

# **SITE INSPECTION REPORT ON THE PROPOSED TEESTA IV DAM**

Submitted to the Standing Committee of the National Board for Wildlife



## **Site inspection team**

Dr MD Madhusudan, Nature Conservation Foundation, Member

Mr. Kishor Rithe, Satpuda Foundation, Member

Dr MK Ranjitsinh, Member

Dr AJT Johnsingh, Member

August 2013



## **BACKGROUND**

In its 28th meeting held on 20th March 2013, the proposal for 520 MW Hydroelectric Power Project, Teesta Stage-IV on River Teesta in North Sikkim, by NHPC Ltd, was placed before the SC-NBWL for consideration. The Member Secretary informed the SC-NBWL that the project location falls 4 km away from the Fambonglho Wildlife Sanctuary and was recommended by the State Board for Wildlife.

Dr M.K. Ranjitsinh highlighted that the ecology of Teesta River was seriously deteriorated and this project requires careful consideration. Kishor Rithe asked about the present power generation capacity of Sikkim and actual consumption. Principal Secretary (Forest) admitted that the present generation is much more than the actual requirement of the state and the state sells the surplus power. However, he stated that the power generation and tourism are the two major sources of getting revenue for the Sikkim State and hence this proposal is essential. On this, Kishor Rithe expressed that serious environmental concerns have been raised by local conservationists about this project and they need to be addressed, as the project is proposed just 4 km away from the Fambonglho Wildlife Sanctuary.

Ms. Perna Bindra suggested that a cumulative impact assessment of all the hydro power projects on the Teesta River should be undertaken immediately, given the many dams on the Teesta and their deleterious impact on the rich biodiversity of this region as well as local livelihoods and sentiments.

Following discussions, the SC-NBWL decided that a team comprising Dr M.K. Ranjitsinh, Kishor Rithe, Dr A.J.T Johnsingh and Dr M.D. Madhusudan would carry out site inspection and submit a report to the committee for its consideration.

## **SITE INSPECTION DATES AND PEOPLE MET DURING FIELD VISIT**

Following this decision, the above committee visited the project site and nearby areas from 15<sup>th</sup> to 21<sup>st</sup> May 2013. The committee met the following representatives from the Sikkim Government's Forest, Environment and Wildlife Management Department (FEWMD), the user agency, National Hydroelectric Power Corporation (NHPC), and people from local citizens' groups.

### *FEWMD Officials:*

Mr. Arvind Kumar, In-charge Chief Wildlife Warden, Sikkim and Principal Secretary (Forests), Government of Sikkim; Mr. N. W. Tamang IFS, CF (Wildlife); Mr. Tshering Pintso Bhutia, DFO (Wildlife) West; Mr. Sangey Bhutia, DFO (KNP & KBR), Mr. Sugan Saring, DFO (North Territorial and i/c Wildlife) and Mr. Bindhya Subba (Range Forest Officer – Wildlife, Dentav Territorial).

### *NHPC Officials:*

Mr. D Chattopadhyay GM, TEESTA IV HGP; Mr. AK Chaudhary Chief Engineer (civil) TEESTA - IV HEP; L. Lepcha Sr. Manager (Elec.) TEESTA IV HEP; and Dr. Sujit Bajpayee, Dy. Manager (Environment), NHPC Corporate Office, Faridabad.

### *Local Community Representatives:*

We met with the following community members in person at Mangan, during our field visit: Dawa Lepcha, Likden Lepcha, Cofel Lepcha, Tshering Thendup Lepcha, Ongchok Lepcha, Sonam Wangchuk Lepcha, Topden Tashni Lepcha and Tseten Lepcha.

In addition, the committee also received email representations from following individuals

Mr. Samir Mehta, South Asia Program Director, International Rivers (Annexure 1)

Mr. Tseten Lepcha, Former Honorary Wildlife Warden, Sikkim (Annexure 2)

Mr. Tseten Tashi Bhutia, Sikkim Bhutia Lepcha Apex Committee (Annexure 3)

Dr. Latha Anantha, River Research Centre, Thrissur, Kerala (Annexure 4)

## **DETAILS OF SITE VISIT AND FACTS GATHERED**

### *Meetings and Field Visits with NHPC and FEWMD Officials*

We arrived for a site inspection of the Teesta IV Hydroelectric Project on 15th May 2013. We met officials of the NHPC, the project proponent at their premises in Balutar and held discussions about the scope of their proposed project for the 520 MW Hydroelectric Power Project, Teesta Stage-IV on river Teesta, in North Sikkim, by the NHPC Ltd.

