how big hydel had still not caught Sikkim's attention in any seriousness one needs to look at the ruling Sikkim Democratic Front's manifesto for the 2004 Assembly Elections. In the section devoted to infrastructure, the manifesto, even though it identifies increased power generation among its bigger plans, speaks only about a series of mini and micro hydel projects.

The amendments to the Mega Power Policy in 2006 changed all that, and with it, the floodgates literally opened for hydel project exploration and a string of MoUs were signed and Letters of Intent were issued. Keeping rather quick pace, 24 letters of intent were issued to private and public sector undertakings for hydel project development by the Government of Sikkim within around a year of this policy arriving here.

These projects boasted a combined installed capacity of 4,694 MW and were originally scheduled for completion within the 11th Five Year Plan (2007-12). For a variety of reasons, these deadlines were not met, and while a few of the projects have been commissioned, some have since been scrapped, some have changed hands between developers and some others delayed.

Of these 24 projects explored for PPP development in the mid-2000's, five have been commissioned in the recent years – the 110 MW Chujachen HEP, 96 MW Jorethang Loop HEP, 96 MW Dikchu HEP, 97 MW Tashiding HEP and the 1200 MW Teesta Stage III HEP. These projects and those which had been commissioned before private players arrived in the scene, have Sikkim generating 2206.70 MW as of March 2018.

On the revenue front, against the Rs 3.87 cr that Sikkim earned from sale of power in 1994, in the financial year 2016-17, it raked in Rs 169 cr. This amount, even though a substantial jump from where it had started, still pales in comparison to the Rs 1,337.29 crores projected by way of hydel revenue in 2012 by the "White Paper on the Development of Hydropower Resources of Sikkim" published in the year 2009. The fact that not all projects in the pipeline at the time have been completed, and some not even initiated, has resulted in this mismatch. Be that as it may, this exaggerated faith in the promise of hydel also explains the complications and unforeseen costs (both material and intangible) that have punctuated Sikkim's hydel story.

Following the introduction of the Mega Power Policy in 1995, the first big project undertaken in Sikkim was the 510 MW Teesta Stage V hydel project at Dikchu on the border of East and North districts. This was taken up by the NHPC (private players had still not arrived at the time) and has since been commissioned.

It was also with this project that Teesta's "potential" for hydel was reinforced, ironically, through a study mandated by the Union Ministry of Environment & Forests while giving environmental clearance to Teesta Stage V. The environmental clearance in May 1999 came with the stipulation that "no other project in Sikkim will be considered for environmental clearance till the Carrying Capacity Study (of the Teesta Basin) is completed". This study was eventually carried out by Centre for Inter-disciplinary Studies of Mountain & Hill Environment (CISMHE) and was funded by NHPC.

The study started in 2001, and the report came out in 2007. The formality completed, and in quick follow-up, private players were ushered in quick speed. In pursuit of achieving "total targeted capacity" of 5,000 MW by the year 2015, the Energy & Power Department/ Sikkim Power Development Corporation Ltd had, by 2015, allotted 25 hydroelectric power projects with a total installed capacity of 5,284 MW to various IPPs.

The CISHME report on the carrying capacity of the Teesta Basin, while it flagged concerns ranging from environmental to socio-cul-

tural impacts, also recorded that "water availability studies show that there is adequate water in the Teesta river system to take care of the proposed developmental activity particularly the hydro-power generation."

Earlier, the total hydro-power potential of Sikkim as assessed by the Central Water Commission was at around 8,000 MW, out of which around 2,000 MW is in the micro, mini and small hydro categories. Remaining 6,000 MW would fall either in the small or mega size hydro scheme. This, as per the Energy & Power Sector Vision of the Government of Sikkim released in 2015.

It is clear then that there is more than one estimate on Sikkim's hydel potential even though the 8000 MW figure is the most referred number. At the time of writing this, the State was generating 2,206.70 MW, still a long way short of the projected potential or even halfway to the 5,284 MW worth of hydel projects it has awarded to developers. There are hydel projects in Sikkim still in the process of excavating and tunneling and some which have not yet begun on ground and others which appear intractably stalled.

Sikkim's hydel story continues.

ACTIVIST SPEAK

Not anti-dam, but pro-people and pro-environment

TSHERING EDEN

The first protest against hydel projects in Sikkim was launched in 1995 when Sonam Paljor Denzongpa sat on a hunger strike for 28 days demanding the scrapping of the Rathong Chu hydel project in West Sikkim. Twelve years later, Dawa Lepcha along with Tenzing Lepcha sat on a 63-day hunger strike also demanding the scrapping of hydel projects, but this time in North Sikkim. Around the same time in Assam, KK Chatradhara was also involved in protests against the Lower Subansiri hydel project, the largest project in the country.

SummitTimes spoke to the three activists, posing them the same set of questions in trying to get an understanding of what convinced them to risk so much for causes which, despite the universal impact, attract the passions of so few. Their activism and their sacrifices are well documented, here we try and delve into their convictions, faith and drive.

KK 'Bhai' CHATRADHARA

Located on the Assam-Arunachal Pradesh border, the Lower Subansiri Hydro-Electric Power Project is the largest hydel power project being constructed in the country. Described as a run-of-the-river project by the project developers, NHPC Limited, the project is expected to supply 2,000 MW of power when completed. The size of the project raised deep concerns among people living in both the states and since 2011, has remained stalled following protests from various groups like People's Movement for Subansiri and Bramhmaputra Valley, All Assam Students' Union (AASU), Asom Jatiyatabai Yuva-Chhatra Parishad (AJYCP) and others. KK Chatradhara, based in Gogamukh in Assam's Dhemaji district, has been part of the People's Movement for Subansiri and Bramhmaputra Valley for the past 12 years. He grew up on the banks of the river and shares a deep connect with the Subansiri.

SONAM P DENZONGPA

In May 1995, the Concerned Citizens of Sikkim (CCS) was formed to protest against the Rathong Chu hydroelectric project. It was the first such protest against hydel projects in the State. Sonam Paljor Denjongpa, a Sikkimese businessman who had returned from the United States and had taken the robes as a monk, was a member of CCS. He went on to stage a hunger strike in Gangtok lasting 28 days. The Rathong Chu HEP was scrapped by the State Government two years later. Mr Denzongpa is currently the Director of Taktse International School.

DAWA LEPCHA *returned to Sikkim in the early 2000's trained as a filmmaker. Educated in Gangtok and Kolkata, he also benefitted from the fact that he hailed from the Lepcha reserve of Dzongu in North Sikkim hence had a very organic connection with the land. This attachment went on to power his activism in later years and provided him the resolve to undertake two rounds of life-threatening hunger-strikes along with Tenzing Lepcha against hydel projects proposed in Dzongu. As part of Affected Citizens of Teesta, he was successful in convincing the State Government to scrap all hydel projects save the Pannan HEP (completely inside Dzongu) and Teesta Stage IV (which borders Dzongu and has some components inside) for which MoUs had already been signed. This was a major victory, but ironically for Dawa, the only hydel project which remained was the one in his village, Lingzya.*

Q. *None of you had any overt political or activist engagements until you got involved in your respective movements. What brought about this change? What convinced you to get involved in direct action?*

Dawa Lepcha: I had just finished my training in filmmaking and had come back home. I knew what was happening (with regard to hydel projects) but I thought it would just be one project (Teesta Stage V HEP). In 2002-03, however, I found out that 40-42 projects were being planned and I thought that was not a good idea. I met a few people who were involved with the Teesta-V protest.

There is always that point where you get that spark, you know. One day, I had just met Pemzang Tenzing and was going back to my village. I got off the vehicle and started walking home. It was evening time, the sound of crickets was all around and I was walking thinking about the hydel projects and all that. So as I was mulling over all these things, I got a strong feeling that I cannot let this happen to my place, I am not going to allow that. I was young, in my early 30s. That's when I made up mind I think, to do something about it.

Sonam P Denjongpa: We were at Pemyangtse Monastery for a wang ceremony sometime in 1994. It was the Dorje Lopen, the Abbot, of the Pemayangtse Monastery who said that these projects (Rathong Chu HEP) will destroy the sanctity of the place. He was discussing plans on how the project could be stopped with some other monks but they could not figure out how to go about it.

We talked to him and he said maybe it's our generation that will have to do something about it. We discussed it amongst ourselves but we'd never done something like this before.

The next day the Abbot passed away.

Then I felt like it had fallen upon me to do something about it. He had passed the ball to us in a way.

KK 'Bhai' Chatradhara: People of Subansiri valley, even from Assam, were happy to say "Subansiri project is coming and will brighten our future", long back during the 1990s to 2000. People demanded the project many times and it is even enlisted in Assam

Accord of 1985. So, I was born and brought up in an environment where large dams were considered a good thing. At the same time, nature and our culture got me closely involved with the river.

When the construction started, it was disheartening to see the destruction of the beautiful landscape. I, Monoj and Binay started discussing about what development really means, what actually are large dams? That was 17 years ago. That was when I felt the need to get involved and build the movement. A paralysed Subansiri is painful to imagine, not acceptable at all.

From your experience, what are some of the biggest challenges facing environmental activists on ground?

Dawa: The biggest challenges are the lack of awareness among the masses and the well-oiled greed campaign by the vested interests.

Talking about environment here is difficult. I don't believe in all these programmes held on environment, you know. They are all superficial. Actual work is never done. People haven't really understood the concept of environment. For instance, if you talk about saving trees in the villages, they will say 'there are enough trees here'. When you talk about the harm such projects will bring about in the future, it is difficult to convince people because we don't have anything to show.

Maybe we were also not well equipped at that time, we could have found other ways to do it. But then, convincing people is very difficult. You talk about environment, that doesn't work. You talk about social impacts, we don't have anything to prove that. You talk about culture and people think that is not something that can be affected.

Sonam: We didn't know how to mobilize people. We relied more on the spirits and prayers. There were a section of people who really believed in it. We also believed that it's in the mind. We weren't doing anything negative but we didn't know how to get things out and mobilize.

Chatradhara: Environmental activists have been defined as a "Response to some type of threat to a person's environment, their

family or an area or place that they love" (chase, 1999). Environmental activists usually emerge from the grassroots and the shortfall of organic leaders on the ground is one of the biggest challenges in current times. Also, it is easier to change the mindset of people who are anti environmental groups but are not well informed. Those who know the costs of harming the environment and yet oppose environmental groups, changing how they think is a challenge.

How easy or difficult is it to gather information on hydel projects to build arguments against it?

Dawa: Gathering information is not that difficult. By the time our movement came about, the RTI Act had come in and the companies were also forthcoming. I think the difficult part is the actual finances involved; who, where, how. Who really benefits after the peanuts have been handed out.

Having said that, I have reservation about building arguments…it never ends. The back and forth of it, often ending nowhere.

Sonam: It was interesting… things just fell into place. There was a young guy, Sundar, he is in Delhi now. So, he appeared and he was an environmentalist. He said he wanted to help. Then people said that we have to go to court. So he went and found a Supreme Court lawyer, Rajeev Dhawan, who just volunteered to help us. And things started to fall into place. The government would do some kind of video against our argument and they would not be able to release it…they would plan fancy books about how good the hydel projects would be and somehow the books just couldn't get printed.

I think there were some people within the establishment also who felt that this is really not right. There was land that didn't exist, which on paper they claimed existed. There were officers in the establishment who really helped us. I guess at that time you couldn't get such papers out and they just helped us get it.

Chatradhara: Up to a level, it is not that difficult. Most powerful way is to gather as much information in favour of the projects, so

that one can counter them.

Identity, beliefs or faiths are often invoked more than the environmental costs in building arguments against hydel projects. Do you think it is part of the plan or is there any planning involved at all?

Dawa: Of course, these above points are the most important and things that touch the sentiments of the people facing the direct onslaught of these developmental programs. So obviously they come in play whether there is a plan or not. If the masses were to understand the environmental argument, things won't be that difficult at all.

Sonam: Sense of sacred is not just religious; it is about those things that have been here for millions of years. Those are sacred. So worship means to appreciate and acknowledge that, accept that because of them we are here. When you destroy them, you are destroying the future generations to come. You have to let them be. You don't have

to do anything. You just have to let them be. Let the lakes be, let the forests be, let the rocks be. There are spirits that live in the rock called 'tsen', there are spirits in the trees called 'lha', there are spirits that live in the water called 'lu'. All these things are like us. They live, they are born. We don't see them now because our senses have become crude. As you become emotionally cruder you lose access to all these other beings. I, my, me is the focus.

