

Objection to Proposed CDM Credits for Nyamjang Chhu 780 MW Hydroelectric Power Project (HEP) in Twang District, Arunachal Pradesh

Upon a thorough reading of PDD version 01, dated 04/05/2012, a review of many project related documents including EIA/EMP, records of the official meetings and clearance letters, WWF-India report on Black-necked Crane, local news articles, and conversations with scientists, Buddhist monks and activists concerned with the riverine ecology of the Nyamjang Chhu and the broader Tawang region in the Zemithang valley, we strongly object to the proposed CDM credits for the Nyamjang Chhu 780 MW HEP on the following grounds:

1. On p.2 of the PDD the PP claims that “purpose of the project activity is to generate electricity from a clean source of power” and rests on the assumption that “In the absence of the project activity [the] same amount of electricity would have been generated by the existing / addition of similar kind of fossil fuel based power plants connected to the NEWNE grid of India.” Yet, when one looks at the ground reality, it is easy to see that these claims are wrong and misleading. In the state of Arunachal Pradesh, where project in question is proposed, most of the total energy produced comes from non-fossil fuel sources. Further, in the North East region the majority of the installed capacity comes from hydro power¹. Thus saying that the alternative to the project would be the generation of fossil fuels is downright wrong.
2. Currently there are 199 large hydro power projects being pursued in Arunachal Pradesh—but from these power plants, the vast majority of the electricity generated will be going out of Arunachal Pradesh and out of the North Eastern region. The fact that the population density of Arunachal Pradesh is the lowest in all of India means that grid generated power cannot be easily extended to many parts of the state. Therefore, if the objective of the project authority is to provide electricity to the people of the Tawang district, of Arunachal Pradesh, or the people of the North East India, there are much better options available in terms of sub MW scale hydro projects (capacity less than 1 MW). There is huge potential for these which unfortunately has not even been assessed let alone realized. Such small scale projects (in addition to solar power, wind energy, and small check dams) would be sustainable with less social and environmental impacts and great chance of community involvement from the planning to operation stages. Without assessment and realization of such options, taking up such big hydro projects would be detrimental to the interests of the people and the region, to the sustainable development and also to the global climate.
3. According to the project EIA, the project area belongs to a tropical ecosystem—according to latest research on hydro power projects, mega dams in tropical lands could be some of the worse emitters of Green House Gases (GHGs). For example, the work of Philip Fearnside and Salvador Pueyo says that tropical

¹ See “Monitored Capacity of North East” from http://cea.nic.in/reports/monthly/generation_rep/actual/mar10/opm_02.pdf

reservoirs are "methane factories, continuously removing carbon from the atmosphere as carbon dioxide and returning it as methane, with a much greater impact on global warming."² Indeed, the PDD has failed to consider various GHG emissions that will result from this project, such as the emission that will come with the destruction of 89 hectares of forest land (and the felling of over 9,000 trees, which are important GHG sinks), the methane emission from dam reservoir due to submergence of forests and organic matter brought by the river, the emissions due to boring of tunnels and the emission from sudden release of water from power houses, and the emissions due to numerous vehicles in the construction of reservoirs.

4. The Tawang district is situated at a very high elevation, and is surrounded by snow covered Himalayan Mountains. The total forest cover area is 1,251 sq km.³ It is considered by some to be the most pristine place of Arunachal. In recent months the scientific and NGO communities concerned with the ecological health of the region have become increasingly apprehensive about the proposed Nyamjang Chhu HEP (along with a dozen other proposed large HEPs) due to the predicted impact they will have upon the forests and more specifically, on rare species that make their habitat in Tawang.
5. The proposed dam will be located in the Zimithang Valley, **in the exact same vicinity where the endangered and threatened species, Black-neck Crane nigricollis, spends its winter months** (see **Appendix 1**; The 2 km stretch shown in white brackets on the Google Map indicates the area where the winter dwelling of the Black-necked Crane overlaps with the proposed site of the barrage). Bolstering this argument, locals say that the preferred habitat of the cranes is the short section of the river with wide floodplains, one of the places that will be submerged in the construction of the proposed dam.⁴ The project, in fact has yet to apply for the wildlife clearance required under Indian law when a project affects the habitat of such species.
6. On January 17, 2012 Goutam Narayan, Ph.D. from EcoSystems-India wrote to Ms. Jayanthi Natarajan, Minister of State for Environment and Forests in this regard, stating, "it is important that the MoEF carefully assesses the likely impact on the Black-necked Crane and other wildlife habitat (e.g. that of the newly discovered Arunachal Macaque *Macaca munzala*) in the Zemithang valley during

² For more information see the work of Philip Fearnside and Salvador Pueyo

<http://www.internationalrivers.org/blogs/246/tropical-dams-dispel-clean-energy-myth>

³ <http://www.northeasttoday.in/our-states/arunachal-pradesh/forthcoming-hydropower-projects-to-affect-tawang/>

⁴ On April 22-23, 2011, a convention of three countries, India, China, and Tibet, titled "Cranes Calling: Regional Cooperation for Conservation of the Black Necked Crane" was organized by the WWF-India, Ministry of Environment and Forests, BNHS, IBCN. The purpose was to raise awareness on the status of the Black necked Crane *nigricollis* which "breeds in the high altitude wetlands of the Tibetan Plateau (China), Eastern Ladakh in J&K and Gurudongmar Lake in Sikkim (India)" and winters in "lower altitudes in Tibetan Plateau, Yunan and Guizhou (China), Phobjika and Bumdeling (Bhutan) and the Sangti and Zimithang valleys in Arunachal Pradesh" [emphasis added].

its ongoing assessment of the Nyamjang Chhu project for forest and environmental clearance.” He goes on to mention that when the project was recommended for forest clearance in the December 27, 2011 FAC meeting, information regarding the Zemithang valley being the wintering habitat of the Black-necked Crane was not recorded as part of the discussions, as seen in the meeting minutes (see [Appendix 2](#)).

7. The ecological scarcity and threatened status of the Black-necked Crane⁵ begs the question: How has the project authority dodged required wildlife clearances, in defiance of the Indian law? The Deputy Conservator of Forests (Wildlife) Arunachal Pradesh, P. Ringu, said in January 2012, that one can know the impact of the Nyamjang Chhu HEP only after the distance between the wintering habitat and the dam location is known. He thereafter promised that “When the issue comes up for wildlife clearance at the state level, we will take stock”.⁶ Seeing as how the project authority has failed to go through the necessary procedures to meet this requirement and has left its mention out of the PDD all together, the UNFCCC should not hesitate to reject the company’s bid for CDM.
8. Shortly after the Deputy Conservator of Forests made this remark, another article was published on the social and religious importance of the bird. It stated, “Bird-watchers are thrilled at the prospect of seeing the rare bird which is believed to be an embodiment of the sixth Dalai Lama by Tibetan Buddhists and is revered by the Monpas”.⁷ The article also explains the symbiotic relationship the locals have formed with the bird. “Monpas don’t hunt any wild species and black-necked cranes are very safe in Zemithang.” According to Pijush Kumar Dutta, the senior coordinator of WWF-India’s Western Arunachal Landscape Programme, who is also quoted in the article, “local groups have begun helping the community to promote eco-tourism in the area under [their] CCA programme.” And, “As Zemithang is out of bounds for foreign tourists and trekking is not allowed...talks are on at the government level to promote bird-watching tours in the area. Through the community initiative, a home-stay facility for tourists has also come up at Zemithang and youths have been trained as guides” said Mr. Dutta.”⁸ These initiatives taken by local groups are commendable and culturally appropriate for the region—on the other hand, there is great evidence to suspect that all of these community livelihood initiatives will

⁵ According to the WWF-India report, “The total global population of the species is estimated to be about 11,000 individuals and is listed as a globally ‘Vulnerable’ species by the IUCN. It is a protected species under national legislation in all three countries (India, China, and Bhutan), it is listed by the Convention on the Conservation of Migratory Species of Wild Animals (CMS) as an Appendix I species, and is on the appendix II of the Convention on the International Trade of Endangered Species (CITES). In India and Bhutan, it is considered a threatened species.” See http://awsassets.wwfindia.org/downloads/regional_cooperation_for_conservation_of_the_black_necked_crane.pdf

⁶ http://www.telegraphindia.com/1120105/jsp/northeast/story_14962871.jsp

⁷ The Monpas are an ethnically unique group of people who reside mainly in the Tawang and West Kameng Districts of Arunachal Pradesh.