Officials of the NHPC explained various technical details of the project, including the location of the dam and powerhouse, as well as the alignment and methods of constructing the headrace tunnel from dam to powerhouse. In the case of Teesta IV, the powerhouse and the tunnel, we were told, were to be constructed on the right bank of the Teesta River, unlike with Teesta V. The proposal requires total 324.07 ha land, which involves diversion of 143.49 ha of forest land, of which the proposed break-up is as follows: dam complex: 28.80 ha, powerhouse: 14.92 ha, reservoir submergence: 37.32 ha, water course: 31.51 ha, quarry area: 2.37 ha, underground 14.40 ha, Adit area: 13.30 ha, and colony area: 0.87 ha. We further learnt that 73.63 ha of forest land on the right bank lies in the *dzongu* region, considered sacred by the local Lepcha community. Further, technical aspects of the proposed project, especially those related to the powerhouse, were also explained through a demonstration visit to the powerhouse of the already-operational Teesta V project, commissioned earlier in 2008, and lying about 25 km downstream of the proposed Teesta IV project. We asked the Deputy Manager (Environment), NHPC if and how ecological flows had been determined in the river downstream of the proposed dam, and whether they had assessed potential consequences on the river function and riverine fauna. Besides the carrying capacity study on the Teesta Basin<sup>1</sup>, we were pointed to the local wildlife officials' report, which had claimed that the "rise in the ground water table has positive impacts on the availability of water to the wildlife". Besides noting that "all project components except the dam are underground and hence cause minimum disturbance to wildlife and environment", the report also lists a range of negative impacts, including, "felling of trees; disturbance to wildlife during the construction period; change in hydrological regime; disturbance to wildlife, due to ground vibration; noise due to increase in traffic on the road; submergence of wildlife habitat; and loss of some rare flora". Beyond such a listing of the broad potential

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<sup>1</sup> Centre for Interdisciplinary Studies of Mountain and Hill Environment (CISMHE) (2007) *Carrying Capacity Study of the Teesta Basin in Sikkim. Vol. VI – Biological Environment*. University of Delhi and Ministry of Environment and Forests, Delhi, India.

risks, there does not seem to be any reliable assessment of the impacts of these dams on ecology and wildlife.

We also asked FEWMD staff about the location of the proposed project, in relation to the boundaries of the Khangchendzonga National Park and Fambonglho Wildlife Sanctuary boundaries, and also in relation to the 10-km ecologically sensitive zone wherein the Honourable Supreme Court of India had ruled that, “*The MoEF would also refer to the Standing Committee of the National Board for Wildlife, under Sections 5 (b) and 5 (c) (ii) of the Wild Life (Protection) Act, the cases where environment clearance has already been granted where activities are within 10 km. zone*”<sup>2</sup>. The FEWMD officers reported that the Project Teesta IV location falls 4 km within from the Fambonglho Wildlife Sanctuary (51.76 sq. km) and 5.83 km from the Khangchendzonga NP, both parks renowned for their wildlife, which include many species that are not only protected under Schedule 1 and 2 of the Wild Life (Protection) Act, 1972, but also are also listed as globally threatened and endangered. In particular, we noted that about 32 species of fish belonging to 6 families have been recorded from the project site, including the golden mahseer (*Tor putitora*) and the snow trout (*Schizothoracichthys progastus*). We particularly note that both the golden mahseer and the snow-trout are known to seasonally migrate upstream and downstream<sup>3</sup>. Further, fishing cats, which depend upon fish fauna in the River Teesta, are also reported from the area of the proposed submergence, staff colony and dam site.

On 16th May 2013, driving upstream of the Teesta V powerhouse, we noted extremely low flow in the river, which was particularly so in the stretch of the river directly downstream of the Teesta V dam (Figure 1), where the river was diverted through a tunnel.