We don't even see other human beings, forget about other kinds of beings.

People think environmentalism has come from the West but it has been a part of our tradition for thousands of years. Mt Khangchendzonga was not made by Buddha, it predates everybody. That's been here. It's our protecting deity. For thousands of years the rivers have been flowing. The belief that this is a hidden land means that whatever we do here affects the whole cosmos. We don't realize that. This place is very important and it is important to do positive things here.

Look at the weather patterns. There is no one cause. It is a cycle. When you pollute the sky it passes on to the water and in water lives 'lu' and 'lu' really suffers from pollution and then we get affected. It is all a cycle. But, it is a different way to look at it.

The hydel projects would carry out studies that would sometimes suggest that there were certain probable negative impacts but then suddenly they would come up with another report saying that everything is fine. It is basically greed. I am not so extreme as to say shut down all hydel projects but the river has to run. It is like our bloodstream, it has to run in our body. If you live in the mountains you've got to let the river flow. If you dam all the rivers, every living thing in the river gets damaged. What are you doing? I don't think that they can promise to produce such things. It's all calculations from their point of view. I wonder what will happen after 10-15 years and what we have destroyed, how would we build it back? Once it's destroyed, it's really destroyed.

Reality is not out there, it is in our minds. Belief is part of the reality. When those beliefs are alive that is the reality. You can't say this

Sikkim monks, with Sonam P Denjongpa (in white robes in the middle), rallying in Gangtok on 09 July 1995 against the Rathong Chu HEP. (photo courtesy: Jigme N Kazi)

is real and that isn't. You can't show calculations and say that is real. That's also made up. They say once it appears in numbers, that's real. How is it real? That's not real. We are living here, this place belongs to us and we have to take care of it.

Chatradhara: Identity, beliefs and faiths can be part of the argument against hydel projects, however, we also need to emphasise and link science with each of these. The environmental and socio-economic costs should be highlighted more.

In the case of Subansiri, one of the demands was a downstream impact study from the dam site to the confluence up to Brahmaputra by involving local experts.

What do you think of environmental activists taking an apolitical stand, choosing to steer clear of any links with political parties or ideologies? Do you think activism can or needs to be divorced from politics?

Dawa: After my experience and whatever environmental successes or failures there have been around the world, it is not easy to have apolitical stand. One way or the other politics will get in. Even when the activists try to keep the movement clean of politics it is difficult. All these because there is the scrupulous opposite group hell bent on having their vested interest implemented one way or the other. ACT was projected as opposition party! Ground reality is very different. I think it all boils down to 'whether you want result or you want to plod on and on and on?!"

So, my analysis is something like this. Suppose there is a political party which is in power and on the other side there are a few activists. When the activists' voices are not heard, they have to look for support elsewhere. That's when the opposition parties will try to come in. Even if the activists refuse their support, the ruling party will accuse the activists of being hand in glove with the opposition. Then the ruling party will activate its grass root level workers to lobby against the activists making it all the more difficult for the latter to convince people.

Sonam: We try to stay away from politics, as in party politics. When it comes to party politics, suppose one person comes to support you, because of that, another guy is against you. And you are in a camp now. When (opposition) politicians came to us, I just said look… this is for us, for the people, for the sacred land. Staying away from politics means not falling under any camp to avoid getting used. But I think it is political…in a way.

Chatradhara: Environmental activism is beyond political ideology or parties but one can't ignore the politics in activism as well. A meaningful distance from political and religious activists helps to achieve the purpose of environmentalism. It seems political activists put environmental issues in their agenda to take the chair for 5-10 yrs. As the present Prime Minister did in 2014 by saying that "I know citizens of Arunachal Pradesh are against the large projects. I respect your sentiments. But protecting the environment and using environmental technology, hydropower can also be harnessed using smaller projects." It was propaganda to win over the people for the short run.

Environmental activism continues to struggle in garnering mass support and wider public participation. What do you think is the reason behind the failure of so many protests across the globe? Why is environmental activism limited to the directly affected and how would you define 'stakeholders'?

Dawa: If you talk about environment, people don't understand. So you've got to find a strategy that works. Otherwise you are just 2-3 people shouting and nobody is listening. In the case of Dzongu, whether you like it or not, most of the land being taken for hydel projects belonged to Lepchas. So you can't help the movement becoming about Lepchas.

And it also becomes a strategy when all else fails. You talk about impacts on fish migration and they (project developers) will show you fish ladders. By the way, not one dam has a fish ladder. If you talk about deforestation, they'll say mass plantations will be carried out.

As for the definition of stakeholders, it would comprise of the

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NOW! DAILY

First With The News

ACT hunger strike begins indefinite run to protest Dzongu hydel projects

a NOW REPORT

GANGTOK, 20 June: Affected Citizens of Teesta [ACT], an organisation protesting the slew of hydel projects scheduled to come up in North Sikkim and the manner in which they are being pushed ahead, frustrated with being fed only assurances and convinced that the hydel project in Dzongu will not be reviewed, began an indefinite hunger strike here at BL House today. In a statement issued on the 'Satyagraha,' ACT announced that the hunger strike would 'continue until the projects in Dzongu are stopped and others reviewed.'

Starting off the hunger strike today were ACT general secretary, Dawa Lepcha, members OT Lepcha and Tshering Lepcha. The Satyagrahis are sitting in protest outside the BL House, Tibet Road.

The reasons prompting the present stand have been explained as ACT's commitment to 'restore the true protected identity of Dzongu, protect the environment and ecology of the Kanchenjunga National Park and Kanchenjunga Biosphere Reserve, and protest the on going procedures of Teesta Stage III in spite of the Appellate Hearing against the Environmental Clearance given to it.'

ACT members explain that following assurances from the Chief Minister that he would review the projects and look into concerns voiced by ACT, they had called off a protest rally scheduled to be taken out through Gangtok on 12 December, last year.

Since then, the ACT statement informs, alternatives 'have also been suggested

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SIKKIM NOW!

FIRST WITH THE NEWS

Food security is a global concern, Sikkim should also do its bit: CM

SAGAR CHHETRI

SARAMSA, 15 June: Highlighting that food security was a global issue of concern at present, Chief Minister Pawan Chamling stressed that Sikkim too should seriously endeavour towards that end.

The Chief Minister was delivering his valedictory address at the of the *Kharif Kisan. Mela* 2008 at Saramsa below Gangtok on Saturday. Addressing the gathering comprising mainly of farmers and agriculture officials, he highlighted that agriculture, horticulture and animal husbandry had been identified as high priority sectors by his government and urged that the commitment of the State Government towards these sectors now be matched with the involvement of the growers.

Here he observed that the people had still not understood the importance of these sectors to Sikkim's future.

GOVT WRITES TO ACT, DELIVERS FORMAL INTIMATION OF SCRAPPING OF 4 HYDELPROJECTS IN DZONGU

Dawa & Tenzing end hunger strike reciprocating 'good' gesture

"WE ARE READY FOR TALKS"

a NOW REPORT

GANGTOK, 15 June: After 96 days of continuous fasting, Dawa and Tenzing Lepcha of the Affected Citizens of Teesta [ACT] called off their indefinite hunger strike here at BL House yesterday. Their withdrawal was in response to what ACT has welcomed as the State government's 'bold' decision, "a landmark achievement of the people and right action by the government towards protecting the sanctity of Dzongu and the environment", as held out by the

"The government has given us in writing that the four other hydel projects proposed for Dzongu have been scrapped and this is a comprehensive step towards us achieving our goal. Our next course of action shall be to continue our relay hunger strike and welcome dialogue. We are reciprocating to the call of the government. We are ready for talks and want the government to initiate the next step," explained Dawa

by a Bongthing.

Although the State Government has announced the scrapping of the remaining hydel projects in Dzongu for quite a while now, including by the Chief Minister in the legislative assembly, this is the first time that it is in the form of a formal letter to ACT.

Meanwhile, the relay hunger strike will continue, till, as ACT explains it, "full Protection of the sanctity and rich bio-diversity of Dzongu" is

ger with Dawa and Tenzing was pulled out by ACT after 81 days after he developed serious liver complications.

ACT members stated today that the decision of the two hunger strikers calling off their 96 day ordeal, the last more than a month of which were spent on 'Ryles Tube' (nasal feeding), came as a result of a letter from the Power & Energy Secretary, P Wangchen dated 12 June, which communicated that the

WORK BEGINS, OFFICIALLY, ON "PEOPLE'S PROJECT"

CM lays foundation stone for Teesta Stage-III

DEEPAK SHARMA

MANGAN, 15 June: Amidst prayers by more than 500 monks and religious leaders from other faiths, Chief Minister Pawan Chamling today laid down the foundation stone for the 1200 MW Teesta Stage-III Hydro Electric Project at the project's adit site at Chungthang, North Sikkim.

Following the foundation stone laying ceremony, the CM and his entourage paid their respects at the Chungthang Gurudwara and then proceeded to the Chungthang Public Ground where a public meeting was held.

Addressing the gathering, the Chief Minister highlighted that Teesta Stage-III was a joint venture of the State Government and the power developers and hence, it was the people's project with their welfare being accorded topmost priority.

He reminded the landown-

project developers and the government had made provisions for construction of roads, primary health centres, schools, drinking water supply, sanitation, power connectivity, religious centres, social centres, rehabilitation and development of infrastructure.

The Chief Minister further assured that upon completion of the project, the government would provide two-storied RCC buildings for the BPL families of the affected area.

In his address today, the Chief Minister also welcomed the withdrawal of the indefinite hunger strike by Dawa Lepcha and Tenzing Gyatso Lepcha of Affected Citizens of Teesta and expressed appreciation at the fact that the protestors were now willing to open talks on the hydel prospects of Dzongu.

The public of Chungthang, Toong-Naga, Theng and Bop also placed a list of demands to the Chief Minister.

These include construc-

Toong-Sangkalang-Shipgyer route. These demands were turned over to the power developers for delivery.

The Chief Minister, on his part, assured that drinking water supply provisions in the area would be sanctioned 100% as soon as possible.

The public of Toong-Naga also requested the Chief Minister to expedite the implementation of the Chakung Chu project at the earliest.

Before the Chief Minister's address, a welcome address was delivered by the Power Secretary after whom the Teesta Urja MD YN Apparao presented the project report, wherein he highlighted the Teesta Stage-III was the second largest hydel project being undertaken by the company in India.

Mr. Apparao informed that upon its completion, the project would supply 12% of the power generated to the Government of Sikkim free of cost for the first 15 years and

entire state and not only the directly affected but I think awareness levels among the general public is low.

Sonam: Sometimes I feel like we are not a nation anymore. It's Dzongu… its religion. For instance our movement was about religion. There was incredible opposition but there wasn't any real mobilization either, mass mobilization that is. It's Dzongu, it's Lepchas. There was no mass movement and that shows that the connection was missing. We fail to understand that this is our land, no matter who you are. Actually Guru Rinpoche had said people born here are my people, you take care of this land. Somehow this unity has broken down into different communities. Movements like these would be branded as Buddhist movement but we all share the river. It's ours, for generations to come. But that was difficult to overcome.

The positive thing was that those who could not support us openly were not ready to be manipulated by the political camps either. They did maybe feel like they weren't directly affected by the dams but they did not allow political groups with vested interests to push them against us either. So, it's unique.

Chatradhara: Romanticising environmental movements is one of the reasons for their failure. Class structures amongst the environmentalists/ activists is also adversely affecting movements as a whole. This happens to any form of movement. The concept of development is imposed with colonial mindsets and this is deeply rooted everywhere, so it is difficult to change the present form of developmental attitude within a limited period. It is human behaviour to respond or react only when you are hit and so is the case with environmental movements limiting activism to the directly affected.

But, Subansiri includes many other environmental movements so such limitations do not apply here. There is good support for the movements, only a few do not support us.

What do you think of anti-dam activists/activism always being branded as anti-development?

Dawa: The term is coined by groups with vested interests, be it the company or the authorities and all those down the ladder, which is fed to the masses who have no inkling of what it really means in totality. Activists should not be perturbed by such branding.

Personally, I think development is happiness in the long run and the hydel projects will make us cry in the future. I don't think that's development. Let's have a smaller project, find a balance, maybe we can have one or two mega projects. But we are damming every river, tributary, stream from mega to micro to mini. None of them are functioning properly or are implemented well. So is that development? If you have one good project, maybe 10-20 MW, I think that will do a good job.