⁸ <http://www.thehindu.com/sci-tech/energy-and-environment/article2780243.ece>

be flushed out or at least greatly hindered with the construction of the proposed mega HEP right in the migratory path of the Black-necked Crane.

9. Further, according to memorandum written by the Save Mon Region Federation dated May 15, 2012, Tawang District falls within the Eastern Himalayas Global Biodiversity Hotspot (Myers et al 2000) and is also among the 200 globally important eco regions (Olsen & Dinnerstein, 1998). This region is identified with six vegetation types and is home to several alpine herbs. Tawang is the only place in the world where all the different varieties of Rhododendron are found. About 150 bird species are found in Tawang. Rare species of mammals like the red panda, mountain goat, snow leopard, goral, Himalayan marmot, etc. have also been documented as present in this region”. The memorandum states categorically that “the proposed hydroelectric projects involving lengthy tunneling and blasting in fragile landscape, accompanied by ancillary infrastructure, will devastate the biodiversity” (see [Appendix 4](#)). On the contrary, the PDD makes no mention of any of the rare species mentioned by the letter, nor the ecologically threatened Black-necked Crane that dwells directly in the project site. By these measures the proposed project should not only be immediately disqualified from receiving CDM status but should also be challenged in court.
10. The Nyamjang Chhu HEP, as admitted in the PDD, will affect the river ecology by altering the aquatic habitats, normal feeding and breeding grounds of the residential fish population. Accordingly, it was stipulated in the project TOR that a scientific study be conducted through a reputed institute like NIH, Rookee for an estimation of environmental flow required for maintaining aquatic life in the river shall be conducted for the project in question. A report has been compiled by the Central Inland Fisheries Research Institute (CIFRI) and has been submitted to Bhilwara Energy Limited. In this CIFRI claims, “Riverine flow is a major determinant of physical habitat in rivers, which in turn influences biotic composition. Flow regime changes lead to habitat alterations, shifting in species composition, loss of biodiversity and failure in migration and breeding of residential fishes.” It is thereby relevant that in the PDD, the PP has not listed a minimum flow level, nor have they listed specific steps they will take not to destroy the existing aquatic life—in fact the PP states, “It is proposed to assess the requirements for minimum flow to maintain the riverine ecology” (p.33), which leads one to believe that they have not yet finalized this crucial information. The project can therefore not be considered for CDM until the terms of the TOR are fulfilled and the minimum flow level information is submitted to the UNFCCC, as this information will also have bearing on the amount of electricity the project can generate.
11. The PP has admitted in the PDD they have no plan for disposal of muck but only that a large quantity of muck is to be generated (p.32)—one of the options the company is considering is disposing the muck along the river bank, which they admit leads to muck finding its way back into the river. “The other option”,

- they state “is to dispose muck over low lying areas, preferably over non-forest land.” This shows that the PP has not seriously considered the muck disposal plan in the PDD but they are actually considering illegal and devastating options for the riverine ecology.
12. On February 1 and again on March 23, 2011 Akhil Gogoi from Krishak Mukti Sangram Samiti (KMSS), who has led some of the largest and most respected anti-dam agitations in all of India, submitted a letter to Jairam Ramesh, Minister of Environment and Forests. In this letter he refers to the Public Consultation on Northeast dams held on September 10, 2010 in Guwahati in which the Minister had made a commitment that “individual environmental clearances regarding hydropower projects in the North East region would only be considered after having prior river basin studies which will also examine cumulative downstream impacts of the project.” Therefore, it is downright irresponsible (not to mention undemocratic) to grant environmental clearance to the Tawang or Nyamjang Chhu projects “without having a prior comprehensive understanding of the Manas river basin and cumulative downstream impacts these projects in Western Arunachal will have on downstream Assam after the river flows briefly through Bhutan” (See Appendix 3). Seeing as how, to this day, the company and government have failed to take into consideration cumulative impact assessment, it would be wrong to grant CDM to the project.
 13. Indeed, the PDD has only marginally considered what will happen to the 35 km of the river that will be diverted all together. However the downstream impacts beyond this are ignored entirely. In fact, it is shocking that PP has failed to mention that the adjoining Taksang Chu River will be substantially diverted into an HRT. The EAC has raised this issue in a meeting dated March 26th, 2011. The EAC says, “The Project is locking almost 1/3rd of the river with a long Head Race Tunnel therefore, **depriving the downstream reach of the pristine flow and impacting the aquatic bio-diversity**. At Page-4.2, in Para 4.1 of EIA Report, it is mentioned that between Zimithang and power house site, two major tributaries Sumta Chu (Right bank 100 Km²) and Taksang Chu (Left bank 154 Km²) join the river. The 23.5 Km long HRT will deprive the river of needed flow over almost 35 Km below the barrier...This will have adverse environmental impact as almost 30% of the downstream riparian flow may be lost, affecting the bio-diversity critically. The Proponent may provide a justification diversion of Taksang Chu into the HRT.”
 14. According to p.4 of the PDD, the project’s design discharge is 87 cumecs. In an EAC meeting dated March 26th, 2011 the EAC has pointed out that the previous design model was 23 cumecs. How can the design discharge have changed so drastically? Further, according to a subsequent EAC meeting, “During the 90% dependable year (1994-95), downstream release from barrage will be for about 60 days out of 120 days.” This means that in 90% of the years there will not be adequate downstream flow in half of the days. This information

highlights the ecologically haphazard and socially devastating consequences of the project.

15. The PP's failure to properly analyze downstream impacts is also significant as the Manas (to which the Nyamjang Chhu is a tributary) is not only one of the important tributaries of the Brahmaputra but flows through the Manas Tiger Reserve, which is also a World Heritage Site and an Important Bird Area as per international criteria (see **Appendix 3**). In the aforementioned letter to the Minister, Gogoi states, "They [RoR projects] would still have an impact on river flow regimes due to daily fluctuations in flow. It is completely misleading and ecologically ignorant to argue that RoR projects do not have downstream impacts." (See **Appendix 3**). This is exactly what the project has done, if one were to go by the PDD.
16. As stated on p.33 of the PDD the project will require significant widening of roads. It will also lead to the construction of 60 km of roads. The construction of roads and the blasting involved in construction of the HRT and TRT will exacerbate the already high incidence of landslides in the area. According to local media sources, "the original Bhalukpong to Tawang Road is not capable of transporting heavy dam equipment through Sela Pass.." The article further states that, "The road to Lumla which links the Tawang Chu II is very fragile and has large number of active landslide prone zones. Every year during monsoon season rain washes away portions of road. If heavy equipment for power projects is transported through this particular stretch of road, it will have serious impact."⁹

The EAC further justifies this concern by stating, "The Table 5.3 at Pages 5-12, 5-13 of EIA Report shows occurrences of several landslides as a result of earthquake...The project has to perform many blasting operations for constructing the long HRT. This may further trigger landslides in the region. It may be infeasible to treat for land slide the entire expanse of the hill slope adjacent to the whole HRT. Therefore, it will be necessary to have a pre-project video recording of the ground situation above the proposed HRT alignment with respect to the condition of the slope, the above-ground structures and the natural springs. During the project or after the project, damages detected are to be addressed at the project cost."¹⁰ None of these long term impacts in relation to landslides have been considered by the corporation in their PDD, which further strengthens the argument that the project cannot be considered for CDM before an independent cumulative impact assessment is carried out.

17. The project involves an 11.2 m high barrage, the reservoir of which will submerge several km of the river. This will divert water by a tunnel more than 20 km. long and bypass 35 km. of the Nyamjang Chhu River (according to p.33 of PDD). That is a huge length of the river to be lost. In addition, the project

⁹ <http://www.northeasttoday.in/our-states/arnachal-pradesh/forthcoming-hydropower-projects-to-affect-tawang/>

¹⁰ <http://environmentclearance.nic.in/default2.aspx>

developer has not mentioned the impacts of this in the PDD, and they do not list the length of the river that the reservoir will submerge. Yet when locals raised the question, “Will the reservoir converge into a dam?” They respond flippantly, “this is a run-of-the-river project” (documented on p. 39 of the PDD). As we have seen in many other RoR schemes, there are often large amounts of submergence involved and the company’s response is non-serious, flippant and insufficient.