**Figure 1: The Teesta V dam showing the virtual absence of flow in the river downstream of the dam, which can have devastating consequences for river-dwelling and river-dependent species.**

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<sup>2</sup> WP 406/2004, Goa Foundation vs. Union of India, Order dated 04/12/2006

<sup>3</sup> CISMHE (2007), *ibid*

Such low flows, where River Teesta has been diverted through tunnels, are a cause for serious concern in the context of maintaining the ecological function of a river. We enquired from NHPC officials about how details of ecological flows were determined, and learnt that ecological flow was not a parameter that was optimised in the planning process. We were told that downstream flows were effectively a consequence of maximising hydropower potential of various river basins as determined jointly by the Central Electricity Authority and the Central Water Commission. These values, in turn, were used as the basis for soliciting proposals for hydroelectric power projects. In other words, we learnt to our great dismay that absolutely no ecological considerations whatsoever was used in the process of determining the hydropower potential of river basins. As a result, an arbitrary figure of 5.2 cumecs has been applied as the ecological flow. Yet, we note that this point—of alteration of hydrological regimes—has been raised as among the negative impacts of the project in Part III of the wildlife clearance application by the DCF (East Sikkim) and DCF (KNP/KBR). Further, this point has also been raised most emphatically in the 18<sup>th</sup> May 2012 report of the Additional PCCF, MoEF Regional Office, Shillong, to the MoEF where he points out the dangers of “cascade development of hydroelectric projects” (Annexure 5). But nowhere in the documents made available to us, or in personal clarifications was there mention of how the impact of such heavily depleted river flows and altered hydrological regimes would be mitigated.

We also learnt that the Singtam-Dik Chu road, which was with the Border Roads Organisation and handed over to NHPC at the time of construction of Teesta V, was upgraded for about 30 km length by NHPC (seemingly without necessary permissions for such a hand-over or upgradation under the Forest Conservation Act, 1980). We saw many permanent houses constructed along the road near Raley, Tumin, Lum and Dikchu and some of them were converted into hotels and shops during the construction of Teesta V. At many places, the garbage dumps were visible and the negative impact of this road upgradation on the surrounding fragile forest landscape was evident. However, the damage has been already done and the same road would be used for the Teesta IV construction. As proposed, the tunnel construction for Teesta IV will be on the right bank of the Teesta River, unlike Teesta V. A separate bridge to cross the river will be constructed at the location where the powerhouse (28 ha area underground) and tunnel (6.5km length) mouth, is proposed.

We gathered a few other facts in the course of our site inspections and subsequent investigation.

- Forests within the Supreme Court mandated eco-sensitive<sup>4</sup> area of Khangchendzonga National Park along the 6 km stretch of River Teesta would be submerged under the reservoir. Nearly 4,000 trees would be felled within the submergence zone alone, besides another 3,600 trees in construction of the powerhouse and tunnels.
- We also came across the Rangrang Nallah near village Rangrang. The NHPC officers explained that the dam-to-powerhouse tunnel of Teesta IV, earlier planned on left bank, was later shifted to the *dzongu* area on the right bank to avoid this deep *nallah*.

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<sup>4</sup> The terms eco-sensitive zone and eco-sensitive area have been used interchangeably throughout this report in the particular meaning in which the Supreme Court has used it in the 12/2006 order in the Goa Foundation vs.. Union of India case.

- The staff colony is proposed near the Mangan village, along with the quarries and garbage disposal site. The project proponent stated that they need ownership of forest land even after completion of construction of Teesta IV, as was obtained with Teesta V.
- A total 14 villages (14,291 population/2793 families) are likely to be affected due to land acquisition and other project activities. The 256 affected landowner families (67 would become landless) need to be relocated physically with a due compensation package. Based on earlier experiences, such as with Teesta V, we apprehend every possibility that land-losers, after displacement, may take the path of least resistance and occupy surrounding reserve forest.
- We also take note of the Carrying Capacity Study on the Teesta Basin by CISHME<sup>5</sup> that lists out the various ecological values and risks of dam-building in the stretch of the Teesta likely to be affected by Teesta IV (pages 160-162). It states, *“the intermediate catchment between [Teesta] Stage-III and Stage-IV harbours rich diversity of mammalian and bird fauna in addition to being a zone of diversity of butterflies. Therefore, any increased human activity in this critical zone would have adverse impact on the habitats of these species. There is possibility of reservoir induced seismicity in the region owing to geological setting, which clearly shows that no pondage of any duration should be allowed in this area which would lead to geological instability resulting in the increased incidence of landslides.”* Yet, while making no definitive recommendation on whether this dam should be permitted, it does point out categorically that it would be important to obtain the consent of the local community that considers the *dzongu* area, which this project intersects, sacred.
- It is very relevant to note here that in the Centrally Empowered Committee (CEC), in its recommendation to the Supreme Court dated 26<sup>th</sup> March 2008<sup>6</sup>, had stated categorically that the permission granted to Teesta IV (and Teesta III) *“presently be held in abeyance”*, in the light of CISHME’s study. It further states that, *“it would be appropriate that before permitting/undertaking construction of individual hydroelectric project on River Teesta in Sikkim, the [CISHME] Study is considered in totality by the MoEF. Only thereafter, individual projects whose implementation is found to be environmentally and ecologically safe may be considered on merit with adequate safeguards and appropriate conditions. Projects which are found to be environmentally and ecologically undesirable should not be permitted”*. We are unaware if the MoEF has indeed taken a considered view of the CISHME’s Carrying Capacity report, and to what extent this has been taken into account in the decisions made by its statutory environment, forest and wildlife committees/boards.