Why do we need so much? It's like we are trying to finish the food just because we have lots of it in the godown. Almost from it source to where it ends in Bengal, the Teesta has been dammed and tunneled. It's the same for Rangeet. I think very soon people will not see Rongni Chu either once they put it inside the hill towards Rangpo at 32 Mile. In case they finish Teesta Stage VI HEP, there will be no Teesta either, because that too runs inside a tunnel.

Sonam: That's what they say, but I would counter that blocking every river is greed. That's not development. You show me how people in Dzongu or anybody is benefitting. How many people from Sikkim are employed in these projects? I've visited several of them, I don't see it. It's cordoned off, it's a world in itself, it's really isolated and it doesn't seem like it's part of us but it's using all of our resources.

Chatradhara: It's a kind of strategy applied to suppress the voices of activists by the pro-dam lobby. Many times it works too but we need to challenge it. I think, those who favour large dams are dangerous. I don't want to position myself as an anti-dam activist but as pro-people, pro-environment, to safeguard our mother earth in the long run.

What role would you ascribe to the media in environmental activism?

Dawa: Well, media has always been a backbone of any activism around the world. Without it, it would be like shouting messages from one side of the valley to the other. In our case, we got good support from the media.

Sonam: I think just educating people, making them conscious, saying this is our land, this will affect you. We think we are so advanced but we are so far behind. When you take the native idea of all living beings and this modern idea…Now they are saying we are all citizens of earth because we are all facing same problems like climate change, etc. Native philosophy has always said that - we are all one.

One example, we do the mandala offering like this [brings both hands together intertwining fingers into the mandala mudra]. This [the ring fingers standing upright together] is the centre of the solar system and these [other fingers] are the four major planets. Now this is done by a village lady, uneducated, so called village lady. This signifies our solar system which means it's gone beyond our village, family, things like that…and this is the kind of education that has been going on for thousands of years…saying there are other beings, other planets, places beyond earth. That has been ingrained in our culture. It's only now we are saying - oh, one earth, one sky.

Chatradhara: Exploration and exposition are the key factors for success. Print, digital, social whatever medium plays a big role in encouraging people. It is the most powerful route to generate and disseminate information among the people. I have to say, media must take a pro-environment position, always.

What are the challenges in sustaining a movement?

Dawa: There are many but the most important is the support of the people. Without it, you get tired. During the hunger strike, there was a time when even sympathy was enough for us to soldier on. There were many passers-by who would not say very nice things to us. Of course, some people would shout "Ke tamasha ho yo!" but then there would also be those who would say "bechaara haru" as they passed by.

That sympathy would also make us feel better, at that point of time.

Sonam: Sustaining a movement is really tough. We were only four of us so it wasn't that bad. Actually I didn't want to go to court but they said we have to. But it's difficult. That's why you have to have belief. You don't have to be religious but you have to have incredible commitment to your beliefs. It was really hard to go on. Afterwards, somebody suggested to me that I should get into politics. I said we didn't do it for politics. It sort of dilutes what we are and were for.

Chatradhara: Lack of unity among the people even when they are fighting for a common cause is one challenge. Also, strategies like bribing people used by pro-dam groups is a challenge in sustaining a movement.

People of Sikkim – The Repository of Climate Change

AADIL BRAR

Amitav Ghosh, in his recent book, The Great Derangement, argued that the topic of climate change has remained a concern for scientists and policy makers, but the broader field of literature has largely ignored it. The title of Ghosh's book itself is a clever choice. In medical sciences, the word derangement refers to a disturbance of normal bodily function; and Ghosh is calling climate change a derangement in the planetary climate regime due to human behavior

in recent human history. What is the significance of Amitav Ghosh's book for Sikkim – there is an immense importance.

Here in Toronto, I was a witness to record-breaking cold weather recently – shattering a 57-year record across Canada – with temperatures dipping to as low as -30 degrees. Climate change deniers across US and Canada stepped up their rhetoric, calling the extreme cold an example of climate change being a hoax. But what about the derangement in climate regimes that is unfolding simultaneously around the world? In that context, a good thing about Sikkim is that there is no climate change denial – there is something else.

Sikkim is situated in a region – the Himalayas - that is directly responsible for the water needs of about 47% of world's population. River Teesta and other rivers of Sikkim, flow into the region with some of the densest populations anywhere in the world. The story of climate change has remained the story of big polluting cities with industries that gush out harmful particulate matter that has direct impact on the climatic regime of the high Himalayas. But with the advent of large industries and the hydropower projects in Sikkim, the impact of climate change has been accelerated to say the least.

In a 2009 article published in the New Left Review, Kenneth Pomeranz highlighted that glaciological research had revealed that Himalayan glaciers have lost all the ice formed since mid-1940s. The Intergovernmental Panel on Climate Change (IPCC) has also pointed out that the Himalayan region will warm twice as rapidly as the global average warming. Based on this assessment, an Ohio State University researcher has predicted that a large share of Himalayan glaciers will disappear by 2050. This is an alarm bell – we should all be paying attention to it – it has been loud and clear for some time now.

In the March of 2011, the Government of Sikkim – in collaboration with various partners – released the Sikkim Action Plan on Climate Change. This plan sought to look at the challenges climate

change would pose over the next two decades. This plan provided a broad picture for focus areas such as water security; biodiversity, forest, wild life, and ecotourism; urban-rural habitats; and urban transport. The climate predictions of this report are based on the findings from the PRECIS modelling – among other models -- developed by the Hadley center in UK. The salient finding from the PRECIS modelling is the increase in rainfall in Sikkim and its surroundings by 3-56 mm overall and between 18-75mm during the monsoon season.

In The Great Derangement, Ghosh argues that the reason for people to be involved in the process of grappling with climate change is because we all are the repository of knowledge about our environment– collectively better than any other recording machine available. This idea seems to have inspired two researchers -- Kamal Bawa and Pashupati Chaudhary -- who wanted to get around the lack of evidence about climate data in Sikkim. Bawa and Pashupati used people as their repository to gather climate data, and gathered information from both high and low altitude regions of Sikkim. Until most recently the only set of data about climate regimes in Sikkim was available from two out of the 17 weather stations – both are in Gangtok city.

The findings from Bawa and Pashupati's study were similar to what the PRECIS modelling had revealed – the rainfall has indeed been increasing and has become erratic of late. People living in the higher altitude regions of Sikkim have reported greater overall warming, early onset of summer, decrease in snow, drying up of water, among other climatic transformations as opposed to individuals living around the lower altitude areas. People from the lower altitudes have reported early onset of monsoon, decrease in snow, drying up of water, and new crop pests.

The authors of this story point out that gathering climate data for Sikkim over time is a difficult task, and therefore their study relied on survey responses which were gathered from 10 villages located in Singalila National Park in the Darjeeling Hills, and eight villages in Ilam district of Nepal – a region that is in close proximity to Sikkim.

Bawa and Pashupati's findings overlap with findings from other scientific data projections, which refer to increase in mean temperature by 2.9 degree Celsius every year, and the increase in rainfall by the 18% by the middle of the 21st century. These are worrying numbers. Sikkim has faced major natural disasters that contribute towards infrastructural collapse every year – roads, bridges, houses, and every other vulnerable infrastructure.

One question that everyone from Sikkim should ask themselves, is climate change the result of events happening afar on the plains of India? That isn't the case – climate change drivers are right here in the state.

The Centre for Policy Research – a New Delhi-based think tank – provided an analysis of the Sikkim Action Plan for Climate Change (SAPCC) put out by the State Government of Sikkim. This is a document that everyone interested in climate change with regards to Sikkim should read – the CPR report unpacks how the SAPCC was developed. The CPR report states that there are only two sectors: water resources and the forests that have been the focus through a forecast in the SAPCC. A topic that was supposed to be a large part of SAPCC – Energy Efficiency – was largely ignored. Why is that so? The Centre for Policy Research's report argues that this would have directly brought Government of Sikkim's plan in conflict with its investiture into hydropower projects across the state of Sikkim. Though the SAPCC has made some suggestions in the forestry section to invest in renewable energy solutions, the elephant in the room is staring down in this action plan – hydropower projects.

The United Nations Development Programme realized the urgent need to address the dynamic climatic transformations happening across the Sikkim Himalayas, and therefore have set up a special initiative for Sikkim and other Indian states. The states currently part of this initiative by the UNDP are Uttarakhand, Manipur, Jharkhand, and Sikkim. United Nations has till date worked with the organizations based in New Delhi, but this initiative is trying to cut through the bureaucratic procedures to work directly with the states to address climate change related concerns. But only time will

tell how successful United Nations is at working with Sikkim and other states of India. For now Sikkim has a team of UNDP experts working in Gangtok.

But it isn't just the climate regimes that have been deranged; it is the political consciousness of the people that seems to also have shifted – wavering between ethnicity and religion. As we let our leaders keep us busy with political gimmicks, the fate of Himalayas and rest of South Asia, is being written by large conglomerates that are interested in exploiting natural resources for energy production. It is only the people of Sikkim who hold the key to the collective future of the state, and by acting as a repository of knowledge – recording and writing – they can develop an agenda of climate action that fights the denial and doublespeak that mires any conclusive action against the forces driving climate change in Sikkim.

foto: Tshering Eden

Climate Change is getting real for Sikkim's farmers

TSHERING EDEN

After about an hour on the road from Gangtok, a signboard welcomed us to the village of Rey Mindu in East Sikkim. We were meeting Nima Lepcha, a farmer and community leader, to enquire if farming in the area had been affected in any way by changes in the weather or climate. At their house, his son received us and we walked up to the terrace from where we got to enjoy an impressive view of Gangtok. The village lies on the hill right across the capital. Over a delicious spread of khuri [traditional Lepcha dish of cheese and

spinach wrapped in thin buckwheat pancakes], boiled eggs [of local variety of poultry], chutney and some tea, "all organic" according to Mr Lepcha, we got talking.

Two or three years ago, the villagers had made an attempt at large scale farming which sadly ended with farmers incurring huge losses, so much so, that many of them prefer to leave their lands fallow or attempt cash crops rather than risk any more losses. The reason - the rains did not come on time.

It's Been Raining Wrong

"We sow seeds following traditional farming practices, according to the time and weather patterns of earlier times. Supporting the state's organic mission, we had invested lakhs of rupees but the rain failed us. Crops like buckwheat and mustard started sprouting flowers when they were just a couple of inches high. The farmers had toiled hard but we did not get even 10% return on our investment," says Mr Lepcha.

While experts are hesitant to accrue changes in the weather pattern to climate change, for the layman these changes are becoming more and more evident and difficult to ignore. The month of April (2018), in progress right now, is, or rather used to be, the spring season in Sikkim characterized by pleasant weather leaving behind the bitter cold of the winter months. Although brief, this was the season to enjoy splendid blooms under sunny skies, before the monsoons came along. April is also the time for wildfires due to the dry weather. However, we are now already experiencing daily showers in Sikkim.

"Earlier the wettest months were June, July and August but now there is good rainfall even in April-May while there has been a drop in rainfall in June. At the same time, volume of rain in Aug and Sept has decreased," says Dr RK Avasthe, Joint Director, ICAR-NOFRI, Sikkim.

He further states that the monitoring system in place at the ICAR complex in Tadong has recorded data for the last 37 years which shows that there has been a "serious" change in the climate in the State.

Agriculture in Sikkim is predominantly rain-fed which means a change in the rainfall pattern can have drastic effect on crops. The timing of rainfall plays an important role and traditional farming practices rely heavily on this. Light rainfall just before the sowing season prepares the soil for sowing while heavy rainfall, at the right time, is also required to inundate paddy fields.

As per our traditional knowledge, there are different kinds of rainfall that are defined on the basis of their timing, intensity, duration, etc. A study titled 'Climate change and sustainability of agrodiversity in traditional farming of the Sikkim Himalaya' by Ghanashyam Sharma and Lalit Kumar Rai talks about some of these.

Naurathey jhari is rain that continues for a few days during Navaratra before Dusshera festival in October-November when paddy is getting ready to flower and requires plenty of water. Farmers believe that this rain helps paddy flower well indicating a good harvest. There is the Makurey jhari during Shravana (late July), when spiders start constructing their webs everywhere in the fields and forest areas. Indigenous people believe that it is a sign of a few days of rainfall.

Apart from untimely rain, the intensity of rainfall has also changed in the past 17 years according to Dr Avasthe.

"In the last 17 years we have recorded lot of variation in rainfall. There has been an insignificant decrease in volume but serious drop in the number of rainy days."