18. In the EAC meeting minutes from March 26th, 2011, it is stated, “It is observed that PP proposes to install a 7.5 MW Kangten HEP for supplying power for construction for this project at 30-40 Km away from the project site.” The EAC requests further details of this project, but until the present date the impacts of the Kangten HEP have not been mentioned in the PDD, nor in the EIA. The PP is withholding crucial information from both the Indian government and the UNFCCC and should thereby be disqualified from the validation process.
19. In the meeting of the Forest Advisory Committee (FAC) dated 27.12.2011 it is stated that alternate fuel like LPG or electricity shall be provided to all personnel for all their energy needs and use of firewood shall not be permitted. To the contrary, on p. 34 of the PDD the PP states that every year, fuel wood equivalent to about 2100 - 2500 trees will be cut, which means every year on an average about 3 to 4 ha of forest area will be cleared for meeting fuel wood requirements, if no alternate sources of fuel are provided”. The mention of this in the PDD is very strange and seems like PP is considering felling of trees as an option. The PP’s failure to abide by the orders of the FAC shows their egregious lack of concern for Indian legal process and should disqualify them from consideration for CDM.
20. In the Expert Advisory Committee (EAC) meeting dated March 2011, it was stated in regards to the Nyamjang Chhu HEP, “There will be an increase in the population of the tune of 11,200, and about 3,500 labour will be deployed during the construction.” This alone is a drastic and extreme change to bring on to a sparsely populated region—in fact the study area identified by the PP in its EMP is only 4,093 people strong. Furthermore, one must consider Nyamjang Chhu HEP in the context of the 13+ large HEPs that are proposed in the District—in a memorandum written by the Save Mon Region Federation (SMRF) to the Power Minister it is stated that the population of Tawang is a mere 49,950 (as per 2011 census) and 13 proposed HEPs will bring 100,000 people from outside thereby “jeopardizing the cultural dynamics of the area where indigenous rights have been protected constitutionally and through various laws” (See **Appendix 4**).
21. An influx of people to this scale is likely to increase the militarization that is already present (the aforementioned letter states that “a quarter of the land in Tawang has already been given to the Indian Army and other paramilitary forces for their installations”), and has historically plagued the district. Tawang was the news almost 50 years ago after the Chinese army invaded it in 1962. As the

proposed project “sits on the Chinese border...it is therefore vulnerable in the event of aggression” (see **Appendix 4**). It is especially so in lieu of the pending destabilization caused by mass influx of migration from different parts of the country. Already, the area has begun to turn disturbed due to the aggressive manner in which the project authority and district administration have pursued the project, disallowing any scope of questioning or democratic dissent¹¹. This should be a key reason for withholding validation to the project in question at this point in time, as the project has already seen human rights violations and the PP is failing to meet the standards for social betterment that govern CDM.

22. On p.33 the PDD states that 32 km of the river will be bypassed...This number contradicts the figure given by the EAC (the EAC states, “the 23.5 Km long HRT will deprive the river of needed flow over almost 35 Km below the barrier”).¹² Given the rural and tribal nature of the surrounding villages, a loss of 35 km of river will come with a huge socio-economic cost. But the PP dismisses this externality and states, “Since, there are few users of water of river Nyamjang Chhu in the intervening stretch, hence, reduction is unlikely to lead to any significant impact on water quality and water users.” This is not only blatantly false, as there are many important fisheries used by the indigenous people in this stretch of the river (not to mention the water is a key source of bathing, and washing for locals) but it also fails to consider the applicable Terms of Reference (TOR) on Dams in the North East, commissioned by Ministry of Environment and Forests, particularly section 4 - vii which outlines considerations when assessing “Socio Economic Impacts” i.e.

Land details*

Demographic profile

Ethnographic Profile

Economic structure

Development profile

Agricultural practices

Cultural and aesthetics sites

Infrastructure facilities: education, health and hygiene, communication network, etc.

*Report would include list of all the Project Affected Families with their names, education, land holdings, other properties, occupation, etc. (**See Appendix 5**).

23. Until an independent social impact assessment of the affected villages that follows the above components, as suggested in the TOR for Dams in the North East, is conducted (this is yet to happen), this project should not be considered for validated for CDM credits.

¹¹ This was stated by Member of Parliament, Tarun Vijay, in the Rajya Sabha (upper house) between 12 noon and 1:30 pm on May 9, 2012, link to the minutes can be seen here:

<http://164.100.47.5/newdebate/225/09052012/12.00NoonTo13.00pm.pdf>

¹² <http://environmentclearance.nic.in/default2.aspx>

24. On p. 37 of PDD, the project authority refers to the stakeholder meeting was held on 08/02/11. What the company calls a “public hearing”, local media calls, “a bizarre incident which shows how much Arunachal government is trying to hurriedly implement hydropower project in state without proper study”. Outside the premises of hearing, according to a report in *the Arunachal Times*¹³, a “huge gathering of project affected people from Zemithang, Lumla and Sanglum area of Lumla sub-division assembled.” Yet many of these people were disallowed from entering the premises of the hearing, and the hearing “was held...in absence of affected villagers. None of the affected villagers were given prior intimation about public hearing.”

The report also states, “When group of students representing Tawang Students Union and Dakpeng Students Union tried to participate in public hearing...they were allegedly not allowed to do so. Magistrate was present at the site along with police force to prevent students from participating in the public hearing, sources said.” The students who were kept out of the public hearing asserted in a press release, “Villagers who will be affected by 900 MW Nyamjangchu hydropower project do not have much idea about merits and demerits of dams. We appeal AAPSU (the apex student body of the Union) to pressurize authorities to have another public hearing with participation of all the affected villagers”. These widely witnessed practices violating the rights of the affected and other people of the district, employed by the company must disqualify it immediately from receiving CDM.

25. Later, in a letter to Jairam Ramesh, Minister of Environment and Forests, the disenfranchised students asserted that the public hearing was held over 40 km. away from the project site, thereby excluding many project affected people from participating in the proceedings. The students argue that the company is thereby in violation of the order of the High Court of Delhi (Samarth Trust & Another Vs. Union of India) (See **Appendix 6**).
26. On p.38 of the PDD the project authority lists a number of comments (assumedly submitted by those who were actually *allowed* inside the hearing, thereby leaving out a significant portion of total comments)—It is telling that none of these comments are praises of the project. Most of them are serious condemnations such as there is a “lack of [local] ownership about the project” and demands for “no deforestation”. Yet in the PP’s response to said concerns e.g. deforestation in project area, they give vague and unintelligible responses like “By various measures such as LPG and Kerosene Depot and Community Kitchen Hall the company has promised to stop the deforestation”. This response is lacking detail that would make it understandable to local people. It seems the PP is simply mentioning names of a few technical schemes unrelated to the central issue to placate the agitated locals. To other important concerns like, “reported damage to holy places during drilling activity” the PP has responded flippantly, “this matter

¹³ <http://www.arunachaltimes.com/feb11%2009.html>

is under concern with the company”. If the PP has not been able to address these issues, than it should be disqualified from applying for CDM.