**En route to the powerhouse and dam sites of the proposed Teesta IV Project, we passed another hydroelectric project on the left bank of River Teesta that was under construction. Upon enquiry with the FEWMD officials accompanying us as to its status, we learnt that this project, under construction on the River Dik Chu and implemented by Sneha Kinetic, a private company, was located very close to the Fambonglho Wildlife Sanctuary. In fact, it was clearly situated well inside the 10-km region, within which the Supreme**

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<sup>5</sup> CISHME (2007), *Carrying Capacity Study of the Teesta Basin in Sikkim. Executive Summary and Recommendations*. University of Delhi and Ministry of Environment and Forests, Delhi, India.

<sup>6</sup> Supplementary report in IA No. 2163 and 2167 regarding the diversion of 89.4266 ha of forest land for the construction of the 500 MW Teesta Stage VI Hydro Electric Project by M/s Lanco Energy Private Limited in Sikkim.

**Court has directed projects to compulsorily obtain SC-NBWL permissions before commencement. However, the accompanying FEWMD officials informed us that these mandatory wildlife clearances from the SC-NBWL had, apparently, not been obtained.**

### *Meetings with Local Community Representatives*

During this visit we also met with local stakeholders, mostly from the local Bhutia-Lepcha communities, in Mangan. Earlier, we had received several email representations from various citizens' groups concerned (see Annexures 1-4), about the ecological, cultural and social issues associated with these projects. From these oral and written representations, two key points emerged:

- First, they highlighted the sacredness and cultural value of the *dzongu* area, on which the Teesta IV project abuts. They mentioned that the *dzongu* region is close to Khangchendzonga and they even do not enter this holy forest. The state government and state laws also has respected this sacredness, even after the merger of Sikkim with India. However, they were concerned that the proposed Teesta IV project was not respecting these local cultural sentiments. They also mentioned the cultural value of the confluence of Teesta and Kanaka, just upstream of the proposed Teesta IV dam, not only for the local Sikkimese, but also for Hindus all over the country. They also provided us the example of the Tashiding Projects, where the MoEF had asked the Sikkim Government to stop further work on the project, following a representation from the Sikkim Bhutia Lepcha Apex Committee, which had said that this project was located in a site that was considered culturally sacred for the local communities (Annexure 6). They pointed out that in 2011, the then Minister of Environment and Forests had endorsed the need for upholding cultural sentiments in the case of the Rathong Chu project, also in Sikkim, and which was then eventually dropped (Annexure 7).
- Second, these community representatives stated that there were several other projects, also within 10 km of the Khangchendzonga National Park and/or the Fambonglho Wildlife Sanctuary, that were at various stages of construction, in violation of the Supreme Court's order in the Goa Foundation vs. Union of India case of 2006. Those specifically named included Teesta III, Panan, Dik Chu, Tashiding, and Ting Ting. Further, the local representatives requested us to consider the overall impact of these projects, not only on the wildlife and ecology of the region, but also the cultural values of the local communities. In these instances, they also urged us to examine the alleged violations of the Supreme Court order in the Goa Foundation case, before a decision was taken on Teesta IV.

On 17th May 2013, we visited Chungthang, the epicentre of the devastating September 2011 Sikkim earthquake. We saw with shock the ongoing construction on Teesta III (Figure 2), a project that the CISHME's report<sup>7</sup> states (page 158), "*is situated in one of the most ecologically sensitive area of Sikkim. There are a number of small and medium sized potentially dangerous glacial lakes in the catchment area. All these lakes are potential source of hazard generation. Therefore, it is necessary to monitor and observe these lakes for any structural changes. Any activity resulting in displacement of accumulated debris would have disastrous consequences downstream. In the event of*

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<sup>7</sup> CISHME (2007), *ibid.*

*increased temperatures as a consequence of global warming, the Glacial Lake Outburst Flood (GLOF) can create havoc in downstream area endangering the structures and habitations".* We also learnt that the project was being implemented by the Teesta Urja, a private company, and in response to our query as to whether Teesta III, which was located on the very edge of Khangchendzonga National Park, had obtained SC-NBWL clearances, the FEWMD officials said that they were not aware of any such clearance having been obtained for this project. If this is indeed true, and particularly in the light of the June 2013 floods in Uttarakhand, we are deeply concerned about the advisability of this project.