What this means is that we are getting the same amount of rain but in shorter more intense bursts. We no longer experience the continuous drizzle that monsoons in the hills were characterized by. This does not augur well for agriculture as this kind of rain washes away the topsoil and because it flows fast, does not seep into the earth to provide proper moisture to crops. It could also cause water logging that could damage vegetable crops.

Dr Avasthe points out that the number of extreme rainfall events [beyond 60 mm in an hour] have been increasing for more than a decade now.

Another important change in rainfall patterns has been the lack of it in the winter months.

"In the last 12 years there has been a serious absence of winter rainfall. Winter vegetables are very important for a small state like Sikkim, especially now when there is emphasis on organic vegetable production in the state. This means more dependence on stored or harvested water which we hardly have. We cannot have huge water harvesting structures because of the terrain. Also, the storage capacity of soil has decreased. In winter, long hours of sunshine mean loss of moisture from the soil through evaporation and from the plants themselves via transpiration, together called evapo-transpiration, which has become very high now," says Dr Avasthe.

Even the Sikkim State Action Plan on Climate Change notes, "There will be a total shift in cropping pattern. With winter becoming drier, there will be a shift from two crops to a single monsoon crop."

Orange orchards in Lower Payong, Suntaley, have been erratic for the past few years. According to a farmer from the area, Prem Prasad Bhattarai, winter rain provides the soil with much needed moisture before the monsoons begin but the lack of it over the last few years has resulted in extremely dry conditions during winter leading to crop failure. He also mentions how the earth is dry and hot during winters stressing the orange orchards, which supports Dr Avasthe's evapo-transpiration theory.

Mr Bhattarai is also of the opinion that the low lying belts have been suffering the most due to changes in the weather patterns because they tend to get hotter and the soil loses even more moisture compared to orchards on higher elevations.

While rainfall is the most important source of moisture needed for agriculture, snowfall and natural springs also play a supplementary role and in that area too, there is bad news. Natural springs have been used by farmers to irrigate fields when rain is sparse and these have been gradually dying although efforts are currently on like the Dhara Vikas programme to revive such springs. Also, traditional knowledge speaks of Bhadaurey jhari, rainfall between 15 July - 15 August as recharging perennial springs and seasonal springs for continuous irrigation of the paddy fields.

Weather conditions aside, there is also the variety of crops being cultivated today to be considered.

Indigenous varieties are more adaptable to changes compared to hybrids and Sikkim has lost many of its indigenous crops. We are not even sure of how many we have lost since there is no baseline data to compare present numbers with.

The Heat is On

Aiti Maya and Man Maya of Aho, East Sikkim, have been selling kinema [fermented soyabean] at Lal Bazaar, Gangtok, for the last 30 years. After boiling the soyabeans, a little wood ash is traditionally added to start the fermentation process. Prevailing temperatures play an important role in determining how long the fermentation process takes.

"I learnt how to make kinema from my mother-in-law and she used to add a little wood ash back then. Nowadays we don't add anything and it ferments just fine. Compared to before the fermentation also takes less time nowadays," says 60-year-old Aiti Maya.

Rise in temperatures could very well be the reason behind this change they are talking about.

Minimum temperatures in Sikkim have increased by 2.5 degree Celsius between 1957 and 2009 while the average annual temperatures are expected to rise by 1.8 to 2.1 degree Celsius by 2030s [SSAPCC].

"The mean minimum temperature has been increasing at the rate of 0.07 degree Celsius in Sikkim every year which is probably the highest in the country and this is a matter of concern. A rise in minimum temperatures is more worrying than a rise in maximum temperatures because it has wide ranging effects. Climate change, apart from various other factors, is responsible for this," Meteorology In-Charge, Gangtok, Dr GN Raha had said in an interview to this correspondent in 2014.

Rise in minimum temperatures can cause havoc in terms of pushing the treeline higher, while also giving rise to new kinds of pests and diseases in the farmer's fields as well as infesting new species of weeds.

The effects are already being felt.

"New kinds of pests have come which we don't recognize. For instance, nowadays there is a pest that is attacking dalley [cherry pepper] and tomatoes. If there is a scar on the dalley, when you open it you will find a small insect inside that jumps up and down. We haven't seen this one ever before. Even our parents cannot identify this pest," says Nima Lepcha.

Because of rising temperatures, pests are now successfully finding hosts throughout the year and this makes it difficult to control them, says Dr Avasthe. There are new insects like the Tea Mosquito Bug and there is higher incidence of fruit flies in oranges and different types of gourds.

Sir Joseph Dalton Hooker in his 'Himalayan Journals' first published in 1854 cites lack of direct sunlight in the ripening season, heavy rainfall and extremely low winter temperatures as some of the reasons for the inability of most fruits to ripen or survive in Sikkim.

"Hence it appears that, though some English fruits will turn the winter solstice of Bengal [November to May] into summer, and then flower and fruit, neither these nor others will thrive in the summer of 7,000 feet on the Sikkim Himalaya, [though its temperature so nearly approaches that of England] on account of its rain and fogs," he observes.

That was then. Today, Rey Mindu in East Sikkim is able to grow a guava variety that was earlier thought possible only in warmer climes of the plains. Mangoes that would never mature enough to produce any sweetness now do.

"The 47 Allahabad Safeda variety of guava, one of the most famous Indian guavas, now grows here. It didn't before. Even mango, which before would be sour, now ripens fully and is sweet," says Mr Lepcha.

While one could see this in a positive light for the added variety of fruits Sikkimese can now enjoy, there are other, almost sinister changes that are creeping in. An invasive species of weed 'Lantana' that grows in warmer regions can now be seen even at higher altitudes here. Dr Awasthe says that it is spreading very fast across the state which is not

good because it wipes out everything else around it.

Meanwhile, indigenous weeds like the banmara, titey paati, sisnu, etc have some value but are quickly being replaced by invasive species that are not indigenous.

Interestingly, the dairy industry in Sikkim has had to bear losses due to the rising mercury levels. In 2010-11, milk worth Rs 10.5 lakh was lost to curdling and the percentage of curdled milk has been increasing every year. In 2007-08 it was 2.05% while in 2010-11 it was 2.71%.

A report by former Managing Director of Sikkim Milk Union, P Senthil Kumar, on impact of climate change and adaptation measures in dairy sector of Sikkim, states that the main reason behind this is the rise in temperature and unexpected torrential and erratic rains which causes road blocks, thereby resulting in delay in transportation.

So Where Does This Leave Us

Rise in minimum temperatures and erratic rainfall patterns are to blame for many other changes, the cascading effects of which can and are already manifesting around us.

As Nima Lepcha says -

"During my father's time, the arrival of certain birds signalled the sowing season of different crops. When the 'kakuk' came we would sow rice and maize when the 'chugdun' arrived. Birds follow the river's route and now, they have lost their way because of changes in the climate, vegetation and hydel projects along the river which have either dried up of flooded the resting places for these migratory birds."

We all know that a single change in the ecosystem can cause a domino effect wherein every component of the system is adversely affected. So, the implications of the disappearance or even the late arrival of one bird can be devastating in the long run. It could, in the end, determine what is served on our plates and consequently the very survival of the human species.

Two Protests that Bookend the Dam Journey in Sikkim

PEMA WANGCHUK DORJEE

Just about every hydroelectric project in Sikkim has met with some protest or the other during its construction. Most of these protests have, however, been incidental, complaining about "collateral" damage caused by the monumental civil engineering undertaking that even small hydel projects are, or to negotiate and re-negotiate compensation. Most of these protests have been "resolved" at the district administration level itself, but there have been two protests that qualify to be recognized as movements because of their consistent nature, the fact that they attracted the passions and energies of those who were not materially affected by the projects, because they were not hankering for sops and because they succeeded in getting heard and were respected for the positions they took.

The two hydel protests also bookend Sikkim's hydel journey; with one coming right at the beginning when Sikkim had only begun flirting with the idea of hydroelectric generation on-scale and the second arriving in the wake of a deluge of such projects being sanctioned. Interestingly, although the two movements were twelve years apart, years in which much had changed in Sikkim and the world

around it, they followed similar trajectories in how they played out. This will be an attempt to look at the two protests with the benefit of hindsight and see if any new perspective shakes out.

The Concerned Citizens of Sikkim and Affected Citizens of Teesta might be separated by a decade, but share more than just their credentials as "citizens" or the fact that both were special purpose vehicles on which powerful anti-dam movements were mounted. Both were born from informal coming together of individuals who shared a deep concern for the land and were willing to invest much more than passing comments on the potential dangers posed by one-sided pursuits of "development". Both were initially dismissed as transitory irritants, and they could very well have fizzled out had the main actors not found the resolve to put everything on the line to challenge the establishment even though there was no precedence for such resistance in Sikkim.

In a way, CCS, formed in 1995, also laid the foundation for the massif of non-violent but steadfastly confrontational opposition to dams that ACT, formed in 2004, has taken to a whole new level since the year 2007. Where the former challenged a 30 MW hydel project on the Rathong Chu, a minor stream in West Sikkim, ACT eventually positioned itself in protest against a string of hydel projects proposed in Dzongu, the Lepcha reserve in the North district of Sikkim. Both invoked unique attributes of Sikkim to not only catch attention and build support, but also convince the uninvolved to sit on the fence instead of jumping to the other side.

The Origin Story

Speaking to SummitTimes, Sonam Paljor Denjonga, who along with Pema Namgyal and Chukie Tobden formed the CCS in May 1995, shared the story of how they were left holding the "ball" on the Rathong Chu protest.

Sometime in the year 1994, Mr Denjongpa found himself at Sikkim's premiere monastery, Pemayangtse, in West Sikkim. The monastery was hosting a senior Rinpoche who was to give teachings and offer blessings. At the time, Mr Denjongpa, was based in USA and

would return frequently to his home in Sikkim to continue his religious training since he had also taken the robes as a lay monk. Coming from an old Sikkimese family, as were his fellow founder-members of CCS, and because of his religious leaning, he was also close to the Sangha here.

He must have felt lucky to be at Pemayangtse for the special event. Little must he have realized that the visit would go on to affect him and Sikkim in a major way, setting them off on a course that none of the three could have anticipated at the time.

The evening after the wang (blessing) ceremony, the Dorje Lopen (Head Monk) of Pemayangtse Monastery sat him down and told him about a hydel project being proposed on the Rathong Chu river in West Sikkim.

Rathong Chu is born in the higher reaches of the Khangchendzonga National Park near Dzongri, the trekking destination which is also at the heart of sacred spaces in Sikkim, and emerging into settled habitations at Yuksam, a village as steeped in Sikkim's history as it is popular among trekkers, after which it courses a short distance before joining the Rangeet below Tashiding.

The dam for this 30 MW hydel project was to come up close to the spot from where water for Sikkim's most important religious ritual – the Bhum Chu ceremony at Tashiding Monastery – is drawn. The Dorje Lopen voiced fears that construction so close to the holy site and the army of men and machine that such an exercise requires would defile the sacred space.

Speaking to the trio, he shared that they (the monk body of Sikkim) had tried to dissuade the authorities from continuing with the project and had failed. He admitted that he did not know what to do next, just that the project was not good for Sikkim, and said that perhaps it was time for the younger generation to get involved and devise a new approach.

With that the discussion ended.

And, the Dorje Lopen passed away the next morning.

He had passed the baton to them, and for those who believe in such things, entrusted his faith in them with what was akin to a dying wish.

There was no way that the responsibility could be shirked now.

But there was also a lot else happening in Sikkim that year, developments in the political space which shortly after the Pemayangtse episode saw political confrontations of a kind Sikkim was new to, a government in office got toppled, a lot of ugly communal posturing played out and an election at the end of the year elected a new dispensation into office. Bigger games were afoot than the worries and concerns of a handful who did not still know where to go with the responsibility now shouldered on them or how to approach the task bequeathed to them by a master they all respected and loved. It would still be nearly a year before Concerned Citizens of Sikkim was formalized as a group and its position against the Rathong Chu HEP publicly announced.

ACT (Affected Citizens of Teesta), in comparison, had a slightly longer gestation period and also benefitted from the CCS experience and modeled many of its strategies from what the CCS had already tried and tested. Although an ad hoc committee under the banner of Affected Citizens of Teesta was formalized only in July 2004, its core team had cut its teeth with anti-hydel protests as the Joint Action Committee formed in the year 2002 to protest the Teesta Stage V hydel project at Dikchu in East district of Sikkim. (more about this in a later section)

When ACT was formed in 2004, it was essentially about hydel projects already announced for the Teesta - the Stage III [at Chungthang in North Sikkim] and Stage IV [further downstream at Singhik, near the North district headquarters of Mangan] Teesta Hydro-Electric Projects (HEP). It would be a couple of years more before it found its real strength and coherence around making it about protesting hydel projects in the Lepcha reserve along the Teesta and its tributaries.