27. In various incidences, outside of the *mock* public hearing mentioned above, members of civil society and high ranking politicians have also complained about the project regime’s deceitful practices. For example, Members of Society for Development of Culture and Education (SDCE), a Mysore based NGO run by monks belonging to Tawang district claim that the district administration has forcibly stopped them from carrying out awareness campaign about hydropower projects in the district.¹⁴ According to local accounts, the District Collector (DC) even went as far to write a letter to the Dalai Lama in an attempt to stop one of the leading monks involved in the agitation from talking to locals about the project. Nonetheless, the project still continues to invoke masses of people who are opposed to it—In fact, just recently, on April 4th, 2012, there was a “massive voluntary turnout for a public protest in Tawang” against the proposed project (see **Appendix 4**). In any case, considering the large scale and repeated human rights violations in implementation of the project, if UNFCCC agrees to validate the project, it will only invite disrepute for itself.
28. In a May 9, 2012 session of the Rajya Sabha (Upper house of India’s Parliament), Tarun Vijay, Member of Parliament, shed light on the growing agitation in the region due to the hydro power projects in question, and he categorically sided with the project affected people. He said, that the movement in the Tawang against the project in question “is turning violent—there has been road blocks, and engineers of the company have been kept from entering the premises. Locals who are being led by a group of Buddhist monks say that if we don’t do violence, the government will not listen to us.” Later in reference to a group of Buddhist protestors who came to meet him in Delhi, Vijay states, “It took them five days to reach here, from Tawang to Delhi. They came bearing their own expenses. But when they arrived, the central government refused to hear them.”

He remarks, “Isn’t it the duty of the government to listen to this big movement which has been led by these monks, and attend to their issues?...The government ministers tells me not to bother about this—they say ‘Maybe China is instigating this movement’. Is this responsible talk? Even if China is instigating them, isn’t it the responsibility of the central government to address their needs?” Continuing on, he says, “But these people are surely Hindustani, they are swearing by the colors of our national flag, and are using our slogan *jai Hind*, or hail India. They speak in Hindi.” He prodded, “Do you want to create a background in Tawang for an anti-India movement?... Sir, it is my sincere request to you that there should be an urgent resolution to the issues.” After he finished his speech, seven MPs

¹⁴ <http://www.northeasttoday.in/our-states/aranachal-pradesh/forthcoming-hydropower-projects-to-affect-tawang/>

stood up and agreed with Mr. Vijay. Then, the vice chairman said that the whole house associates with what the MP has said.¹⁵

Mr. Vijay's speech shows the extent to which this dam is causing sustained agitation, the neglect of government officials in dealing with the dissent, and the possibility of future disturbance. If the UNFCCC were to validate the project for CDM credits, they too would risk being negatively associated with the growing agitation. This should immediately deter the UNFCC from granting CDM or associating with the PP.

29. Shortly after the MP raised these poignant questions, Tarun Vijay accompanied a delegation of Tawang locals to meet with the Mr. Sushil Shinde, Power Minister, at which point the group delivered a lengthy memorandum written by the Save Mon Region Federation. In this memorandum the General Secretary of SMRF, Lobsang Gyatso, spoke of the “juggernaut of 13 large hydropower projects in the ecologically and geologically fragile, seismically active, and culturally sensitive Tawang region”. The memorandum raises the issue that land is rapidly disappearing in the Tawang district—more than half of the district's 2,085 km² has already been taken up by various projects. The proposed project will only exacerbate these tensions (**Appendix 4**).
30. Mr. Gyatso also speaks about the cultural and religious losses that the District will incur as a result of the Nyamjang Chhu HEP. In stressing the cultural importance of the area he says, “The famous Tawang monastery is the pride of the area. The area is important as it is the birthplace of the sixth Dalai Lama”. He goes on to lament, “There are many holy sites situated along the Tawangchu and the Nyamjangchu...which will be directly impacted by dam construction.” Locals have also mentioned that the submergence area is also regularly used as a venue for important occasions and festivals such as the Republic day, Independence day, etc. (See **Appendices 4 & 7**).
31. Another news report¹⁶ recently stated “...state government officials and the developer Bhilwara Energy Ltd have been tight-lipped following controversies over the 2,000MW Lower Subansiri project and the 1,750 MW Demwe Lower project” and “Both state government officials and spokespersons for Bhilwara Energy didn't respond to queries [in regards to the Nyamjang Chhu HEP]” This shows that the pro-business national media is recognizing the growing resistance to large dams in the area, siding with the people and accusing the company for lacking transparency. The report also highlighted the impact that the project will have on the Black-necked Crane and other biodiversity.

¹⁵ This was stated by Member of Parliament, Tarun Vijay, in the Rajya Sabha (upper house) between 12 noon and 1:30 pm on May 9, 2012. Link to the minutes:

<http://164.100.47.5/newdebate/225/09052012/12.00NoonTo13.00pm.pdf>

¹⁶ <http://www.livemint.com/2012/02/08210607/Can-the-crane-shift-the-dam.html>

32. Additionally, the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act (2006)", commonly known as the Forest Rights Act (FRA) 2006, recognizes the rights of "Scheduled Tribes and other traditional jungle dwellers" to "hold and live in the forest land under the individual or common occupation for habitation or for self-cultivation for livelihood". In a notification dated August 3, 2009 the Ministry of Environment and Forests has asserted that the state must carry out a complete process for the "identification and settlement" of villagers' rights under FRA for the entire forest diversion area prior to acquisition. The PP has not shown evidence of that the state has carried out the aforementioned process, and is thereby in violation of FRA (2006).
33. The PP's execution of the project without peoples' participation and consent violate internationally recognized principles of human rights such as "Free, Prior and Informed Consent of indigenous peoples (FPIC) affected by mega dams", a key provision of the United Nations Declaration on the Rights of Indigenous Peoples, 2007. This was endorsed by the Government of India in its adoption at the United Nations in 2007 and the UN Committee on the Elimination of Racial Discrimination had specifically asked the Government of India in 2007 and 2011 to take FPIC of indigenous peoples before construction of mega dams in India's North East . The project authority is blatantly violating the UN order and should be disqualified from the validation process.
34. On top of the aforementioned points, there is no proof of a dam break analysis in the EIA, nor the PDD. This is problematic as the project will come underneath a seismically active area in Arunachal Pradesh. If the dam breaks it could pose tremendous loss and danger to the locals of Tawang and other downstream areas. We see this as a violation of the PAF's right to life and should be a sign that the project is not CDM worthy.

Non additionality

35. Project Proponent, NJC Hydro Power Limited (Private Entity), is a subsidiary of Bhilwara Energy, a part of the Rs 4,000-crore textile to metals LNJ Bhilwara group. According to LNJ Bhilwara Group chairman, Ravi Jhunjhunwala, the company "has lined up investments to the tune of Rs 8,000 crore till 2014 to build new hydro power plants in Arunachal Pradesh, Nepal and Punjab".¹⁷ They have signed MoUs worth millions of rupees with the government of India. This should be a sign that CDM credits are superfluous to the functioning of the project.
36. In PDD they have listed project cost as 62,682 million Rs. This, according to an Office Memorandum issued by Central Electric Authority (granting concurrence to the project under India's Electricity Act of 2003, which is statutory requirement) dated 24th March 2011 availed through RTI is the project cost

¹⁷ http://articles.economictimes.indiatimes.com/2010-08-10/news/28434239_1_solar-power-projects-hydro-power-bhilwara-energy

without Mega Power Status. This is misleading, as the project is likely to get Mega Power status qualifying it for tax incentives totaling at least Rs 1520 million. Thus the PDD has misrepresented the cost, in order to make the project seem less financially attractive.

37. Equity IRR is considered as appropriate financial indicator for demonstrating the additionality of the project activity since it represents the return expectation of an equity investor. On page 15 of the PDD, the PP states the IRR on equity to be 11.86% versus the benchmark of 19.59%. The claim of benchmark rate of 19.59% itself is of doubtful credibility. For the years 2009-2014, the Central Electrical Regulatory Commission of India has promised at least 15.5% returns on equity and 16% for power projects completed on schedule.¹⁸ This is specifically to attract investment, as stated in their 2009 policy.
38. On p. 16 of PDD, in their common practice analysis they state “During conceptualization, the project proponent decided to implement 780 MW Hydro Power project in the Arunachal Pradesh in June 2010.” This is wrong and misleading as they originally had decided to implement 290 MW hydro power plant which was granted an MoU in 2006.¹⁹ This was later changed to a 900 MW project—which was rejected by the EAC on the lines that there was not enough water availability for a 900 MW project. Even when the PP came back again with additional hydrological data, the CEA only agreed to 780 MW, which was thereby agreed on by the PP.
39. In the same paragraph, PP goes on to state “With this background, various criteria have been applied to identify similar project activities. PP has analyzed whether (a) Hydro power projects are common practice in the region and (b) amongst the hydro power projects of comparable scale, whether to set up hydro power projects without considering CDM benefits.” In the same PDD the PP claims that there are 31 hydro power projects functioning without CDM in the applicable output range (i.e. 390 MW to 1170 MW) in India and 30 are functioning in technologies “different” from the above. In an attempt to clarify the classification of “different” the PP states, “...investments in hydro power project by central and government are mandated by a five year plan irrespective of risk factors associated with the project. Hence, the projects developed by the central and state government are different from the project activity” (p.17). We object to the claim that just because a project is mandated by the Planning Commission it is utilizing “different technology”. By this argument, the 412 MW Ramput project, a project undertaken by the government organisation SJVN, should not have been registered, yet it is already a registered project by UNFCCC.