**Figure 2: Construction of the Teesta III project at Chungthang on the edge of Khangchendzonga National Park proceeding without SC-NBWL clearances. Note the extensive forest cover and large landslides at the construction site.**

#### **BEYOND TEESTA IV: POTENTIAL VIOLATIONS OF SUPREME COURT ORDERS**

Both before and during our site inspection, multiple stakeholders brought to our notice that there were other proposed and ongoing hydel projects in the Teesta Basin located within the eco-sensitive zone (as defined by the Supreme Court in the Goa Foundation case), of the Khangchendzonga NP and Fambonglho WLS, which had **not** obtained the Supreme Court mandated clearance from the Standing Committee of the National Board for Wildlife. Besides this, we had ourselves seen two projects under active construction—the Dik Chu and the Teesta III—that were clearly within the Supreme Court mandated eco-sensitive area, for which FEWMD officials had no knowledge of clearances having been obtained from the Standing Committee of the National Board for Wildlife.

Deeply concerned about the likelihood of various hydel projects coming up in violation of the Supreme Court's order in the Goa Foundation case, we requested the MoEF to write to the Government of Sikkim, seeking a comprehensive list of completed, ongoing and proposed hydroelectric projects within the Supreme Court mandated 10-kilometre zone of the Khangchendzonga National Park (KNP) and Fambonglho Wildlife Sanctuary (FWLS). For each project, we sought: (a) location (latitude-longitude) and distance from KNP and FWLS; (b) current status of the project; and (c) if and when they had obtained the required Environment, Forest and Wildlife Clearances (Annexure 8). **Even after waiting for 10 weeks, we did not receive either an acknowledgment or a response from the Government of Sikkim, to our query.**

We were, therefore, left with no option but to use publicly available information on Environmental Clearances (EC) (<http://environmentclearance.nic.in>), submissions and information provided by other stakeholders, and to examine minutes from the Standing Committee of the National Board for Wildlife's meetings, to ascertain if there was merit to the allegations made about the violations of the Supreme Court's order of 12/2006. Based on the above sources of information available to us, the names of projects mentioned by stakeholders, their locations (see Figure 3) and their compliance status, are provided below:

**Teesta IV (File No: J-12011/67/2008-IA-I, EC Pending).**

The user agency has approached the SC-NBWL for its clearance, and the present site visit was carried out in connection with this proposal.

**Teesta III (File No: J-12011/26/2006-IA-I, EC Granted on 4<sup>th</sup> August 2006).**

A letter from MoEF dated 30-04-2010 (Annexure 9), while approving certain design changes in this project, states clearly, as an additional condition that, "*Considering the proximity of Khangchendzonga National Park from the project site, clearance from the Standing Committee of the National Board for Wildlife (NBWL) should be obtained*". However, a compliance report from June 2013<sup>8</sup> by the project proponent states that they have complied with all conditions of the EC, but does not state explicitly whether and when they have in fact obtained the SC-NBWL clearance. Further, we were unable to find any proposal for Teesta III in the agenda/minutes of the Standing Committee of the National Board for Wildlife, and must therefore conclude, on the basis of information available with us, that such a clearance was not obtained.

**Dik Chu (File No: J-12011/14/2007-IA-I, EC Granted on 1<sup>st</sup> April 2008).**

The EC available online<sup>9</sup> does not list the need to obtain clearance from the Standing Committee of the NBWL as a necessary condition. We are not aware if any follow up communication was sent by the MoEF to the user agency. In case it was not, this is a serious lapse in the EC process. To the best of our knowledge, this project has not come up before the SC-NBWL for its clearance.