Like CCS, in the initial days, ACT was also seen as a club of elitist "do-gooders" who did not have the stomach for a protracted confrontation or a connection with the masses which would be required to sustain a movement. Their romanticised ideas of development and culture were projected as being out of sync with the more immediate

aspirations of the people for "development".

But like CCS, ACT proved otherwise. This, perhaps because while most of the core team in both groups had received education which took them away from their roots, they returned better equipped and with a deeper appreciation for what was at stake. CCS found its mooring in religion and its sacred spaces while ACT anchored itself to protecting the last bastion of the Lepchas – Dzongu which was already a Lepcha reserve and which ACT would go on to very effectively portray as a holy land as well.

ACT must have realised that it enjoyed the strongest support from inside Dzongu when it recorded its first major success as a pressure group while standing up against the 300 MW Panan HEP proposed for construction on the confluence of the Tholung Chu and Rongyong Chu inside Dzongu. A joint-inspection team of district officials proceeding to the Lepcha reserve on 04 Sept 2006 to survey lands marked for acquisition for the Panan HEP learned of the sentiments which had found voice through ACT the hard way. ACT had managed to mobilize a 100-strong group of dissenters to lay siege to the Sankalang Bridge over Teesta, the only access to Dzongu from North Sikkim, to block the inspection team. The district officials made it through only after 10 preventive detentions were made and police escort provided.

The Back Stories of Related Protests

CCS was not the first to register opposition to the Rathong Chu HEP. In fact, several organizations had tried it before them.

As the Late Dorje Lopen of Pemayangtse Monastery had told the CCS founders, they had tried and failed.

Monks, assembled under an organization by the name of Association of Buddhist Monks of Sikkim, had approached the then Congress Government of Sanchaman Limboo in Sikkim with a memorandum petitioning that the project be stopped since it posed a threat to their sacred landscape.

They must have hoped for a positive response since the project had actually been initiated and awarded by the Sikkim Sangram

Parishad Government which the now Congress legislators had dethroned after much attrition, and ill-will still hung heavy in the air.

But that was not to be. They received no commitments and soon work began on the project site. Clearly, the real agents pushing the project through were still in office and calling the shots, in all probability not from political positions.

The Association of Buddhist Monks of Sikkim tried again a month later, this time along with the Bhutia Lepcha Association and the Tribal Women's Association, when it moved a writ petition in the High Court of Sikkim against the project. Even this approach did not deliver the desired results because work on site continued without a hitch.

The monks were worried. They had seen religious structure swamped out by a hydel project right at the base of Tashiding Monastery, the same monastery which hosts the Bhum Chu ceremony, the very continuance of which was now being imperiled by the Rathong Chu HEP.

At the base of the Tashiding hill sits the Legship hydel project under which now lie the ruins of eight stupas which had been erected for world peace and for Sikkim's prosperity. Story goes that the monks and Rinpoches of Sikkim had registered a formal protest against this loss when it was still a fear and not a reality in 1988. Their reservations were ignored. There was also talk of shifting the stupas and/ or cordoning them off to avoid submergence. But that is what it remained – talk although a solitary stupa does stand above the reservoir, perhaps a replacement or may even be unrelated.

The monks did not want the Rathong Chu HEP to also get bulldozed through, but they had emptied their arsenal and made no headway. That is, until that conversation the Dorje Lopen had with the group that would go on to become the Concerned Citizens of Sikkim.

ACT, as mentioned earlier, grew out of the Joint Action Committee formed in the year 2002 to protest Teesta Stage-V hydel project at Dikchu on the border of East and North districts shouldering Dzongu. Most in the core team were not directly affected by this project in that they did not have lands in project area which would

be acquired for the project. But they had seen and read enough about big dams and their impact to not get involved. Also, most of them were from the vicinity, knew the project-affected people and carried some weight among them.

Since this was the first "big" hydel project in Sikkim at 510 MW when the record till then was held by the Legship project at 60MW, the scale was big as well as was the footprint. JAC managed to build an imposing alliance with the project-affected and put up a strong protest.

However, it quickly became apparent that the priorities of the project-affected and the JAC team did not match.

Although the founders might not admit it, but it must have worried them that the JAC's protest against Teesta Stage-V did not go as planned, their wider concerns of environmental, socio-cultural and demographic impact getting sidelined by the more material negotiations of compensation, contracts and employment.

And that is how the protest against Stage-V unraveled, the larger concerns getting pre-programmed assurances and the compensation amounts getting negotiated afresh and no objection certificates secured with further assurances leavened with commitments to award small contracts and employment and resettlement for the people and the at-risk infrastructure.

Stage-V was eventually commissioned in 2008, but nearly a decade since its turbines started generating, many of the concerns flagged by JAC at the time get reinforced every time damages are reported from the still projected affected areas and the book is still not closed on the cost of this "development."

Although JAC lost the Stage-V battle, it managed to secure many firsts. Stage-V, at least on paper, is the first hydel project in the country where the National Hydroelectric Power Corporation, a public sector undertaking of the Govt of India, signed a fresh Memorandum of Understanding with the affected people and the State Government making several commitments to assuage their fears and concerns. Provisions were made for an oversight committee with some real powers and commitment to involve the people in major

project-related decisions. Unfortunately, because no follow-up was initiated either by the people or the administration, the MoU was never put into any real effect. But a small victory had been notched and JAC would have gained some confidence from having taken on the establishment and secured such a commitment.

The core team must have also returned to a huddle to go over the lessons learned from their first brush with anti-dam protests and it is obvious that one of their resolves was to take a position as an organization and not a constituent of loose collaborations in which arguments can get diffused and positions and priorities changed. This they had learned from how the Stage-V protest had played out. So, when ACT was eventually launched in 2004 and its protests put into play a few years later, it would remain at the centre of the movement; taking allies along the way, but never again too dependent on outside support and always retaining the decision-making powers with itself.

The Positions Taken

Shortly after its formation in July 2004, ACT started collecting documents and researching hydel prospects and threats. Its members remained active behind the scenes and made their presence felt publicly for the first time during the Public Hearing for Teesta Stage III held at Chungthang in North Sikkim on 08 June, 2006. ACT office bearers spoke at the public hearing, but their protest was a minority voice with 80% of those present speaking in favour of the project. ACT's questioning of the findings and recommendations of the Environment Impact Assessment report and the Environment Management Plan received no traction in a public hearing dominated by the affected people's demand, which was backed by the Panchayats, that the project be started only after a proper cadastral survey had established land ownership so that compensation could be handed out accordingly.

The project got cleared and later, the National Environmental Appellate Authority also dismissed ACT's appeal against the public hearing. The ghosts of the Stage-V experience had still not been exorcised.

And then, ACT received the morale boosting show of strength and support for its position against a hydel project proposed inside Dzongu. The reference here is the incident on Sankalang Bridge mentioned in an earlier section. Then played out a round of shadow-boxing, with ACT going public with its reservations about the project, and while it kept busy with getting the word out, the district administration completed its survey and collected No Objection Certificates from 74 of the 99 families whose lands would be acquired for the project. The "quorum" had been achieved in favour of the project.

The public hearing for this project held in September 2006 too arrived at the expected conclusion – a go ahead for the project from the majority provided their demand for adequate compensation was addressed. The hearing was heated though, and what ACT lacked in numbers, it made for with passion, so much so that some of its younger members had to be taken away from the venue and kept under police watch on the sidelines for the duration of the hearing.

Although the Panan hydel project managed to pass the public hearing muster, ACT had made its strongest presence yet. Although its involvement in protesting other hydel projects along the Teesta continued for some more time, the group, now made up almost entirely of Lepchas with most of them from Dzongu itself, started focussing more on challenging the hydel projects proposed in the Lepcha reserve and on its borders.

The hydel protest was now coalescing into a Dzongu-specific, Lepcha-driven stand and that is when it started gaining momentum and appeal. It also helped that Dzongu had a ringside view of how ugly and devastating a hydel construction site can get thanks to the Stage-V construction on its southeast border at Dikchu. Further, a temperamental Teesta and engineering oversights had seen some villages on the Dzongu bank of the Teesta suffer because of the work on Stage V.

Dawa Lepcha of ACT also admits that it was proving very difficult to convince people of the environmental and socio-cultural impact of big projects since they could only speculate on what could happen if the five hydel projects proposed for inside Dzongu and

two more on its borders were allowed to proceed. An appeal to their exclusive identity and the purity of the land somehow became more accessible arguments for the people. Eventually, that was the line that ACT would take.

The decision to focus on religion, meanwhile, was much quicker for CCS to arrive at. Apart from the fact that it was faith and monks who had initiated the protest against Rathong Chu HEP, it was also at the root of the reasons why the CCS founders had taken up the issue in the first place. All other arguments like the shoddiness of the environment impact assessment or doubts about the efficacy of the Power Department and the rush with which the project was being pushed along were in fact incidental to building the arguments against the project, more like supporting evidence especially when they moved the Courts. In the public domain, the focus was primarily on faith, and like ACT ended up with Lepchas on the fore, CCS would become a movement powered almost exclusively by monks and monasteries of Sikkim.

The CCS was formed in May 1995, nearly a year after previous attempts by other organizations had tried and failed to convince the government to even hit the pause button on the project. Between the two years that passed since the project was initiated to when CCS was formed, Sikkim was now in its third government. A new dispensation was in office in the State, at the helm of affairs for the first time.

CCS started off with re-establishing connections with the monks and monasteries of Sikkim. It must not have been difficult to convince the Sangha to oppose the project given the providence of how CCS had come about and given the fact that senior monks and Rinpoches had already registered their opposition to the project.

So, within a month of having been formed, CCS members were calling on the Governor and the Chief Minister with a memorandum petitioning that the 30MW Rathong Chu HEP be stopped immediately. The letter also served an ultimatum, conveying that if the authorities failed to act within three days, CCS would shift gears to a different course of action.

At least in the public domain, the CCS protest had still not pre-

sented itself completely as one of religion or the monk body of the State. The petition was signed by the three founding-members of CCS and Bollywood star Danny Denzongpa, who incidentally hails from Yuksam where the project was to come up. The involvement of ordained monks and monasteries was not yet explicit.

The barely six-month old government, perhaps sensing an Opposition hand (it was still a government with a very slim majority in pre-Anti Defection law times) and clearly on the advice of still-powerful bureaucrats, responded with surprising aggression, rejecting the protest group as agent provocateurs misguiding the people in pursuit of their anti-development agenda.

Sonam P Denjongpa recalls that when they started the protest, all they knew was that the project had to be stopped. They had no idea of how they would do it or what would be required of them. For inspiration they had no examples around them and drew strength instead from the anti-dam protest launched by Kayapo natives in distant Brazil, a documentary film on which they watched and later also screened for the monks.

Within days of the State Government's rejection of their demand, Mr Denjongpa of CCS arrived at a tent put up outside what was then known as Sukhani House above Gangtok's heart, MG Marg, and where a private car park now stands. He began a hunger strike to protest the Rathong Chu hydel project and demanding that the project be stopped.

Remember, there were no local dailies in Sikkim at the time and national newspapers, which anyways arrived at least a day late here, did not usually make space for news from Sikkim. Further, CCS did not build up to the hunger strike, it just began it, kind of like how ACT would begin its own hunger strike in Gangtok twelve years later – suddenly.

The venue of the hunger strike was difficult to ignore and people – from politicians to lay citizens to government officers and a lot of monks – started calling on Mr Denjongpa and learning about the reasons for the protest. Few would have disagreed with their arguments but it must have quickly become apparent that in a small place

like Sikkim, the only section for CCS to easily tap into and bring to the streets would be monks because not only would they be easier to reach out to through the monasteries, they were also free from the fear of victimization which could deter the lay folk.

Mr Denjongpa is frank about his reliance on monks and faith.

"Instead of focusing on other arguments and approaching other agencies, my personal faith rested in the spirits and deities of Sikkim. As for the monks, they were the most forthcoming. Just one letter and they all showed up for a rally in Gangtok," he shares.

And CCS would flaunt this strength in impressive numbers a month later when it rallied through Gangtok in a procession joined by around 500 monks, followed by an army of elderly women chanting prayers and led by senior lamas representing the monasteries of the State demanding that the project be stopped. They ended the rally by calling on the Chief Minister and reiterating their demand.