¹⁸ http://articles.economictimes.indiatimes.com/2009-01-20/news/27653291_1_power-stocks-cerc-central-electricity-regulatory-commission

¹⁹ http://www.sari-energy.org/PageFiles/What_We_Do/activities/Overview_of_Indian_July_2007/Malana_Power_Sector_Investment.pdf

40. The proposed project is utilizing several decades old technology and is also incentivized heavily by government-backed acquisition of prime land and promised return on equity which has been explained in point 33. Most of the debt for the project is also provided by public sector banks.
41. The sources they have cited on p. 17 to provide the amount of projects pertaining to each sector (specifically hydro, thermal and nuclear) are incorrect sources— They have given database with "Tools to Calculate the Emission Factor for an Electricity System" (nowhere in which is the total number of sector-wise plants cited).
42. If we take the fact that the private/public distinction doesn't equate to different technologies, one can assume that, contrary to PP's claims, mega hydro power projects are doing quite successfully without CDM. If we turn our attention to all-India large hydro power projects (over 25 MW), one can see that in all over India (listed as the region) there are 177 stations with 620 units, with a total capacity of 38,990.40 MW. More than 95% of these projects are operating without CDM credits in India. Tawang district alone has 13 large HEPs planned over rivers like Nyamjungchu, Mago Chu, Nykcharongchu etc. From these conclusions we see that project proposal is indeed common practice and business as usual.

Irregularities in Land Requirement

43. In regards to land under acquisition the PDD is conspicuously vague. On p. 33 it is stated that, at the present level of investigations, ownership status of land required for various project appurtenances cannot be estimated. Yet in EAC meeting that took place in March 2011, during which project CEO was present, it was stated: the total land requirement for the Project is 254.55 ha out of which 10.08 ha is private land and 244.46 ha is community land. Forty Seven (47) families are likely to lose land in three (3) villages and no family is likely to lose homestead.
44. In a second meeting dated 17th September 2011 of the EAC it was stated "Out of the total land, 89.52 ha is community land declared as the community forest land...Project Proponent also clarified that at the time of preparation of EIA studies, due to non-availability of Land Settlement Records, compensatory afforestation for 509 ha was proposed assuming total land requirement of 254 ha which has now been finalized as 89.52 ha" The fact that PP has failed to mention these details in its PDD suggest that the PP is trying to downplay the environmental and social impacts of their project, which are far-reaching.
45. Again on p.34 of the PDD it is stated that "At present the ownership status of the land to be acquired for the project is being ascertained. On finalization of total land requirement, the extent of forest land to be acquired can be estimated, and appropriate compensatory measures shall be formulated." If the project

proponent is so unsure of its own project requirements, then it should be disqualified from receiving CDM. How can one form a true analysis of the project's environmental or social impacts if they do not know the requirement and the nature of the land to be lost?

PP's dubious record

46. This particular developer has already fraudulently claimed CDM credits for the 192 MW Allain Duhangan hydropower project in Himachal Pradesh in Northern India²⁰. The agreements for that project were signed in 1990s and the work was started even before the first CDM project was considered for validation at UNFCCC, and yet UNFCCC agreed it was additional. Several media reports have established, including quoting recorded statements of project officials that the project was going ahead even without CDM credits. The project has also seen a spate of agitations, court cases, accidental deaths of laborers, repeated violations leading to payment of fines of crores of rupees by the developer, and corruption leading to vigilance cases. In fact we would urge UNFCCC to look into that fraudulent claim even at this stage, as UNFCCC is seen by all concerned, including media as partner in that fraud. If UNFCCC agrees to allow this project to register, that view will only get strengthened.

In India today the largest anti-dam movement is led by Krishak Mukti Sangram Samiti (KMSS), who has led to stoppage of several hydro power projects in the North East. If UNFCCC grants CDM status to this project, the project may also face the same fate (as we have outlined above, the agitation against the project is fully active). Consequently, the UNFCCC will also face serious disrepute in India and among the world's Buddhist communities for their association with grave environmental and social destruction of the sacred and ecologically pristine Tawang if they grant the project CDM status. Considering the above points and the fact the project is not additional, nor is it sustainable development, it would be inappropriate if the project gets validated, registered as CDM activity or gets CERs.

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Lobsang Gyatso, General Secretary, Save Mon Region Federation (SMRF), Near
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²⁰ See for details: <http://cdm.unfccc.int/Projects/DB/DNV-CUK1169040011.34/view>

Appendix 1

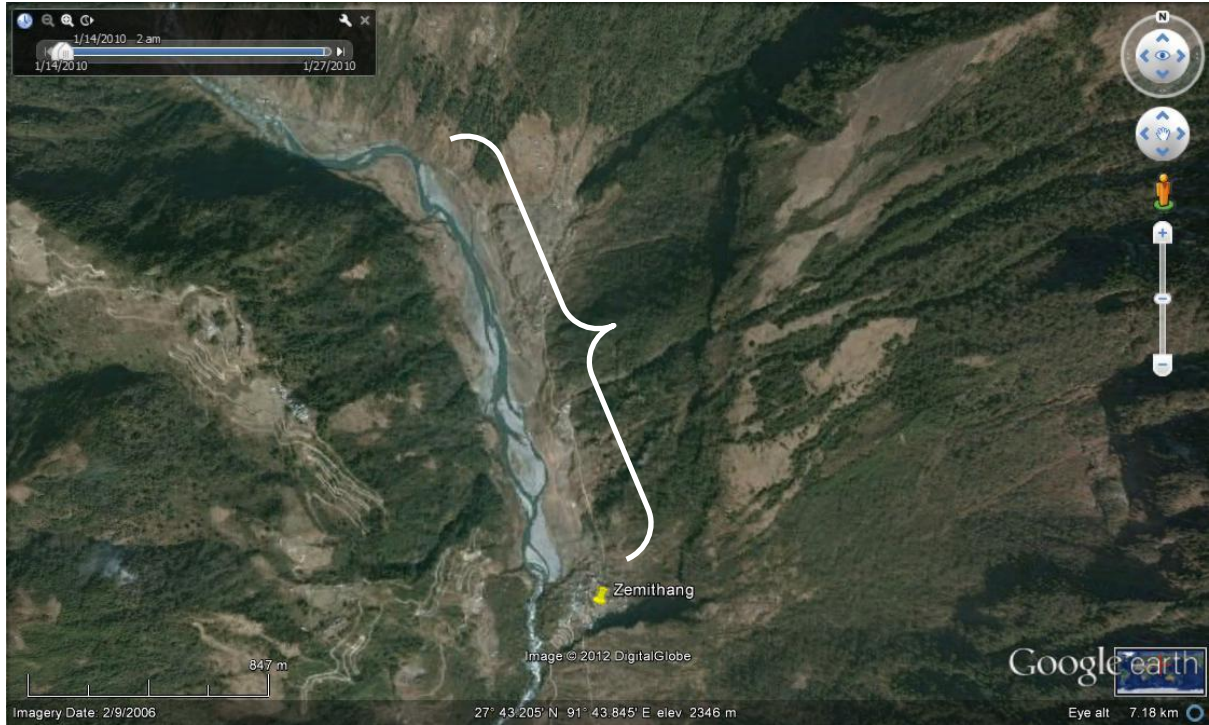


Image showing Pangchen valley and approximate location of the proposed dam. The Black-necked Cranes spend their winter months within the short stretch shown within the white bracket, exactly the same place where the proposed dam will be constructed.