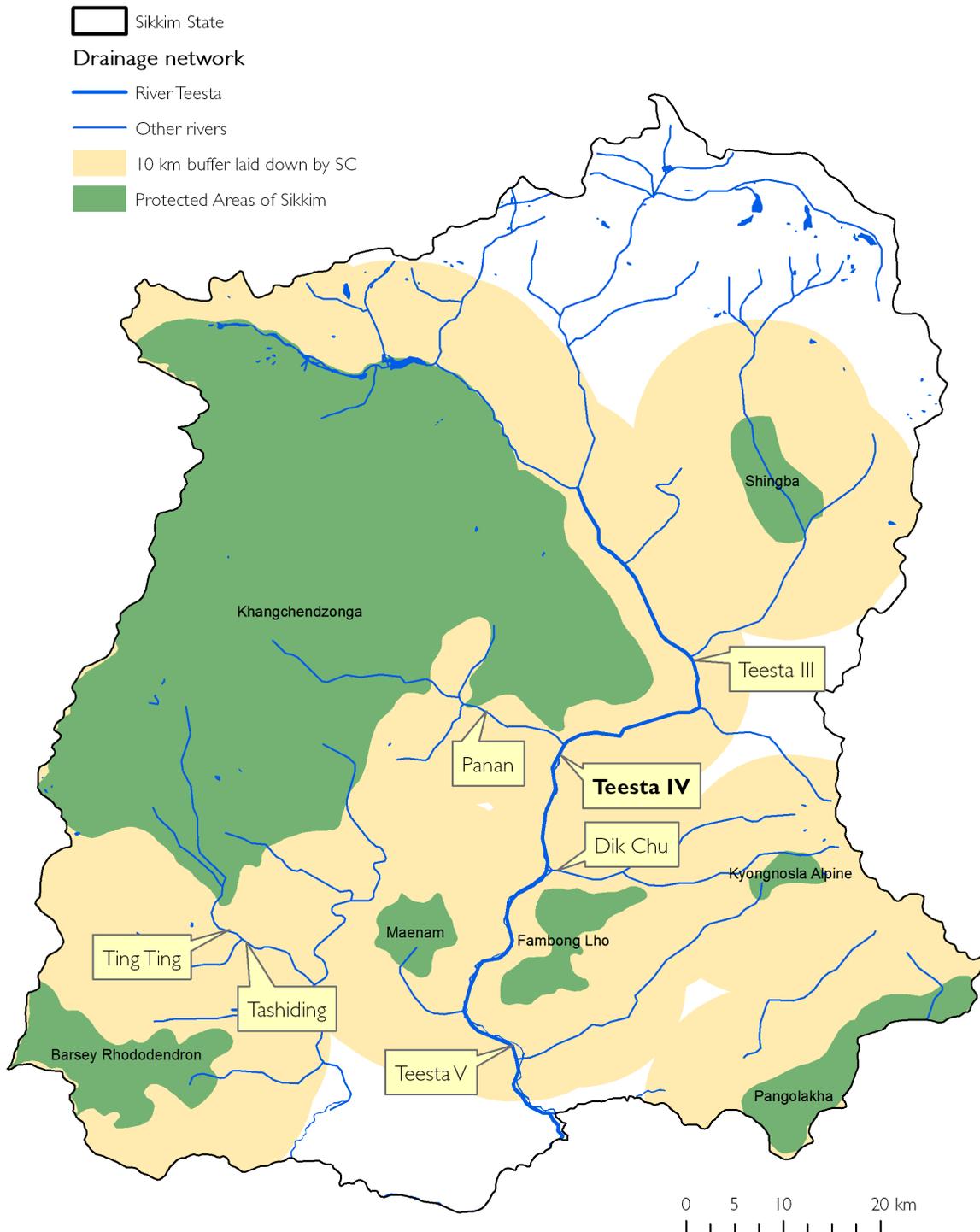
**Panan (File No: J-12011/56/2006-IA-I, EC Pending)**

Minutes of the EAC of 6<sup>th</sup> June 2013 (Annexure 10) show that although the user agency had obtained an EC earlier in 2007 for 280 MW capacity, they had reapplied for an EC for a revised capacity of 300 MW. The minutes record that "clearance from NBWL to be obtained at the earliest". So far there is no proposal from this project placed before the SC-NBWL.

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<sup>8</sup> [http://environmentclearance.nic.in/writereaddata/Compliance/57\\_Teesta%20HEP-III%20\\_june2013.pdf](http://environmentclearance.nic.in/writereaddata/Compliance/57_Teesta%20HEP-III%20_june2013.pdf)

<sup>9</sup> <http://environmentclearance.nic.in/Auth/openletter.aspx?EC=5766>



**Figure 3: Location of hydroelectric dams mentioned in this site inspection report in relation to the Supreme Court mandated 10-km eco-sensitive area (shown in beige) around National Parks and Wildlife Sanctuaries (shown in green) in Sikkim State. (Map layers, courtesy of WWF-India)**