The equation with the State Government had improved slightly by then and now the movement was presented publicly as one powered by monks and their fears for their faith. It would however be around two more years before the project would eventually get scrapped and in the interim was also a case moved by CCS against the project in the High Court which ended in the State Government's favour.

The Hunger Strikes and the Snide Remarks

Sonam Paljor Denjongpa and Dawa Lepcha are a generation apart, the former probably in his sixties and the latter having only just entered his forties, but they are very similar in their self-effacing nature and polite demeanour, qualities which can distract from the stubborn commitment with which they campaigned against different hydel projects at different times to only slightly different outcomes.

Looking at Dawa today, he almost appears healthy, showing no signs of the battering his body must have taken during the two staggering hunger strikes he undertook as part of ACT along with Tenzing Lepcha – the first for 63 days and the second for 83 days – to

protest hydel projects in Dzongu.

It is possible that Mr Denjongpa's training as a monk helped him in his 28-day hunger strike against the Rathong Chu hydel project, but then again, no amount of training can prepare one for the resolve required to stay the course for that long especially when marching on uncharted territory and often in the face of uncharitable remarks.

Dawa can laugh about some of these instances now and Mr Denjongpa makes light of the comments that made their way back to him, but at that time these must have been difficult to hear and it is to their credit that they hold no grudges and can brush them off as part of the challenge they had taken on.

Mr Denjongpa shares that he frequently heard "crazy" in reference to himself, as much to describe the indefinite hunger strike he had undertaken in a Sikkim where challenging the establishment for anything beyond party politics was unheard of, as to explain his rejection of the many "offers" that had reached him to "compromise" and call of the hunger strike and the CCS protest.

"And that description followed me for a long time even after the hunger strike was over," he winks. That would be until they won and convinced the State Government to scrap the project eventually despite the many crores that had already been invested into it.

Dawa too has many stories to share of his time through the two extended hunger strikes he undertook. The most frequent "irritant" at the time was when groups would walk past the BL House at Tibet Road where the hunger strike was underway and intentionally wonder aloud, loud enough for them to hear, what the fuss was all about. "Tamasha," is what these passers-by would call their Satyagraha.

With the protest heading nowhere and their bodies feeding on the internal organs (something that would have kicked in by the second week for Dawa and Tenzing), they would settle for even a "poor guys" comment that they would overhear some lay passers-by make and draw solace from that.

But what would have definitely hurt most was what Dawa overheard a youth ask someone near the venue: "What is happening here?" And this is was close to 300 days since the ACT relay hunger

strike and the two extended fasts by Dawa and Tenzing had been underway there!

The Aggressive Posturing

While they might have been able to ignore the snide remarks by passers-by as being inconsequential to their protests, it must have nerve-wracking when their positions met with aggressive push-back from the government, that one agency they would have to negotiate with to get their demands met. At the end of the day, both CCS and ACT must have known that a hunger strike would not pressurize the authorities into scrapping projects but would open the doors for serious negotiations. These negotiations would not be possible if the two sides only traded allegations from entrenched positions. And both protests had their share of bluster and posturing.

The CCS petition to the State Government before the hunger strike was launched was met with summary rejection. In fact, their petition was rejected rather strongly with an official press communiqué conveying that the government would not allow a "handful" of people to "misguide" the rest in the name of environment, culture and religion, a position which emboldened a senior officer at the time to tell a press conference that there was "no room for emotions".

In the end though, sentiments and emotions won the day.

The ACT protest, because it played out for much longer had its bouts of lull and storm, offers for talks and blanket rejections. Both sides were deeply entrenched for most times, traded many allegations and insults and in such an environment, conspiracies abounded making for tense times not just for those on either side but also those watching the events from the sidelines. Much was said over the years that would have made a resolution seem impossible and the issue kept digressing into issues which bruised egos and encumbered talks, sucking away of the trust which was already in short supply.

It needs to be said here that the distractions and indecisiveness hurt the protest movement more than it harmed the authorities, but they were never a pretty sight. It also took away from the substantial achievements of the ACT movement, not only in the projects

it managed to get scrapped, but also in the many intangibles they secured not only for the Lepcha community but for Sikkim at large.

The Successes

After its petitions, hunger strike, rallies and court case, and even on-record support from the central agencies affiliated to the Ministry of Environment & Forests, came to a naught in stopping the project, morale must have been running low in the CCS camp by mid-2007, a little over two years since they had begun their movement.

There were occasional reasons for them to be upbeat, like when the respected Supreme Court lawyer, Rajeev Dhawan, agreed to argue their case in the High Court of Sikkim. Several hearings went very well for CCS with the judge asking some tough questions of the State Government and even ordering a stay on the project early during the hearings. The organization also benefitted from tacit support of government officials who provided them official documents to support their case. This was still before the Right to Information Act had come around.

There was also the report of the One-Man Commission set up by the State Government to review the project which had also recommended, in 1995 itself, that the project be scrapped.

The commission, however, had powers only to recommend, not enforce, and eventually the case in the High Court also went against CCS. Letters from Central ministries could be ignored or danced around since all the required formalities for the project had been met.

And then, success.

On 20 August, 1997, Chief Minister Pawan Chamling, called a public meeting with the monks of Sikkim and the CCS at the indoor gymnasium of Paljor Stadium. It was obvious that a major announcement was to be made, but the movement had seen too many false starts to even hope for what was now really the unlikely.

Although everyone in the audience must have had an inkling of the historic moment they might be part of, it would not have been until the Chief Minister said this that they allowed themselves to hope.

"We respect the sentiments of the Sikkimese people. We will

not let them down. From today, the Rathong Chu project will be closed… it will cease to be," a report in the Sikkim Observer quoted Chief Minister Pawan Chamling as announcing.

The hall erupted into shouts of "Ki-Ki Solo, Lha Gyalo!" (Victory to the Gods).

The CCS movement had succeeded. There is no Rathong Chu HEP in Sikkim.

ACT has also won, several times in fact, but unfortunately, because it allowed too many of those moments to pass uncelebrated and without coming on record about the successes along the way, it does not have that euphoric moment like 20 August 1995.

While talks and negotiations were always on the table, the first round of hunger strike by Dawa and Tenzing extracted a major offer from the State Government when it offered to constitute a Review Committee to go over the demands and issues raised by ACT and other project affected people of Dzongu. The ACT president, a resident of Dzongu, an environmentalist and three Secretary-level officers of the State Government were to be part of this 6-member committee. The committee was to complete its review in 100 days, for the duration of which all project-related activities in Dzongu would be suspended.

It was admittedly a major breakthrough even if way short of what ACT wanted – scrapping, and ACT rejected the review committee as an "eye-wash". The review committee would however go about its task and eventually endorsed the Panan HEP as 'feasible,' but recommended that no more hydel projects be taken up in Dzongu for the time being. It also recommended the setting up of a Monitoring Committee (for Panan HEP) with 'adequate enforcing power' to 'monitor the compliance effectiveness and initiate corrective action as may be needed'. What is even more significant is that it recommended that the powers of this Monitoring Committee be kept dynamic in the sense that it be allowed to review the Environment Management Plan and its implementation, and suggest additional safeguards 'as may be required from time to time.'

Meanwhile, in April 2008, came the first inkling that at least

some hydel projects in Dzongu might actually get scrapped. Meeting with some project-affected people not affiliated with ACT, the Chief Minister stated that only hydel projects for which MoUs had been signed and for which the required processes had been completed would be taken up and the rest, including those for which letters of intent (LoI) had already been issued, would be scrapped. As far as Dzongu was concerned, an MoU had been signed only for Panan HEP and of the remaining five, the LoI for Lingzya had already been withdrawn. With the announcement, only Panan HEP remained inside Dzongu.

This was officially recorded in June 2008 when the Power & Energy Department wrote to the ACT president informing him that the State Government had decided to scrap four hydel projects proposed for Dzongu, leaving only Panan HEP inside Dzongu and Teesta Stage IV on its border.

ACT reciprocated by withdrawing Dawa and Tenzing Lepcha from the second round of their hunger strike on the 93rd day. They had lost more than 10 kilos each, but still put up a brave, optimistic front, stating that they welcomed the latest development and looked forward to the re-initiation of talks.

And that is where matters stand. All hydel projects inside Dzongu, save Panan HEP, have been officially scrapped and with these, Sikkim has arguably become the one State to scrap so many hydel projects (five in all) in response to people's demands. This is a major win not only for the anti-dam activists but also for the State Government and needs to be more universally recognized as such.

Ironically though, Panan HEP has its dam near Hee-Gyathang and the power house at Lingzya. Tenzing hails from Hee-Gyathang and Dawa calls Lingzya home. The two youth who put so much on the line and provided ACT with its most respected and recognizable faces managed to evict hydel projects from all over Dzongu except their own villages.

The Legacy

CCS being the first to protest dams with any consistency in Sikkim

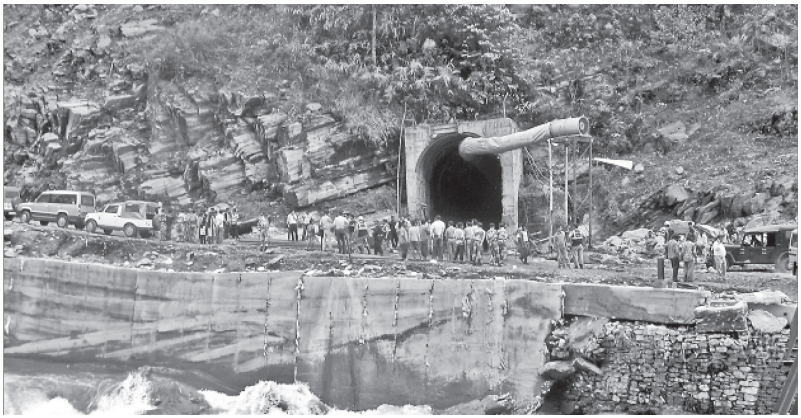
and having scored a victory on its first outing is expectedly turned to for inspiration here. Its founders, even though the Rathong Chu protest was their only official engagement, have supported and counseled other groups, including ACT over the years. Since none of them got involved in party politics later, they have also inspired hope in the altruistic nature of civil society engagements and power of faith and conviction.

This sentiment was carried forward by ACT which has convinced Sikkim and its people that movements here, despite the limitations of numbers and access or even publicity, can succeed, and let there be no doubts that ACT has succeeded, when driven by the selfless commitment of even a handful.

Between them, CCS and ACT have also inspired more people in Sikkim to take a stand when they feel they have been wronged and it is not rare anymore for even lay villagers to undertake protests and challenge the authorities when something as localized as incomplete roads frustrate them. Sure, several other factors must be contributing to these developments, but a major inspiration must be the path shown by ACT and CCS.

To its credit, the State Government has also emerged praiseworthy from these episodes, acquiescing to the demands when there were no legal, administrative or even immediately political requirements for it to do so. It had checked all the required boxes to force through the projects and still decided to listen to what were clearly genuine concerns even if a minority voice. That should count for something.

At the end of it all, despite the abrasive attrition through which these protests and negotiations were hauled, they ended with an uplifting message of hope and positivity for everyone involved… to serve as an inspiration for the rest.



The mouth of the Adit - III tunnel which was inundated by a wall of water carried by a flash flood in the Rangpo Khola fatally trapping 10 labourers at work about a kilometre deeper on the night of 16 April 2009.

Labouring for Hydel

PEMA WANGCHUK DORJEE

Ten labourers working about a kilometer deep inside the Lamaten hill in the Eastern periphery of Sikkim near Rongli were caught unawares on the night of 16 April 2009 when a flash-flood on the Rangpo Chu tore into the Adit-III tunnel they had used to access the headrace tunnel of the under construction 99MW Chujachen hydel project.

It is still unclear what caused the flash-flood. It is speculated that a cloud-burst higher up in the catchment area could have caused it, but it is unlikely that a cloud-burst alone could have sent down a flashflood 21 metres high on a stream during what is technically

still a lean season. At the time, it was also speculated that a natural reservoir created by a landslide upstream might have burst causing the sudden inundation. It is also possible that a combination of the two events – a cloud burst and the collapse of a landslide reservoir – caused the mayhem which ended up claiming the lives of the ten labourers. There are no records offering an official explanation for the flashflood, and it is this general disinterest that underlines how the affairs of those who toil in the thousands to put together dams, dig out tunnels and struggle to tame mountain streams are attended to.