Appendix 2

From: Goutam Narayan gn@ecosystems-india.org

To: jayanthi.n@sansad.nic.in, mosefgoi@nic.in

To:

Ms. Jayanthi Natarajan

Minister of State for Environment and Forests (Independent Charge)

Paryavaran Bhavan, CGO Complex, Lodhi Estate

New Delhi 110003

Sub: 780 MW Nyamjangchu project - impact assessment on Black-necked Crane and other wildlife before clearance

Dear Ms. Natarajan,

I write to you on behalf of EcoSystems-India, a trust for biodiversity conservation working in Northeast India. Please find attached below a news item titled 'Rare cranes sighted in Arunachal' which appeared in The Telegraph dated January 5, 2012. This news item refers to a report by WWF-India about a flock of seven highly endangered Black-necked Cranes (*Grus nigricollis*) in the Zemithang valley in Tawang district of Arunachal Pradesh.

Even though we are unaware of the exact location of the wintering habitat of the Black-necked Crane in the Zemithang vis-a-vis the proposed 780 MW Nyamjangchu mega-hydel project coming up in the area, we think it is important that the MoEF carefully assesses the likely impact on the Black-necked Crane and other wildlife habitat (e.g. that of the newly discovered Arunachal Macaque *Macaca munzala*) in the Zemithang valley during its ongoing assessment of the Nyamjangchu project for forest and environmental clearance.

This is particularly important as the project was recommended for forest clearance on December 27, 2011, but information regarding the Zemithang valley being wintering habitat of the Black-necked Crane may not have been part of the discussions, as per the minutes. The minutes also record that the project will involve a peak workforce of 10,000 people working in the area.

We request you to kindly keep this in mind and carefully assess the impact of the 780 MW Nyamjangchu project on wildlife habitat during ongoing appraisal for forest and environmental clearance for the project.

Thanking you,

Yours sincerely,

Goutam
Goutam Narayan, Ph.D.
EcoSystems-India
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Guwahati, Assam 781028, India
Phone: +91-361-2231312 Mobile: +91 94350 16247

Appendix 3

From: Akhil Gogoi secretarykmss@gmail.com

Date: 2 February 2011 12:24

Subject: Tawang I, Tawang II, Nyamjangchu HEPs etc. - Manas river basin projects

To: jairam54@gmail.com

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February 1, 2011

Mr. Jairam Ramesh,

Minister of State for Environment & Forests (Independent Charge),
New Delhi.

Sub: Tawang I, Tawang II, Nyamjangchu HEPs etc. - Manas river basin projects

Dear Rameshji,

The MoEF and its Expert Appraisal Committee on River Valley & Hydroelectric projects appears to be currently examining the 600 MW Tawang I and 800 MW Tawang II projects on the Tawang Chu rivers for environmental clearance. The public hearing for the 780 MW Nyamjang chu project is also going to be held on February 8, 2011 and will very soon come up for Appraisal for environmental clearance. Both the Tawang chu and Nyamjang chu are important tributaries of the Manas, itself an important tributary of the Brahmaputra.

We would like to remind you that in the Public Consultation on Northeast dams held on September 10, 2010 in Guwahati, you had made a commitment that individual environmental clearances in the future will only be considered after having prior river basin studies which will also examine cumulative downstream impacts. Based on that commitment we expect that you do not grant clearances to the Tawang or Nyamjang chu projects without having a prior comprehensive understanding of the Manas river basin and cumulative downstream impacts these projects in Western Arunachal will have on downstream Assam after the river flows briefly through Bhutan.

The Manas is not only one of the important tributaries of the Brahmaputra but flows through the Manas Tiger Reserve, which is also a World Heritage Site and an Important Bird Area as per international criteria. Even if the projects are so-called Run-of-the-river projects, they would still have an impact on river flow regimes due to daily fluctuations in flow. It is completely misleading and ecologically ignorant to argue that RoR projects do not have downstream impacts.

You will recall that in the Guwahati public consultation the downstream impacts of the already commissioned Kurichu project also came up and you agreed to commission a downstream impact study for this. The Ministry of Power has tried to argue recently (as

reported in energylineindia.com) that the Kurichu only contributes 10% water to the Manas and therefore the impacts of the project cannot be substantial. This is a baseless argument. Any future decision on Manas basin projects whether in India (Tawang Chu and Nyamjang chu), as well as those in Bhutan being built by India (e.g. Mangdechu), should only be taken after a comprehensive cumulative downstream impact assessment on western Assam.

We once again urge you to fulfil the promises you had made to the people of the Northeast on September 10, 2010. Looking forward to your prompt action in this respect. No clearances should be granted to Tawang and Nyamjang chu basin projects till such a study of the Manas river basin is completed and the people of the downstream consulted.

Thanking you,
Sincerely,

Akhil Gogoi
Krishak Mukti Sangram Samiti

--

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Appendix 4

<p>ཐོག་མཐུན་སྤྱོད་ལྷན་ཁོགས།</p> <h1>SAVE MON REGION FEDERATION</h1>	
<p>Chief Advisor Geshe L. Choedar President, SDCE Mob. 09945465031</p> <p>President Dorjee Wangchuk Mob. 09538656689</p> <p>V. President Sang Dondup President, MBCPS Mob. 8974016668</p> <p>General Secretary Lobsang Gyatso Social Activist Mob. 9862185099</p> <p>Asstt. Gen. Secretary Tsering Dorjee V. President, EWPCS Mob. 9402225366</p> <p>Convenor Leki Tsering Mob. 09731958735</p> <p>Finance Secy Lobsang Damchoe Mob. 08904583907</p> <p>Asstt. Finance Secy P. Yang Tsering</p> <p>Social Service Secy Nima Sangay Mob. 08953867362</p> <p>Asstt. S.S. Secy Jampa Lobsang Mob. 07204761567</p> <p>Editor Jampa Dhonden President, HBO Mob. 9402931200</p> <p>Auditor Jempa Choedup Mob. 9402943346</p> <p>Culture Secy Tenzin Ngawang Mob. 09611138272</p>	<p>Ref. No. <u>SMRF/F-CC/L/2012-2013</u> Date <u>25th May 2012</u></p> <p>To,</p> <p>Sri. Sushil Kumar Shinde. Minister of Power Union Government New Delhi.</p> <p>Sub: Proposed Hydro-Electric Power Projects in the Tawang Basin in Arunachal Pradesh near the Indo-China Border.</p> <p>Dear Mr. Shinde Sahibji,</p> <p>We write to you on behalf of the Save Mon Region Federation, a group of citizens led by Buddhist Lamas of the Mon community to express our very serious concern about the juggernaut of 13 large hydroelectric projects in the ecologically and geologically fragile, seismically active and culturally sensitive Tawang region of Arunachal Pradesh near the Indo-China border.</p> <p>The Tawang District in Arunachal Pradesh has an area of only 2085 sq. km. This small area is criss-crossed by 7 rivers in the Tawang river basin (a sub-basin of the Manas river basin) and it is on various locations along these rivers that 13 Hydro-Electric Projects (HEP) have been proposed. MoUs/MoAs have been signed for these projects accompanied by upfront premiums paid to the state government even before preparation of DPRs, EIAs and public consultation. Payment of huge amounts of money before any of the mandatory clearances and public consent is rendering the process of these clearances meaningless and being viewed as a <i>fait accompli</i> by the state government and developers. The Ministry of Environment and Forests (MoEF) based on the recommendations of the Expert Appraisal Committee on River Valley and Hydroelectric projects has also already granted final environmental clearance to the 600 MW Tawang – I and 800 MW Tawang – II. The EAC has also recommended the 780 MW Nyamjangchhu project for environmental clearance in September 2011. Although these projects are in close proximity of each other, no prior cumulative impact assessment has been demanded by the EAC/MoEF as part of the environmental clearance process.</p> <p>This is indeed surprising if we examine the dynamics of the area. Tawang is about few km from the highly sensitive Indo-China Border and has a very strong military and paramilitary presence. More than a quarter of the land has already been given to the Indian Army and other paramilitary forces for their installations. Another quarter has been acquired by the Government for civil administration, schools, hospitals etc. As mentioned before, Tawang district has an area of only 2085 sq km and more than half of it has already been taken up. Most of the area is mountainous and at present there is hardly any suitable land available for agriculture or residential purposes for the civilian</p> <p>Continue to :- Page - 2</p>

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population, for now and for the next generation. Without understanding this situation, a large number of hydroelectric projects which will take up the only available agricultural land along the river banks are being proposed.