**Tashiding (File No: J-12011/66/2006-IA-I, EC Granted on 29<sup>th</sup> July 2010)**

As with Dik Chu, the EC available online<sup>10</sup> does not list the need to obtain clearance from the Standing Committee of the NBWL as a necessary condition. We are not aware if any follow

<sup>10</sup> <http://environmentclearance.nic.in/Auth/openletter.aspx?EC=5764>

up communication was sent by the MoEF to the user agency. In case it was not, this is again a serious lapse in the EC process. However, based on a letter of 28<sup>th</sup> May 2012, written by MoEF to the Sikkim Government (Annexure 6), it would appear that this project too did not have the requisite clearance of the SC-NBWL, and therefore, the Sikkim Government was asked to halt work on this project. However, during our site inspection, nearly one year after the MoEF had written to the CWW, Sikkim, the concerned DCF informed us that he did not recollect seeing such a letter.

**Ting-Ting (File No: J-12011/65/2006-IA-I, EC Granted on 4<sup>th</sup> July 2011)**

A copy of the EC is not available on the EC website. No further information is available on the conditions imposed either. We were also unable to find a record of this project having approached the SC-NBWL for its clearance.

**Therefore, based on an examination of available information on legal compliances required for the above projects in the Teesta basin, we conclude that, with the notable exception of the Teesta IV project (which has currently approached the Standing Committee of the NBWL for clearance), none of the other projects listed above appear to have sought/obtained this compulsory SC-NBWL clearance, as mandated by the Honourable Supreme Court in the Goa Foundation vs. Union of India case of December 2006. While we are fully aware that there are many more proposed/ongoing hydroelectric projects situated within the Supreme Court mandated 10-km eco-sensitive zone of wildlife sanctuaries and national parks in Sikkim, we have not been able to ascertain whether Supreme Court stipulations in their regard are being followed, or being violated, and if latter be the case, the MoEF should take due cognizance of the same urgently.**

## **SUMMARY OF KEY OBSERVATIONS AND CONCERNS**

### ***On the Teesta IV Project***

- a) This project, as documented exhaustively in the CISHME's Carrying Capacity report of 2007, is proposed in an area of considerable ecological values, including over 100 mammal species, over 230 bird species, 34 reptile species, 10 amphibian and 345 butterfly species, besides a fish, *Nemacheilus devdevi*, that is endemic to the Eastern Himalaya. Many of these species are endangered, threatened and legally protected. In addition, the project involves the felling of at least 7,500 trees.
- b) The project is located in the *dzongu*, an area of considerable local and cultural significance. Again, as stated in the CISHME Report, it is crucial that this project proceeds with the full consent of the local Lepcha community. From our interactions with local community representatives, it is clear that while some in the Lepcha community may favour the project, there are many who strongly oppose it.
- c) The project involves large-scale diversion of river water into tunnels from an already-heavily-diverted course of River Teesta, which is a glacier-fed river originating from the Teesta Khangse glacier. Following are some of the existing and proposed tunnels: Teesta III (c. 13 km), Teesta IV (c. 11 km), Teesta V (c. 17 km), and Teesta VI (c. 11 km). If implemented, a tragic consequence of such large-scale diversion would be that, between Teesta III to Teesta VI project sites, most of the waters of the Teesta would flow through tunnels rather than in the actual river course. We are attaching a background scientific

note on the need to understand and ensure ecological flows in rivers where hydroelectric projects are planned, with particular reference to the Teesta (Annexure 11).

- d) Finally, in the light of the devastating June 2013 Uttarakhand floods, we are deeply concerned about the wisdom of such large-scale manipulations of mountain river systems that are being implemented, against all reasonable scientific advice (and the disregard of the CISHME's recommendation against the construction of Teesta III, is a case in point).

***Beyond Teesta IV: Possible violations of the Supreme Court-mandated 10 km eco-sensitive zone around Khangchendzonga NP & Fambonglho WLS of Sikkim***

- a) Our attention was repeatedly drawn by various citizens' groups and local stakeholders towards the alleged violations of the Supreme Court's 2006 order, which required all projects within a 10 km eco-sensitive zone around wildlife sanctuaries and national parks to be mandatorily brought before the Standing Committee of the National Board for Wildlife and to be cleared by it.
- b) Our efforts to officially verify the legal compliance status of hydroelectric projects within this 10 km eco-sensitive zone drew a blank. Even after 10 weeks, the MoEF's letter to the Government of Sikkim to provide us the necessary information received no response.
- c) Based on the information we have been able to gather, it appears to be unfortunately true that there are several hydroelectric projects in various stages of implementation within the Supreme Court mandated 10-km eco-sensitive zone around Sikkim's national parks and wildlife sanctuaries, that have not sought and obtained the mandatory clearance of the Standing Committee of the National Board for Wildlife. We were witness to the ongoing construction of two such projects—Dik Chu and Teesta III—which fall within the eco-sensitive zone of Khangchendzonga NP and Fambonglho WLS.