In the Chujachen HEP incident, the tenth body was recovered from its watery grave a full six days later. Agreed, the location was remote, but it still had roads which carried heavy machinery to the area. Yes, the terrain had taken a battering, but that was something the project developers and the officials knew all along and should have been better prepared for. And maybe the disaster preparedness was there on paper, but on location, it was obvious that there were no emergency facilities in place. There were no emergency exits even though it would have been an obvious inclusion given that these tunnels become buckets if water was to rush in. On the first day of rescue operations, even the pump being used to evacuate water from the water-logged deeper tunnel was woefully inadequate for the task, and while these were supplemented with more machines and pumps later, it still took six days for the last body to be recovered.

State officials were clearly disturbed by the lack of precautionary measures of any semblance or advance warning systems in place and promptly registered a case of culpable homicide. A day later, the site-in charge of the company engaged in the tunneling work was taken into custody. Ten lives were lost on the day, but apart from the Rs One lakh or so compensation which might have been made out to the surviving families, nothing else came of it. There were no convictions; not even for negligence.

Even lay observers had commented that if there was indeed a natural reservoir created by a landslide upstream, someone should have been monitoring it. Even a ten minute head-start might have been enough for the labourers to escape.

Meanwhile, four years later, in May 2013, the project began commercial operations. It is unlikely that the ten labourers were remembered on that day or even a token plaque installed at the accident site to record their "sacrifice" at the altar of development.

Media reports at the time, while they followed the rescue operations and reported on the working conditions on site, ironically, did not even record the ten names, perhaps because no one else bothered with the names either. In fact, a day after the incident, it was even unclear as to how many labourers could have been caught in the flashflood. A roll-call, one would surmise, could have easily established that. Eventually, only after the muck had been sifted through and ten bodies recovered was the number of dead fixed at 10. Before that, it was feared that 11 lives might have been lost.

One could speculate that the general lack of follow-up or interest among the people about the fate of the labourers or who they were was because they were "non-locals", trucked in from Bihar and West Bengal. Also, hydel projects see a complicated list of contractors, sub-contractors and labour contractors and fixing clear accountability becomes difficult. Then the workforce keeps changing and their numbers fluctuate and record-keeping and over-watch suffer as a result.

One got a sense of how low the labourers sit in the priority list of those who employ them and agencies which are supposed to look out for them in the wake of 18 September 2011 earthquake which rattled Sikkim. There were no helicopter sorties or even vehicles arranged to assist their flight and thousands walked their way out of North Sikkim, through the litter of landslides, abandoning their pending salaries in the confusion and it is possible that many never even returned to collect their dues. Most of the labourers that one came across at the North district headquarter town of Mangan, from where vehicles could be taken to leave Sikkim, complained and shared their grief and just about everyone said they were relieved to be alive and would not return.

The timing of the earthquake worked in their favour because it came a day after Bishwakarma Puja, that one day when worksites

see no work and most labourers are away from the worksites the next morning, busy with the immersion (bisarjan) rituals. It was also propitiously a Sunday. One shudders to think of what the casualty list would have read like if work was underway at all the hydel project sites when the earthquake struck. Most projects in the State were at the peak of construction work at the time with thousands of labourers engaged at numerous sites. At the end, 63 lives were lost in the earthquake all over the State with around 20 of them employed with hydel projects here. How long would it have taken the labour contractors and the authorities to tabulate the number of lives lost had the earthquake occurred on a working day?

While fewer lives were lost, there were still severe travails that visited the hydel workers, with most of them engaged at the Teesta Stage-III HEP in North Sikkim on the wrong side of cut-off Sikkim.

Mangan, which soon became accessible, was crowded with families rushing there in search of their next of kin engaged at the projects and a steady march of labourers walking their way down, most without any money and carrying only the hope of hitch-hiking their way home. Several workers informed that they had not collected their wages for the past 4-5 months, a common practice since they preferred to collect their dues in lump-sum when they finished their contract and had something substantial to take home. In the confusion after the earthquake, they could not get in touch with their pay-masters and were not willing to wait around for too long. Powerful aftershocks were still rattling the State and most were unnerved by the experience. So they fled, abandoning their wages and most never returning.

Official records make no mention of any attempts being made to contact these workers later or of any efforts made to settle their dues.

Although it was claimed at the time that project authorities were making arrangements to evacuate the thousands stranded at Chungthang - the nerve-centre of project works, the earthquake impact and gathering point for people fleeing the district - the testimony of the many who had trekked down unescorted, painted a different picture. There were seven relief camps set up in Chungthang,

populated mostly by fleeing labourers.

Claims were made later by project developers about assistance provided to its workers and the assurances made to them. But the numbers did not always add up, the network of project developers, their sub-contractors and then the labour contractors stretching out a paper trail so complicated that the exact number of hydel labourers in Sikkim at the time of the earthquake will never be exactly known. Nor has anyone bothered to follow up on what happened to the lost wages or the PTSD they must have carried home with them.

There is little that one can do in the face of natural events like flash-floods or earthquakes, but it is in the wake of such calamities that the short-cuts taken at the cost of the welfare of labourers gets exposed. While the two instances cited above speak about the big incidents that made the headlines, everyone involved should have woken up earlier to clear indications all along that hydel workers are exposed to more risks than should be their share.

In the year 2001, there was a cholera outbreak in the labour camps of Teesta Stage-V. NHPC had not foreseen the possibility of such outbreaks at labour camps where workers reside cheek-by-jowl with only very rudimentary facilities. It did not have enough medicines and had to borrow supplies from the Sikkim Government Primary Health Centre at Dikchu.

Soon thereafter, the PHC at Dikchu, where the dam for Stage-V is located, started receiving NHPC labourers in the hundreds every day. A PHC is appointed to attend to much fewer patients, no more than a dozen locals on a busy day, but they were inundated by labourers who felt more comfortable with doctors who could understand them, literally. Most of the labour force was Nepali-speaking and the NHPC doctors did not speak the language. Something as basic as communication was ignored when appointing doctors for workers.

Surprised by the high number of diarrhea, dysentery and viral fever cases that were being reported from the labour camps, one of the doctors from the PHC even visited the labour camps and returned shocked by the living conditions. Sanitation was absent and there

was no provision for potable water.

And that was only one part of the problem. The number of STD cases being reported were also climbing.

These are basic health issues that are required to be looked into by any project developer. But the squalid conditions of the labour camps have consistently told a different story. The workers are often accused of disrupting the socio-cultural balance of the remote areas where such projects usually come up, but scant interest has been paid to the squalor they have to survive for their wages.

There are labour laws and rules in place to provide for better living and working conditions, but these remain easily bypassed and conveniently overlooked.

Protests at hydel worksites have been reported often, but only occasionally do they sustain unless it involves "locals". One such episode, and there have been many, was reported at the Dikchu HEP site in June 2011 when labourers abandoned work because the conditions were more hazardous than even they could handle.

After a makeshift bridge to access the worksite at the tailrace tunnel of the project was washed away on 01 May 2011, the workers were made to make it across on a flimsy wrought-iron contraption swinging from a used 12 mm iron wire without any security harnesses to protect against a mishap. They continued this way for a month, but as the monsoon arrived and the river below swelled, they decided they had taken enough and suspended work.

Ironically, the local panchayat tried to mediate and attempted to convince the workers to "bear with the company till a new bailey bridge was constructed". Eventually, the workers returned to work after a more robust "ropeway" was promised. At the worksite across the river though there remained no toilet facilities and no drinking water supply.

Such situations have surfaced more often than is possible to record here, and there have also been instances of projects shutting down without any communication to the workers. Employees have

also been arbitrarily dismissed from service. The point being made, however, remains the same – those who labour the most for hydel are also the ones who are exposed to the most risk, receive the least support and are left to fend for themselves even when they are the most vulnerable. Also, because most of them are "non-locals" they lack the societal support or even interest or the resources to get themselves heard and their woes addressed. Now, with most of the hydel projects completed or nearing completion, there are already much fewer hydel labourers left in Sikkim, most having returned to their homes or other worksites, carrying with them their own horror stories and may be, just maybe, also some pleasant memories of their work in Sikkim.

A family prays alongside a monk as he offers prayers to the Teesta from the bridge near Teesta Bazaar on the National Highway. The ritual, earlier performed at the river bank, is now carried out on the bridge because the reservoir of a dam downstream has submerged the Teesta's banks blocking access to the spot. [foto: Tshering Eden]

Unforeseen Costs

TSHERING EDEN

A Lepcha couple carrying dokos [bamboo baskets] on their backs leave home to gather fodder for their cattle. It is just like any other day. Today, however, they are stopped by guards from entering the land that had once been theirs, and their forefathers' before them. The land that had been passed down from generations was acquired by hydel power project developers for the 300 MW Panan hydel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project in Dzongu, North Sikkim. The duo could not understand why they were being stopped from even collecting fodder on this land on which nothing had yet been constructed. It had not dawned upon them that when they sold the land to the developers, they had given up their rights to whatever grew on that land as well; even something growing wild like fodder.

This, amongst many others, is a telling example of the difficulties involved in comprehending the costs at which hydel projects are built.

Before construction of a hydel power project begins, the power developers, stakeholders, government and other agencies involved draw up all possible impacts the project can have on the environment and the lives of the people of the area. More often than not, benefits trump the possible harm to environment. So, all negative impacts are accounted for and measures put in place to counteract them. Even so, the effects can never be foreseen in their entirety.

Take the case of Environmental Impact Assessment (EIA) Reports which are meant to assess the likely impact on environment due to a power project, and based on which Environment Management Plans are drawn up to mitigate such impacts. The Comptroller and Auditor General of India (CAG), in its 2016 Performance Audit on 'Environmental Clearance and Post Clearance Monitoring', stated that EIA Reports in River Valley and Hydroelectric Projects are of the 'poorest quality'. Poorly done EIAs mean surprises and in this particular context, there are no pleasant surprises.

Falling on the border of North and East districts of Sikkim is the town of Dikchu, one kilometer away from where a river by the same name meets Teesta. Dikchu means 'noisy river' in the vernacular. It is also where the reservoir of the 510 MW Teesta Stage V hydel project is located. The reservoir also backs into the Dikchu river and consequently, the river is no longer noisy. This, at least initially, meant sleepless nights for some residents of the town. People were used to the gush of the river lulling them to sleep. The river's sounds - an unforeseen cost.

Meanwhile, people in Sikkim are all too familiar with the decreasing volume of the Teesta. Every trip along National Highway 10 towards the plains of West Bengal will elicit a comment on the drying Teesta. The 510 MW Stage V dam holds back most of the Teesta's water which is why the river downstream of the dam has hardly any water running through it.

A Bridge, a School and a Town

Hydel projects entail the movement of a large number of labour and construction supplies and a tragedy concerning the latter brought to light something very few had considered to be related to these projects.

On 19 Dec 2011, ten people were killed in a bridge collapse at Rangchang Khola, about 18 kms from Singtam towards Dikchu on the Singtam-Mangan highway. The incident took place when a 48-wheel heavy trailer, engaged by the Teesta Urja company, was attempting to cross the bridge. Just as the vehicle arrived in the middle of the bridge, the entire span collapsed, taking with it the vehicle and all inside it along with four pedestrians who happened to be crossing the bridge at the time.

The trailer was taking supplies to Chungthang where Teesta Urja was constructing the Teesta Stage III hydel project.

Although, the bridge had been constructed just two years ago and was thought to be sturdy, many others in the State have not been constructed for transporting such heavy loads. 48-wheeler trucks do not regularly ply on Sikkim's roads.

Soon after the incident, the State Transport Department resolved to take "strict and stringent action" against any transporter ferrying more than 10 tonnes of load which is the prescribed load limit allowed on all Sikkim roads. The ill fated trailer was carrying around 60 tonnes.

Meanwhile, on the border of South and West Sikkim is the 96 MW Jorethang Loop HEP which considers itself a smaller and harmless project.

"Jorethang Loop HEP is a run-of-river scheme with minimal storage of 0.63 MCM and no people rendered homeless or landless. The submergence area that will be created due to the construction of the diversion structure is only 14.48 ha (at FRL [full reservoir level]), none of which comes under private land or renders anyone homeless or landless."

That is what the website of the project developers, Dans Energy, says about the Jorethang Loop HEP under a section labeled 'Environment'. However, in August 2017, the Jawahar Navodaya Vidyalaya at Rohtak in Jorethang had to be shut down for about 10 days because continued toe-erosion by the reservoir had washed away a portion of the boundary wall and endangered one of the hostels in the school. Ever since the project was commissioned in Oct 2015, toe erosion caused by the rise and ebb of the reservoir had been cleaving away at the boundary of the school.