The population of Tawang district is only 49, 950 (2011 census) and 13 hydroelectric projects will bring in a peak labour of over 100,000 people from outside, jeopardizing the cultural dynamics of this area where indigenous rights have been protected constitutionally and through various laws.

Tawang falls within the Eastern Himalayas Global Biodiversity hotspot (Myers *et al* 2000) and is also among the 200 globally important ecoregions (Olsen & Dinerstein, 1998). This region is identified with six vegetation types and is home to several alpine herbs. Tawang is the only place in the world where all the different varieties of Rhododendron are found. About 150 bird species are found in Tawang. Rare species of mammals like the red panda, mountain goat, snow leopard, goral, Himalayan marmot etc. have also been documented as present in this region. The 13 hydroelectric projects involving lengthy tunneling and blasting in a fragile landscape, accompanied by ancillary infrastructure devastate the biodiversity. For example, new wintering sites of the endangered black-necked crane have also been discovered in the Zemithang valley where the 780 MW Nyamjangchhu project is proposed.

Based on the survey report of Nature Conservation Foundation, Mysore, International Snow Leopard Trust, Seattle - USA, and Wildlife Conservation Society, Bengaluru, 815 sq km in the Upper Mago Chu valley and Western Kameng was demarcated as suitable for the creation of Arunachal Pradesh's first high altitude wildlife reserve. The area is to be part of the His Holiness Tsangyang Gyatso World Peace Park (Biosphere Reserve). On 19th November 2004, in a public meeting, the Hon'ble Chief Minister, Shri Gegong Apang, announced the intention to set up a 2000 sq km reserve with the abovementioned 815 sq km as core area. The Tawang basin is also a sub-basin of the Manas and after a brief stretch of flow in Bhutan, the downstream impacts of the massive development in the Tawang basin will also be felt in the Manas Tiger Reserve in Assam in India. However, no such downstream impact assessments have been carried out.

As seen above, there are many reasons to protect Tawang, each one of them being vital. But perhaps closest to our hearts is the cultural and spiritual heritage of the Mon community. The famous Tawang monastery is the pride of the area. The area is important and popular as the birthplace of the VIth Dalai Lama. Tawang is also said to have been visited by the great saint Padmasambhava. There are many holy sites situated along the river basin of Tawangchu and Nyamjangchhu associated with these great saints which are sacred to us and which will be directly impacted by dam construction.

Continue to :- Page - 3

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The important sites include hot water springs that attract visitors from even Bhutan; Hromang/Surbi village pilgrimage site; the ancient Gorsam Chorten Stupa, Zemithang, and Gomshing near Bletteng village. It is also popularly believed that in the Mon Tawang region, there are some transcendental deities and spirits that make their abodes in the mountains, valleys, cliffs and trees, etc. There are also many holy mountain sites at Rho village and hot springs at Mago & Tsachu village. Therefore, our region has several natural sacred sites and is as such a sacred landscape for us. We strongly protests defiling our natural sacred landscapes through mega hydroelectric projects.

The Government of India has scrapped three dams on the Ganga to respect the sacred river and sentiments of people associated with it. Given this background, we do not understand why plans are afoot to desecrate sacred sites of different indigenous communities in the Northeast, both in Tawang and elsewhere in Arunachal Pradesh. For example, the MoEF has shockingly granted clearance to a hydropower project (1750 MW Demwe Lower) at Parshuram Kund in Arunachal Pradesh, a renowned sacred site for the people of the Northeast as well as outside. Similar, our sacred landscape in Tawang stands to be desecrated through poor decision-making by the EAC/MOEF.

Many of the proposed HEPs in Tawang (Tsa-Chu I, Tsa-Chu II, Tsa-Chu Lower, Thingbu Chu, Mago Chu, Nyukeharongchu, New Melling, Rho and Nyamjangchu) are close to the Indo-China border and therefore very vulnerable in the event of aggression. Moreover, the massive voluntary turnout of ordinary citizens for the public protest rally that was held on the 4th of April 2012 in Tawang is a testimony to the anger that is in the minds of the people with respect to the complete disregard of issues affecting the environment and the human population by the State machinery. The people of Tawang have implicit faith in the Union of India but situations like these are instilling discontent and dissatisfaction in the mind of the average citizen. This is perhaps exactly the kind of sentiment that China is banking on when it claims Tawang time and again for itself. Going forward with the construction of dams as foreseen by the project implementers would cause the inundation of large tracts of land which would damage beyond hope of repair the sentiments of the Mon community and the Tawang ecosystem.

Ironically, while the people of the Tawang region face huge risks, little benefit accrues to them from these HEPs. Most of the HEPs are being constructed to delivered electricity to load centers far away. For example, one of the power developers in Tawang is M/s Bhilwara Energy Ltd whose aim is to provide electricity to the many Bhilwara textile factories in Rajasthan.

There has been no attempt made to address issues relating to security, safety and livelihood of the people to be affected by construction on their lands. There is currently a complete crackdown on freedom of speech and expression in the region with respect to this issue. Voices of dissent are threatened with dire consequences by State Govt officials and others with a vested interest in the HEPs.

Continue to :- Page - 4

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Therefore, we request that the Central and State Governments please seriously reconsider and scrap all proposed Mega HEPs in Tawang and instead upgrade existing Micro/Mini Hydro Projects, so that the power potential in the State is tapped without drastically affecting the ecological balance of the region and at the same time minimizing the threats to human settlements and the environment. This approach would help the local populace to feel safe and secure in their homeland.

Thanking you,

Yours Sincerely,

[Signature]
15/05/2012
General Secretary
Save Mon Region Federation
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Arunachal Pradesh
Save Mon Region Federation

Copy to :-

- Ms. Jayanthi Natarajan,
Minister of State for Environment and Forests
(Independent Charge),
- The Honourable Chairperson and members of Expert Appraisal Committee (EAC)
on River Valley and hydroelectric project.
- The Honourable Chairperson and members of Forest Advisory Committee.
- Honourable members of Standing Committee of National Board for Wildlife
- The Hon'ble Chief Minister, Arunachal Pradesh.
- The Hon'ble Power Minister, Govt. of Arunachal Pradesh

Near High. Sec. School Tawang, P.O. Tawang, District. Tawang, Pin No. 790104, Arunachal Pradesh
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Appendix 5

Terms of Reference for Dams in the North East (India)

I. SALIENT FEATURES OF THE PROJECT

II. ENVIRONMENTAL IMPACT ASSESSMENT (EIA) REPORT

The Baseline studies shall consist of three seasonal studies (Pre-Monsoon, Monsoon and Winter Seasons) and would be conducted in the following Study area.

Study Area: The study area will include the following areas:

- Catchment area
- Submergence area
- Project area to be acquired for various project appurtenances, area within 10 km from main Project components i.e. Dam, Power House etc.

A. BASELINE DATA

1. Geological and Geophysical Aspects

- Geography & physiography of the project area
- Design discharge & its RI (Recurrence interval)
- Regional Geology and structure of the catchment
- Seismicity, tectonics and history of past earthquakes in the area
- Critical review of the geological features around the project area
- Impact of project on geological environment
- Justification for location & execution of the project in relation to structural components (dam/barrage height)

2. Seismo-tectonics: Study of Design Earthquake Parameters A site specific study of earth quake parameters will be done. The results of the site specific earth quake design parameters will be sent for approval of the NCSDP (National Committee of Seismic Design Parameters, Central Water Commission, New Delhi for large dams.