**RECOMMENDATIONS TO THE STANDING COMMITTEE OF THE NBWL**

1. We are keenly aware that we were tasked with inspecting one specific project proposal—the Teesta IV. However, based on the gravity of the situation we have encountered on the ground—where hydroelectric projects are already being constructed in the 10 km eco-sensitive zones of Sikkim's national parks and sanctuaries disregarding the Honourable Supreme Court's directive to mandatorily obtain clearances of the Standing Committee of the National Board for Wildlife—we are of the unanimous considered opinion that it is absolutely essential to assess the overall impact of these projects, both from the recent past and those in the pipeline, rather than deal with them in a piecemeal fashion.
2. Hence, we urge the Standing Committee not to consider the Teesta IV project's request for clearance separately, but treat it as part of a larger set of hydroelectric projects in the Teesta Basin, with vast ecological, social and legal portents.
3. We further recommend that the Standing Committee direct the MoEF to write to the Government of Sikkim asking them to immediately investigate and submit a detailed report listing hydroelectric projects in Sikkim that are being constructed *prima facie* in violation of Honourable Supreme Court's order of 12/2006. Based on the list provided

by the Government of Sikkim, if it is indeed ascertained that the projects are proceeding in violation of the said Supreme Court ruling, we further recommend that the MoEF initiate action by asking the State Government to suspend ongoing work on those projects immediately and to direct user agencies to formally seek clearance for these projects from the Standing Committee of the National Board for Wildlife.

4. Independently, we recommend that the MoEF and the Government of Sikkim thoroughly investigate the circumstances under which the seemingly widespread bypassing of Supreme Court orders in the construction of dams within the 10-km eco-sensitive zone of Sikkim has taken place, fix responsibility for the transgressions and violations, and punish the guilty.
5. In considering the potentially large number of projects that are likely to be placed before the Standing Committee of the NBWL for clearance subsequently, we recommend that a separate expert committee, chaired by a very senior official of the MoEF, be constituted to make clear recommendations on the *advisability of each dam* (as suggested in the 2008 CEC recommendation on Teesta Dams to the Supreme Court, see Page 7 of this report), based on:
  - a. ecological and hydrological criteria, paying particular attention to available data and assessments such as the CISHME's Carrying Capacity Study in the Teesta Basin; and
  - b. the legal contexts and implications of a project's potential violations of the 2006 Supreme Court order.

Besides senior officials of the MoEF and the Sikkim Government, this committee must include legal experts as well as experts in hydrology / geology / seismology / social science / botany / riverine ecology / wildlife ecology, from reputed research institutions and some representatives of local communities.

6. This committee may submit its report within six months to the Standing Committee of the NBWL for its consideration and decision on all projects, including the Teesta IV. We also recommend that projects already in the pipeline and that may be proposed in future in Sikkim, be placed before the Standing Committee, whenever they fall within the purview of the Supreme Court-mandated 10 km eco-sensitive area around PAs.
7. Finally, we base our recommendations by drawing a parallel between hydroelectric dams in the eco-sensitive zones of Sikkim and iron ore mines in the eco-sensitive zones of Goa. The coastal state, which is just half the size of Sikkim, had heavily pivoted its economy on iron ore mines, just as Sikkim has done with hydroelectric power. The landmark Justice Shah Commission Report observed in the case of iron ore mining in Goa that, "*approvals have been granted in many cases... in the eco-sensitive zones without placing the project proposals before the Standing Committee of the National Board for Wildlife (p 190)*". The report went on to say that, "*all mining activities should be stopped with immediate effect including transportation of ore for all mining leases where there is no approval or clearance of the Standing Committee of the NBWL and are falling within 10 km of eco-sensitive buffer zone (p 191)*" We believe that much of the *Summary and Recommendations* section of Justice Shah's report (pp. 189-200) is extremely relevant to the case of the hydroelectric dams in Sikkim, and request that any committee constituted to examine hydroelectric dams in the eco-sensitive areas of Sikkim, pay close attention to this report.