"Dans Energy put no thought into the effects the reservoir would have on the school and did not implement any measures to protect the school," says Vice-Principal of JNV Rohtak, Parshuramaiah.

When the project began in 2015, he was the Principal In-Charge of the school and when water started collecting in the reservoir, he began speaking out against the dangers this could pose to the school. He shot off numerous letters to the project developers and the administration, but it was only after the school actually sustained damages and the High Court of Sikkim issued directions that the power developers started repair works. However, this too, Mr Parshuramaiah terms as 'eyewash' because Dans Energy is only repairing the damaged portion of the boundary wall and not investing in protective works.

"They are only working on a small area. 90% of the damages are not being addressed by the power developers," he says.

Last year, Dans Energy was also directed by the District Collector to construct a borewell for the school as an alternative to the pipeline, also damaged by the reservoir, which supplies water to the school. Work on this is yet to begin.

"With the rainy season about to begin, we fear that water supply

is again going to be badly affected," the vice principal adds.

For now, around 100 boys are living in two temporary sheds constructed by the power developers after one of the hostels was rendered unsafe by toe-erosion by the reservoir last year.

Even for a layperson, it seems obvious that man-made dams holding back huge amounts of water are likely to have all kinds of impact on the river and land. However, predicting how nature will behave is not something we humans are very good at, so those behind such projects fail to foresee many such impacts and can only offer stopgap solutions later.

Take for instance the case of Dikchu, a small town which now lives lapped by the massive Teesta Stage V reservoir. In 2011, people of the area complained that around 20 feet of private land holdings had been washed away by landslides that occurred at the base of the Dikchu New Market which sits right above the reservoir. They blamed the lack of rim treatment for the damages.

Similarly, landslides at Jang village, located on the left bank of the Teesta near Dikchu, also caused major damages to houses and other property with 24 of the 45 houses in the village being declared unsafe for habitation. All of them had suffered wide cracks induced by landslides which have been tearing away from the slope below into the Stage-V reservoir. A study conducted by Sikkim State Disaster Management Authority of landslides in Sikkim [Inventory and GIS Mapping of Landslides in Sikkim] reported that this slide "has been compounded by the lack of rim treatment at Teesta V reservoir".

The Mangan-Dikchu highway below Dikchu New Market is also now at risk of collapsing due to the instability tugging at it from the reservoir below. The affected blame improper Reservoir Rim Treatment measures adopted along the reservoir by NHPC for the landslides.

Livelihood Stolen

"The Teesta feeds thousands of people so she is like a mother to us," says Anit Chettri, owner of Everest River Rafting located at 7th

Mile, Kirney [West Bengal] along the National Highway 10. He is referring to how river rafting and quarries [sand and stone] help people settled along the highway eke out a living. According to Anit, the rafting business employs around a 1000 people. The Teesta-V dam, however, has taken the thrill out of river rafting, or more literally, taken the white out of the white water.

"Just imagine having to push a grounded raft free from the middle of the Teesta! That's how it is. Our rafts get stuck and damaged because the river is too shallow," he says of how the dam has affected the river's flow. He says he's scared that rafting will be completely dead one day.

"We have to lie to tourists when they point out the low water levels in the river. We tell them another tributary will join the Teesta lower down and the water levels will increase. We have to do that. This is how we earn our livelihood," shares Anit.

During peak season which is from April to June when the rains have set in, one can expect 3 plus - 4 plus grade of rapids in the Teesta. At other times there are hardly any rapids at all, he says. It wasn't like this before but since the dam in Sikkim came up, the Teesta is no longer how she used to be.

"The thrill of rafting is gone. You won't even get some water on yourself during the ride. So I tell my guides to make sure that the tourists get wet a bit even if they have to swim or take a dip in the river or just splash some water on themselves," says Anit.

At 29th Mile, NH10, Bina Tamang, previously a quarry worker, now runs a tea stall.

She is among the hundreds of workers who have been forced to find an alternative source of livelihood after the quarries had to be shut down when the Teesta Low Dam IV was constructed 18.3 km downstream of Teesta Bridge near Teesta Bazaar and flooded their work-site.

Bina, along with many of her family members, worked at the quarry for 30-40 years. When the reservoir was filling up, quarry workers continued working, moving up the river until the banks got

completely submerged.

When asked if they were told that the quarries would be flooded out of business after the dam came up, Bina says, "NHPC didn't tell us anything."

Two years after the quarry shut down, the workers were paid a measly Rs 48,000 each as compensation.

"The party [TMC] pursued the matter and got us Rs 48,000 in compensation eventually. That amount was nothing, we just spent it. Earlier, NHPC had said we would get Rs 4-5 lakh per person. Later, GJM had promised to get us Rs 2 lakh," says Bina.

She adds that for this too, the affected had to run from pillar to post paying for the travel from their own pockets.

Quarry workers used to take home between Rs 500-600 per week, so it looks like NHPC worked its compensation as per their wages lost for two years between when the quarries were shut till the compensation was paid out. Now, many of the quarry workers have moved to different places or collect and sell firewood. Bina sells tea.

"They didn't provide us the full details of what would happen if the dam came up. All of a sudden water levels rose, we weren't aware that would happen," says Milan Tamang, a contractor who used to run a quarry at 29th Mile.

He adds many houses including his own have developed cracks due to the reservoir.

"We didn't know the project would have this kind of impact. They told us it is a small project. The river scares us now because it used to be down there… Now it has come up so high. It is 60 feet higher than where it used to be. I have worked on constructing the protective wall so I know. Water used to flow before and not stagnate like now."

A lot of land was also taken by the NHPC, he informs, and adds that the compensation rates were not determined following any proper process.

"It was according to their whims and fancies. Some got Rs 35,000, some Rs 50,000. We don't have proper documents of land ownership

so we couldn't do anything either," says Milan.

A sidenote that begs mention here is the role of compensation money or rather the lack of a role it plays in actually compensating for the loss of the project-affected. In the case of the quarry workers, the loss of livelihood could never be compensated for by the amount they were given. Meanwhile, in Dzongu, those that had to part with their land got generous amounts as compensation, in a way due to the sustained protest against the projects there. However, villagers who are not accustomed to handling even small amounts of cash were suddenly overflowing with it and the money just bled away.

Dawa Lepcha, the torchbearer of the protest against hydel projects in North Sikkim, narrated the story of how a relative squandered more than half of his compensation money. This relative had received around Rs 27 lakh as compensation and on advice from an insurance agent put in Rs 18 lakh in insurance schemes for his three sons and a daughter. Unaware of the workings of insurance schemes, he failed to pay the premium installments and lost all the money.

Delays Empty State's Coffers

Fiscal stress on the state exchequer is another aspect of the hydel projects in Sikkim that only manifested later. According to the CAG Report 2016, the total cost overrun on the 1200 MW Teesta III project that was commissioned last year, was Rs 8,265 crore.

What this means is that an extra Rs 8,265 crore went into building the project in addition to the original estimated cost of Rs 5,700 crore. The report says that the cost overruns were mostly due to the time overrun which in turn were due to various reasons including the 2011 earthquake, flash floods, increase in the project costs due to unforeseeable geological surprises and so on.

Time overruns automatically result in cost overruns because cost of supplies is always on the rise in the market and of course the more time it takes to complete a project the more man-days it means, so labour costs also go up. We also know that construction projects are

always flush with allegations of developers deliberately causing delays to up the costs. Coming back to Teesta III, the project ran into three cost overruns and time overrun of more than four years.

Athena India, a consortium of companies, formed a Special Purpose Vehicle [SPV] by the name of Teesta Urja Limited to develop the Teesta III project. The consortium, however, did not have the financial capability to fund the project. This came to light only when it refused to fund the second cost overrun forcing the state government through [SPICL] Sikkim Power Investment Corporation Limited to take over 51% equity shares [Rs 266.56 cr at the rate of Rs 8.53 per share] of Teesta Urja Limited in 2015.

The state was to contribute only 26% in TUL's capital with the private consortium contributing the remaining 74%.

Human Cost

On 18 April 2014, sisters Chandra, Maya and Radhika Gurung were swept away by the Teesta near Bardang when water was suddenly released from the reservoir of the 510 MW Teesta V Hydropower project.

While Chandra and Maya were rescued by locals, Radhika could not be saved.

No warning sirens or alarms were sounded before the water was released from the reservoir, locals said.

This incident led to a PIL being filed in the High Court of Sikkim in the same year. In 2016, the court finally directed the National Hydroelectric Power Corporation, the developers of Teesta V to set up proper warning system and protocol, install scientific and technical instruments necessary for ensuring the safety of the Dam and the life and property of people in the area and downstream and pay the family of the victim compensation of Rs 5 lakh.

Despite this tragic incident, project developers continue to ignore safety regulations as was made evident in May last year. On 26 May 2017, four youths were nearly washed away when the 96 MW Dikchu hydel project released water from its reservoir without any

photo: Tshering Eden

The high tension power supply line, the proximity of which to ELIM Prayer House, near Dikchu made prayer sessions so unsafe that a part of the Church had to be demolished.

warning. The four managed to escape, but their belongings like bag, camera and mobile phones were carried away by the river forced into sudden spate by those managing the dam. They were at the riverside at 12th Mile that is downstream of the dam and the reservoir of the said power project located at the confluence of Ratey Chu and Bakcha Chu below Lingdok, 9th Mile, East Sikkim.

Following the incident, the High Court stepped in with a suo moto Public Interest Litigation and directed that proper warning systems be put in place. As the respective DCs made the rounds of project sites, they discovered that none of the hydel projects had adequately functional sirens in place!

Endangering the 'Vulnerable'

"The river's volume has reduced because of the dam. It holds and releases water so the fish have vanished. Some old species have disappeared and the rest don't grow any more. I have caught small fish like gadela, smaller than a dot pen, lohri which is also small, buduna, phageti, chaaley is long," says Dal Bahadur Bhujel, a fisherman from Najok, Kalimpong.

It is no surprise that damming rivers will have an effect on the aquatic life it supports, but it has been treated as a sort of collateral damage that cannot be helped. However, the Teesta III project did spare a thought for the snow trout even though it came to naught in the end.

The Environmental Impact Assessment [EIA] for the 1200 MW Teesta Stage III had said that the dam on the river would act as a barrier to the free movement of migratory fish species, especially the common snowtrout [Schizothorax richardsonii], and could lead to adverse impact on the survival and free movement of migratory fish species. The snowtrout is listed as 'vulnerable' in the IUCN Red List of threatened species.

Hence, the EIA recommended the provision of a fish ladder, which was also incorporated in the Environment Management Plan [EMP] for the project. However, the fish ladder was not found to be a suitable option and instead, a trout farm was set up at Rabum,

North Sikkim. Ironically, this farm mainly facilitated breeding of other species of trout and not the endangered snow trout.

The CAG 2016 report notes that fish ladder was one of the conditions for the Environmental Clearance and the harm to migratory fish species remained unaddressed. The project was commissioned on 17 Feb 2017 which means that the snow trout has already lost at least one breeding cycle (as of April 2018).

Angling enthusiast, Dr SK Dewan, says that the Farakka dam has caused major damage in terms of the migratory pattern of fish in the Teesta and other rivers in the hills.

"Sport fishes are fresh water fishes, they take time to mature. They are migratory and the ones found here originate in the Brahmaputra and Ganga delta. When they mature they swim up towards the Himalayan foothills stretching from Nepal, right up to near Manipur, to lay eggs during monsoons. They return after laying their eggs. The inflow of such fish into Sikkim went down due to the Farakka barrage because of which fish could not migrate up. They say there are fish ladders through which they are supposed to come. And now with so many dams coming, another 5-10 years we'll have nothing," he says.

Conclusion

Most of the incidents in this article are ones that made it to the headlines and there most certainly must be many which have not. Of these, the socio-cultural impacts of power projects are some that could not find space in this article. However, here is one that could perhaps illustrate what such impacts are about. Residents of 29th Mile on NH10 used to perform rituals for festivals like Chhat Puja and Maghe Sakranti on the Teesta's banks, but because of the Teesta IV Low Dam the banks have been submerged and they now perform the rituals on the road or from the protective wall. It is such intangible costs that 'development' comes at that are difficult to reconcile with, the loss being so final.

Massive construction projects are bound to have adverse impacts and it would be a difficult, almost impossible, task to predict all of

them; however, what is imperative and possible is to ensure that mitigation measures already in place are implemented in earnest. Mired by politics and big money, the debate on development versus environment continues - the divide between the groups lobbying for either only growing wider with time. In the case of Sikkim, the price for development has been high, but how high exactly? Only time can tell.