3. Hydrology of the basin

- ☐ Hydro-meteorology, drainage systems
- ☐ Catastrophic events like cloud bursts and flash floods, if any would be documented.
- ☐ For estimation of Sedimentation rate direct sampling of river flow is to be done during EIA to get actual silt flow rate (to be expressed in ha-m km⁻² year⁻¹). The one year of EIA study will provide an opportunity to do this for ascertaining the actual silt flow rate.
- ☐ Water availability for the project and the aquatic fauna
- ☐ Design discharge and its recurrence interval

4. Biological Resources

i. Flora

- Forests and forest types
- Water body inundating forest area

- Vegetation profile, no. of species in the project area, etc.
- Community Structure through Vegetation mapping
- Species Diversity Index (Shanon-Weaver Index) of the biodiversity in the project area as well as plant fossil & phytoplankton
- Documentation of economically important plants, medicinal as well as timber, fuel wood etc.
- Endemic, endangered and threatened species
- Impact of impoundment and construction activities on the vegetation
- Location of any Biosphere Reserve, National Park or Sanctuary in the vicinity of the project , if any
- For categorization of sub-catchments into various erosion classes and for the consequent CAT plan, the entire catchment (Indian portion) is to be considered and not only the directly draining catchment,

ii. Fauna

- Inventorisation of terrestrial wildlife and present status
- Zoogeographic distribution/affinities, Endemic, threatened and endangered species and animal fossil

iii. Avifauna

- Status
- Resident/Migratory/Passage migrants
- Impact of project on threatened/endangered taxa, if any

iv. Aquatic Ecology

- Aqua- fauna like macro-invertebrates, zooplankton, phytoplanktons, benthos etc.
- Conservation Status

Fish and Fisheries

- Fish migrations, if any
- Breeding grounds
- Impact of dam building on fish migration and habitat degradation
- Overall ecological impact upto 10 Km d/s from the confluence of the TRT with the river and the impact of untreated and waste water in to the river and the alternatives explored.

v. Conservation areas and status of threatened/endangered taxa

- Biotic Pressures
- Management plan for conservation areas and threatened/endangered taxa
-

vi. Remote Sensing & GIS studies

- Delineation of critically degraded areas in the directly draining catchment on the basis of Silt Yield Index as per the methodology of AISLUS
- Land use and land cover mapping
- Drainage pattern/map
- Soil map
- Geo-physical features, slope and relief maps

- Demarcation of Snow fed and rain fed areas for a realistic estimate of the water availability.

vii. Socio-economic aspects

- Land details*
- Demographic profile
- Ethnographic Profile
- Economic structure
- Development profile
- Agricultural practices
- Cultural and aesthetics sites
- Infrastructure facilities: education, health and hygiene, communication network, etc.
- Impact on socio-cultural and ethnographic aspects due to dam building report.

*Report would include list of all the Project Affected Families with their names, education, land holdings, other properties, occupation, etc.

viii. Collection of data pertaining to water (physico-chemical and biological parameters), air and noise environment and likely impact during construction and post construction periods.

ix. Air Environment

- Baseline Information on ambient air quality in the project area covering aspects like SPM, RSPM, Sox, NOx
- Noise Environment
- Traffic density in the project area

x. Construction Methodology and Schedule including the tunnel driving operations, machinery and charge density, etc.

B. IMPACT PREDICTION

- Air
 - Changes in ambient levels and ground level concentrations due to total emissions from point, line and area sources
 - Effects on soils, material, vegetation, and human health
 - Impact of emissions DG sets used for construction power if any, on air environment.
- Noise
 - Changes in ambient levels due to noise generated from equipment, blasting operations and movement of vehicles
 - Effect on fauna and human health
- Water
 - Changes in quality
 - Sedimentation of reservoir
 - Impact on fish fauna
 - Impact of sewage disposal

- Land
 - Changes in land use and drainage pattern
 - Changes in land quality including effects of waste disposal
 - Riverbank and their stability
 - Impact due to submergence
 - Biological
 - Deforestation and shrinkage of animal habitat
 - Impact on fauna and flora (including aquatic species if any) due to decreased flow of water
 - Impact on rare and endangered species, endemic species, and migratory path/route of animals, if any
 - Impact on breeding and nesting grounds, if any
 - Impact on animal distribution, migration routes (if any), habitat fragmentation and destruction due to dam building activity
 - Socio-economic Aspects
 - Impact on the local community including demographic changes
 - Impact on economic status
 - Impact on human health
 - Impact on increased traffic
 - Impact on Holy Places and Tourism
- Downstream impact on water, land & human environment due to drying up of the river in the stretch between dam site and powerhouse site.
- Positive as well as negative impacts likely to be accrued due to the project are to be listed.

III. ENVIRONMENTAL MANAGENET PLAN (EMP)

a) Catchment Area Treatment Plan

Delineation of micro-watersheds in the river catchment and mapping of critically degraded areas requiring various biological and engineering treatment measures. Identification of area for treatment based upon Remote Sensing & GIS methodology and Silt Yield Index (SYI) method of AISLUS coupled with ground survey. The prioritization of watershed for treatment based upon SYI. Spatial Information in each micro watershed should be earmarked on maps in the scale of 1:50,000. The Cat plan would be prepared with year-wise Physical and financial details.

b) Creation of Green Belt Plan around the Periphery of the Reservoir and Compensatory Afforestation Scheme in consultation with the State Forest department.

c) Biodiversity Conservation and Wild life Management Plan for conservation and preservation of endemic, rare and endangered species of flora and fauna (in consultation with the State Wildlife Department)

d) Reservoir Fisheries Development for conservation/management of fishes.

e) Resettlement & Rehabilitation (R&R) Plan along with social/community development. R&R plan would be framed in consultation with the Project Affected Persons (PAPs), Project Authorities and the State Government. R & R Plan would be drafted according to the NPRR 2003 and the policy of State Government.

f) Muck Disposal Plan (Suitable sites for dumping of excavated material would be identified in consultation with the State Pollution Control Board and Forest Department)

g) Energy Conservation Measures

h) Dam Break Analysis & Disaster Management Plan.

i) Restoration and landscaping of working Areas: reclamation of borrow pits (quarry sites) and construction areas.

j) Public Health Delivery System including the provisions for drinking water facility for the local community.

k) Management during the Road Construction

l) Sanitation & Solid Waste Management Plan for domestic waste from colonies and labour camps, etc.

m) Water and Air Quality & Noise Environment Management during construction and post-construction periods.

n) Forest Protection Plan

o) Reservoir RIM Treatment Plan

p) Environmental Monitoring Programme (With physical & financial details covering all the aspects form EMP).

q) For such a large and high budget project, neglecting drinking water component may not be justified. Therefore, if supplying safe drinking water to the population surrounding the project area is not to be considered, a clear justification for this may be given

r) Option assessment study to show that are the option available for fulfilling the needs of the people that the project hopes to fulfill. This section should also show if and how the proposed project is the least cost option and also include reducing the transmission and distribution losses to the minimum.

s) A summary of Cost Estimate for all the plans

Appendix 6

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Sent: Friday, 25 March 2011 8:23 PM

Subject: Regarding 780 MW Nyamjangchu project in Arunachal Pradesh

March 25, 2011

Dear Sir,

We are students from the Tawang belt under the banner All Dhakpa Pangchen Students Union of Arunachal Pradesh. We understand that the EAC on River Valley and Hydroelectric projects will in its meeting on March 26th consider the 780 MW Nyamjangchu project in Arunachal Pradesh for environmental clearance.

In this context we would like to clarify that several people and civil society groups (including our local students union) were denied participation during the public hearing held for the project on Feb 8 2011. We were told that only persons from villages which involve direct land acquisition would be allowed to participate, even though the project would have ramifications for the wider region as whole.

Hence the public hearing was clearly undemocratic and also a violation of the order of the High Court of Delhi (Samarth & others Vs Union of India) - see attachment.

Moreover, the public hearing was held over 40 km. away from the project site.

In light of the above observations, we urge the EAC to re-order the public hearing. Appraisal of the project based on such fraudulent public hearings would render the environmental clearance process as a mere formality.

We hope our concerns are addressed.

Thanking you,
Sincerely,

Tenzin Lotey
President
All Dhakpa Pangchen Students Union
Lumla
Tawang

Appendix 7



The flood plains also serve as venue for important occasions and festivals such as the Republic day, Independence day etc.



The flood plains of the Nyamjung Chu river, which also serves as a meeting place, grazing grounds and playground during the drier months.